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**Prospecting, Geological & Geochemical Report**

for the

**Paddy Mac Property**

including

(Claim Group: Paddy Mac Gold II, Gold Dome, Silver Dollar)

&

(Claim Group: Copper Top, Old Nel, Silver Spoon)

**Omineca Mining Division**

**British Columbia**

**Latitude: 54°46'**

**Longitude: 128°22'**

**NTS 103 I/9 & I/16**

submitted on behalf of claim owners  
A.G. French, R.A. Neill & D.A. Smithson

February 7th 1995

Prepared by A.G. French M.Sc., P. Geo.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**23,766**

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## **1.0 Introduction**

This report documents the work undertaken on the Paddy Mac Group of Claims, Omineca Mining Division in the period late July to mid August 1994. A brief review of previous work is made followed by presentation of the results of the 1994 field studies.

The 1994 field work is of a reconnaissance nature, including prospecting, geological and geochemical studies. The program was limited in coverage due to the large property size, difficult access and small budget.

The field work objectives were in two parts, firstly to locate mineral showings as documented in previous reports and through the B.C. Minfile database, to sample these showings and to make a preliminary assessment as whether or not follow up work should be carried out.

The second field work objective was to try and locate new zones of mineralization through prospecting and reconnaissance soil sampling. All results would be evaluated bearing in mind ore deposit models characteristic of the regional tectonic setting.

## **2.0 Location & Access**

The Paddy Mac Property is located 30 km NNE of Terrace, north central British Columbia. (fig.1). The areas of lower elevation can be accessed by logging roads connected to the main Terrace Smithers highway, but the western and northern parts of the property are only accessible on foot by a tough 4-5 hours hike. (Helicopter transportation was not an option for this program). Steep rocky slopes or dense bush made access by foot very slow going throughout much of the property. However, sections of the central western part of the property above the treeline were good hiking.

## **3.0 Topography, Vegetation & Climate**

The topography is mountainous with elevations ranging from 150m near the Skeena River to over 1220m in the northwestern part of the property approaching Mount Knauss. Much of the topography is rugged particularly along the steeply incised valleys and within the glacial cirques. (ref. photographs in appendix A, topography in figure 1a).

The property is typically forested with stands of fir, spruce and cedar. Where slopes are too steep for vegetation bare rock and talus slopes are present. At the highest elevations in the north and west of the property, above the treeline, alpine grass and scrub with a few stunted trees are present, together with exposures of bare rock and patches of all year round ice cover.

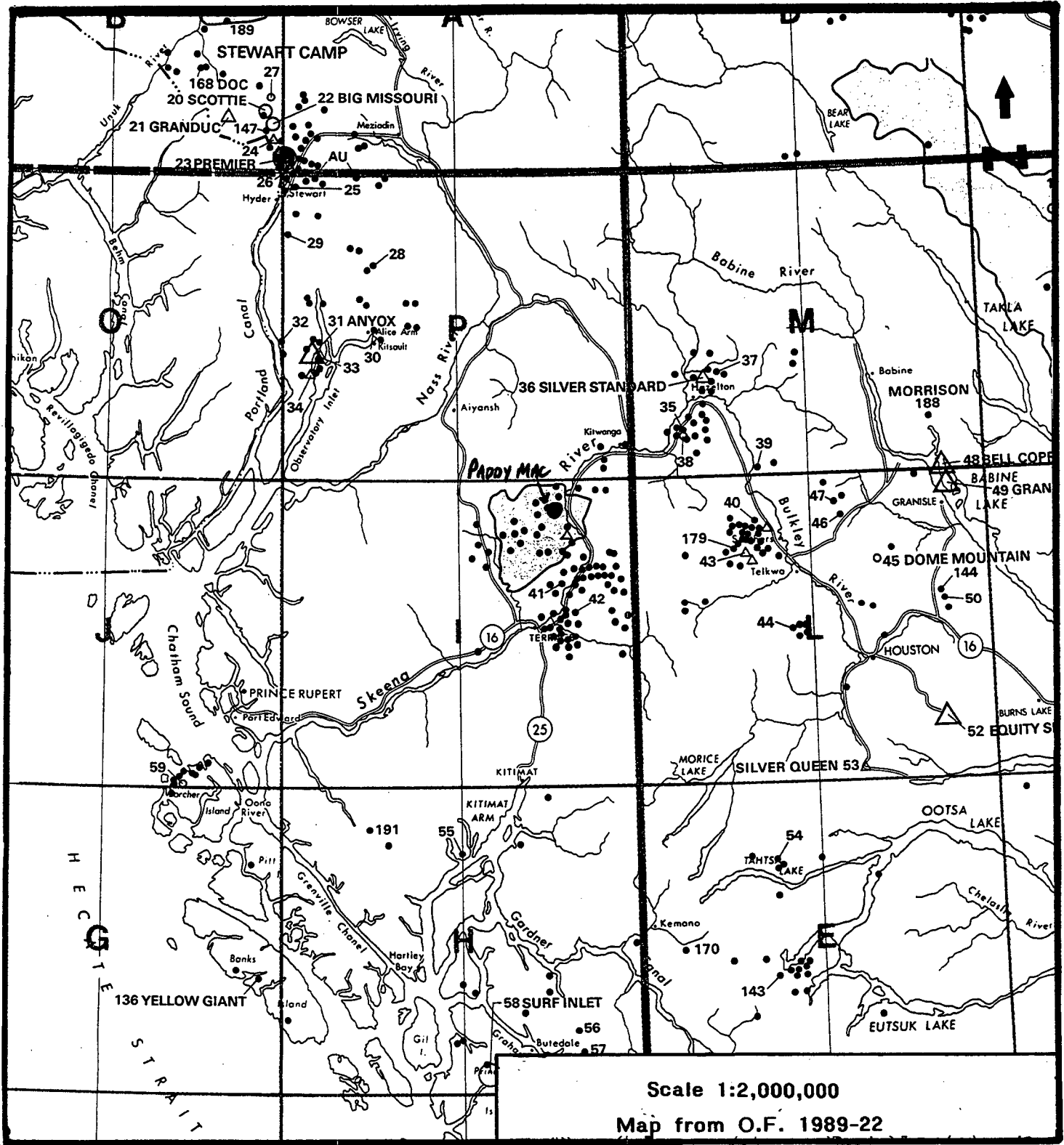


Figure 1  
 Location Map  
 Paddy Mac Property

The climate is variable at the higher elevations of the property typical of the Coast Mountain belt with cold high snowfall winters and unpredictable weather patterns for the summer months. Cloud and fog at the higher elevations can be expected at anytime during the summer.

#### 4.0 Claim Status

The Paddy Mac property is currently held in good standing by the following individuals as to a 33 1/3 interest each.

R.A. Neill            FMC #119455  
D.A. Smithson       FMC #124983  
A.G. French          FMC #132271

Claim blocks comprising the Paddy Mac Property are shown in figure 2.

<u>Claim Name</u>	<u>Units</u>	<u>Tenure No.</u>
Paddy Mac II	20 units	314604
Gold Dome	20 units	324234
Silver Dollar	20 units	324237
Copper Top	20 units	324233
Old Nel	20 units	324235
Silver Spoon	20 units	324236

#### 5.0 Regional Geology

The Paddy Mac Property is located at the western margin of the Intermontane tectonic belt within the Stikinia terrane (fig.3) where it is intruded by and in contact with rocks of the coast Plutonic complex.

Geological Map 1136 A at a scale of one inch to four miles which accompanies GSC Memoir 329 by S. Duffell and J.G. Souther (1955) shows the regional geology to be dominated by the Upper Jurassic and Lower Cretaceous Bowser Group, Lower Jurassic Hazelton Group & Upper Cretaceous or later felsic intrusives, mainly granodiorites.(fig.4).

No complete larger scale regional geological mapping (1:50,000) by the GSC or the BC Geological Survey is known to exist for the area of the property.

The regional geochemical surveys from the MEMPR (sheet 103I) provides some useful data on background geochemistry but unfortunately has limited application on the property size scale.

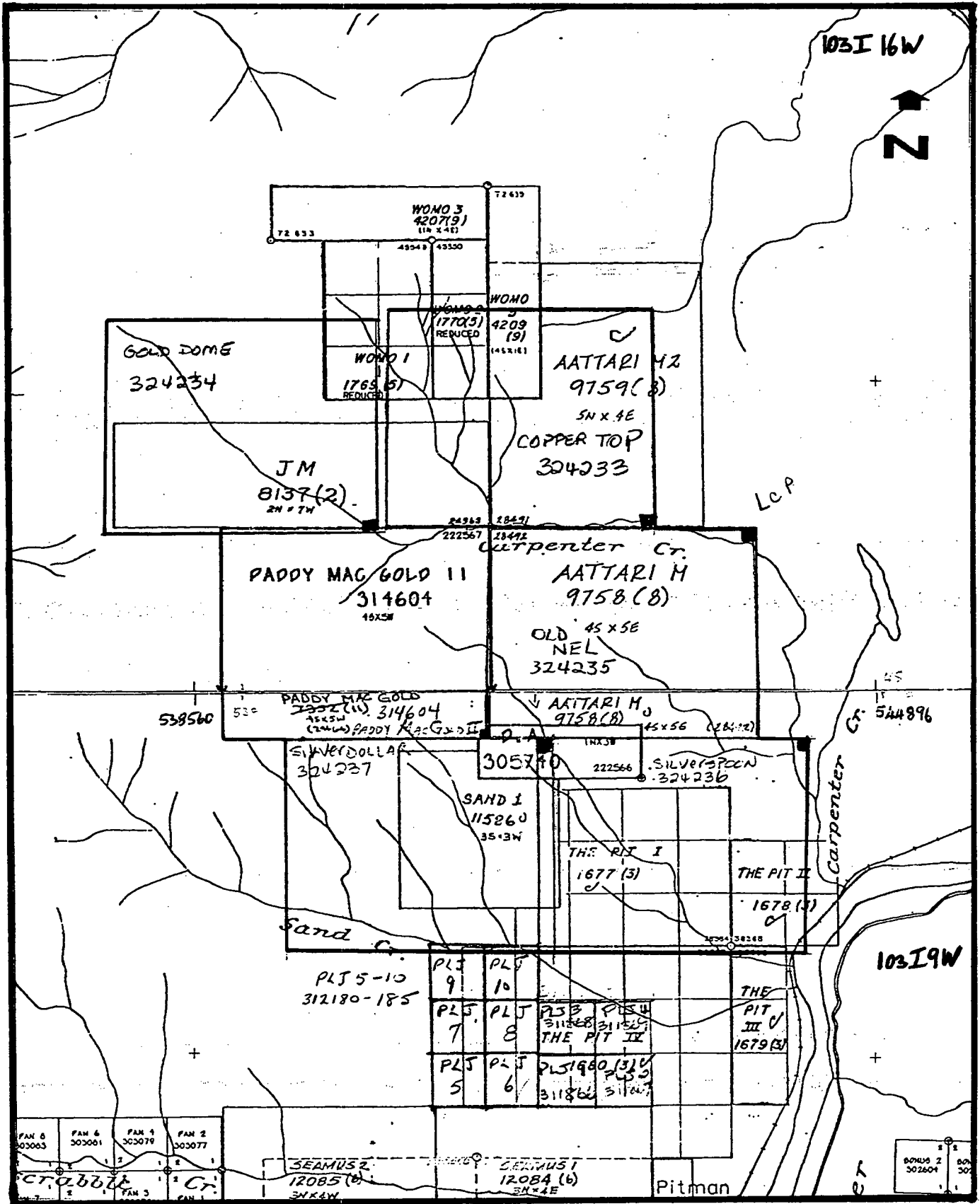


Figure 2  
Claim Map

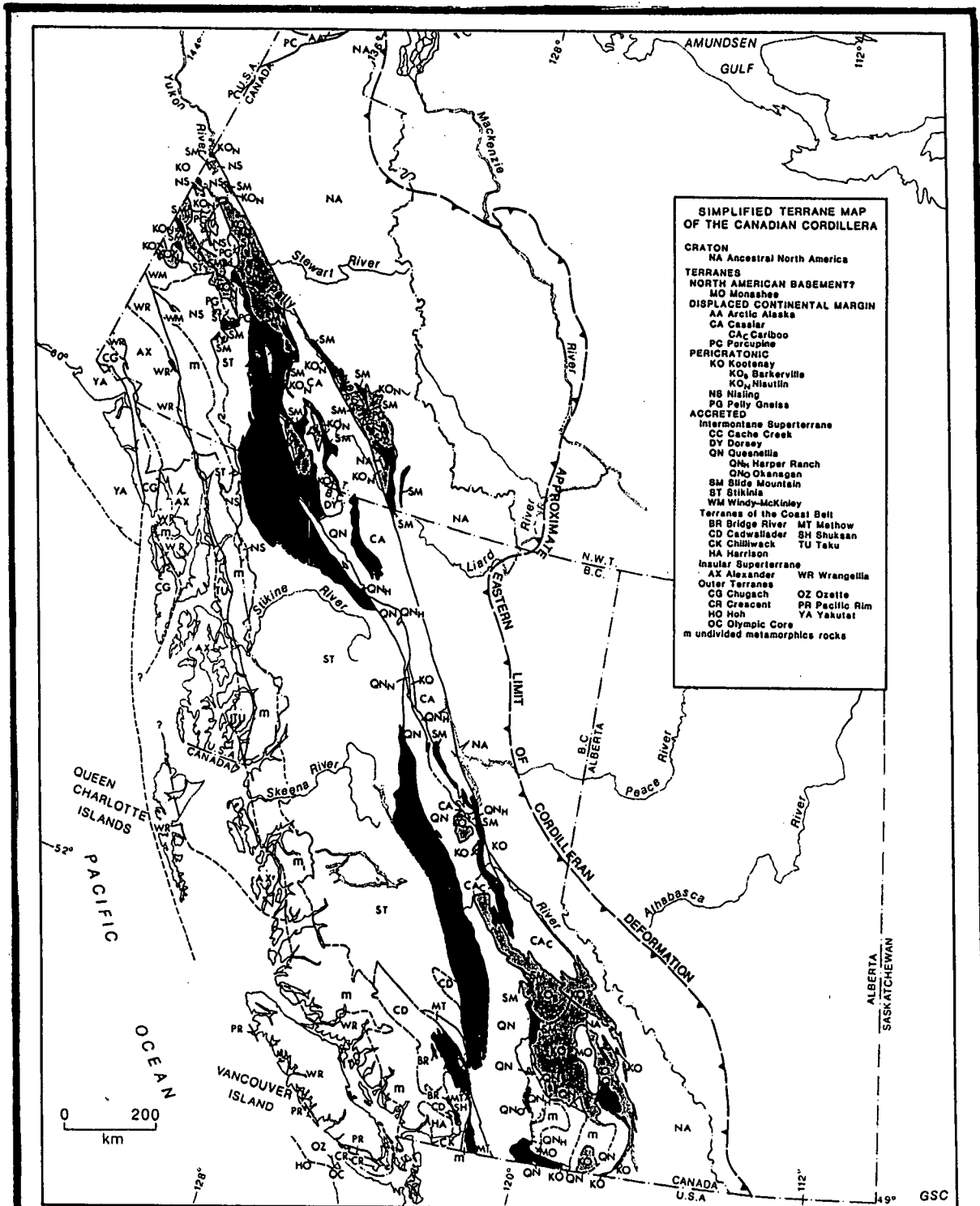


Figure 2. Simplified terrane map of the Canadian Cordillera. PR & CR, Pacific Rim and Crescent terranes; CG & YA, Chugach and Yakutat terranes; WR, Wrangellia; AX, Alexander Terrane; GN, Gravina-NutzoIn Terrane; CP & MRX, Coast Plutonic and Metamorphic Rocks; BR-CD-SH-HA-CK-MT, Bridge River, Cadwallader, Shuksan, Harrison, Chilliwack and Methow terranes; ST, Sitkinya; CC, Cache Creek Terrane; QN, Queenella; SM & DY, Slide Mountain and Dorsey terranes; KO, Kootenay Terrane; NA, North American Terrane (ancestral North America); MO, Monashee Terrane (North American Basement); PG & NS, Pelly Gneiss and Nisling Terrane. (Gabrielse, H. et al., in press).

Open File 1989-22

Geological Survey Branch

Figure 3  
Tectonic Terrane Map of B.C.

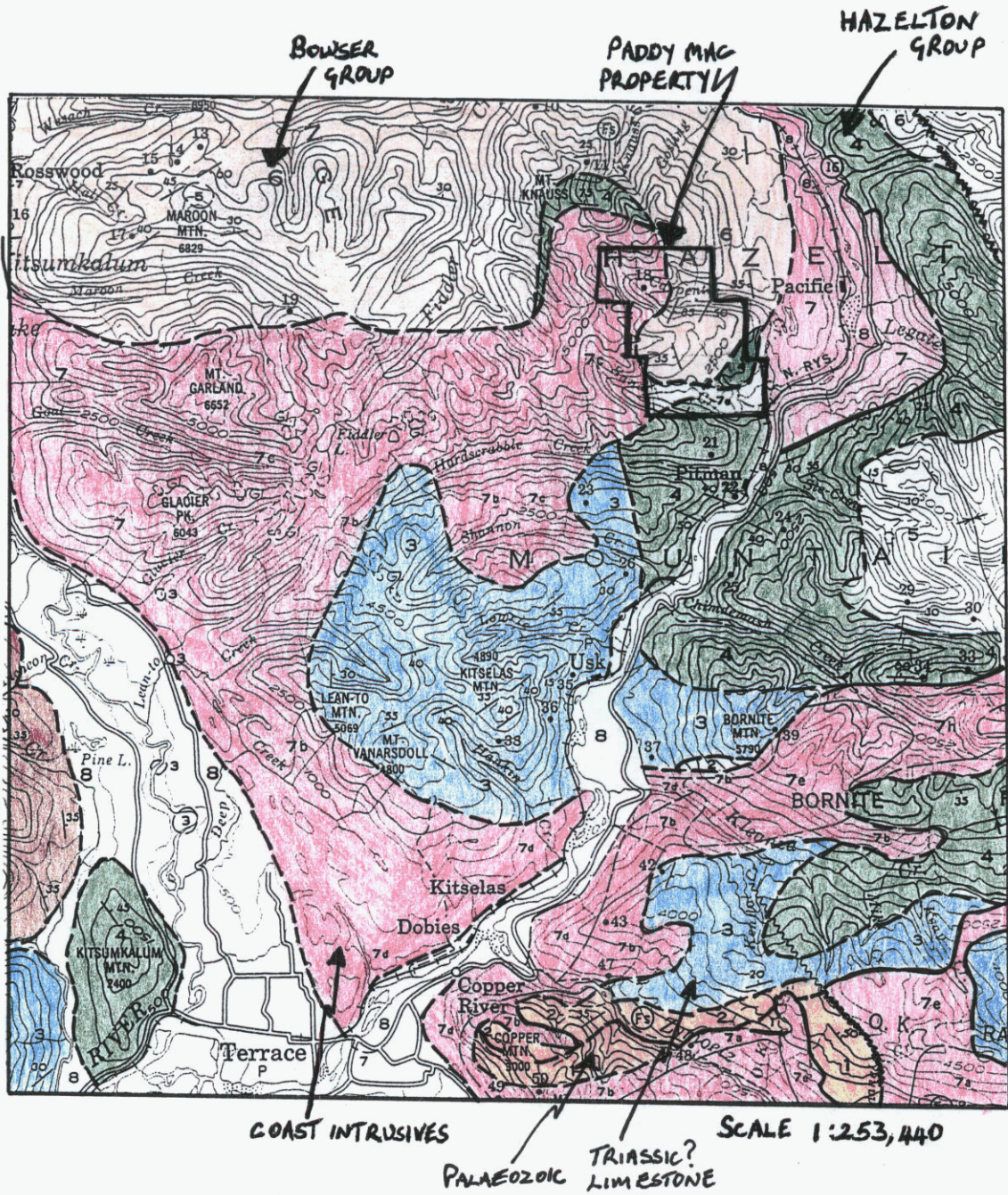


Figure 4  
Regional Geology



## 6.0 Previous Exploration

The area covered by the Paddy Mac property has had a very spotted history of exploration with no consistent methodical work or hypothetical models of mineralization borne in mind.

Much of the previous work has centered on a large quartz vein on the Paddy Mac claim (minfile ref.103I 154, fig.5) with very interesting high grade gold values, reportedly up to 10.8oz/ton (370 g/tonne) gold and 5.92 oz/ton (203 g/tonn) silver, plus accompanying Cu, Pb, Zn values. The strike of the quartz vein, which outcrops on the side of a glacial cirque, is reported as being in the order of 300m, approximately 1000 feet. There is evidence of old prospector activity with two very short adits driven in on the quartz vein.

In more recent years the veins have reportedly been looked at by Holt Engineering Ltd.(1980), Canamax (1986), A-1 Resources (1986 & 87) and Aattari Gold Ltd (1990). The latter reported one sample (#467853) from a 2.0m wide quartz argillite breccia zone assaying 3060 ppb gold. A selected grab sample from the same site with galena, chalcopyrite and pyrite assayed 0.486 oz/ton (16.7 g/tonne)

Historic minfile data reports interesting mineralization at a number of other occurrences throughout the Paddy Mac property (fig.5). As follows:

**Gold Dome claim, Gold Dome showing** minfile #103I 047, reported in the year 1964, a grab sample returned 1765 g/tonne Ag, 20.4 g/tonne Au, 1.765 Cu, 1.32% Pb, & 5.2% Zn.

**Copper Top claim, the Womo showing,** minfile #103I 122, year 1981, chip samples returned 0.53% Cu and 0.049% Mo over 2.4m and 4.5m respectively. This zone is reportedly 1000m x 800m of molybdenite bearing quartz veins.

**Silver Dollar claim, the Helen showing,** minfile # 103I 122, returned silver up to 356 g/tonne, 3.5% Cu and 4.0% Zn.

**Silver Spoon claim, the Pit showings,** minfile # 103I 046 record occurrences of vein hosted molybdenite.

## 7.0 Ore Deposit Models

Examination of old data has shown previous work on the property has not considered a particular ore deposit model as a set exploration target. Models of mineralization that could be borne in mind are the Porphyry copper-molybdenum model, the Mesothermal gold silver vein model or perhaps the

"newer" ore deposit model specific to the Red Mountain deposit of Barrick Gold, near Stewart,

The Red Mountain deposit model is the most intriguing when considering the regional scale geological environment of the Paddy Mac property. Both properties are located at the western margin of the Intermontane belt, within the Stikinia Terrane. Lower to Middle Jurassic Hazelton Group and late Jurassic to Early Cretaceous Bowser Group rocks occur and are invaded by felsic to intermediate intrusive events.

At Red Mountain mineralization surrounds a hornblende plagioclase porphyritic intrusion into the volcano sedimentary package. The target mineralization is gold but variable amounts of base metal sulphides are also found. One of the "pathfinders" for the main gold-pyrite-lense style of mineralization is the occurrence of polymetallic quartz veins outcropping at surface.

The apparent similarities between the Paddy Mac property and the Red Mountain regional geologic environments put this intrusive related gold mineralization model as the priority target for field investigation.

The mesothermal gold silver quartz vein model typical of the Intermontane terrane is the secondary mineralization target to be followed up.

## **8.0 Exploration Program**

### **8.1 Objectives**

The objectives of the exploration program were

- a) to undertake property wide reconnaissance geological mapping , rock and soil sampling.
- b) to prospect for and locate old mineral showings as detailed in the minfile database.
- c) to evaluate the geological findings to enable the identification of follow up targets and to assess the facts in terms of ore deposit models characteristic of the regional geological setting.

### **8.2 Method**

Extensive use of aerial photographs, forestry company maps and topographic maps was made for the selection of access routes and the location of data.

Contour soil sampling traverses were made with the aim of picking up anomalies from possible up slope occurrences of mineralization. Samples were taken from the B soil horizon and stored in standard size kraft paper bags.

## 8.2 Method continued

Samples were processed at Min-En laboratories in Vancouver. Soil samples were analyzed for 31 elements using ICP. Rock samples were analyzed for 12 elements by ICP. All samples were fire assayed for gold.

## 9.0 Exploration Results & Discussion

### 9.1 Geological observations

Reconnaissance geological mapping was undertaken to broadly assess the rock types and structural setting of the property with a view to determining the potential for the ore deposit model type target.

One of the theories to test through mapping was the extent of the Bowser Group rocks in relation to the Hazelton Volcanics. It quickly became apparent that the shale lithologies from the Bowser series covered much of the Northeast of the property and that there were no windows of Hazelton volcanics.

One important observation is the outcrop of late Cretaceous, possibly Tertiary?, unaltered leuco granites in Carpenter Creek located just outside the northeastern boundary of the Old Nel claim block, near the junction of two logging roads. The granites are in contact with Bowser Group rocks. The presence of Bowser Group rocks at higher elevations gives us a depth estimate to the roof pendant of sediments and volcanics in the region of 1000-3500 ft.

The structural complexity of the geology is a feature of the property that could not possibly be adequately addressed in the time allotted. However the following observations stand out. The creek beds, in particular Carpenter Ck. and Sand Ck. are surface expressions of faults that bound the "Paddy Mac block" of mixed intrusive, sediments and volcanics against the the granites of the intermontane complex. The geology within this "Paddy Mac block" is very complex as sections along the logging roads reveal. Zones, particularly within the Bowser shales, have suffered multiple faulting, thrusting and multiple phases of invasion by intermediate to felsic igneous intrusives.

The Hazelton volcanics that are suggested to outcrop on the property, according to the

geological map of Duffell & Souther were not encountered, probably due to surficial cover.

The fresh appearance of many of the intrusives and the apparent lack of Hazelton volcanics quickly dispelled the notion of potential Red Mountain style mineralization

The localized mineralization and alteration (silicification) were observed suggested a much tighter structural control. The mineralization is probably genetically related to the granite stocks and batholiths both underlying the volcano sedimentary roof pendant and outcropping to the west. The hot vein fluids emanating from the granites and encountering the carbonaceous Bowser shales found a natural chemical environment in which to precipitate their gold.

## 9.2 Prospecting & Rock Sampling

Rock samples were taken where visible mineralization or alteration was found and where prospecting had successfully re-located the showings that had been documented in the minfile records. A total of 26 rock samples were submitted for analysis(fig.6).

The **Paddy Mac** gold showing was successfully relocated and a trail was brushed out and flagged to the rim of the glacial cirque(fig.5) which contains the known strike extent of the veins. (Access from the end of the trail into the cirque is very difficult and should not be attempted in wet weather.)

**Paddy Mac Gold Showing**, four grab samples were taken from the vein system for analysis and to provide hand specimens.

Sample	Au ppb/g/t	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
KR101	715	42.3	3219	>10000	421	134	37
KR102	16.6g/t	45.1	1755	9697	231	141	102
KR103	60.3g/t	144	6322	>10000	563	308	282
KR104	908	4.6	267	573	227	1	19

Samples KR101-KR103 are all similar samples consisting of rusty greyish quartz with coarse galena, pyrite, chalcopyrite and specularite. The veins are locally vuggy with occasional copper oxides (malachite). The quartz commonly has thin black anastomosing (stylolite-like) iron rich veins.

Sample KR104 contained predominantly black very carbonaceous shale country rock with minor quartz and pyrite. It was encouraging to see the analysis return almost 1g/tonne gold proving that some gold is present in the country rock at the periphery of the main quartz veins.

The gold content has some correlation to the sulphide content of the vein. How much of this would potentially be free milling to produce a potential gravity concentrate would have to be determined by metallurgical analysis.

#### Gold Dome showing

The Gold Dome quartz veins are hosted in granodiorite, a relatively fresh looking host with little evidence of any pervasive alteration. A total of 6 grab samples were taken representative of 4 separate vein or vein systems. Four samples were in situ and two were talus float directly below the quartz veins.

Sample	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
AFR010	1450	14.6	272	240	48	484	19
AFR011	159	4.6	30	47	17	491	10
AFR012	158	0.4	2	9	3	41	1
AFR013	56	4.4	22	57	12	444	10
AFR014	250	5.3	217	241	162	523	8
AFR015	7480	24.6	2203	4695	823	560	20

Samples AFR012 & AFR013 are talus slope float

#### Helen Showing

The Helen showing documented in the Minfile data was not located in spite of some considerable time spent combing the area of its supposed location. However the search must have been close as anomalous Cu,Pb,Zn, Au & Ag were recorded from samples taken in the nearby creek.

Sample	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
KRH001	101	6.5	335	631	150	403	22
KRH002	50	4.8	21	46	16	725	14
KRH003	11	5.1	5	27	8	783	12
AFR009	10	1.9	6	18	14	216	5

Samples KRH001 & KRH003 are similar consisting of carbonaceous shale with traces of pyrite and chalcopryrite and minor quartz veining. Sample KRH002 is very different comprising a white very fine grained crystalline felsic intrusive with

approximately 5% pyrite. The intriguing aspect of all these samples is the anomalous arsenic in both rock types possibly suggesting a later mesothermal? mineralizing overprint, localized along a fault structure. Sample AFR009 is similar to KRH002 and also contains elevated arsenic thus extending the potential trend of the arsenic anomaly to approximately 500 meters.

#### **Pit Showing**

A total of six samples were analyzed out of seven samples taken from two showings (upper and lower) probably corresponding to the minfile records.

Samples	Au ppb	Ag ppm	Mo ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm
JAP051	71	1	272	41	123	38	13	6
JAP052	30	0.7	679	191	40	7	126	1
JAP053	32	0.7	492	52	28	5	161	1
JAP055	12	0.6	17	9	17	22	79	1
JAP057	21	3.1	38	1471	45	60	107	1
JAP058	21	3.1	18	538	69	16	235	1

The grab samples consisted mainly of quartz in a leuco granitic host with variable quantities of sulphides. Some veins carry massive haematite and molybdenite. JAP051 a sample of weathered micaceous granite carrying a quartz vein returned weakly anomalous gold of 71 ppb.

### **9.3 Soil Sampling**

Soil samples were taken with the following objectives in mind. In the north of the property on the Copper Top claim a contour soil line was run to test for any potential mineralization that might be genetically related to the Womo copper molybdenum showing (fig.6).

In the south of the property on the Silver Dollar and Silver Spoon claims soil traverses were run to test for mineralization related to the Helen or Pit areas of mineralization.

The results were a little disappointing with the exception of samples KSS011, KSS013 & KSS015 which returned moderate gold in soil anomalies of **49, 55, and 47 ppb** respectively. The intervening samples were background to weakly anomalous values of 10 & 14 ppb.

9.4 **Follow up work**

The field program has resulted in the identification and prioritization of a number of mineralized targets for future follow up work. Itemized as Targets 1-6 in figure 6.

**Targets 1 & 2** (Paddy Mac Gold & Gold Dome) require detailed mapping, structural interpretation and detailed sampling, prior to a drilling program.

**Targets 3, 4 & 5** ( including Helen & Pit) require set up of a large soil sampling grid on an initial 100 X 25 m spacing. Significant anomalies should be trenched, possibly followed up by geophysics and ultimately drilled.

**Target 6** (Womo) is the lowest priority at present mainly due to surface access difficulties. Should surface access be possible, the area must first be prospected to locate the showings documented in the minfile report and then explored using geochemical, geophysical and drilling techniques.

No budget for follow up work has been set.

---

A.G.French M.Sc. P.Geo.  
February 7th 1995

## 10.0 References

**Alex Burton** P.Eng. march 8th 1991  
Report with recommendations and budget on the Paddy Mac Gold  
Property, on behalf of Aatari Gold Ltd.

**T.G. Schroeter, C.Lund, G.Carter** 1989  
Gold production and Reserves in British Columbia.  
Mineral Resources Branch OF 19889-22

**J.G.Souther & J.G Duffell** 1955  
Geological map 1136A accompanying GSC Memoir 329



## 11.0 Statement of Costs

		mandays	\$rate	total
<b>Field personnel</b>				
1 geologist 5 days at \$300/day		5	\$ 300	\$ 1,500
3 prospectors at \$200/day for 12 days		36	\$ 200	\$ 7,200
1 cook at \$125/day for 12 days		12	\$ 125	\$ 1,500
<b>Food &amp; Accomodation</b>				
36 man days at \$50/day		36	\$ 60	\$ 2,160
5 man days at \$80/day		5	\$ 80	\$ 400
<b>Mobilization &amp; Demobilization (start &amp; finish of program)</b>				\$ 1,100
Truck rental , fuel				\$ 1,200
<b>Equipment &amp; supplies</b>				\$ 1,500
<b>Min En laboratories sample treatment</b>				\$ 1,214
<b>Report preparation</b>				\$ 750
<b>TOTAL</b>				<b>\$ 18,524</b>

## 12.0 Statement of Qualification

I. Andrew G. French of 3146 Georgia St, Richmond, B.C, state my qualification in respect to this report on the Paddy Mac property, Omineca Mining Division.

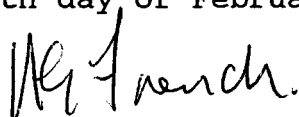
I am a registered professional geoscientist in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.

I have been practicing as a geologist in Canada since 1989 and previously in the United Kingdom and South Africa since 1981

I have obtained degrees in geology at both Bachelors and Masters level.

Dated this 7th day of February 1995, Richmond, B.C

A.G. French



**12.0 Statement of Qualification continued**

**Crew members were as follows:**

Reg Neill Prospector, 568 Langholme Drive, Victoria,  
V9C1L8

Qualified with B.C. Government Prospectors Course 1984

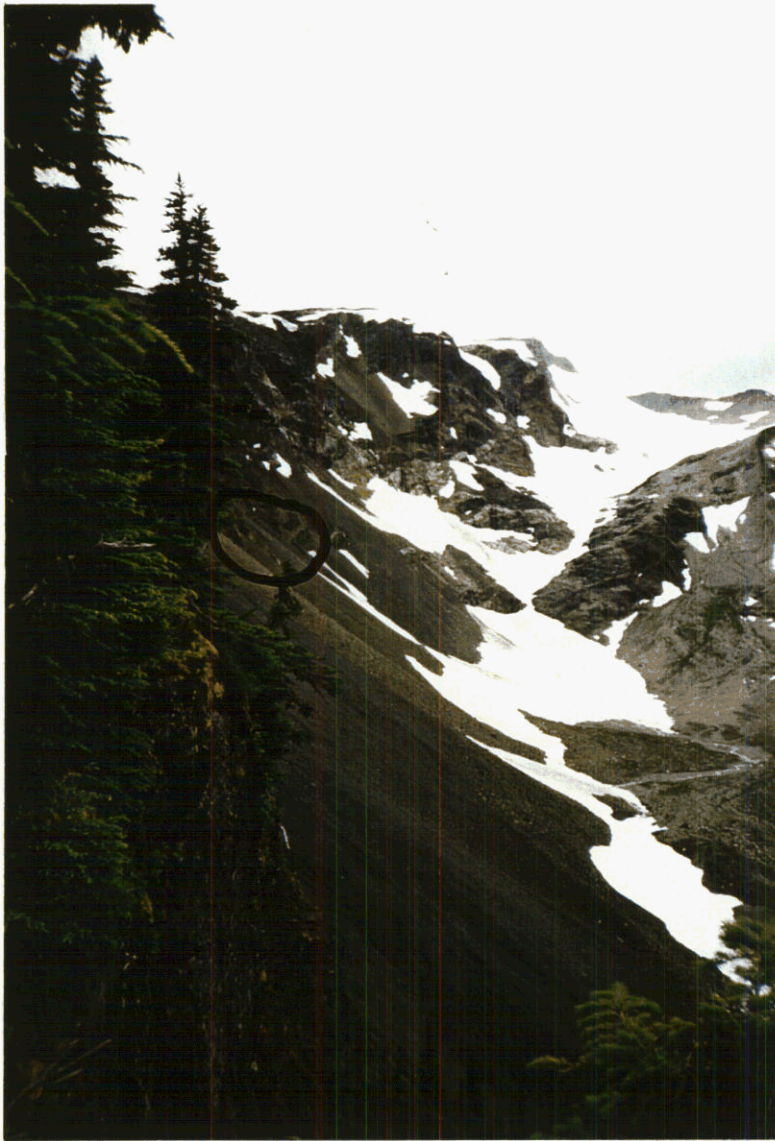
Robert Neill Prospector, of the above address

Ken Neill prospector's assistant, of the above address

Nel Neill Cook, of the above address

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**APPENDIX A**  
**PHOTOGRAPHS**



① Looking west into Paddy Mac Cirque, circled area is the location of an adit at the top of a talus slope.

② Sampling of veins in Paddy Mac cirque, view southeast.





①  
View northwest, up  
Carpenter Creek, into  
Gold Dome Cirque

②  
View northwest,  
entering Gold Dome  
Cirque.



**APPENDIX B**  
**GEOCHEMICAL RESULTS**











**MINERAL  
• ENVIRONMENTS  
LABORATORIES**  
(DIVISION OF ASSAYERS CORP.)

**SPECIALISTS IN MINERAL ENVIRONMENTS**  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
FAX (604) 980-9621

**SMITHERS LAB.:**  
3176 TATLOW ROAD  
SMITHERS, B.C. CANADA V0J 2N0  
TELEPHONE (604) 847-3004  
FAX (604) 847-3005

Assay Certificate

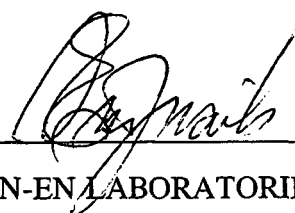
4V-0880-RA1

Company: **A.G.FRENCH**  
Project:  
Attn: A.G.French

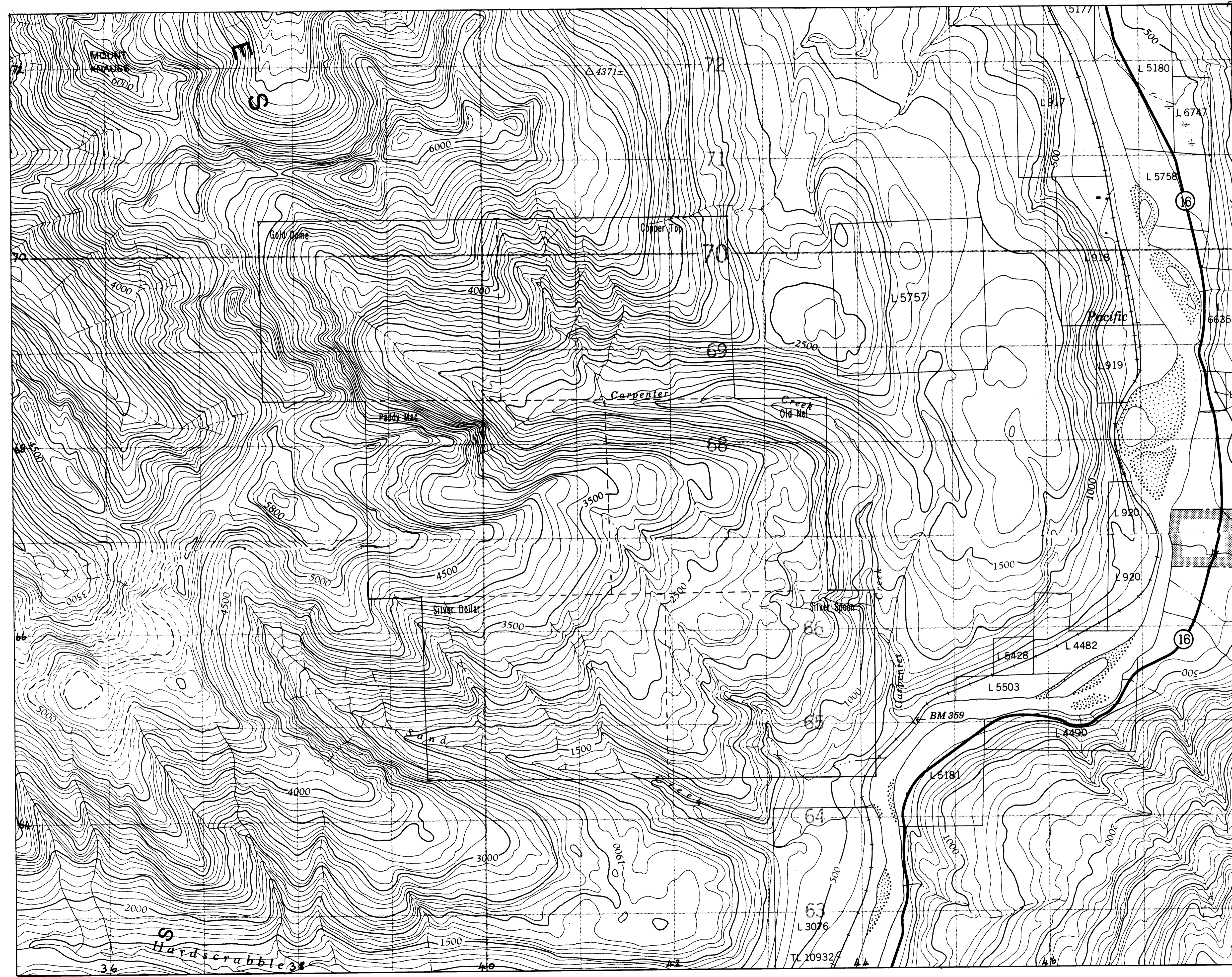
Date: SEP-02-94

We hereby certify the following Assay of 2 rock samples submitted AUG-25-94 by A.G. French.

Sample Number	Au-Fire g/tonne	Au-Fire oz/ton
KR102	16.61	.484
KR103	60.34	1.760

Certified by   
MIN-EN LABORATORIES

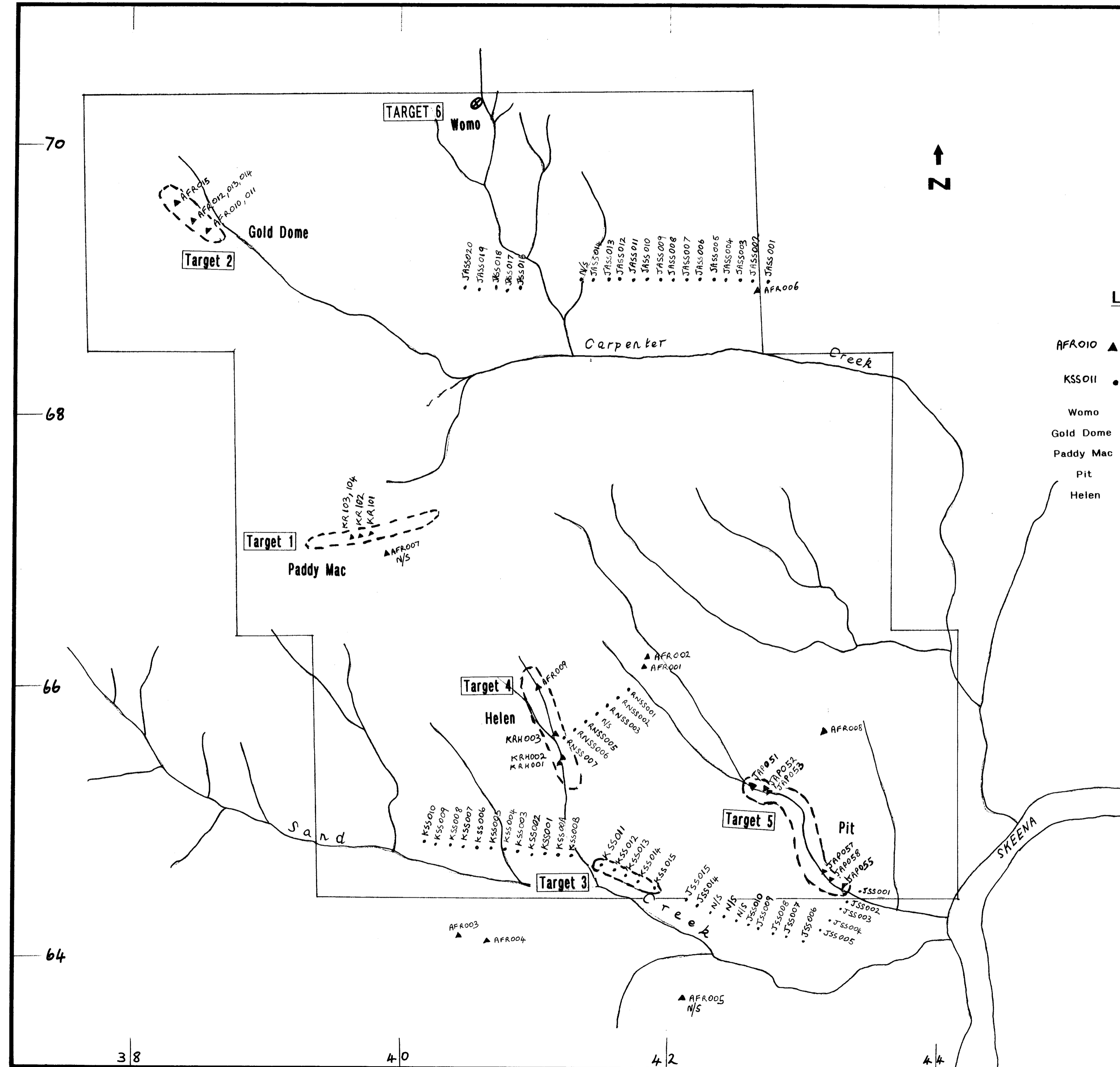
23,766



Title			PADDY MAC PROPERTY		
Reference			Claims & Topography		
Date	August 1994	Reference	103 I 9/16	Scale	1:20,000
Drawn by	AG French	Checked			✓

Figure 1a

23,766



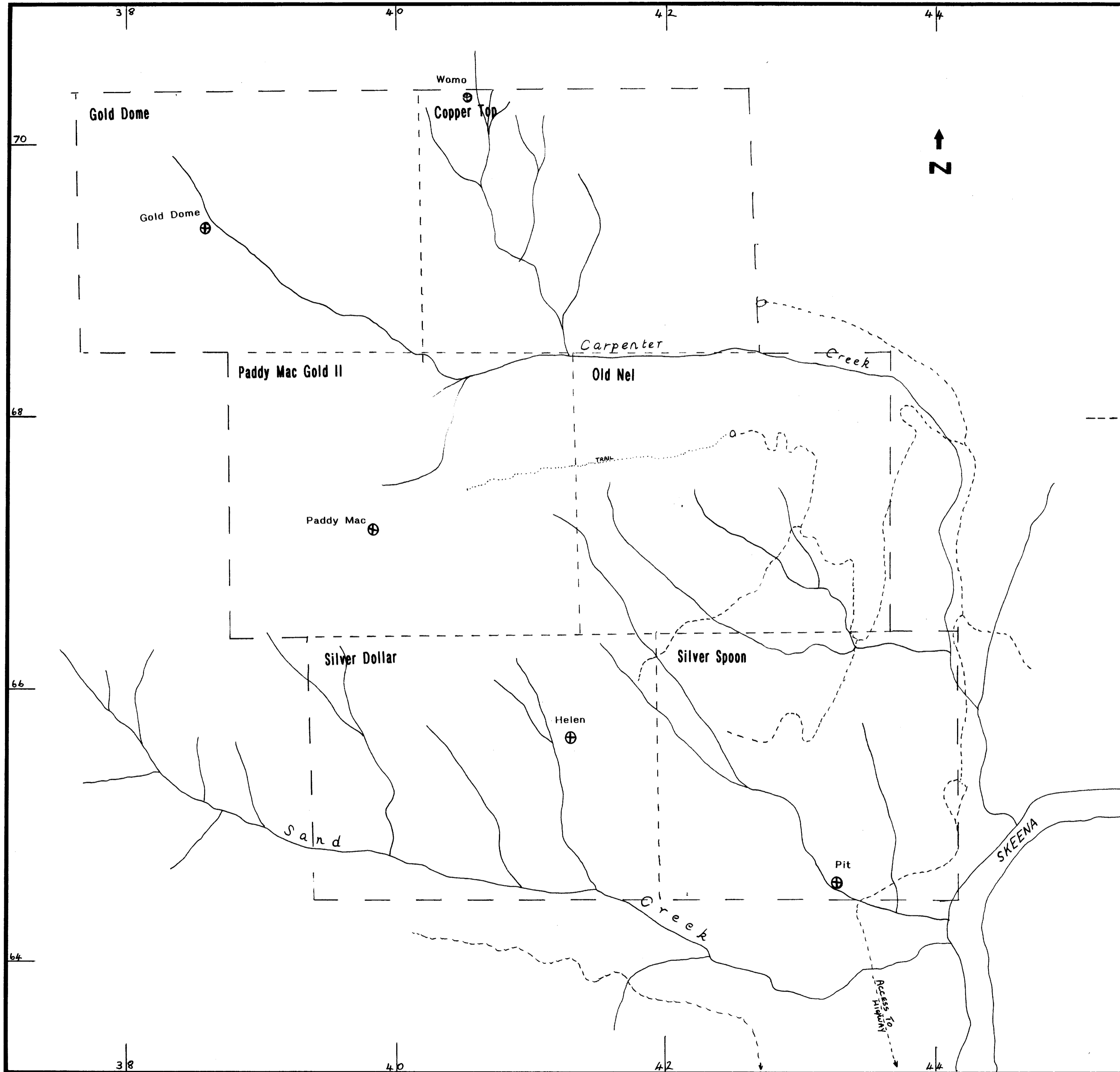
**Legend**

- ▲ AFR010 Rock Sample
- KSS011 Soil Sample
- Womo Minfile Record
- Gold Dome
- Paddy Mac
- Pit
- Helen



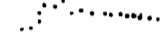


Title			<b>PADDY MAC PROPERTY</b>		
Soil & Rock Sample Locations					
Date	Reference	Scale			
August 1994	103 F 9/16	1:20,000			
Drawn by	Checked				
AG French	✓				
Based upon the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationary Office, Crown Copyright Reserved.					
Revised	Checked				

**Figure 6**

23,766



**Legend**

-  Logging Roads
-  Creeks
-  Flagged Trail
-  Claim Boundary
-  Minfile Occurrences

Title			<b>PADDY MAC PROPERTY</b>		
Claims - Roads - Trails					
Date	Reference	Scale			
August 1994	103 I 9/16	1:20,000			
Drawn by	Checked				
A.G. French	✓				
Based upon the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office, Crown Copyright Reserved.					
Revised	Checked				
		<b>Figure 5</b>			