





**REPORT ON THE 1987  
GEOLOGICAL AND GEOCHEMICAL  
ASSESSMENT WORK  
ON THE MM 1-18 CLAIMS**

Dawson M.D., Yukon  
October 6, 1987

**Claims:** MM 1-18 (YA 88208-225)

**Location:** 1. 70 km west of Dawson, Yukon  
2. NTS Sheet 115 N/15  
3. Latitude 63° 58.5' N  
Longitude 140° 55' W

**For:** **Mr. Lorne A. Mollot**  
24 Nelson Road  
Aylmer, Quebec  
J9H 1G8

**By:** Harmen J. Keyser, B.Sc.  
**Aurum Geological Consultants Inc.**  
604-675 West Hastings Street  
Vancouver, B.C.  
V6B 1N2

November 30, 1987

091988



This report was prepared by  
the Geological Evaluation Unit  
under Section 53 (4) Yukon Quartz  
Mining Act and is allowed as  
representation work in the amount  
of \$ 1800.00.

*H. J. Bennett*

for Regional Manager, Exploration and  
Geological Services for Commissioner  
of Yukon Territory.

## SUMMARY

The MM 1-18 claims consist of eighteen contiguous mineral claims in the Dawson Mining District, Yukon. Access is by road from Sixtymile River.

Exploration work completed in 1987 consisted of geological mapping, prospecting, and geochemical sampling. The property is underlain by Precambrian quartzites, schists, and gneisses with Cretaceous volcanic rocks known nearby. The work has identified a northwest-trending fault and several northwest-trending quartz veins. One of the quartz veins returned 28.95 oz/ton silver (992.5 g/t) and 310 ppb gold over a one meter width.

Based on these results, a program of geological mapping, trenching, and geochemical sampling is warranted and recommended.

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## 1. INTRODUCTION

### 1.1 Terms of Reference

This report was prepared at the request of Mr. Lorne Mollot, owner of the MM 1-18 mineral claims. Its purpose is to satisfy assessment requirements of the Yukon Quartz Mining Act through a description of the 1987 assessment work carried out by Steven Dudka and Gregory Smith of Aurum Geological Consultants Inc. on October 6, 1987.

### 1.2 Location and Access

The property is located in west-central Yukon, about 70 kilometers west of Dawson (Figure 1) near the headwaters of Bedrock Creek, a tributary to Sixtymile River. Access is by 4WD trail from active placer gold mining operations in the Sixtymile River area.

### 1.3 Property

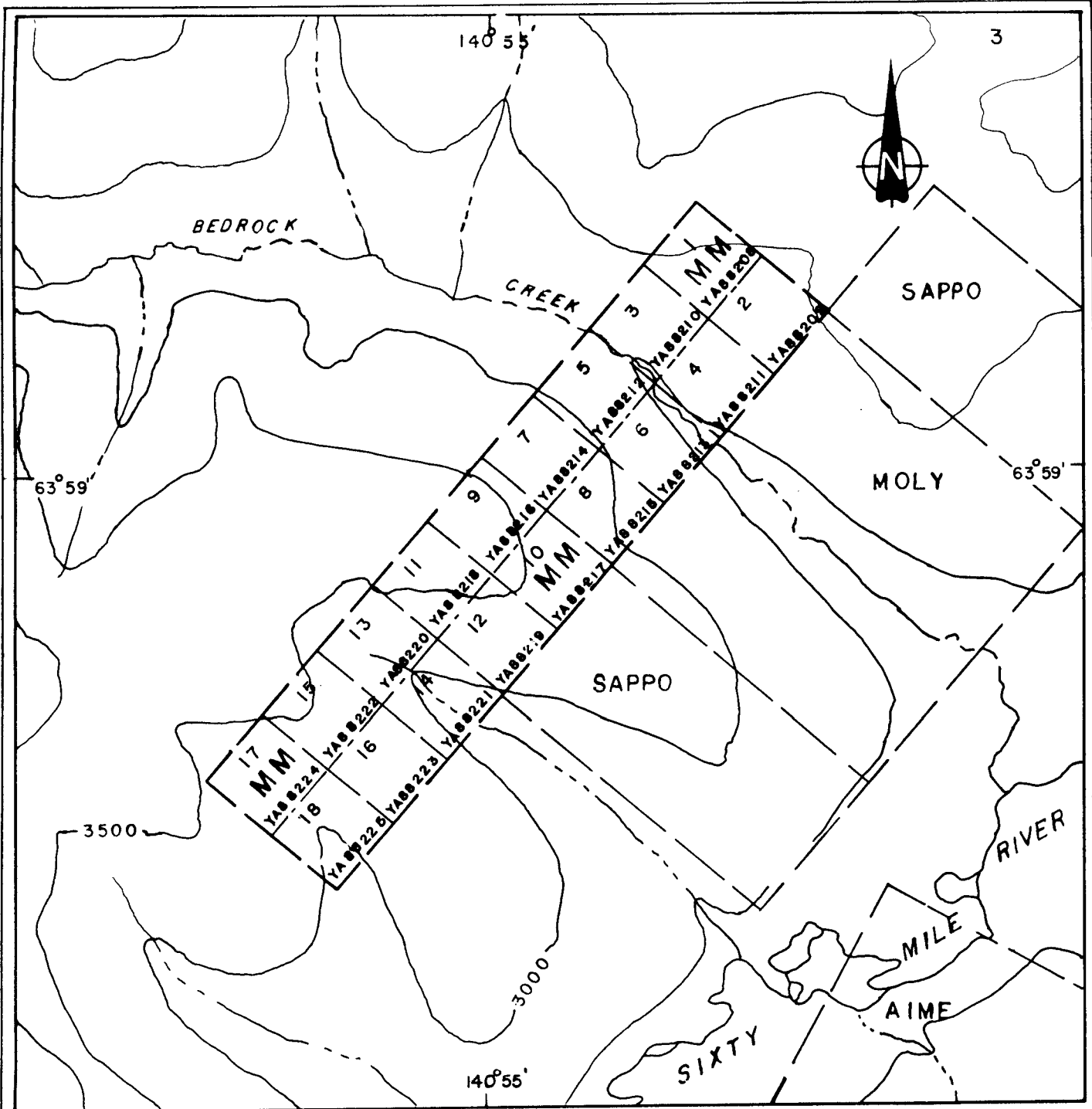
The MM claims consist of 18 contiguous unsurveyed mineral claims (Figure 2) covering approximately 376 hectares staked according to the Yukon Quartz Mining Act in the Dawson Mining District, Yukon. Claim data are as follows:

Claim Name	Grant No's	Recording Date	Expiry Date*
MM 1-18	YA 88208-225	Oct. 9, 1986	Oct. 9, 1988

\* pending approval of 1987 assessment work.

The claims are shown on Yukon Quartz Sheet 115-N-15 and are known collectively as the MM claims.





**LEGEND**

- 12 claim number
- claim boundary
- YAB211 tag number

river

creek

-3000- elevation contour; interval 500 ft

Note - adapted from D.I.A.N.D claim map sheet  
115N - 15



SCALE IN METERS

MM CLAIMS	
CLAIM MAP	
Aurum Geological Consultants Inc.	OCTOBER, 1987
NTS 115N/15	DRAWN BY GS
SCALE: 1:31,680	FIGURE 2



#### **1.4 History**

Vein-type silver-lead mineralization was first discovered in the Sixtymile River area in the early 1900's. Exploration and limited hand-sorted production has taken place intermittently since then. In 1987 Croesus Resources Inc. carried out a major geological, geochemical and trenching exploration program on the Golden Crag property located 10 kilometers to the southeast. There are no records of previous exploration work or mineral discoveries on ground now covered by the MM claims.

#### **1.5 Physiography**

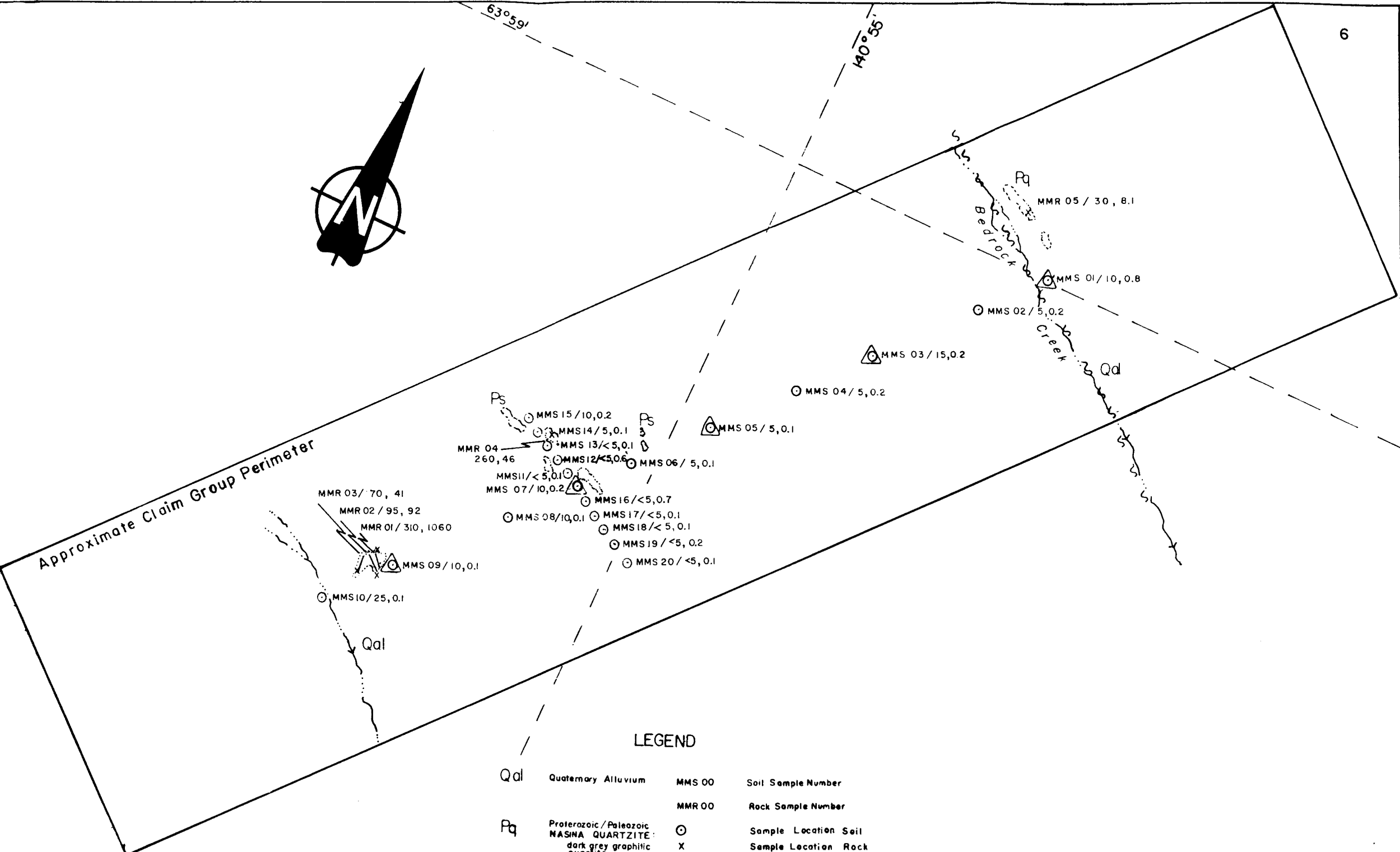
Situated in the northern part of the unglaciated Dawson Range, topography is moderate and is characterized by well developed dendritic drainages separated by broad grass covered ridges. Elevations on the property range from 760 meters (2500 feet) to 1150 meters (3800 feet) above sea level.

The climate in the area of the MM claims is variable, with hot summers and long, cold winters. The ground is permanently frozen. Precipitation amounts to about 25 cm annually.

## 2. GEOLOGY

The MM claims are located in the northern part of the Omineca Tectonic Belt, south of the Tintina Fault. The area is underlain by a Precambrian to Paleozoic quartzite, schist and gneiss basement. Younger limestone, granitoid rocks and andesitic volcanics of the Carmacks Group have also been mapped (Tempelman-Kluit 1973). Because the region escaped Pleistocene glaciation, bedrock is deeply weathered and outcrops are rare.

The 1987 reconnaissance geological mapping (Figure 3) on the MM claims has identified outcrops of hornblende-muscovite-garnet schist and granitic gneiss of the Klondike Schist (map unit Ps) south of Bedrock Creek, and grey graphitic quartzite of the Nasina Quartzite (map unit Pq) north of Bedrock Creek. Based on these lithologic distributions and the deeply incised, linear nature of the lower part of Bedrock Creek, a northwest-trending fault is interpreted in or near the creek.

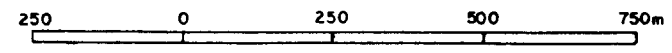


Approximate Claim Group Perimeter

LEGEND

Qal	Quaternary Alluvium	MMS 00	Soil Sample Number
		MMR 00	Rock Sample Number
Pq	Proterozoic / Paleozoic NASINA QUARTZITE: dark grey graphitic quartzite	⊙	Sample Location Soil
		X	Sample Location Rock
Ps	Proterozoic / Paleozoic KLONDIKE SCHIST: qtz-mica schist	/95,92	Au ppb, Ag ppm
~~~~~	Fault (inferred)	○	Limit of Outcrop
~~~~~		~~~~~	Creek
		△	Claim Posts

SCALE  
IN METERS



<b>MM CLAIMS</b>			
<b>Geology and Geochemistry</b>			
Aurum Geological Consultants Inc.		OCTOBER, 1987	
Drawn by G.S.	NTS 115N/15	Scale 1:15,000	FIGURE 3

### 3. GEOCHEMISTRY

A total of 20 soil samples and 5 rock samples were collected on the MM claims during the 1987 exploration program. All of the samples were geochemically analyzed for total gold, silver, copper, molybdenum, zinc, arsenic, antimony and mercury content by CDN Resource Laboratories Ltd. of Delta, B.C. Rock samples were also analyzed for lead. All sample locations and geochemical results for gold and silver are shown on Figure 3.

In soil samples, gold ranged up to 25 ppb, silver to 0.8 ppm, copper to 64 ppm, zinc to 70 ppm, arsenic to 54 ppm, antimony to 38 ppm, and mercury to 140 ppb. All molybdenum values were 1 ppm. With the possible exception of a single soil sample (MMS-01) which returned values of 25 ppb gold and 54 ppm arsenic, the soil geochemical results can be considered to reflect normal crustal abundances.

Rock samples ranged up to 310 ppb gold, 1060 ppm silver, 1140 ppm copper, 22 ppm molybdenum, 14 ppm zinc, 3 ppm arsenic, 4 ppm antimony, and 20 ppb mercury. Gold and silver are considered anomalous in all of the rock samples with copper anomalous in MMR-01. Figure 4 shows the excellent correlation between copper and silver and poor correlation between lead and silver for rock samples.

The highest silver value (MMR-01; 1060 ppm Ag) came from a one meter wide locally vuggy, carbonate-bearing quartz vein trending 140/38<sup>0</sup> S with minor iron staining along fractures. The very high silver/lead ratio of 66:1 and the absence of any readily visible sulfides suggests a silver mineral such as acanthite. A fire assay of this sample returned 992.5 g/t (28.95 oz/t) silver.

Silver (8.1 ppm) and gold (30 ppb) values are slightly enriched in a single rock sample taken immediately northeast of an assumed fault in the bed of Bedrock Creek, indicating the possibility of structurally controlled mineralization in this area.

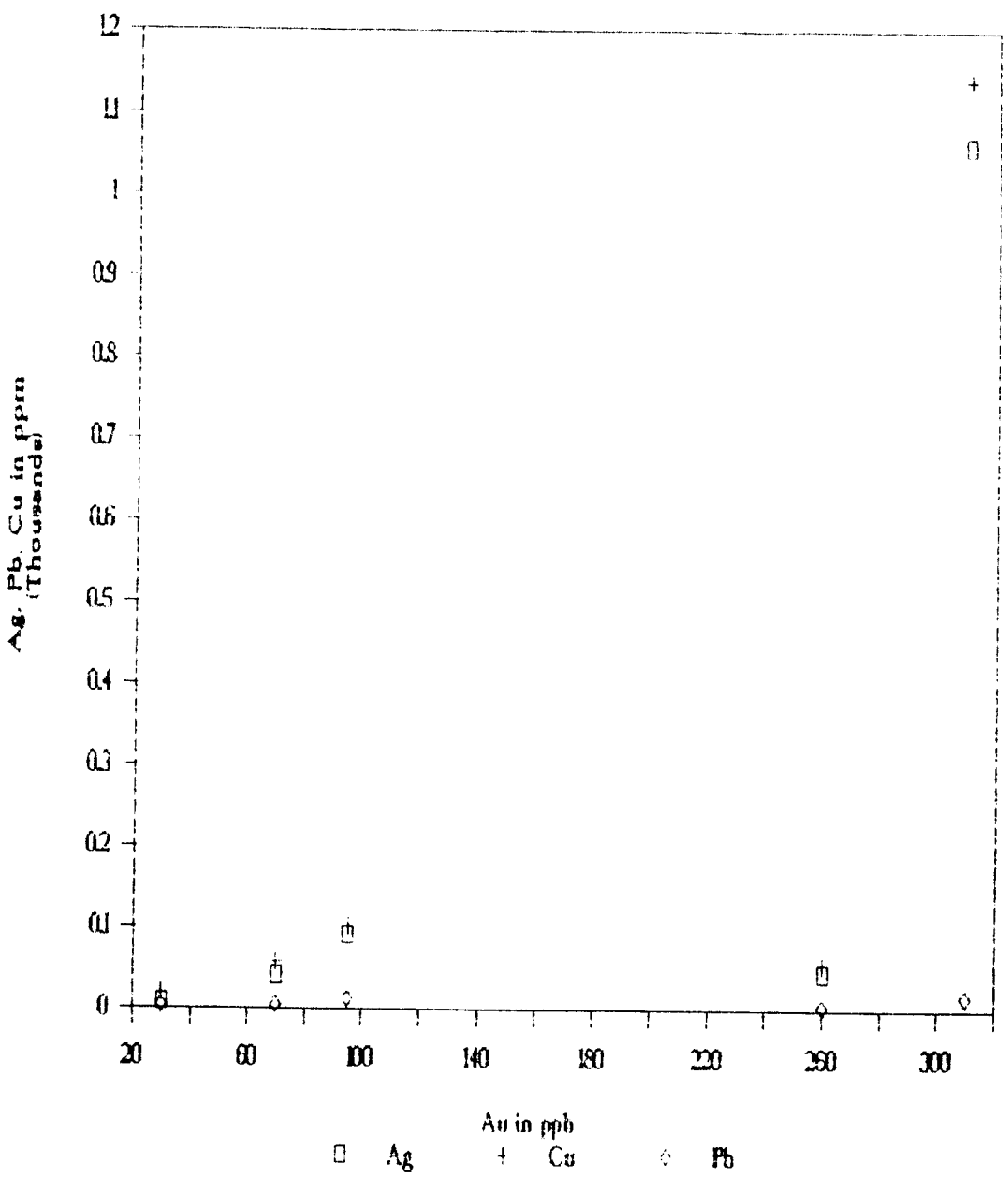


Figure 4. XY Plot of Au, Ag, Cu, and Pb in rock samples; MM Claims.

## 4. CONCLUSIONS AND RECOMMENDATIONS

### 4.1 Conclusions

The MM claims are underlain by Precambrian quartzite, schist, and gneiss with Cretaceous granitoid and volcanic rocks mapped in the immediate area. They cover part of the presumed source area for placer gold deposits at Bedrock Creek and Sixtymile River. The geologic setting is interpreted as suitable for hosting gold and/or silver deposits.

Mineralization discovered as part of the 1987 exploration program consists of a one meter wide sulfide-free (at hand specimen scale) quartz vein assaying 28.95 oz/ton silver. The vein is enriched in copper and gold, but not in lead, zinc, molybdenum, arsenic, antimony or mercury.

Structurally controlled mineralization in the area of Bedrock Creek is indicated by a single rock sample anomalous in gold and silver. Reconnaissance soil sampling did not yield any anomalous areas.

### 4.2 Recommendations

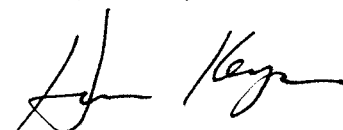
Based on results of the 1987 exploration program, further work is warranted on the MM claims. The following work is recommended:

1. Carry out more geological mapping, sampling, and prospecting over the entire claim group.
2. Detailed mapping and sampling, and trenching, should be conducted in the area of the silver-bearing quartz veins located at MMR-01 to 03. In addition, work should be carried out over the immediate Bedrock Creek area to explore for potential mineralization in an interpreted fault there.
3. Any further work (geophysics, road building, etc.) is contingent on results of the above program.

An estimated budget for this work is as follows:

Geologist, 10 days @ \$300.00/day:	\$ 3000.00
Assistant, 10 days @ \$160/day:	1600.00
Support Costs (Truck, Camp etc.):	2000.00
Explosives:	600.00
Analytical Costs:	1200.00
Mobilization/Demobilization:	1000.00
Assessment Recording and Grouping:	600.00
Report Preparation:	<u>2000.00</u>
<b>Total Estimated Cost:</b>	<b><u>\$ 12,000.00</u></b>

Respectfully submitted,



Harmen J. Keyser, B.Sc.

November 30, 1987

## 5. References

- Tempelman-Kluit, D.J.; 1973:  
Stewart River. G.S.C. Map 18-1973; Scale 1:250,000.



## 6. STATEMENT OF QUALIFICATIONS

I, HARMEN J. KEYSER, hereby certify that:

1. I am a geologist with AURUM GEOLOGICAL CONSULTANTS INC., 604-675 West Hastings Street, Vancouver, British Columbia.
2. I am a graduate of Saint Mary's University, Halifax, with a degree in geology (B.Sc., 1981) and have been involved in geology and mineral exploration continuously since graduation.
3. I am a member of the Geological Association of Canada (A3759).
4. I am the author of this report on the MM claims, which is based on my personal examination of the property on October 2, 1987, and on fieldwork carried out under my supervision by Steven Dudka and Gregory Smith.
5. This report is intended to satisfy assessment requirements only.



Harmen J. Keyser, B.Sc.

November 30, 1987

## 7. STATEMENT OF COSTS

### Geological and Geochemical Assessment Work Valuation; MM Claims.

#### A. Fieldwork

S. Dudka, B.Sc.; 1.5 days @ 150.00:	\$ 225.00
G. Smith, B.Sc.; 1.5 days @ 150.00:	225.00
4WD Truck Rental (Norcan):	185.56
Gas:	52.00
Sample Bags, Flagging Tape, etc.:	25.00
Meals and Accommodations:	212.72

#### B. Analytical Costs

CDN Resource Laboratories Invoice 87510:	505.00
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#### C. Report Preparation

Data Compilation and Report Writing; 1.5 days @ 150.00:	225.00
Reprographics:	112.91
Drafting and Typing:	<u>200.00</u>

<b>Total Valuation of 1987 Assessment Work:</b>	<b><u>\$ 1968.19</u></b>
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APPENDIX

**AURUM GEOLOGICAL CONSULTANTS INC.**

**ROCK SAMPLE LOCATION AND DESCRIPTION RECORD**

Date: October 6, 1987 Project: MM 1-18 Claims NTS: 115 N/15 Area: Bedrock Creek, Yukon Samplers: SD & GS Lab: CDN

Sample No.	Location	Description	Attitude	Width	Au ppb	Ag ppm	Pb ppm	Cu ppm	As ppm	Sb ppm	Zn ppm	Hg ppb
MMR-01	25 m S of Post 1, YA 88220-21	White milky quartz vein with minor iron staining along fractures. Locally vuggy, carbonate present. Dip difficult to determine.	140/38 S	1 m	310	1060	16	1140	3	1	8	10
MMR-02	"	As above.	125/66 S	0.3 m	95	92	13	102	1	4	14	10
MMR-03	"	As above, intensely chloritized wallrock.	176/70 S	1.5 m	70	41	5	58	2	3	12	10
MMR-04	175 m @ 300° from P1 MM11	Quartz vein with minor iron staining along fractures. Poorly exposed; may be metamorphic quartz in gneiss.			260	46	4	56	2	1	2	20
MMR-05	North side of Bedrock Creek.	Dark rusty altered quartzite (?) outcrop with traces pyrite and weathered cubic holes.			30	8.1	4	18	3	2	8	10

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## GEOCHEMICAL REPORT

To: Aurum Geological Consultants Inc.  
604 - 675 West Hastings  
Vancouver, B.C.  
V6B 1N2

Number: 87510  
Date: October 29, 1987  
Proj.: Mollot

Attn: Harmen Keyser cc. L. Mollot

	Au ppb	Ag ppm	Cu ppm	Zn ppm	Mo ppm	Hg ppb	
MMS 01	10	0.8	64	70	1	140	
MMS 02	5	0.2	26	48	1	80	
MMS 03	15	0.2	26	48	1	60	
MMS 04	5	0.2	30	58	1	50	
MMS 05	5	0.1	22	44	1	30	
MMS 06	5	0.1	24	54	1	20	
MMS 07	10	0.2	22	84	1	10	
MMS 08	10	0.1	22	52	1	10	
MMS 09	10	0.1	62	54	1	30	
MMS 10	25	0.1	24	48	1	10	
MMS 11	< 5	0.1	18	44	1	30	
MMS 12	< 5	0.6	18	44	1	30	
MMS 13	< 5	0.1	12	26	1	20	
MMS 14	5	0.1	16	48	1	10	
MMS 15	10	0.2	14	40	1	30	
MMS 16	< 5	0.7	22	56	1	20	
MMS 17	< 5	0.1	16	36	1	20	
MMS 18	< 5	0.1	8	14	1	20	
MMS 19	< 5	0.2	36	48	1	10	
MMS 20	< 5	0.1	14	22	1	20	
MMR 01	310	992.5 5/100 = 9.925 38.95 g/m = 389.5	1060	1140	8	16	10
MMR 02	95	92	102	14	18	10	
MMR 03	70	41	58	12	17	10	
MMR 04	260	46	56	2	20	20	
MMR 05	30	8.1	18	8	22	10	

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Vancouver, B.C.  
V6B 1N2

Number: 87510  
Date: October 29, 1987  
Proj.: Mollot

Attn: Harmen Keyser cc. L. Mollot

	As ppm	Sb ppm	Pb ppm
MMS 01	54	3	
MMS 02	19	9	
MMS 03	8	1	
MMS 04	12	8	
MMS 05	7	2	
MMS 06	10	1	
MMS 07	10	1	
MMS 08	7	2	
MMS 09	10	18	
MMS 10	4	2	
MMS 11	11	4	
MMS 12	10	2	
MMS 13	8	1	
MMS 14	10	5	
MMS 15	8	3	
MMS 16	21	3	
MMS 17	11	38	
MMS 18	3	18	
MMS 19	22	3	
MMS 20	26	2	
MMR 01	3	1	16
MMR 02	1	4	13
MMR 03	2	3	5
MMR 04	2	1	4
MMR 05	3	2	4

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## GEOCHEMICAL REPORT

To: Aurum Geological Consultants Inc.  
604 - 675 West Hastings  
Vancouver, B.C.  
V6B 1N2

Number: 87510B  
Date: November 10, 1987  
Proj.: Mollot

Attn: Harmen Keyser cc. L. Mollot

	Pb
	ppm
MMR 01	16
MMR 02	13
MMR 03	5
MMR 04	4
MMR 05	4

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Number: 87510  
Date: October 29, 1987  
Proj.: Mollot

Attn: Harmen Keyser cc. L. Mollot

	Ag oz/T
MMR 01	28.95

  
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