

1981 GEOCHEMICAL REPORT

M M 100 CLAIM GROUP

SKEENA MINING DIVISION

NTS 104 A/4 W

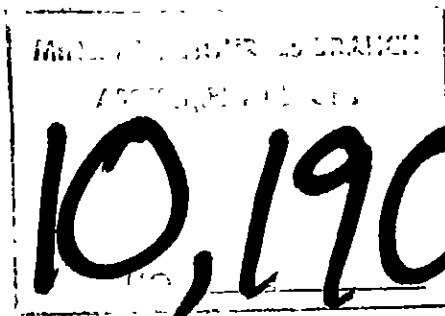
Lat. 56 01' N

Long. 129 55' W

Owner; Kingdom Resources Ltd.

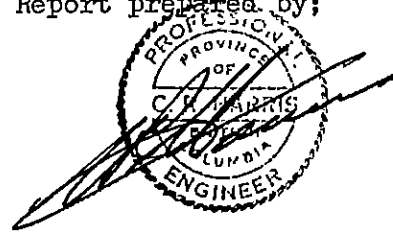
Operator: Kingdom Resources Ltd.

Consultant: C. R. Harris, P.Eng.



PART  
2 of 2

Report prepared by;



C. R. Harris, P.Eng.

February 28, 1982

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## INTRODUCTION

During the period July 10 to August 7, 1981, Kingdom Resources Ltd. carried out an extensive exploration program on their M M 100 claim group near Stewart, B. C. using a crew of five men supplied and supervised by Mr. Doug Hopper under the general direction of the writer. During this time physical work, prospecting and geochemical sampling surveys were performed. On September 9 the writer and Mr. Hopper returned to the property for several days to obtain check samples and to visit and sample a few areas previously overlooked.

This report describes the geochemical surveys only which were directed toward locating and tracing mineralized structures known to exist south of the claim group.

## LOCATION & ACCESS

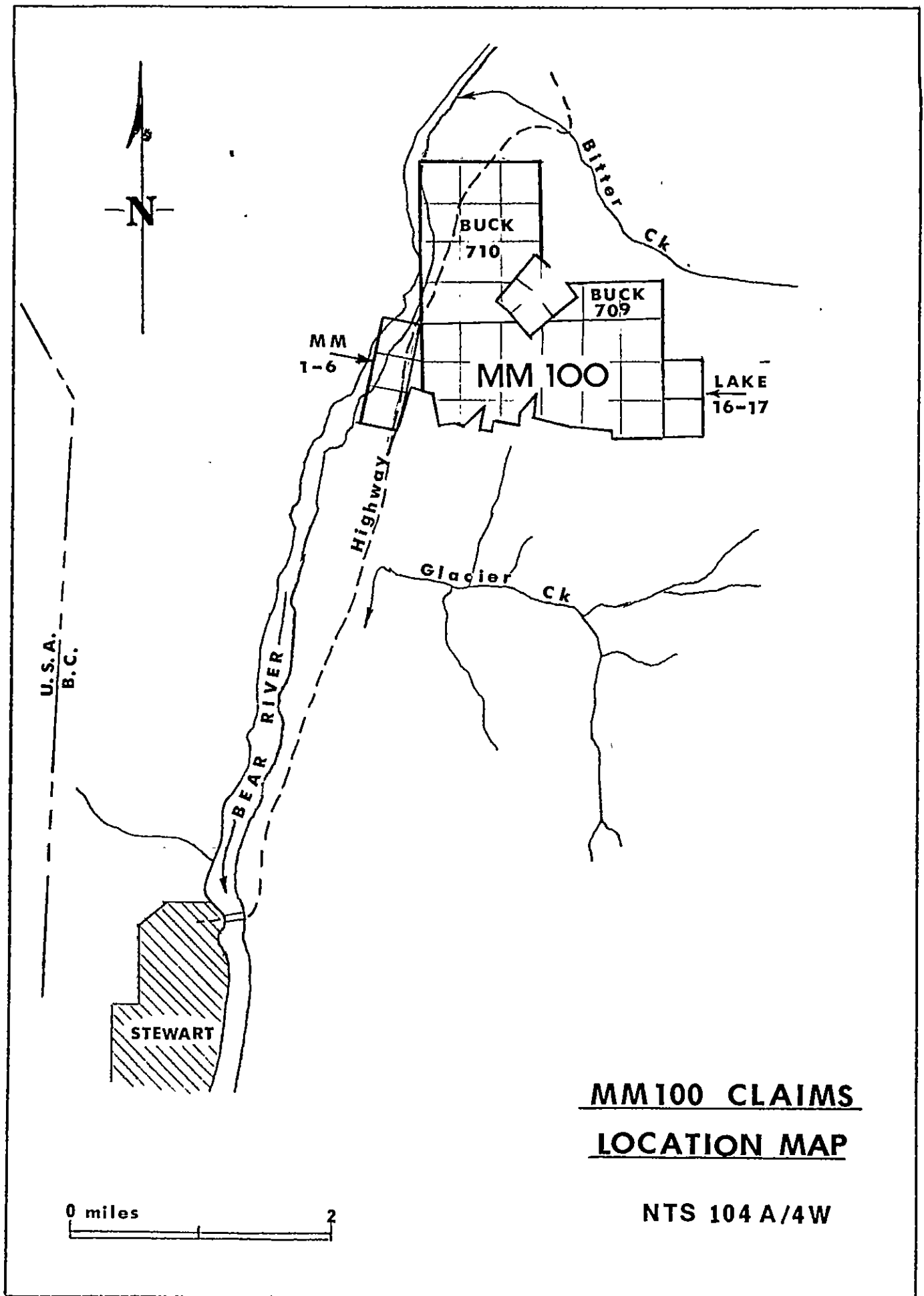
The M M 100 group of claims is located five to six miles north of Stewart, B. C. to the east of Bear River between Glacier and Bitter Creeks as shown on Figure 1.

Access to the lower showings is by highway from Stewart thence by trail to the Tyee, Mayflower and Victoria adits. Higher and more easterly areas however are best reached by helicopter and pad areas have been cleared near the Silver Ledge camp and the Emperor adits.

## PHYSICAL FEATURES

Below elevation 1500' travel is difficult due to heavy timber and brush, steep slopes and often deep creek canyons with impassible falls. Above 1500' the area is more open but often swampy with a few shallow lakes. Overburden is generally heavy and outcrops scarce except in creeks.

Above 1500' good campsites are plentiful. Water is generally in good supply except for occasional dry seasons. Timber for mining and camp use is easily obtainable.



## PROPERTY & TITLE

The M M 100 claim group consists of the following claims;

M M 100	Rec.# 1594	18 units	July 11
Buck 709	3138	12 "	July 23
Buck 710	3170	3 "	Aug 7
Lake 16	3139	1 "	July 23
Lake 17	3140	1 "	July 23

All claims are owned by Kingdom Resources Ltd. and are in good standing.

## HISTORY

The early history of the work on the claim area is somewhat confused by the large number of property, prospect and operator names but the earliest mention of active prospecting is in the 1908 BCMM Report where the Main Reef vein is referred to. This is probably the Victoria - Silver Ledge section of Victoria Creek. Adjoining this area to the south, the Sunbeam claim is known to have been located in 1905.

In 1909 mention is made of the government assayer sampling the Tyee and a small shipment from the Mayflower area is noted. In 1911 a 700' tunnel is reported to have been driven on the Main Reef with a short winze intersecting good gold values.

The properties appear to have lain dormant until about 1920 and from 1920 - 28 almost all of the workings on the claims were driven and several small high-grade shipments made. After 1928 interest in the area waned and activity seems to have been limited to occasional high grading operations. The claims covering the various showings lapsed and although re-staked from time to time interest did not seriously revive until 1979 when the M M 100 claim was staked and delt to Kingdom Resources.

## ECONOMIC ASSESSMENT

At the present time the primary interest in the claim area is for the silver and gold content of the Tyee shear and the Mayflower, Victoria, Silver Ledge and Emperor veins. The Tyee, Mayflower and Silver Ledge as well as several other isolated showings have returned excellent silver-gold-lead-zinc assays which, if sufficient horizontal and vertical extent can be proved, could become small producing mines.

The old Dunwell Mine which was an active producer during the 1920s and 30s is located only about one mile south of the claims on what is thought to be the same structure as the Victoria and Silver Ledge.

Because of the generally low altitude, less than 3000', and freedom from avalanche of the prospect areas and possible road access routes the prospects are ideally located for relatively inexpensive development and year around operation if sufficient ore can be developed.

Geochemical surveys run in 1981 have outlined additional exploration targets which do not outcrop.

## GEOLOGICAL SETTING

The M M 100 claims extend over three major rock units mapped by Grove as the Hyder quartz monzonite stock along the western edge, then Hazelton fragmental volcanics followed by Bowser sediments over the eastern half. Grove (1971) provides a detailed description of these rock units and the general geology of the area.

A major feature on the claims is the northern extension of the so-called Portland Canal Shear Zone in or near which were found the Dunwell Mine and numerous important prospects immediately to the south of the M M 100. The Victoria and Silver Ledge showings appear to be on the west or hanging wall side of this zone while the newly found geochemical anomalies probably represent the eastern portion. The known veins are complex quartz-carbonate

breccia veins with localized sulphides. The veins are usually associated with lamprophyre and other dykes. The veins so far opened up strike more or less north-south and dip west from 70 at the Dunwell Mine in the south to 40 - 50 at the Silver Ledge in the north.

The Tyee showing is a highly pyritized shear with quartz and occurs at the contact of the Hyder Intrusive and Hazelton Volcanics. The showing appears to be quite similar to the old Ben Ali Mine located not far to the south.

#### SUMMARY OF WORK

Following the establishment of a base camp on July 10 on upper Victoria Creek a total of 8800 meters of lines were laid out along and to the east of Victoria Creek using compass and tape survey control. Sample stations were established every 50 meters except in deep swamp and lakes. Line spacing and sample locations were as shown on figure 2.

In addition, 850 meters of line was cut in the Mayflower Creek area and sample stations set along the Tyee-Victoria trail as shown on figures 6, 7 & 8.

A total of 200 soil samples were sent for assay. All samples were assayed for Copper, Lead, Zinc and Silver. The Victoria Creek area was also assayed for Tungsten and some samples from the Mayflower Creek section assayed for Tungsten or Molybdenum.

The major portion of the work was performed from July 10 - 31 but on a return visit on September 9 some additional samples were taken along the main trail.

#### SAMPLING & ASSAY PROCEDURES

All samples were taken from the B soil horizon using a hand auger in most cases. Sample depth varied considerably with the shallowest holes along dry ridges and the deepest, up to 5 feet, in swampy ground. Samples were taken by Mr. Doug Hopper an experienced prospector known to the

writer as a knowledgeable, competent sampler.

Many stations were difficult to sample as soils are not everywhere well developed. Where rock interfered with augering holes were dug to below organic level and fines collected.

All samples were analyzed by CanTest Laboratories of Vancouver, B. C. Samples were screened through 80 mesh followed by total acid digestion and atomic absorption analysis. All results were reported in parts per million.

#### FIELD RESULTS & DISCUSSION

E. W. Grove (1971 p 115, 116) notes that geochemical exploration in the Stewart area has not been particularly successful due mostly to poor soil development. For this reason the decision to try a geochemical approach for the claim area was made with some misgivings but it was decided to experiment with a wide line spacing to start knowing that fill-in lines could be added later if results were encouraging.

To the east of upper Victoria Creek the results were most encouraging and assays for Pb, Zn and Cu all indicate mineralized zones with surface traces as expected from the strike and dip of known structures and veins just to the south of the M M 100 claim on the Sunbeam and Dunwell properties as well as an outcropping quartz breccia zone east of the sample area.

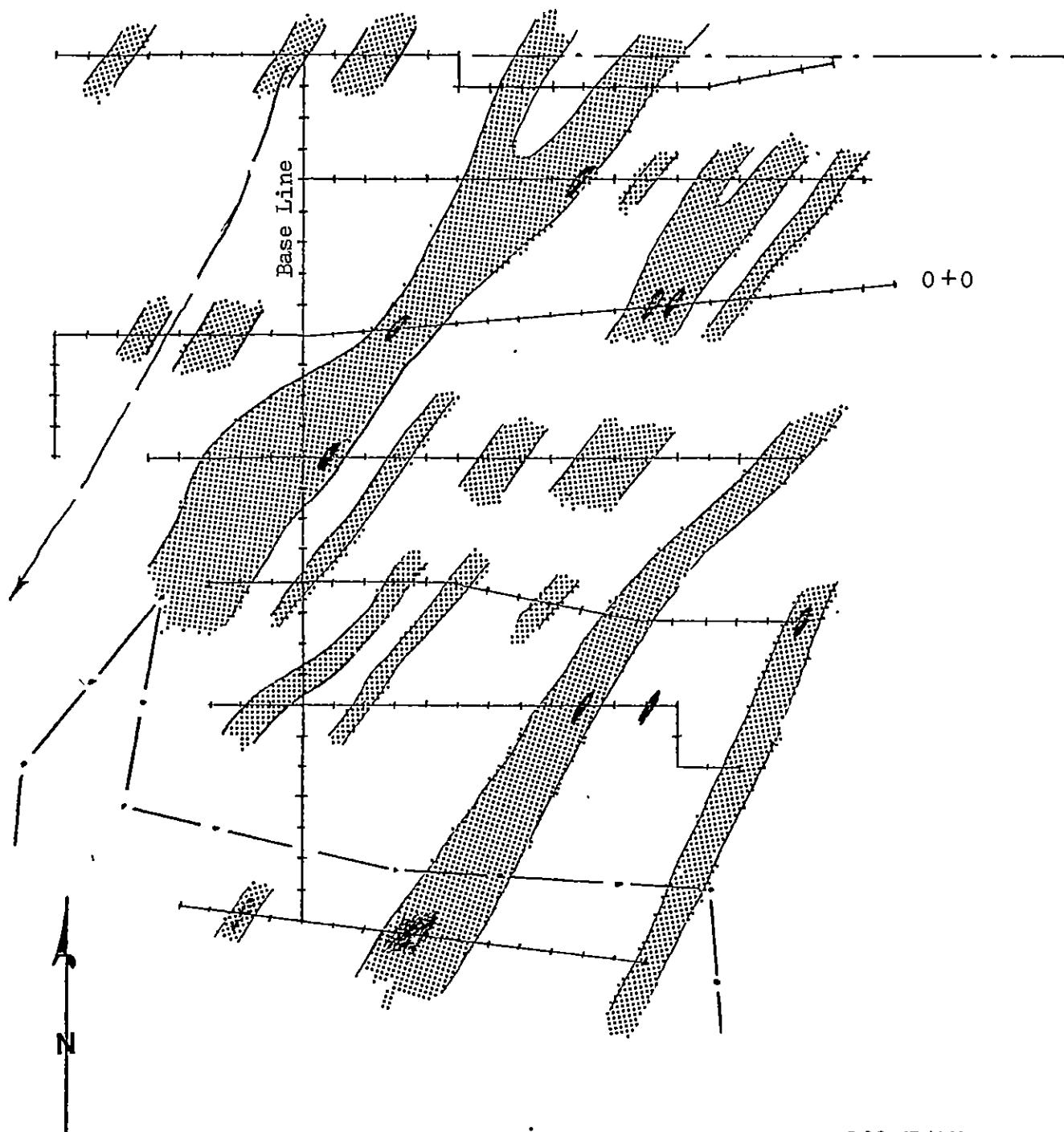
Assay results for the Victoria Creek area are plotted on Figure 2.

Figures 3, 4 & 5 show smaller scale plots of >40 ppm Copper, >20 ppm Lead and >100 ppm Zinc. Because of the large line spacing (200 - 300 meters) and sample interval (50 meters) it is felt to be premature to interpret anything more than the obvious linear anomalies. Assay contour maps would at best be only a guess and could be misleading.

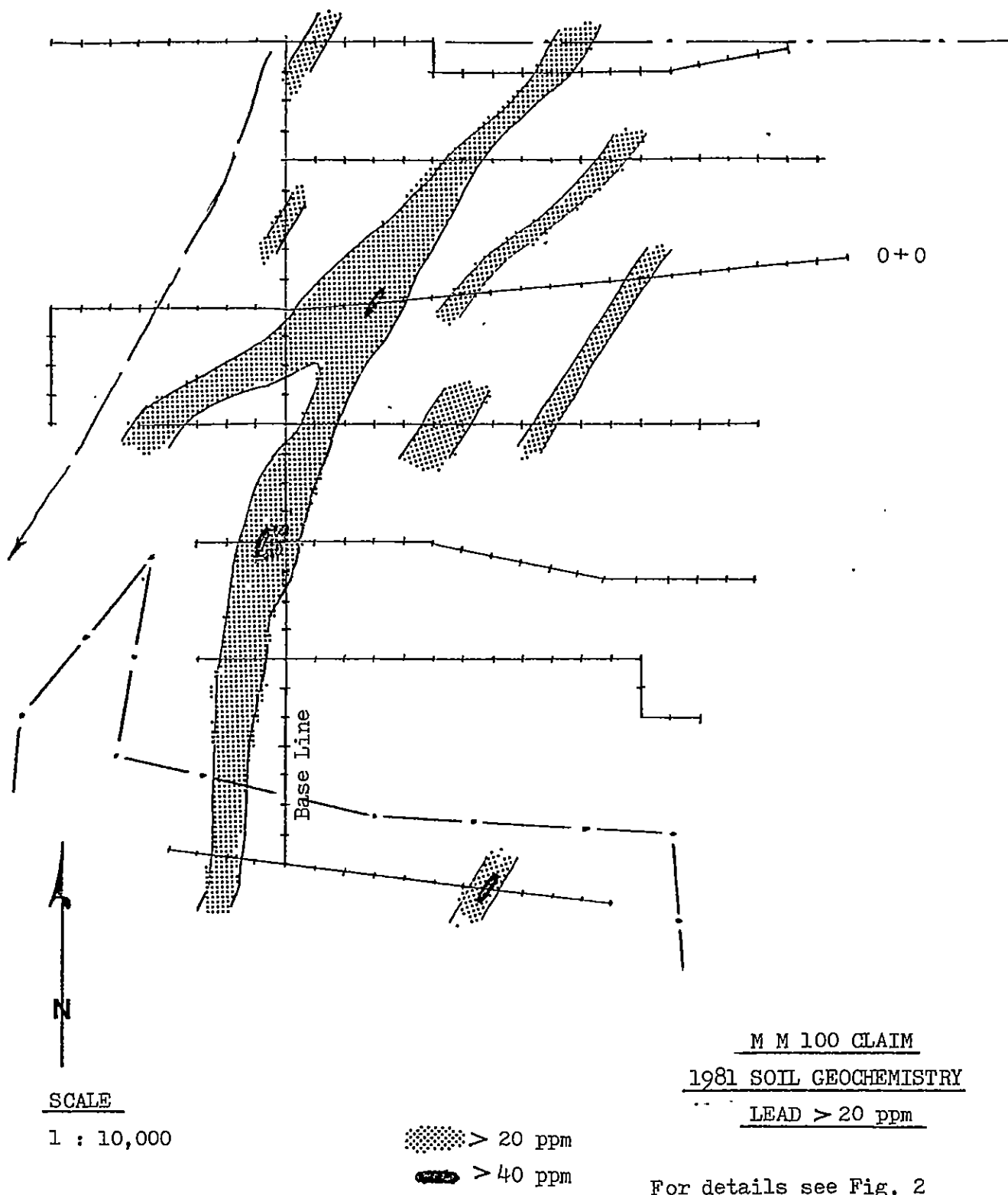
The decision to plot >40 ppm Copper, >20 ppm Lead and >100 ppm Zinc was made after calculating the means for the 162 samples from the area

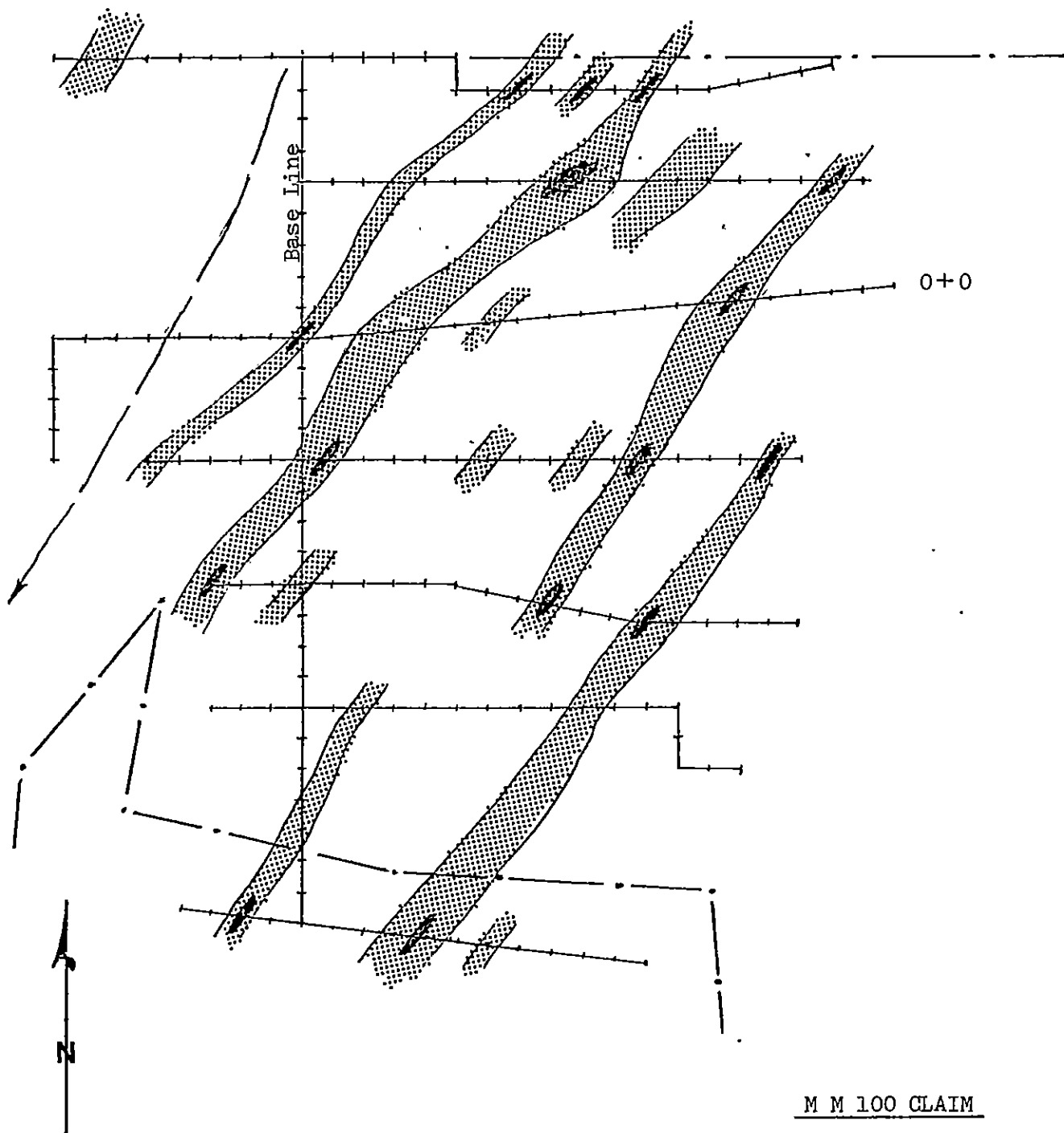


FIGURE 3



For details see Fig. 2





SCALE

1 : 10,000

100 ppm

> 200 ppm

M M 100 CLAIM  
1981 SOIL GEOCHEMISTRY  
ZINC > 100 ppm

For details see Fig. 2

which were Copper 45.6 ppm, Lead 15.6 ppm and Zinc 95.3 ppm. Lacking sufficient background data it is felt that values greater than the mean are significant and values twice the mean are highly significant.

Despite the inadequacies of spacing it is evident from the plots of Figures 3, 4 & 5 that important buried structures exist and that all three metals show similar and usually coincident patterns. Soil geochemistry is therefore concluded to be an important technique for this area and fill-in lines with closer sample spacings are definitely recommended to pinpoint future exploration targets.

In the Mayflower Creek and Tyee-Victoria trail area soils are very poorly developed but samples were taken to determine if soil geochemistry might have application in this often rugged hillside area. Results of the sampling are shown on Figures 6, 7 & 8.

Despite the wide spacing of sampling the few samples taken do show, when compared with the known vein occurrences in Mayflower Creek, that Lead, Zinc and Copper can be used as indicators. Continued sampling on a close spaced grid is definitely recommended particularly to the north of Mayflower Creek.

It is interesting to note that with a few exceptions silver assays were uniformly low and of little value except as additional confirmation for some of the inferred structures.

#### COST STATEMENT

Three separate types of work were done during the 1981 field season, physical work, prospecting and geochemical soil sampling. 1981 exploration costs are shown on the following pages with what is believed to be a fair apportionment of costs to the various jobs.

A total of \$ 14,674 is applied to the geochemical surveys.

## 1981 COST STATEMENT - M M 100

	Physical \$	Prospect \$	Geochem \$	Total \$
<u>July 10 - August 7</u>				
<u>Wages</u>				
D. Hopper, Supervisor, 1 mo @ 3000	250	1,250	1,500	3,000
L. Nyman, prospector, 1 mo @ 2500	250	750	1,500	2,500
E. Becker, prospector, 1 mo @ 2000		600	1,400	2,000
G. Sherwood, helper, 10 da @ 120	240	160	800	1,200
T. Finlay, helper, 8 da @ 120	240	240	480	960
F. Bannerd, helper, 4 da @ 120	480			480
P. Dupras, contractor, 6 da @ 150		300	600	900
D. Dristansky, helper, 3 da @ 100	200	100		300
	<u>1,660</u>	<u>3,400</u>	<u>6,280</u>	<u>11,340</u>
<u>Engineering Supervision</u>				
C. R. Harris, P.Eng, 4 da @ 250		500	500	1,000
M. C. Harris, student 4 da @ 100		200	200	400
		<u>700</u>	<u>700</u>	<u>1,400</u>
<u>Transportation</u>				
Truck rental, 1 mo @ 1,500		600	900	1,500
Helicopter, July 12 .....	640			
16, 18, 20 ....	1,020			
21, 22, 31 ....	998			
Aug 7 .....	150			
	<u>2,808</u>			
Apply 50%	<u>200</u>	<u>404</u>	<u>800</u>	<u>1,404</u>
	200	1,004	1,700	2,904
<u>Camp Costs &amp; Accommodation</u>				
Fuel and expendibles		500	1,050	1,550
Food and camp supplies		400	1,000	1,400
Stewart accommodation & meals		400	400	800
Equipment and camp rentals		200	600	800
		<u>1,500</u>	<u>3,050</u>	<u>4,550</u>
<u>Assay</u>				
Geochemical 184 @ 6.00			1,104	1,104
Rock samples 60 @ 33.00		1,980		1,980
		<u>1,980</u>	<u>1,104</u>	<u>3,084</u>
<u>September 9 - 14</u>				
<u>Wages</u>				
D. Hopper, prospector, 4 da @ 150		300	300	600
F. Bannerd, helper, 3 da @ 120		120	240	360
C. R. Harris, consultant, 4 da @ 250		700	300	1,000
C. D. Harris, student, 4 da @ 100		300	100	400
		<u>1,420</u>	<u>940</u>	<u>2,360</u>
TOTAL this page .....	<u>1,860</u>	<u>10,004</u>	<u>13,774</u>	<u>25,638</u>

8

COST STATEMENT (Cont'd)

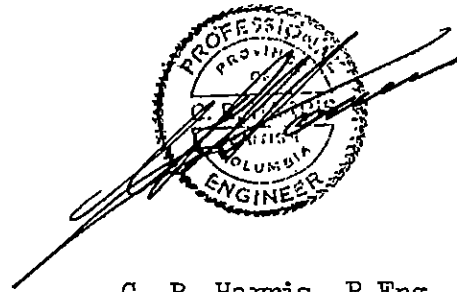
	Physical	Prospect	Geochem	Total
<u>Transportation</u>				
Air fare, Vanc-Stewart, 3 men		590	300	890
<u>Room &amp; Board</u>				
Stewart, 3 men, 5 days		400	200	600
<u>Assays</u>				
Geochemical 16 @ 6.00			100	100
Rock samples 20 @ 33.00		660		660
		<u>660</u>	<u>100</u>	<u>760</u>
<u>Preparation of Report</u>				
C. R. Harris, P.Eng.		300	300	600
		<u>300</u>	<u>300</u>	<u>600</u>
Total this page		1,950	900	2,850
Total previous page	1,860	10,004	13,774	25,638
GRAND TOTAL	<u>1,860</u>	<u>11,954</u>	<u>14,674</u>	<u>28,488</u>



CERTIFICATE

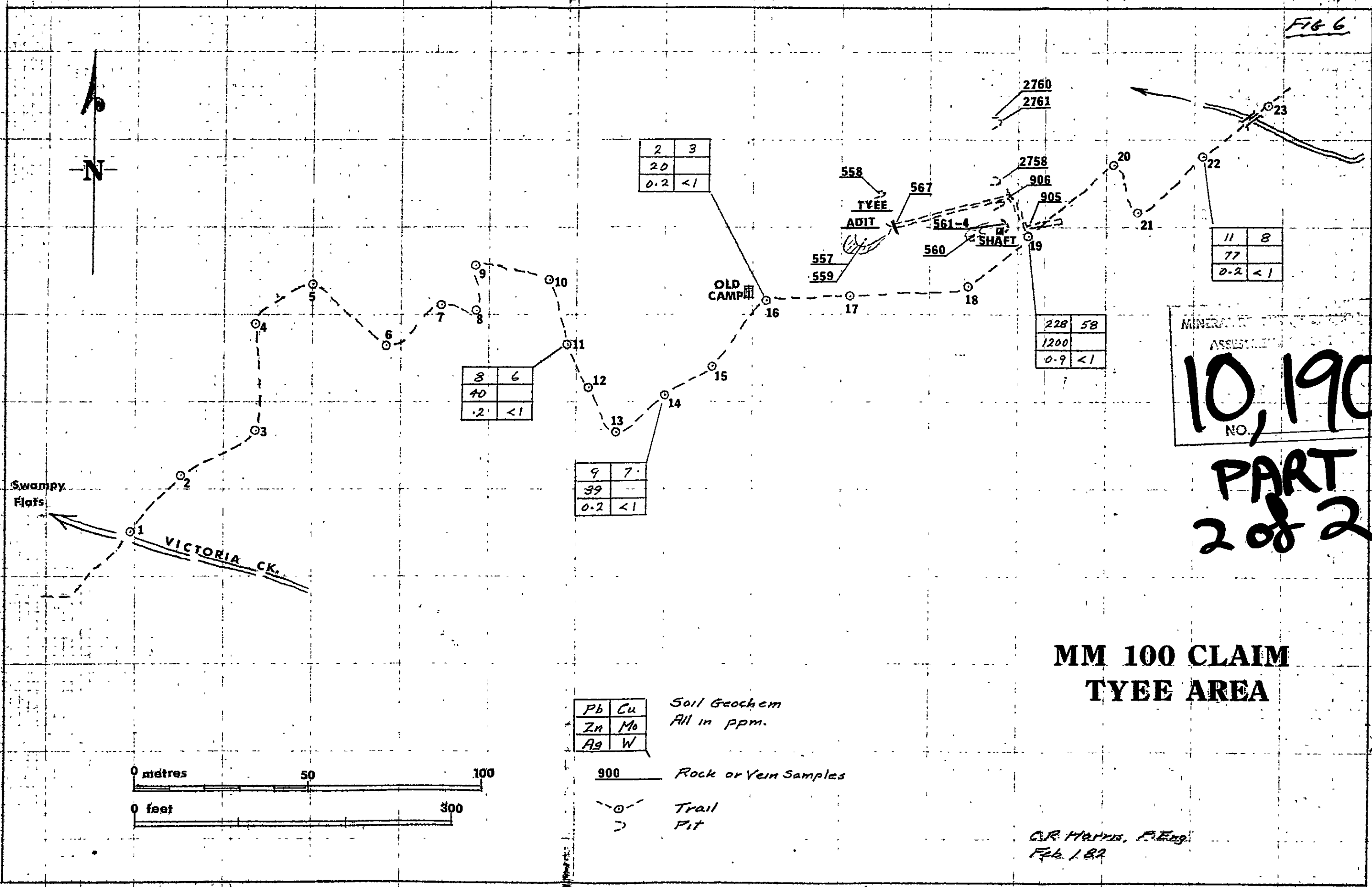
I, Charles R. Harris, of 2709 Wembley Drive, North Vancouver, B. C.,  
hereby certify that;

1. I am a graduate of the University of British Columbia with a  
degree of Bachelor of Applied Science in Mining Engineering.
2. I am a registered member in good standing of the Association  
of Professional Engineers of B. C.
3. I have been practicing my profession continuously for the  
past seventeen years.



C. R. Harris, P.Eng  
February 28, 1982

FIG 6



MINERAL  
ASSESSMENT

10, 190

NO.

PART  
2 of 2

# MM 100 CLAIM TYPE AREA

C.R. Harris, P. Eng.  
Feb 182



10,190  
NO.

PART 2 of 2

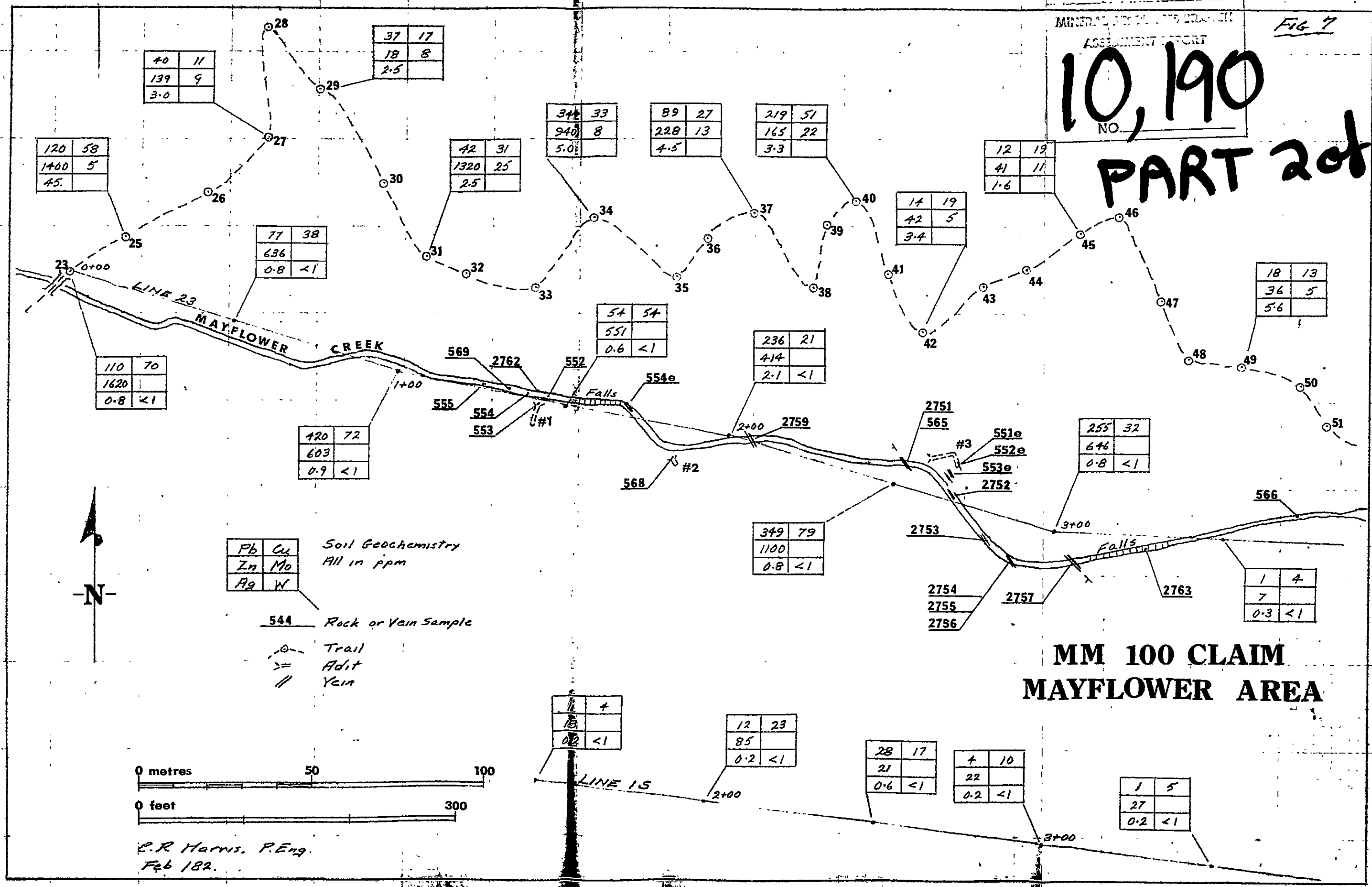


FIG 8

LEGEND

Pb	Cu
Zn	Mo
Ag	W

Soil Geochem  
All in ppm.

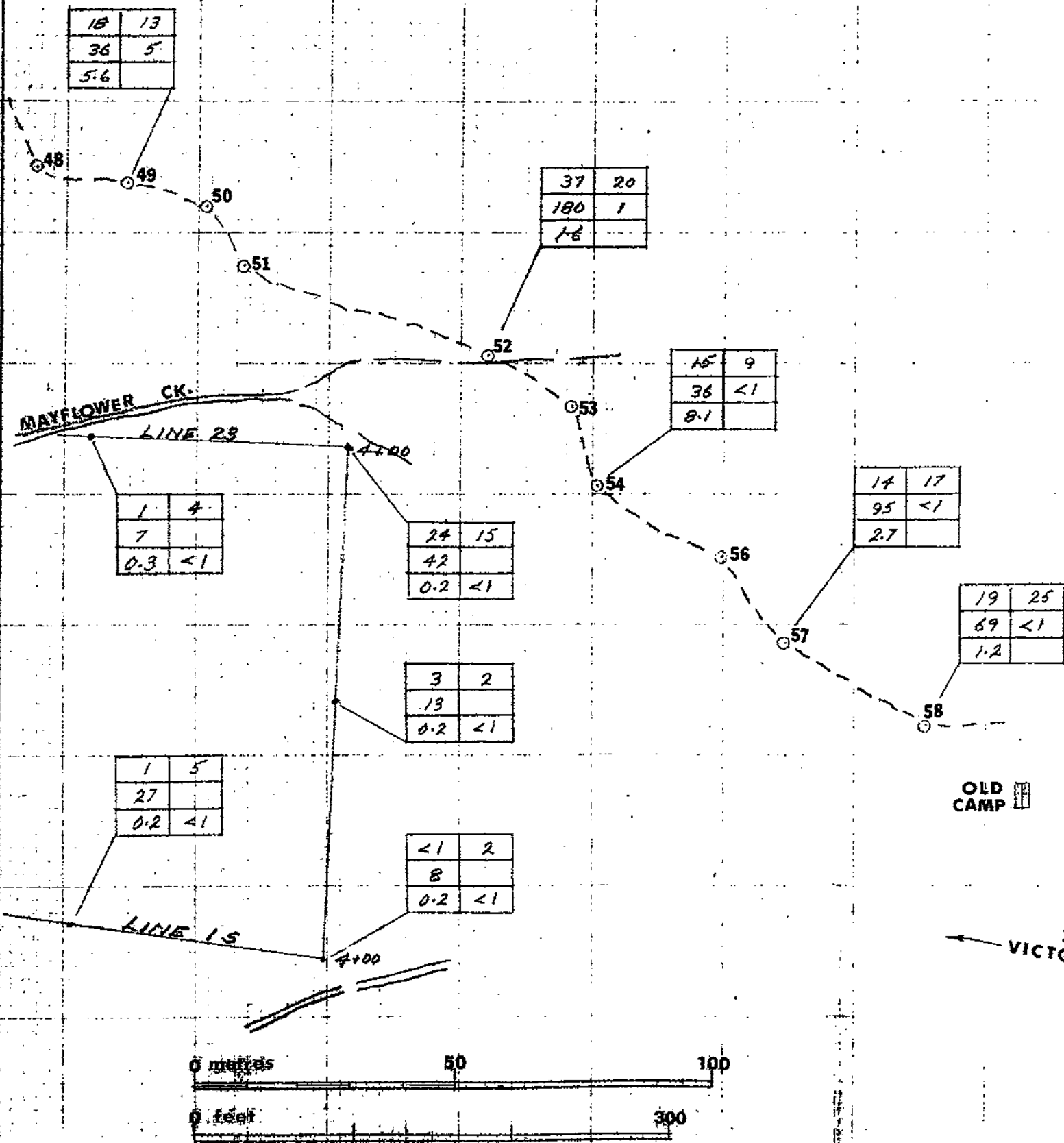
900 Rock or Vein Samples

--o-- Trail



MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**10,190**  
NO.

**PART**  
**2 of 2**



OLD CAMP

556

**VICTORIA ADIT**

**VICTORIA CREEK**

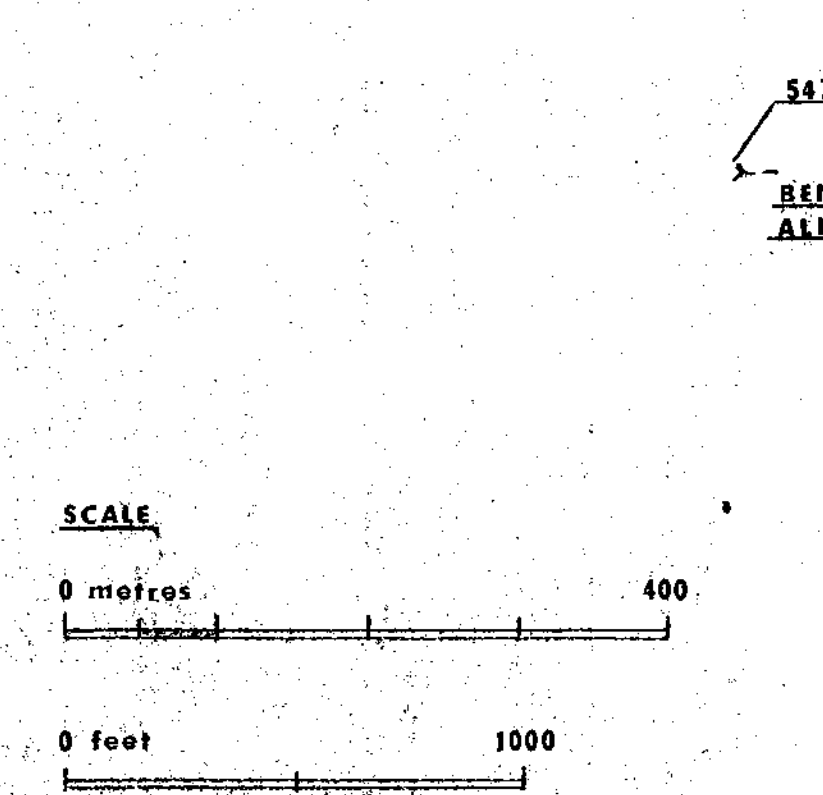
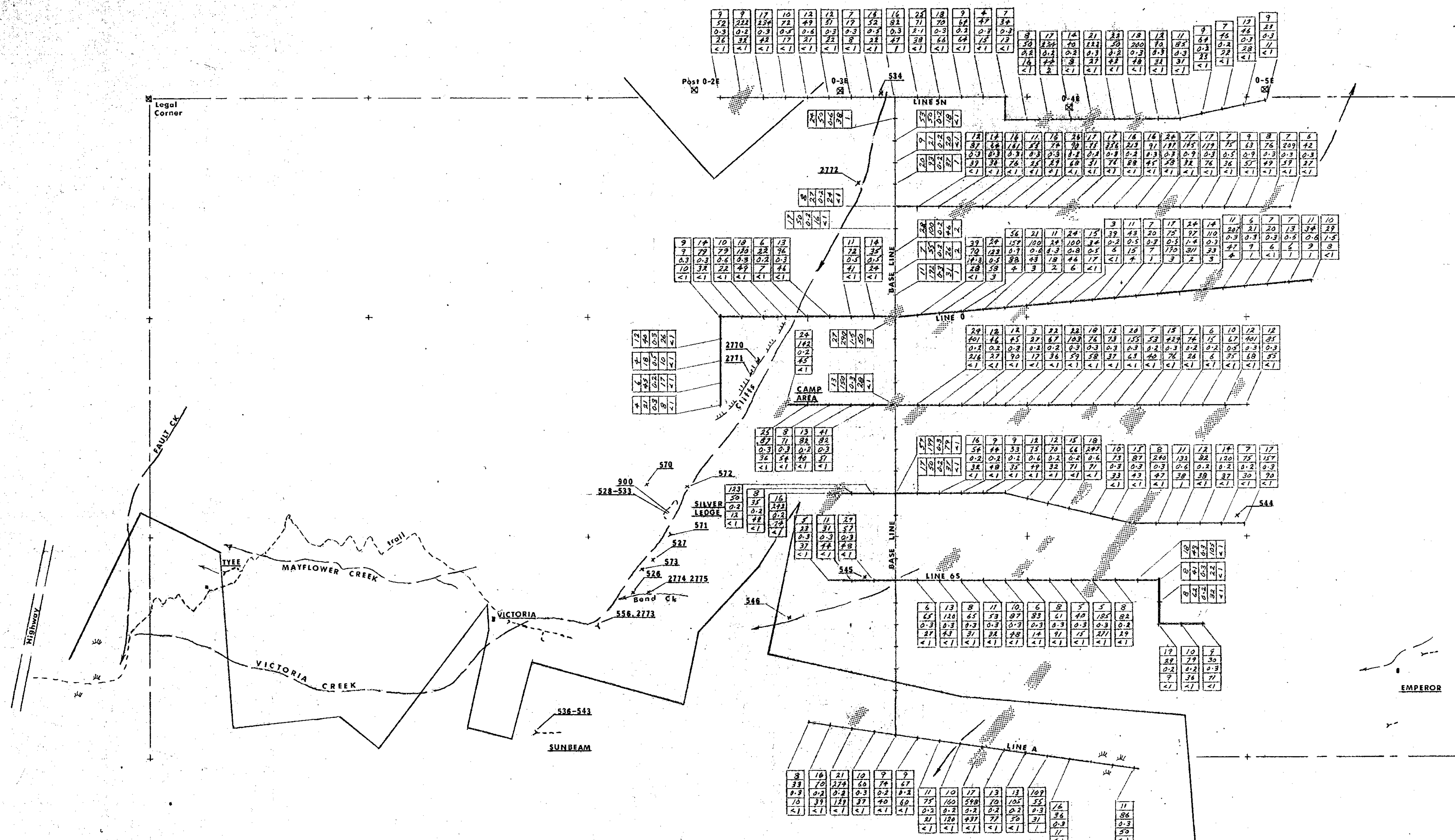
**MM 100 Claim**  
**VICTORIA AREA**

904  
903

902

901

C.R. Harris, P. Eng.  
Feb 182



- LEGEND**
- Soil Geochem. ppm,
  - Rock Sample
  - Sample Line
  - Claim Post
  - Adit
  - Apparent trends Geochem Sampling.

**NOTES**  
 Map prepared from  
 Topog Map 10444  
 Claim Map 10444W B.C.M.  
 Air Photo Blow-up B.C. 7066 No 241  
 Crown Grant Survey Plans  
 Chain & Compass Surveys by  
 D. Hopper & Crew 1981  
 C.R. Harris, P.Eng. 1981

10,190  
 PART  
 2 of 2

**KINGDOM RESOURCES LTD.**  
**MM 100 CLAIM**  
**1981 SAMPLING & PROSPECT LOCATIONS**

C.R. Harris P.Eng.  
 Sept 30, 1981  
 Revised Jan 11/82