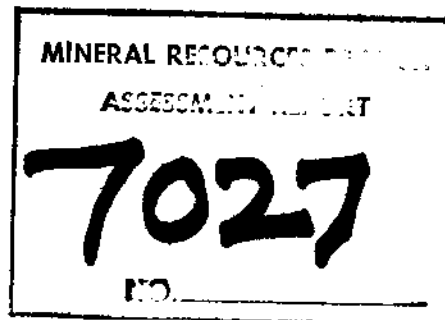


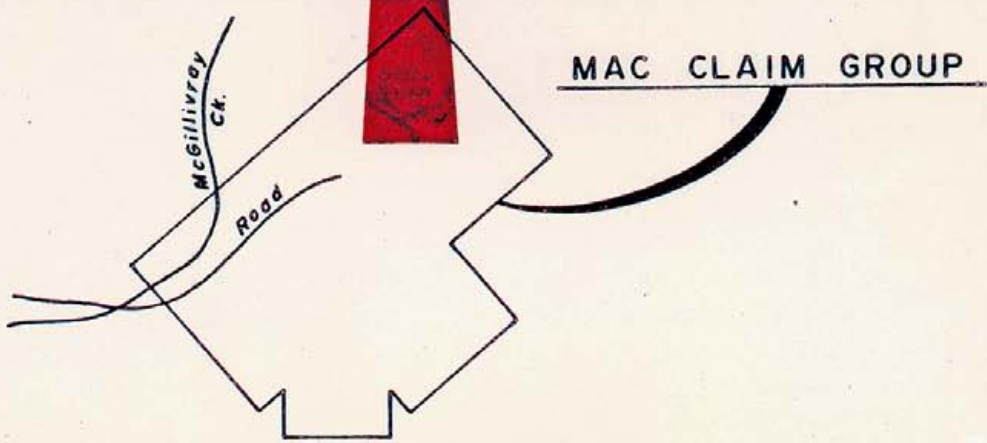
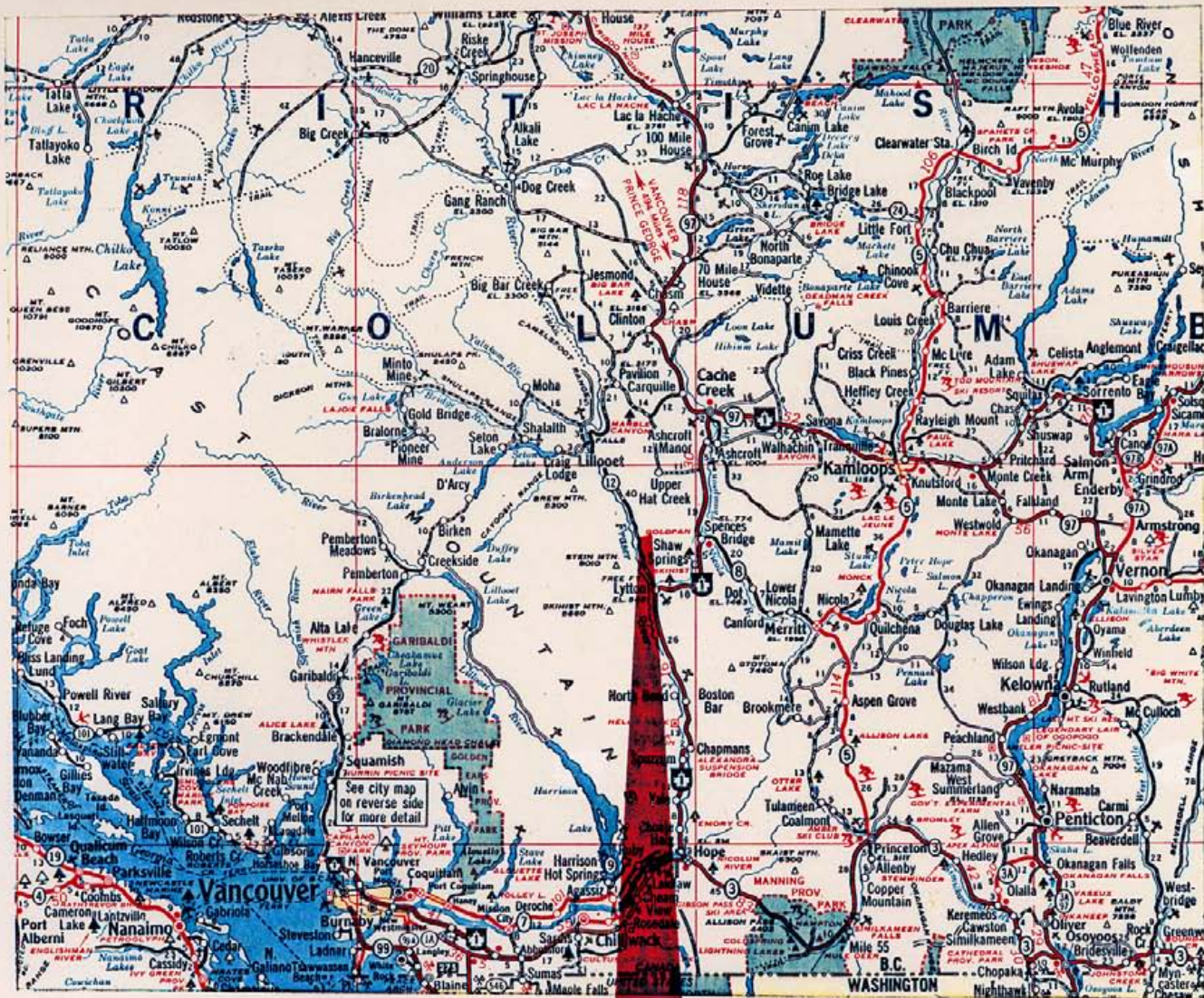
GEOCHEMICAL REPORT  
ACACIA MINERAL DEV. CORP.

Mac claim group consisting of the A, B  
and C mineral claims, McGillivray Creek  
area near Lytton, B. C., Kamloops M. D.

Lat. 50°30'N Long. 121°34'W N.T.S. 92 I/12

Author: Glen E. White, B.Sc., P. Eng.  
Date of Work: June 19 - 30, 1978  
Date of Report: November 28, 1978





ACACIA MINERAL DEVELOPMENT CORPORATION  
 MAC CLAIM GROUP  
 LOCATION AND CLAIM MAP

*Glen S. White*  
 geophysical consulting  
 4  
 1111 111

Scale: 1" = 40 Miles

NOV. 1978  
 FIG. 1

C O N T E N T S

	<u>PAGE</u>
Introduction.....	1
Property.....	1
Location and Access.....	1
General Geology.....	2 - 3
Survey Specifications	
(1) Survey Grid.....	3
(2) Geochemical Survey.....	4
Discussion of Results.....	4 - 6
Conclusions.....	6 - 7
Recommendations.....	7
Statement of Qualifications.....	8
Cost Breakdown.....	9

Illustrations

Figure	1	-	Claims and Location Map		
"	2	-	Cobalt Geochemical Map		
"	3	-	Copper	"	"
"	4	-	Lead	"	"
"	5	-	Silver	"	"
"	6	-	Zinc	"	"
Plate	1	-	Claims and topography sketch		
"	2	-	General Geology		

## INTRODUCTION

At the request of Acacia Mineral Development Corporation, Glen E. White Geophysical Consulting & Services Ltd. has completed a grid layout and soil sampling program on the Mac claims group near McGillivray Creek, which is situated midway between Lytton and Lillooet along Highway 12.

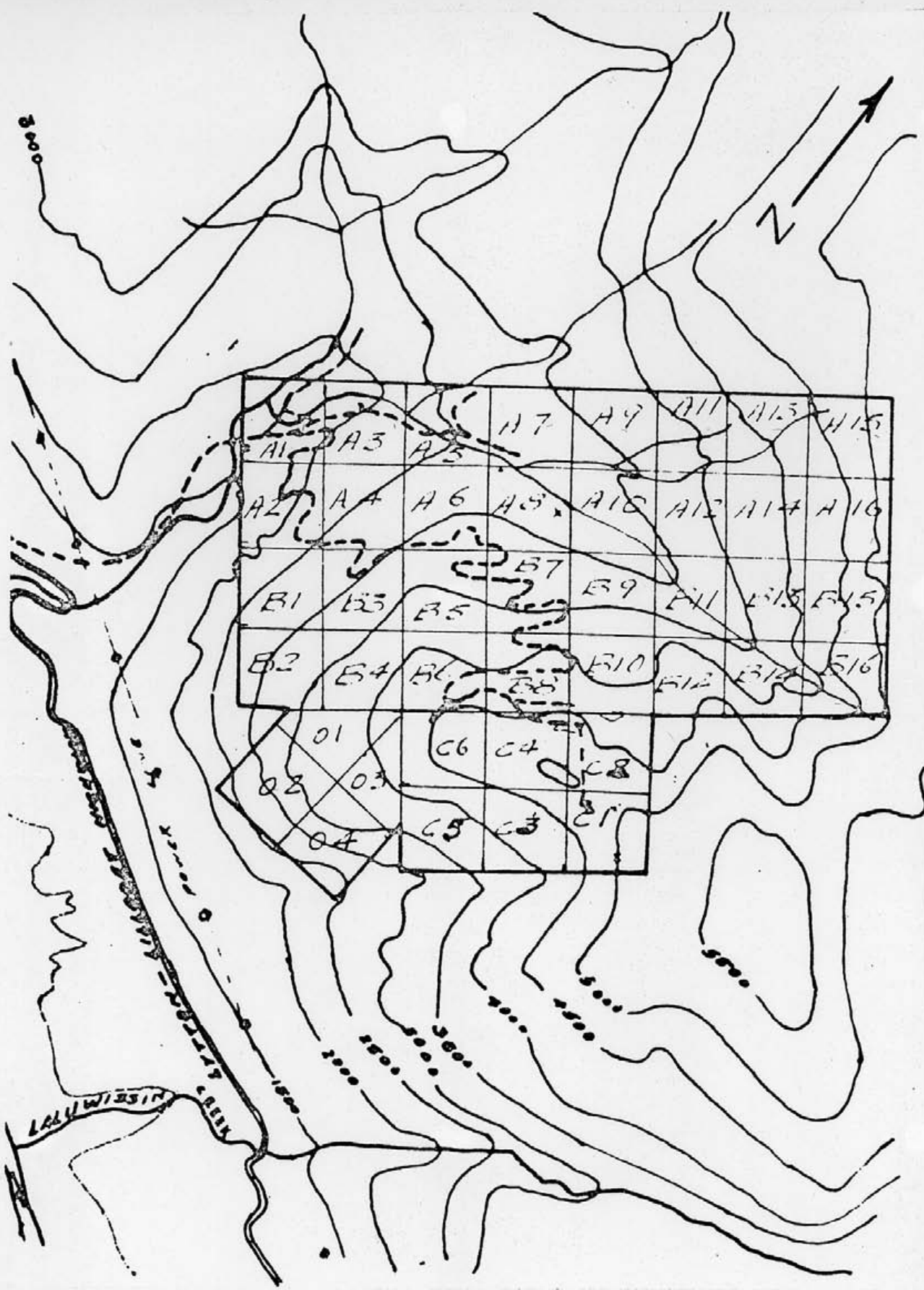
The purpose of the survey was to examine an area of copper-bearing mineralization as described in a report by D. C. Malcolm, P. Eng., July 14, 1976.

## PROPERTY

The property covered by this survey consists of the A 1 - 16, B 1 - 16 and C 1 - 6 mineral claims as illustrated on Figure 1 and Plate 1.

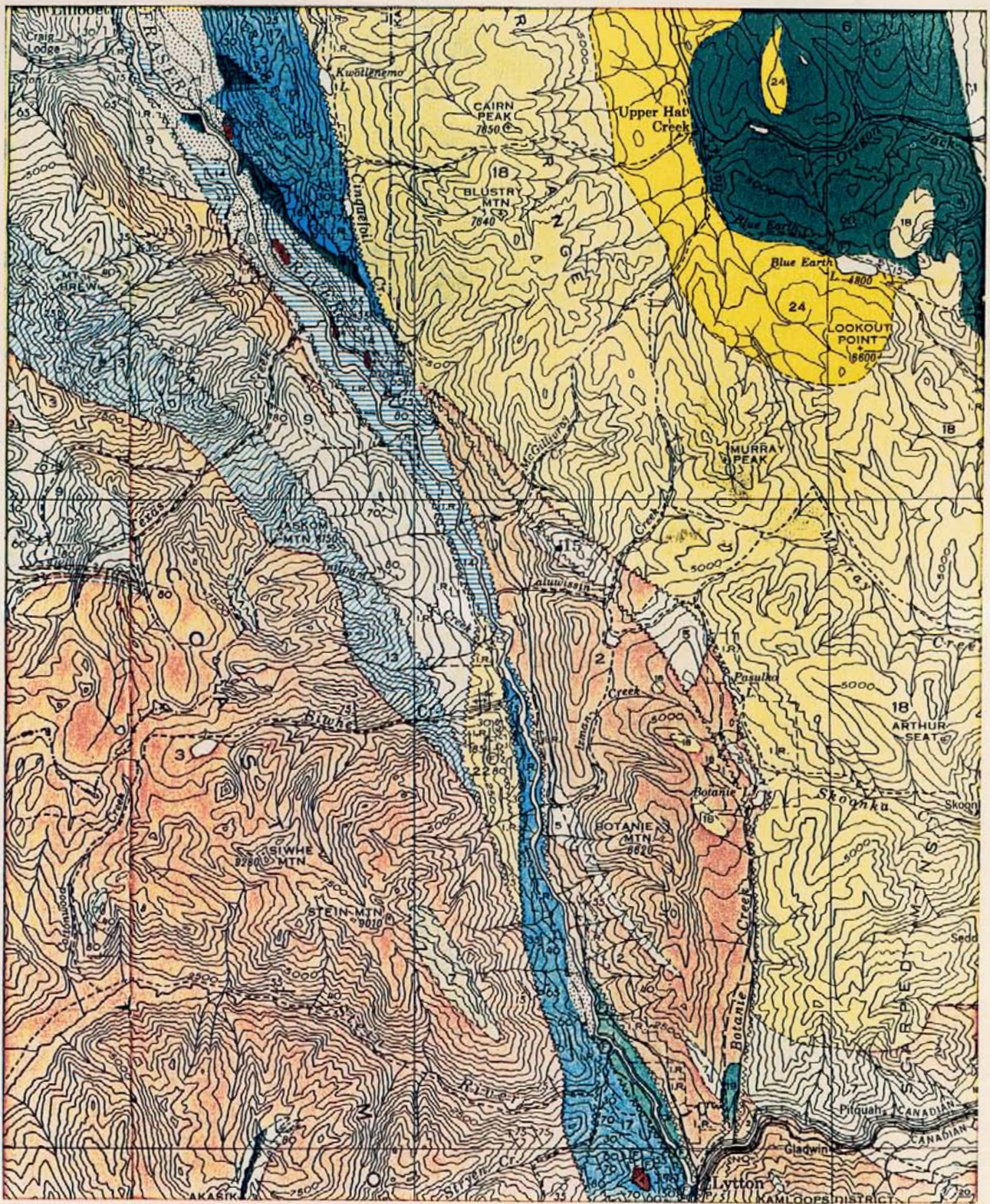
## LOCATION AND ACCESS

The mineral claims are located along the west side of the Clear Range, a series of steep mountain slopes which drain westward into the Frazer River. McGillivray Creek, which is one of these drainages, is midway between Lytton and Lillooet, some 20 miles north of Lytton. Latitude  $50^{\circ}30'N$ , Longitude  $121^{\circ}34'W$ , N.T.S. 92 I/12, Kamloops M. D., B. C.



TOPOGRAPHY AND CLAIMS MAP

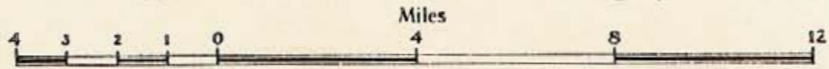
Glen E. White  
 geophysical consulting  
 &  
 services, Ltd.



GEOLOGICAL SERIES

MAP 1010A

Scale: One Inch to Four Miles =  $\frac{1}{253,440}$



*Glen E. White*  
*geophysical consulting*  
*services ltd.*

## GENERAL GEOLOGY

The regional geology of the area is illustrated on Map 1010A, Ashcroft, by S. Duffell and K. C. McTaggart 1945 - 46. This map shows a portion of the claims to be underlain by Triassic schist and gneiss within the Lytton Batholith which abuts the Spencer Bridge group of andesite, dacite, rhyolite and related sedimentary rocks to the east. An examination of the showings by this author suggests that they are related to a limey andesite-dacite sequence of volcanic rocks which trend northward down the mountain and across McGillivray Creek. Thus the mineral occurrences may best be examined under an exhalitive volcanogenic model. A description of the claim geology and deposits is reviewed as follows from D. C. Malcolm's P. Eng. report.

"

### CLAIM GEOLOGY

The rocks on the claims are extensively brecciated sediments and volcanics (andesite, cherty tuffs, limestone and limestone breccias). They are intruded near the mouth of McGillivray Creek by diorites of the Mount Lytton batholith and to the east at the headwaters of the Creek by quartz diorite.

Feldspar porphyry dikes intrude brecciated andesites and limestone breccias. The dikes and adjacent intruded rocks contain disseminated chalcopyrite, magnetite and bornite. Andesites, further from the dikes, contain massive and disseminated pyrite. Large areas of these pyritized rocks form limonite surface goossens.

DEPOSITS

The main deposits occur at the summit of a ridge and along its flanks between elevations 4,500 and 5,000 feet. On the north side of the ridge a number of small hand trenches expose sheared and brecciated feldspar porphyry and altered limy volcanics. Five samples over an area 200 feet by 200 feet, averaged 0.42% copper.

A road has been built from McGillivray Creek to the lower part of the deposit on the north slope of the ridge. Franchises have been roughed out partly across the deposit at elevations 4,650 and 4,800 feet.

On the south side of the ridge, 1,500 feet south of these trenches, chalcopyrite occurs with magnetite in old trenches and malachite stained feldspar porphyry forms a slide in a dry gulch. One picked sample assayed 0.37 oz. silver, per ton and 7.16% copper.

On the road, at elevation 3,300 feet, a porphyry dike was exposed. Chalcopyrite bearing limestone breccia float occurs near it.

Pyritic deposits occur over a large area east of the porphyry dikes and extend across the claims. Two outcrops have been sampled and assayed 0.095% and 0.15% copper.

A spring, at elevation 3,600 feet near McGillivray Creek, deposits a white precipitate which showed 1.19% silicon and 84.75% alumina.

In 1973, 1974 and 1975 a number of small trenches were made and the road was extended to the hill top.

H

SURVEY SPECIFICATIONSSurvey Grid

The traverse lines are orientated in a N60°E direction from a central N30°W baseline. The lines are spaced 120 m apart and numbered at 30 m intervals. Some 70 km of survey grid was established.



## Geochemical Survey

Soil samples of the upper "B" horizon were taken along the traverse lines at 60 m intervals. The soil samples were then placed in soil envelopes provided by Chemex Labs Ltd. of North Vancouver, B. C. The samples were delivered to the above lab where -80 mesh sieving, digestion by hot perchloricnitric acid and analysis by atomic absorption were carried out under the supervision of professional geochemists. 1044 samples were obtained and analysed for p.p.m. cobalt, copper, lead, silver and zinc.

## DISCUSSION OF RESULTS

Plate 1 shows a general outline of the claims with respect to the topography; from this map it can be seen that the mineral showings are on a steep mountainside which drains northeastward. The 4x4 road up to the showings is very steep and contains a number of tight switchbacks.

The cobalt map, Figure 2, shows anomalous values to a high of 102 p.p.m. around the showings in the southern portion of the surve area. Anomalous values are alos shown following the drainage into McGillivray Creek. Basic volcanic and gabbroic rocks usually contain higher values of cobalt than

their acid equivalents. This would suggest that the basic volcanics observed with the showings likely form a northerly trend, possibly in close association with the pattern of surface gossans.

The copper geochemical map, Figure 3, shows a pronounced northerly trend which has high values of 1100 and 810 p.p.m. copper in the area of the trenching. These high values may possibly be caused by surface contamination. However, this zone would appear to extend to the south towards an area of copper-magnetite mineralization on the mountain top. The strong copper anomaly on line 8 / 40 S at 0 / 60 W of 855 p.p.m. would appear to be associated with the seepage of white talcous alumina-bearing material referred to by D. C. Malcolm, P. Eng. A narrow, highly pyritized zone occurs along the stream banks between the copper geochemical anomalies on lines 3 / 60S and 4 / 80S.

The lead geochemical data indicates there is a minimal amount of lead-bearing mineralization around the gossan zones. The high lead anomaly of 118 p.p.m. located at 9 / 60S on the baseline, is displaced upslope some 120 m from the high copper value. This lead geochemical anomaly is also coincident with the only strong silver geochemical value detected which was 4.6 p.p.m. silver; Figure 5.

The zinc geochemical results show a strongly anomalous zone in the southern corner of the survey grid which coincides with the principle showings and the copper, lead and cobalt geochemical anomalies. This anomaly gave a high of 3150 p.p.m. in the area of road disturbance. However, a high value of 2550 p.p.m. was obtained on line 8 / 40S at 1 / 20W in the area of purported alumina-bearing seepage. The zinc geochemical patterns would suggest a possibility of three parallel northerly trending mineral zones of which only the westernmost one shows geochemical evidence that it extends northward across the steep detritus infilled stream valley.

The background geochemical values for each of the elements are relatively homogenous being some 14 p.p.m. cobalt, 40 p.p.m. copper, 4 p.p.m. lead and 90 p.p.m. zinc.

#### CONCLUSIONS

The limonite gossans exposed in the southern portion of the survey area have a strong copper-zinc geochemical expression which indicates they are part of a northerly trending mineralized zone.

They are heavily pyritized and appear to be associated with a series of andesites, dacites, limestone breccias and tuffs. A strong copper, lead, silver and zinc anomaly occurs at 9 / 60S - 0E at the head of a small stream which is seeping an alumina-rich white powder.

### RECOMMENDATIONS

The geochemical survey should be extended westward on lines 14 / 40S to 22 / 80S where topography allows, to try and delineate the full extent of the mineralized zone. The central part of the survey grid, from approximately 3 / 00E to 9 / 00W, should be surveyed by the V.L.F. electromagnetic and ground magnetometer methods to try and detect any near surface massive sulphide zones or magnetic trends. Geological mapping and possibly a limited amount of deep penetrating vector electromagnetic surveying could then be conducted with a view towards diamond drilling.

Respectfully submitted,  
GLEN E. WHITE GEOPHYSICAL  
CONSULTING & SERVICES LTD.

  
Glen E. White, P. Eng.  
Consulting Geophysicist

**STATEMENT OF QUALIFICATIONS**

**Name:** WHITE, Glen E. , P. Eng.

**Profession:** Geophysicist

**Education:** B.Sc. Geophysics - Geology  
University of British Columbia

**Professional Associations:** Registered Professional Engineer,  
Province of British Columbia

Associate member of Society of  
Exploration Geophysicists.

Past President of B. C. Society of  
Mining Geophysicists

**Experience:** Pre-Graduate experience in Geology  
Geochemistry - Geophysics with Anaconda  
American Brass.

Two years Mining Geophysicist with  
Sulmac Explorations Ltd. and Airborne  
Geophysics with Spartan Air Services Ltd.

One year Mining Geophysicist and Technical  
Sales Manager in the Pacific north-west  
for W. P. McGill and Associates.

Two years Mining Geophysicist and supervisor  
Airborne and Ground Geophysical Divisions  
with Geo-X Surveys Ltd.

Two years Chief Geophysicist Tri-Con  
Exploration Surveys Ltd.

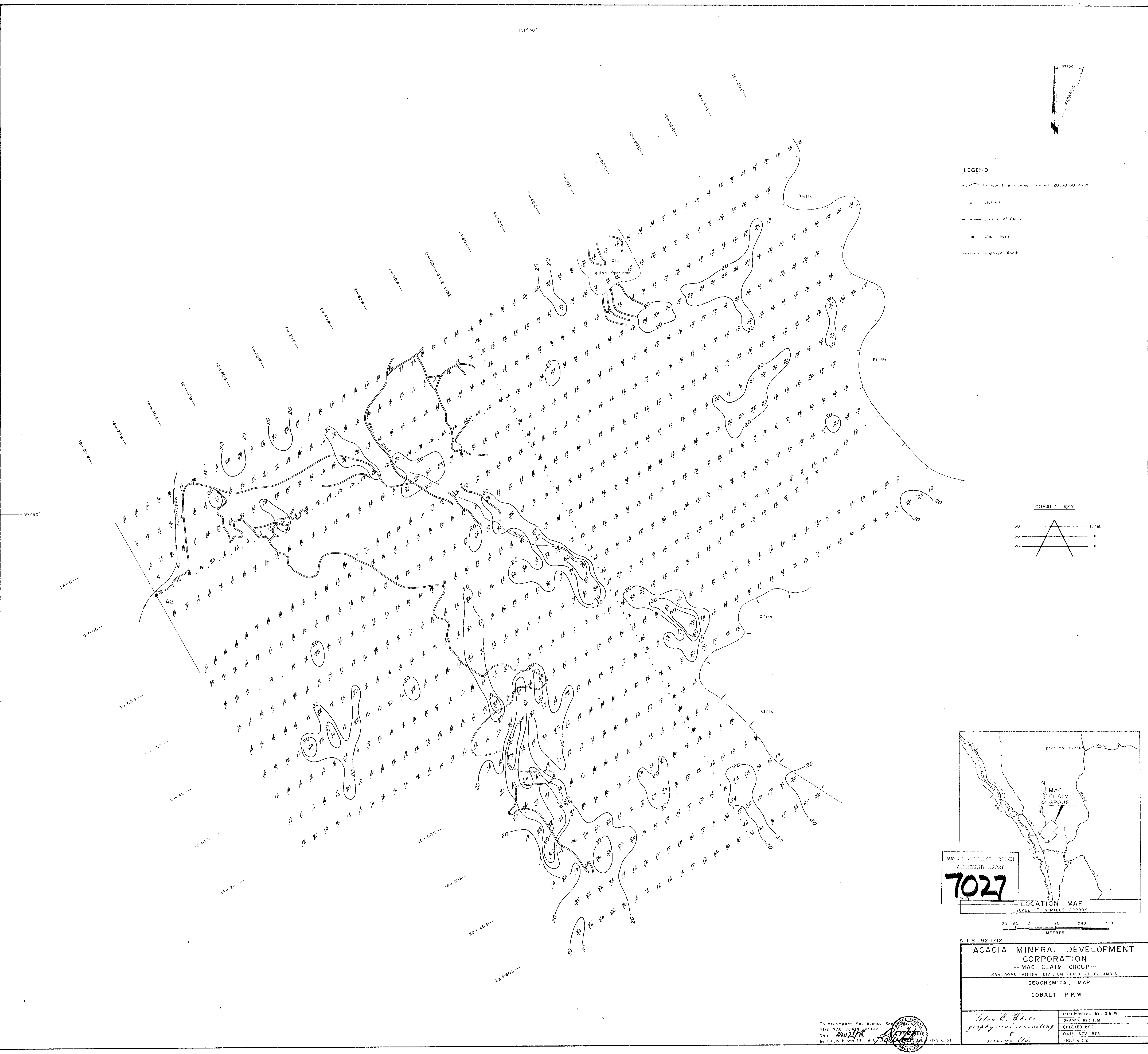
Eight years Consulting Geophysicist.

Active experience in all Geologic  
provinces of Canada.

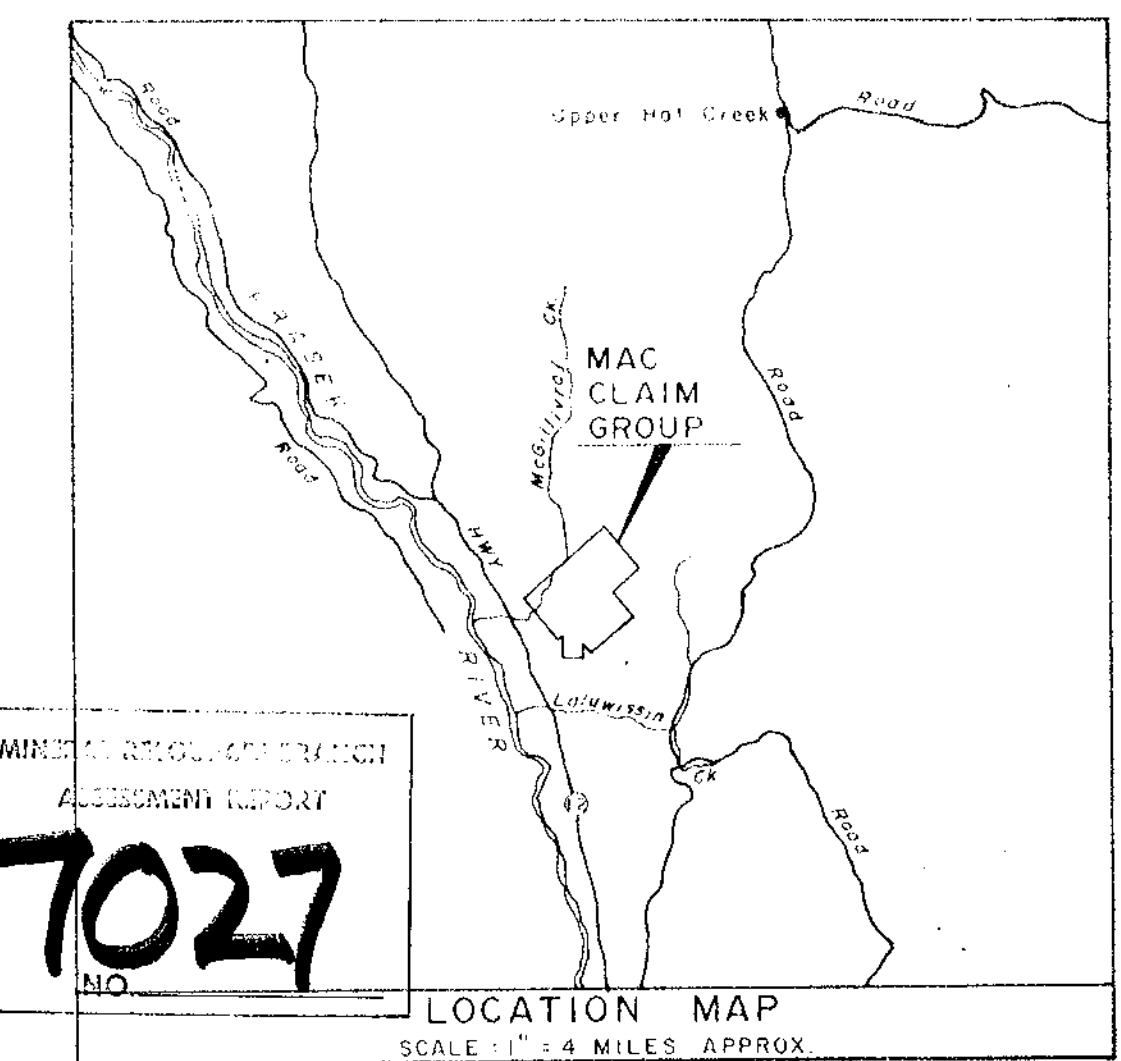
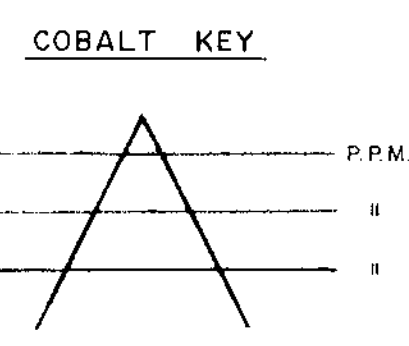
COST BREAKDOWN

<u>Personnel</u>	<u>Date</u>	<u>Wages</u>	<u>Total</u>
J. Miller....	June 19-June 30/78..	\$112/day..	\$1344.00
K. Fitzpatrick.....	"....."	85/day...	1020.00
A. Arnouse.....	"....."	80/day....	960.00
J. Fast.....	June 19-June 28/78....	85/day....	850.00
G. Steblin.....	June 23-July 1/78....	80/day....	640.00
Meals and accomodations..\$25/day/man.....			1400.00
Vehicle 4x4 including gas @ \$50/day.....			600.00
Materials: flagging, soil bags and hipchain thread.....			200.00
Geochemical Analysis: 5 elements.....			4437.00
Interpretation, drafting and reports.....			00
Total.....			\$42,301.00





- LEGEND**
- Contour Line, Contour Interval 20, 30, 60 P.P.M.
  - Stations
  - Outline of Claims
  - Claim Posts
  - Unpaved Roads



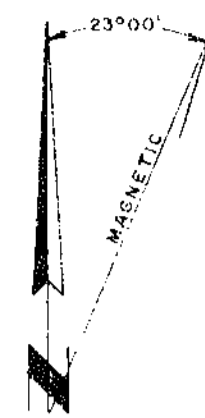
N.T.S. 92 1/12  
**ACACIA MINERAL DEVELOPMENT CORPORATION**  
 — MAC CLAIM GROUP —  
 KAMLOOPS MINING DIVISION — BRITISH COLUMBIA  
**GEOCHEMICAL MAP**  
 COBALT P.P.M.

To Accompany Geochemical Report  
 THE MAC CLAIM GROUP  
 Date: *06/27/88*  
 By: GLEN E. WHITE - B.Sc. *G.E.W.* PHYSICIST

*Glen E. White*  
 geophysical consulting  
 services Ltd.

INTERPRETED BY: G.E.W.
DRAWN BY: T.M.
CHECKED BY:
DATE: NOV. 1976
FIG. No.: 2

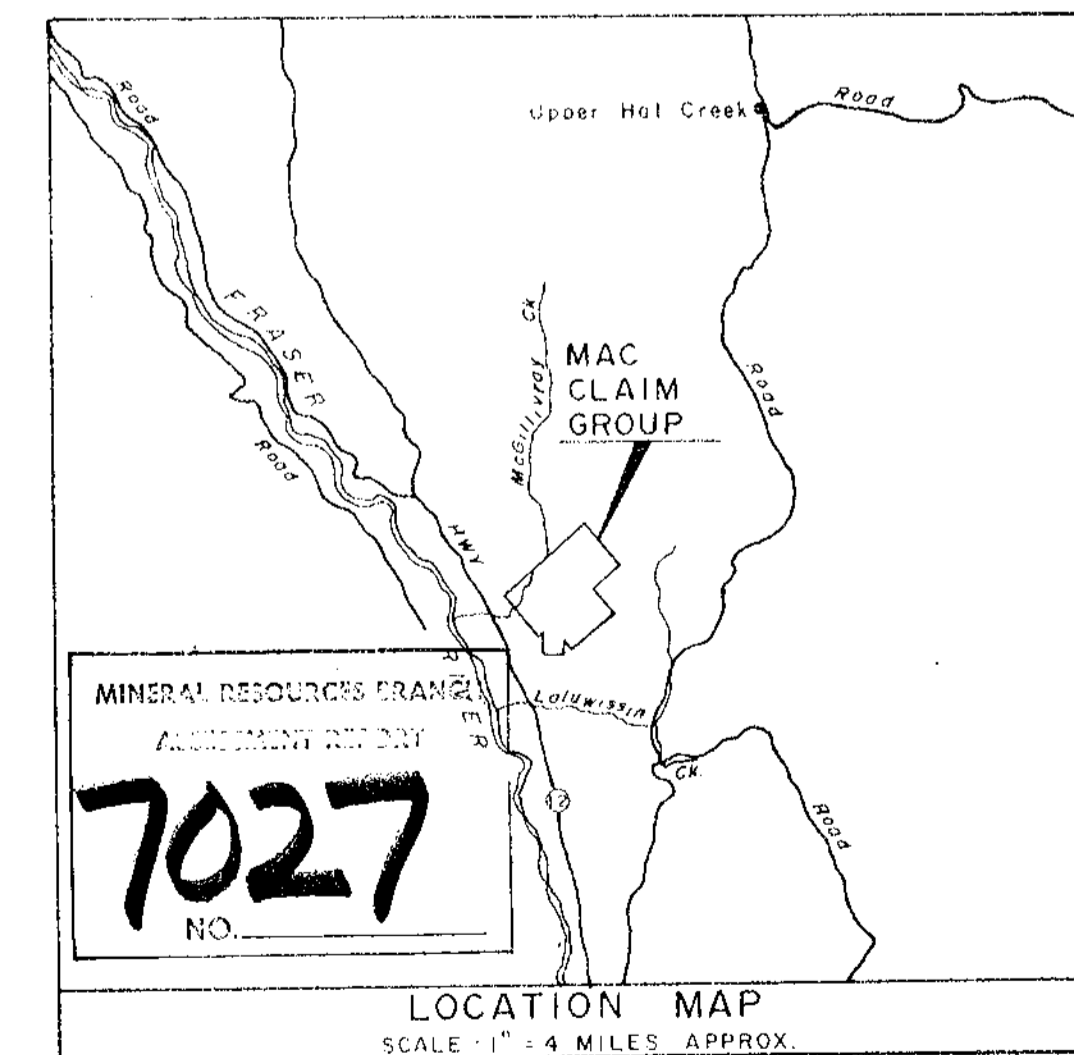
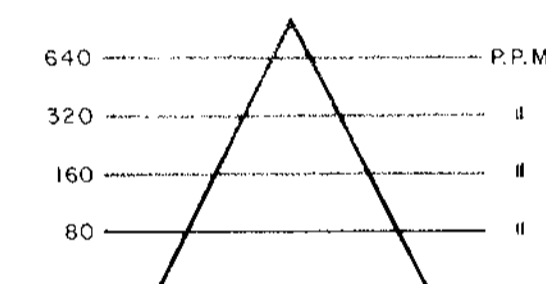
121°40'



**LEGEND**

- Contour Line, Contour Interval 80, 160, 320, 640 P.P.M.
- Stations
- Outline of Claims
- Claim Posts
- Unimproved Roads

**COPPER KEY**

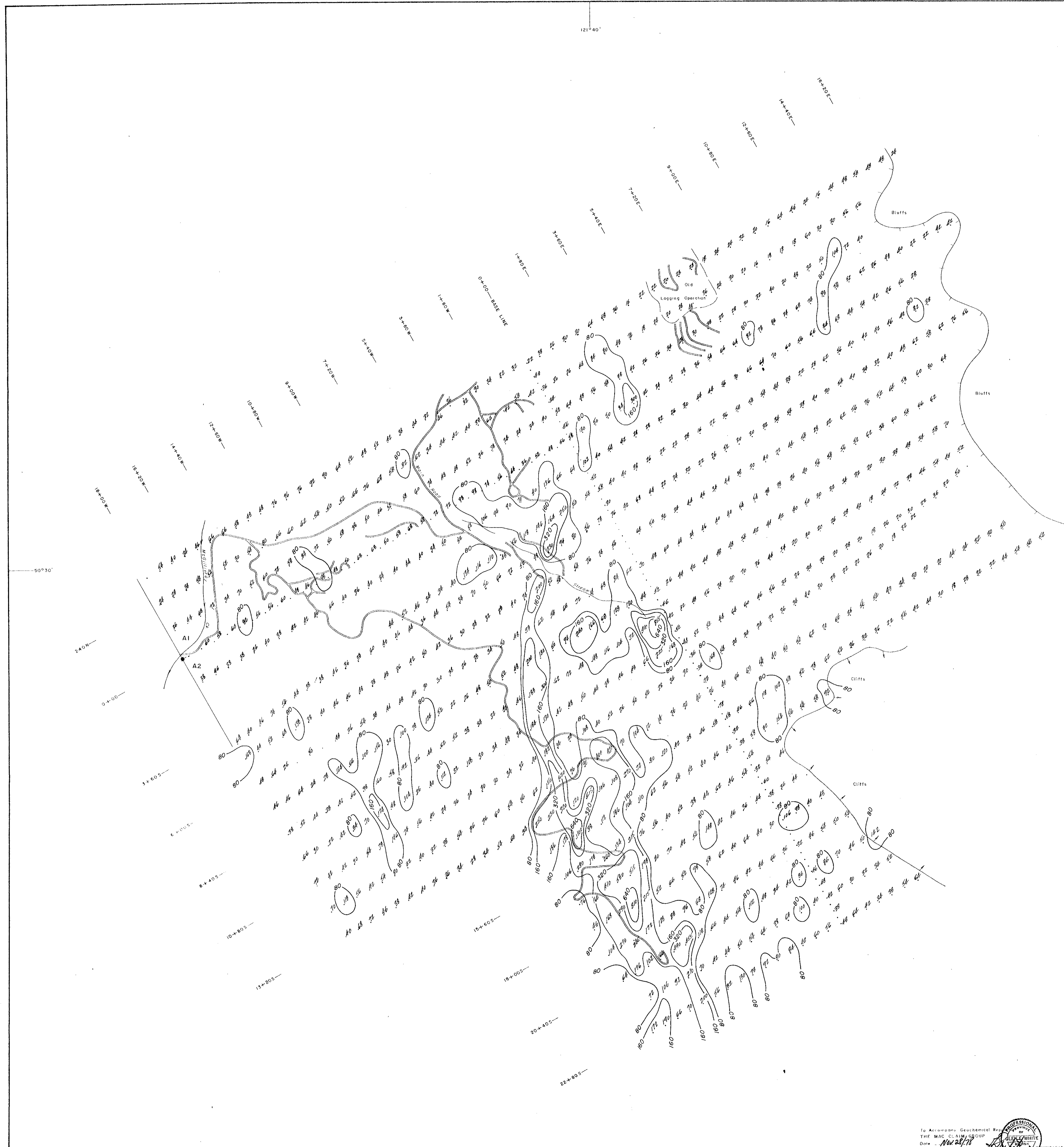


N.T.S. 92 1/12  
**ACACIA MINERAL DEVELOPMENT CORPORATION**  
 — MAC CLAIM GROUP —  
 KAMLOOPS MINING DIVISION — BRITISH COLUMBIA  
**GEOCHEMICAL MAP**  
**COPPER P.P.M.**

*Glenn E. White*  
 geophysical consulting  
 resources ltd.

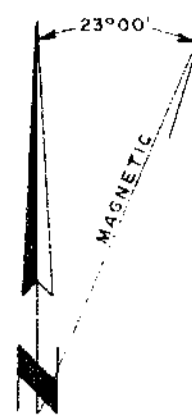
INTERPRETED BY: G.E.W.
DRAWN BY: T.M.
CHECKED BY: J.
DATE: NOV. 1978
FIG. No. 1.3

To Accompany Geochemical Report  
 OF THE MAC CLAIM GROUP  
 Date: Nov 28/78  
 By GLENN E. WHITE B.S.  
 GEOCHEMICAL PHYSICIST





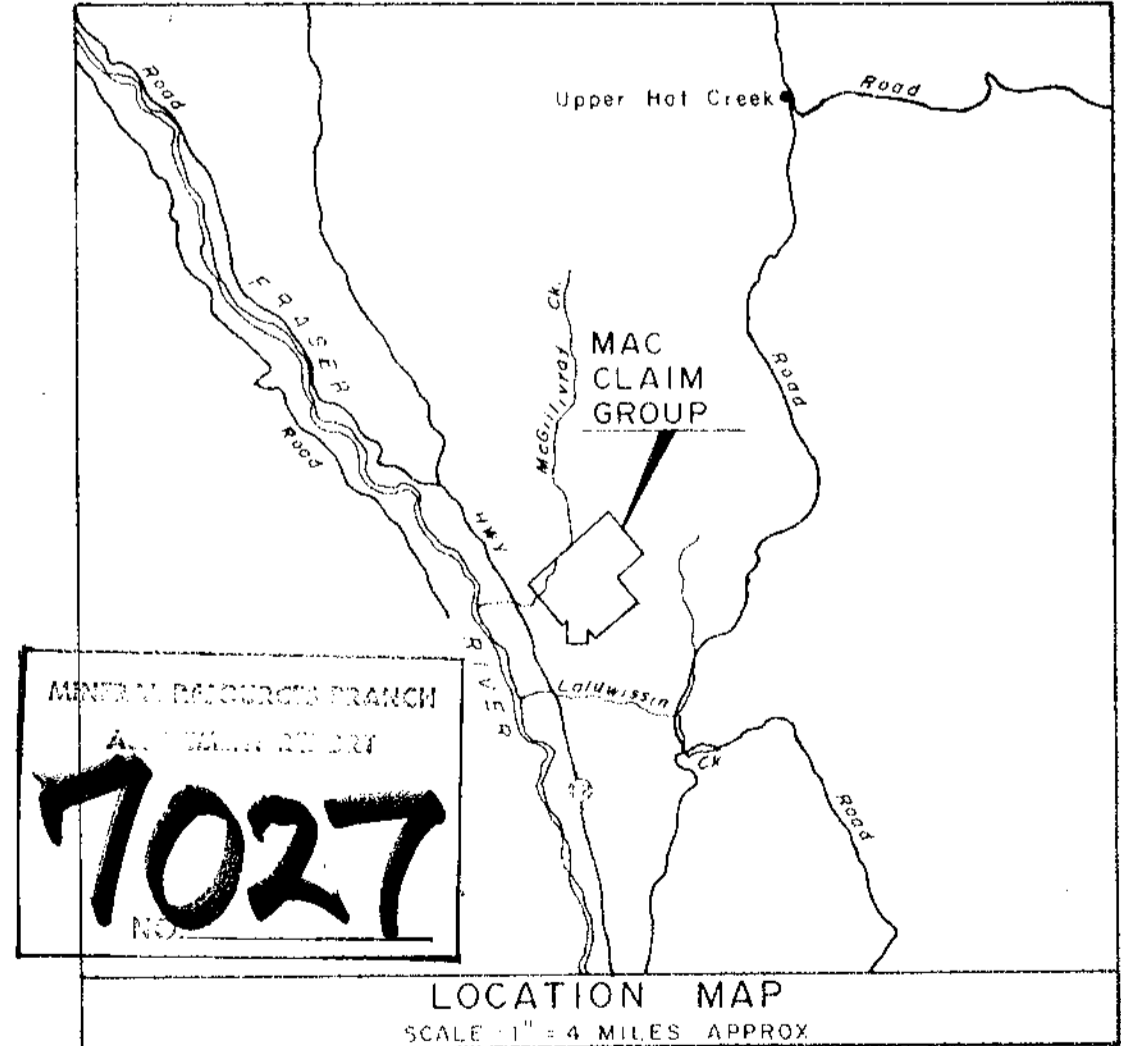
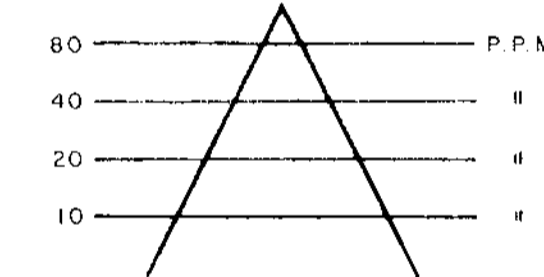
121°40'



LEGEND

- Contour Lines - Interval 10, 20, 40, 80 P.P.M.
- Stations
- Stream Bed Lines
- Bluffs
- Logging Operation
- Sample Points

LEAD KEY

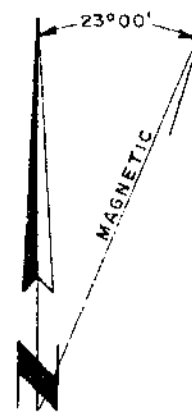


N.T.S. 92 1/12	
ACACIA MINERAL DEVELOPMENT CORPORATION — MAC CLAIM GROUP — KAMLOOPS MINING DIVISION — BRITISH COLUMBIA	
GEOCHEMICAL MAP LEAD P.P.M.	
Glen & White geophysical consulting services Ltd.	INTERPRETED BY: G.E.W. DRAWN BY: T.M. CHECKED BY: DATE: NOV. 1978 FIG. NO. 2.4

To Accompany Geochemical Report  
THE MAC CLAIM GROUP  
Date: *Nov 27 78*  
By: GLEN E. WHITE & *[Signature]* PHYSICIST



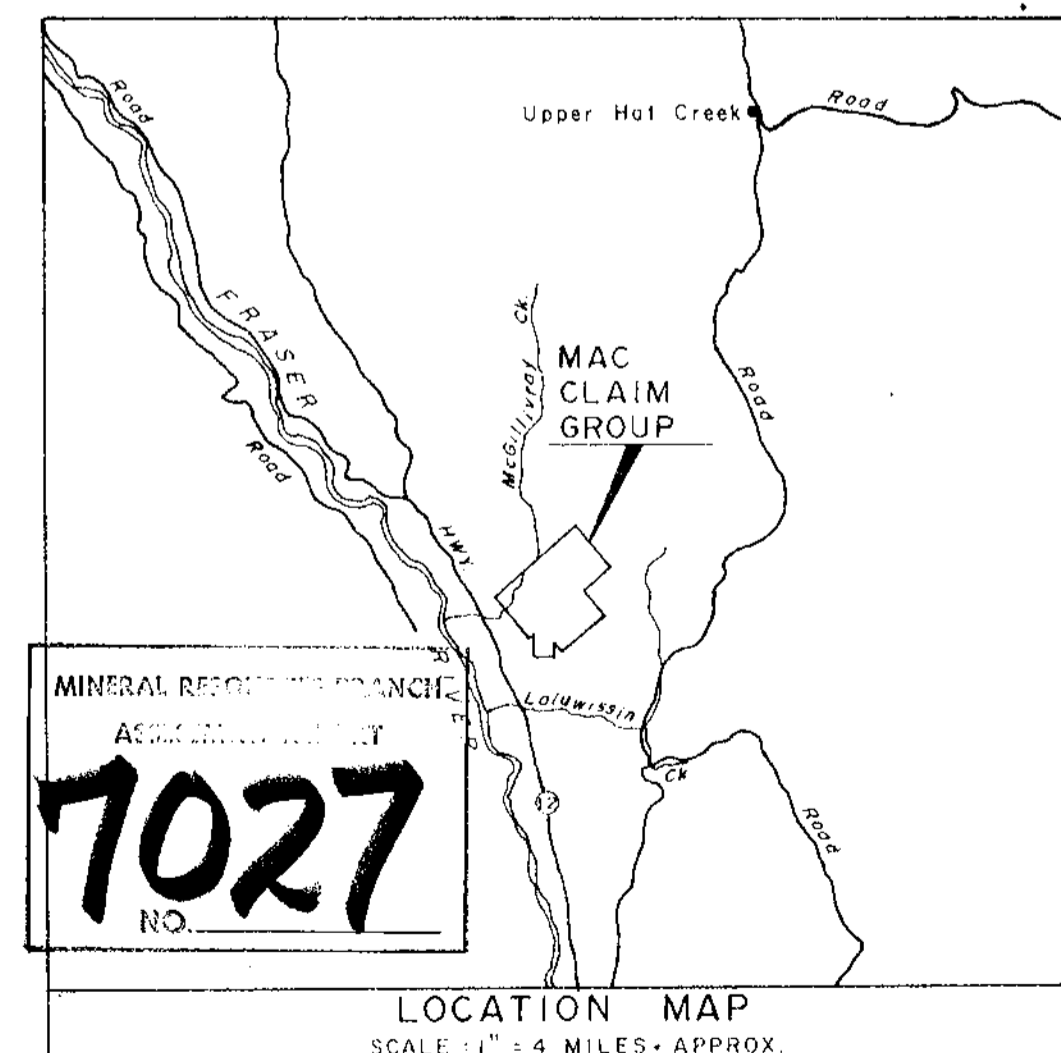
121°40'



LEGEND

- Contour Line, Contour Interval 0.3, 0.6, 0.9 P.P.M.
- Stations
- Outline of Claim
- Claim Pits
- ▬ Improved Roads

SILVER KEY



N.T.S. 92 1/12

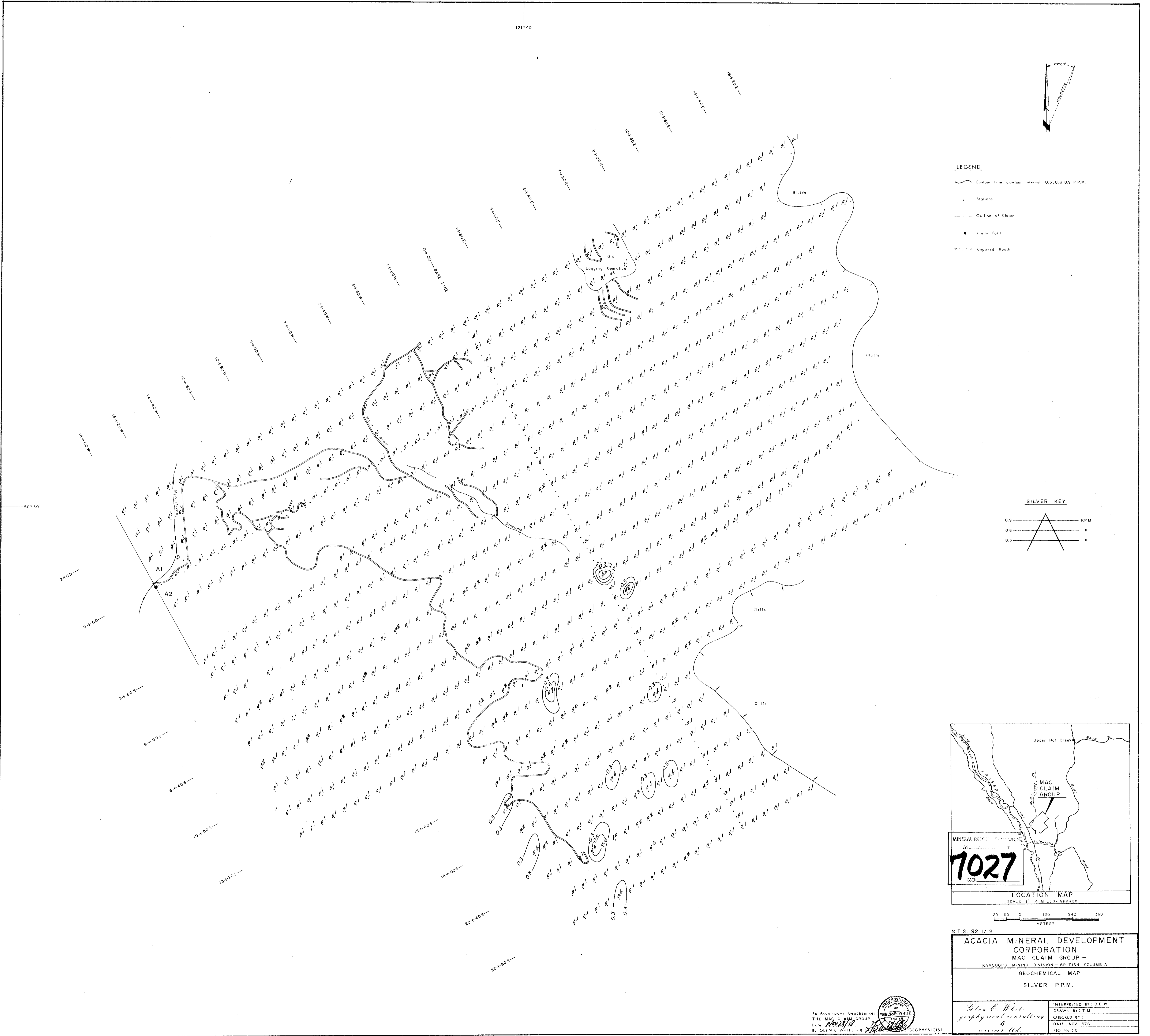
ACACIA MINERAL DEVELOPMENT CORPORATION  
— MAC CLAIM GROUP —  
KAMLOOPS MINING DIVISION — BRITISH COLUMBIA

GEOCHEMICAL MAP  
SILVER P.P.M.

Glen E. White  
geophysical consulting

INTERPRETED BY: G.E.W.  
DRAWN BY: T.M.  
CHECKED BY:  
DATE: NOV. 1978  
FIG. NO.: 5

To Accompany Geochemical  
THE MAC CLAIM GROUP  
Date: Nov 1978  
By GLEN E. WHITE - B.C. GEOPHYSICIST



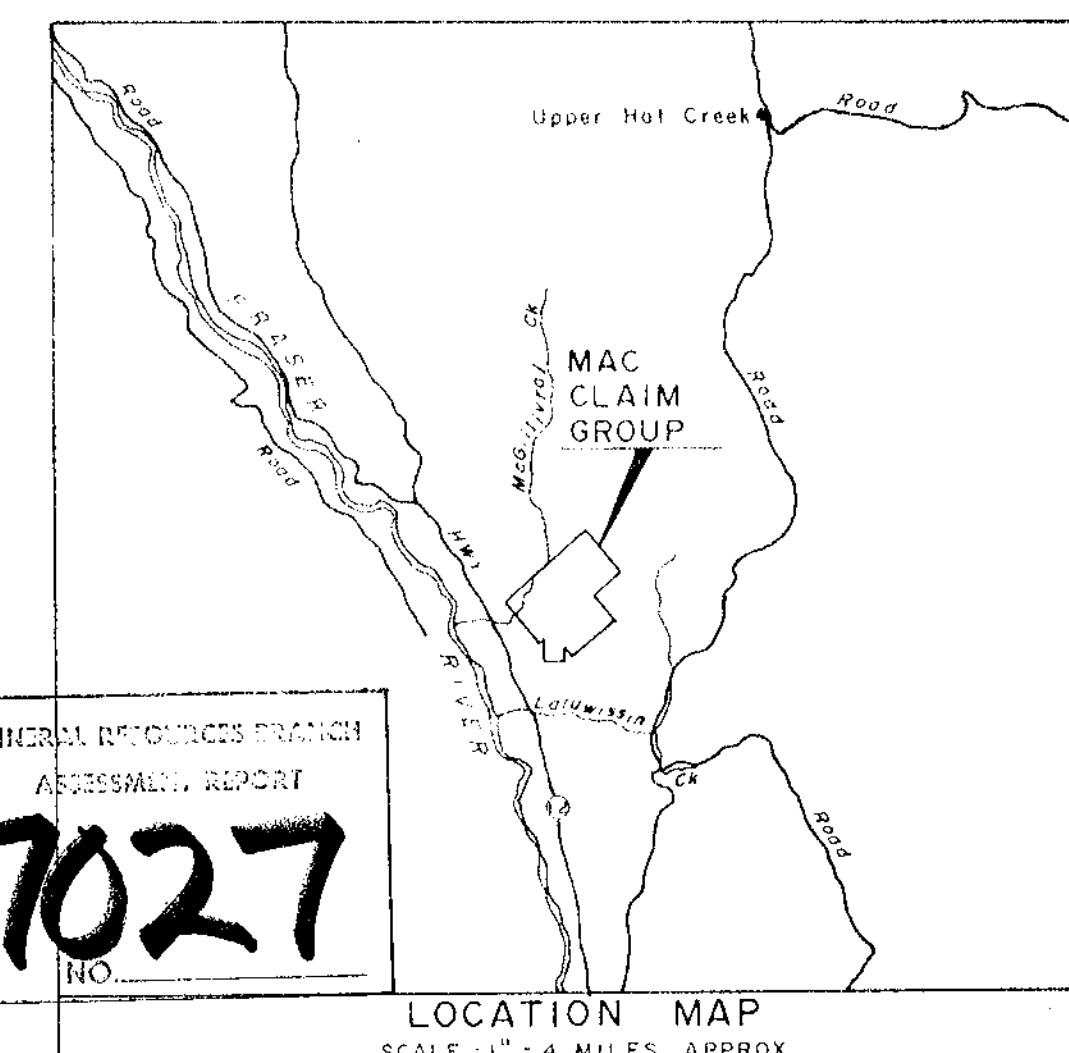
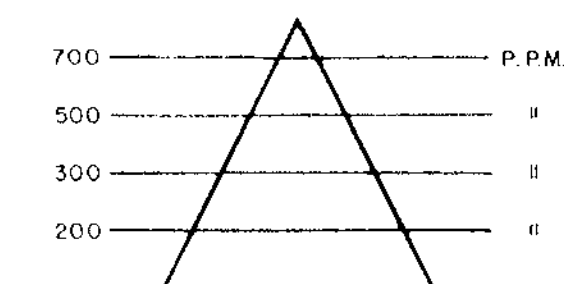
121°40'



**LEGEND**

- Contour Line Contour Interval 200,300,500,700 P.P.M.
- Stations
- Outline of Claim
- Claim Post
- Unpaved Road

**ZINC KEY**



N.T.S. 92 1/12

**ACACIA MINERAL DEVELOPMENT CORPORATION**  
 — MAC CLAIM GROUP —  
 KAMLOOPS MINING DIVISION — BRITISH COLUMBIA

**GEOCHEMICAL MAP**  
 ZINC P.P.M.

<i>Glen E. White</i> geophysical consulting services Ltd.	INTERPRETED BY: G.E.W. DRAWN BY: T.M. CHECKED BY: DATE: NOV. 1978 FIG. No. 6
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To Accompany Geochemical Report  
 THE MAC CLAIM GROUP  
 Date: *Nov 27/78*  
 By: GLEN E. WHITE - B.Sc. *G.E.W.* PHYSICIST

