

COMINCO LTD.

EXPLORATION  
NTS 92I/10E

WESTERN DISTRICT  
January 20, 1979

ASSESSMENT REPORT

I.P., GEOLOGICAL AND GROUND MAGNETIC WORK

ON THE

CHUM PROPERTY

(CLAIMS CHUM 1-5, 7-9)

Chuwheh Mountain Area, Kamloops M.D.

LATITUDE: 50°31'N

LONGITUDE: 120°31'W

REPORT BY:

M.J. OSATENKO

7244  
part 1 of 2

## TABLE OF CONTENTS

	<u>PAGE</u>
SUMMARY .....	1
INTRODUCTION .....	1
LOCATION AND ACCESS .....	1
TOPOGRAPHY AND VEGETATION .....	2
PROPERTY AND OWNERSHIP .....	2
PREVIOUS WORK .....	2
GEOLOGY .....	2
STRUCTURE .....	3
MINERALIZATION .....	3
GEOPHYSICS .....	3
CONCLUSIONS .....	4
RECOMMENDATIONS .....	4
APPENDIX "A"      Statement of Expenditures	5
APPENDIX "B"      Affidavit for Expenditures	6
APPENDIX "C"      Statement of Qualifications	7
<u>ATTACHMENTS</u>	
1. Plate 1 - Location of the Chum property	(1:50,000)
2. Plate 2 - Compilation of geology, rock and soil geochemistry and I.P.	(1:10,000)
3. Plate 3 - Ground magnetic map	(1:10,000)
4. I.P. report attached.	

COMINCO LTD.

EXPLORATION  
NTS 92 I/10E

WESTERN DISTRICT  
January 29, 1979

ASSESSMENT REPORT

I.P., GEOLOGICAL AND GROUND MAGNETIC

WORK ON THE CHUM PROPERTY

(CLAIMS CHUM 1-5, 7-9)

Chuwhe's Mountain Area, Kamloops, M.D.

SUMMARY

The Chum property is located 18 km southwest of Kamloops, B.C.

Work done in 1978 consisted principally of 25 line km of I.P. over a poorly exposed alkaline stock and was done to better map the observed sulfide zones that might host an alkaline porphyry copper deposit. Of the eight IP anomalies detected five are completely covered by overburden while the remaining three are adjacent to outcrops of chloritized basalt, diorite and monzonite-diorite breccia containing less than 1-5% pyrite with minor chalcopyrite (0.02-0.06% copper). However, only two are of sufficient size and strength to be of interest.

It is recommended to better define the two interesting I.P. responses and then to test them by percussion drilling.

INTRODUCTION

The work on the Chum property for 1978 consisted of 25 line km of I.P., 2.5 line km of ground magnetics and one day of geological mapping. I.P. was done by a Cominco crew supervised by G. Niemeyer between June 13th and July 14th, 1978 while the geological and ground magnetic surveys were done by M.J. Osatenko and D. Mehner on June 13th and 14th, 1978. Data for the geological and ground magnetic work are presented at a scale of 1:10,000 with mapping and survey control from a grid done in 1977.

LOCATION AND ACCESS

The property is located immediately north of Walloper Lake, approximately 18 km southwest of Kamloops, B.C. and 15 km south of the Afton alkaline porphyry copper deposit (Plate 1). Access to the property is provided by two roads, one off the Lac Le Jeune highway, 500 m north of Stake Lake and the other 500 m north of the west end of Walloper Lake (Plate 2).

## TOPOGRAPHY AND VEGETATION

The property occurs at an elevation of from 1400 to 1750 m on the south-east side of Chuwhels Mountain. It is covered by moderately dense pine, fir and spruce forests with large stands of poplar occurring mainly in a pronounced northeasterly to northerly trending valley in the central part of the claim group. Lodgepole Lake and numerous swampy areas in this valley provide good sources for water.

## PROPERTY AND OWNERSHIP

The Chum property (Kamloops Mining Division) is 100% owned by Cominco and consists of the following claims:

<u>CLAIM</u>	<u>RECORD NUMBER</u>	<u>NUMBER OF UNITS</u>	<u>DATE RECORDED</u>	<u>DUE DATE</u>
Chum 1	771	10	April 25, 1977	April 25, 1981
Chum 2	772	3	April 25, 1977	April 25, 1982
Chum 3	773	8	April 25, 1977	April 25, 1980
Chum 4	774	20	April 25, 1977	April 25, 1982
Chum 5	775	12	April 25, 1977	April 25, 1982
Chum 7	777	8	April 25, 1977	April 25, 1982
Chum 8	778	12	April 25, 1977	April 25, 1982
Chum 9	779	4	April 25, 1977	April 25, 1982
		<u>77</u>		

## PREVIOUS WORK

The area of the Chum property has been held by various mining companies and prospectors from the middle sixties to early in 1977 but assessment work is only available for areas in the extreme eastern and western parts of the claim group. In 1970 Canadian Johns Manville staked the Pine and Fir groups (159 claims) on the eastside of what is now the Chum property and between 1970 and 1971 did I.P., soil geochemistry (Cu, Mo, U, Pb, Zn and Ag), ground magnetics and drilled four diamond drill holes (assessment reports 3892 and 3893). Their results were discouraging and the property was allowed to lapse. An examination of their data shows a strong untested and unexplained I.P. response (10-36 m. sec.) in the eastern part of our property that warrants further I.P. work to define its western limit (Plate 2). Two outcrops within 100 m of this anomaly do not contain any sulfides and are not altered or fractured. A drill hole by Canadian Johns Manville 300 m to the east on another I.P. response found only pyrite with traces of chalcopyrite. Work in 1972 on the westside of the property by Texal Development consisted of a soil geochemical survey for copper (assessment report 4059). This work showed two areas of anomalous soils (2 to 10 x background - considered 30 ppm) that are plotted in Plate 2. No outcrops exist in these two areas but subcrop is believed to be fairly shallow.

## GEOLOGY

The geology on the property is shown on Plate 2. Most of the mapping was in 1977 but lines 8N and 9N on the west grid and the southern boundary of Chum 8 were done in 1978.

The rock types mapped to date include augite basalt, basaltic tuff and impure quartzite (Unit 1) of the Upper Triassic Nicola group and a group of ultrabasic to alkaline rocks similar to those found at the Iron Mask batholith. The Nicola flow rocks are porphyritic and fine to medium grained with conspicuous augite phenocrysts. Minor bedded basaltic tuff outcrops in the southern part of the East grid and consists of biotite, chlorite and fragments of feldspar. These rocks trend northeasterly and dip moderately to the west. The intrusive rocks are fine to medium grained (often porphyritic) and comprise pyroxenite and gabbro (Unit 2), diorite (Unit 3), monzonite (Unit 4) and monzonite-diorite breccia (Unit 5). These latter rocks show sub-rounded monzonite and diorite fragments less than 1 to 25 cm (average 4 cm) in a fine to medium grained dioritic matrix, often accompanied by pyrite, biotite, chlorite and/or sericite. Epidote is the only other obvious alteration type and is best developed in the vicinity of line 16 S/15E, principally along fractures.

### STRUCTURE

An evaluation of the regional structures on the property is hampered by lack of outcrops, however, airphoto lineaments show northerly and north-westerly trends (Plate 2).

### MINERALIZATION

The mineralization found in 1977 consisted of pyrite (less than 1-2%) with minor chalcopyrite (0.02-0.06% copper) and was found in the northern part of the West grid. In 1978 pyrite (3-5%) with minor chalcopyrite (0.02% copper) was located at 7+50N/10W over a width of 3 m but open in all directions. The I.P. results, however, suggest that this sulfide zone is very small (maximum 200 m x 20 m).

### GEOPHYSICS

The I.P. data is given in an attached report by Allan Scott while the ground magnetic data are presented in this report (Plate 3).

Eight I.P. anomalies were detected (Plate 2), seven on the West grid and one on the East grid. Of the seven on the West grid four are covered and three are adjacent to altered basalt, diorite and monzonite-breccia outcrops that contain pyrite (less than 1-5%) with minor chalcopyrite. The I.P. response on the East grid is covered but two adjacent outcrops of basaltic tuff are unaltered and lack sulfides. Of the eight I.P. anomalies only two (East grid and 6N/10E on West grid) are of sufficient size and strength to be of interest.

The ground magnetic survey (49 readings over 2.5 km at 50 m spacing using a MP-2 total field magnetometer) was done to better define the position of the contact of the stock with respect to the Canadian Johns Manville I.P. anomaly.

CONCLUSIONS

1. The Chum property covers a 12 square km area of poorly exposed but favourable alkaline intrusive rocks that are similar to those which host the Afton porphyry copper deposit, 15 km to the north.
2. Eight I.P. anomalies were detected, five of which are covered while the remaining three are adjacent to outcrops of chloritized basalt, diorite and monzonite-diorite breccia containing less than 1-5% pyrite with minor chalcopyrite (0.02-0.06% copper), however, only two (East grid and 6N/10E on West grid) are of sufficient size and strength to be of interest.
3. The northern copper soil anomaly reported by Texal Dev. does not have an I.P. response.

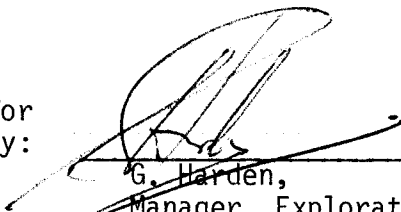
RECOMMENDATIONS

1. To define the I.P. anomaly at 6N/10E on the West grid and the one on East grid with 5 km of recce I.P. and to percussion drill these targets (minimum of 7 holes required).

Report by:   
M.J. Osatenko  
Project Geologist

MJO/pc1

Endorsed by:   
F.L. Wynne  
Senior Geologist

Approved for  
Release by:   
G. Harden,  
Manager, Exploration  
Western District

APPENDIX "A"

STATEMENT OF EXPENDITURES FOR I.P., GEOLOGICAL AND GROUND MAGNETIC WORK  
ON THE  
CHUM MINERAL CLAIMS

SALARIES

M.J. Osatenko	June 13 and 14th, 1978 (2 days @ \$161/day)	\$ 322.
	report writing (1 day @ \$161/day)	161.
D. Mehner	June 13 and 14th, 1978 (2 days @ \$93/day)	186.

DOMICILE

4 man days at \$35/day	140.
------------------------	------

TRANSPORTATION

2 days at \$30/day for truck	60.
------------------------------	-----

GEOPHYSICS

25 km of I.P. (June 13 to July 14, 1978; 15 days)	<u>17,801.</u>
	\$18,670.



M.J. OSATENKO

APPENDIX "B"

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF AN I.P., GEOLOGICAL AND GROUND MAGNETIC PROGRAM

CARRIED OUT ON THE CHUM MINERAL CLAIMS

Located in the Kamloops Mining Division

of the Province of British Columbia

More Particularly N.T.S. 92 I/10E

A F F I D A V I T

I, MYRON J. OSATENKO OF THE CITY OF VANCOUVER IN THE PROVINCE OF BRITISH COLUMBIA, MAKE OATH AND SAY:

1. THAT I AM EMPLOYED AS A PROJECT GEOLOGIST BY COMINCO LTD. AND AS SUCH HAVE A PERSONAL KNOWLEGE OF THE FACTS TO WHICH I HEREINAFTER DEPOSE;
2. THAT ANNEXED HERETO AND MARKED AS "APPENDIX A" TO THIS REPORT IS A TRUE COPY OF EXPENDITURES OF AN I.P., GEOLOGICAL AND GROUND MAGNETIC PROGRAM CARRIED OUT ON THE CHUM MINERAL CLAIMS;
3. THAT THE SAID EXPENDITURES WERE INCURRED BETWEEN THE THIRTEENTH DAY OF JUNE 1978 AND THE FOURTEENTH DAY OF JULY 1978 FOR THE PURPOSE OF MINERAL EXPLORATION ON THE ABOVE NOTED CLAIMS.



---

MYRON J. OSATENKO



APPENDIX "C"

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

I, MYRON J. OSATENKO, OF THE CITY OF VANCOUVER, BRITISH COLUMBIA, HEREBY CERTIFY:

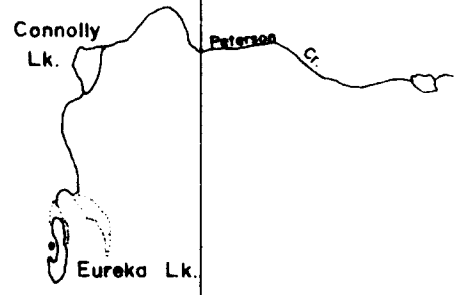
1. THAT I AM A GEOLOGIST, RESIDING AT 6437-116th STREET DELTA, BRITISH COLUMBIA WITH A BUSINESS ADDRESS AT 700-409 GRANVILLE STREET, VANCOUVER, BRITISH COLUMBIA.
2. THAT I GRADUATED WITH B.Sc. AND M.Sc. DEGREES IN GEOLOGY FROM THE UNIVERSITY OF BRITISH COLUMBIA IN 1965 AND 1967 RESPECTIVELY.
3. THAT I HAVE PRACTISED GEOLOGY WITH COMINCO LTD. FROM 1967 TO PRESENT.

DATED THIS 29th day of January 1979 at Vancouver, British Columbia.

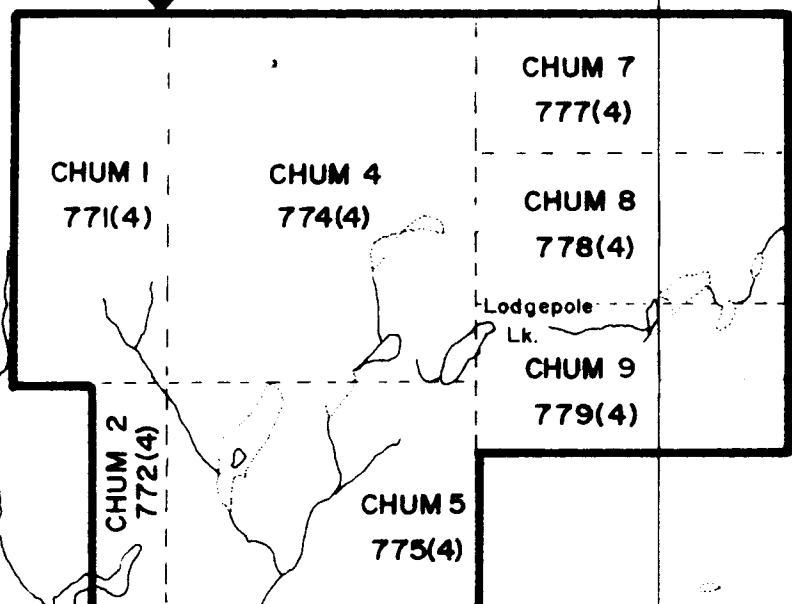
SIGNED



Myron J. Osatenko, M.Sc.



**CHUM PROPERTY**



50°30'  
120°30'

*M. Orlenk*

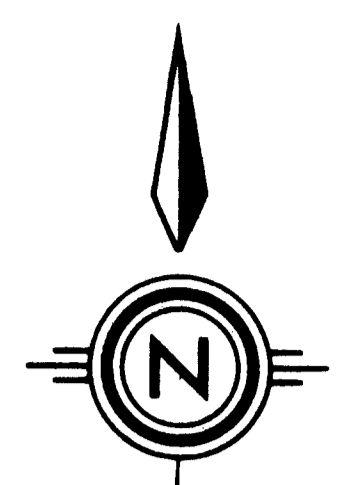


921/10E, 9W

Drawn by:		Traced by: RAR	
Revised by	Date	Revised by	Date

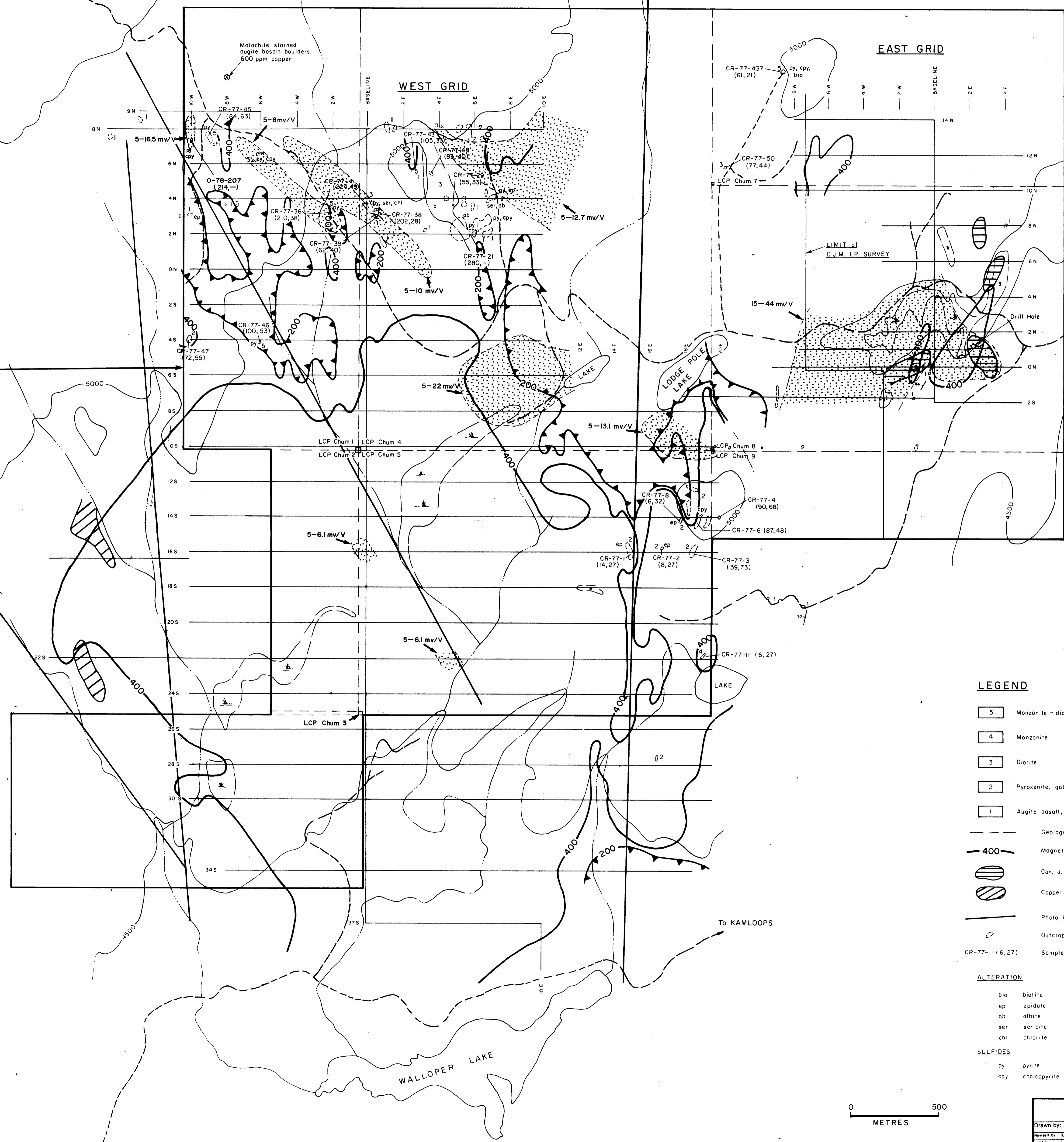
**LOCATION MAP**  
**CHUM PROPERTY**

Scale: 1:50,000      Date: January 26, 1979      Plate: 1



PROPERTY BOUNDARY

N.B. Elevations in feet



LEGEND

- 5 Monzonite - diorite breccia
- 4 Monzonite
- 3 Diorite
- 2 Pyroxenite, gabbro
- 1 Augite basalt, basaltic tuff, impure quartzite
- Geological contact
- 400 Magnetic contour (limit of alkaline stock ?)
- Can. J. Manville I.P. anomaly (1971)
- Copper soil geochemical anomaly - 2-10x background (30ppm) (Texas Development - 1972)
- Photo lineament
- Outcrop
- CR-77-II (6,27) Sample number (Copper, zinc in rock, ppm)
- Magnetic low (less than 200γ)
- Cominco I.P. anomaly, n=1 separation (1978)

ALTERATION

- bio biotite
- ep epidote
- ab albite
- ser sericite
- chl chlorite

SULFIDES

- py pyrite
- cpy chalcopyrite



7244

*M. G. Gault*

part 1 of 2

921/10 E

**CHUM PROPERTY**

COMPILED MAP

GEOLOGY, Cu SOIL GEOCHEMISTRY,  
I.P. & GROUND MAGNETICS

Drawn by: MJO	Traced by: <i>find</i>
Revised by: <i>find</i>	Revised by: <i>find</i>
Scale: 1:10,000	Date: January 25, 1979
Plate: 2	



To KAMLOOPS

STAKE LAKE

EAST GRID

WEST GRID

COMINCO 1978

To KAMLOOPS

WALLOPER LAKE

CHUM 1

CHUM 4

CHUM 2

CHUM 5

CHUM 3

CHUM 6



7244

M. Ontak  
part 1 of 2

CHUM PROPERTY			
Drawn by: MJO	Traced by: <i>MJO</i>	921/10 E	
Revised by: _____	Revised by: _____	Ground Magnetic Survey	
Readings in gammas		Scale: 1:10,000 Date: MARCH, 1978 Plate: 3	