

# 3621

COMINCO LTD.

MINES

SULLIVAN

N.T.S. 82-F-9

50° 116° S.W.

GROUND ELECTROMAGNETIC TRAVERSES

LATE GROUP

NORTH STAR HILL, KIMBERLEY AREA

FORT STEELE M.D., B.C.

50° 116° S W

82 F / 9 E

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT

NO. 3621 MAP

April 11, 1972

John M. Hamilton, P. Eng.

WORK PERFORMED DURING THE PERIOD

AUGUST 1 to AUGUST 31, 1971

## T A B L E   O F   C O N T E N T S

	<u>PAGE</u>
SUMMARY .....	1
INTRODUCTION .....	1
GEOLOGY .....	1
ELECTROMAGNETIC SURVEYS .....	1
(a) Method .....	1
(b) Data Presentation .....	1
(c) Results .....	1

### ATTACHMENTS

Statutory Declaration Relating to Expenditures.

Statement of Expenditure

#1 Plate 1: Location of E.M. Traverses and Claims, 1" = 1500'.

#2 Plate 2: Electromagnetic Profiles, Scale as Noted.

#3 Sullivan Mine - Lots and claims. (in pocket)

### SUMMARY

Twelve miles of horizontal loop electromagnetic profiles were obtained on the Late Group of claims on North Star Hill in August, 1971. No responses were detected. No further work can be recommended in the areas traversed on the basis of this geophysical data.

### INTRODUCTION

Cominco Ltd. has performed ground electromagnetic surveys in the Sullivan Mine - North Star Hill area using various systems sporadically over the years. It was decided to extend this coverage on a reconnaissance basis southwest of the area occupied by the ski development during 1971. This report discusses the result of that work.

### GEOLOGY

Geology within the survey area is imperfectly known due to sparse outcrop, but Aldridge sediments of Late Precambrian age are felt to be present throughout. These sediments are thought to dip gently to moderately to the east, and, immediately east of the present survey area, hosted the North Star Mine deposit, a small very high grade lead-silver occurrence which was worked out about 50 years ago.

### ELECTROMAGNETOMETER TRAVERSES

#### (a) Method

The traverses were carried out by D.P. Dorval and B.A. Imhoff in August 1971 using a Geonics E.M. 17 horizontal loop E.M. system with a 200 foot coil separation. This system operates at 1600 Hz and measures the in-phase and out-of-phase components of any secondary electromagnetic fields set up by subsurface conductors within reach of the primary field.

#### (b) Data Presentation

Two plates accompany this report, as follows:

Plate 1: Location of electromagnetic traverses showing claim names, scale 1" = 1500'.


Plate 2: Electromagnetic traverse data shown in profile form, scales as noted.

#### (c) Results


No anomalies of interest were detected. Some erratic in-phase anomalies were measured due to rugged topography causing distortions in the geometry of coil system.

...con't...

Submitted by

  
John M. Hamilton, P. Eng.  
Geophysicist, Cominco Ltd.

Endorsed for  
Release by

  
Hugh C. Morris,  
Chief Geologist, Sullivan Mine  
Assist. Chief Geologist, Mines

DISTRIBUTION

Mining Recorder, Cranbrook (2) ✓  
Sullivan Geology Office (2)  
Geophysics File, Vancouver (1)

JMH/mjb

DOMINION OF CANADA:  
PROVINCE OF BRITISH COLUMBIA.  
To Wit:

In the Matter of

Statutory Declaration  
Relating to Expenditures on  
A Geophysical Survey of the  
Late Group, Fort Steele  
Mining Division

I, JOHN MURRAY HAMILTON, PROFESSIONAL ENGINEER

of City of North Vancouver

in the Province of British Columbia, do solemnly declare that

1. Copies of a report regarding a geophysical survey on certain mineral claims situated in the Fort Steele Mining Division are being filed with the Mining Recorder in Cranbrook.
2. Attached hereto, and marked with the letter "A" upon which I have signed my name at the time of declaring hereof, is a statement of expenditures incurred in connection with the geophysical survey of the said claims showing in addition the dates during which those making the said survey performed their work.

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the City  
of Vancouver  
Province of British Columbia, this 11<sup>th</sup>  
day of April, 1972, A.D.

3  
A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

C O M I N C O L T D.

MINES

SULLIVAN

ELECTROMAGNETOMETER SURVEY COSTS

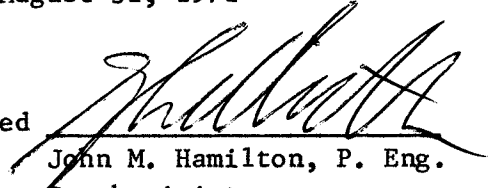
LATE CLAIM GROUP, FORT STEELE M.D.

N.T.S. - 82-F-9, 50° 116° S.W.

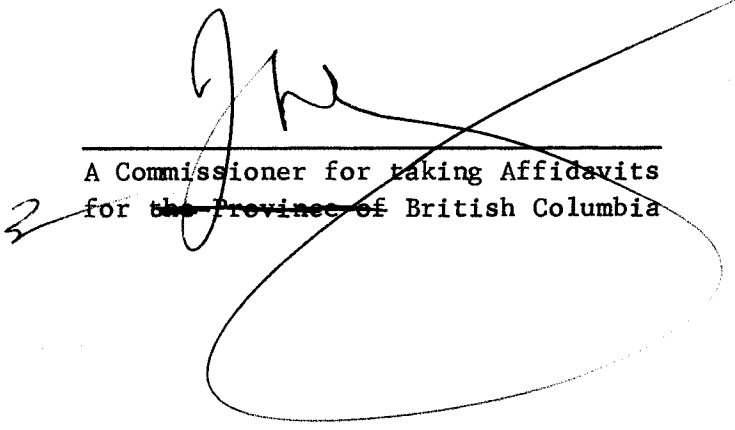
1. Technician Time		
D.P. Dorval, 5 days at \$40	\$200	
B.A. Imhoff, 5 days at \$40	\$200	\$ 400
2. Operating Day Charge (Covers supervision, report writing)		
8 days at \$65		\$ 520
3. Helper Cost		
Sandy Campbell, 8 days at \$44		\$ 352
4. Instrument Rental, 10 days at \$10		\$ 100
5. Vehicle Hire, 10 days at \$15		\$ 150
6. Room and Board, 10 man days at \$15		\$ 150
7. Mobilization and Demobilization from Vancouver,		
2 men at \$150 each		\$ 300
8. Miscellaneous and Communications		\$ 50
		<u>\$2,022</u>

Worked performed during the period August 1 - August 31, 1971

Signed

  
John M. Hamilton, P. Eng.  
Geophysicist

This is Exhibit "A" To The Statutory Declaration Of  
John M. Hamilton Declared Before Me This 11<sup>th</sup> Day of April, 1972

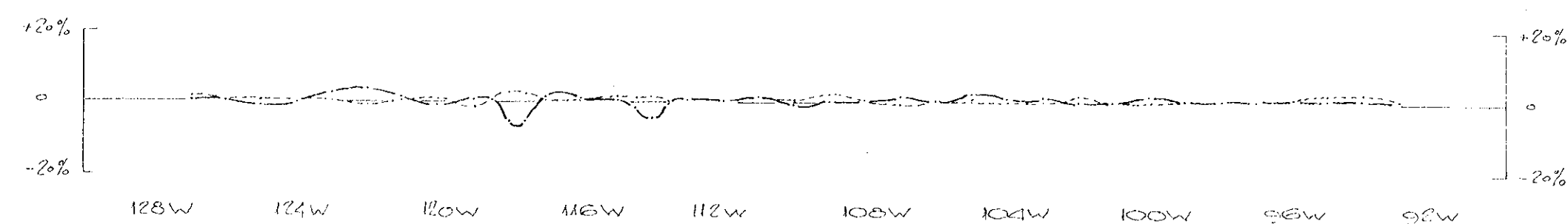
  
A Commissioner for taking Affidavits  
for the Province of British Columbia



3621 M-1

To accompany a report by J.M. Hamilton, P. Eng.

Drawn by:	Traced by: JPR	Location of Electromagnetic Surveys	
Revised by:	Date:	'Late' Claim Group	
		North Star Hill, Kimberley Area	
		Fort Steele M.D., B.C.	
		Scale: 1" = 1500'	Date: March 1972
			Plate: 1



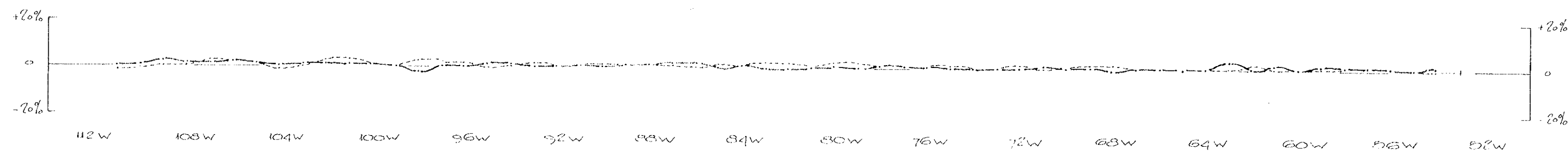
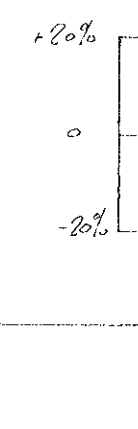
Line 500N

Line 3100S

Line 3900S

Line 7900S

Line 8700S



Line 11900S

3621

Claim Line Traverse

M-2

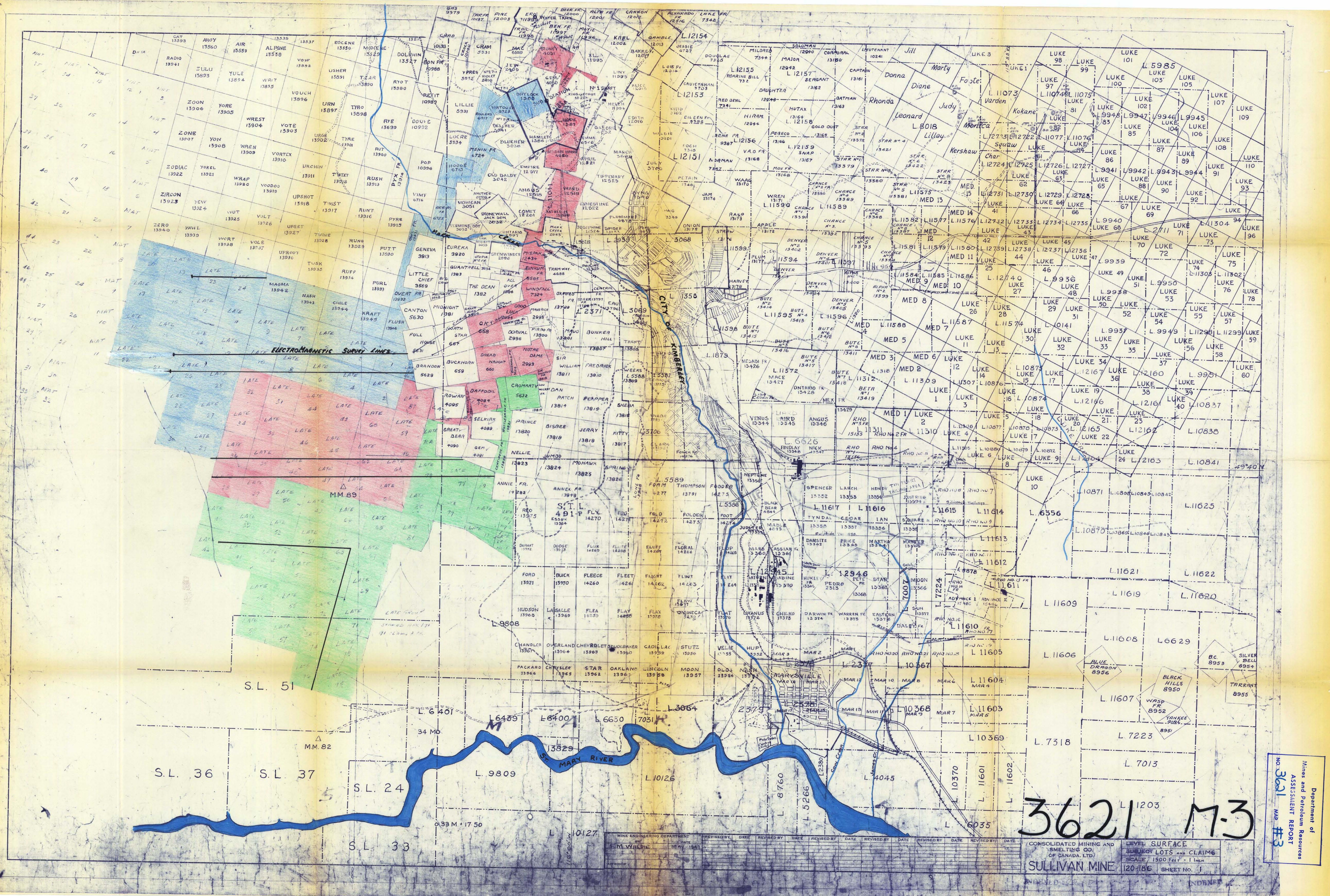
#### LEGEND

Inter-line spacing not to scale  
along-line spacing 1" = 400'  
..... in-phase  
..... out-of-phase  
Instrument... Geonics EM-17  
coil spacing..... 200'  
frequency..... 1600Hz  
EM response in percent

To accompany a report by J.M. Hamilton, P.Eng.

Drawn by: J.M.H.		Traced by: J.M.H.	
Revised by:	Date:	Revised by:	Date:
Electromagnetic Surveys 'Late' Claim Group North Star Hill, Kimberley Area Fort Steele M.D., B.C.			
Scale: as noted		Date: March, 1972	Plate: 2





3621 M-3

MINE ENGINEERING DEPARTMENT											
DATE	REVISOR	DATE	REVISOR	DATE	REVISOR	DATE	REVISOR	DATE	REVISOR	DATE	REVISOR
1941	W. J. WALKER										
CONSOLIDATED MINING AND SMELTING CO. OF CANADA LTD.											
SULLIVAN MINE											
LEVEL SURFACE											
SUBJECT LOTS AND CLAIMS											
SCALE 1500 FEET = 1 INCH											
120-186 SHEET NO. 1											

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 3621  
M-3