

GEOPHYSICAL SURVEYS ON THE
DUCK 53 TO 56 & 58, 63 TO 67, AND
70 & 72 CLAIMS 93N/14W

IN THE DUCKLING CREEK AREA

OMINECA MINING DIVISION

BRITISH COLUMBIA

J. M. Hamilton

B. S. Williams

3861

3861

C. O M I N C O L T D.

EXPLORATION

WESTERN DISTRICT

N.T.S.: 93 N-14

LAT.: 56° 55'

LONG.: 125° 20'

G E O P H Y S I C A L S U R V E Y S

O N T H E

D U C K 5 3 T O 5 6 & 5 8 , 6 3 T O 6 7 , A N D 7 0 & 7 2 C L A I M S

I N T H E D U C K L I N G C R E E K A R E A

O M I N E C A M . D .

B R I T I S H C O L U M B I A

DATE: September 12, 1972

REPORT BY: BRIAN S. WILLIAMS

SUPERVISED BY: JOHN M. HAMILTON, P. ENG.

W O R K P E R F O R M E D D U R I N G

T H E P E R I O D

J U L Y 1 s t T O J U L Y 2 8 t h , 1 9 7 2

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

NO. 3861 MAP

TABLE OF CONTENTS

	<u>PAGE</u>
SUMMARY	1
INTRODUCTION	1
GEOLOGY	1
GEOPHYSICAL SURVEYS	1
(a) Methods	1
(b) Data Presentation	2
(c) Results	2

ATTACHMENTS:

Statement of Qualifications of Brian S. Williams.

Statutory Declaration Relating to Expenditures.

Statement of Expenditures.

- #1 Plate 1 - Topographic Map of Grid "C", Scale 1" = 200'.
- #2 Plate 2 - Second Separation Chargeability, Scale 1" = 200'.
- #3 Plate 3 - Second Separation Resistivity, Scale 1" = 200'.
- #4 Plate 4 - Second Separation Metal Factor, Scale 1" = 200'.
- #5 Plate 5 - First and Second Separation Chargeability Profiles, Scale 1" = 200'.
- #6 Plate 6 - First and Second Separation Resistivity Profiles, Scale 1" = 200'.
- #7 Plate 7 - Magnetic Map, Scale 1" = 200'.
 With aeromagnetic map inset 1" = 1 mile.

SUMMARY

In July 1972 approximately 8 miles of Induced Polarization and Resistivity Surveying were completed on Grid C of the Rondah Property of Tye Lake Resources Ltd. These surveys were complemented by a magnetometer survey over the same grid.

An elongate I.P. anomaly that covers almost the whole length of the grid was detected. Unfortunately it is incomplete on the north-western end of the grid due to the limited extent of the grid.

The magnetic survey shows several small anomalies that align sub-parallel with the I.P. anomaly.

INTRODUCTION

During July 1972 approximately 8 miles of I.P., resistivity and magnetic surveying were carried out on Grid C of the Rondah Property of Tye Lake Resources Ltd. in the Duckling Creek area near Germansen Landing, B.C.

The surveys were carried out by Eagle Geophysics Ltd. with R.A. Harvey supervising the field work. The surveys were carried out in an attempt to locate disseminated copper mineralization associated with pyrite in monzonitic rocks.

GEOLOGY

In the Duckling Creek area a syenitic complex at least eight miles long and $1\frac{1}{2}$ miles wide intrudes the edge of the Hogen Batholith, and most of the copper showings are associated with this syenite intrusive. The rocks have been mapped as a syenite but appear to be quite variable in texture, colour and composition, grading into monzonites and diorites at the margins of the intrusive on the property. They are intruded into volcanic and sedimentary rocks. Known mineralization on the Duckling Creek Property is hosted by a monzonite dyke intrusive into Takla volcanics, and located near a major contact between the volcanics and the syenite intrusive mass. The mineralization occurs in fractures, breccia zones and along faults and the dominant sulphide is pyrite. Chalcopyrite and minor amounts of bornite also occur.

GEOPHYSICAL SURVEYS

(a) Methods:

The I.P. and Resistivity surveys were carried out with a Hunttec time-domain I.P. unit. A 7.5 Kva generator provided power for the Hunttec transmitter used in conjunction with the Hunttec Mk I. receiver. The pole-dipole electrode array was used with the receiving dipole (X) equal to 200 feet at the first and second separations. The surveys were carried out by Eagle Geophysics Ltd. under contract to Cominco Ltd. and were directed by R.A. Harvey, B.Sc. of Eagle Geophysics.

The magnetometer survey was also carried out by Eagle Geophysics during July 1972. The survey was done with a Sharpe MF-1 vertical force flux-gate magnetometer with a maximum readability of 5 gammas and a maximum sensitivity of 20 gammas per scale division. Instrument drift and diurnal variation were monitored by checking back to base stations every hour or two.

...continued...

(b) Data Presentation:

The I.P. and Resistivity measurements have been presented as profiles superimposed on a map of the grid and are also presented as contour plans of second separation values.

The plates are listed below; these are appended to this report.

Plate 1 - Topographic Map of Grid "C", Scale 1" = 200'.

Plate 2 - Second Separation Chargeability, Scale 1" = 200'.

Plate 3 - Second separation Resistivity, Scale 1" = 200'.

Plate 4 - Second Separation Metal Factor, Scale 1" = 200'.

Plate 5 - First and Second Separation Chargeability Profiles, Scale 1" = 200'.

Plate 6 - First and Second Separation Resistivity Profiles, Scale 1" = 200'.

Plate 7 - Magnetic Map, Scale 1" = 200'.

With aeromagnetic map inset 1" = 1 mile.

(c) Results:

The chargeability profiles show many "anomalous" areas, as reference to Plate 5 shows. However, significant portion of these, particularly on the southern ends of lines 5 W, 0 and 3.5 W, are coincident with very high resistivities and are not regarded as being of great significance. Areas have been picked as anomalous only in places where high chargeabilities correlate with moderate or low resistivities, resulting in moderate to high Metal Factors. Areas of low Metal Factors have not been picked as anomalous despite the fact that high chargeabilities may be present in some cases.

The anomalies detected appear to be part of the same body and extend from Line 30 W to Line 15 E. The anomaly is thus elongate, trending approximately north-west to south-east, and is incomplete on lines 30 W to 5 W where the grid does not extend far enough to the north. The anomaly is most complete on lines 0 and SE and appears to be at least 1600 feet wide with chargeabilities reaching over 20 milliseconds on these lines.

The magnetic survey indicated several short anomalies of moderate intensity that appear to align parallel to the I.P. anomaly.

Report by: Brian S. Williams
BRIAN S. WILLIAMS,
Geophysicist

Endorsed by: John M. Hamilton
JOHN M. HAMILTON, P. ENG.
Geophysicist

September 12, 1972
BSW/mjw

DISTRIBUTION

Administration
Mining Recorder (2)
Western District

Approved for
Release by: W.T. Irvine
W.T. IRVINE, P. ENG.
Manager,
Western District, Exploration

C O M I N C O L T D.

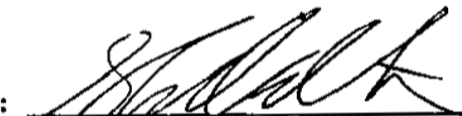
EXPLORATION

WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

Brian S. Williams was responsible for preparing this geophysical report. Mr. Williams received his B.Sc. in Geology from the University of Exeter, England in 1968 and his M.Sc. in Geophysics from Imperial College, London, England in 1969. He has been employed by Cominco Ltd. for two and a half years, engaged in most facets of exploration geophysics, and I consider him to be a competent geophysicist.

Signed by:



JOHN M. HAMILTON, P. ENG.

Geophysicist

Western District Exploration

SEPTEMBER 12, 1972

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

In the Matter of

STATUTORY DECLARATION RELATING
TO EXPENDITURES ON LINECUTTING
AND GEOPHYSICAL SURVEYS OF THE
DUCK CLAIMS, OMINECA MINING
DIVISION.

I, BRIAN S. WILLIAMS

of THE CITY OF VANCOUVER

in the Province of British Columbia, do solemnly declare that

1. I DID PERSONALLY PREPARE THE ACCOMPANYING REPORT FROM GEOPHYSICAL DATA SURVEYED BY EAGLE GEOPHYSICS LTD. ON THE DUCK 53-56, 58, 63-67, AND 70 & 72 CLAIMS SITUATED IN THE OMINECA MINING DIVISION, BRITISH COLUMBIA.
2. THE CLAIMS WERE COVERED TO THE SATISFACTION OF THE PROPERTY GEOLOGIST, R.U. BRUASET, OF COMINCO LTD.
3. TWO COPIES OF THE SAID REPORT ARE BEING FILED WITH THE MINING RECORDER AT SMITHERS, B.C.
4. ATTACHED HERETO AND MARKED WITH THE LETTER "A" UPON WHICH I HAVE SIGNED MY NAME AT THE TIME OF DECLARING HEREOF, A STATEMENT OF EXPENDITURES INCURRED IN CONNECTION WITH THE GEOPHYSICAL SURVEY OF THE SAID CLAIMS.

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*, in the
Province of British Columbia, this *15th*
day of *September*, A.D. *1951*

Brian S. Williams

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

EXHIBIT "A"

C O M I N C O L T D.

EXPLORATION

WESTERN DISTRICT
September 12, 1972

STATEMENT OF EXPENDITURES

DUCK 53-56, 58, 63-67 AND 70 & 72 CLAIMS

OMINECA MINING DIVISION

LINE CUTTING

Performed by D. Martinson

7.38 Line Miles at \$110.00 Per Mile \$ 850.00

GEOPHYSICS

Performed by Eagle Geophysics Ltd.

(i) Induced Polarization Survey

8.45 Line Miles at \$850.00 Per Line Mile \$7,180.00

(ii) Magnetometer Survey

9.78 Line Miles at \$ 92.00 Per Mile \$ 900.00 \$8,080.00

COMINCO SALARY COSTS

Trip to property by J.M. Hamilton, P. Eng.,
Geophysicist.

July 27 and 28, 2 days at \$65 \$ 130.00

Report writing costs, B.S. Williams,
Geophysicist.

September 11 and 12, 2 days at \$65 \$ 130.00

Drafting costs, Miss J.P. Snyder
13 days at \$30

\$ 390.00 \$ 650.00

TOTAL \$9,580.00


Signed:

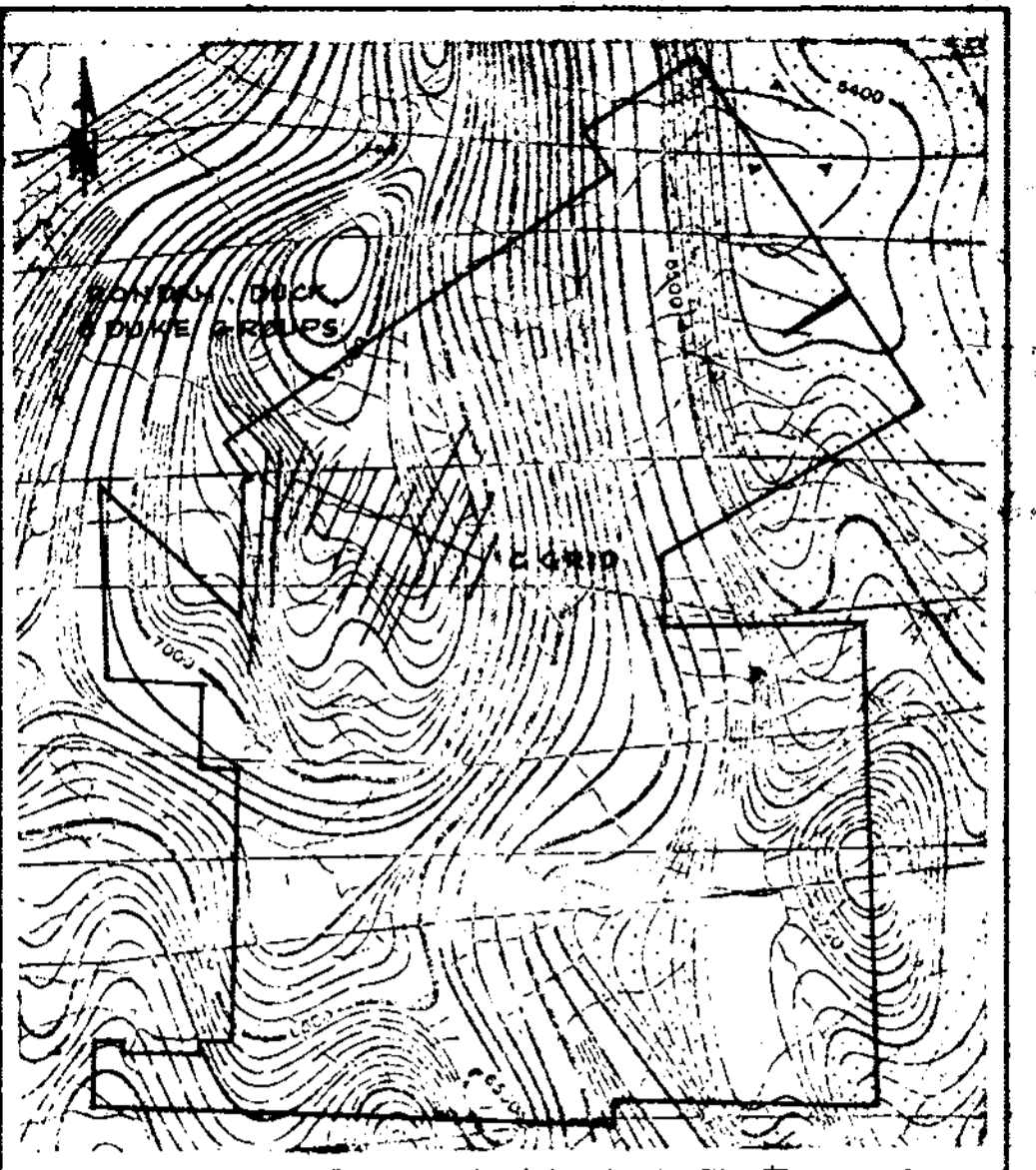
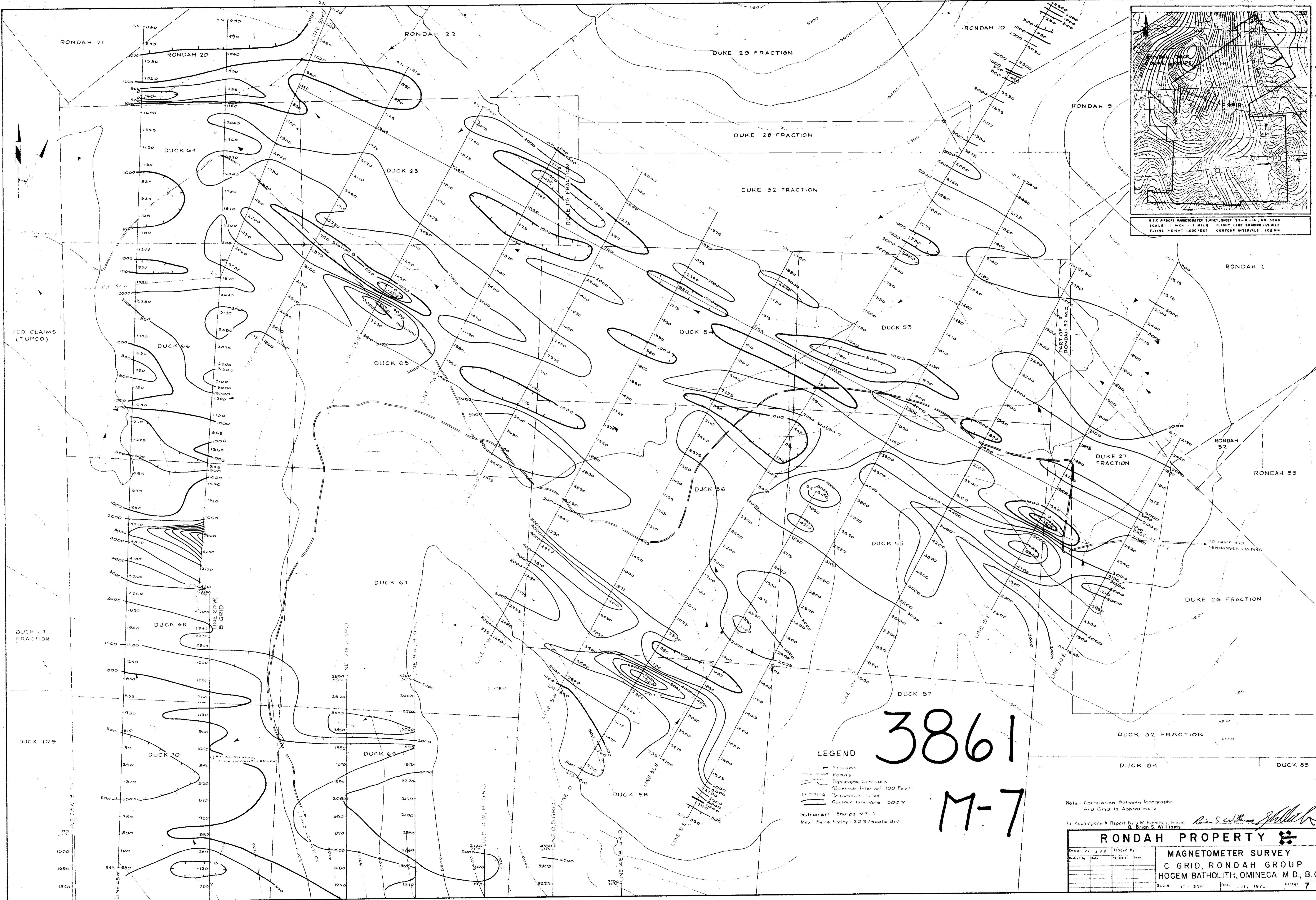


BRIAN S. WILLIAMS

FIELD WORK PERFORMED DURING THE PERIOD JULY 1ST TO JULY 28TH, 1972.

THIS IS EXHIBIT "A" TO THE STATUTORY DECLARATION OF BRIAN S. WILLIAMS
DECLARED BEFORE ME THIS 15th DAY OF September 1972.


A COMMISSIONER FOR TAKING
AFFIDAVITS FOR BRITISH COLUMBIA



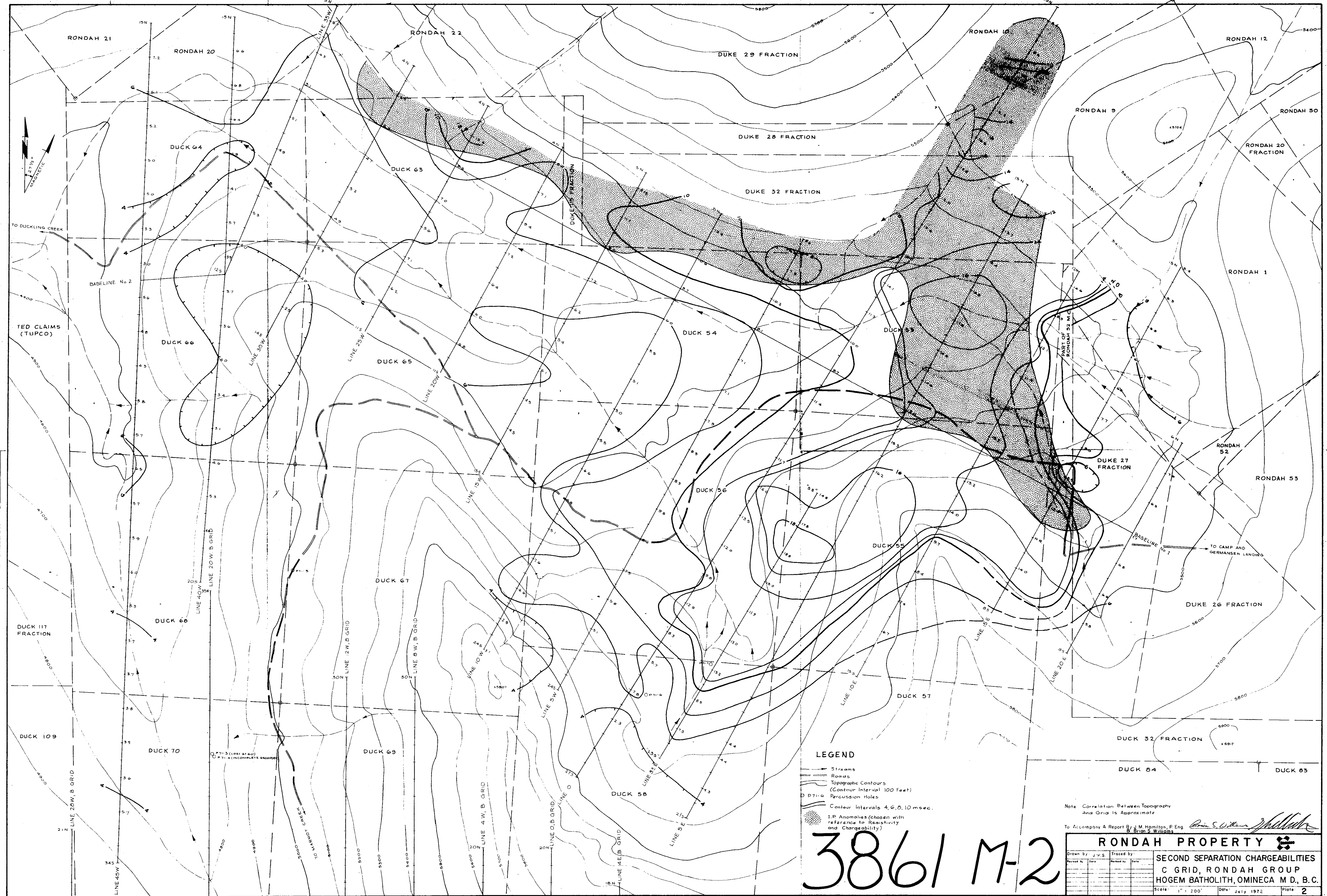
G.S.C. AIRBORNE MAGNETOMETER SURVEY, SHEET 93-N-14, NO. 2248
 SCALE: 1" = 1/4 MILE. FLIGHT LINE SPACING: 1/2 MILE
 FLIGHT HEIGHT: 1,000 FEET. CONTOUR INTERVALS: 100 FEET

LEGEND
 - Streams
 - Roads
 - Topographic Contours
 (Contour Interval 100 Feet)
 O D.T.M. Discussion notes
 - Contour Interval 500 FT
 Instrument: Sharp's MF-1
 Max. Sensitivity: 20 G/Scale Div.

3861
 M-7

Note: Correlation Between Topography and Grid is Approximate
 To Accompany A Report By: M. Hamilton, F. Eng. & Brian S. Williams

RONDAB PROPERTY			
MAGNETOMETER SURVEY			
C GRID, RONDAB GROUP			
HOGEM BATHOLITH, OMNECA M. D., B. C.			
Drawn by: J.P.S.	Traced by:		
Revised: No.	Date:	Revised: No.	Date:
Scale: 1" = 250'	Date: July 1972	Sheet: 7	



- LEGEND**
- Streams
 - Roads
 - Topographic Contours (Contour Interval 100 Feet)
 - Percussion Holes
 - Contour Intervals 4, 6, 8, 10 msec.
 - 1-P Anomalies (chosen with reference to Resistivity and Chargeability)

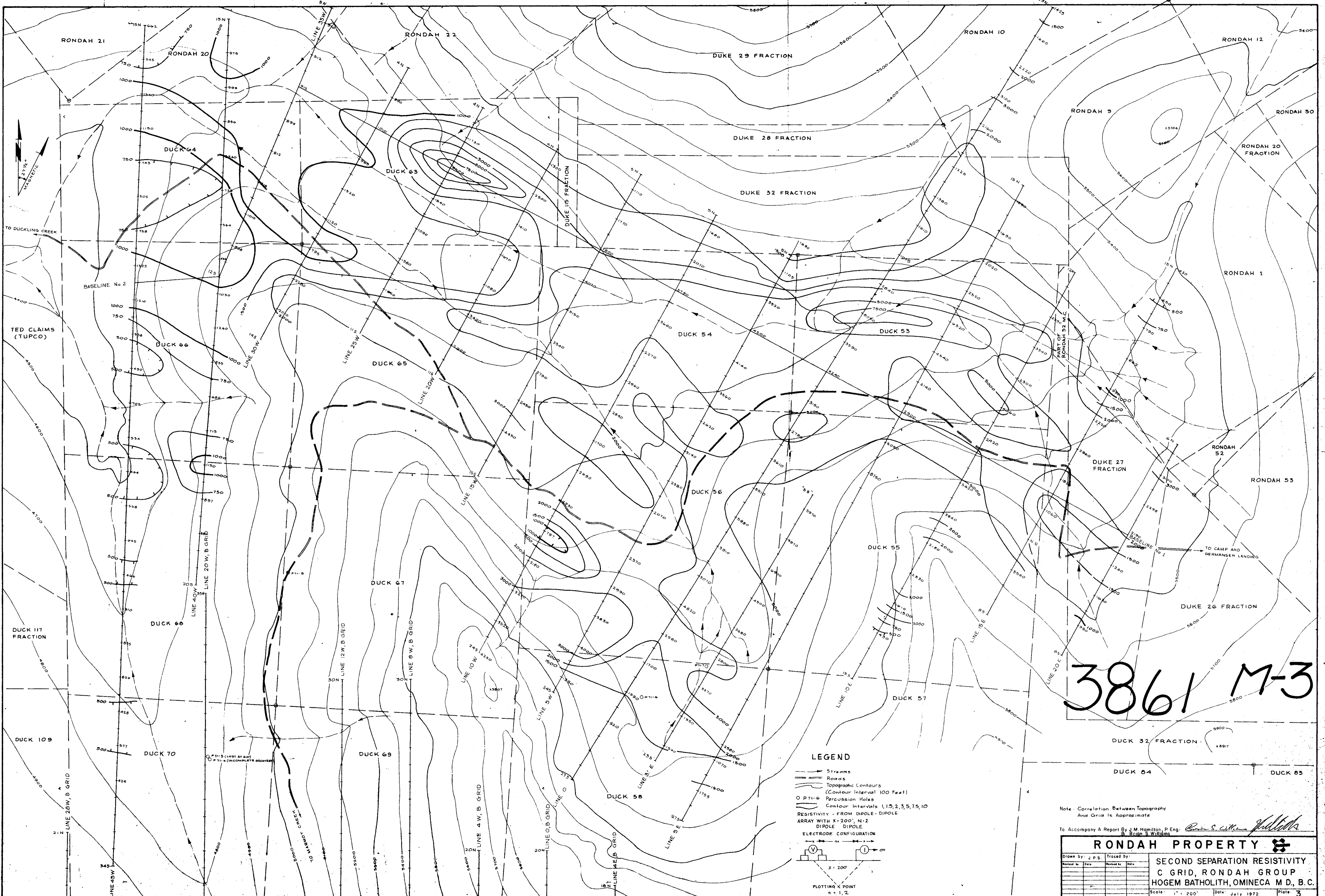
Note: Correlation Between Topography and Grid is Approximate

To Accompany A Report By J.M. Hamilton, P.Eng. & Brian S. Williams

3861 M-2

ROND AH PROPERTY	
Drawn by: J.P.S.	Traced by:
Revised by:	Revised by:
Date:	Date:
Scale: 1" = 200'	Date: July 1972
	Plate: 2

SECOND SEPARATION CHARGEABILITIES
C GRID, ROND AH GROUP
HOGEM BATHOLITH, OMINECA M.D., B.C.



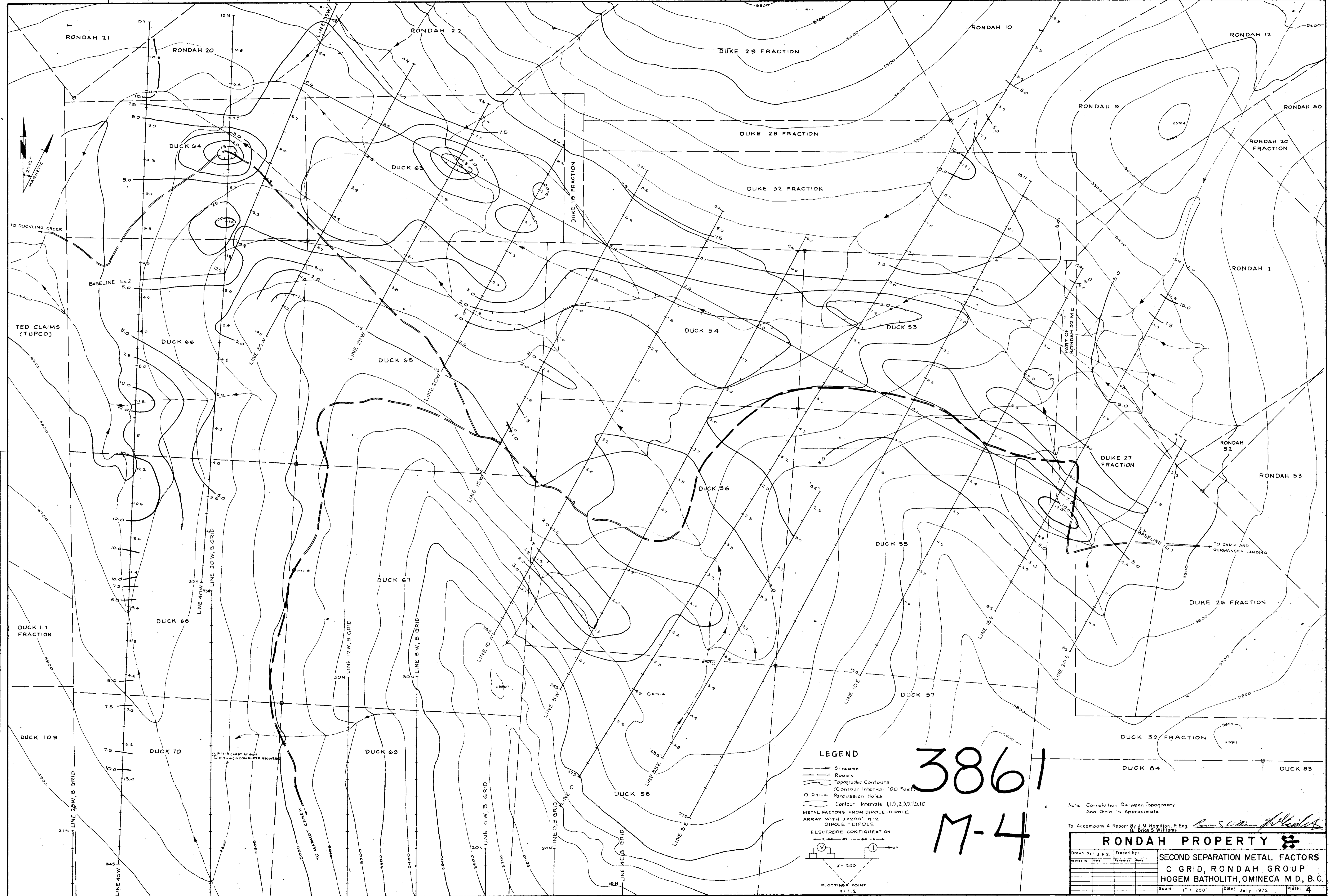
3861 M-3

LEGEND

- Stream
- Road
- Topographic Contours (Contour Interval 100 Feet)
- P 71-6 Percussion Holes
- Contour Intervals 1, 1.5, 2, 3, 5, 7.5, 10
- RESISTIVITY - FROM DIPOLE - DIPOLE
- ARRAY WITH X = 200', N = 2
- DIPOLE DIPOLE
- ELECTRODE CONFIGURATION
-
- PLOTTING X POINT n = 1, 2

Note: Correlation Between Topography and Grid is Approximate
 To Accompany A Report By J.M. Hamilton, P. Eng.
 By Brian S. Williams

RONDACH PROPERTY			
Drawn by: J.P.S.	Traced by:	SECOND SEPARATION RESISTIVITY	
Revised by: []	Date: []	C GRID, RONDACH GROUP	
		HOGEN BATHOLITH, OMINECA M.D., B.C.	
		Scale: 1" = 200'	Date: July 1972
		Plate 3	



LEGEND

- Streams
- Roads
- Topographic Contours (Contour Interval 100 Feet)
- P71-6 Percussion Holes
- Contour Intervals 1, 1.5, 2, 3, 5, 10
- METAL FACTORS FROM DIPOLE-DIPOLE ARRAY WITH $\lambda = 200'$, $n = 2$ DIPOLE-DIPOLE
- ELECTRODE CONFIGURATION
- PLOTTING POINT $n = 1, 2$

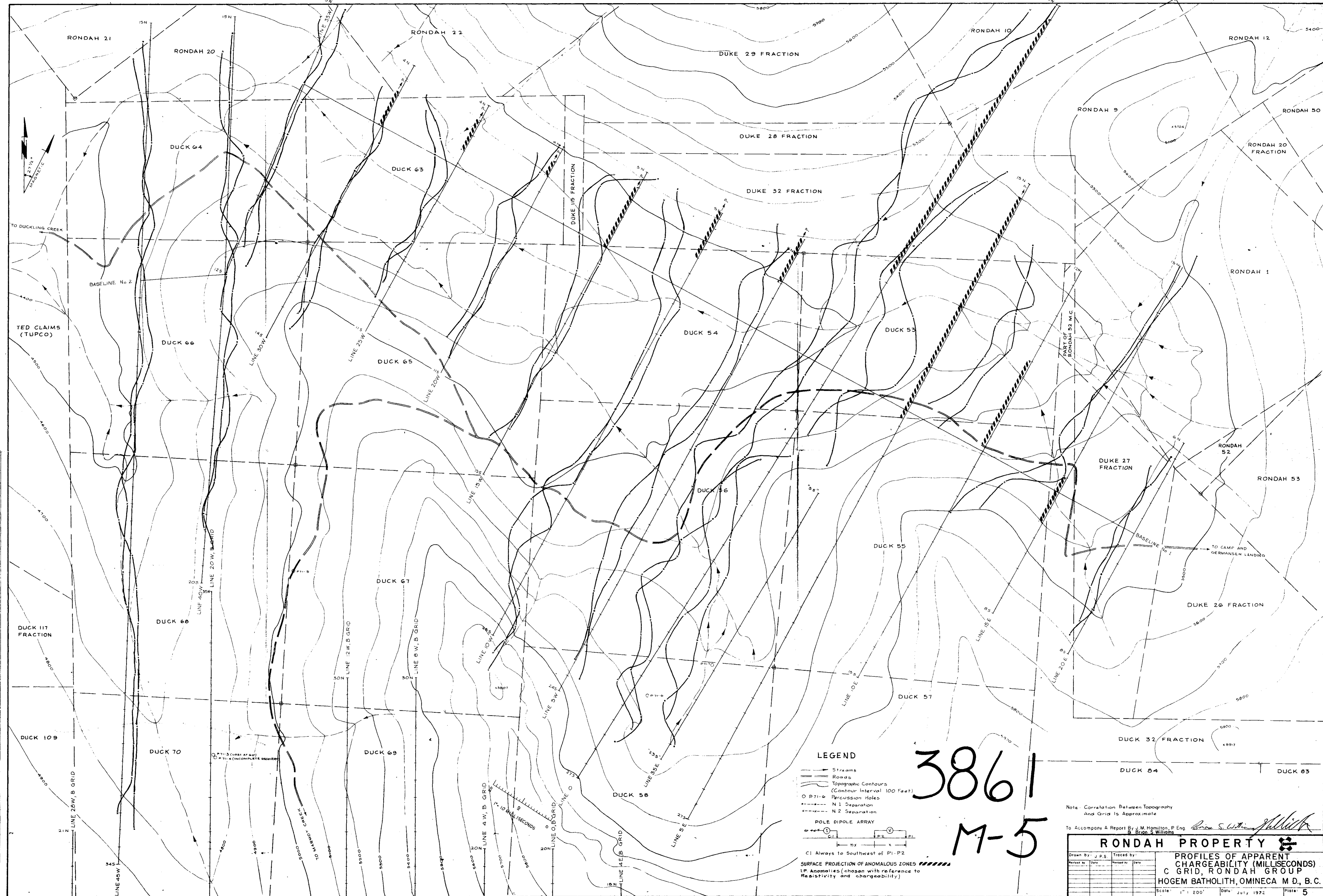
3861
M-4

Note: Correlation Between Topography And Grid Is Approximate

To Accompany A Report By J. M. Hamilton, P. Eng. & Brian S. Williams

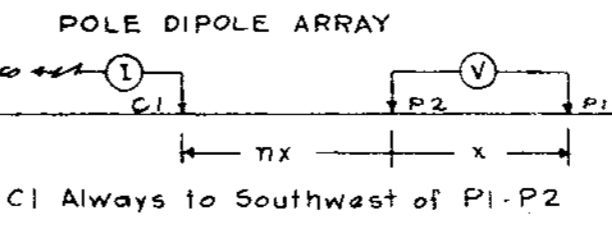
RONDHAH PROPERTY

Drawn by: J.P.S.	Traced by:	SECOND SEPARATION METAL FACTORS
Checked by:	Checked by:	C GRID, RONDHAH GROUP
Reviewed by:	Reviewed by:	HOGEM BATHOLITH, OMINECA M.D., B.C.
Date:	Date:	Scale: 1" = 200'
		Date: July 1972
		Plot: 4



LEGEND

- Streams
- Roads
- Topographic Contours (Contour Interval 100 Feet)
- P1-P2 Percussion Holes
- N 1 Separation
- N 2 Separation



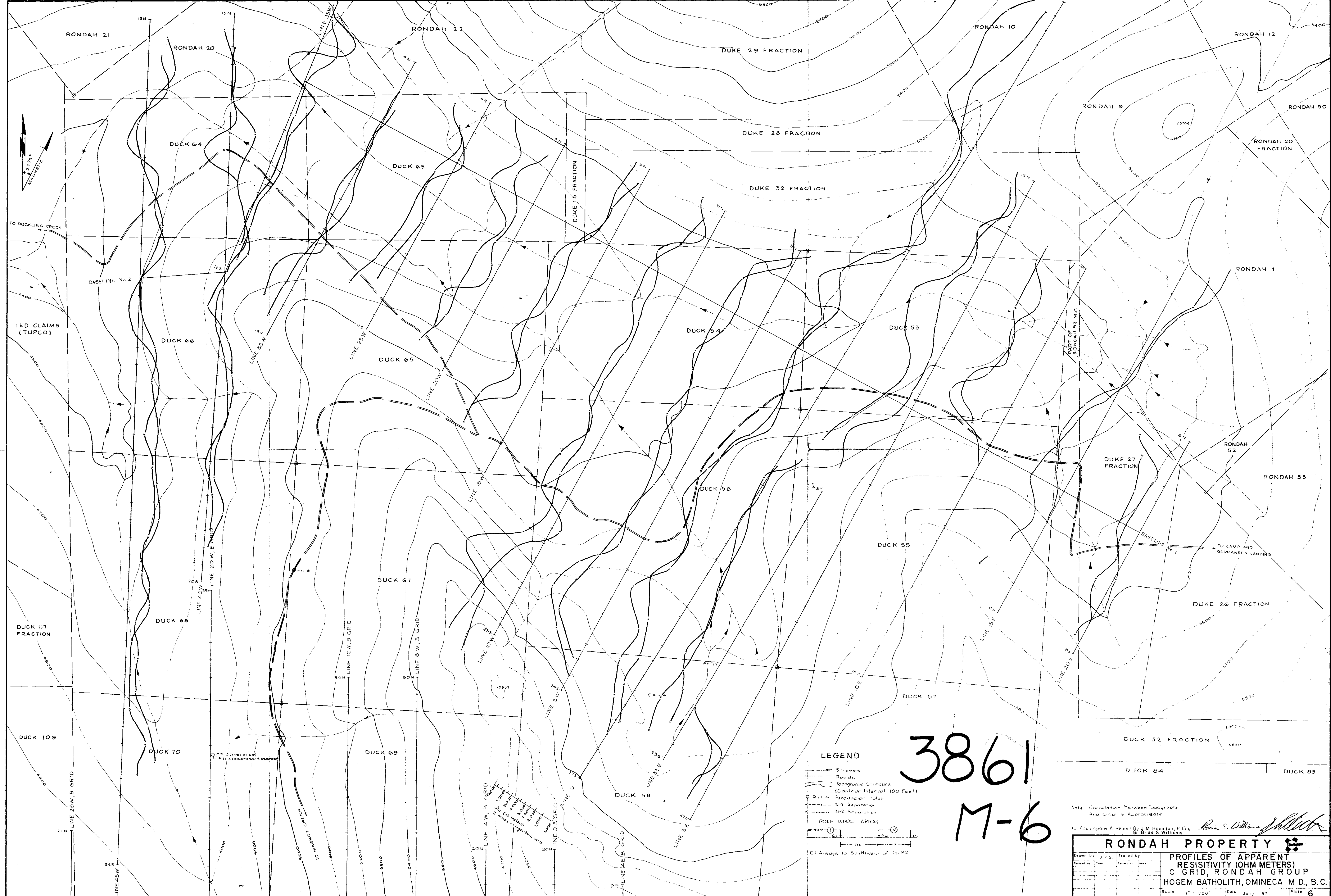
SURFACE PROJECTION OF ANOMALOUS ZONES
 I.P. Anomalies (chosen with reference to Resistivity and chargeability)

3861
 M-5

Note: Correlation Between Topography and Grid is Approximate

To Accompany A Report By J. M. Hamilton, P. Eng. By Brian S. Williams

RONDAB PROPERTY			
Drawn By: J. P. S.	Traced By:		
Revised By:	Date:	Revised By:	Date:
PROFILES OF APPARENT CHARGEABILITY (MILLISECONDS) C GRID, RONDAB GROUP HOGEM BATHOLITH, OMINICA M D, B. C.			
Scale: 1" = 200'	Date: July 1972	Plate: 5	



3861
M-6

Note: Correlation Between Topography and Grid is Approximate

To: Accompany A Report By J. M. Hamilton, P. Eng. & Brian S. Williams

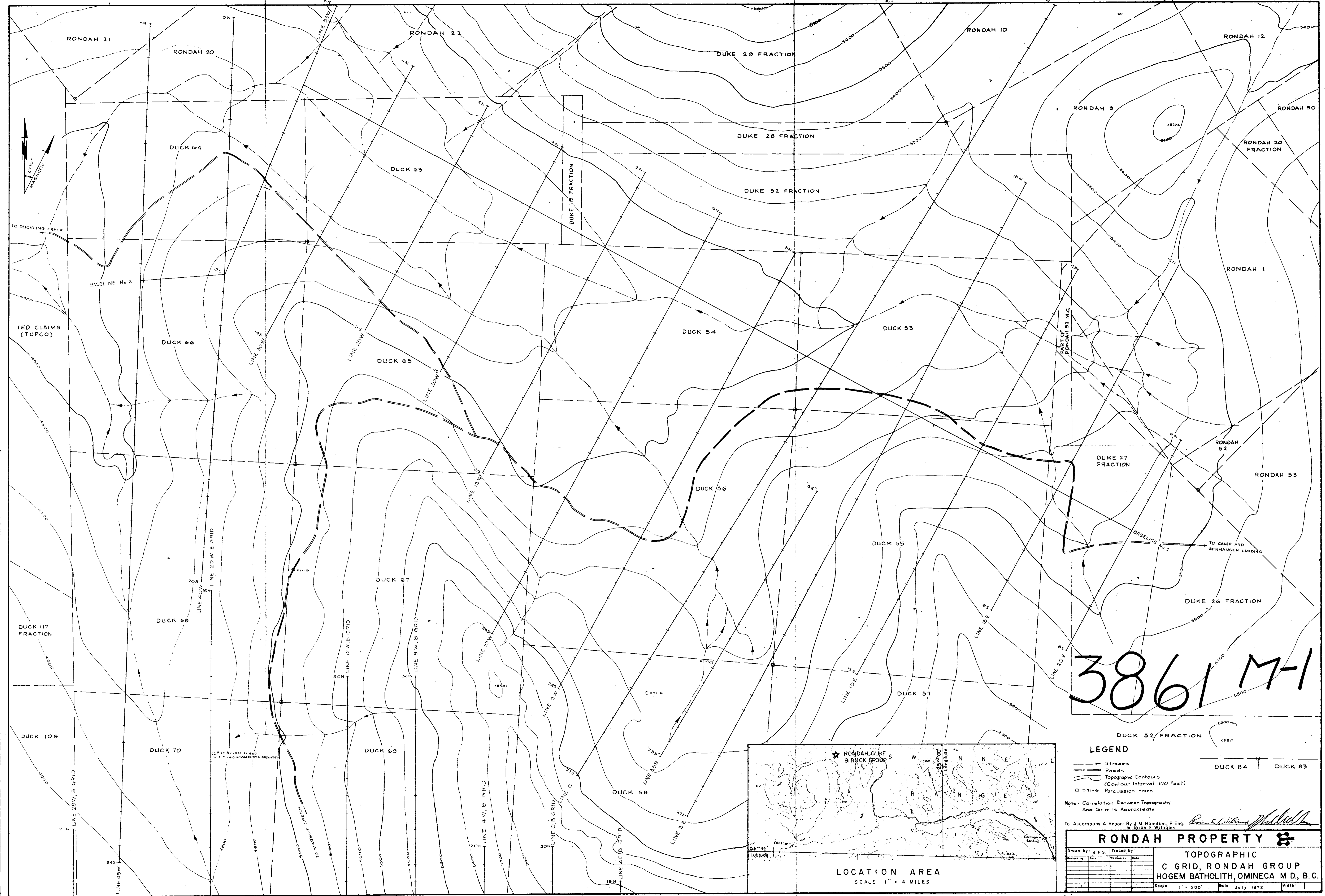
Brian S. Williams

RONDAH PROPERTY

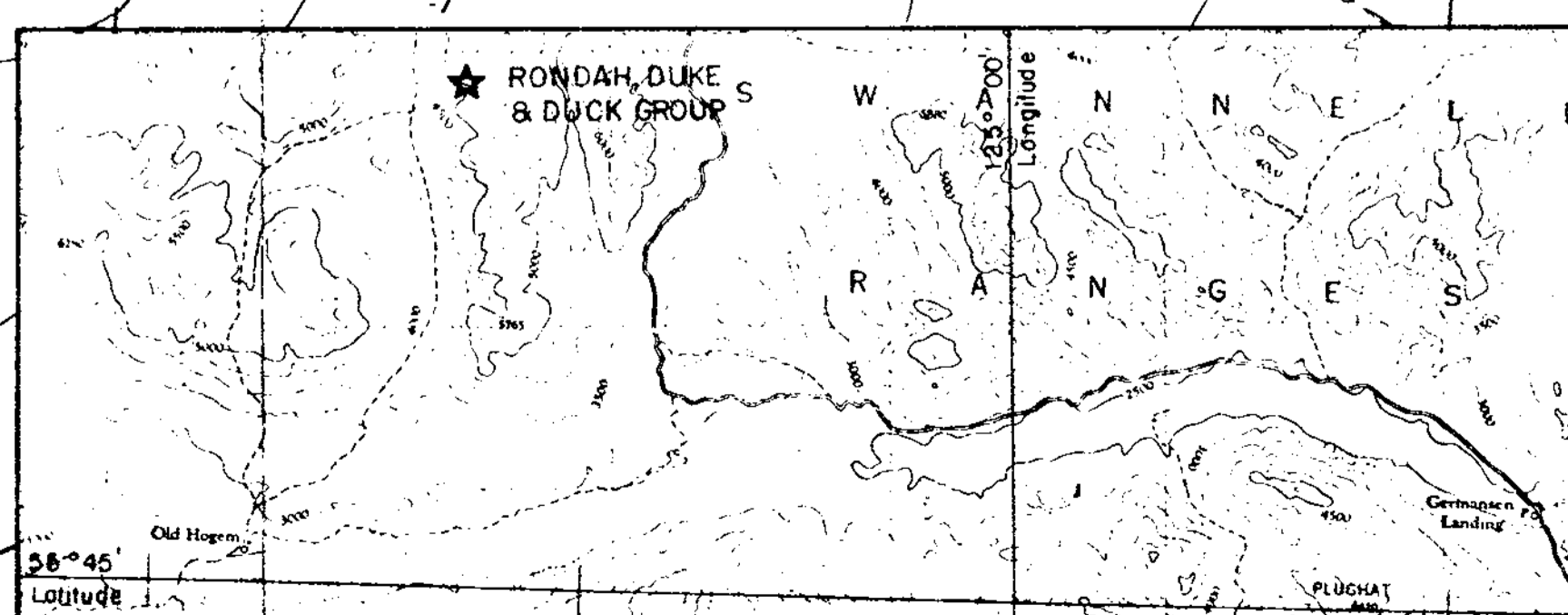
Drawn by: J. M. S.	Traced by:
Checked by:	Checked by:
Date:	Date:

PROFILES OF APPARENT RESISTIVITY (OHM METERS) C GRID, RONDAH GROUP HOGEM BATHOLITH, OMINICA M.D., B.C.

Scale: 1" = 500' Date: July 1974 Plate: 6



3861 M-1



LOCATION AREA
SCALE 1" = 4 MILES

LEGEND

- Streams
- Roads
- Topographic Contours (Contour Interval 100 Feet)
- O P.T.I. Percussion Holes

Note: Correlation Between Topography And Grid Is Approximate

To Accompany A Report By J. M. Hamilton, P. Eng. By Brian S. Williams

RONDALH PROPERTY

TOPOGRAPHIC
C GRID, RONDALH GROUP
HOSEM BATHOLITH, OMINICA M D, B. C.

Scale: 1" = 200' Date: July 1972

Drawn by: J.P.S.	Traced by:
Checked by: []	Reviewed by: []