

A Geophysical Report On  
A Magnetometer Survey And Line Cutting Project

Wet Claim Group

Greenwood Mining Division

British Columbia

(49°, 118°, S. W.)

By

J. Paxton

For

The Granby Mining Company Limited  
Grand Forks, B. C.

Claims Covered: WET 1 to WET 29 Inclusive  
WET 200, 300, 400 and 500 Fractions  
(The Layover L434, <sup>M-323</sup> Connection L954  
Cressant L3383), (Buller <sup>M-323</sup> L3242) (Denver <sup>M-324</sup> L2169)

Field Supervision: J. Paxton B.A. Sc.  
And Report Mine Geologist

General Supervision: G. R. Rice M. Sc. P. Eng.  
Mine Manager, Phoenix Copper Division

Field Work Period: April 8th to June 13th, 1969



1889

A GEOPHYSICAL REPORT ON

A MAGNETOMETER SURVEY AND LINE CUTTING PROJECT

WET CLAIM GROUP

GREENWOOD MINING DIVISION, BRITISH COLUMBIA

FOR

THE GRANBY MINING COMPANY LIMITED

PHOENIX COPPER DIVISION

GRAND FORKS, B. C.

BY

J. PAXTON

JUNE 1969

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ASSESSMENT REPORT

NO. **1889** MAP.....

**PHOENIX  
MINE**

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NO. **1889** MAP **#1**

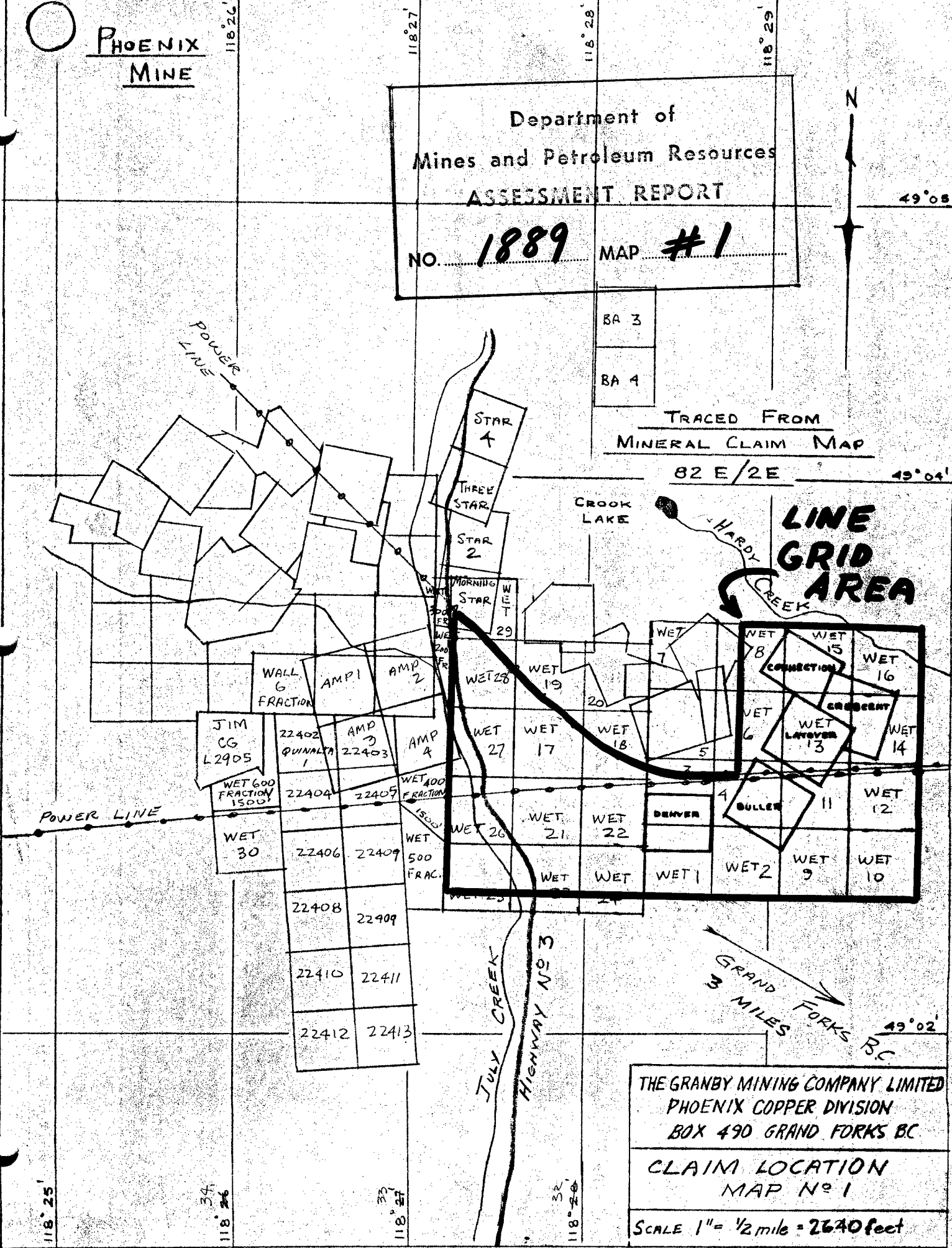
BA 3

BA 4

TRACED FROM  
MINERAL CLAIM MAP

82 E / 2 E

**LINE  
GRID  
AREA**



THE GRANBY MINING COMPANY LIMITED  
PHOENIX COPPER DIVISION  
BOX 490 GRAND FORKS B.C.

CLAIM LOCATION  
MAP No 1

SCALE 1" = 1/2 mile = 2640 feet

INTRODUCTION:

In the spring of 1968 the crown grant claims The Layover L434, Connection L954. Cressant L3383, Buller L3242 and the Denver L2169 became available and The Granby Mining Company Limited was successful in obtaining leases on them. In addition, Granby staked 29 full size claims and two fractional claims over and around them. These claims were named the Wet group. In the spring of 1969 it was decided to start the intensive exploration of these claims by cutting a grid of lines over the claims and running a magnetometer survey over the lines. The line cutting was done under contract by James Forshaw Limited of Greenwood, B. C. and the surveying and magnetometer work was done by Granby personnel. The purpose of the line grid was to provide location control for the magnetometer survey, for future geological mapping, and possibly, for induced polarization surveys. The reason for doing a magnetometer survey was to locate magnetite. In the Phoenix area magnetite is often associated with copper mineralization and since it can be detected with a magnetometer, magnetic anomalies can be used as a guide in prospecting.

BASELINE SURVEY:

The baseline survey was begun where the main power transmission line serving Grand Forks crosses Highway No. 3 and was carried eastward along the power line as far as the trail to Hardy Creek, that is, approximately 10,000 feet. Surveying was done with a Buff transit and a lightweight 300-foot chain. Stations were placed every two or three hundred feet along the power line wherever convenient. Angles were read to the nearest minute and distances measured to the nearest 0.1 foot. The line was surveyed twice, first from west to east and then from east to west, and the results averaged. Where readings did not check within two minutes in angle or 0.5 foot in distance a re-survey was made. The relative elevations and horizontal distances between stations were calculated accurately using a six-place trigonometric tables. Compass directions were taken between several of the stations

and from these an imaginary, straight, east-west base-line was plotted relative to the stations on a number of sheets at a scale of 1 inch=40 feet. Then cross-lines, 90 degrees to the base-line at 400-foot intervals, were plotted and their locations relative to the actual surveyed stations were scaled off. By using the plotting method at a large scale much tedious calculation was avoided and the required accuracy was attained. The cross-lines were then laid out in the field using a tape and Brunton compass mounted on a tripod. All angles turned with the Brunton were back-sighted on survey stations to eliminate error due to magnetic variations in the area.

#### LINE CUTTING

After being laid out at the base line, the cross-lines were cut by crews contracted from James Forshaw Limited of Greenwood. The lines were kept straight using the line of sight and picket method. The cutting crew consisted of two men, one using an axe, the other using a light-weight chain saw. Care was taken to damage as little timber as possible and to respect private property rights in the area. The average distance cut per crew per working day was 0.70 mile.

#### LINE CHAINING:

The lines were measured north and south from the imaginary base line and a marked picket placed every 200 feet of true horizontal distance along the lines. Correction for slope was made using a Sunnto PM-5 clinometer.

MAGNETOMETER SURVEY:

The magnetic survey was run by Mr. R. T. Forshaw under the direction of J. Paxton. Traverses were run on the cross-lines in pairs of parallel lines. Each traverse was closed on the base-line. The difference on closure between the base-line readings was distributed by time as a first correction to all the readings in the traverse. When all the cross-lines had been done, a rapid survey was made up and down the baseline, closed, and the difference distributed by time to each station so that the relative magnetic difference between stations was established. Then the baseline traverse and all the cross-lines were tied together by making a second correction to the cross line traverse readings. These corrected readings are shown plotted on map No. 2. Readings were taken every 50 feet along the lines and every 50 feet on all sides of any high erratic readings. The instrument was a hand held, Sharpe MF-1, fluxgate type magnetometer, accurate to 20 gammas.



RESULTS OF THE MAGNETOMETER SURVEY:

The magnetic readings taken during the survey ranged from -500 gammas to +1050 gammas. It is highly unlikely that massive magnetite such as occurs in the Phoenix Mine, exists in the map area. A small magnetite zone surveyed in 1968 on the Lancashire Lass claim gave readings with a range of 6500 gammas. Therefore it seems more probable that the anomalies that occur are due to disseminated magnetite. Looking at the area as a whole there is a large semi-circular anomaly in the 200-300 gamma range lying in the centre of the area. Situated on the run of the anomaly there are a number of smaller arc-shaped anomalies in the -500 to +1000 gamma range. These appear to be associated with the numerous small surface showings of chalcopyrite mineralization which occur in this same area. The semi-circular shape of the main anomaly would suggest that it is due to some type of rock contact or metamorphism rather than to a fault structure.

In summary, the following conclusions are drawn from the survey:

1. The range in readings is too low for any massive magnetite mineralization near surface in the area.
2. There appears to be an association between many of the strong anomalies and surface showings of chalcopyrite.
3. The anomaly pattern is arcuate and therefore probably indicates a rock contact rather than a fault structure.

1969 WORK SCHEDULE:

A. WORK DONE BY JAMES FORSHAW LIMITED GREENWOOD, B.C.

NAME:	POSITION:	DATES:	RATE:		TOTAL:
			per hr.	day	
E. FEDERICO	LINE CUTTER	APRIL 24, 25 28-30 MAY 1, 2 5- 9 12-16 JUNE 2-16 9-12 TOTAL 26 days	\$5.78	30.24	\$786.24
A CHIVELDAVE	HELPER	AS ABOVE	\$2.90	23.20	\$672.80
J. IKARI	LINE CUTTER	June 6 9-12 TOTAL 6 days	\$5.78	30.24	\$181.44
N. ESTACAILLE	HELPER	AS ABOVE	\$2.90	23.20	\$139.20
					\$1779.68
TOTAL MEDICAL, PENSION, INSURANCE ETC.					\$ 320.34
MANAGEMENT CHARGE OF 20% by JAMES FORSHAW					\$2100.02
					420.00
TRANSPORTATION CHARGES (LANDROVER RENTAL)					141.16
TOTAL CONTRACT WORK					\$2661.18

1969 WORK SCHEDULE:

PERSONNEL:

B. WORK DONE BY THE GRANBY MINING CO. LTD.

<u>NAME:</u>	<u>POSITION:</u>	<u>DATES:</u>	<u>RATE PER DAY:</u>	<u>TOTAL:</u>
J. PAXTON	GEOLOGIST	APRIL 7-25 June 6,10,11,12	\$40.00	\$760.00
T. B. SMART	GEOLOGIST	APRIL 8-18	\$36.00	\$324.00
R. T. FORSHAW	ASSISTANT	APRIL 22-25 29-30 MAY 1,2,5,6,7, 12-16,20,22, 23,26,27,28, 29	\$22.72	\$704.32
C. GLANVILLE	STUDENT HELPER	APRIL 24-25,29 MAY 2,5,6,9, 12-16,20,22, 23,26	\$22.16	\$443.20
R.D. SCHEER	SURVEYOR	MAY 27(half day) JUNE 5(Half day)	\$24.72	\$ 24.72
R. HAMAGUCHI	STUDENT HELPER	MAY 27	\$22.16	\$ 22.16
HUN KIM	GEOLOGIST	JUNE 5,6	\$30.00	\$ 60.00
R. HOULE	ASSISTANT	JUNE 2,3,4 (half days)	\$24.00	\$ 36.00
		SUB TOTAL:		\$2374.00
TOTAL ALLOWANCE FOR MSA, CANADA PENSION PLAN, etc. AT 18% of salary cost.				425.20
TOTAL GRANBY WORK				\$2799.20
TOTAL COST OF WORK				<u>\$5460.38</u>

STATEMENT OF QUALIFICATIONS:

The layout of the cross-lines, chaining of the cross lines and most of the magnetometer operation was done by Mr. R. T. Forshaw. Mr. Forshaw is a grade 13 graduate who has worked for the past three summers on exploration projects for Granby doing similar work. He has been given thorough instruction in magnetometer operation, and in compass surveying by the author.

The planning of the project, the surveying of the base-line and direction and supervision of the field personnel was done by the author. He graduated in 1953 from the University of Saskatchewan with a Bachelor of Arts and Science degree in geology. He also took one year of post-graduate work in geology at the University of Manitoba. He has worked for The Granby Mining Company Limited as a geologist since December 1964. He has supervised magnetometer surveys and line cutting programmes during the past three summers. He was given thorough instruction on magnetometer survey methods, and on the operation of the MF-1 Magnetometer by Granby's chief geologist, Mr. K. C. Fahrni, Professional Engineer.

This report is respectfully submitted by:

The Granby Mining Company Limited  
Phoenix Copper Division

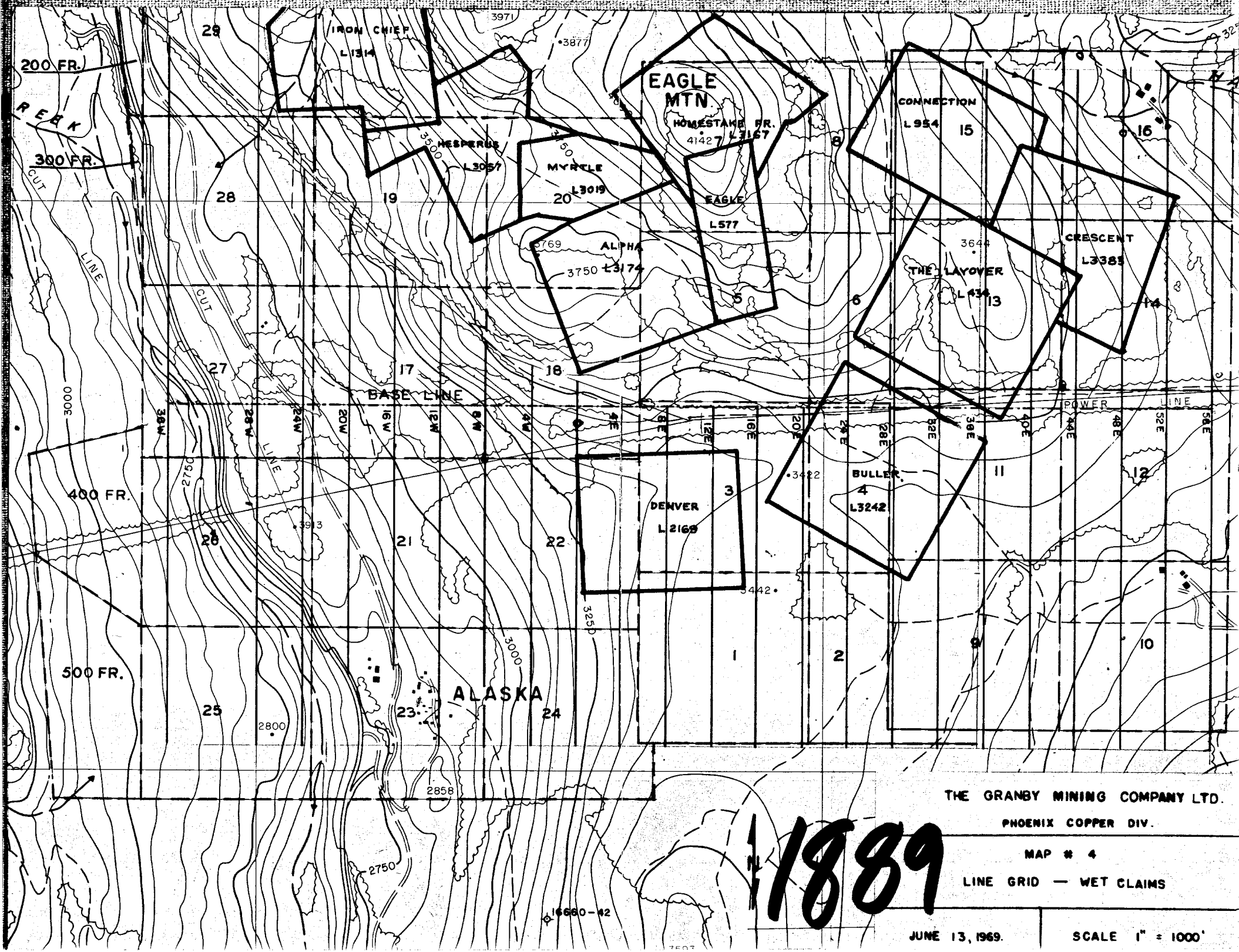


J. Paxton, B. A. Sc.  
Mine geologist



G. R. Rice, M. Sc. Professional Engineer  
Mine Manager





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MAP # 4

LINE GRID — WET CLAIMS

JUNE 13, 1969.

SCALE 1" = 1000'



**LEGEND**

- AVERAGED MAGNETOMETER READINGS + 160
- MAGNETIC CONTOURS (160)
- SURVEY STATIONS 0 69-2
- CLAIM POSTS AND BOUNDARIES

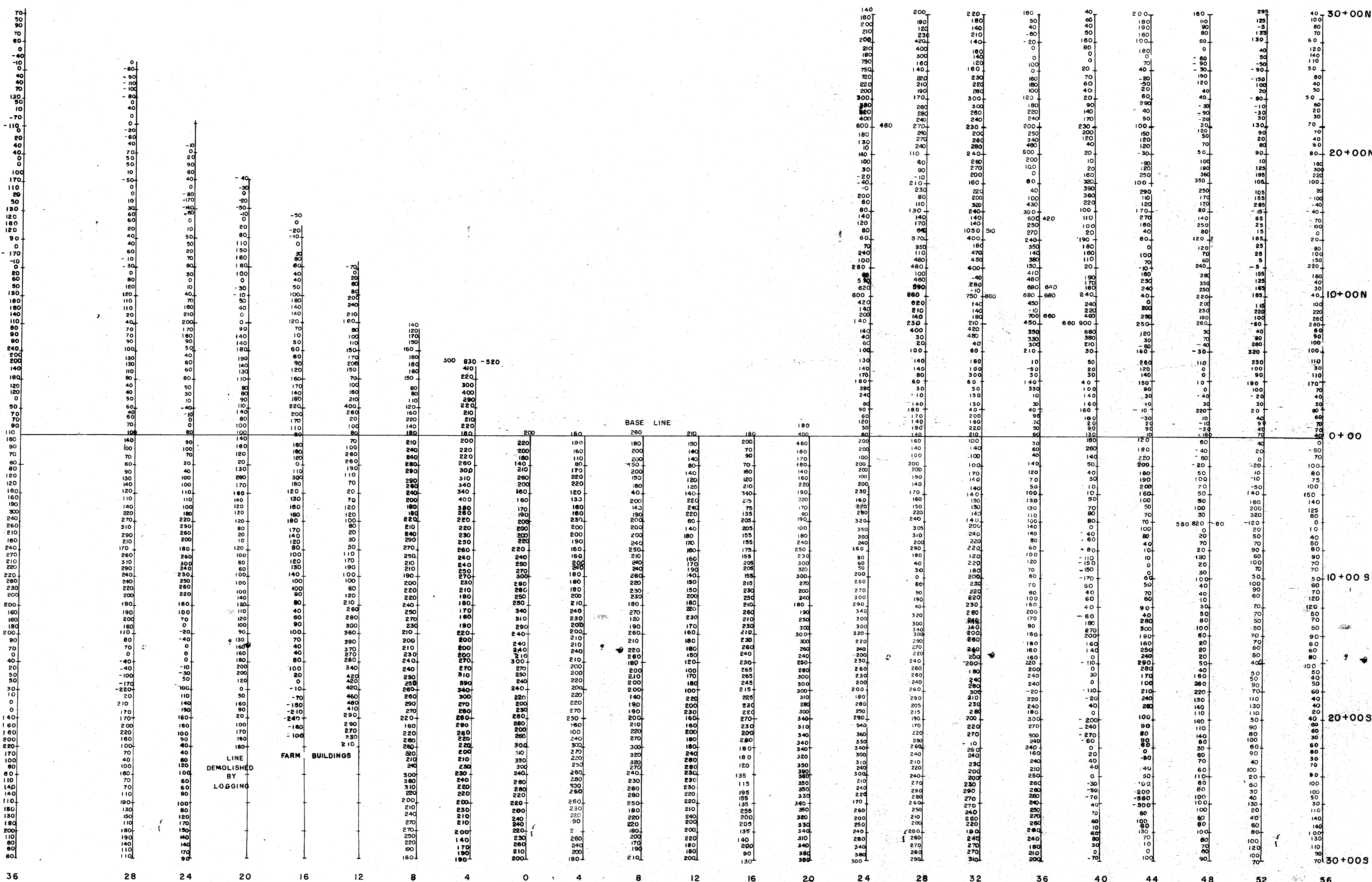
**NOTES**

1. READINGS WERE ORIGINALLY TAKEN AT 50' INTERVALS ALONG THE LINES
2. EVERY EIGHT READINGS WERE AVERAGED AND PLOTTED AS SHOWN BEFORE CONTOURING.

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 ASSESSMENT REPORT  
 NO. 1889 MAP #2

THE GRANBY MINING COMPANY LTD. PHOENIX COPPER DIV.	
MAP # 3 TO ACCOMPANY GEOPHYSICAL REPORT	
BY JAMES PAXTON ON THE WET CLAIM GROUP GREENWOOD MINING DIVISION JUNE 13 1969	
DRAWN AND COMPILED BY <i>[Signature]</i> SUPERVISED AND CHECKED BY <i>[Signature]</i>	
DATE: JUNE 20 1969	SCALE: 1" = 400'



Department of  
Mines and Petroleum Geology  
ASSESSMENT REPORT  
NO. 1889 MAP #3

NOTE  
ALL READINGS TAKEN IN GAMMAS (γ)

← WEST LINES      EAST LINES →

THE GRANBY MINING COMPANY LTD.  
PHOENIX COPPER DIV.  
MAP # 2  
TO ACCOMPANY GEOPHYSICAL REPORT  
BY JAMES PAXTON  
ON THE WET CLAIM GROUP  
GREENWOOD MINING DIVISION  
JUNE 13, 1969  
DRAWN AND COMPILED BY *R. J. Johnson*  
SUPERVISED AND CHECKED BY *J. Paxton*  
DATE: JUNE 20, 1969      SCALE: 1" = 400'

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