

92 P/6E

GEOPHYSICAL REPORT
JOE GROUP

16 MILES EAST OF 70 MILE HOUSE 51°, 121° S. E.

Author:	L. J. Manning,
Geophysicist:	Richard O. Crosby
Claims owned by:	Rayfield Mining Company Ltd. (N.P.L.)
Work Done For:	Rayfield Mining Company Ltd. (N.P.L.)
Date of Work:	23rd January to 6th February, 1967

954

954

SUMMARY

An aeromagnetic survey was made of an area including the Joe group of claims 3 miles north of Young Lake and 4 miles east of Rayfield River in D. T. S. area 92 P 6.

The group lies on a relatively flat brush free area of little outcrop, mapped by the G. S. C. as being underlain by Pleistocene till.

36 line miles of survey were completed over the area including the Claim block.

The survey indicated the claims were underlain by acidic to intermediary intrusives in contact with volcanics, and that the area was faulted.

It is recommended that the survey be confirmed by a few selected ground magnetometer traverses.

HILL, MANNING & ASSOCIATES LTD.

CONSULTING MINING ENGINEERS

610-890 WEST PENDER STREET

VANCOUVER 1, B.C.

OFFICE PHONE:
683-5861

RESIDENTIAL PHONES:
H. L. HILL - 922-7996
L. J. MANNING - 985-5690

March 20, 1967.

The President and Directors,
Rayfield Mining Company Ltd. (N.P.L.),
Vancouver, B. C.

Dear Sirs:

The following report is based on a study of the data obtained by Gellco Explorations Ltd. from an aeromagnetic survey flown over the area of your Jon group, during the last week of January, 1967.

Yours truly,

HILL, MANNING & ASSOCIATES LTD.


L. J. Manning, P.Eng.

LJM:mjr

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Flight recapitulation ✓	
Compilation ✓	
Interpretation Work Sheet ✓	
Interpretation Overlay ✓	

REPORT
ON AN AEROMAGNETIC SURVEY
OF THE JOE CLAIM GROUP
OF
RAYFIELD MINING COMPANY LTD. (N.P.L.)

OBJECT:

This report is submitted for the purpose of recording the results and conclusions of an aeromagnetic survey flown over the area of the Joe group, Clinton Mining Division, the last week of January, 1967.

LOCATION AND CLAIMS:

The property consists of the following 10 claims in the Clinton Mining Division at about Latitude 51°18' and Longitude 121°00' in D. T. S. Area 92 P 6.

<u>Name</u>		<u>Record No.</u>	<u>Expiry Date</u>
Joe 11 - 14	(4)	10847 - 10850	11 Feb. 67
Joe 16	(1)	10852	11 Feb. 67
Joe 21 - 25	(5)	10857 - 10861	11 Feb. 67
<hr/>			
Total	(10)		

The above claims are registered in the name of Rayfield Mining Company Ltd. (N.P.L.).

Access to the group is by travelling 18 miles east of 70 Mile House on the Bridge Lake road, then 6 miles south by gravel road.

GEOLOGY:

It is apparent from an examination of the photos used for flight control that little or no outcrop occurs on the property itself. Published reports confirm this, and G. S. C. Map 3 - 1966 shows only two rock types in the immediate vicinity of the group; i.e. Middle Jurassic intrusives overlain by late tertiary flows. A report written for Rayfield Mining Company Ltd., by Dolmage, Mason and Stewart Ltd. states that copper and molybdenum mineralization is evidenced in syenitic rocks where exposed by the Rayfield River about 4 miles to the east. In the descriptive notes attending to G.S.C. Map 3 - 1966 it is stated that the general map area is in many respects similar to copper producing areas to the south.

AEROMAGNETIC SURVEY:

A. Equipment

The aircraft used was a Cessna 180 owned by Gellco Explorations Ltd. of 100 Mile House, B. C. It has been equipped by Gellco with a Sabre Airborne Magnetometer having the following specifications:

Type of Measurement: Measures vertical component of Earth's magnetic field directly in Gammas. Operates on saturable core principle, similar to Flux-gate type.

Sensitivity: Provided with 4 scales, giving full-scale reading of ± 500 , ± 1500 , ± 5000 and $\pm 15,000$ Gammas.

Type of Read Out: Monitor Meter on amplifier unit plus graphic chart recorder.

Zero Position Control: Provides $\pm 15,000$ Gamma Zeroing facilities giving one full scale of zero control on the least sensitive scale setting.

Frequency Response: DC to 0.5 Cycles per second.

Accuracy: Same as the basic accuracy of the chart recorder.

Stabilization: Oil dampened gimbal plus special transistorized low pass filter. The filter is designed to pass all frequencies below 0.5.

Power Supply: All power to operate the system including the chart recorder is provided by a vibrator-converter that is operated by the aircraft battery. No other batteries are required.

The Chart Recorder has the following description:

Bausch and Lomb VOM 5 self balancing potentiometer type with recording pen and built-in event marker.

The survey was flown by George Leech, pilot, and Ernie North, technician, of Gellco Explorations Ltd., Box 523, 100 Mile House, B. C.

B. Method

1. Field

The aircraft was flown at a mean terrain clearance of 600 feet at a speed of approximately 120 Miles Per Hour on approximate east-west lines with magnetic intensities being recorded continuously while flying in one direction only.

AEROMAGNETIC SURVEY: (Continued)

Navigation was by visual means using 1" = 1/8th mile aerial photographs on which a target grid had been drawn. Actual position of the aircraft was plotted by indicating points of reference on the photo mosaic and on the continuous recording strip by using the event marker. A minimum of 3 points per line were marked.

The aircraft was held in constant level flight while passing over the target area.

2. Office

(i) Compilation:

- a. An overlay was made of the survey area on magnetic data were transcribed along the picked flight path. (Plan 2)
- b. An overlay of Plan 2 was completed on which magnetic intensities were contoured in 100 gamma contours. (Plan 3)

(ii) Interpretation:

- a. A work sheet was traced from Plan 2 without flight lines and then submitted to Mr. Richard O. Crosby of Seigel Associates for interpretation.
- b. An overlay of the final qualitative interpretation was then completed as on Plan 4.
- c. The Joe claim group was then plotted on each plan permitting final recommendation by the writer

DISCUSSION OF AIRBORNE MAGNETOMETER SURVEY RESULTS BY R. O. CROSBY:

Area 1 (the area shown by Plans 2 - 5) shows sufficient magnetic continuity to allow certain general statements to be made.

The east portion of the area is dominated by a strong magnetic anomaly trending northerly to the northern boundary. Since this anomaly was recorded on at least 12 flight lines, it may be considered as a valid anomaly whose source is probably an acidic to intermediate intrusive. The remainder of the area is characterized by a number of randomly oriented low to medium amplitude anomalies, interpreted as arising from surface or near surface volcanics.

Two faults are shown on the interpretation overlay.

It is recommended that the area be checked with a ground magnetometer to determine the reliability of the interpretation.

Richard O. Crosby per jr.
Richard O. Crosby, B.Sc.,
Consulting Geophysicist,
Seigel Associates Limited,
79 Martin Ross Avenue,
Downsview, Ontario.

L. J. Manning
L. J. Manning, P.Eng.

SURVEY COSTS:

Costs incurred applicable to the Joe Group submission:

1. Air Survey (See attached bill for total Rayfield survey).

36 Miles @ \$17 per mile \$ 610

Additional charges for further compilation interpretation, and report services over and above those offered by Gellco to Rayfield in their ~~\$1,700~~ price \$ 400

Total Direct Cost *\$17.00* \$1,010

CONCLUSIONS:

The aeromagnetic survey indicates that the Joe group overlies structure and rock types favourable for copper and molybdenum deposition.

RECOMMENDATIONS:

1. That several ground magnetic traverses be completed across the volcanic intrusive contact on claims 23, 24, 25, to confirm the airborne results.
2. That a reconnaissance soil sampling survey be completed to establish the feasibility of such methods.
3. That geological mapping of any outcrop and angular float be mapped during such reconnaissance surveys and traverses.
4. That if such surveys do not delimit a most favourable area, the entire 10 claims be covered by an induced polarization survey to try to establish a sulphide drilling target.

ESTIMATED COSTS:

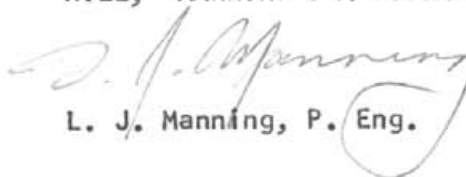
A. Reconnaissance Work:

1. Field labour and supplies	\$2,000
2. Reports, transportation, etc.	500
3. Assays - 150 samples @ \$2.00 each	<u>300</u>
Total estimated reconnaissance	<u>\$2,800</u>

B. I. P. Survey 10 Claims (if necessary)
on 500 foot grid.

Allowance for detail I. P.	<u>1,000</u>
Total Estimated I. P. Survey Costs.	<u>\$9,000</u>

HILL, MANNING & ASSOCIATES LTD.


L. J. Manning, P. Eng.

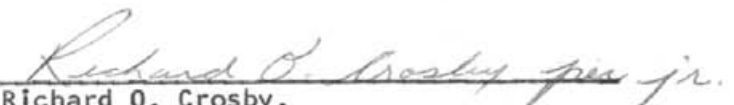
LJM:mjr

CERTIFICATE OF QUALIFICATIONS

I, Richard O. Crosby of 894 Margaree, West Vancouver, B. C.,
certify as follows:

1. That I am graduated from Washington State University in 1951.
2. That my application for registration as a Professional Engineer of British Columbia, is submitted.
3. That I have been practising geophysicist from 1953 to the present time.
 - (a) That from 1953 to June, 1966 I was employed by Aero Service Corporation, Philadelphia, Penn., during which time I was employed on various geophysical surveys, e.g. from 1955 - 1959 for the French Atomic Energy Commission and the government of France in Europe and North Africa; In 1960 - 1961 for the United Nations Mineral Inventory Program in Chili; in 1962 for the Government of Spain in the Spanish Sahara.
 - (b) That from June, 1966 to the present I have been employed as the Western Representative for Seigel Associates Ltd, Toronto, Ontario.
4. That I do not hold any financial or other interest in the properties or stock of Rayfield Mines Limited nor do I expect to do so in the future.

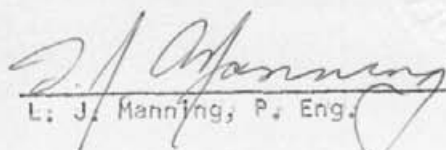
Dated at Vancouver British Columbia the 20th day of March, 1967.

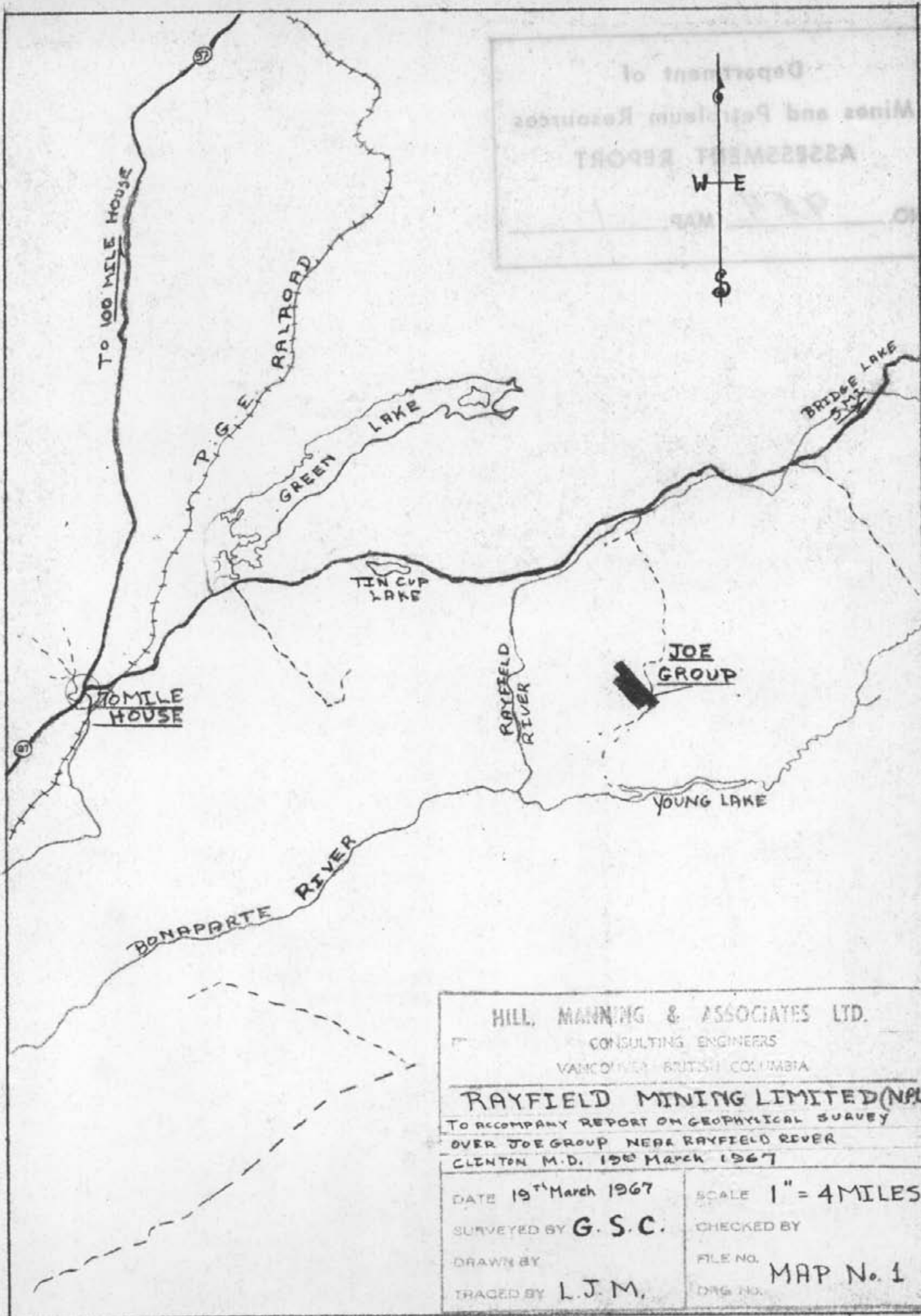

Richard O. Crosby,
Consulting Geophysicist.

I, Luard J. Manning of 945 Belvedere Drive, North Vancouver, B. C. certify as follows:

1. That I am a graduate of the University of British Columbia and hold a Bachelor of Applied Science degree in Mining Engineering.
2. That I have been a member of the Association of Professional Engineers of Ontario since 1959 and a member of the Association of Professional Engineers of British Columbia since April, 1966.
3. That I have been engaged in the profession of mining engineering for over 15 years.
4. That I was a member of the engineering and supervisory staff of the Taxco Unit of the American Smelting and Refining Co. Ltd. from 1951 to 1953
5. That in 1953 I joined the staff as chief engineer at Giant Mascot Mines Ltd., Spillimacheen, B. C. and remained there until 1955.
6. That from 1955 to 1957 I was employed by Rix Athabasca Uranium Mines Ltd. as chief engineer and assistant manager.
7. That from 1957 to 1959 I was a mine captain at Pronto Uranium Mines Ltd.
8. That from 1959 to 1960 I was in charge of research and auxilliary mine services at Pronto.
9. That from 1960 to 1963 I was mine superintendent of the Pronto Division of Rio Algom Mines Ltd.
10. That from 1964 to 1965 I was General Mine Superintendent of the Pronto Division of Rio Algom Mines Ltd.
11. That from August to December 1965 I was resident manager at Orecan Mines Limited.
12. That from January 1966 I have been involved in general exploration and consulting work.
13. That I am at present a partner in the firm of Hill, Manning & Associates Limited of Vancouver, a firm of consulting mining engineers.
14. That I do not hold any financial or other interests in the properties or stock of **Rayfield Mining Company Ltd.**
(N.P.L.) nor do I expect to do so in the future.

Dated at Vancouver, B. C. this 20th day of March, 1967


L. J. Manning, P. Eng.



HILL, MANNING & ASSOCIATES LTD.
 CONSULTING ENGINEERS
 VANCOUVER BRITISH COLUMBIA

RAYFIELD MINING LIMITED (N.A.)

TO ACCOMPANY REPORT ON GEOPHYSICAL SURVEY
 OVER JOE GROUP NEAR RAYFIELD RIVER
 CLINTON M.D. 19th March 1967

DATE 19th March 1967
 SURVEYED BY G.S.C.
 DRAWN BY
 TRACED BY L.J.M.

SCALE 1" = 4 MILES
 CHECKED BY
 FILE NO.
 MAP No. 1

F 1207

Hill, Manning & Associates Limited
610 - 890 West Pender St.
Vancouver 1, B.C.

IN ACCOUNT WITH:

March 20, 1967

Rayfield Mining Company Ltd., (N.P.L.)
890 West Pender Street,
Vancouver 1, B. C.

TO:

1. Interpretation of Airmag results over Joe group	\$ 50.00
2. Portion of Supervision of Airmag compilation	100.00
3. Report	<u>250.00</u>
	<u>\$400.00</u>

Seigel Associates Limited
890 West Pender Street
Vancouver, B. C.

IN ACCOUNT WITH:

March 20, 1967

Hill, Manning & Associates Ltd.,
610 - 890 West Pender Street
Vancouver, B. C.

Re: Rayfield Mining Company Ltd. (N.P.L.)

1. Interpretation of Airmag results over Joe Group	\$ 50.00
2. Portion of Supervision of Airmag. compilation	<u>100.00</u>
	<u>\$150.00</u>

Folio _____

Statement

February 27, 1967.

M. Rayfield Mining Co.,

890 West Pender St., Van. B.C.

In Acc't With Gellco Explorations Ltd.

Airborne Division,

Terms _____ 9331-114A St., N. Surrey.

Per. Mile

	Interpretation	\$2.00	
	Compilation	3.00	
	Airborne Mag.	2.00	
	Aircraft & Pilot	4.00	
	Mag. Operation	2.00	
	Ground Control	3.00	
	Living Out Expenses	1.00	
	Total	\$17.00	per mile
	Magnetometer Survey on the JOE Claims Group		
	29 Flite lines - 2 miles per line		74000
	58 Miles @ \$17 per mile		\$986.00
	Magnetometer Survey on the Skidoo Claims Group		
	35 Flite lines - 2 miles per line		
	70 Miles @ \$17 per mile		1190.00
	Total		\$2176.00
	Rec'd on account	\$1100.00	
	Balance owing		\$1076.00

Declared before me at the

City

of Vancouver, in the

Province of British Columbia, this 20

of March 1967, A.D.

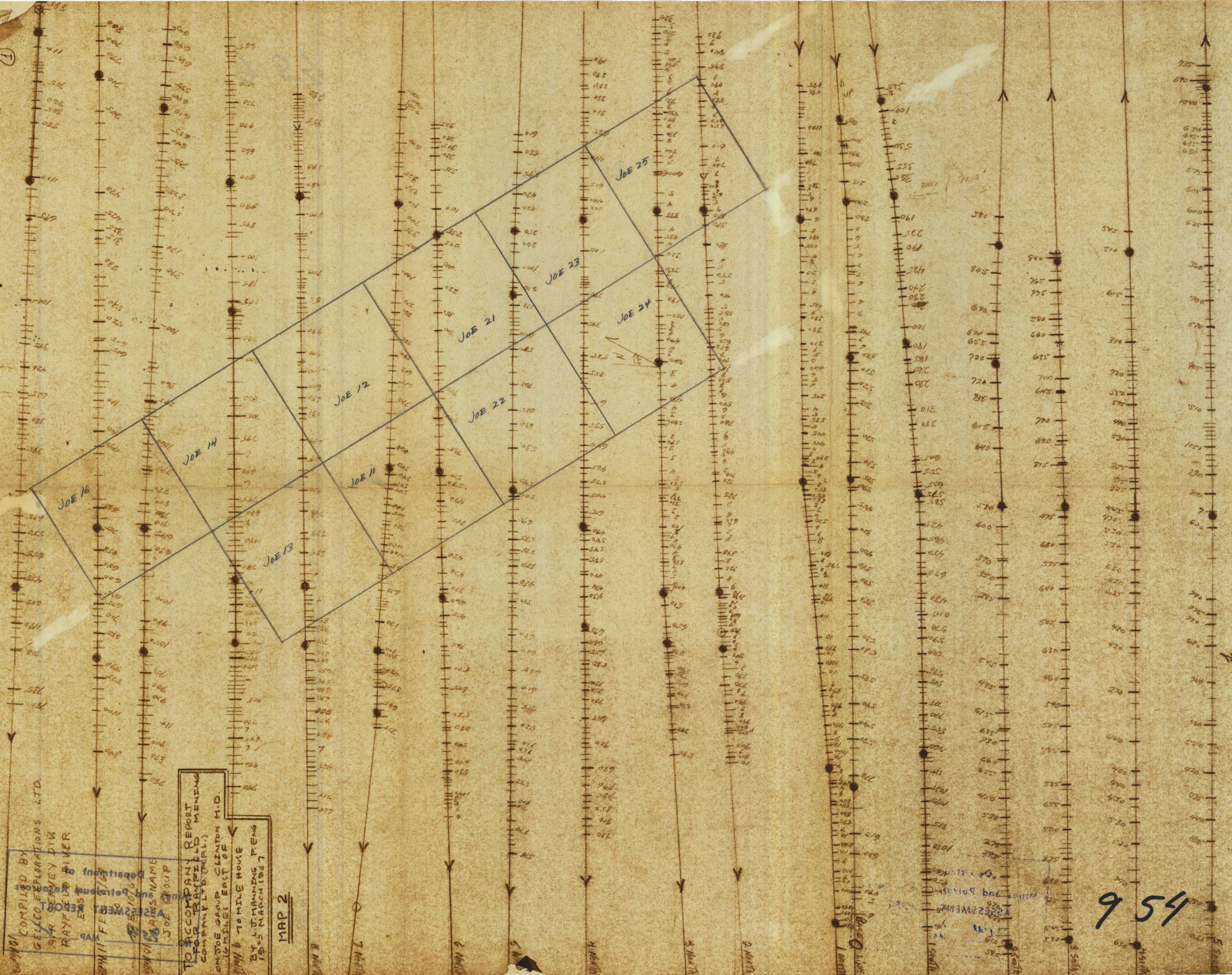
Paul Campbell

Jill Suran

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

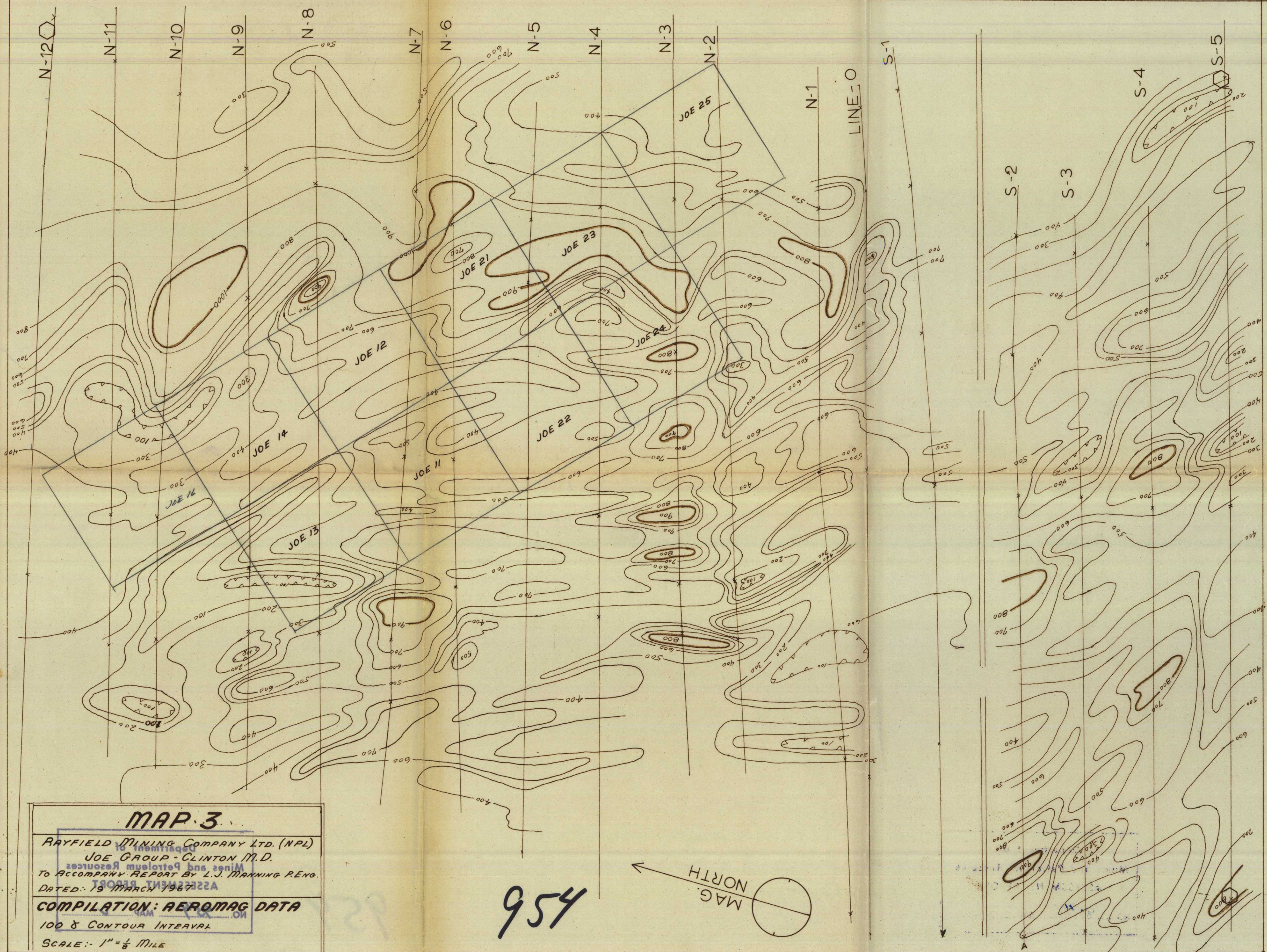
Sub-mining Recorder

1



MAP
 COMPILD BY
 GELCO EXPLORATIONS LTD.
 AIR SURVEY DIV
 RAYFIELD RIVER
 EAST
 FEB 1967
 JOE'S NAME
 JOE GROUP
 TO ACCOMPANY REPORT
 FOR TRAMPFIELD MINING
 COMPANY LTD. (P.R.L.)
 ON JOE GROUP CLINTON M.D.
 16 MILES EAST OF
 1/2 MILE HOUSE
 BY L. J. MANNING P.E.M.G.
 15-5 MARCH 1967
 MAP 2

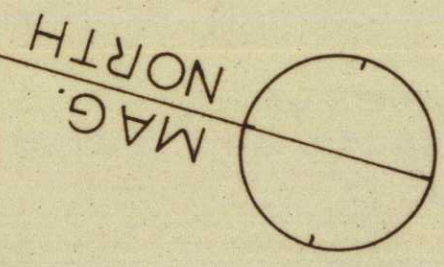
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MAP 3

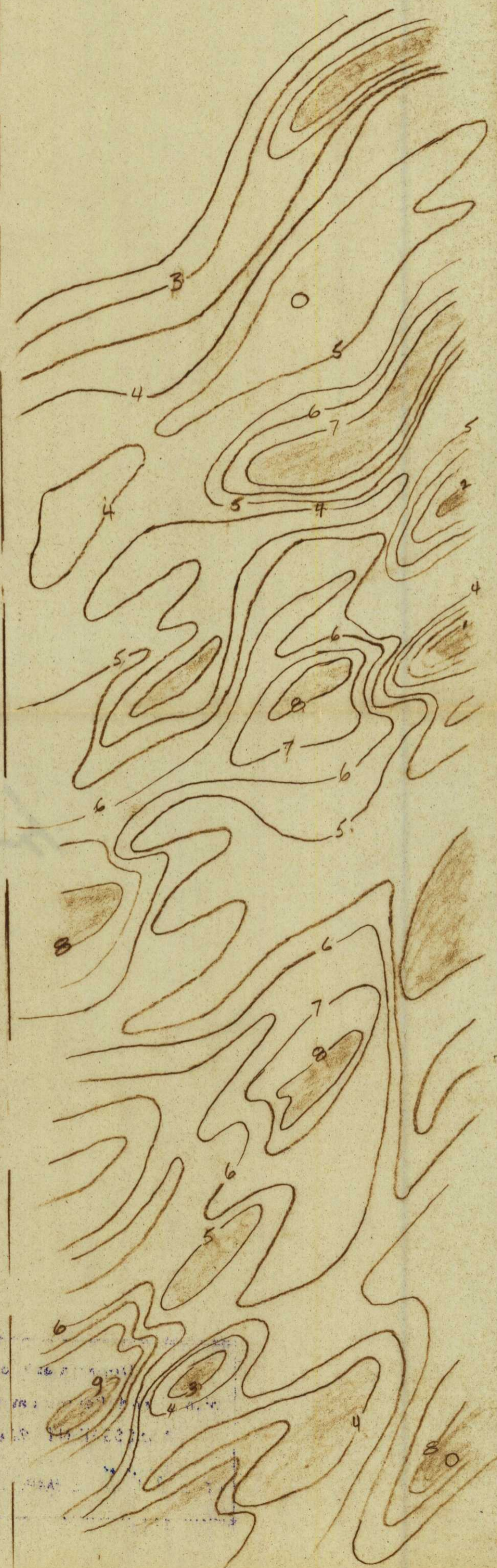
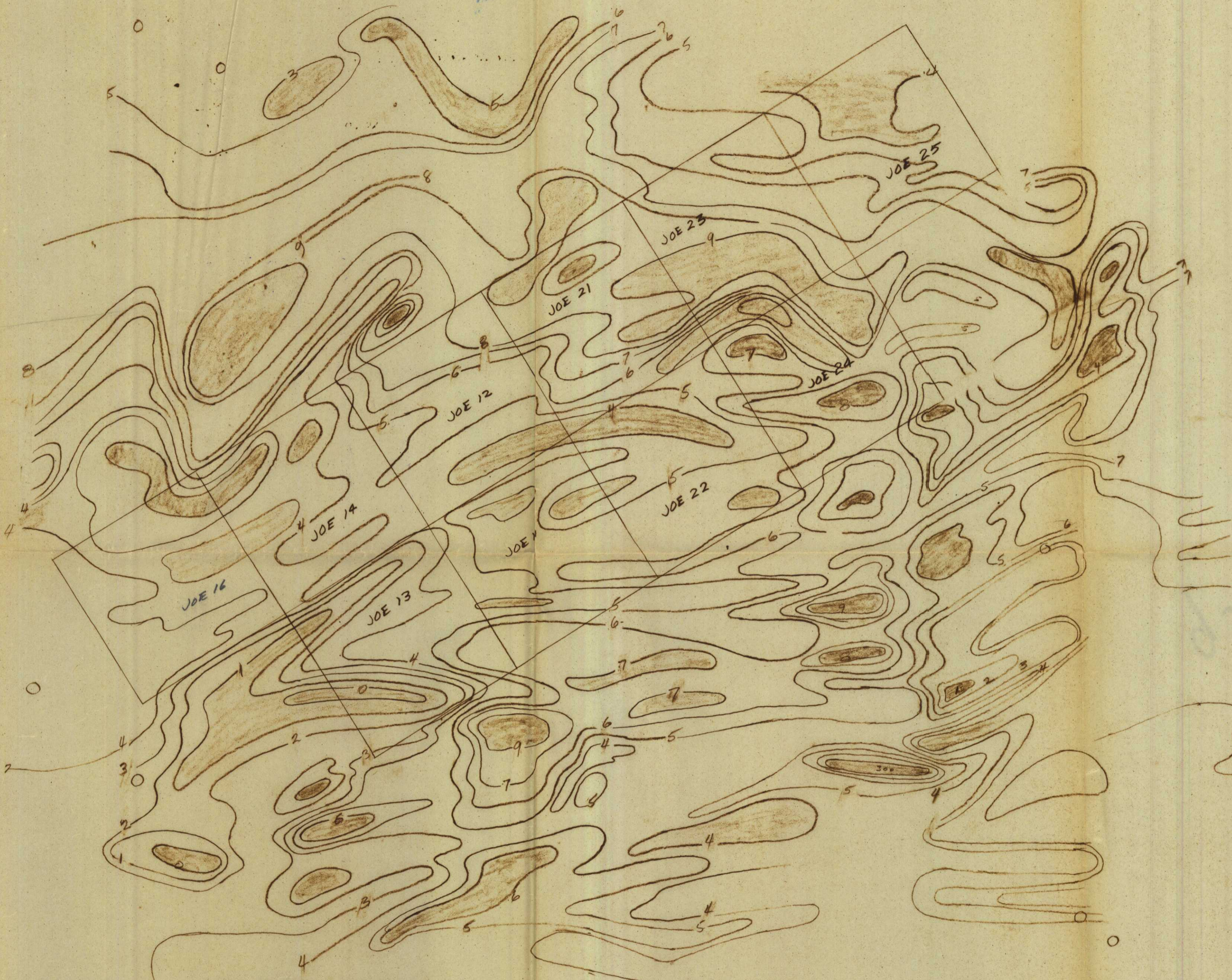
RAYFIELD MINING COMPANY LTD. (NPL)
 JOE GROUP - CLINTON M.D.
 To ACCOMPANY REPORT BY L.J. MANNING P.ENG.
 DATED: 19 MARCH 1967
 COMPILATION: AEROMAG DATA
 100' & CONTOUR INTERVAL
 SCALE: 1" = 1/8 MILE

459



FLOWN WEST HEADING

FLOWN EAST HEADING



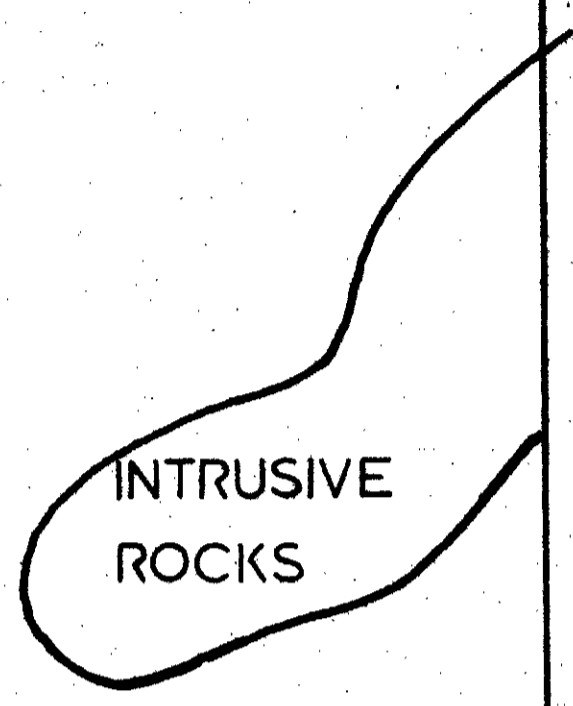
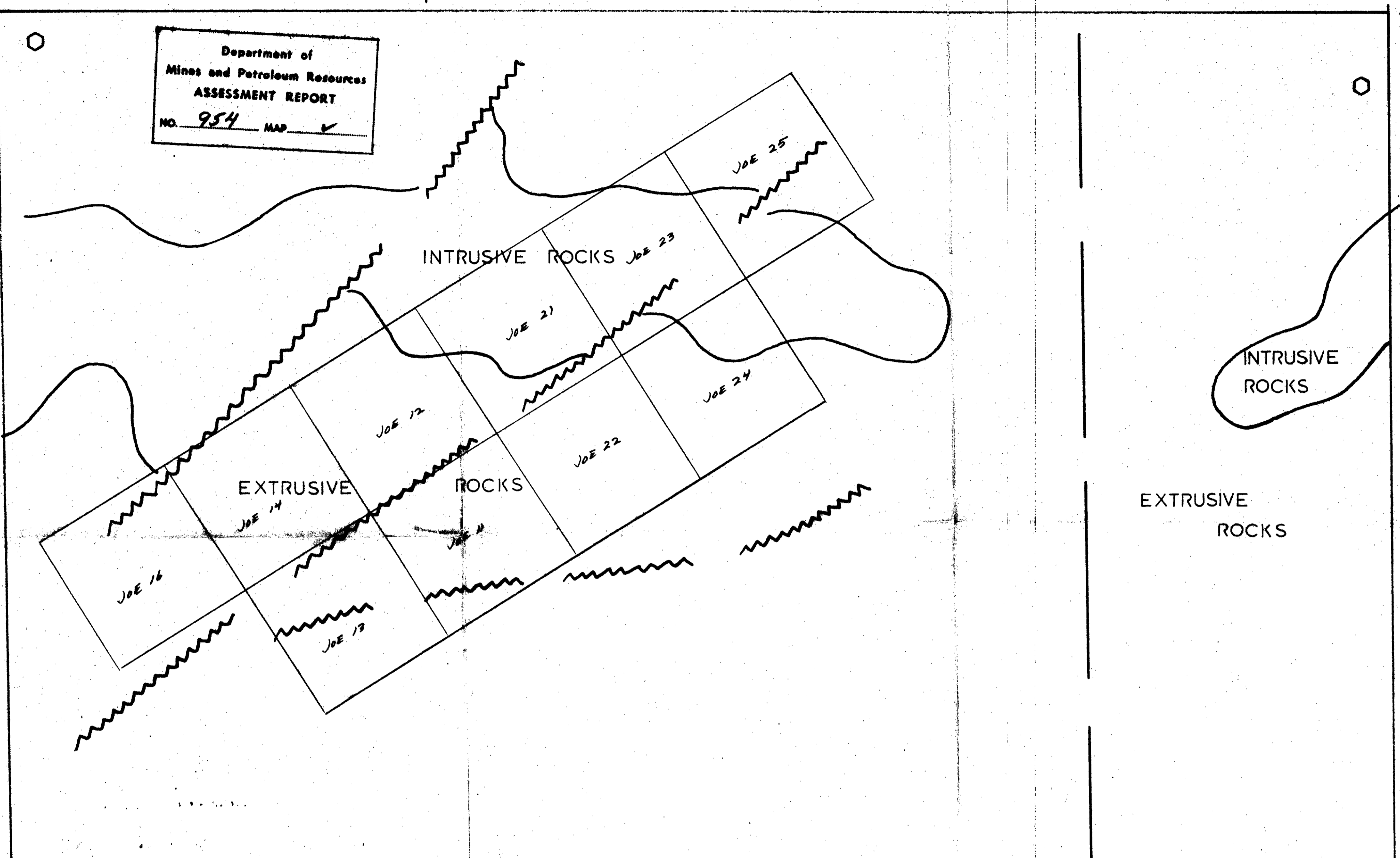
MAP 4
 RAYFIELD MINING COMPANY LTD. (NPL)
 JOE GROUP, CLINTON, M.D.
 TO ACCOMPANY REPORT BY L.J. MANNING P.E.
 DATED: 19 MARCH 1967
INTERPRETATION WORK SHEET
 100' & CONTOUR INTERVAL
 SCALE: 1" = 1/8 MILE

954

MAG. NORTH

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Department of
 Mines and Petroleum Resources
 ASSESSMENT REPORT
 NO. 954 MAP



INTERPRETATION OVERLAY



POSSIBLE FAULT

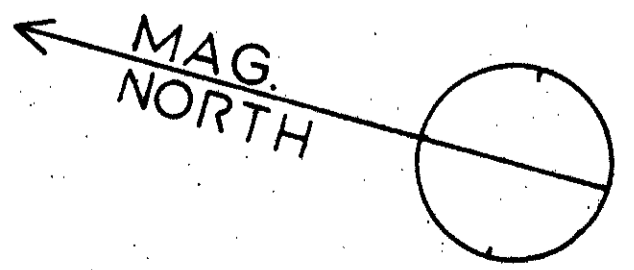
SCALE: 1" = 1/8 mi.



LOCATION MARKERS

MAP 5 RAYFIELD MINING CO. LTD (NPL)
 JOE GROUP-CLINTON M.D.

TO ACCOMPANY REPORT BY L.J. MANNING P.ENG., DATED MAR. 19 '67



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