

1618

G E O P H Y S I C A L

INTERIM FIELD REPORT

on the

Sibley and Wren Properties

and Colleen Claims

Hartford Junction - Greenwood M.D.

Latitude 49°05'N : Longitude 118°35'W

82-E-2

on behalf of

Rayore Mines Ltd. (NPL)

Work done between June 9th and June 15th, 1968

by

A.B.L. Whittles, PH.D. Geoph.

June 26th, 1968



GEO-X SURVEYS LTD. 627 HORNBY STREET, VANCOUVER

604-685-4296  
TELEX 5550304

1618

1618

G E O P H Y S I C A L

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604-685-4296  
TELEX 04-50404

GEO-X SURVEYS LTD. 627 HORNBY STREET, VANCOUVER I. B. C.

1618

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Interim Field Report  
on the  
Sibley and Wren Properties  
and the  
Colleen Claims  
on behalf of  
Rayore Mines Ltd. (NPL)

INTRODUCTION:

Between June 9th and June 15th, 1968 A.B.L. Whittles and B.A. Cochrane of Geo-X Surveys Ltd. conducted reconnaissance and detailed geophysical (Magnetic and EM) and geochemical surveys over two areas near Hartford Junction, Greenwood Mining Division, B.C. (see Figure 12 for general location).

This work can be most conveniently divided into three parts (see Figure 1.).

A. Zone 1:

Work done on the Colleen claims and the Sibley property to the west of the road. These lines were run 400 feet apart and at 100 foot stations. Most of this work was completed earlier by another crew.

B. Zone 2:

Work on the Colleen claims to the east of the road. Most of the work was reconnaissance in nature along lines with 100 foot stations. In one area a magnetic high was discovered and subsequently detailed magnetic, EM and geochemical work was done on a 100-foot by 100-foot grid.

C. Zone 3:

Work on the Wren property to the north of the Sibley property. Both reconnaissance and detailed magnetic and EM work was done using 100-foot station spacing.

INSTRUMENTS USED:

Magnetic measurements were taken by a Sharpe MF-1 fluxgate type instrument, operated by A.B.L. Whittles.

Simultaneous EM measurements were taken by B.A. Cochrane, using a Geonics EM-16. Station NPG (Jim Creek, Washington) with a frequency of 18.6 kc was used throughout the survey.

Zone 1:

One fairly strong anomaly occurs on line 40+00N at about station 25+50E (see Figure 2, Anomaly C-1). Interpolated maximum is about 1,200 gammas above a background of about 300 gammas. The magnetic body appears to be approximately spherical and at a depth of about 80 feet. Before drilling is considered, more detailed magnetic work should be completed since the anomaly is based on essentially two high readings and was not detailed (this work was completed by another crew). The EM results show a slight crossover in the region of the preceding anomaly (see Figure 3). Several other crossovers occur, some may be associated with wet fault or shear zones. More

detailed work is suggested by some of these results, particularly in the region of lines 36-44N, stations 0 to 12E, and on lines 24N and 28N.

Zone 2:

The results are generally low over the reconnaissance lines surveyed, with the exception of the large anomaly (Anomaly C-2) on line 13N centered at station 55E (see Figure 4). A high of 2,410 gammas was observed. Soil samples were taken at the anomaly. The samples were mostly taken for B horizon with a few from the A horizon. The samples were analyzed by T.S.L. Laboratories for Cu, Pb, Zn and Ag. The results are shown in Figures 5, 6, 7 and 8. Figure 9 shows a detailed map of the creek tributary system. The highs shown for each metal in general coincide with the magnetic high but trend to the south west. Note that this effect may be at least partially due to the creek system. For example, the average content of copper in soil is about 25 p.p.m. but may range higher in a specific area. Thus the values observed are only in the category of "possibly"anomalous" being 1 1/2 to 2 1/2 times the average for all the samples.

Diamond drilling, if carried out, should be done along the magnetic high trend, e.g. east-west between stations 53E to 55E on line 13N, and along the geochemical trends; that is in a south west direction along a line running from station 55E, line 13N to station 54E on line 12N. Depth to the magnetic body is estimated to be 40-80 feet. The EM results do not add anything further to the other results for this zone.

Further geophysical work is suggested by the shape of the anomaly and it's strike in relationship to those anomalies on the Evening Star property (labelled ES-1 and ES-2).

Zone 3: Wren Property

A magnetic anomaly was detected, and runs from WA6 to WA 15 with the maximum values (approximately 1,300 gammas) at WA 9 and WA 15 (see Figure 10). Indicated depths are 90 - 130 feet at WA 9 and 60 - 100 feet at WA 14. An EM crossover point occurs at WA 14 to coincide with the magnetic anomaly (see Figure 11). No other noticable EM results are indicated probably because of the wetness of the area through which the lines WA, WAS 1 and WAS 2 were run.

Several other interesting areas for further geophysical work are suggested by the results, particularly to the south of station 14 on line WAS 1 and to the south of station 17 on line WA.

Respectfully submitted,

*B. Whittles*

A.B.L. Whittles, Ph.D.  
June 25th, 1968

PERSONNEL

NAME: WHITTLES, Arthur Brice Leroy

EDUCATION: B.Sc.)  
M.Sc.) - University of British Columbia  
Ph.D.)

PROFESSIONAL SOCIETY of Exploration Geophysicists  
ASSOCIATIONS: Canadian Association of Physicists

EXPERIENCE: 1957 and 1958 (Summers) - employed with  
Imperial Oil Ltd. on Seismic crew and in  
laboratories on data processing techniques.

1959 - Instructor - Geophysical Exploration  
Laboratory Course, University of B.C.

1964 - 68 - Lecturer, Geophysical Exploration  
Courses, B.C. Institute of Technology.

1967 - 68 - Part-time consulting and field  
work for Geo-X Surveys Ltd., Vancouver, B.C.,  
and Roosevelt Mines Ltd.



APPENDIX I

PERSONNEL

NAME: SANDNER, Stanley L.

EDUCATION: B.Sc., University of British Columbia - 1963.  
(Honours Geology)

EXPERIENCE: 9 years active exploration and production experience throughout western North and western South America. Most of this experience was directly involved in geophysical, geological and geochemical studies of base metal and iron deposits. He has also been directly involved in bringing two properties into profitable production.

PROFESSIONAL  
ASSOCIATIONS: Application has been accepted by the Association of Professional Engineers of British Columbia.

APPENDIX I

PERSONNEL

NAME: COCHRANE, Bruce A.

EDUCATION: 2nd year Industrial Design Student - Toronto.

EXPERIENCE: 1967 - Summer employment with Geo-X Surveys Ltd.,  
doing geophysical field work and office data  
processing under professional supervision.

1968 - Summer employment with Geo-X Surveys Ltd.,  
doing geophysical field work and office data  
processing under professional supervision.

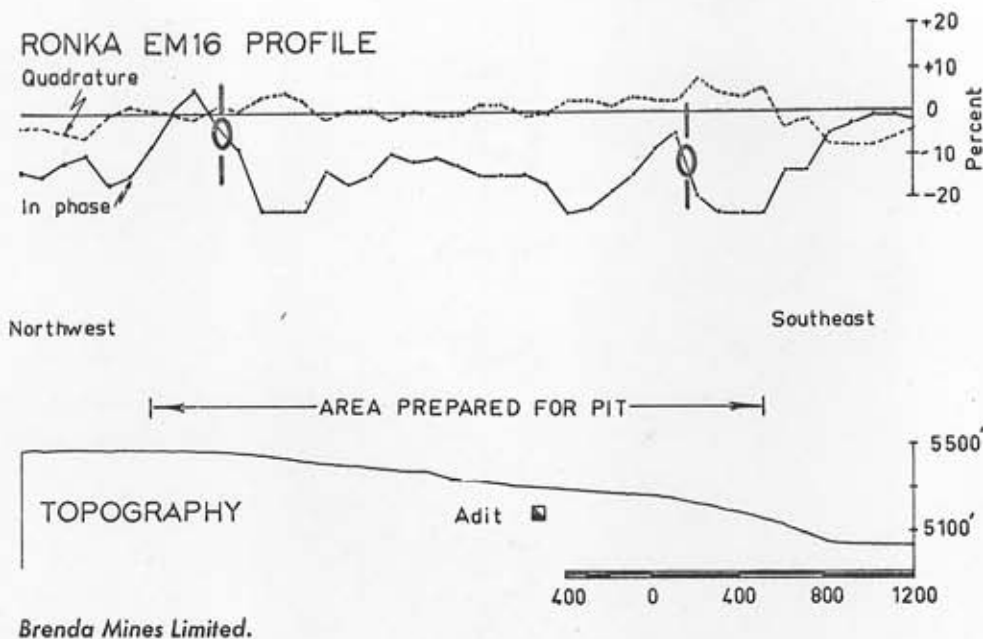
APPENDIX II

Specifications for MF-1 Fluxgate Magnetometer

Maximum Sensitivity:	20 gammas (per scale division) on 1000 gamma range.
Readability:	5 gammas ( $\frac{1}{4}$ scale division) on 1000 gamma range.
Ranges: (Full Scale)	1,000 gammas 3,000 gammas 10,000 gammas 30,000 gammas 100,000 gammas
Maximum Range:	$\pm$ 100,000 gammas
Latitude Adjustment Ranges:	10,000 to 75,000 gammas, Northern hemisphere convertible to: 10,000 to 75,000 gammas, Southern hemisphere or $\pm$ 30,000 gammas equatorial.
Dimensions: (Including Battery Case)	7" x 4" x 16"
Weight: (Including Battery Case)	9 lbs.
Batteries:	12 flashlight batteries ("C" cell)

## SPECIFICATIONS

- Primary Field:** Horizontal from any selected VLF transmitting station.
- Frequency Range:** Approximately 15-25 kc.
- Station Selection:** By plug-in units. Two stations selected by a switch on front panel.
- Measured Field:** Vertical field, in-phase and quadrature components.
- Accuracy of Readings:**  $\pm 1\%$  resolution.
- Range of Measurements:** In-Phase  $\pm 150\%$  or  $\pm 90^\circ$ , quadrature  $\pm 40\%$
- Output Readout:** Null-detection by an earphone, real and quadrature components from mechanical dials.
- Batteries:** 6, size AA penlight cells. Life about 200 hours.
- Size:** 16 x 5.5 x 3.5 in. (42 x 14 x 12 cm)
- Weight:** 2.4 lbs. (1.1 kg)



COST BREAKDOWN

WREN MINERAL LEASE


	( Professional Services - S.L. Sandner	\$ 85.00
	( Professional Services - A.B. Whittles	
	( - 3 days @ \$75/day	225.00
June 10-13/68	-( Helper - B.A. Cochrane - 3 1/2 days	
	( @ \$50/day	175.00
	( Expenses - camper rental, meals, etc.	45.00
	( Sample Analysis	10.50
		<u>\$ 540.50</u>

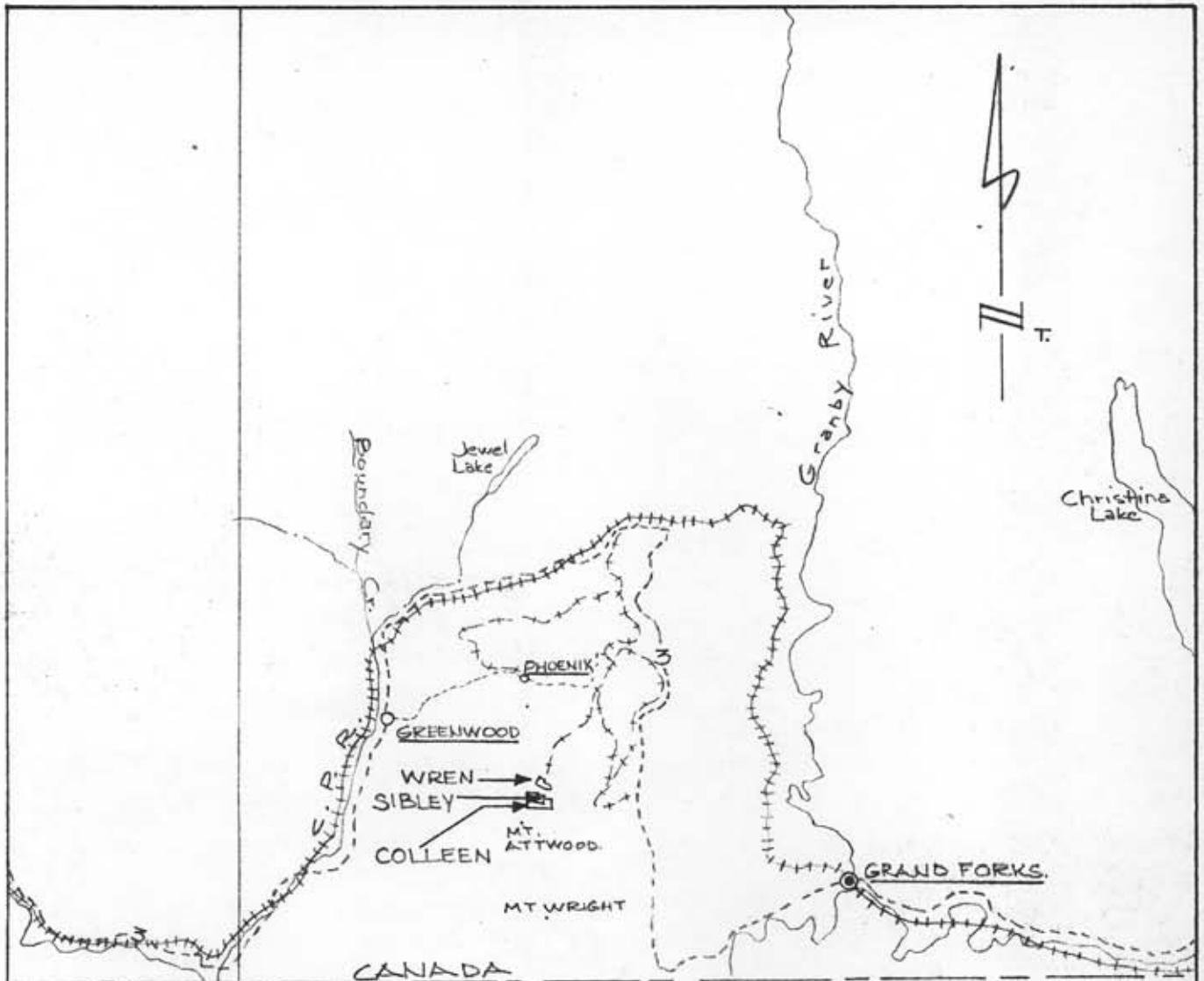
SIBLEY MINERAL LEASE

	( Professional Services - S.L. Sandner	\$ 75.00
	( Professional Services - A.B. Whittles	
	( -2 1/2 days @ \$75/day	187.50
June 14-16/68	-( Helper - B.A. Cochrane - 2 days	
	( @ \$50/day	100.00
	( Expenses - camper rental, meals, etc.	35.00
	( Field Examination and Survey -	
	( Sept. 23/30, 1967	100.00
	( Sample Analysis	10.00
		<u>\$ 507.00</u>

COLLEEN MINERAL CLAIMS

	( Professional Services - S.L. Sandner	\$ 90.00
	( Professional Services - A.B. Whittles	
	( 6 1/2 days @ \$75/day	\$ 487.50
June 10-22/68	-( Helper - B.A. Cochrane - 8 days @ \$50/day	400.00
	( Expenses - camper rental, meals, etc.	90.00
	( Sample Analysis	20.00
	( Drafting	100.00
	( Field Examination and Survey -	
	( Sept. 23-30/67	400.00
	( Expenses - assays, etc.	140.00
		<u>\$1,727.50</u>

  
Stanley L. Sandner, President.



CANADA  
U.S.A.

118° 45'

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 9

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RAYORE MINES LTD (NPL)  
COLLEEN SIBLEY & WREN PROP'S  
GREENWOOD M.D.

LOCATION SKETCH

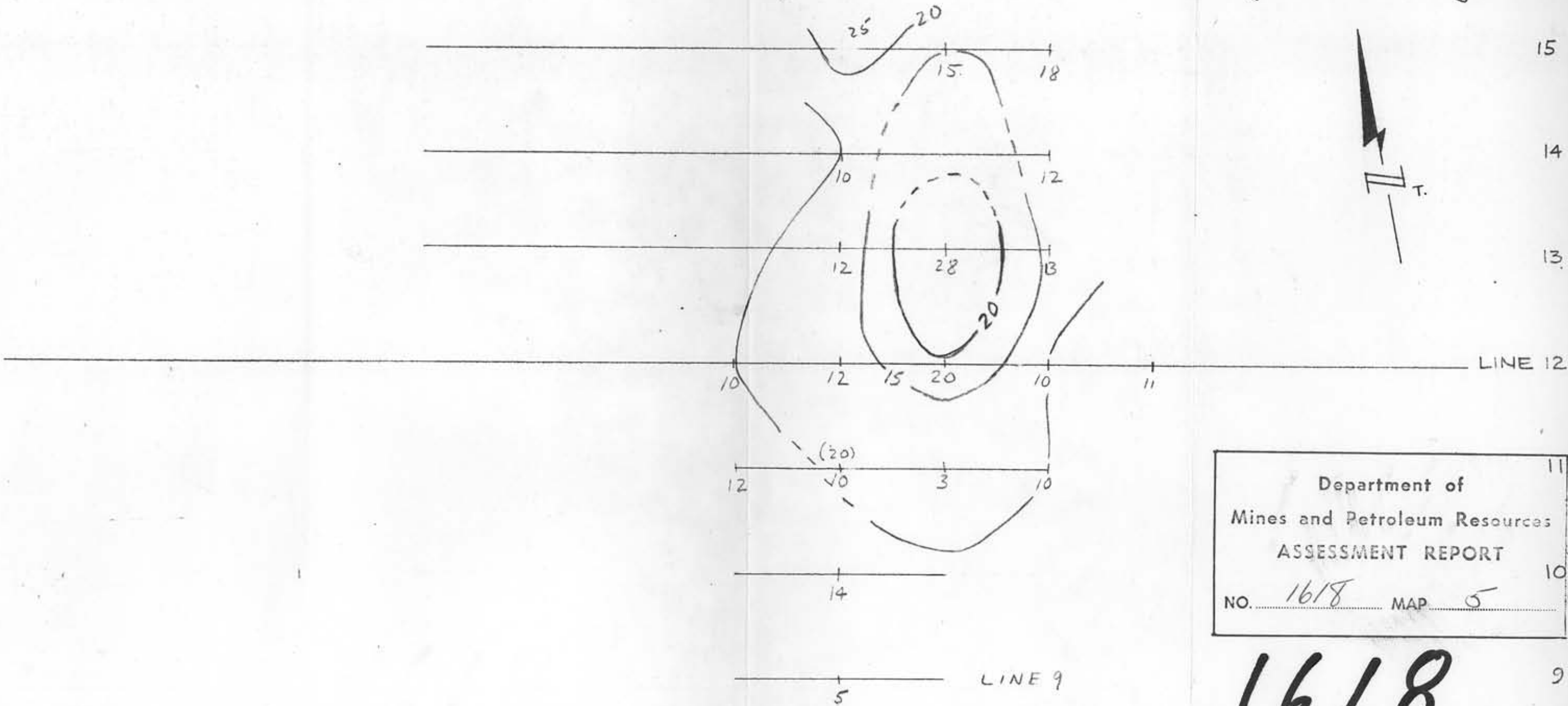


**GEO-X SURVEYS** Ltd.

DRAWN B.A.C.	CKD	JOB 1040
APPRD PRE	DATE JUNE 28, '68	FIG 12

46 48 50 52 54 56 58 60

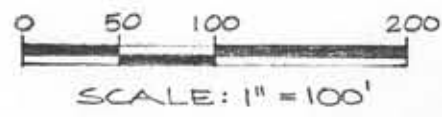
15  
14  
13



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 5

**1618**  
*[Signature]*

AVE: 16 P.P.M.  
EST. BGD: 10-12 P.P.M.  
'A' ZONE IN BRACKETS



RAYORE MINES LTD (NPL) COLLEEN PROPERTY GREENWOOD		
SOIL SAMPLING LEAD P.P.M. 'B' ZONE		
DRAWN ABLW	CKD ppr	JOB. 1040
APPRD	DATE JUNE 1968	FIG 6

**GEO-X SURVEYS Ltd.**

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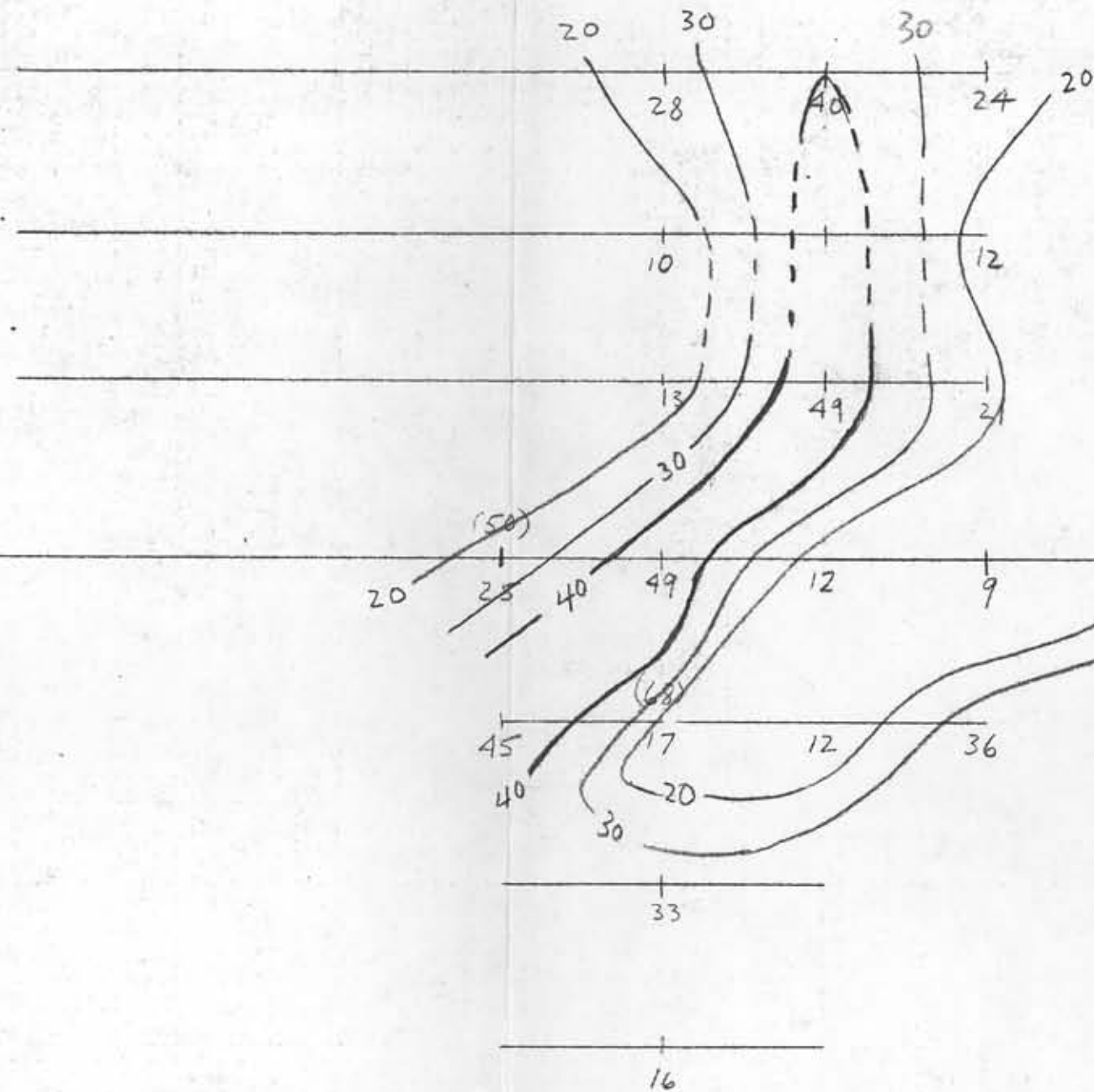
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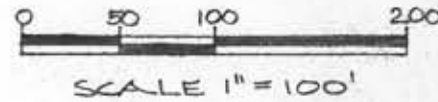
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LINE 12

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 6

1618

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AVE: 16 P.P.M.  
EST. BGD: 10-20 P.P.M.  
'A' ZONE IN BRACKETS



RAYORE MINES LTD (NPL) COLLEEN PROPERTY GREENWOOD		
SOIL SAMPLING ZINC P.P.M 'B' ZONE		
DRAWN ABLW	CKD DRE	JOB 1040
APPRD	DATE JUNE 28'68	FIG. 7

**GEO-X SURVEYS Ltd.**



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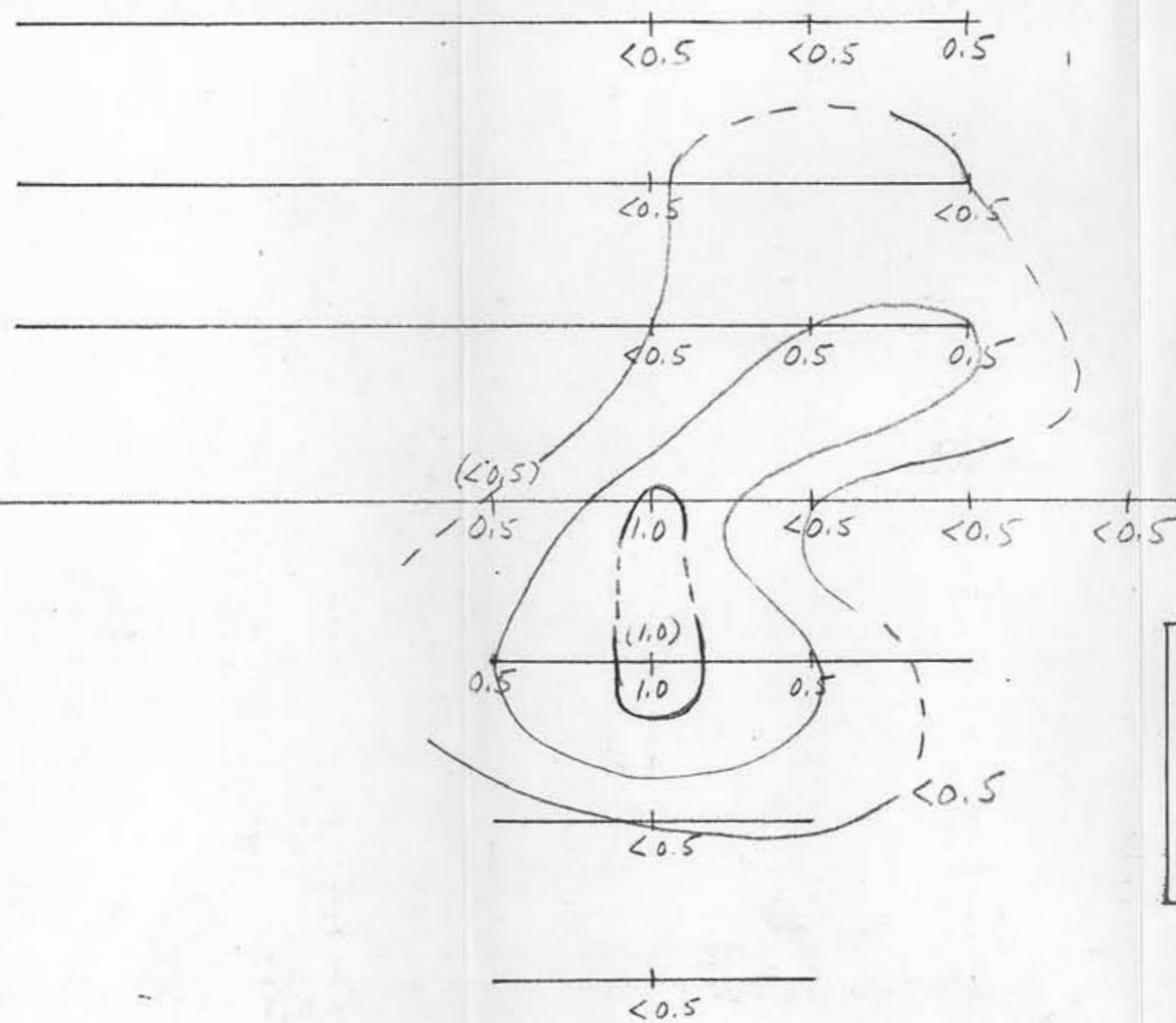
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LINE 15

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LINE 12

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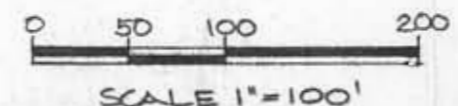
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Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 7

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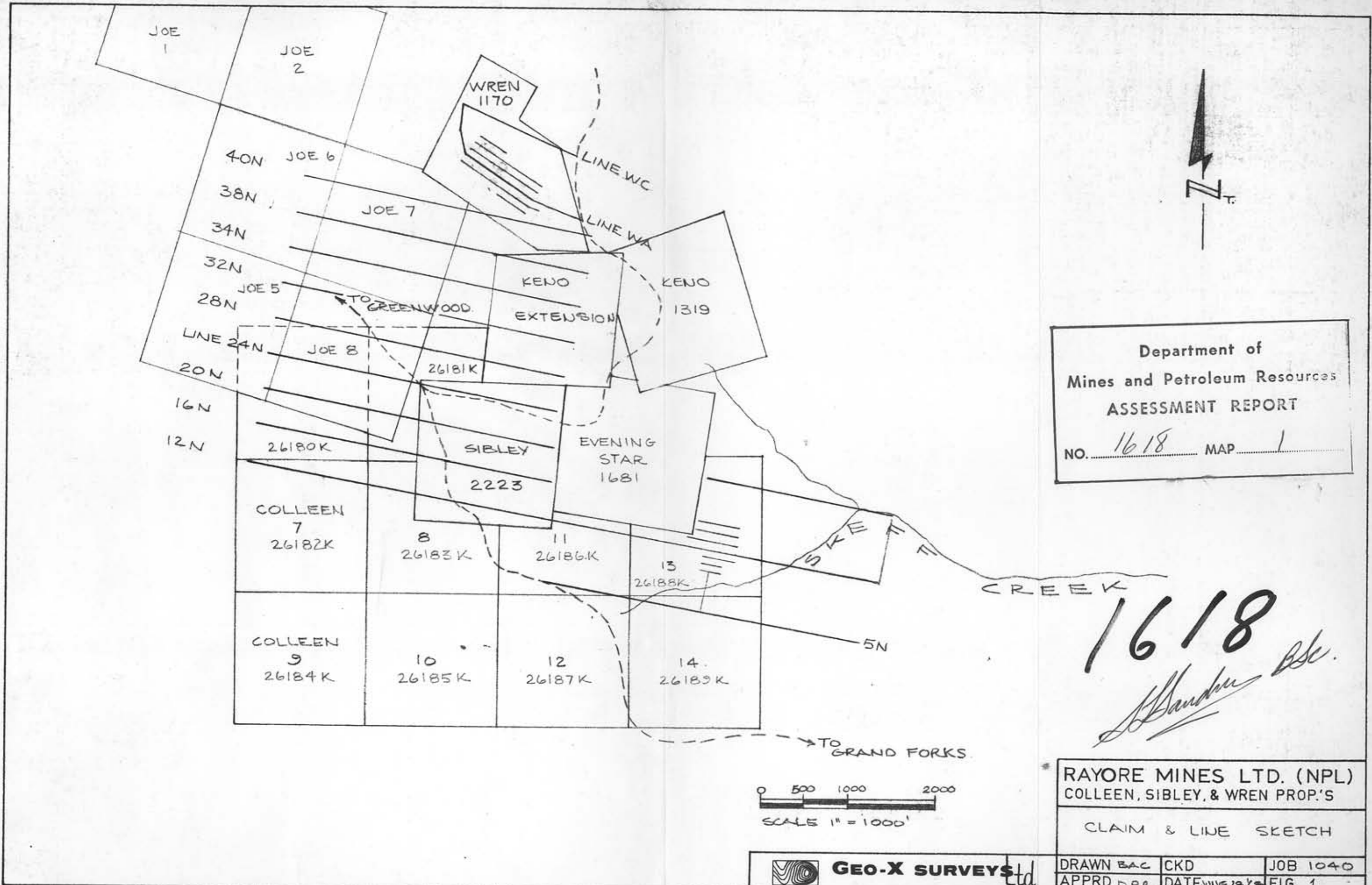
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EST. BGD: <0.5 P.P.M.  
'A' ZONE IN BRACKETS

RAYORE MINES LTD (NPL) COLLEEN PROPERTY GREENWOOD		
SOIL SAMPLING SILVER P.P.M. 'B' ZONE		
DRAWN ABLW	CKD Dde	JOB 1040
DATE JUNE 28, 68	APPRD. x	FIG. 8

**GEO-X SURVEYS** Ltd.



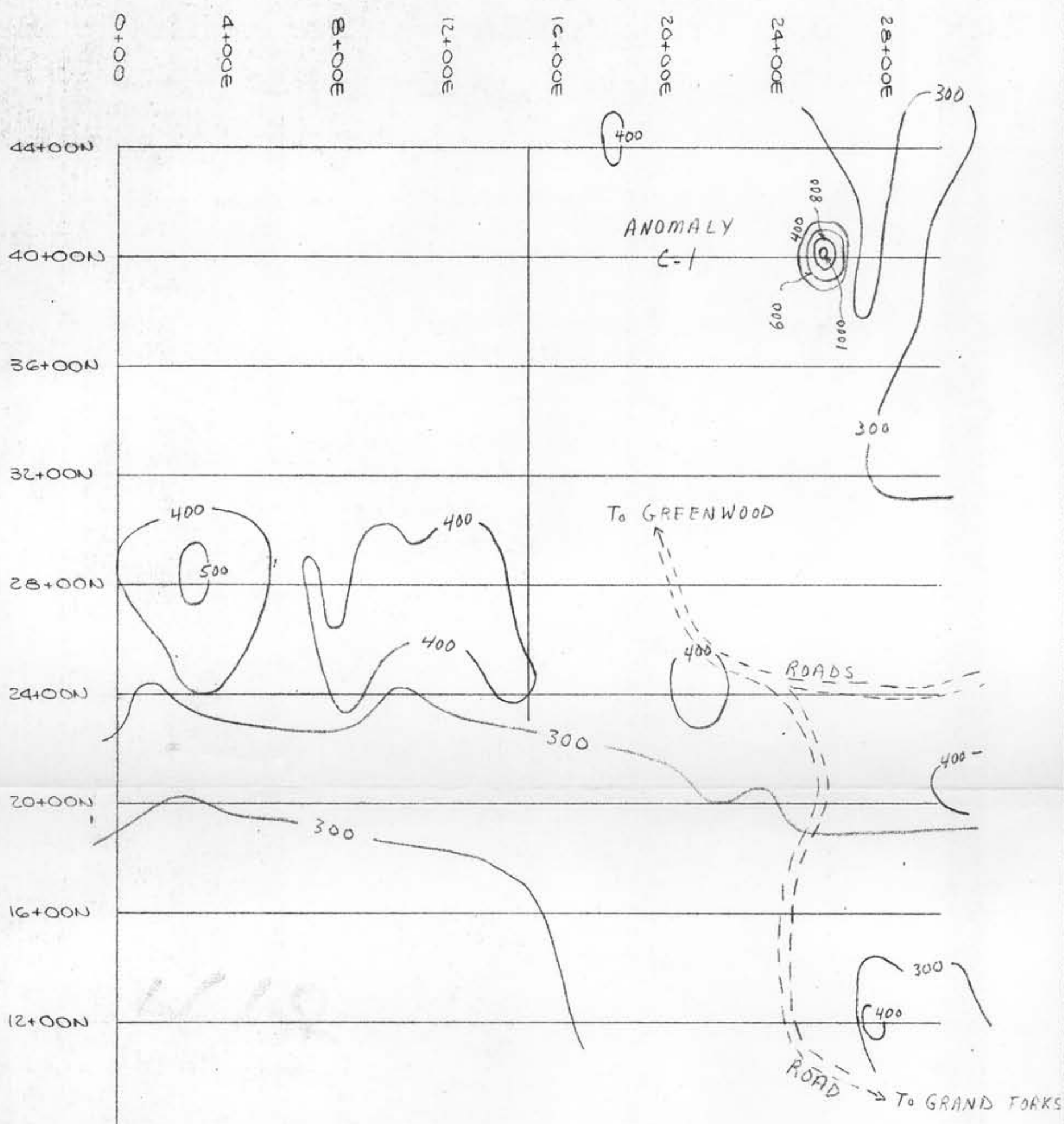
Department of  
 Mines and Petroleum Resources  
**ASSESSMENT REPORT**  
 NO. 1618 MAP 1

1618

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<b>RAYORE MINES LTD. (NPL)</b> COLLEEN, SIBLEY, & WREN PROP.'S		
CLAIM & LINE SKETCH		
DRAWN BAC	CKD	JOB 1040
APPRD DRE	DATE JUNE 18 68	FIG. 1

**GEO-X SURVEYS Ltd.**

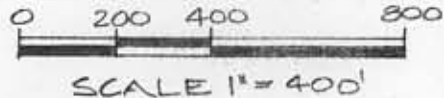


Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 2

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BSc

CONTOUR INTERVALS:  
300-6000 100  
600-10000 200

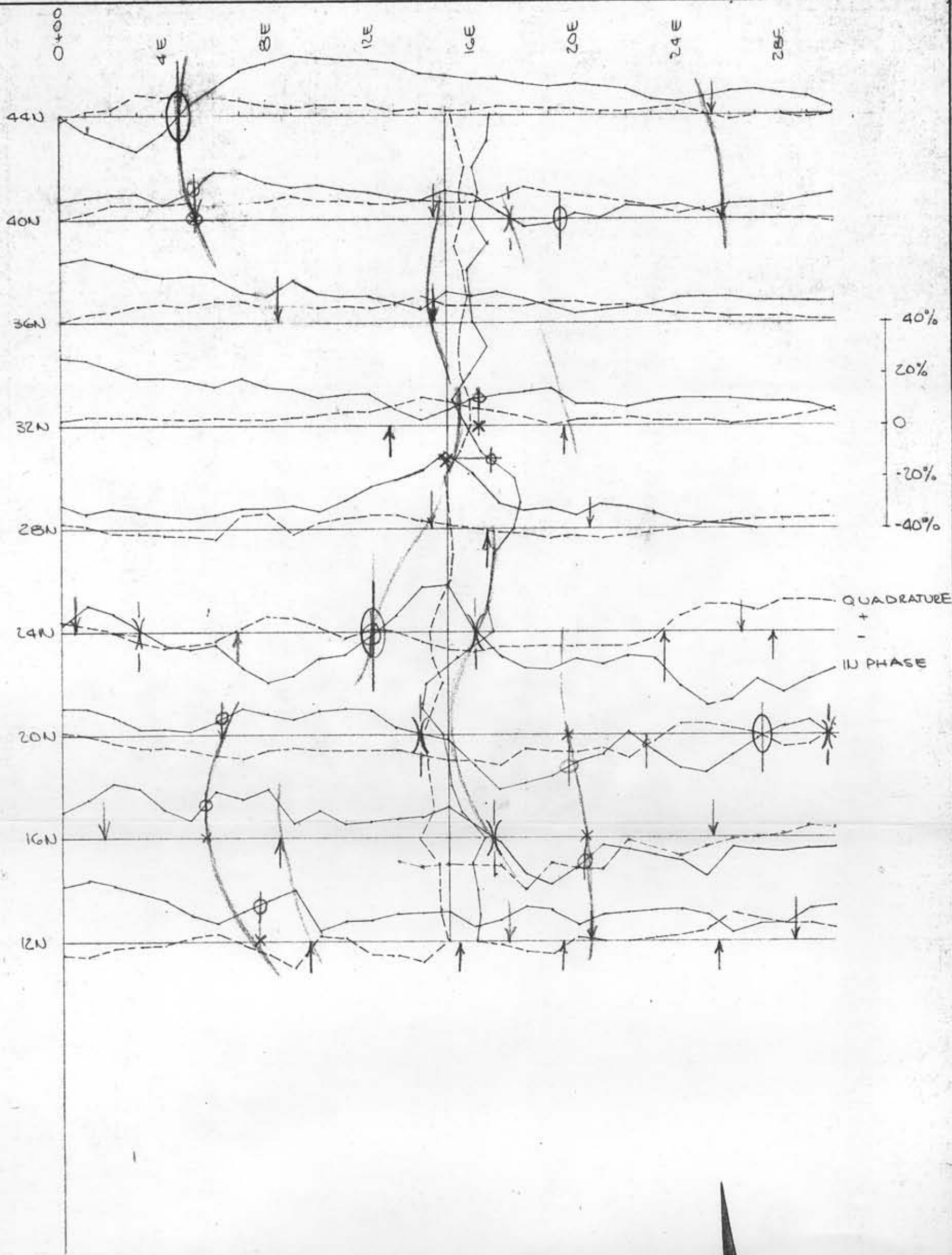


RAYORE MINES LTD (NPL)  
COLLEEN PROPERTY GREENWOOD

MAGNETOMETER  
CONTOURS

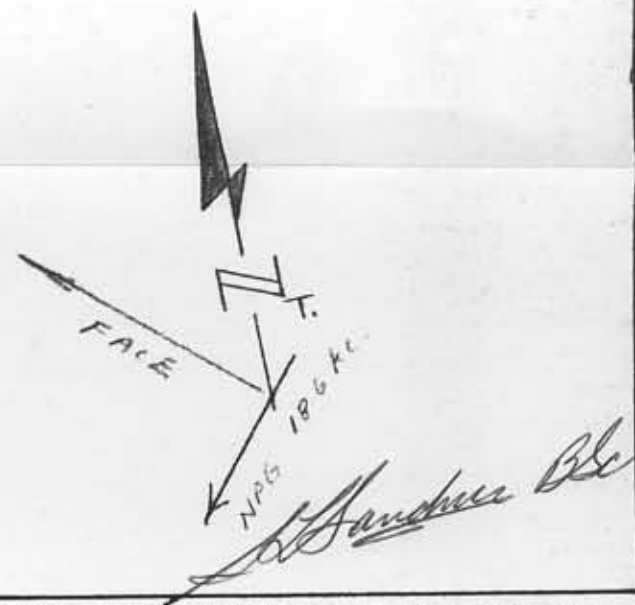
 **GEO-X SURVEYS** Ltd.

DRAWN BY	CKD	JOB	1040
APPROD. DATE	JUNE 23, 66	FIG.	2



8191

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 ON  
MAP 3



- CROSSOVER
- REVERSE X over
- rate change

0 200 400 800  
SCALE: 1" = 400'

RAYORE MINES LTD. (NPL)  
COLLEEN PROPERTY GREENWOOD

RONKA EM 16 PROFILES

**GEO-X SURVEYS Ltd.**

DRAWN BY	CKD DAE	JOB 1040
APPRD	DATE: JUNE 1964	FIG. 3

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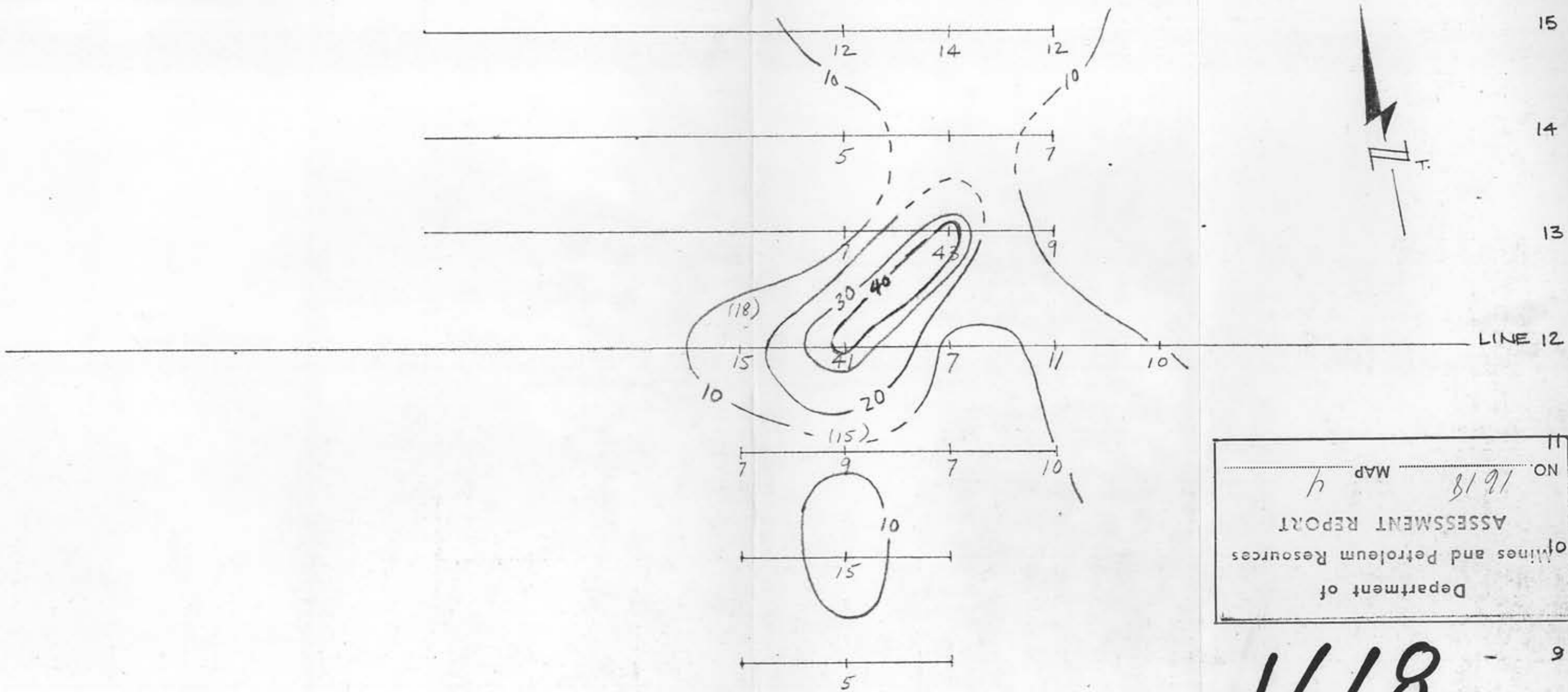
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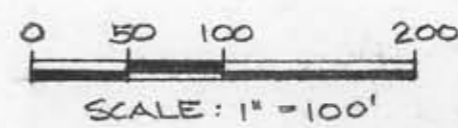


Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. 1618  
 MAP 4

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AVE: 16 P.P.M.  
 EST. BGD: 10-12 P.P.M.  
 'A' ZONE IN BRACKETS.



RAYORE MINES LTD.(NPL)  
 COLLEEN PROPERTY GREENWOOD

SOIL SAMPLING  
 COPPER P.P.M. 'B' ZONE

GEO-X SURVEYS Ltd.	DRAWN BY	CKD P.R.	JOB 1040
	APPRD	DATE 10/12/88	FIG 5

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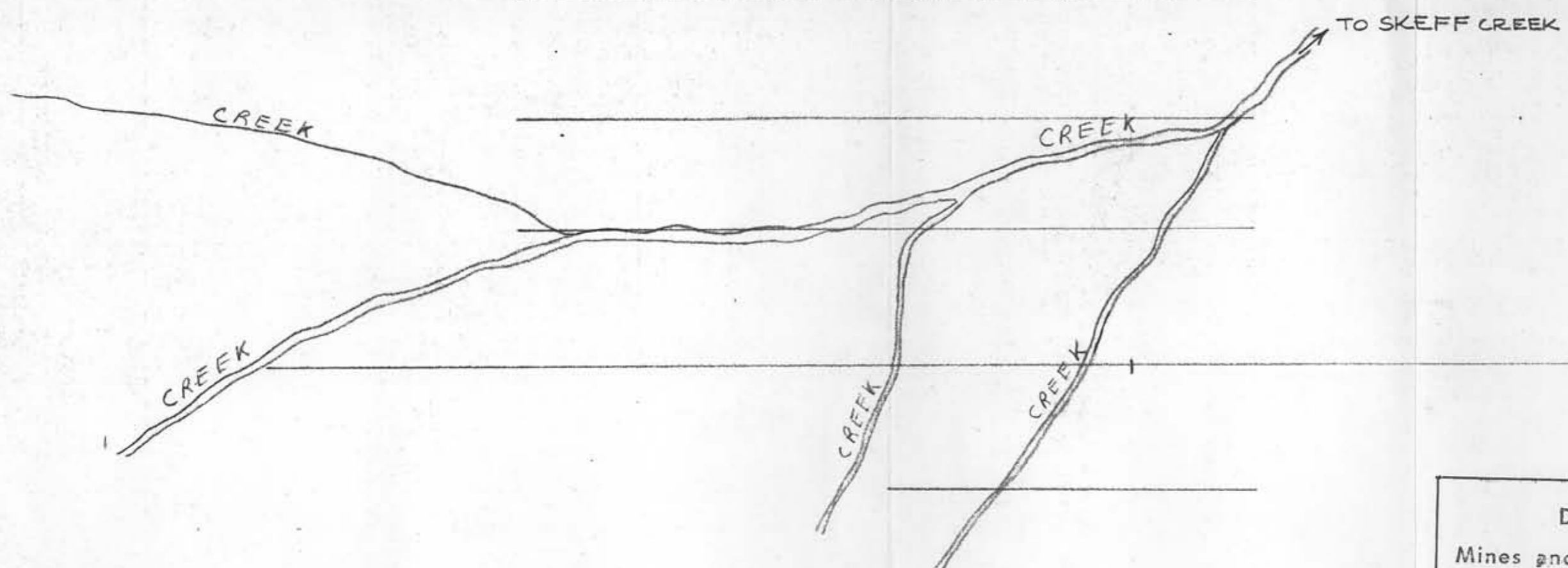
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LINE 12

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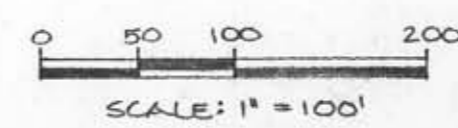
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Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 8


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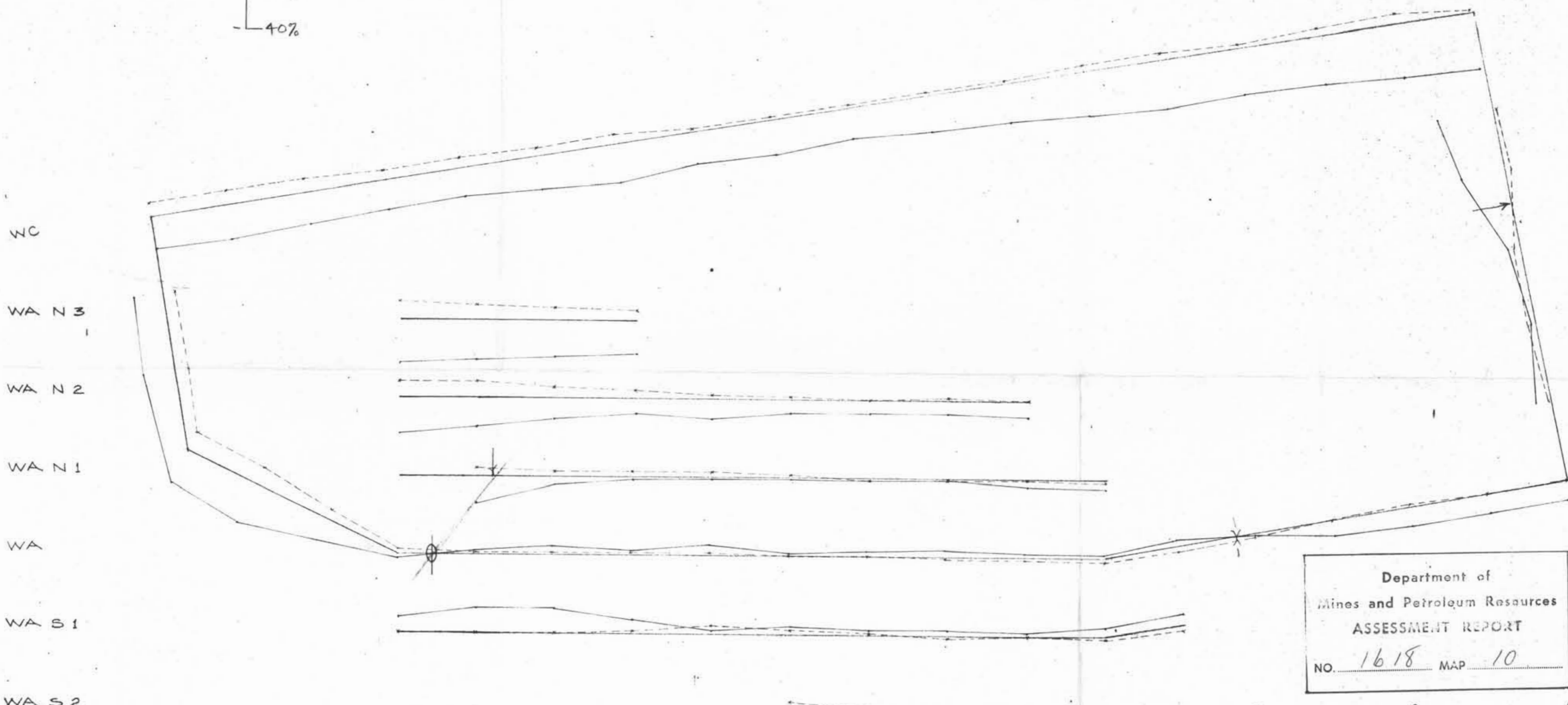
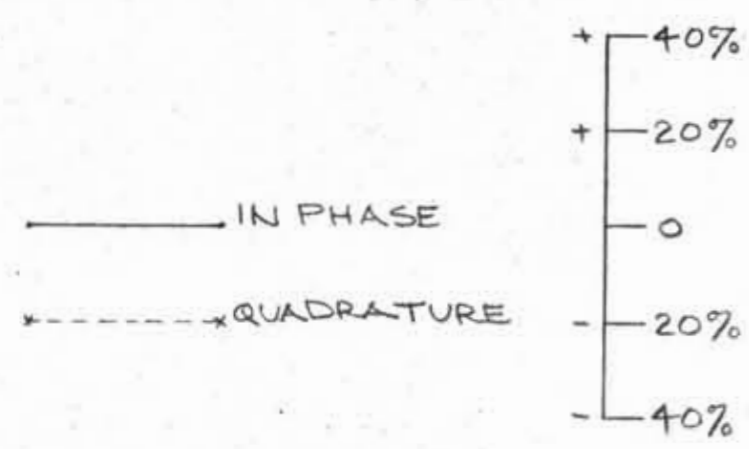
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RAYORE MINES LTD (NPL)  
COLLEEN PROPERTY GREENWOOD

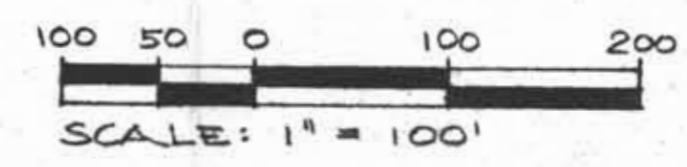
CREEK SYSTEM  
IN ANOMALOUS REGION

 <b>GEO-X SURVEYS Ltd.</b>	DRAWN BY: CKD DRE	JOB 1040
	APPD	DATE: JUN 28 1960



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18+00 16+00 14+00 12+00 10+00 8+00



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 10

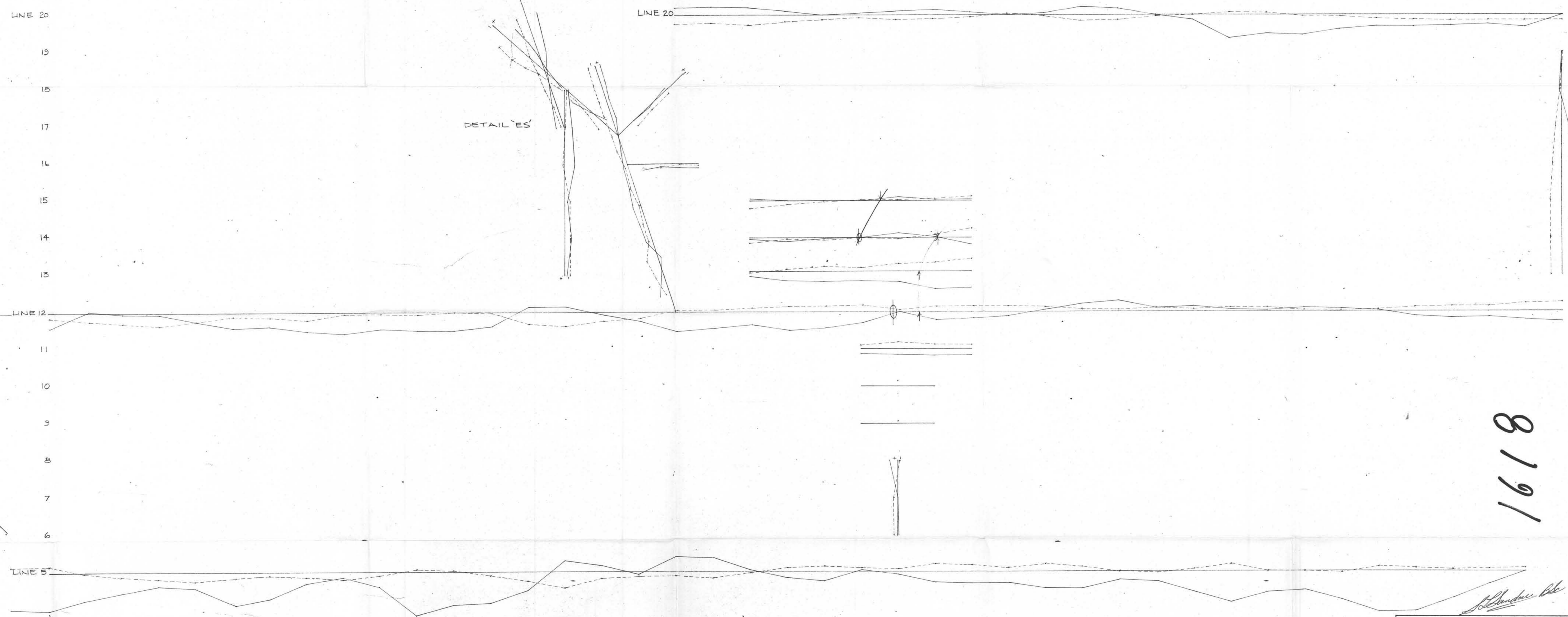
*S. D. Whittles*

RAYORE MINES LTD (NPL) WREN PROPERTY GREENWOOD M.D.			
RONKA EM 16 PROFILES			
DRAWN	B.A.C.	JOB NO	FIG. NO.
CKD		1040	11
APPRD	D.R.C.		
DATE	JUNE 28, '68.		

TO ACCOMPANY GEOPHYSICAL REPORT ON THE  
'WREN' PROPERTY OWNED BY RAYORE MINES LTD.  
SITUATED IN GREENWOOD M.D. BY A.B.L. WHITTLES,  
PH.D., VANCOUVER B.C. DATED JUNE 1968

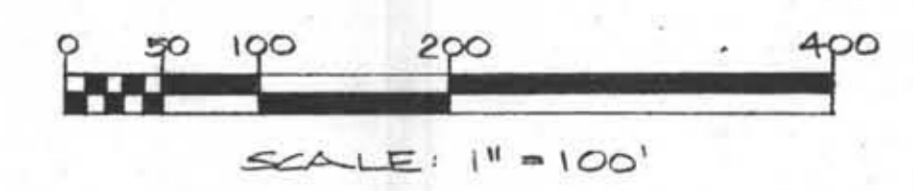
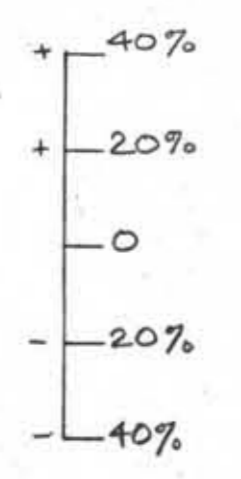
**GEO-X SURVEYS Ltd.**

24+00 26+00 30+00 32+00 34+00 36+00 38+00 40+00 42+00 44+00 46+00 48+00 50+00 52+00 54+00 56+00 58+00 60+00 62+00 64+00 66+00 68+00 70+00 72+00



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1618 MAP 11

— IN PHASE  
- - - QUADRATURE



TO ACCOMPANY GEOPHYSICAL REPORT ON THE  
COLLEEN GROUP OF CLAIMS GREENWOOD M.D.  
OWNED BY RAYORE MINES LTD. by A.E.L. WHITTLES,  
PH.D. VANCOUVER B.C. DATED JUNE 1968.

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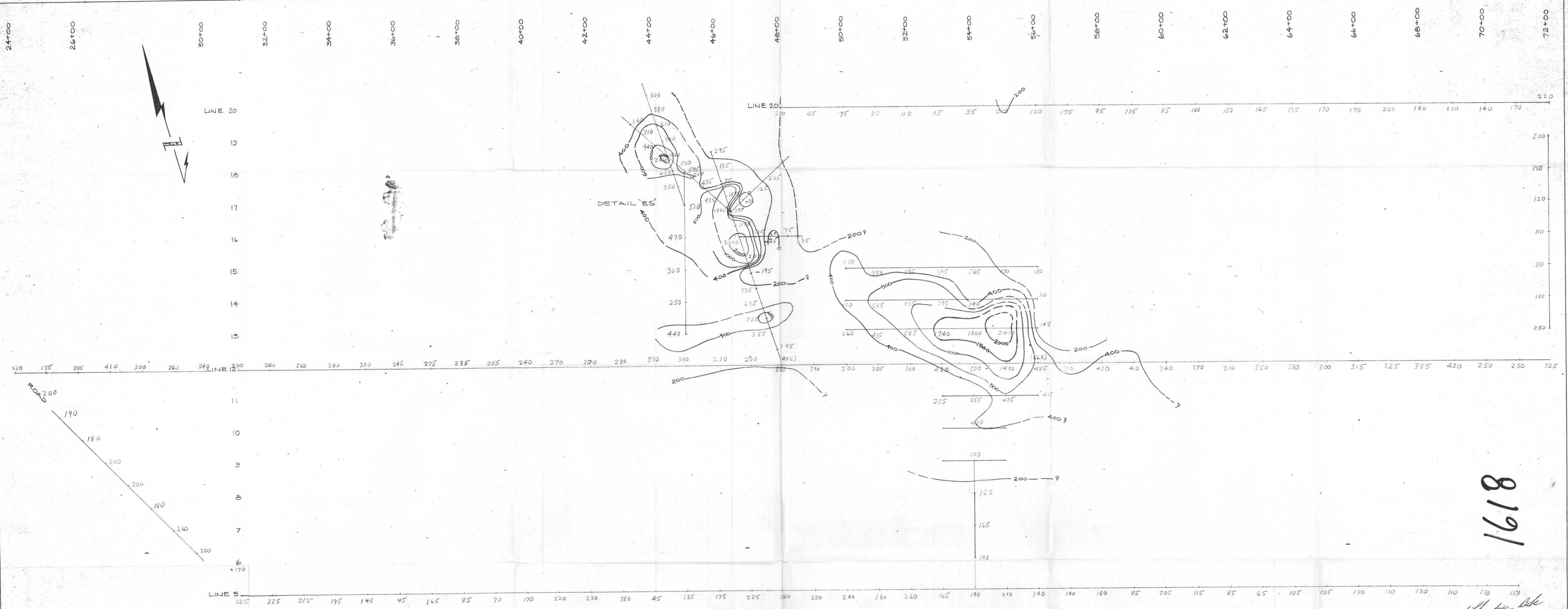
RAYORE MINES LTD.  
(NPL)  
COLLEEN GROUP GREENWOOD

RONKA EM 16  
PROFILES

DRAWN	B.A.C.	JOB NO.	FIG NO.
CKD			
APPRD	DRE	1040	13
DATE	JUNE 18, 68		

GEO-X SURVEYS Ltd.





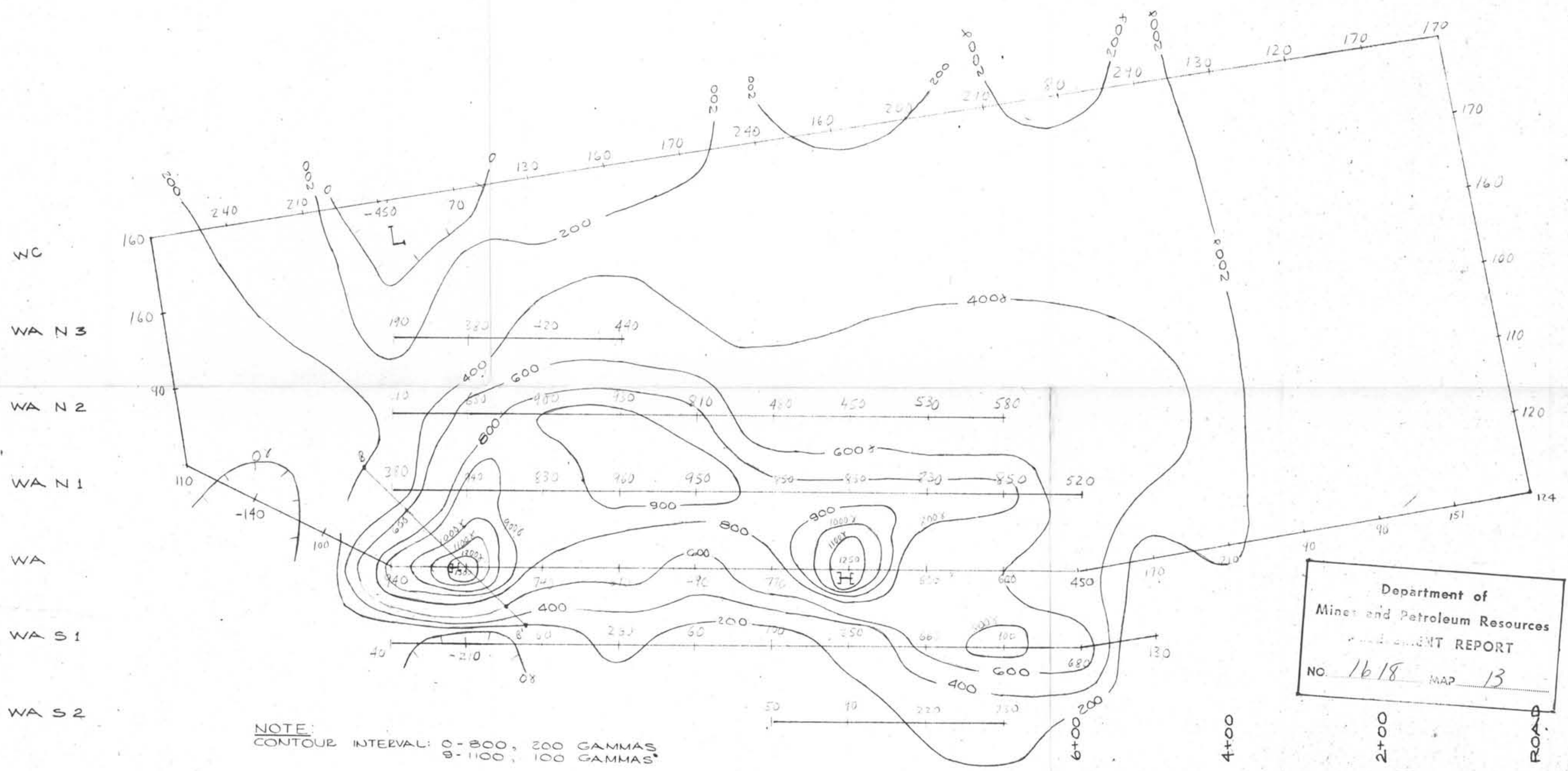
1618

Mines and Minerals Resources  
 No. 1618  
 M.S. 12

TO ACCOMPANY GEOPHYSICAL REPORT ON  
 THE COLLEEN GROUP GREENWOOD M.D.  
 OWNED BY RAYORE MINES LTD.  
 VANCOUVER B.C. BY A.B.L. WHITTLES P.E.D.  
 DATED JUNE 1968.

GEO-X SURVEYS Ltd.

RAYORE MINES LTD. (NPL) COLLEEN GROUP GREENWOOD			
MAGNETOMETER CONTOURS			
DRAWN	A.B.L.	JOB NO.	FIG NO.
CKD		1040	4
APPRD	D.R.		
DATE	JUNE 18, 68		



Department of  
 Mines and Petroleum Resources  
 PRELIMINARY REPORT  
 NO. 1618 MAP 13



RAYORE MINES LTD (NPL) WREN PROPERTY GREENWOOD M.D.			
MAGNETOMETER CONTOURS			
DRAWN	A.B.L.W.	JOB NO	FIG. NO.
CKD		1040	10
APPRD	pre		
DATE	JUNE 20, '68		

TO ACCOMPANY THE GEOPHYSICAL REPORT ON THE  
 WREN PROPERTY OWNED BY RAYORE MINES LTD.  
 SITUATED IN THE GREENWOOD M.D.  
 BY A. B. L. WHITTLES, PH. D., VANCOUVER, B.C.  
 DATED JUNE 1968.

1618

GEO-X SURVEYS Ltd.