

82E/15E #5200
GEOPHYSICAL REPORT

on the

GROUND MAGNETOMETER SURVEYS

on the

MORNING and RHONDDA CLAIM GROUPS
LIGHTNING PEAK AREA

VERNON MINING DIVISION, B.C.

Latitude: $49^{\circ}56.1'N$ (MORNING)

$49^{\circ}54.2'N$ (RHONDDA)

Longitude: $118^{\circ}34.4'W$ (MORNING)

$118^{\circ}33.2'W$ (RHONDDA)

Owner/Operator: K.L. Daughtry

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **5200** MAP.....

Vernon, B.C.

October 16th, 1974

By:-

K.L. Daughtry, P. Eng.

TABLE OF CONTENTS

INTRODUCTION	Page 1
PROPERTY AND OWNERSHIP	Page 1
LOCATION, ACCESS, TOPOGRAPHY	Page 1
WORK PROGRAMME	Page 2
Grid Establishment	Page 2
Magnetometer Survey	Page 3
GEOLOGY	Page 4
DISCUSSION OF RESULTS	Page 5
MORNING	Page 5
RHONDDA	Page 5
STATEMENT OF WORK PERFORMED AND EXPENDITURES	Page 7

LIST OF ILLUSTRATIONS

Figure 1#1 Location Map	Following Page 1
Figure ●#2 Ground Magnetometer Survey, MORNING	Following Page 6
Figure ●#3 Ground Magnetometer Survey, RHONDDA	Following Page 6

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INTRODUCTION

This report presents the results of ground magnetometer surveys of parts of the MORNING and RHONDDA claim groups in the Lightning Peak area of South-Central British Columbia.

The purpose of the work was to investigate the feasibility of magnetometer surveys in tracing the gold-quartz veins, which occur on these properties, through areas of heavy overburden.

PROPERTY AND OWNERSHIP

The MORNING Group comprises the MORNING 1 and 2 mineral claims (Record Nos. 17220-21) and the RHONDDA Group includes the RHONDDA 1 and 2 mineral claims (Record Nos. 17222-23). The claims were staked in the Lightning Peak area of the Vernon Mining Division on May 28th, 1973 and recorded on June 14th, 1973 by K.L. Daughtry of Vernon, B.C. The owner of record at the date of this report is K.L. Daughtry. The work was performed and paid for by the same.

LOCATION, ACCESS, TOPOGRAPHY

The MORNING Group is at latitude $49^{\circ}56.1'N$ and longitude $118^{\circ}34.4'W$, at the head of Dictator Creek, a short tributary of Winnifred Creek, in turn a major tributary of the Kettle River (Figure 1). The RHONDDA Group is at latitude $49^{\circ}54.2'N$ and longitude $118^{\circ}33.2'W$, on the crest of the low ridge between the two forks of Waterloo Creek, tributary of Rendell Creek, another major tributary of the Kettle River.

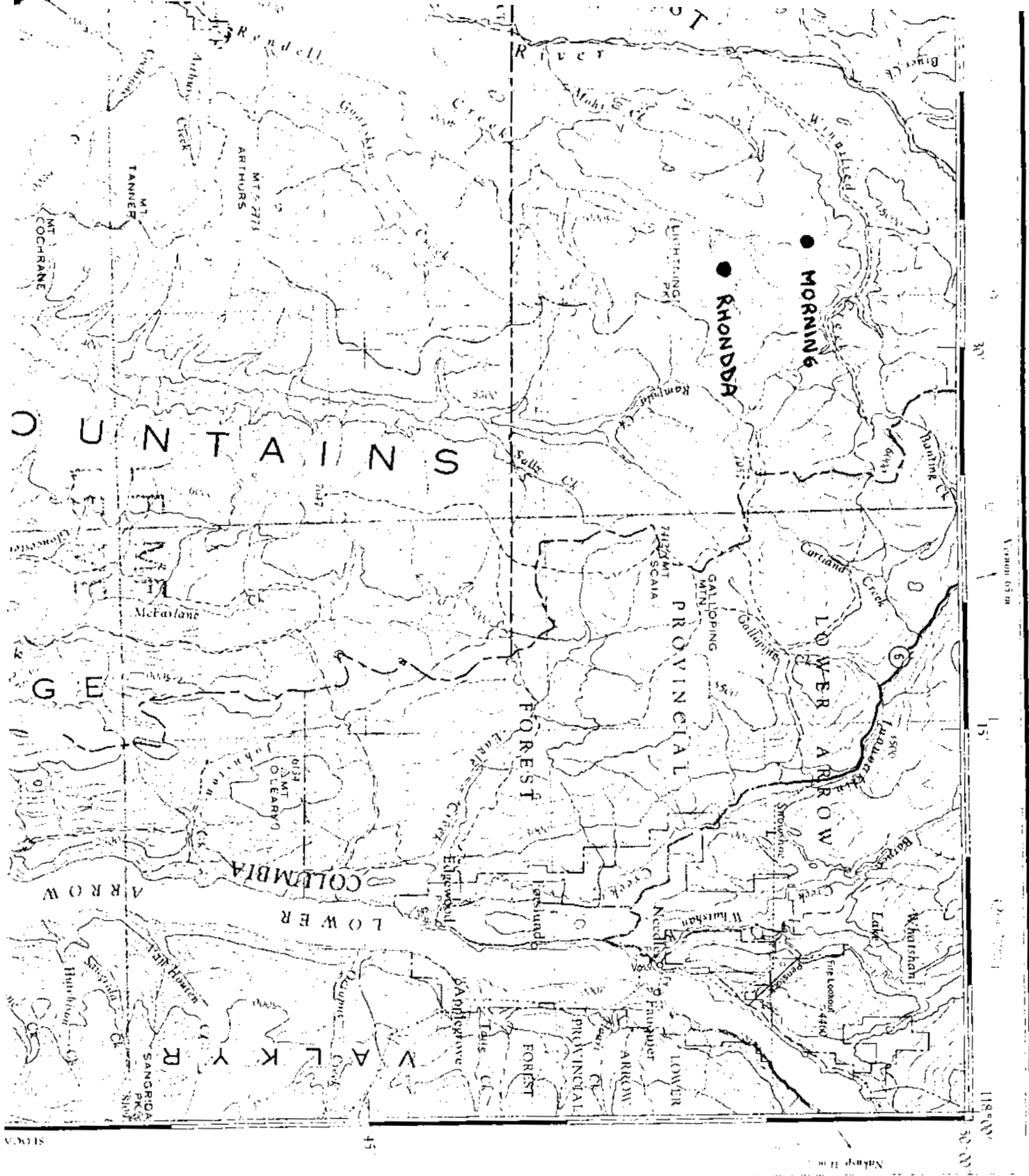


Figure 1 LOCATION MAP

Department of
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ASSESSMENT REPORT

MORNING & RHONDDA CLAIMS

1 inch = \approx 4 miles
(1 : 250,000)

NO. **5200** MAP # **1**

Refer to
this map as:
EDITION 2 ASSESSMENT
SERIES A 502

The RHONDDA Group covers the old AU Mine, immediately east of the WATERLOO Mine. The MORNING Group covers the workings of the old DICTATOR Mine, and is about $2\frac{1}{2}$ miles NNW of the WATERLOO.

The settlement of Needles, on Lower Arrow Lake, is about 20 miles to the east, and the city of Vernon is 40 miles to the northwest. The nearest supply centre is the village of Lumby, 28 miles northwest.

The RHONDDA property is accessible, from late June to early October, by travelling south on a good bush road for 18 miles from a point on Provincial Highway No.6 near the junction of Banting Creek and Inonoaklin River, 62 miles east of Vernon. The MORNING property is accessible by a further $2\frac{1}{2}$ miles of trail from a point near the northern boundary of the RHONDDA claims. At the time of the surveys described below, several feet of snow remained, preventing use of the road, and a helicopter was chartered from Vernon to gain access.

The claims are near the eastern margin of the Interior Plateau on an upland area deeply incised by river and creek valleys. Elevations on the MORNING Claims vary from 5600 to 5800 feet, and from 5400 to 5700 on the RHONDDA Claims.

WORK PROGRAMME

Grid Establishment

Ground magnetometer surveys were conducted over grids established on the MORNING and RHONDDA Claims. These grids were centred on the old workings in each case, and the base-lines were laid out parallel to the

expected trace of the gold-quartz veins.

On the RHONDDA property, a 1000-foot base-line was established and eight 600-foot cross lines were laid out at 100-foot and 200-foot intervals. Line O crosses the dump immediately north of the main AU shaft; Lines 1N, 2N, and 4N were laid out to the north, and Lines 1S, 2S, 3S, 4S, and 6S were laid out to the south. Line 6S corresponds to the claim line between RHONDDA 1 and 2 claims (Figure 4).

On the MORNING property, a 600-foot base-line was established coincident with the claim line between MORNING 1 and 2 claims (Figure 3) and crossing the dump immediately east of the old shaft. Seven 600-foot cross lines were laid out as follows: Line OS through the initial post of MORNING 1 and 2; and Lines 1S, 2S, 3S, 4S, 5S and 6S at successive 100-foot intervals to the south.

On both properties, the timber was open and the undergrowth was buried under several feet of snow, so little cutting was necessary. The grid was laid out by chain and compass, and stations were flagged at 100-foot intervals on base-lines and cross lines.

Magnetometer Survey

Readings were taken with a hand-held McPhar M700 vertical force fluxgate magnetometer. The instrument was held with a harness, to maintain a constant position relative to the ground and the operator, and levelled with a bubble level. All readings were taken with the instrument facing north and loops were closed on an average of every 12 minutes.

Readings were taken at varying intervals of 25, 50 and 100 feet. A 50-foot interval was judged most suitable and was used over both grids.

No magnetic storms occurred, and the diurnal variation was not significant relative to the short loop times. Values were recorded in a metal-free notebook and later transferred to profile maps (Figures 3 and 4).

GEOLOGY

The geology of the Lightning Peak area has been described most recently on Map 6-1957 of the Geological Survey of Canada (Scale 1 inch = 4 miles) by H.W. Little (Figure 2). A more detailed description of the regional geology is provided in G.S.C. Summary Report 1930, Part A (pp.79-115) by C.E. Cairnes.

On the MORNING and RHONDDA properties, gold-quartz veins are localized in northerly trending fault zones.

The various mineral deposits and occurrences of the Lightning Peak area occur in a roof pendant of Upper Palaeozoic to Lower Mesozoic age enveloped by granitic rocks of the Mesozoic Nelson batholithic complex. The predominant lithologic types present in the roof pendant include meta-volcanic flows, tuffs and breccias of andesitic and in places limy composition, and metasedimentary crystalline limestone and argillite.

All of the above rocks have been intimately invaded by dykes and small plugs related to the surrounding granitic batholithic rocks. Rock types include granite, quartz diorite, diorite and pegmatite.

The general structure of the roof pendant is that of a westerly plunging syncline. Near the eastern end of the roof pendant, the lithologies are predominantly flow rocks and are gradually succeeded to the west by tuffaceous and then sedimentary rock types. The limestones may be the youngest rocks.

Lightning Peak proper is underlain by a thin layer of Tertiary basalt and occasional related mafic dykes occur.

DISCUSSION OF RESULTS

MORNING:-

On the MORNING property, readings varied from -260 gammas to 500 gammas (Figure 3). Along individual lines, magnetic relief rarely exceeded 200 gammas over several hundred feet. Exceptions to this background situation are the anomalous readings on Lines 4S, 5S and 6S where variations of from 300 to 600 gammas were measured over intervals of 50 and 100 feet. These anomalous values are thought to be related to the northerly trending structure along which the Dictator gold-quartz vein is localized. The subdued highs on Lines 0, 1S and 2S appear to be aligned with these anomalies and may represent the northerly extension of the structure.

RHONDDA:-

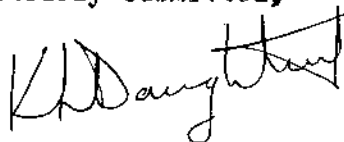
Readings varied between 440 gammas and 865 gammas. In the southern part of the grid, Lines 2S to 6S, background ranged from 440 to 580 gammas. In the middle of the grid, on Lines 1S, 0, and 1N, background

values were generally in the order of 600 to 720 gammas. To the north, on Lines 2N and 4N, background was between 650 and 800 gammas.

This variation in background levels is probably related to varying magnetic susceptibilities of different lithologies underlying the grid area.

Normal relief is less than 100 gammas along most lines, but on Lines 2S to 4N inclusive, a series of sections of sharp local magnetic relief occur in a northerly trending zone to the west of the base-line. This zone of sharp relief is probably related to the structure within which the AU gold-quartz vein is localized.

Respectfully submitted,



K.L. Daughtry, P. Eng.

Vernon, B.C.

October 16th, 1974

STATEMENT OF WORK PERFORMED AND EXPENDITURES

Labour:

Establishment of grid, orientation survey at various station intervals, ground magnetometer survey, compilation, and interpretation of data, preparation of report

K.L. Daughtry (June 11-13, 1974)
R. Biggs and F. Oliver (June 11-12, 1974) \$ 525.00

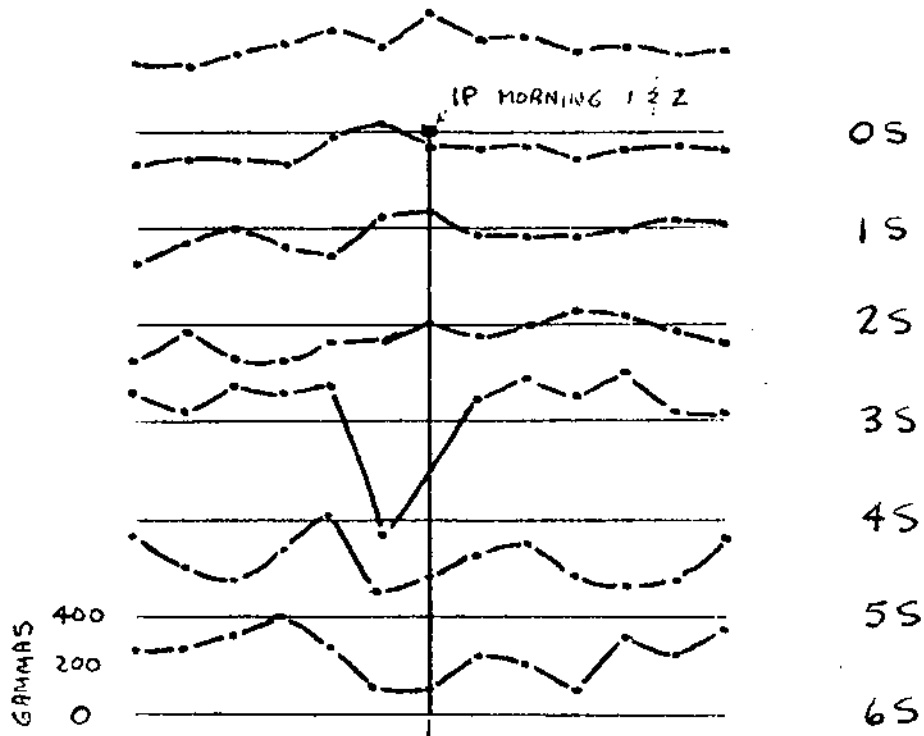
Magnetometer Rental: 15.00

Transport:

Helicopter charter (Terr-Air, Vernon, B.C.)
2 hours @ \$165.00 per hour 330.00

TOTAL: \$ 870.00

3W 2W 1W B/L 1E 2E 3E



Vertical Scale:
1 inch = 800 gammas

Horizontal Scale:
1 inch = 200 feet

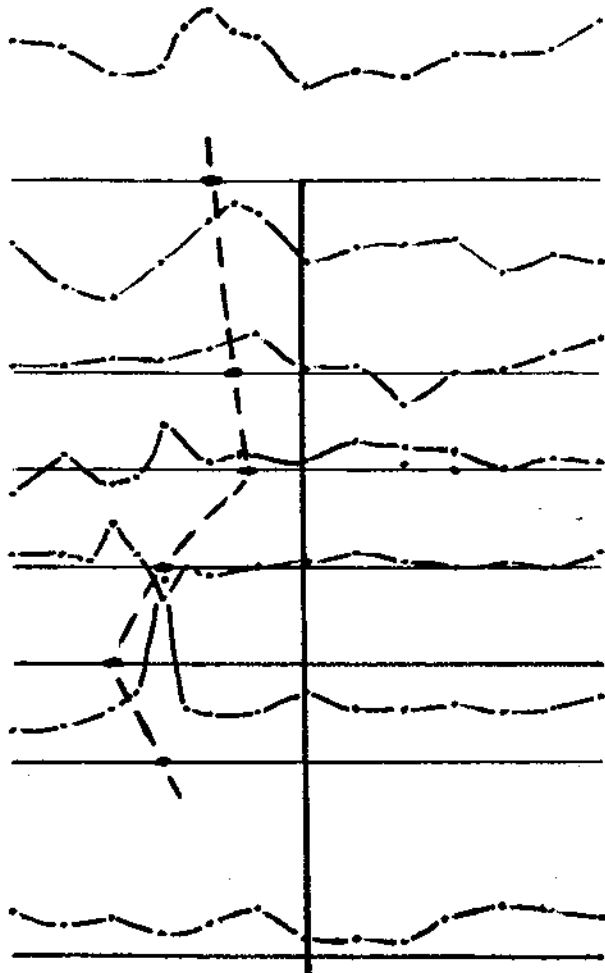
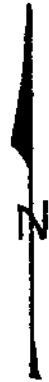
K. L. Daugherty

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **5200** MAP **#2**



MORNING Claims
Ground
Magnetometer
Survey
Oct/74 Fig. 0 K.L.D.

3W 2W 1W B/L 1E 2E 3E



4N
2N
1N
0
1S
2S
4S

GAMMAS
800
700
600
500
400

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. **5200** MAP **#3**

6S RHONDDA 1
RHONDDA 2

RHONDDA Claims

Vertical Scale: 1 inch = 500 gammas

Horizontal Scale: 1 inch = 200 ft.

Ground
Magnetometer
Survey

K. L. D.

Oct./74

Fig. ●

K.L.D.

STATEMENT OF QUALIFICATIONS

I, KENNETH L. DAUGHTRY, of R.R. #4, Vernon, B.C., do hereby certify that:-

1. I am a consulting geologist in mineral exploration with a business address at 205 - 2910 30th Avenue, Vernon, B.C.
2. I am a graduate in Geology and Chemistry with a Bachelor of Science degree from Carleton University.
3. I am a registered member of the Associations of Professional Engineers of British Columbia and Ontario.
4. I have practised my profession as a geologist for the past ten years, and have previously conducted ground magnetometer surveys in British Columbia, Yukon, Alaska and Ontario.



K.L. Daughtry, P. Eng.

Vernon, B.C.

October 16th, 1974

K. L. Daughtry & Associates Ltd.

MINERAL EXPLORATION CONSULTANTS

BOX 795 • VERNON, BRITISH COLUMBIA V1T 6M7 • TELEPHONE 542-8960

November 18, 1974

E. J. Bowles,
 Chief Gold Commissioner,
 Mineral Resources Branch,
 Dept. of Mines and Petroleum Resources,
 Victoria, B. C.

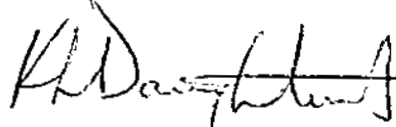
Re: File No. 166 - Vernon

Dear Sir:

Please consider this letter as permission, for your Department to reproduce, in whole or in part according to your requirements, the Geophysical Report #5200 on the MORNING and RHONDDA Mineral Claims.

Yours truly,

K. L. DAUGHTRY & ASSOCIATES LTD.,



K. L. Daughtry.

REFERRED TO	DATE	INITIAL
D.M.		
ADM (M)		
ADM (P)		
G.G.C.	✓	
C.P.R.		
DCGC		
ACFR		
G.C.		
ACCTS.		
GEOL.		
INSP.		
M. REV.		
EC. & P.		
FILE NO.		
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DEPT. OF MINES AND PETROLEUM RESOURCES

82 E / 151

50° 00'

6

5

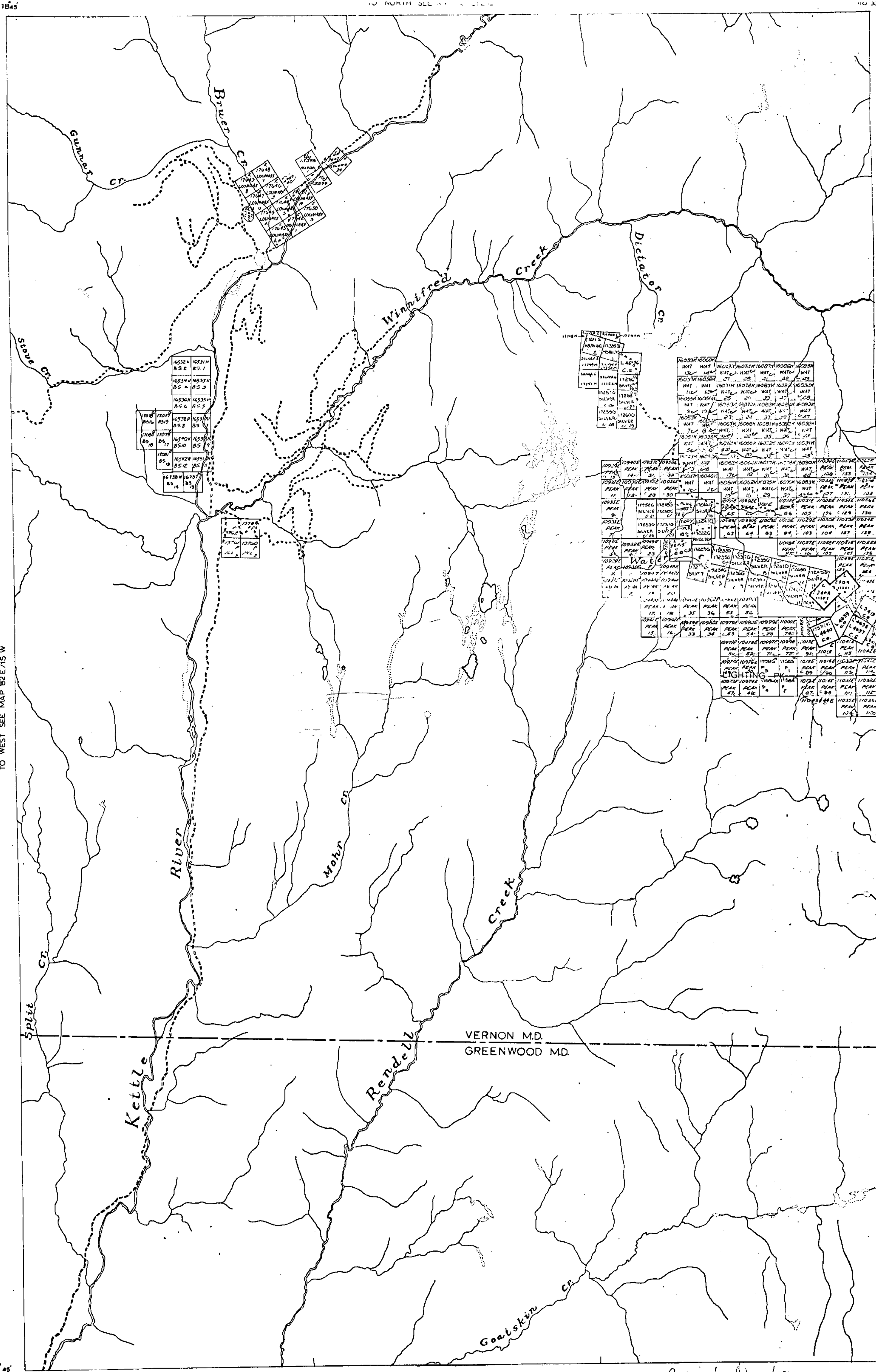
4

3

2

1

TO WEST SEE MAP 82 E / 15 W



49° 45'

118° 45'

TO SOUTH SEE MAP 82 E / 10 E

Copied - Dec / 74

For up-to-date information on claims in any area you should apply to the Mining Recorder for the Mining Division concerned.

DEPARTMENT OF MINES AND PETROLEUM RESOURCES
 VICTORIA, B.C.
 MINERAL CLAIM MAP 82E/15E (M)

This map is prepared to serve as a guide to the positions of located mineral claims and Placer Mining Leases only. Unsurveyed claims and leases are plotted from locators sketches and are not guaranteed. Letters C.G. indicate claim is Crown-Granted. Symbol F indicates claim is forfeited.



A

D