

# MAR 19680003: BEATTY-THOMPSON LAKES

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ECONOMIC MINERALS  
FILE REPORT No.  
PR-AF-001(2)

PHOTOGEOLOGICAL STUDY  
ON THE  
BEATTY-THURSTON LAKES AREA  
ALBERTA

BY

R. D. WESEMANN, P. ENG.

JUNE 8, 1968

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## INTRODUCTION

A photogeological study of the Beatty-Thurston Lakes area in the Cameron Hills was undertaken for Mr. Newton Wolverton of Vancouver, British Columbia. The purpose of this study was to outline areas structurally favorable for mineralization. The area studied lies between latitudes  $59^{\circ}47'$  and  $59^{\circ}59'$  and longitudes  $118^{\circ}00'$  and  $118^{\circ}30'$ . It covers approximately 250 square miles and includes Quartz Mineral Exploration Permit No 5. A photo mosaic was constructed from Alberta Government air photos at a scale of one inch to 3,400 feet. The results of this study were plotted on this mosaic. (see Figure 1)

## REGIONAL GEOLOGY

The area is underlain by formations of Lower Cretaceous age. In general the formations dip at a very low angle to the southwest. Little published geologic information is available on the Cameron Hills region. It has been theorized that major basement faults exposed on the Canadian Shield may extend into this area. These

faults are thought to be related to Devonian reef development and to mineral concentrations. The Pine Point mineral deposits are thought to be so related. Lead-zinc mineralization found in chip samples from oil and gas wells drilled in the Cameron Hills area enhance this possibility.

#### SURFACE GEOLOGY

The study area has been extensively glaciated by at least two major glacial advances. Lineations from an early advance indicate a south  $44^{\circ}$  west movement. A later advance moved in a direction of south  $60^{\circ}$  west. This later advance left thick moraine deposits in the northeast and south central portions of the area.

The photo study was undertaken to locate surface indications of major basement faults. No direct or geomorphic indications of a major fault were found. The glacial advances and moraines obliterated all evidence which may have been in existence.


CONCLUSIONS AND RECOMMENDATIONS

The photo study did not provide encouragement for further mineral exploration in this area. Although lead and zinc mineralization has been reported in several oil and gas wells in this vicinity, it is felt these occurrences are much too deep to be economic at this time.

The study also indicates little useful information will be obtained by surface prospecting in this area. Geophysical methods will have to be used to locate drilling targets. Considering these facts and the large expenditures involved in a geophysical and drilling program, it is felt the risk in this area is too great to recommend further exploration at this time.

June 8, 1968

Respectfully submitted

  
R. D. Wesemann, P. Eng.

QUARTZ MINERAL EXPLORATION PERMIT No. 5

(84m/16)

NEWTON E. WOLVERTON,  
% WOLVERTON & COMPANY LIMITED,  
534 BURRARD STREET,  
VANCOUVER 1, BRITISH COLUMBIA

DATE OF ISSUE - OCTOBER 16, 1967  
AREA - 19,200 ACRES

ALBERTA - NORTH WEST TERRITORIES BOUNDARY

CORRECTION LINE

TP. 126

TP. 125

R. 2

R. 1 W. 6 M.

# ALBERTA

HON. NORMAN WILLMORE  
MINISTER

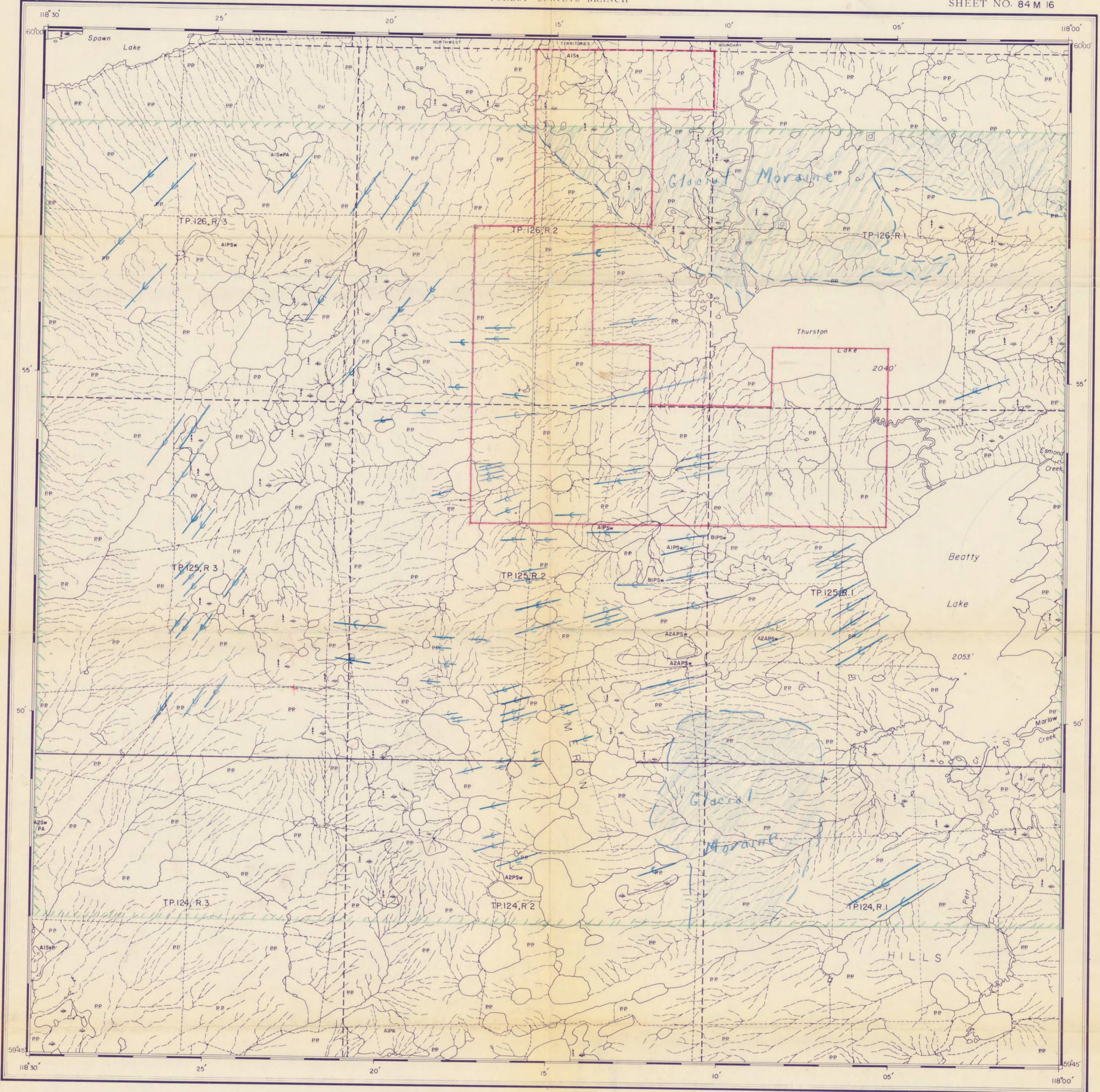


H. G. JENSEN  
DEPUTY MINISTER

DEPARTMENT OF LANDS AND FORESTS  
FOREST SURVEYS BRANCH

FOREST COVER SERIES

SHEET NO. 84 M 16



## WEST OF SIXTH MERIDIAN

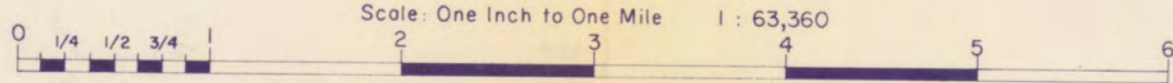
PUBLISHED IN 1955

Basic road information-1954  
Road Additions:  
from photographs  
from geophysical records  
April 1959 to Sept 1966  
Fires and survey revised annually

Average Magnetic Declination  
in 1955 33°00' East  
decreasing 7' annually

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- RAILWAY
- TOWNSHIP LINES SURVEYED
- TOWNSHIP LINES UNSURVEYED
- SECTION LINES SURVEYED
- QUARTER SECTION LINES
- FOREST RESERVE BOUNDARY
- OIL FIELD BOUNDARY
- FOREST TYPE LINE
- HEIGHT OF LAND
- SADDLE IN HEIGHT OF LAND
- HILLTOP OR MOUNTAIN TOP
- RIVER OVER 1 CHAIN WIDE
- CREEK UNDER 1 CHAIN WIDE
- INTERMITTENT CREEK
- RAPIDS
- GRAVEL BAR, SAND OR MUD
- CUTBANK
- LAKE
- INTERMITTENT LAKE
- BRIDGE
- FERRY
- FORD
- TRANSMISSION LINE



### FOREST CLASSIFICATION LEGEND

- |                                   |                                     |                |                              |
|-----------------------------------|-------------------------------------|----------------|------------------------------|
| Recent clear cut                  | Grassland                           | Jack pine      | Mixed white and black spruce |
| Recent partial cut                | Hay meadow                          | Lodgepole pine | Deciduous                    |
| Potentially Productive            | Marsh, bog or open muskeg           | Black spruce   | Balsam fir                   |
| Burned over area and year of burn | Treed muskeg                        | White spruce   | Tamarack                     |
| Recent windfall                   | Barren above timber line            |                |                              |
| Stunted due to elevation          | Barren rock                         |                |                              |
| Brushland                         | Agricultural or other cleared lands |                |                              |
- 
- |                      |                      |                                   |
|----------------------|----------------------|-----------------------------------|
| <b>DENSITY</b>       | <b>HEIGHT</b>        | <b>SUB-TYPE</b>                   |
| A - Sparsely stocked | 1 - up to 30 feet    | Pj or P - Jack pine               |
| B - Medium stocked   | 2 - 31 to 60 feet    | Pl or P - Lodgepole pine          |
| C - Fully stocked    | 3 - 61 to 80 feet    | Sb - Black spruce                 |
| D - Overstocked      | 4 - 81 feet and over | Sw - White spruce                 |
|                      |                      | Ss - Mixed white and black spruce |
|                      |                      | A - Deciduous                     |
|                      |                      | Fb - Balsam fir                   |
|                      |                      | Lt - Tamarack                     |
- Poor forest sites are indicated by: z — Overmature stands are indicated by: t

- HIGHWAYS
- paved-gravelled
- ALL WEATHER ROAD
- gravelled
- DRY WEATHER ROAD
- dirt
- TRUCK TRAIL
- SEISMOGRAPH LINE OR TRAIL
- TELEPHONE OR TELEGRAPH LINE
- PIPE LINE
- BUILDING
- SETTLEMENT
- MILL SITE
- DIVISIONAL FOREST HEADQUARTERS
- RANGER STATION
- FORESTRY CABIN
- LOOKOUT POINT or CRAWL TOWER
- LOOKOUT TOWER
- USABLE AIRSTRIP
- AIRSTRIP CONDITION UNKNOWN
- WELL AND WELL SITE
- STORAGE TANKS AND CLEARING
- OIL - 3 GAS - HELD BOUNDARY
- CAMPGROUND

