

# MAR 19680011: NORTHEASTERN ALBERTA

Received date: Dec 31, 1968

Public release date: Jan 01, 1970

## **DISCLAIMER**

By accessing and using the Alberta Energy website to download or otherwise obtain a scanned mineral assessment report, you ("User") agree to be bound by the following terms and conditions:

- a) Each scanned mineral assessment report that is downloaded or otherwise obtained from Alberta Energy is provided "AS IS", with no warranties or representations of any kind whatsoever from Her Majesty the Queen in Right of Alberta, as represented by the Minister of Energy ("Minister"), expressed or implied, including, but not limited to, no warranties or other representations from the Minister, regarding the content, accuracy, reliability, use or results from the use of or the integrity, completeness, quality or legibility of each such scanned mineral assessment report;
- b) To the fullest extent permitted by applicable laws, the Minister hereby expressly disclaims, and is released from, liability and responsibility for all warranties and conditions, expressed or implied, in relation to each scanned mineral assessment report shown or displayed on the Alberta Energy website including but not limited to warranties as to the satisfactory quality of or the fitness of the scanned mineral assessment report for a particular purpose and warranties as to the non-infringement or other non-violation of the proprietary rights held by any third party in respect of the scanned mineral assessment report;
- c) To the fullest extent permitted by applicable law, the Minister, and the Minister's employees and agents, exclude and disclaim liability to the User for losses and damages of whatsoever nature and howsoever arising including, without limitation, any direct, indirect, special, consequential, punitive or incidental damages, loss of use, loss of data, loss caused by a virus, loss of income or profit, claims of third parties, even if Alberta Energy have been advised of the possibility of such damages or losses, arising out of or in connection with the use of the Alberta Energy website, including the accessing or downloading of the scanned mineral assessment report and the use for any purpose of the scanned mineral assessment report so downloaded or retrieved.
- d) User agrees to indemnify and hold harmless the Minister, and the Minister's employees and agents against and from any and all third party claims, losses, liabilities, demands, actions or proceedings related to the downloading, distribution, transmissions, storage, redistribution, reproduction or exploitation of each scanned mineral assessment report obtained by the User from Alberta Energy.

19680011

ECONOMIC MINERALS  
FILE REPORT NO.  
U-AF-013(1)  
U-AE-025(1)

GEOLOGICAL AND SCINTILLOMETER SURVEY

of

QUARTZ MINERAL PERMITS #39 AND #54

of

NORTH EASTERN ALBERTA

for

MADISON OILS LIMITED

by

J. W. WOROBEC - B.SC. GEOL.  
and  
R. O. MCKENZIE - B.SC. GEOL. ENG. P. ENG.

Calgary, Alberta  
September, 1968

J. W. Worobec:  
R. O. McKenzie:



R.O. McKenzie

Map No. 1 is  
missing.

J. Sciana  
28-dta-06

TABLE OF CONTENTS

- 1) INTRODUCTION
- 2) DESCRIPTION OF PROPERTIES
- 3) ACCESSIBILITY and TOPOGRAPHY
- 4) GENERAL STATEMENT
- 5) GENERAL GEOLOGY
- 6) SUMMARY
- 7) EXPLORATORY PROGRAM
- 8) BIBLIOGRAPHY

## INTRODUCTION

A ground survey was undertaken at the request of Madison Oils Limited of 516 Lancaster Building, Calgary 2, Alberta on Quartz Mineral Permits #39 and #54. The purpose of this survey was to prospect for possible surface occurrences of uranium deposits and other minerals of possible economic value. This report presents the results of a two week field investigation. This investigation and report were conducted and prepared jointly by J. W. Worobec and R. O. McKenzie.

The two - man field party left Calgary on August 28th, 1968, and travelled by car to Edmonton - leaving Edmonton for Uranium City, Saskatchewan via Pacific Western Airlines.

Two days were spent in Uranium City arranging for air - transportation, camping equipment and food supplies.

The party left for Wylie Lake (approximately 60 miles north-west of Uranium City) on the morning of August 30th, 1968 by a float equipped Beaver Aircraft chartered from McMurray Air Line Services of Uranium City. Two trips by the Beaver were necessary to transport personnel, equipment, and a 16 foot canoe to Wylie Lake.

A camp was established on the Western shore of Wylie Lake (Map No. I).

Canoe and foot traverse were conducted (Map No. I) during the period August 30th to September 3rd, 1968. Rain accompanied by high winds and low visibility considerably hampered the field operations.

## DESCRIPTION OF PROPERTIES

### Permit No. 39

Township 119 - Range 3 - W4M  
Sections 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 15 -  
16 - 17 - 18 - 20 - 21 and 22.  
A Total of: 9,600 Acres

### Permit No. 54

Township 119 - Range 4 - W4M  
Sections 1 - 2 - 3 - 4 - 9 - 10 - 11 - 12 - 13 -  
14 - 15 - 16 - 22 - 23 - and 24  
A Total of: 9,600 Acres

## ACCESSIBILITY

Access to this area is readily available by float equipped aircraft operating out of Uranium City. Travel within this area itself is very difficult and is best accomplished by field support with float equipped fixed wing aircraft or helicopter. Canoe travel is limited to unconnected lakes with foot travel slow and difficult due to low lying muskeg areas.

The topography of this area is generally a surface of low rounded hills, interspersed with muskeg valleys. Fault scarps up to 300' high are encountered. The area is mainly precambrian outcrop, with numerous glacially scoured lakes and small muskeg valleys. Local relief up to 300' is probably maximum, with a general elevation increase from 700' on Lake Athabasca to 1370' in the northeast corner of the area.

The valleys are wooded with spruce, fir and poplar. Scrubby muskeg and open watery muskegs are generally confined to the lower areas.

GENERAL STATEMENT:

Metalliferous vein deposits are generally recognized to be genetically and spatially related to faulting. A large concentration of vein and related types of uranium deposits are known to occur along the north shore of Lake Athabasca in a belt exceeding 30 miles in width northward from Fort Chipewyan in Alberta and extending eastward through Beaverlodge, Saskatchewan to Black Lake for a length of approximately 200 miles.

In the Canadian shield the uranium ores are classified into three general types: (1) conglomeratic - (2) vein and related types - and (3) the pegmatitic type. Almost all of the uranium deposits of the producing mines and known occurrences within the Lake Athabasca Belt consist of veins, lenses, stringers and disseminations, and fall within the classification of vein and related types. This type of deposit or occurrence as previously stated is often related to faulting. Therefore structural control can be used to delineate the most promising prospecting areas, as well as eliminating much of the unfavourable areas.

## GENERAL GEOLOGY

The rocks within the area under discussion are of Precambrian age. The geologic succession and distribution is poorly known, since most of the area has not been mapped. The strata have been intensely folded and faulted, generally along northerly or northeasterly trending axis.

The oldest exposed strata are sedimentary and volcanic rocks, exhibiting various degrees of metamorphism and are referred to as the Tazin Group. However, much of the terrain is composed of granites and related rocks, and of complexes made up of gneisses, migmatites and granitized rocks. The intense deformation resulted in brecciation fracturing and mylonitization of these rocks, which are prime areas to prospect for mineral occurrences, particularly those of the Meta Sediments.

A scintillometer (Model 111-B) was used to check for radioactivity along indicated traverse lines (Map No. 1). No attempt was made to map the surface geology, since the time allotted did not permit more than the examination of selected areas for mineralization or radioactive occurrences.

Aerial photographs acquired from the Alberta Government, Department of Lands and Forests, was invaluable in selecting the structural features which were given first priority for traverses. The areas traversed showed normal background radiation which fluctuated slightly and was considered insignificant.

One area (Map No. 1) south of the camp on the west shore of Wylie Lake showed a higher radiation value of approximately 4 M R per Hour. This area outlined on the map was situated in a low lying swamp, and consequently no rock outcrop was available for examination.

In general many of the swamp and muskeg areas correspond with crustal weaknesses and deformations. These areas are difficult to traverse, and have very limited outcrops.

SUMMARY:

The acquired permits are in an area which forms the westerly margin of the Athabasca province of the Canadian Shield. Within this geologic province, a belt of meta-sedimentary, volcanic, granite and related rocks, about 200 miles long and at least 40 miles wide, extends from Black Lake, Saskatchewan, westwards to the Shield area of Alberta. Within this belt, numerous occurrences and concentrations of uranium deposits are known. The deposits found in this belt are mainly vein and related types that often are genetically and spatially related to fault and shear zones.

On the basis of proven mineralization under similar geological conditions in Saskatchewan and other parts of the Shield, the numerous occurrences found in an otherwise unexplored area, it seems reasonable to state that the Alberta portion of the Lake Athabasca Metallogenic Belt is a highly promising area wherein economic deposits of uranium-bearing minerals can be found. Molybdenite-bearing deposits must be considered as an important secondary objective.

The Madison Oil Company permits and claims are strategically located from the structural aspect as well as proximity to known occurrences, and therefore must still be considered as highly prospective.

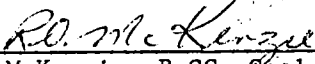


THE FOLLOWING EXPLORATORY PROGRAM IS RECOMMENDED:

- 1) An airborne scintillometer survey using the air photo analysis as a guide be conducted on the properties (flying approximately 100 line miles at a cost of approximately \$1,000.00).
- 2) If encouraging radioactive anomalies are discovered in Phase 1, conduct an airborne scintillometer survey using a 1/4 mile grid.
- 3) Depending on the results of Phase 2, conduct detailed geological surface studies on anomalous areas, including surface trenching.
- 4) If warranted, an initial diamond drilling should be undertaken to determine the vertical geometry of any apparent ore bodies.

  
J. W. Worobec, B.Sc. Geol.

Calgary, Alberta  
September, 1968

  
R. O. McKenzie, B.Sc. Geol. Eng. P. Eng.

BIBLIOGRAPHY

"Aerial Photographic interpretation of Precambrian Structures North of Lake Athabasca", by J. D. Godfrey; Research Council of Alberta, Bulletin 1, 1958.

"Mineralization in the Andrew, Waugh and Johnson Lakes Area, Northeastern Alberta", by J. D. Godfrey; Research Council of Alberta, Preliminary Report 58-4. (1958).

"Geology of the St. Agnes Lake District, Alberta", by John D. Godfrey and E. W. Peikert; Research Council of Alberta, Preliminary Report 62-1. (1963)

"Geology of the Andrew Lake, South District, Alberta", by John D. Godfrey; Research Council of Alberta, Preliminary Report 61-2. (1963).

"Geology of the Colin Lake District, Alberta", by John D. Godfrey and E. W. Peikert; Research Council of Alberta, Preliminary Report 62-2. (1964).

"Geology of the Bayonet, Ashton, Potts and Charles Lakes District, Alberta", by John D. Godfrey; Research Council of Alberta, Preliminary Report 65-6. (1966).

SCHEDULE  
to Quartz Mineral Exploration Permit No. 39

IN TOWNSHIP ONE HUNDRED AND NINETEEN (119), RANGE THREE (3),  
WEST OF THE FOURTH (4) MERIDIAN:

Sections Three (3) to Ten (10) inclusive, Sec-  
tions Fifteen (15) to Eighteen (18) inclusive  
and Sections Twenty (20), Twenty-one (21) and  
Twenty-two (22);

containing an area of Nine Thousand, Six Hundred (9,600) acres,  
more or less.

*Handwritten signature*

SCHEDULE  
to Quartz Mineral Exploration Permit No. 54

IN TOWNSHIP ONE HUNDRED AND NINETEEN (119), RANGE FOUR (4),  
WEST OF THE FOURTH (4) MERIDIAN:

Sections One (1) to Four (4) inclusive, Sec-  
tions Nine (9) to Sixteen (16) inclusive and  
Sections Twenty-two (22), Twenty-three (23)  
and Twenty-four (24);

containing an area of Nine Thousand, Six Hundred (9,600)  
acres, more or less.

*W. H. ...*  
*...*