MAR 19690021: OLD FORT

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GEOLOGICAL REPORT

ON

QUARTZ PERMIT #74
(Old Fort Permit)

LAKE ATHABASKA AREA

ALBERTA

FOR

FORT RELIANCE MINERALS LIMITED
ENSIGN OILS LIMITED

BY

P. E. HIRST & ASSOCIATES LTD.
P. E. HIRST, P. Eng.

December 8, 1969
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**Scale**

- As shown:
- 1" = 1 mile

* * * * *
SUMMARY:

The Old Fort Permit is believed to be underlain by several hundred feet of Athabasca Formation, and is considered to be of potential interest for uranium possibilities.

Almost complete till cover precludes any surficial evaluation of these possibilities.

INTRODUCTION:

Fort Reliance Minerals Limited and Ensign Oils Limited jointly hold, on a 50-50 basis, mineral exploration rights on Quartz Permit No. 74, also referred to as the Old Fort Permit. This permit is believed to be of principal interest for possible uranium mineralization.

The writer examined this property on September 28, 1969 by lower level helicopter traverses and ground checking for outcrops. An airborne radiometric survey of the property had been completed prior to the writer's examination of the property, but completed data were not available at the time.

PROPERTY AND OWNERSHIP:

The Old Fort Permit (Quartz Permit #74) is a rectangular shaped area with approximate dimensions of 5½ miles by 12½ miles, situated in the Lake Athabasca area of northeastern Alberta. The Permit is jointly held on a 50-50 basis by Fort Reliance Minerals Limited and Ensign Oils Limited.

LOCATION, ACCESS, PHYSIOGRAPHY:

The permit area is situated in the vicinity of Old Fort Bay near the southwest corner of Lake Athabasca in northeastern Alberta. Specific Coordinates are latitude 56° 40' North, longitude 110° 15' West. Access to the permit is by shallow draft boat, float plane, or helicopter from Fort Chipewyan or Uranium City.

The permit area is one of very low relief with no elevations exceeding 200 feet above the level of Lake Athabasca. A large proportion of the area is covered by swamp, and there are numerous northwest trending sand and boulder ridges interspersed with smaller swamps.
GEOLGY:

The property is situated near the western margin of the Athabasca sandstone basin (See Fig. 1). Helicopter traverses of the area and limited ground checking indicates that the permit is almost completely drift-covered. Only one small outcrop of Athabasca sandstone (locally buff to reddish coloured) was observed by the writer near the northern boundary of the Permit. Extensive northwest trending boulders and gravel ridges are principally composed of Athabasca sandstones.

Reconnaissance seismic surveys by the Geological Survey indicate that the permit may be underlain by several hundred feet of Athabasca sandstone.

CONCLUSIONS:

The permit area is considered to be primarily of interest for uranium possibilities which could exist in either the Athabasca sandstone or underlying rocks. The results of the airborne radiometric survey may provide some further elucidation of these possibilities, but no conclusions can be drawn from the meagre outcrop data.

Further work in this area will of necessity be determined by results obtained elsewhere in similar environments and may require additional evaluation by other methods, including possibly geochemistry.

Respectfully submitted,

P. E. Hirst, P. Eng.

December 8, 1969.
REFERENCES


LEGEND

- MARTIN FORMATION

REGIONAL SIZE DISTRIBUTION OF PARTICLES IN THE MARTIN FORMATION

- Coarsest particles in outcrop: 2 mm to 64 mm
- Coarsest particles in outcrop: 1 mm to 2 mm
- Coarsest particles in outcrop: 0.5 mm to 1 mm

Outcrop of Athabasca Formation
Outcrop of Carrot Formation

greater than 0.5 mm in size

- Local lithology and sample number of grain analysis
Generalized wind-transport direction in the Athabasca Formation

Sub or shale layers in outcrop

Fault

Geology by W. F. Fowick 1977-78
To accompany Bulletin 68 by W. F. Fowick
Cartography by the Geological Survey of Canada, 1977

FORT RELIANCE MINERALS LTD.
ENGIN OILS LTD.
QUARTZ PERMIT #74
Location Map
FORT RELIANCE MINERALS LTD.
ENSIGN OILS LTD.
QUARTZ PERMIT NO. 74 (OLD PORT), ALBERTA
GEOLOGICAL MAP

GEOLOGY BY: P. E. Hiray, B.Eng., December 8, 1969
FOE Surveying Limited - 73 Adelaide St. East, Toronto


FIG. 2