

2025
25
PRELIMINARY AND FINAL REPORT

on the

WINE RIVER AREA

N.B.T. (Canada)

MINERAL OIL LTD., CANOL PROJECT

Assignment No. 15

By: C. G. Voon Party Chief
E. L. Steeves Assistant
E. T. K. Laurence Helper

Date submitted: August, 1943

Read and accepted by: *Mont Limb*

Date: 3/14/44

CONFIDENTIAL

LIST OF ILLUSTRATIONS

PLATE I

Index Map - Scale 1" = 100 mi.

PLATE II

Areal Geologic Map of Huma River
Area. Scale 2 mi. = 1"

PLATE III

Columnar Section - Huma River
Scale 1" = 100 feet

.....

INTRODUCTION

Hume River, the head of which is in the eastern edge of the Mackenzie Mountains, flows in a general northeasterly direction to the intersection of the 66th parallel and the 129th meridian (approximately), at which point it empties into the Mackenzie River. In its lower stretches, where it flows through muskeg, the stream meanders broadly.

The straight line distance between Deen Mountain and the mouth of the Hume (Wolf) River is about fifty miles. Between these two points a reconnaissance geologic survey of the river and its large tributaries was made for the purpose of attempting to locate structures favorable for the accumulation of oil. This work, which lasted from July 17th until August 10th, 1943, was done by K. L. Steeves, W. T. K. Lawrence, and the writer.

STRATIGRAPHY

A description of the geologic column, measured in the Deen Mountain-Lake Jule area, is given on Plate I. An outstanding difference between this section and that in the Norman Wells area is that neither the Bear Rock formation nor the Kee Scarp member of the Fort Creek shales is present in the Hume River area. A disconformity separates the Silurian limestones from the overlying Ramparts-Beavertail section.

No attempt was made to measure the Cretaceous section. It would doubtlessly run into thousands of feet, for relatively high angle dips in the same direction as the dip slope of Deen Mountain are still seen almost two miles downstream from the Norman-Cretaceous contact.

This general observation of the Cretaceous section was made: It grades upward from a series of alternating sands and shales to a

section of black carbonaceous shales which, with the exception that they contain numerous thin beds of ironstone, are lithologically similar to typical Hope shale. These black shales grade vertically into grey to buff, plastic, sticky, impervious, gumbo-like shales. It is by this last type of rock that most of the muskeg country is underlain.

STRUCTURE

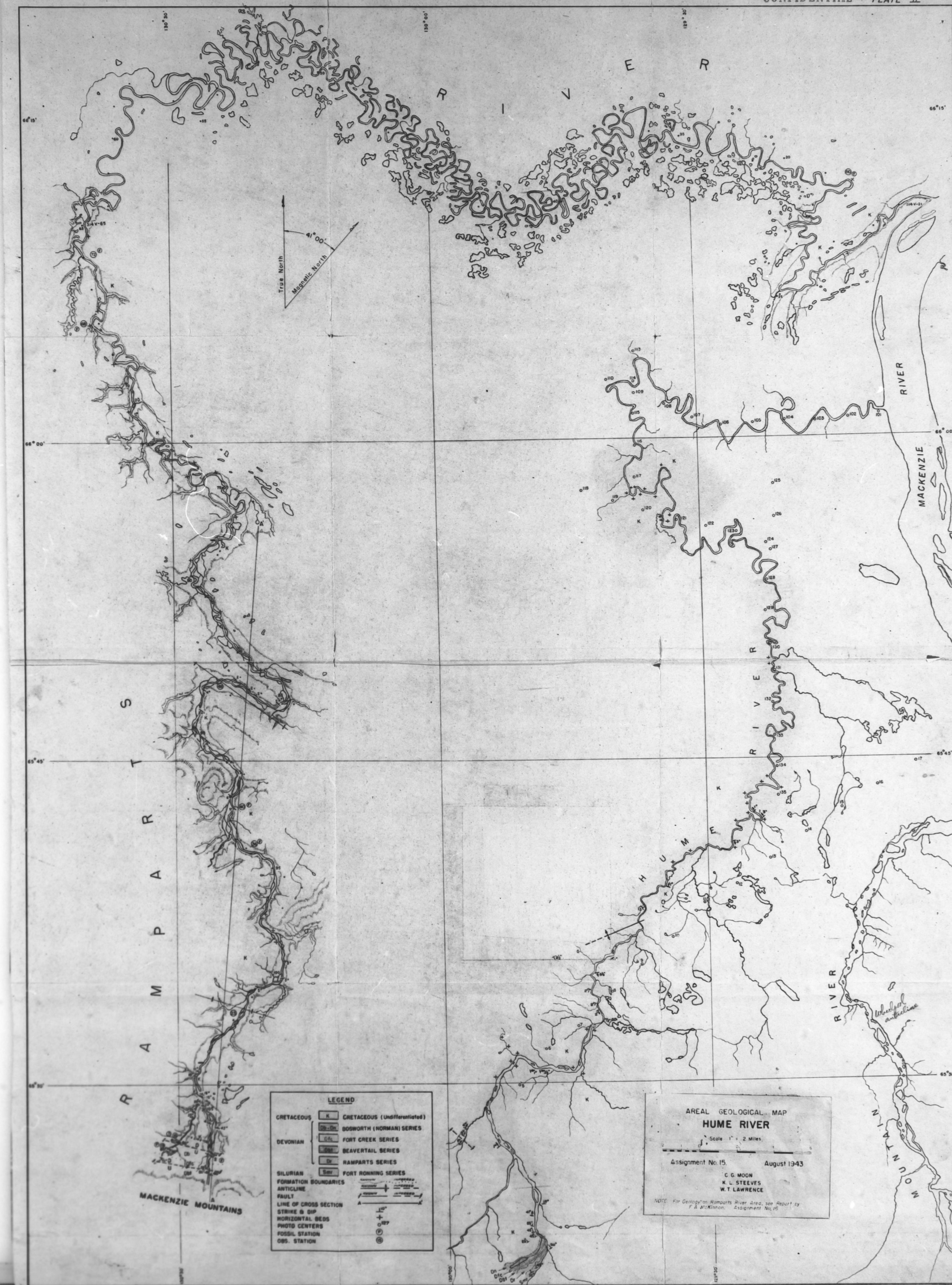
Deen Mountain is a hogback with the dip slope to the north. This general dip continues for over two miles, where the rocks flatten out and, with one exception, remain essentially horizontal the remainder of the distance to the mouth of the river.

The one "exception" is a broad, low anticline which trends, roughly, in an east-west direction and appears to plunge to the east (see Map, Sheet I).

RECOMMENDATIONS

Although the anticline could not easily be reached either by river boat or overland, the writer recommends that, if this structure is drilled, the drilling site of the test well be located on either bank of the river at a point that would be approximately at the center of Aerial Photograph No. 143. This location is well down the south flank and would probably eliminate the possibility of penetrating a gas cap only.

CONFIDENTIAL



30x

HUME RIVER COLUMNAR SECTION

AS MEASURED IN DEEN MTH.-LAKE JULE AREA
for location see serial photo 152

SCALE: 1"=100 FT.

ASSIGNMENT 15

PARTY C

Moon, Steeves, Lawrence

August, 1943

Age	Fm	Column	Thickness	Description
CRETACEOUS				Black, carbonaceous shales.
			120'	Grades upward from a very thin-bedded, "platy" sandstone to beds which average one inch in thickness. Buff, tan, or slightly rusty in color. Fine-grained.
			50'	Buff to tan, soft, easily-eroded shales. Forms conspicuous narrow valleys on tops of hills.
			135'	Grades upward from shale to sandy shale to buff, rusty, or tan sandstone, which weathers into grey shingles.
			60'	Light brown, medium to fine-grained sandstone. Uppermost part very thin-bedded.
			190'	Buff to tan sandy shales.
			40'	Grey to buff, medium to fine-grained, thin-bedded sandstone. Weathers into tan flagstones.
			170'	Grey to black, carbonaceous, soft-weathering shales.
DEVONIAN	Fort Creek and Norman (Bosworth) Series		850'	Covered by muskeg. Forms a deep, elongated valley in which Lake Jule is located.
			20'	Irregularly bedded, rubby, highly fossiliferous, cream-colored limestone. Weathers into grey, angular fragments.
		Ramparts	320'	Very fossiliferous, buff to light grey marl, with several thin limestone members.
		Mt. Running		Alternating massive and thin, evenly-bedded, hard, dark, dolomitic limestone with veins of white, secondary calcite. Weathers to grey, angular fragments and shingles.

F 2.159

