

FINAL GEOLOGICAL REPORT
ARROWHEAD PERMITS,
NORTHWEST TERRITORIES

Introduction

The Arrowhead Reservation is located near the southwestern corner of the Northwest Territories, east of the Liard River. Specifically Permits Nos. 1042, 1043, 1049 and 1050 are bounded by north latitudes 60 degrees, 25 minutes and 60 degrees, 40 minutes; west longitude 122 degrees, 45 minutes and 123 degrees, 15 minutes, see attached plat.

Stratigraphy

Only a very general description of the stratigraphy of the area is possible as no surface geologic work has been done and no wells have been drilled. Such Government Geological Survey reports as are available indicate that the surface of the permits area is covered by Pleistocene and Recent deposits. The only exception to this is the west side and northwest corner of the area where marine shales and sandy shales of Lower Cretaceous age (Fort St. John Group) are reported to be present from scattered exposures.

The Cretaceous strata may attain a thickness of 2,000 feet consisting of a series of shales and lesser sandstones.

Beds of Triassic age are not expected to be present.

The late Palaeozoic strata are expected to consist of a Mississippian shale and limestone unit possibly overlain by a Permo-Carboniferous sandstone unit. Upper members of this series were subjected to pre-Mesozoic erosion and thicknesses cannot be predicted.

The Upper Devonian may consist of about 2,500 feet of shale containing some 200 feet of silty limestone near the middle of the shale unit. The shales are probably overlain by about 500 feet of limestone.

Middle Devonian beds are expected to be present and composed of approximately 1,000 feet of limestones with some dolomite, probably Ramparts formation equivalent.

Early and Middle Palaeozoic beds are the least well known in the area. It is anticipated that about 1,000 feet of Silurian-Ordovician carbonates and/or evaporites may be present. The character or thickness of Cambrian strata cannot be predicted.

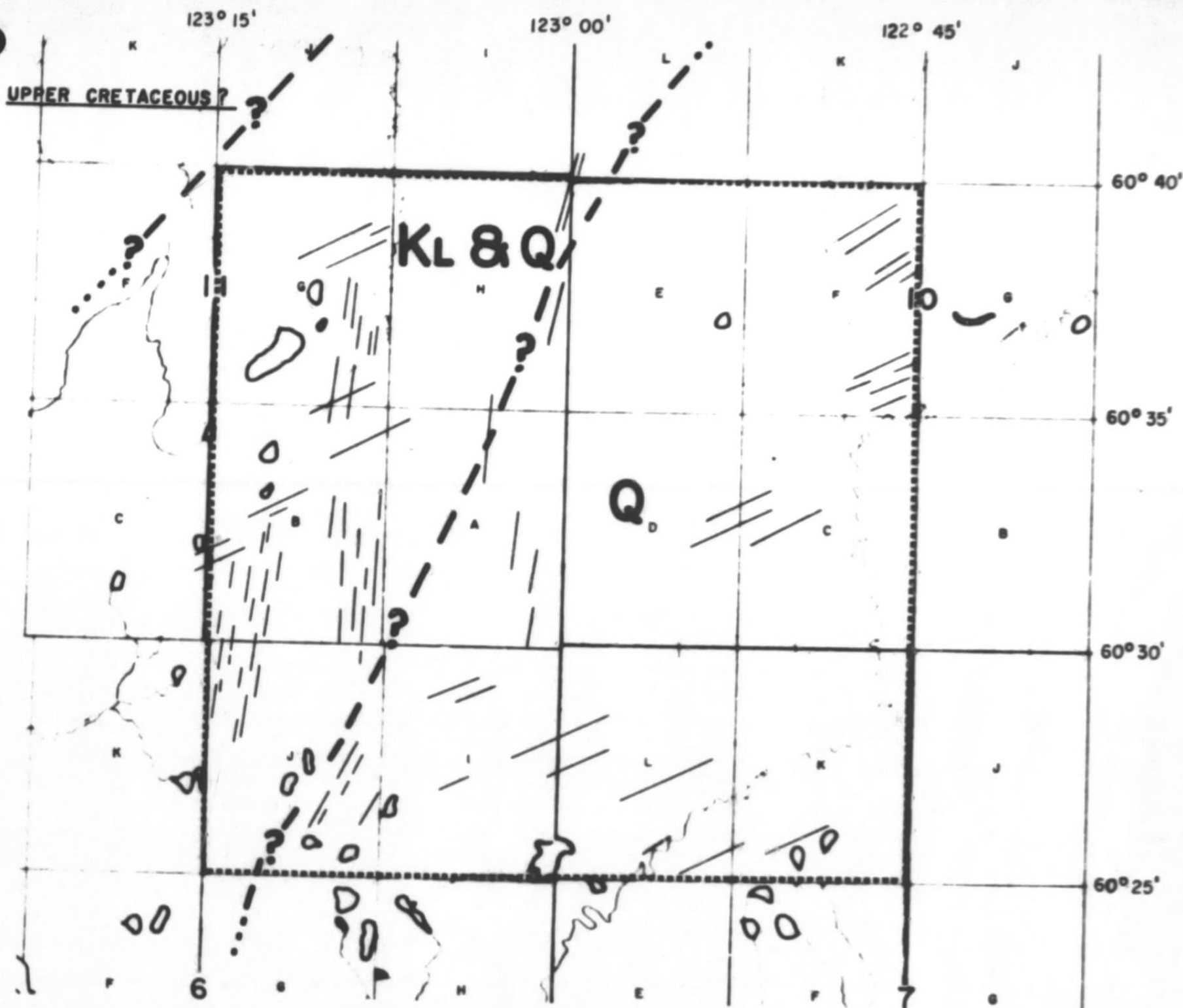
Structure

The Bovie Lake anticline is the most prominent structural feature in the general plains area. The anticline strikes north-south crossing the British Columbia-Territories boundary about 25 miles directly south of the subject area and the surface expression of this fold extends northward to within nine miles of the block. Mississippian limestones are at the surface on the crest of the structure.

ORIGINAL SIGNED
G. D. CHILDS

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Area Geologist

dated Nov. 23/59



SURFACE GEOLOGY

PERMITS No's 1042, 1043, 1049 & 1050



KL - LOWER CRETACEOUS
FT. ST. JOHN GROUP - MARINE SHALE, SANDY SHALE, SANDSTONE

Q - QUATERNARY
ALLUVIUM, GLACIAL DEPOSITS

/ - DRUMLINOIDS, GLACIAL ALIGNMENTS
THE LARGER FEATURES TREND 60° TO 70° EAST OF NORTH AND ARE COMPOSED OF TILL.
THE SMALLER RIDGES TREND ALMOST NORTH-SOUTH AND CARRY A GREATER CONCENTRATION OF BOULDERS.

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..... BOUNDARY OF PERMITS

EDMONTON-EXPLORATION
BY - A.A.M.

2-1-4-12



