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Report on Territorial Oil and Gas Permits 3067, 3030
and 3131. Fort Simpson Area, N.W.T.

Progress Report for Period June 15, 1962 to December
15, 1963. Submitted in support of Application for Credit
on N.W.T. Permits 3135, 3136, 3137, 3138 and 3140.



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**Report on Territorial Oil and Gas Permits 3067, 3130
and 3131, Fort Simpson Area, N.W.T.**

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Progress Report.

INTRODUCTION.

Imperial Oil Limited, Triad Oil Co. Ltd. and Horn River Exploration Limited acquired Territorial Oil and Gas Permits 3135, 3136, 3137, 3138, 3139 & 3140 at the December 15, 1960 Northwest Territories Sale. They were issued to Imperial Oil Limited, Triad Oil Co. Ltd., and Horn River Exploration Limited effective December 15, 1960. These permits are in their second eighteen month period which shall expire December 15, 1963.

RIVER SEISMIC OPERATIONS.

Accurate Exploration Ltd were engaged to conduct a river seismic program consisting of a single line on the Mackenzie River adjacent to the town of Fort Simpson to a point eighteen miles downstream from the abandoned B.A. Hudson Bay Lone Mountain No. 1 well, a distance of approximately fifty-two miles.

The Continuous Profiling (Stratometer) party consisted of four people as follows: Party Manager, Stratometer Operator, Surveyor and Mechanic-Boatman. Equipment consisted of: One Continuous Profiler (Stratometer) with six SIE P-11 amplifier channels; with one cable and six Scientific Service Laboratories D-183 hydrophones; Gas exploder with four firing chambers along with flow gauges and coupling hoses, and a Surveyor's sextant.

During the month of July 1962, Accurate Exploration Ltd. on behalf of Imperial Oil Limited et al conducted seven days of river seismic shooting along the Mackenzie River in the Fort Simpson area. The boats used for this program were rented locally. A converted fifty foot fish packer, the "Owingwuk" powered by a 100 H.P. G.M. Diesel, was used as a personnel boat and had crude

cooking and sleeping facilities. The shooting boat was a twenty-four foot cabin cruiser powered by a 30 H.P. Greymarine Diesel.

A neutrally buoyant SSL cable was used with the gas exploder and had six pressure type crystal phones over a seventy foot interval. The first hydrophone was normally 450 feet back of the boat or 470 feet from the rear gun and 490 feet from the front gun. The cable was pulled in periodically a distance of 150 feet and then released. The gas exploder system consisted of two paravanes each containing two separate firing chambers. These were placed on a bow to stern separation basis. The firing chambers were fed with an explosive mixture of five parts oxygen to one part propane and were fired automatically every two seconds. A continuous recording fathometer was run in conjunction with the shooting and six minute time pips were recorded simultaneously on the fathometer.

Surveying was done using a sextant and air photomosaics for horizontal control. Usually one position was taken every twelve minutes to coincide with every second time pip.

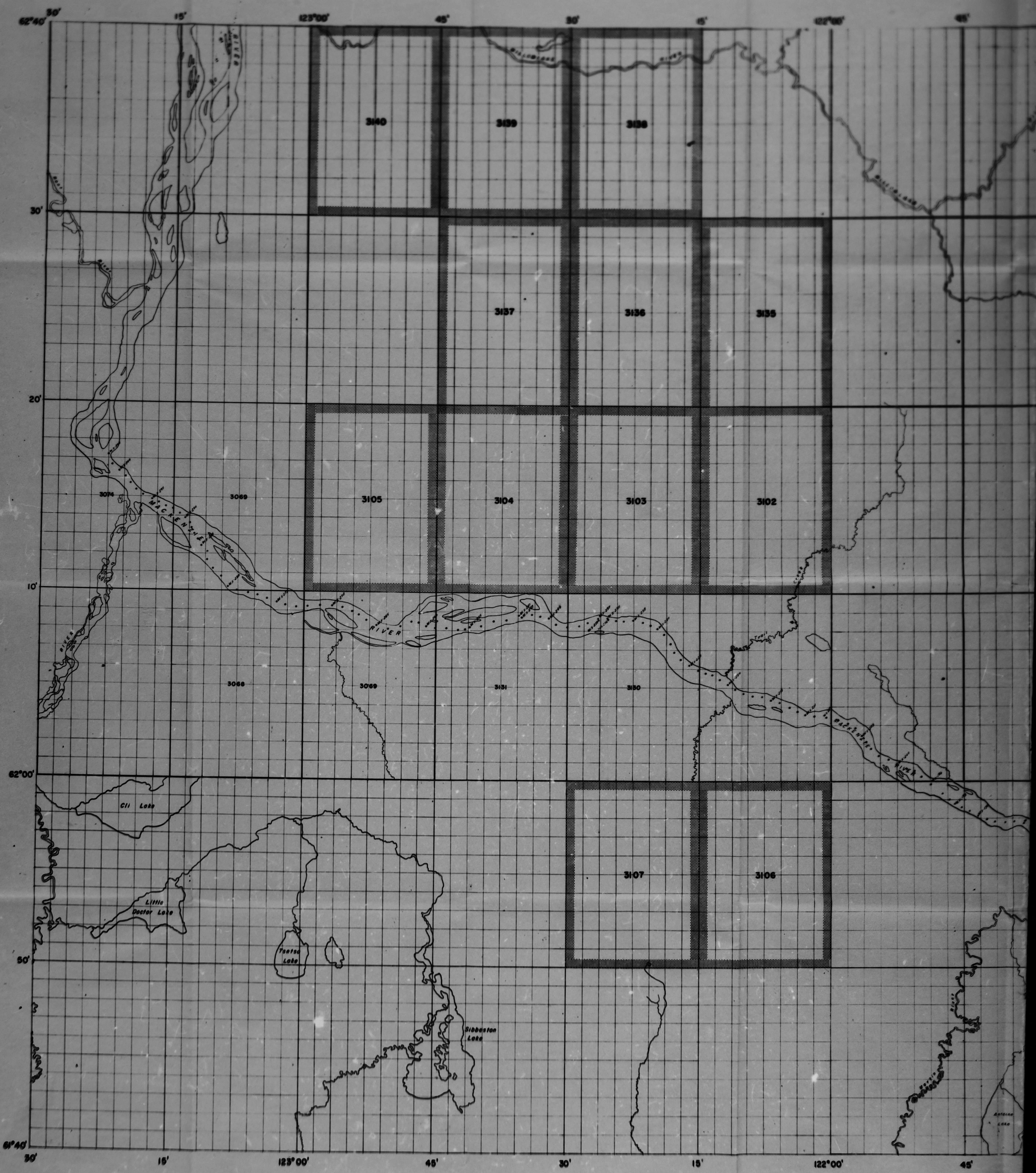
The program was shot in a downstream direction at a speed always just slightly greater than the current. Diesel power was used only when necessary and a Lark outboard was used for steering most of the program period.

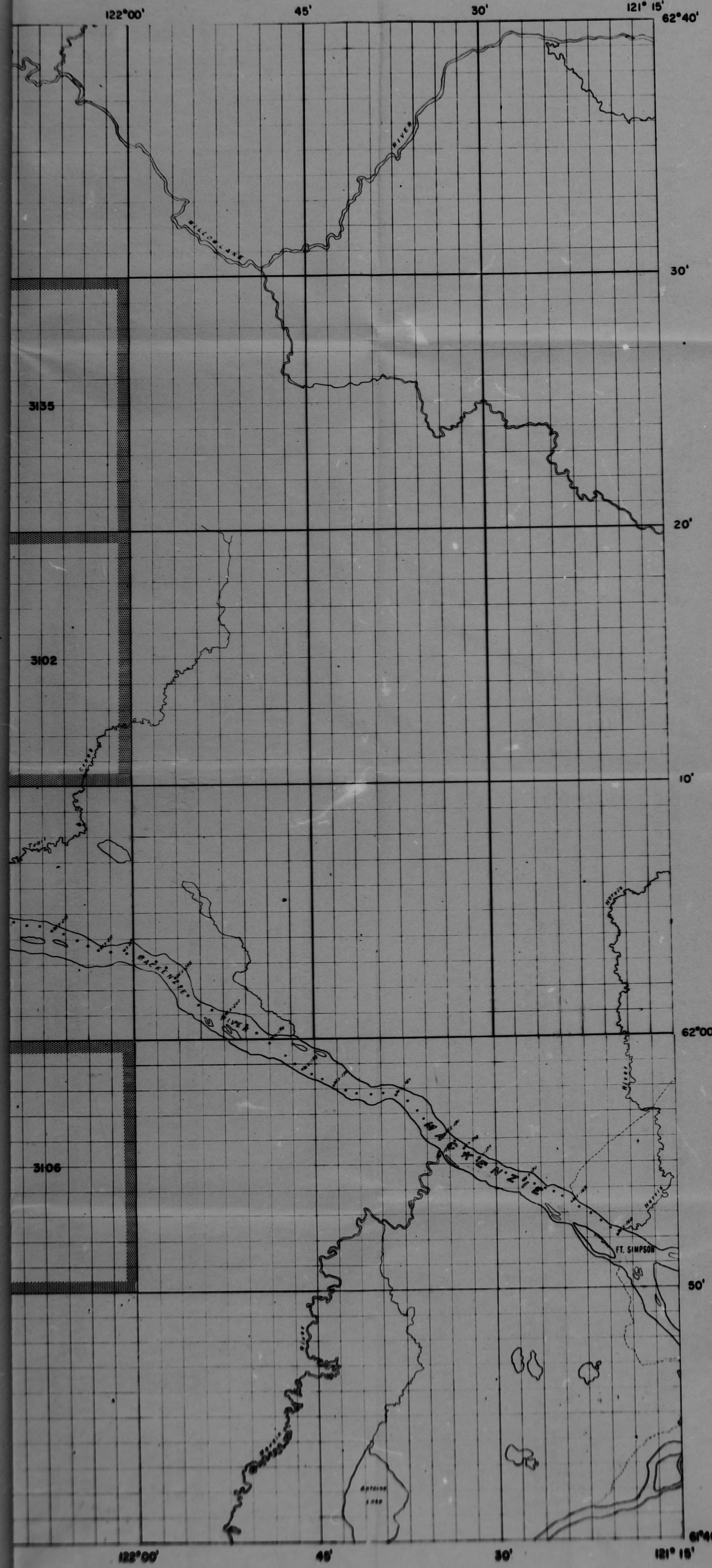
The results of this program was very disappointing. In the program area there is a limestone section approximately 1,200 feet below a clean shale. From this we expected a very marked limestone reflection but, in fact, got only a very weak reflection indication on a very few miles. The sections were completely dominated by noise. The diesel noise overrode everything when these motors were being run. When the diesels were not in use, a strong noise still appeared to dominate the section. This was due primarily to river turbulence

It would seem that some method is required by which river noise from turbulence can be overcome before successful record sections can be obtained. Due to poor records, no interpretative work was undertaken on this program and, therefore, no maps of this nature can be supplied.

P. W. J. Wood
P. W. J. WOOD,
DIVISION EXPLORATION MANAGER,
PEACE RIVER DIVISION,
IMPERIAL OIL LIMITED.

August 6, 1963

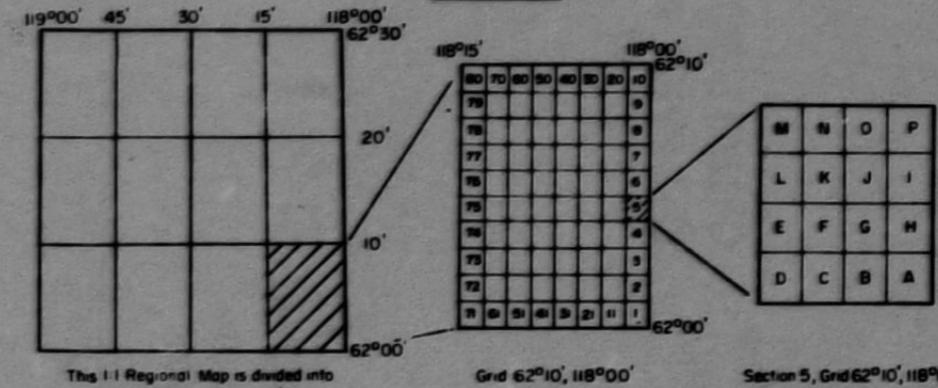




**N.W.T. LAND REFERENCING SYSTEM
AS APPLIED TO
TERRITORIAL OIL & GAS REGULATIONS**

TERRITORIAL OIL & GAS REGULATIONS

EXAMPLE

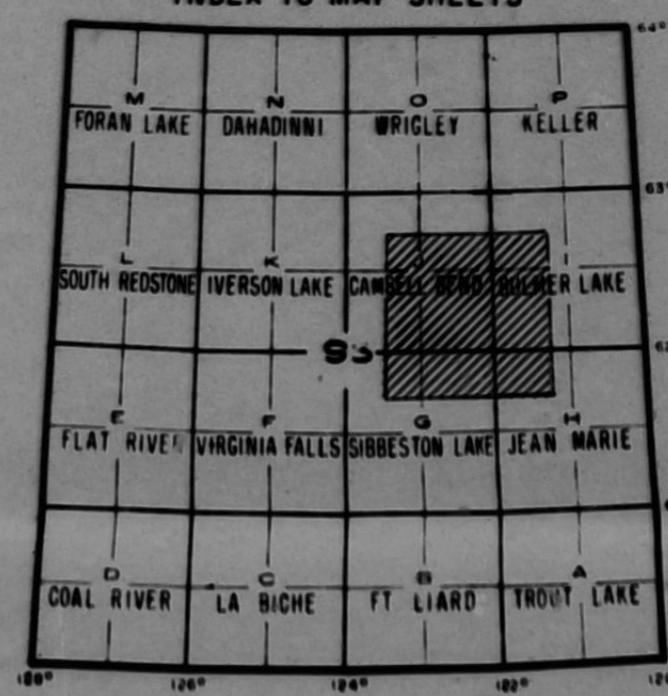


This 1:1 Regional Map is divided into 12 Land Grids. Each Grid is 10' N-S and 15' E-W and is referenced from its NE corner i.e. Grid 62°10' N, 118°00' W.

Grid 62°10', 118°00'
shown subdivided into 80
Land Sections. Grids north
of 68°N are subdivided into
60 Land Sections.

Section 5, Grid 62°10', 118°00'
shown subdivided into 16
Land Units.

INDEX TO MAP SHEETS



SPR

IMPERIAL OIL LIMITED
STRATOMETER SURVEY APPLICABLE TO
P&N.G. PERMITS 3135 TO 3140 + 4182-3187
SCALE : 1 MILE TO 1 INCH (see following page)

- SEISMIC SHOT HOLE LOCATIONS,
ELEVATIONS & TOTAL DEPTHS
- DEPTH MAP -
DATUM - SEA LEVEL
- G-COAL SHOWS G-GRAVEL SHOWS

PEACE RIVER DISTRICT

MARCH 10, 1963

SHEET 1

