EXHIBIT 4

SUMMARY OF GEOLOGICAL INTERPRETATION

o f

AERIAL PHOTOGRAPHY

a n d

PLANIMETRIC MAPS
(Scale: 1" to 1 mile)

TROUT LAKE AREA, N.W.T.

b y

A. G. Walle

f o r

Triad Oil Co. Ltd.

Toronto, Canada June, 1956

Resources Survey Division

The Photographic Survey Corporation Limited

33A

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SUMMARY OF GEOLOGICAL INTERPRETATION

PERMITS: 963-974 Incl.

of

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and

PLANIMETRIC MAPS
(Scale: 1" to 1 mile)

TROUT LAKE AREA, N.W.T.

by

A. G. Walle

for

Triad Oil Co. Ltd.

Toronto, Canada June, 1956

Resources Survey Division

The Photographic Survey Corporation Limited

GEOLOGICAL INTERPRETATION OF AERIAL PHOTOGRAPHY
TROUT LAKE AREA, NORTHWEST TERRITORIES

INTRODUCTION

In March 1956, Triad Oil Co. Ltd. contracted the Photographic Survey Corporation to carry out a geological interpretation of aerial photography covering the Crown Reservation area east of Trout Lake and just north of the Alberta border in the Northwest Territories. Approximately 1,250 square miles are included. The area lies within the following topographic sheets: 95-A-1, 2, 7, 8, and 85-D-5, and 6. The interpretation was accomplished by the Resources Survey Division of the Photographic Survey Corporation Limited.

BASE MAPS AND PHOTOGRAPHY

The Photography used for this study was taken by the R.C.A.F. and is at a scale of 3,333 feet to the inch. The interpretation was marked on the individual prints and the information transferred to the base maps by Sketchmaster. The base maps were produced by Photographic Survey and are at a scale of one mile to the inch.

GENERAL GEOLOGY

There is no published geological information concerning the area. This is undoubtedly because of the paucity of outcrop and the heavy mantle of glacial deposits covering the region. However, some general ideas concerning the probable geology can be inferred by extrapolation from surrounding areas. The interpreted area is probably underlain by marine and non-marine sediments of Cretaceous age. Some Devonian sediments may also be present. The regional strike is probably about east-west with a southerly dip.

APPLICABILITY OF THE PHOTOGRAPHIC INTERPRETATION

The amount of information to be gained from the study of aerial

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APPLICABILITY OF THE PHOTOGRAPHIC INTERPRETATION

The amount of information to be gained from the study of aerial

photography in such an area is somewhat limited. The main function of the interpretation is (a) to identify outcrop occurrences, and (b) to delineate features of possible structural significance.

Nowhere in the surveyed area could outcrop be positively interpreted. If any exposures are present they will be small in a real extent. The scale of the photography and its generally poor quality make the interpretation of small outcrops difficult. However, in a few places it appears from the form of the surface topography that bedrock is near surface and may possibly outcrop. Such places have been presented on the map as possible outcrop areas.

Since there are no extensive bedrock exposures, the only structural features which may be observed will be subsurface structures which are reflected in the covering glacial drift. Unfortunately the surface form of the glacial deposits tends to mask features of subsurface origin. A number of linear features which may represent subsurface faulting or jointing have been delineated. The attempt has been made to ignore linear features which are caused by glaciation, but it is inevitable that some such linears have been included.

CONCLUSIONS

Careful stereoscopic examination of the aerial photography yielded disappointingly little geological information. The most important conclusion to be drawn from the study is a negative one, namely, that there is little likelihood of outcrop occurring throughout most of the area.

Possible outcrop sites were interpreted in three localities:

(1) South and southeast of Tetcho Lake;

(2) Northeast of Trainor Lake; a n d

(3) Near the centre of the west boundary of Twp. 127, Rge. 15.

It is unlikely that outcrop will be found elsewhere. The major streams were closely examined but over most of the area the drift cover appears thick and the streams do not cut bedrock. A cursory glance at the photography of surrounding areas suggests that more outcrop may be found outside the boundaries of the interpreted section.

Many linear features were delineated but no important conclusions could be drawn from the pattern of the linears. Until more geological information is acquired, little structural interpretation can be done.

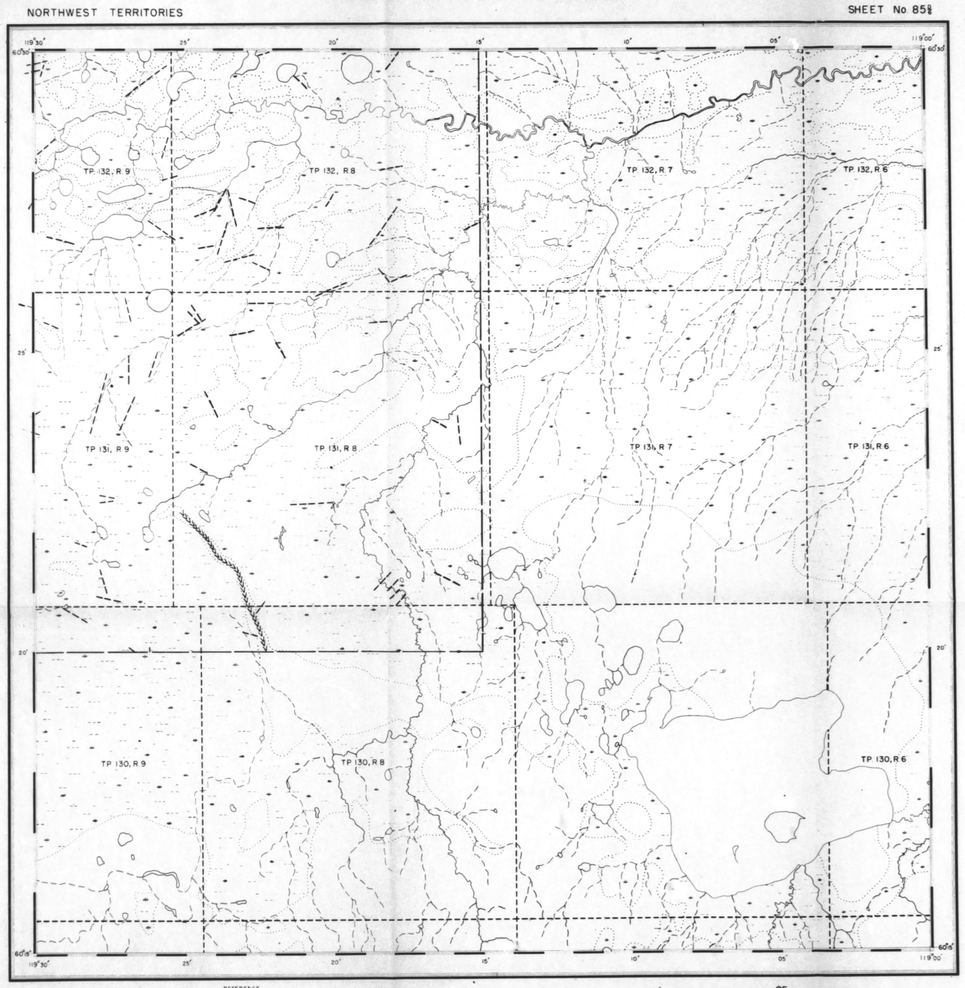
TRIAD OIL COMPANY LIMITED

OIL DEVELOPMENT SERIES

GEOLOGICAL INTERPRETATION OF AERIAL PHOTOGRAPHY

NORTHWEST TERRITORIES

SHEET No. 85



SYMBOLS

- POSSIBLE OUTCROP AREA
- LINEAR FEATURES: MAY REPRESENT FAULTS, JOINTS, GLACIATION, OR BEDDING
- ESKER
- DIRECTION AND SENSE OF GLACIATION
- CROWN RESERVATION

PRODUCED IN CANADA
BY THE
RESOURCES SURVEY DIVISION
OF
THE PHOTOGRAPHIC SURVEY CORPORATION LIMITED
JUNE 1956

REFERENCE

ROADS
TRAILS
TOWNSHIP LINE SURVEYED
TOWNSHIP LINE UNSURVEYED
TELEPHONE OR TELEGRAPH LINE
RIVER AND LAKE
INTERMITTENT STREAM
SWAMP OR MUSKEG
CANOE
BUILDINGS

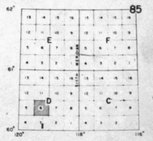
WEST OF SIXTH MERIDIAN

Scale One Inch to One Mile = 1/63,360

4 MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 YARDS

Published 1954



NOTE: The maps in this series have been compiled by aerial survey methods to the best available ground control surveys. Owing to the limited extent of existing surveys in the area, the maps should be considered to be of a reconnaissance type. Township and Range line positions have been based on the computed coordinates of theoretical township corners and are therefore subject to possible revision as new survey data becomes available.

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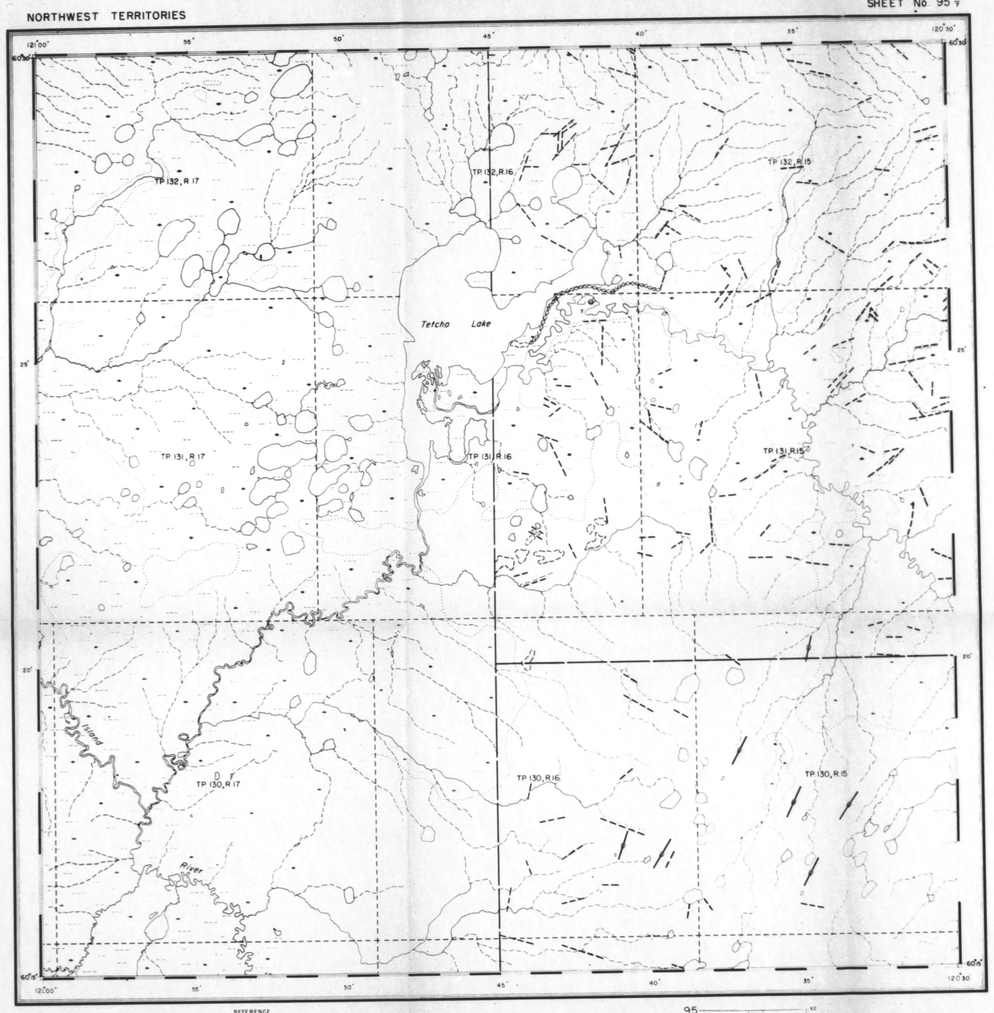
TRIAD OIL COMPANY LIMITED

OIL DEVELOPMENT SERIES

GEOLOGICAL INTERPRETATION OF AERIAL PHOTOGRAPHY

NORTHWEST TERRITORIES

SHEET No. 95 ½



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WEST OF SIXTH MERIDIAN

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4 MILES
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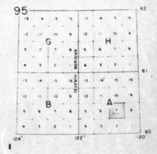

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G 579-27

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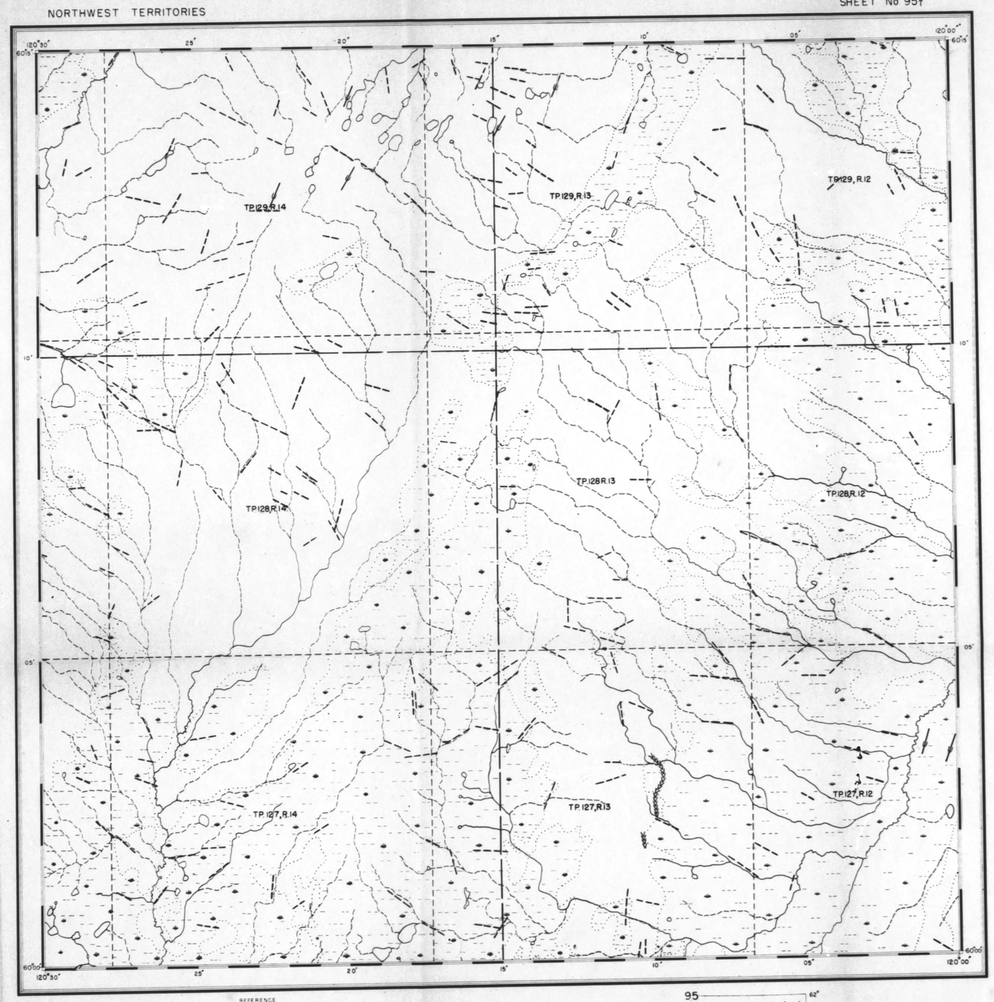
OIL DEVELOPMENT SERIES

GEOLOGICAL INTERPRETATION OF AERIAL PHOTOGRAPHY

NORTHWEST TERRITORIES

SHEET No 95†



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G 379-28

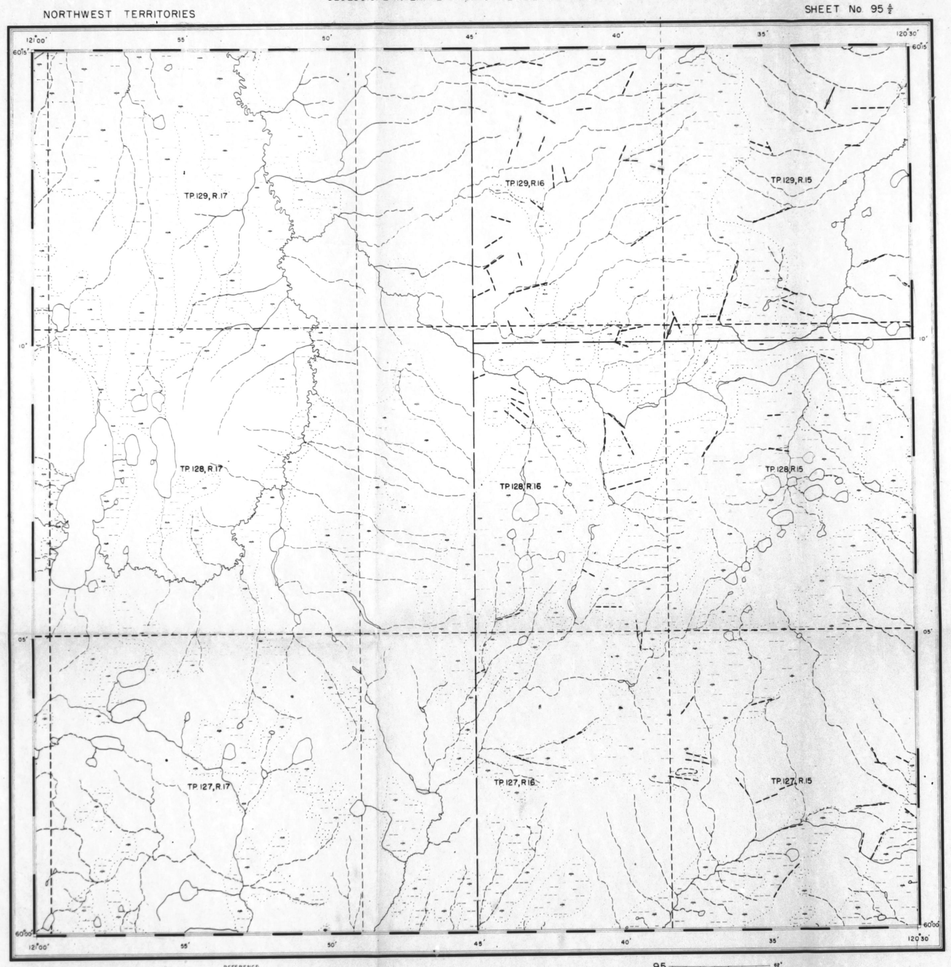
TRIAD OIL COMPANY LIMITED

OIL DEVELOPMENT SERIES

GEOLOGICAL INTERPRETATION OF AERIAL PHOTOGRAPHY

NORTHWEST TERRITORIES

SHEET No 95 $\frac{1}{2}$



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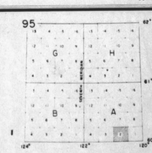
1000 0 1000 2000 3000 4000 5000 6000 7000 YARDS

1 2 3 4 MILES

Published 1956



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G 579-29

120°30'
25'
20'
15'
10'
05'
120°00'
60°30'
60°15'
25'
20'

TP.132, R.14
TP.132, R.13
TP.132, R.12
Trainor Lake
TP.131, R.14
TP.131, R.13
TP.131, R.12
TP.130, R.14
T.P.130, R.13
TP.130, R.12

TRIAD OIL COMPANY LIMITED

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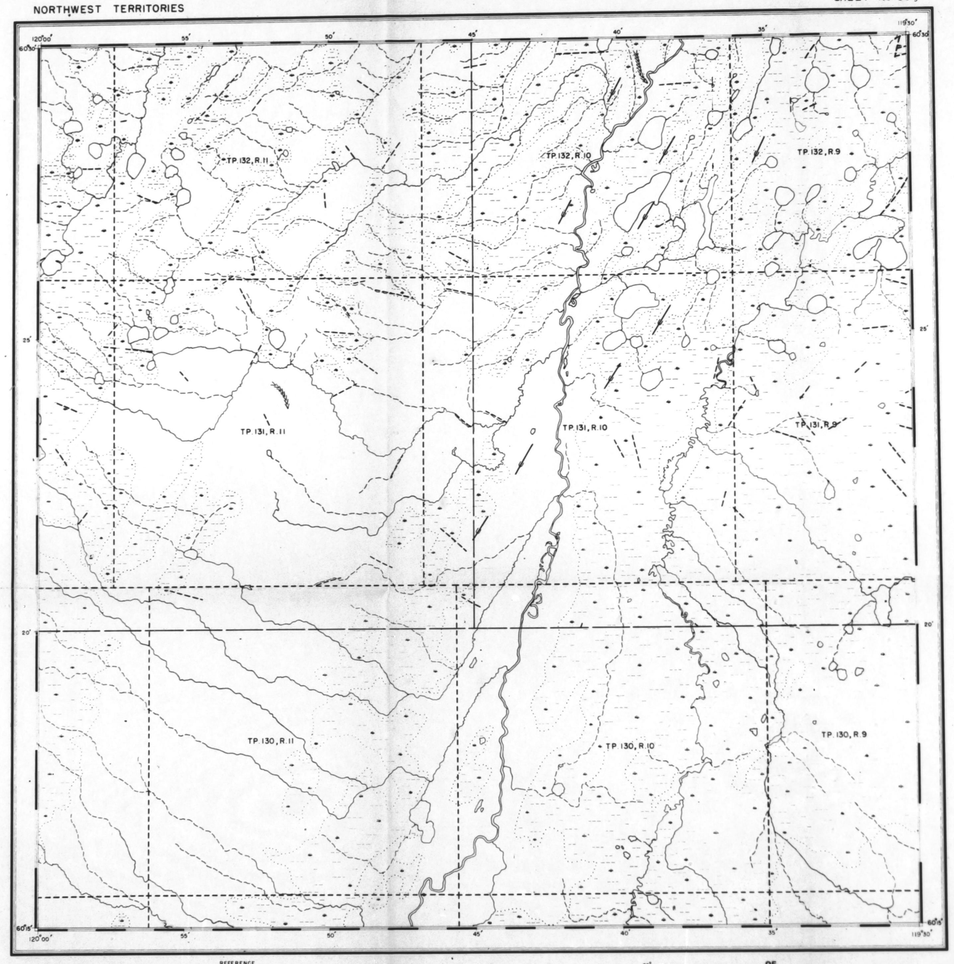

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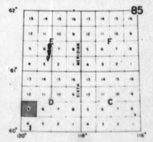

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G 579-81

30x

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