MAHONY LAKE

TL-301

TL-304

TL-307

L-25

L-29

L-33

L-37

L-41

L-45

L-47

41730

31017

50467

26880

19078

19128

980

27080

6235

6225

978

18928

6200

228

630

19328

917

6175

21578

478

21428

6150

22028

128

367

6125

22228

24378

6100

278

6100

24228

24478

6075

578

24628

6075

530

6050

678

817

26578

26778

6025

26828

928

27978

6000

267

7270

70667

767

70817

30767

5975

318

42218

42368

5950

41968

42168

41430

068

50217

5925

125°00

65°4

7290

65°30

385

405

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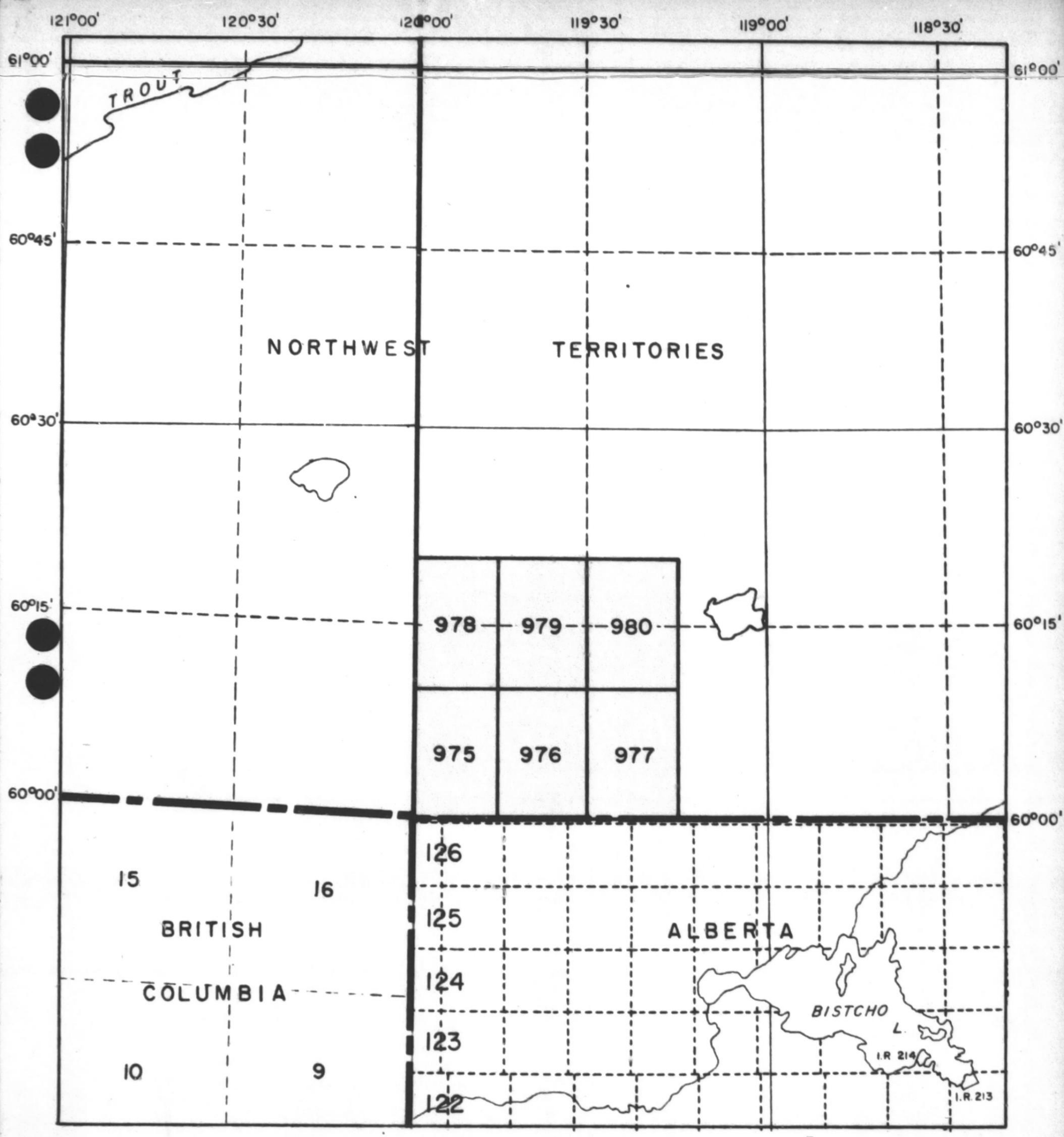


MOBIL OIL OF CANADA, LTD.

NORTHWEST TERRITORIES

PERMITS No. 978 - 979 - 980 - 975 - 976 - 977

SCALE: 1" = 12 MILES

1.

SUMMARY OF SEISMIC OPERATIONS

N.W.T. PERMITS 975-980

December 29, 1958 - February 6, 1959

by Mobil Oil of Canada, Ltd.

An exploration program was conducted on the above Permits for Mobil Oil of Canada, Ltd. by Exploration Consultants Incorporated, a seismic contractor.

The field crew and interpretation staff were based in a trailer camp on the permit land. Twenty seven men were employed continuously. Supplies and replacement parts for equipment were supplied from Peace River, Alberta, a distance of 425 miles of which 130 were bush trail. The access road passed through several long flat open areas of muskeg where heavy drifting occurred and considerable time was spent in snow-plowing and maintaining the road.

Communications were by means of a 6-channel MRT-600 radio. The 4300 k.c. frequency was used, the call being CKB54 Bistcho Lake.

The equipment used in the reflection seismograph survey consisted of three bulldozers, two portable drill units and ten trucks. Two D-7 bulldozers were used to cut seismic line on the project and a D-6 bulldozer was used to reblade line, clear shot point location and snowplow line. A fourth bulldozer, a TD-14 was used for a short period to clear an access road into the permits. Two different snowplows were used at times during the survey to replow the access road into camp. The drill equipment was truck mounted and of the Mayhew 1000 class adapted for drilling with water carried by water trucks of approximate 800 gallon capacity.

The recording equipment consisted of a recording truck, a reel truck and a shooting truck. The surveying equipment consisted of one truck. A heated supply truck and a party chief's pickup made up the rest of the mobile units employed in this survey.

Survey control was based on location, azimuth bearing and elevations of pins as established by the Alberta-Northwest Territories Boundary Commission and the British Columbia-Northwest Territories Boundary Commission along the boundary between the N.W.T. and the respective provinces. Both horizontal and vertical positions of all shot points were recorded.

Continuous profiling with shotpoints spaced at 1320 foot intervals and geophone group intervals of 110 feet were employed for the survey. Four geophones per group were used in order to minimize extraneous noise and strengthen the reflection signals. Single holes were drilled to 60 feet at each shotpoint.

The recording instruments consisted of 24 regular seismic amplifiers used in conjunction with an S.I.E. MR4 FM tape recording system. This allowed a monitor record to be taken simultaneously with a tape and a visual inspection of the seismogram was made on the spot before the next shot. Tapes were played back in the field and also in Calgary where variable area density cross-sections were made.

Record times were corrected to a reference plane of 1850 feet above sea level using a replacement velocity of 6000 feet per second. The standard uphole method of computation was used for this survey. Long spreads and offset spreads, fired by radio, were shot for horizontal velocity control. One 300 foot hole was shot for vertical velocity information. A total of 87 shot holes were drilled and shot on N.W.T. Permits 975-980 up to February 6, 1959. Work was continued into the next report period.

Record quality was generally fair. The geologic section was believed to be contained within a time zone of 1.5 seconds measured from the time break. Only one reflection, tentatively identified as near the top of the Wabamun could be carried continuously throughout the project. This reflection horizon indicated gentle west dip.

Maps submitted with this report are as follows:

1. "A" Horizon Reflection near top of Wabamun map showing corrected time value at each shot point.

2. Shot Point Locations & Elevations.

Respectfully Submitted,

D. V. Bigelow.
Staff Geophysicist.

ACK/DVB/rg.
Attachs.

SUMMARY OF AEROMAGNETOMETER SURVEY

N.W.T. PERMITS 975-980

by Mobil Oil of Canada, Ltd.

During the period November 1956 to January 1957 an airborne magnetometer survey was conducted over the above Permits by Aeromagnetic Surveys Ltd., for Mobil Oil of Canada, Ltd.

The area covered by Permits 975-980 lies between Latitudes 60° 00' to 60° 20' Longitudes 119° 15' to 120° 00' and contains approximately 590 square miles.

Flying

The area was surveyed with a continuously recording magnetometer which was mounted in a suitable aircraft that operated out of a flying base at Fort Nelson, B.C. A continuously recording flux-gate type of magnetometer was operated at the flying base to serve as a guide to general changes in the earth's field and to warn of magnetic storms. When these storms occurred, flying operations were suspended until they subsided.

The positioning of the flight records was accomplished by means of 35 mm camera exposures which were synchronized with the magnetic records.

A flying altitude of 3500 feet barometric was maintained which gave a minimum ground clearance of 500 feet. The Survey was flown with east-west flight lines at 1 1/2 mile intervals and north-south control lines at 5 mile intervals. A total of 547 line miles of data were flown.

Records

The magnetometer measured and recorded the variations in the total field of the earth. An arbitrary datum was adopted which assured that all the magnetic values would be positive in value.

The noise level from extraneous sources such as the magnetometer element, amplifiers etc., did not exceed (plus or minus) 1.5 gammas and the resolution of the instrument was such that variations of field intensity of 2.5 gammas or less were readable.

The magnetic measurements were continuously recorded on paper tape. At frequent intervals exposures were taken on the 35 mm film so that the flight path was continuously covered by overlapping photographs. Fiducial marks were printed simultaneously on the magnetic tapes and 35 mm film at sufficient intervals to enable the accurate positioning of the magnetic records with respect to the ground surface.

Reduction of Data

The magnetic flight records were taken from the field to a central office where various corrections were applied to the records. The flight paths of the plane were plotted on the maps with the aid of the 35 mm exposures and the contour intersection values were taken from the correction tapes and plotted along the flight paths. The map was then contoured on a 10 gamma interval.

Interpretation

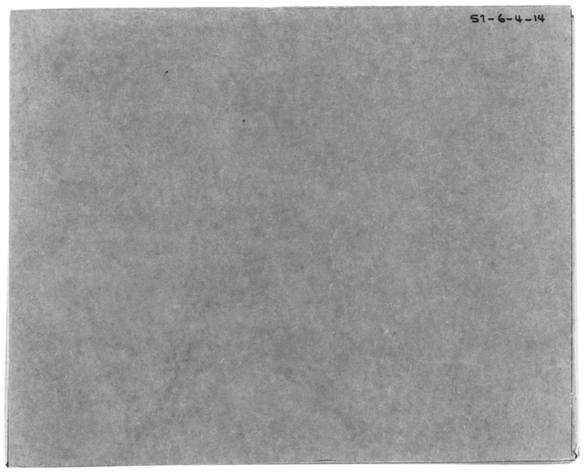
After the aeromagnetic survey had been flown and the data reduced and plotted, it was interpreted by Gravity Meter Exploration Co.

A copy of the Total Intensity Map contoured in 10 gamma intervals is submitted with this report. The map also shows flight line location, fiducial points and inflection points.

Respectfully Submitted,

D. V. Bigelow,
Staff Geophysicist.

DVB/rg.
Attach.


S1-6-4-14

120°00'
119°55'
119°50'
119°45'
119°40'
119°35'
119°30'
119°25'
119°20'
119°15'
119°10'
119°05'
119°00'
60°30'
60°25'
60°20'
60°15'
60°10'
60°05'

RIVER

KAKISA

978
979
980
975
976
977

1

RIVER

KAKISA

978

979

980

975

976

977

NORTHWEST TERRITORIES

ALBERTA

Tp 126

60°25'

60°20'

60°15'

60°10'

60°05'

60°00'

120°00'

119°55'

119°50'

119°45'

119°40'

119°35'

119°30'

119°25'

119°20'

119°15'

119°10'

119°05'

119°00'

RGE. 12

RGE. 11

RGE. 10

RGE. 9

RGE. 8

RGE. 7

RGE. 6 W 6 M.

1 Section
Approx 794.88 Acres
1.08 M.

= 16 Units

M N O P
L K J I
E F G H
D C B A

MOBIL OIL OF CANADA, LTD.
CALGARY (B.C. District - N.W.T.) ALBERTA

N.W.T. K.(KAKISA RIVER) SHEET

SP LOCATIONS & ELEVATIONS

2 of 2

14

977

976

975

980

979

978

KAKISA

RIVER

RIVER

KAKISA

978

979

980

975

976

977

NORTHWEST TERRITORIES

ALBERTA

TP 126

RGE.12 RGE.11 RGE.10 RGE.9 RGE.8 RGE.7 RGE.6 W6 M.

1 Section Approx 794.88 Acres 1.08 M

15 Mile

= 16 Units

M N O P
L K J I
E F G H
D C B A

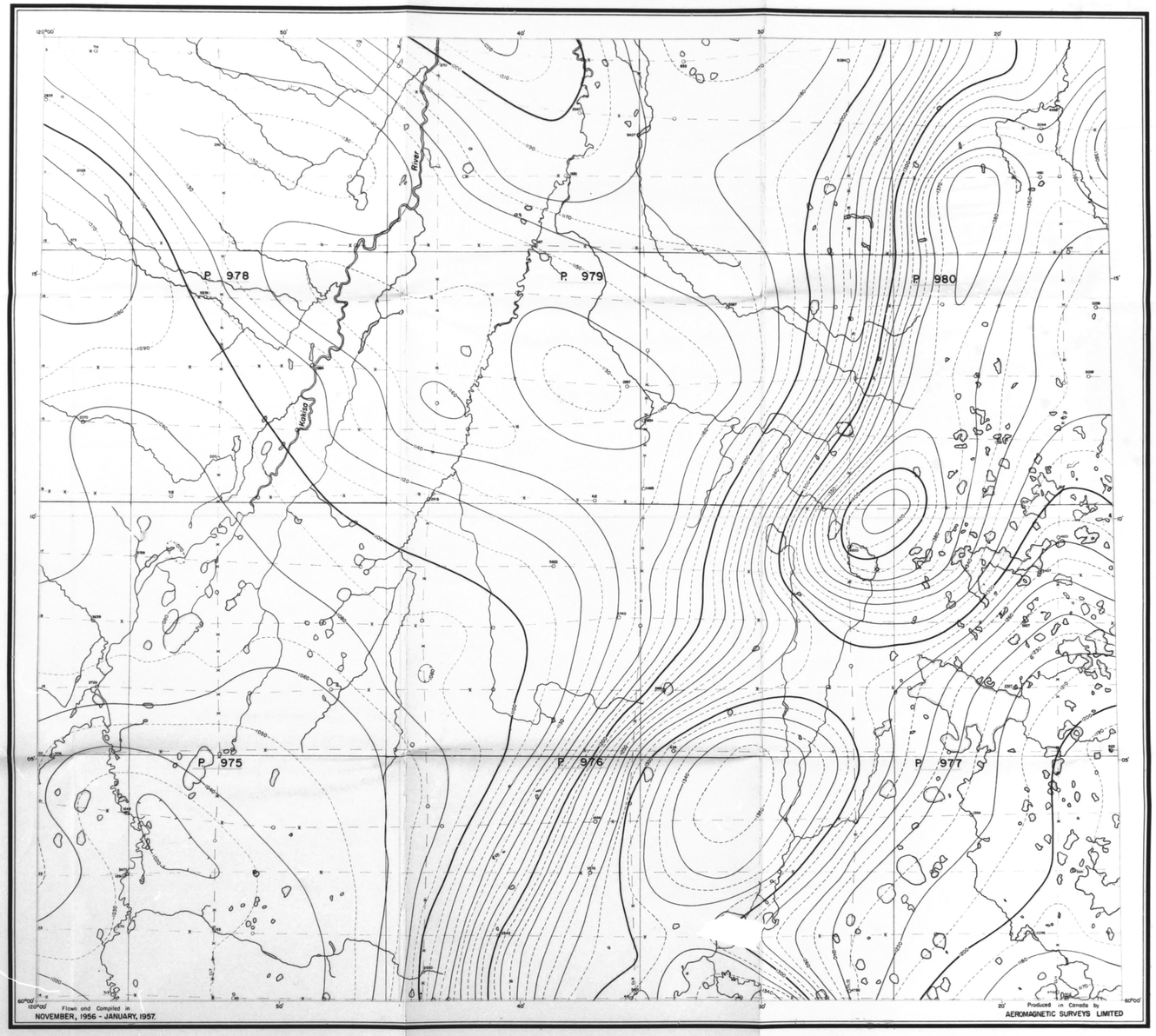
MOBIL OIL OF CANADA, LTD
CALGARY (B.C. District - N.W.T.) ALBERTA

N.W.T. K.(KAKISA RIVER) SHEET
"A" HORIZON.
(WABAMUN ?)

SCALE 1 INCH = 1 MILE

2 of 2

MOBIL OIL OF CANADA LIMITED
AIRBORNE MAGNETOMETER SURVEY



Flown and Compiled in
NOVEMBER, 1956 - JANUARY, 1957.

Produced in Canada by
AEROMAGNETIC SURVEYS LIMITED

CONTOUR INTERVAL	10 GAMMA
MEAN FLIGHT LINE SPACING	1/8 MILES
ALTITUDE ABOVE SEA LEVEL	3500 FEET
500 GAMMA CONTOUR	
100 GAMMA CONTOUR	
20 GAMMA CONTOUR	
10 GAMMA CONTOUR	
MAGNETIC LOW	
FIDUCIAL POINTS	3440
FLIGHT LINES	Y to XX
INFLECTION POINTS	X X

NORTHWEST TERRITORIES
PERMITS № 978 - 979 - 980 - 975 - 976 - 977

SCALE
MILE 0 1 2 3 4 MILES
1 Inch to 1 Mile

14