

AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS
SHELL OIL COMPANY OF CANADA LIMITED

HORIZONTAL CONTROL
PLANE METRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED, ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS
OTTAWA.

FLIGHT ALTITUDE
2250 FEET A.S.L.
TRaverse INTERVAL
1.5 MILES
CONTROL LINE INTERVAL
6 MILES
CONTOUR INTERVAL
10 GAMMAS
BASE INTENSITY
ARBITRARY

FLIGHT ALTITUDE
2250 FEET A.S.L.
TRaverse INTERVAL
1.5 MILES
CONTROL LINE INTERVAL
6 MILES
CONTOUR INTERVAL
10 GAMMAS
BASE INTENSITY
ARBITRARY

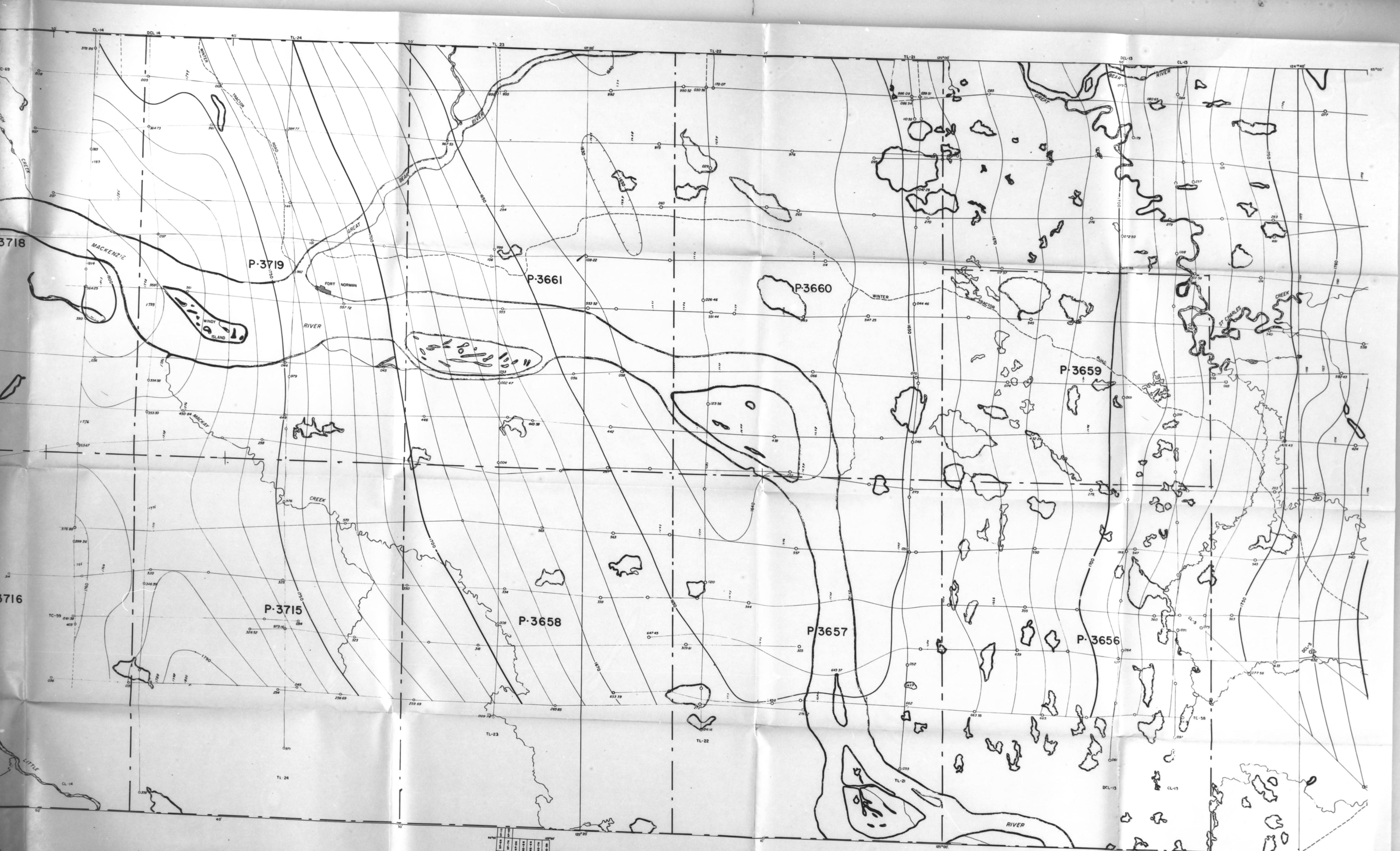
SHEET INDEX
CANADIAN AERO SERVICE LIMITED
OTTAWA, ONTARIO

APPROXIMATE MEAN
DECLINATION 1958
NORMAL REGIONAL VARIATION
CORRECTION APPLIED
REGIONAL MAGNETIC VALUES

AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS
SHELL OIL COMPANY OF CANADA LIMITED

FLIGHT ALTITUDE
2250 FEET A.S.L.
TRaverse INTERVAL
1.5 MILES
CONTROL LINE INTERVAL
6 MILES
CONTOUR INTERVAL
10 GAMMAS
BASE INTENSITY
ARBITRARY

SHEET INDEX
CANADIAN AERO SERVICE LIMITED
OTTAWA, ONTARIO



AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS
SHELL OIL COMPANY OF CANADA LIMITED

HORIZONTAL CONTROL BASED ON
PLANIMETRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED. ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS.
OTTAWA.

FLIGHT ALTITUDE 2250 FEET A.S.L.
 TRAVERSE INTERVAL 1.5 MILES
 CONTROL LINE INTERVAL 6 MILES
 CONTOUR INTERVAL 10 GAMMAS
 BASE INTENSITY ARBITRARY

SHEET INDEX
IAN AERO SERV
OTTAWA, ONTA

APPROXIMATE MEAN DECLINATION 1958
NORMAL REGIONAL VARIATION
CORRECTION APPLIED
REGIONAL MAGNETIC VALUE

AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS
SHELL OIL COMPANY OF CANADA LIMITED

SHELL OIL COMPANY OF CANADA LIMITED

FLIGHT ALTITUDE 2250 FEET A.S.L.
 TRAVERSE INTERVAL 1.5 MILES
 CONTROL LINE INTERVAL 6 MILES
 CONTOUR INTERVAL 10 GAMMAS
 BASE INTENSITY ARBITRARY

1-1-5-11

AEROMAGNETIC INVESTIGATION

FORT NORMAN AREA

NORTHWEST TERRITORIES

AMERADA PETROLEUM CORPORATION



Abstracted for
Geo-Science Data Index

Date _____

GEOPHYSICAL ASSOCIATES OF CANADA LTD

Calgary Alberta

October 1965

AEROMAGNETIC INVESTIGATION
FORT NORMAN AREA, NORTHWEST TERRITORIES

THIS INVESTIGATION WAS UNDERTAKEN ON BEHALF OF THE AMERADA PETROLEUM CORPORATION IN TWO STAGES. THE FIRST STAGE WAS THE EXAMINATION OF DATA FROM PART OF AN AEROMAGNETIC SURVEY CONDUCTED BY CANADIAN AERO SERVICE LTD FOR SHELL OIL COMPANY OF CANADA LIMITED. THE SECOND STAGE INCLUDED THE PLANNING AND EXECUTION OF ANOTHER AEROMAGNETIC SURVEY TO THE WEST AND THE SOUTH OF THE EXISTING SURVEY. THE NEW SURVEY INCLUDES THAT PORTION OF AMERADA'S LEASE NOT COVERED BY THE ORIGINAL SURVEY.

THE SHELL SURVEY (MAP SCALE: 1 IN/4000 FT)

GROUND ELEVATION CHANGES NECESSITATE A NUMBER OF FLIGHT LEVEL CHANGES IN THE SHELL SURVEY. UNFORTUNATELY THE AREA UNDER INVESTIGATION HAS THREE LEVEL CHANGES AS INDICATED IN FIGURE 1. THE FLIGHT LINE SPACING EMPLOYED BY SHELL IS 1.5 MI BETWEEN TRAVERSES AND SIX MILES BETWEEN TIE LINES. IN THE SOUTHEASTERN FLIGHT BLOCK (4250 FT ASL) SOME TRAVERSES ARE SKIPPED DUE TO OPERATIONAL PROBLEMS. THIS RESULTS IN A THREE MILE SPACING BETWEEN SOME TRAVERSES.

TRAVERSE FLIGHT DIRECTION IS EAST-WEST EXCEPT IN THE 3500 FT BLOCK NORTH OF 65° . HERE THE TRAVERSE DIRECTION IS NORTH-SOUTH BECAUSE THE OBSERVED FIELD IS EAST-WEST. TIE-LINES ARE FLOWN NORMAL TO TRAVERSE LINES.

THE OBSERVED FIELD IS DOMINATED BY LARGE INTRABASEMENT ANOMALIES. THESE HAVE NORTHERLY OR NORTHWESTERLY ORIENTATION AND RESULT FROM MINERALIZATION CHANGES WITHIN THE BASEMENT COMPLEX. ANOMALIES ARE SMALLER IN AREAL EXTENT IN THE EAST THAN THOSE IN THE WEST.

A SECOND TYPE OF ANOMALY IS NOTED IN THE TOTAL FIELD MAPS. THESE ARE THE SHARP DEVIATIONS AND SOMETIMES SMALL CLOSURES OF THE ISOMAGNETIC LINES SUCH AS OBSERVED EAST OF RUSTY LAKE. THESE SMALL AMPLITUDE HIGH FREQUENCY ANOMALIES ARE CAUSED BY MAGNETIC BODIES WITHIN THE SECTION. THEY ARE LOCATED AT OR NEAR THE SURFACE OF THE GROUND.

ALL ANOMALIES APPEAR TO BE THE RESULT OF NORMAL INDUCTION IN THE EARTH'S FIELD, THE PRINCIPAL FACTS OF WHICH ARE INCLINATION, 81° ; DECLINATION, 40° E; AND TOTAL INTENSITY, 59,700 GAMMA.

THE AMERADA SURVEY (MAP SCALE: 1 IN/1 MI)

LOCKWOOD SURVEY CORPORATION LIMITED IS THE CONTRACTOR FOR THE NEW FLYING. ON THE BASIS OF INFORMATION GAINED FROM THE SHELL SURVEY, IT WAS DECIDED THAT THE NEW SURVEY SHOULD BE FLOWN IN TWO BLOCKS. THE NORTHERN BLOCK IS FLOWN WITH NORTH-SOUTH TRAVERSES IN ORDER TO INTERSECT THE OBSERVED FIELD AT RIGHT ANGLES. THE 3500 FT FLIGHT LEVEL IS EXTENDED FROM THE OLD SURVEY TO COVER THIS AREA. FLIGHT LINE SPACING IS 1.5 MILES BETWEEN TRAVERSE LINES AND SIX MILES BETWEEN TIE-LINES.

THE SOUTHERN BLOCK IS FLOWN AT 4500 FT BECAUSE OF THE CANYON RANGES THAT ARE LOCATED IN THE SOUTHWESTERN CORNER OF THE SURVEY AREA. THIS AREA IS FLOWN IN AN EAST-WEST DIRECTION WITH 1.5 MILES BETWEEN TRAVERSES AND SIX MILES BETWEEN TIE-LINES.

THE TRAVERSES THAT ARE MISSING FROM THE SOUTHEASTERN PART OF THE SHELL DATA ARE FILLED IN BY NEW FLIGHTS. THE NECESSARY CONTOUR CHANGES ARE MADE AND THE REVISED MAP IS PRESENTED AT A SCALE OF 1 IN/1 MI.

THE OBSERVED FIELD IS CONTOURED AT A TEN GAMMA INTERVAL ON THE BASIS OF MAGNETIC PROFILES WITH A 300 GAMMA FULL SCALE DEFLECTION AND A HORIZONTAL SCALE OF APPROXIMATELY 1 IN/0.75 MI.

THE OBSERVED FIELD IS THE PREDICTED CONTINUATION FROM THE SHELL SURVEY WITH THE EXCEPTION OF SOME NARROW SHARP ANOMALIES WITH AMPLITUDES WHICH ARE LARGE FOR THIS AREA. THESE ARE LOCATED IN THE SOUTHERN PART OF THE AREA NEAR THE NORTHWARD BOW OF THE KEELE RIVER.

MAGNETIZATION AGAIN APPEARS TO BE THE RESULT OF INDUCTION IN THE EARTH'S FIELD. THE MAJORITY OF THE ANOMALIES ARE THE RESULT OF MINERALIZATION CHANGES IN THE BASEMENT.

GEOPHYSICAL ASSOCIATES OF CANADA LTD



R. J. BROD

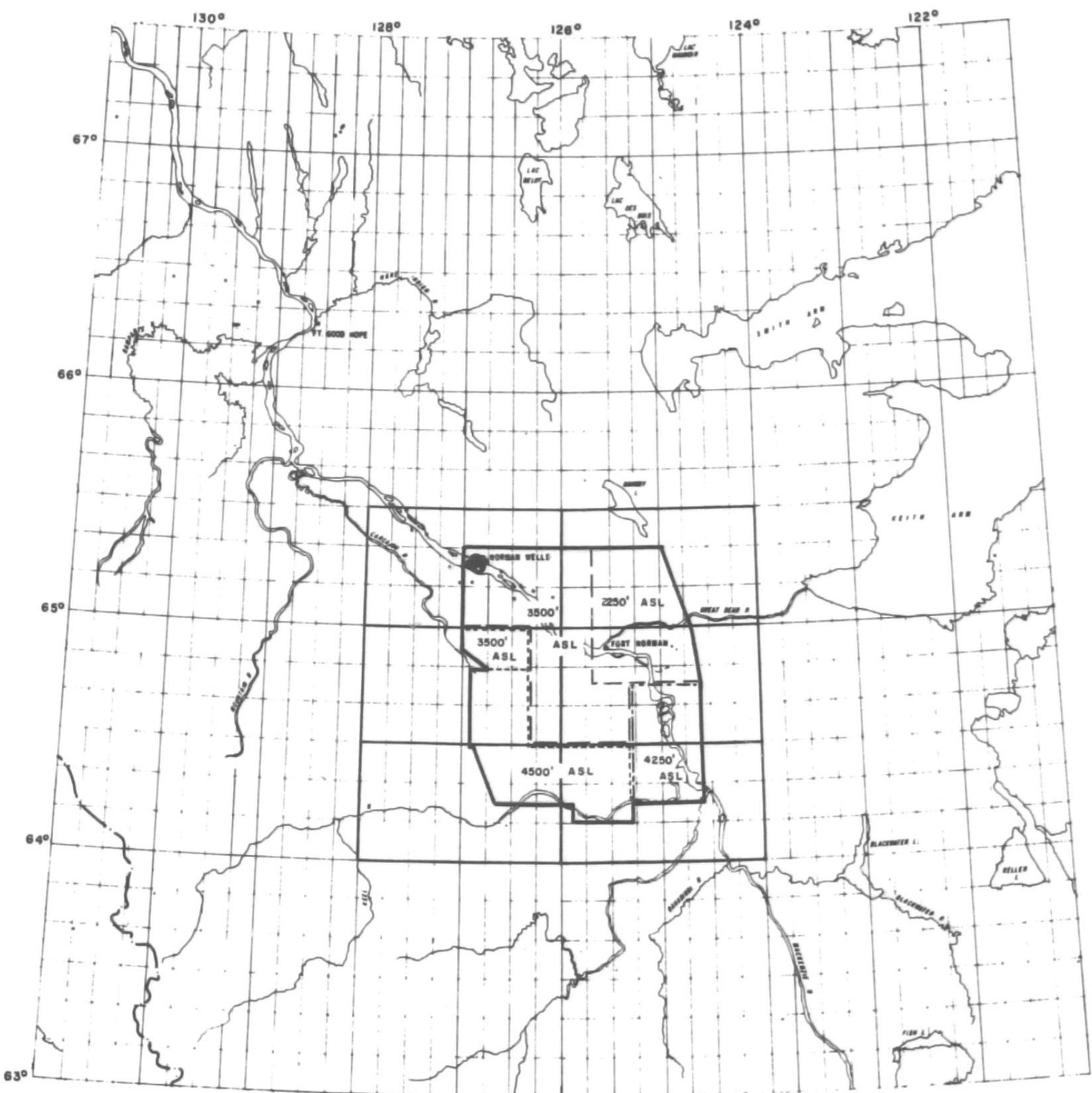
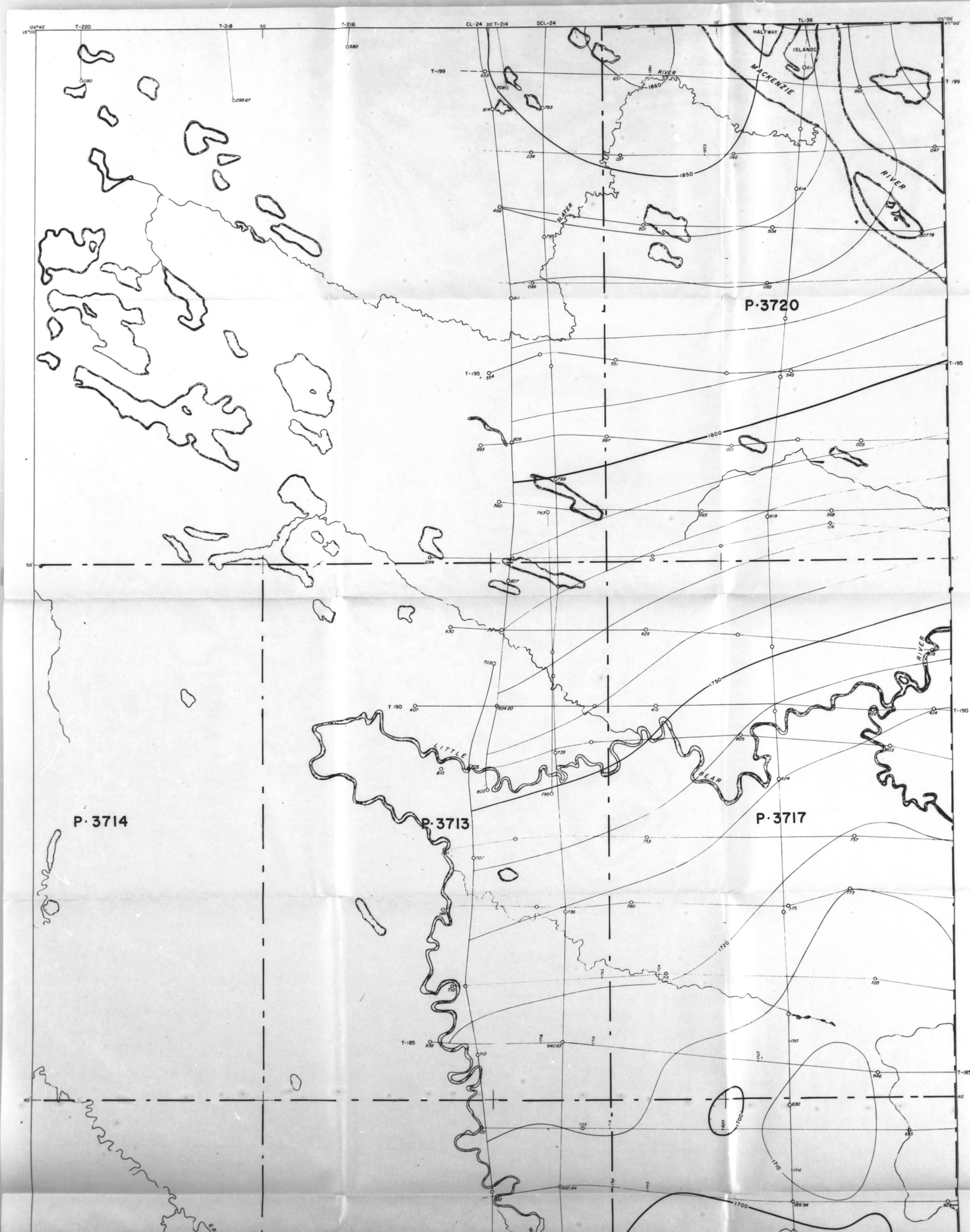
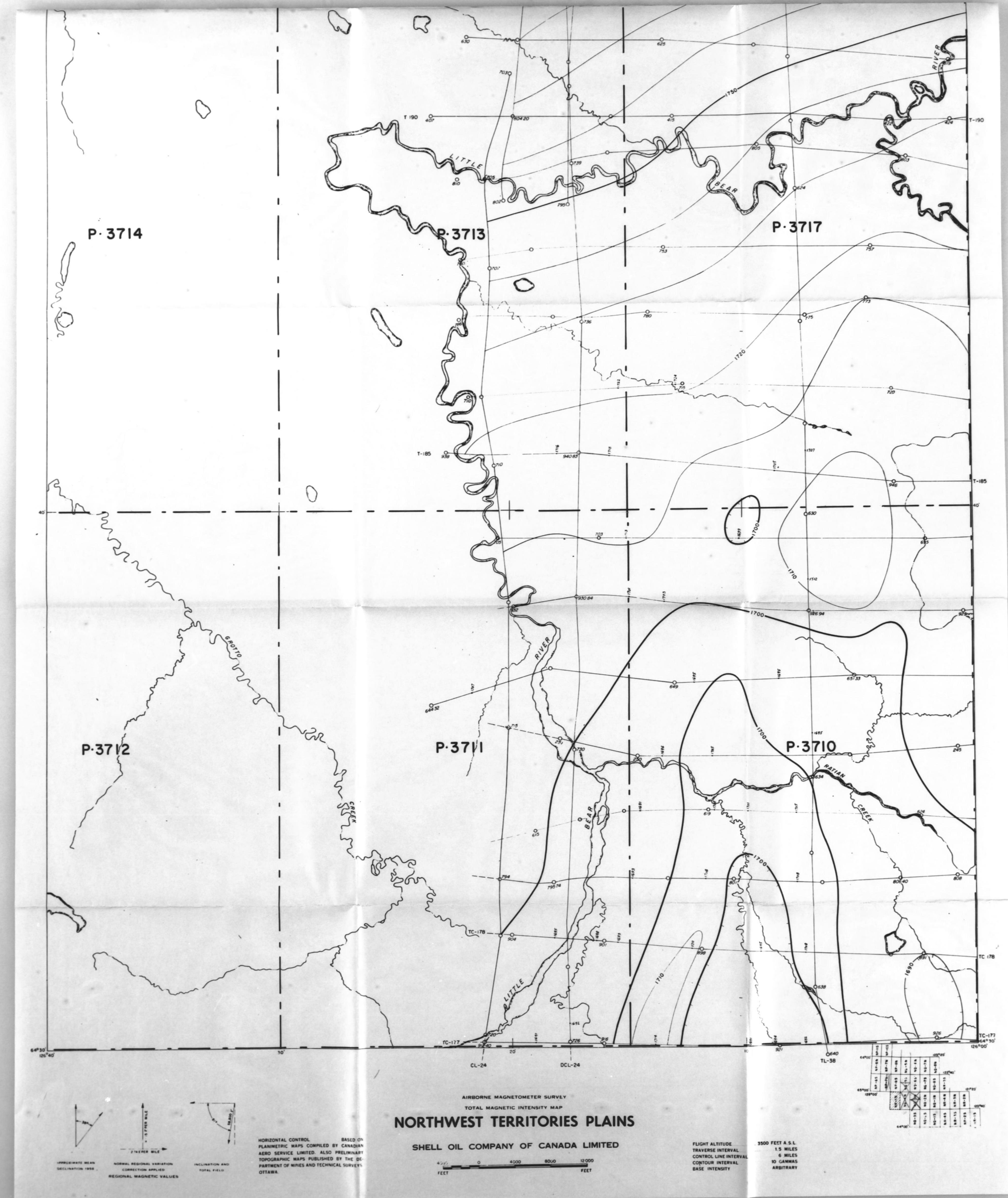
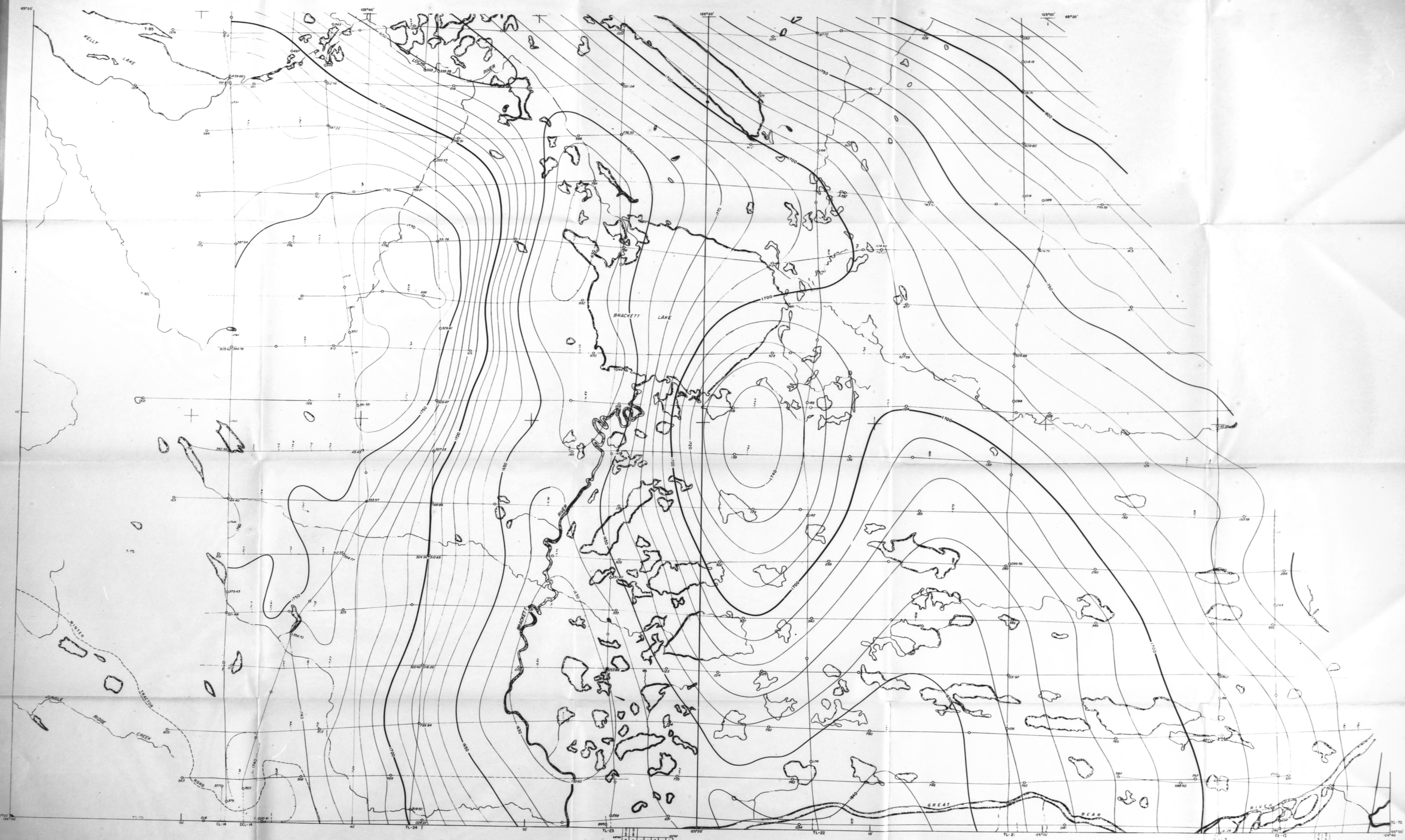


FIGURE 1
 SCALE: 1 IN / 40 MI
 GAC







AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS
SHELL OIL COMPANY OF CANADA LIMITED

HORIZONTAL CONTROL
PLANIMETRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS
OTTAWA

BASED ON
PLANIMETRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS
OTTAWA

FLIGHT ALTITUDE 2250 FEET A.S.L.
TRAVELINE INTERVAL 5.5 MILES
CONTROL LINE INTERVAL 6 MILES
CONTOUR INTERVAL 10 GAMMAS
BASE INTENSITY ARBITRARY

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

-2 GAMS PER MILE

NORMAL REGIONAL VARIATION
INCLINATION AND
REGIONAL MAGNETIC
FIELD

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

FLIGHT ALTITUDE 2250 FEET A.S.L.
TRAVELINE INTERVAL 5.5 MILES
CONTROL LINE INTERVAL 6 MILES
CONTOUR INTERVAL 10 GAMMAS
BASE INTENSITY ARBITRARY

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

-2 GAMS PER MILE

NORMAL REGIONAL VARIATION
INCLINATION AND
REGIONAL MAGNETIC
FIELD

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS
SHELL OIL COMPANY OF CANADA LIMITED

HORIZONTAL CONTROL
PLANIMETRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS
OTTAWA

BASED ON
PLANIMETRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS
OTTAWA

FLIGHT ALTITUDE 2250 FEET A.S.L.
TRAVELINE INTERVAL 5.5 MILES
CONTROL LINE INTERVAL 6 MILES
CONTOUR INTERVAL 10 GAMMAS
BASE INTENSITY ARBITRARY

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

-2 GAMS PER MILE

NORMAL REGIONAL VARIATION
INCLINATION AND
REGIONAL MAGNETIC
FIELD

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

FLIGHT ALTITUDE 2250 FEET A.S.L.
TRAVELINE INTERVAL 5.5 MILES
CONTROL LINE INTERVAL 6 MILES
CONTOUR INTERVAL 10 GAMMAS
BASE INTENSITY ARBITRARY

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

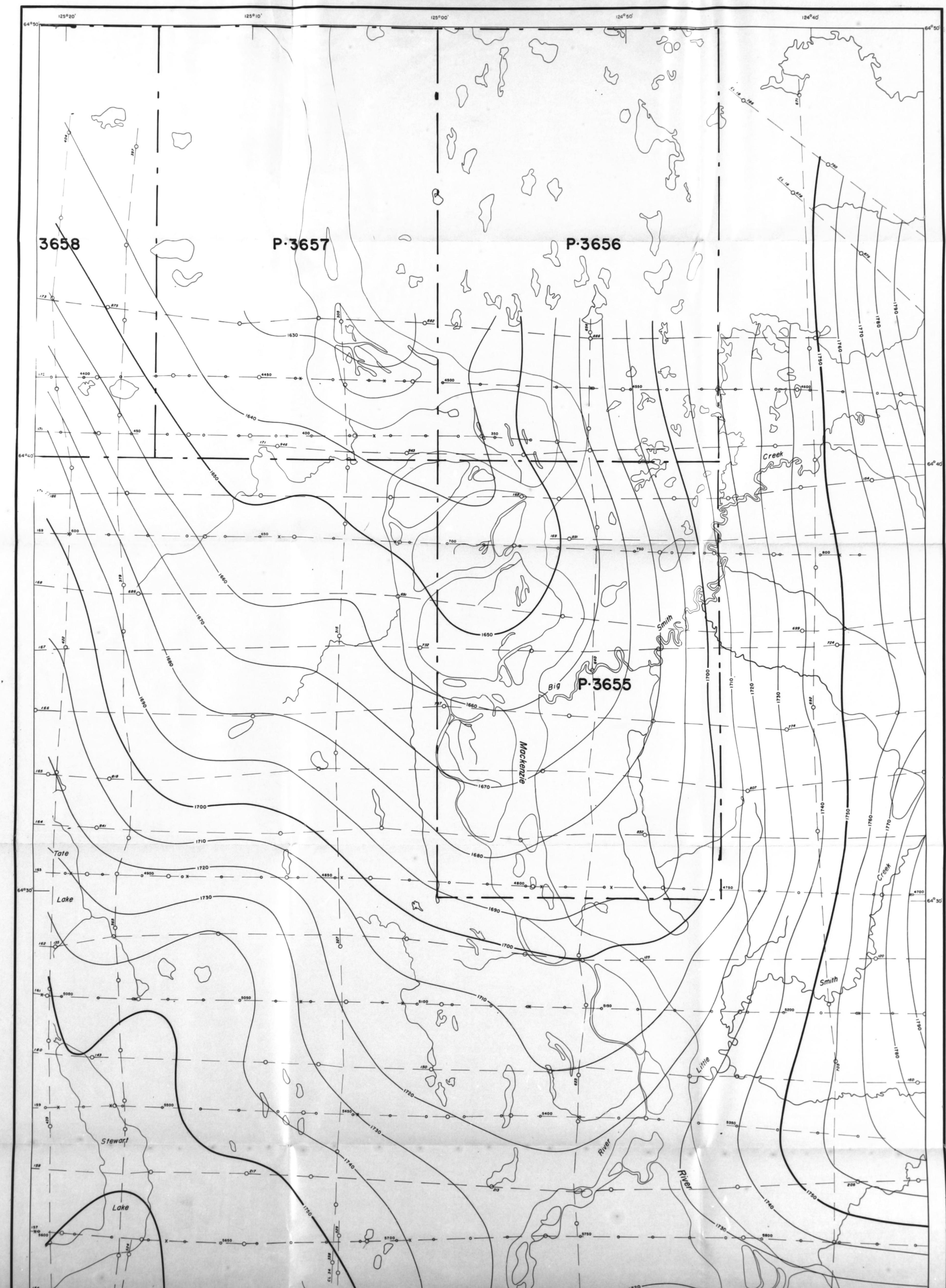
-2 GAMS PER MILE

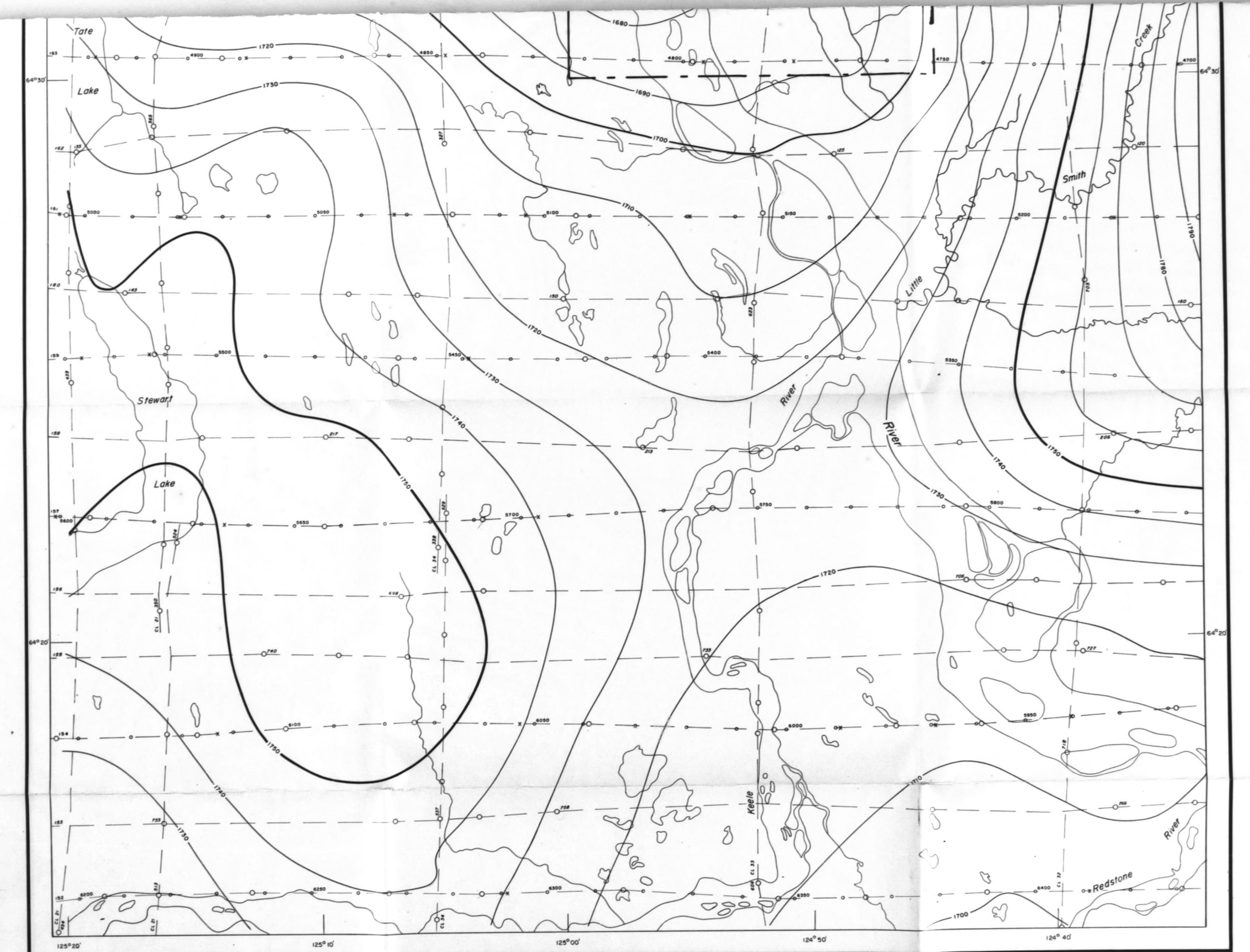
NORMAL REGIONAL VARIATION
INCLINATION AND
REGIONAL MAGNETIC
FIELD

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

APPROXIMATE MEAN
INCLINATION AND
REGIONAL MAGNETIC
FIELD

AMERADA PETROLEUM CORPORATION
AIRBORNE GEOPHYSICAL SURVEY





CONTOUR INTERVAL 10 GAMMA
 MEAN FLIGHT LINE SPACING 2 MILES
 CONTROL LINE SPACING 6 MILES
 ALTITUDE ABOVE SEA LEVEL 4250 FEET
 250 GAMMA CONTOUR
 50 GAMMA CONTOUR
 10 GAMMA CONTOUR
 MAGNETIC LOW
 FIDUCIAL POINTS 3600
 INFLECTION POINTS 162
 AERO FLIGHT LINES 162
 LOCKWOOD FLIGHT LINES 162

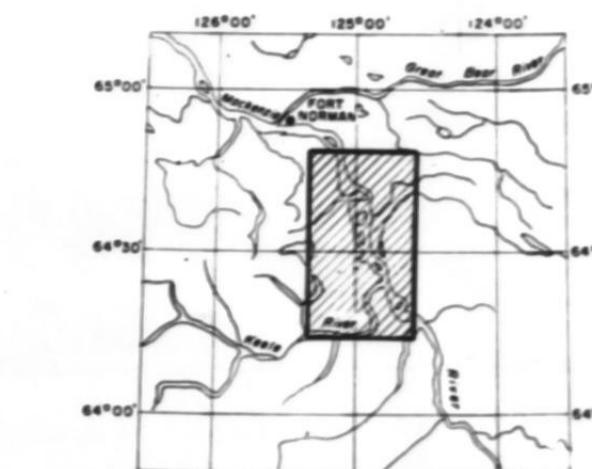
FORT NORMAN AREA, N.W.T.

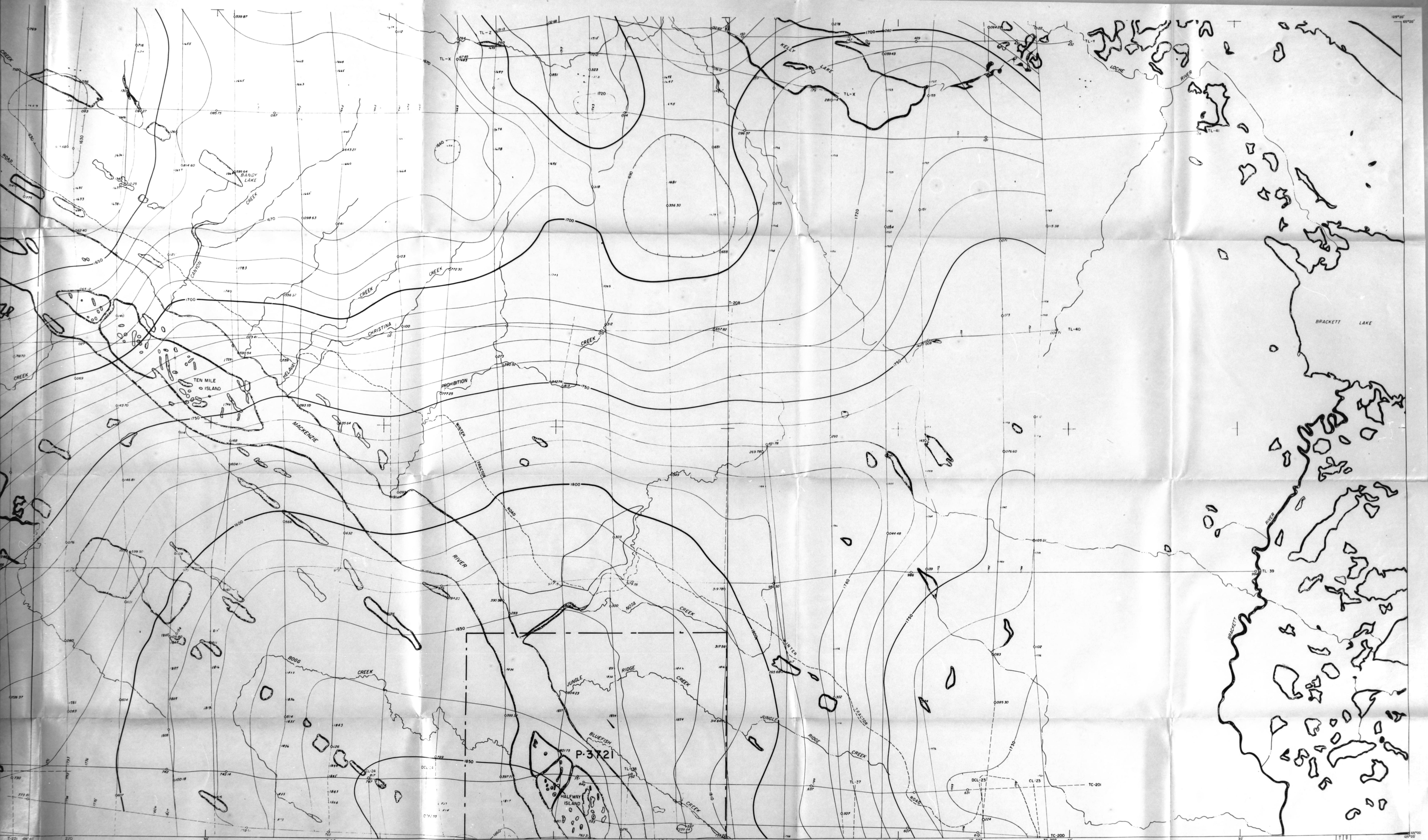
SCALE
 1 MILE
 1 Inch to 1 Mile

Mean Decination for corner of area
 37°

A correction for regional gradient has been applied at the rate of
 134 gamma per mile S to N - 2.83 gamma per mile W to E.

Flown and Compiled by
 LOCKWOOD SURVEY CORPORATION LIMITED
 TORONTO, CANADA
 1965





AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS

HORIZONTAL CONTROL BASED ON
PLANIMETRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED. ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS.

SHELL OIL COMPANY OF CANADA LIMITED

FLIGHT ALTITUDE 3500 FEET A.S.L.
 TRAVERSE INTERVAL 1.5 MILES
 CONTROL LINE INTERVAL 6 MILES
 CONTOUR INTERVAL 10 GAMMAS
 BASE INTENSITY ARBITRARY

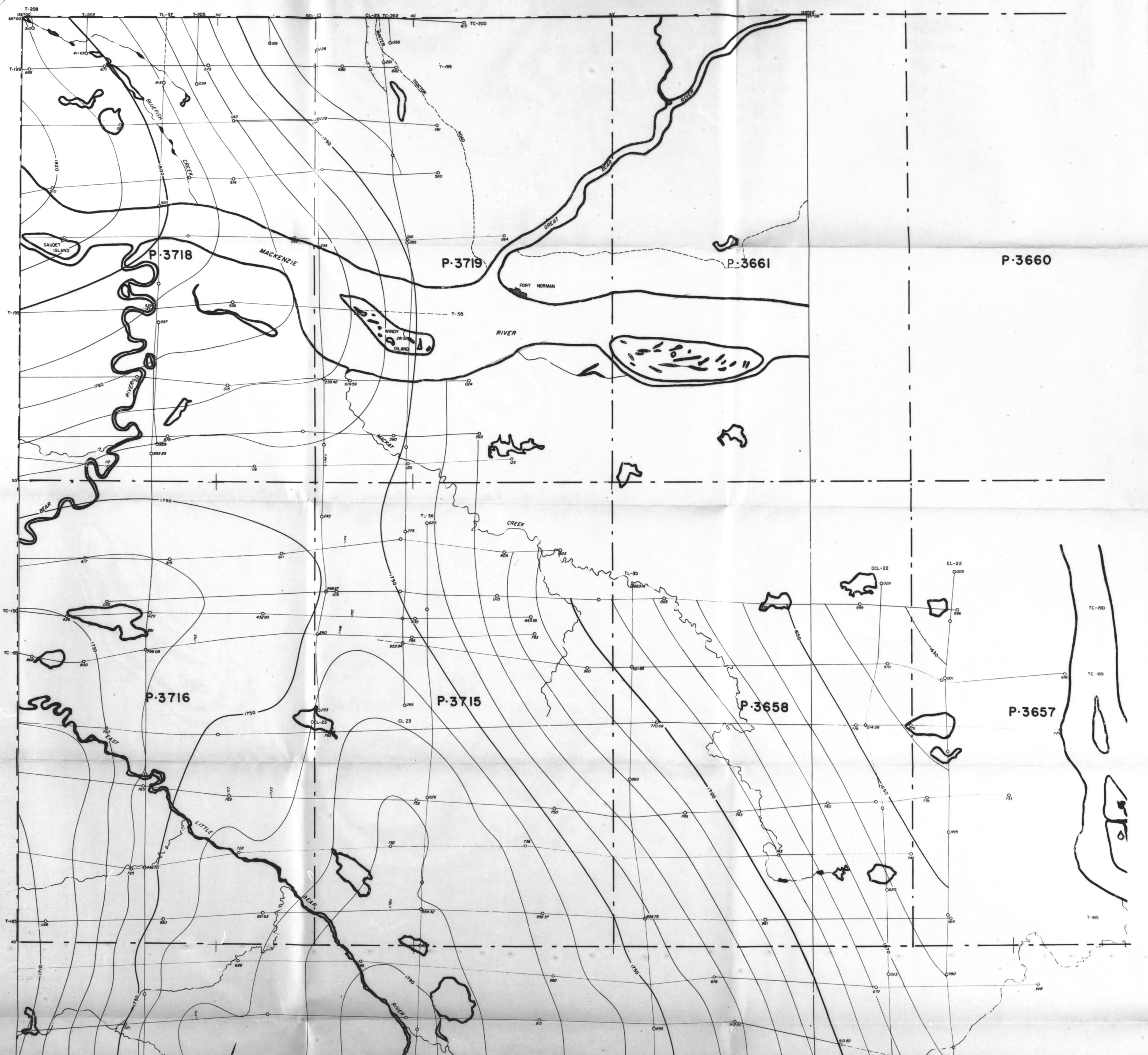
HORIZONTAL CONTROL BASED ON
PLANIMETRIC MAPS COMPILED BY CANADIAN
AERO SERVICE LIMITED. ALSO PRELIMINARY
TOPOGRAPHIC MAPS PUBLISHED BY THE DE-
PARTMENT OF MINES AND TECHNICAL SURVEYS.

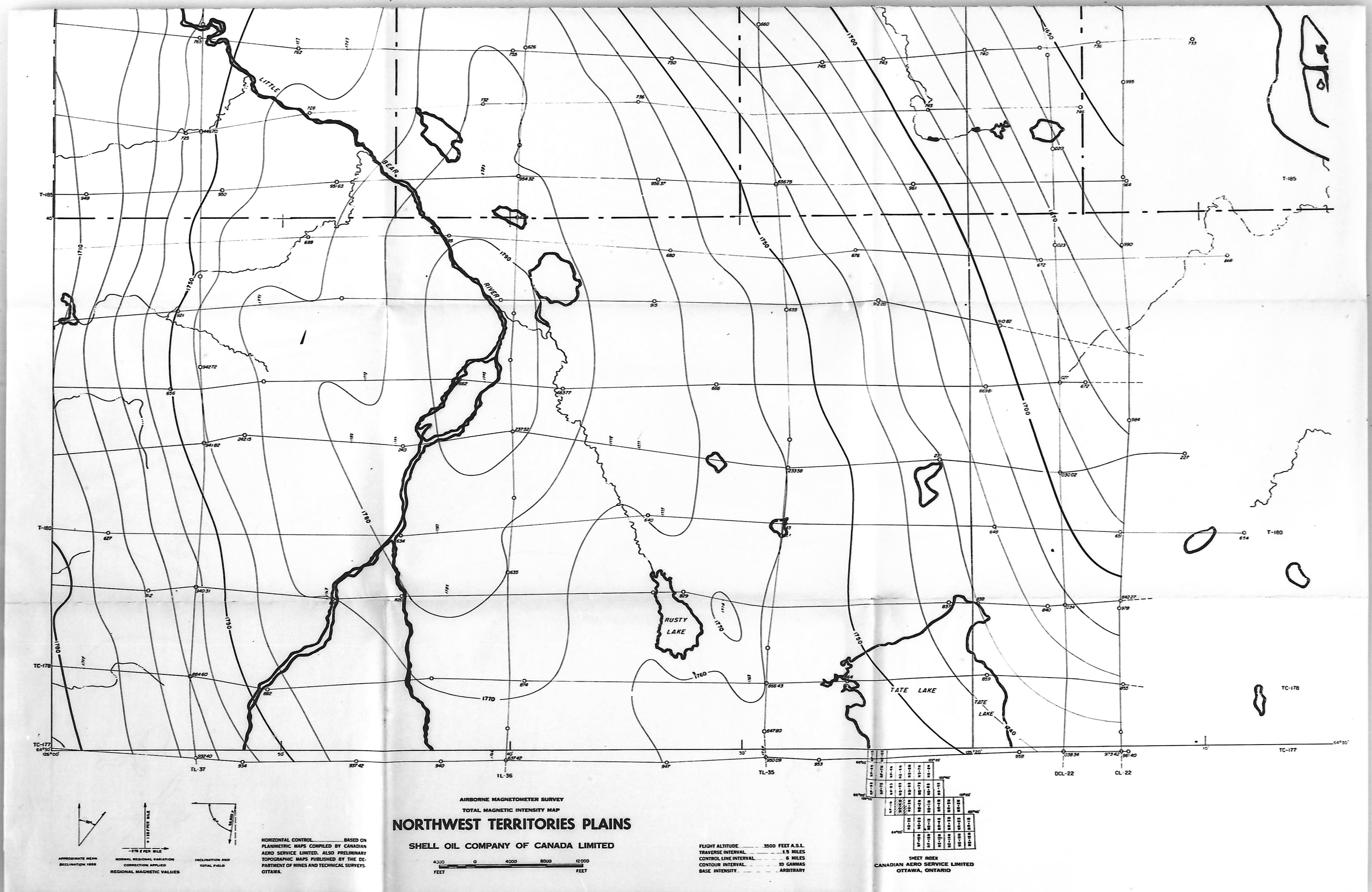
AIRBORNE MAGNETOMETER SURVEY
TOTAL MAGNETIC INTENSITY MAP
NORTHWEST TERRITORIES PLAINS
SHELL OIL COMPANY OF CANADA LIMITED

SHELL OIL COMPANY OF CANADA LIMITED

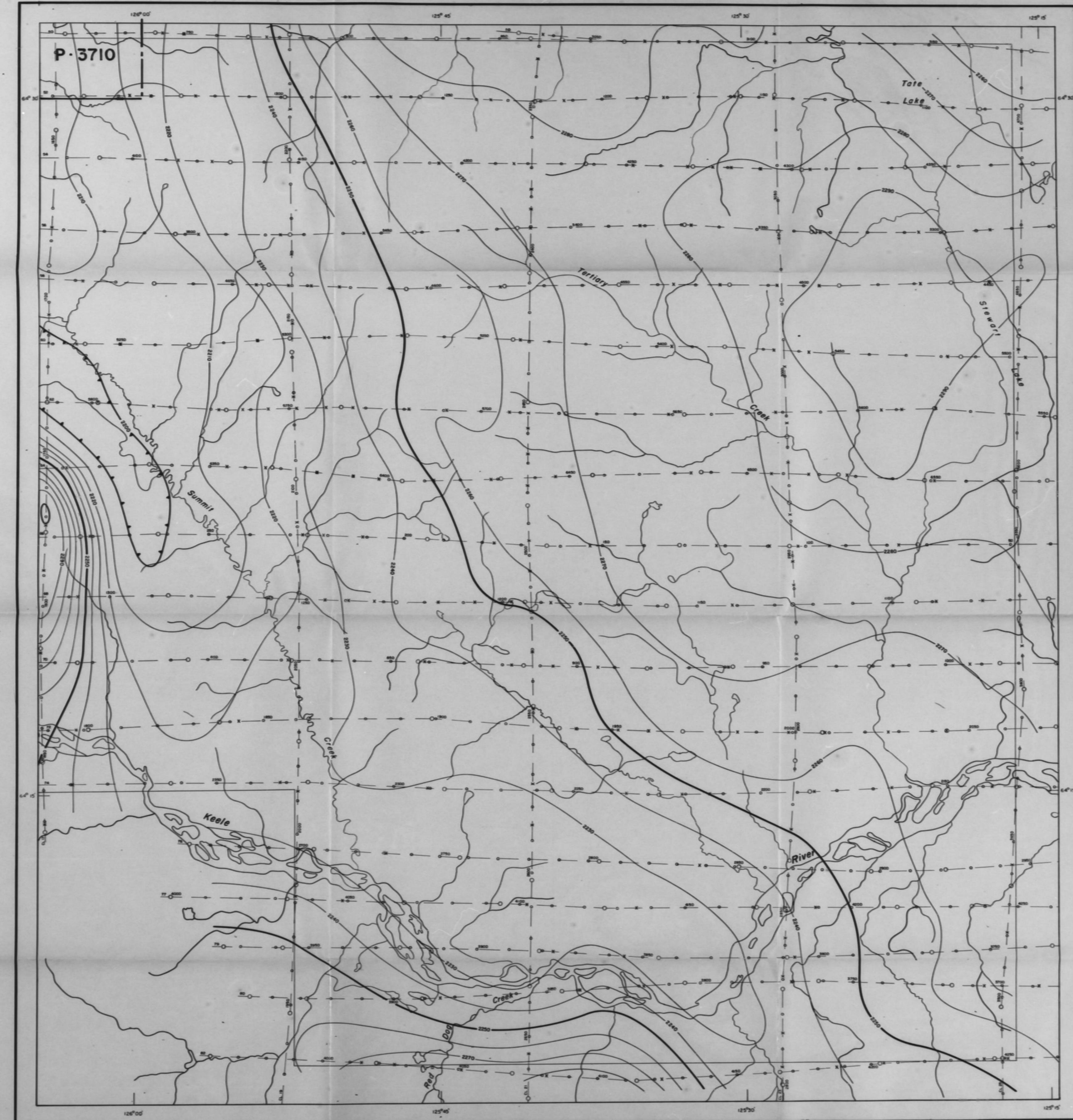
2. of 2

of 2

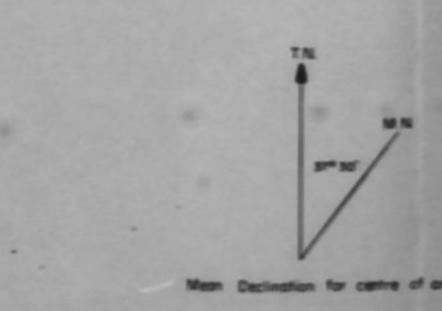




AMERADA PETROLEUM CORPORATION
AIRBORNE GEOPHYSICAL SURVEY



CONTOUR INTERVAL - 10 GAMMA
MEAN FLIGHT LINE SPACING - 2 MILES
CONTROL LINE SPACING - 1 MILE
ALTITUDE ABOVE SEA LEVEL - 4000 FEET
250 GAMMA CONTOUR
50 GAMMA CONTOUR
10 GAMMA CONTOUR
MAGNETIC LOW - 3000
FIDUCIAL POINTS - 3000
FLIGHT LINES - 3000
INFLECTION POINTS - 3000



FORT NORMAN AREA, N.W.T.

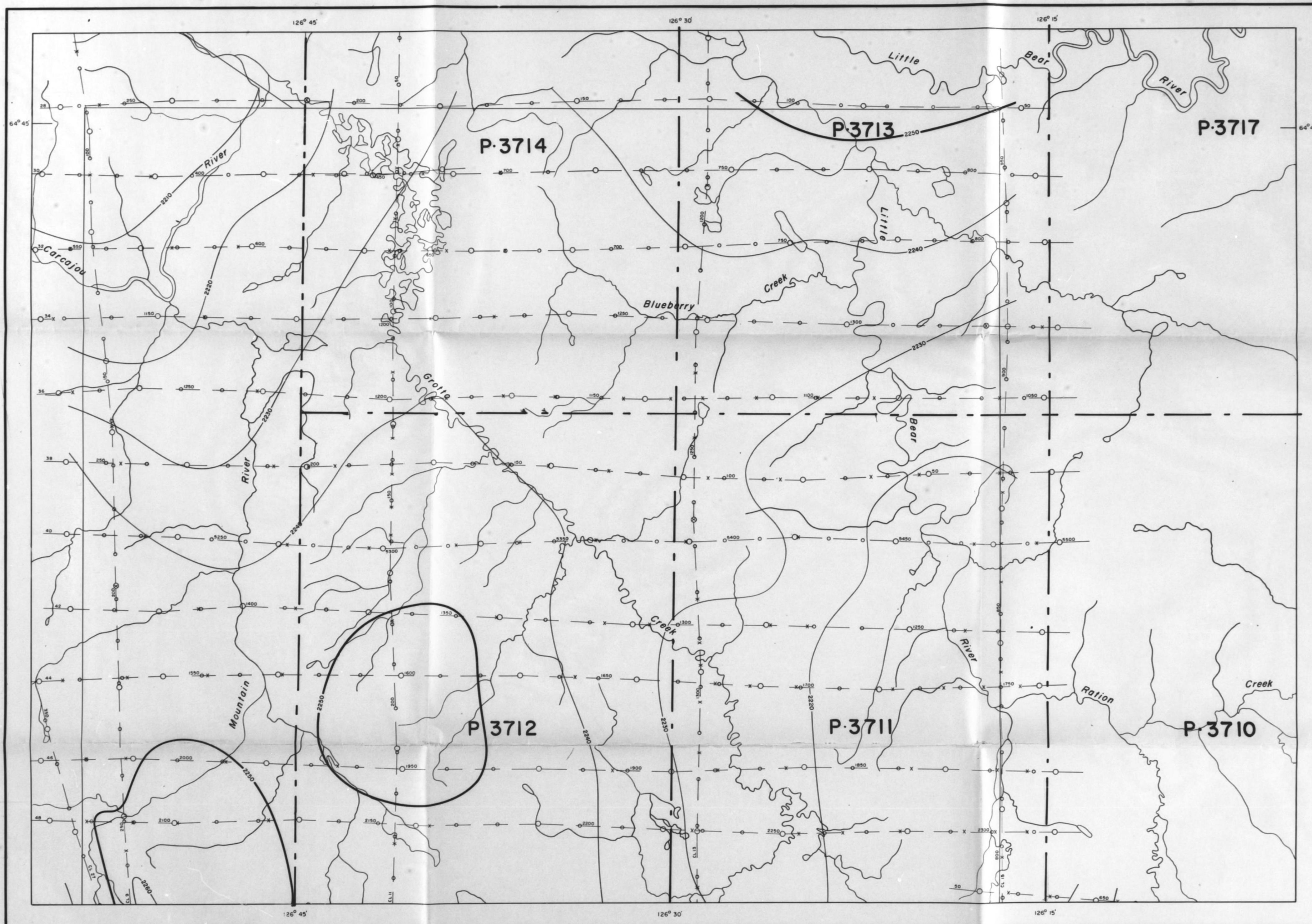
Drawn and Compiled by
LOCKWOOD SURVEY CORPORATION LIMITED
TORONTO, CANADA
1965

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

A correction for regional gradient has been applied at the rate of -
0.46 gamma per mile S to N - 258 gamma per mile W to E



AMERADA PETROLEUM CORPORATION
AIRBORNE GEOPHYSICAL SURVEY



CONTOUR INTERVAL ----- 10 GAMMA
 MEAN FLIGHT LINE SPACING ----- 2 MILES
 CONTROL LINE SPACING ----- 6 MILES
 ALTITUDE ABOVE SEA LEVEL ----- 4500 FEET
 250 GAMMA CONTOUR ----- 
 50 GAMMA CONTOUR ----- 
 10 GAMMA CONTOUR ----- 
 MAGNETIC LOW ----- 
 FIDUCIAL POINTS ----- 3690 C
 FLIGHT LINES ----- ----- -----
 INFLECTION POINTS -----  -----  ----- 

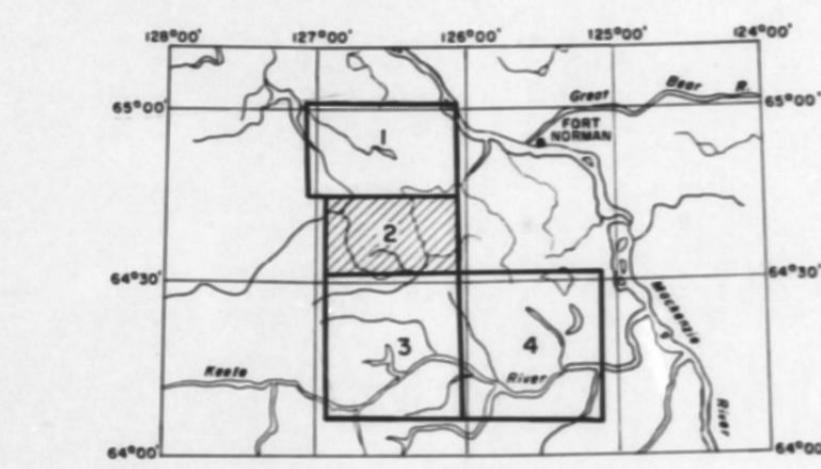
Mean Declination for centre of

FORT NORMAN AREA, N.W.T.

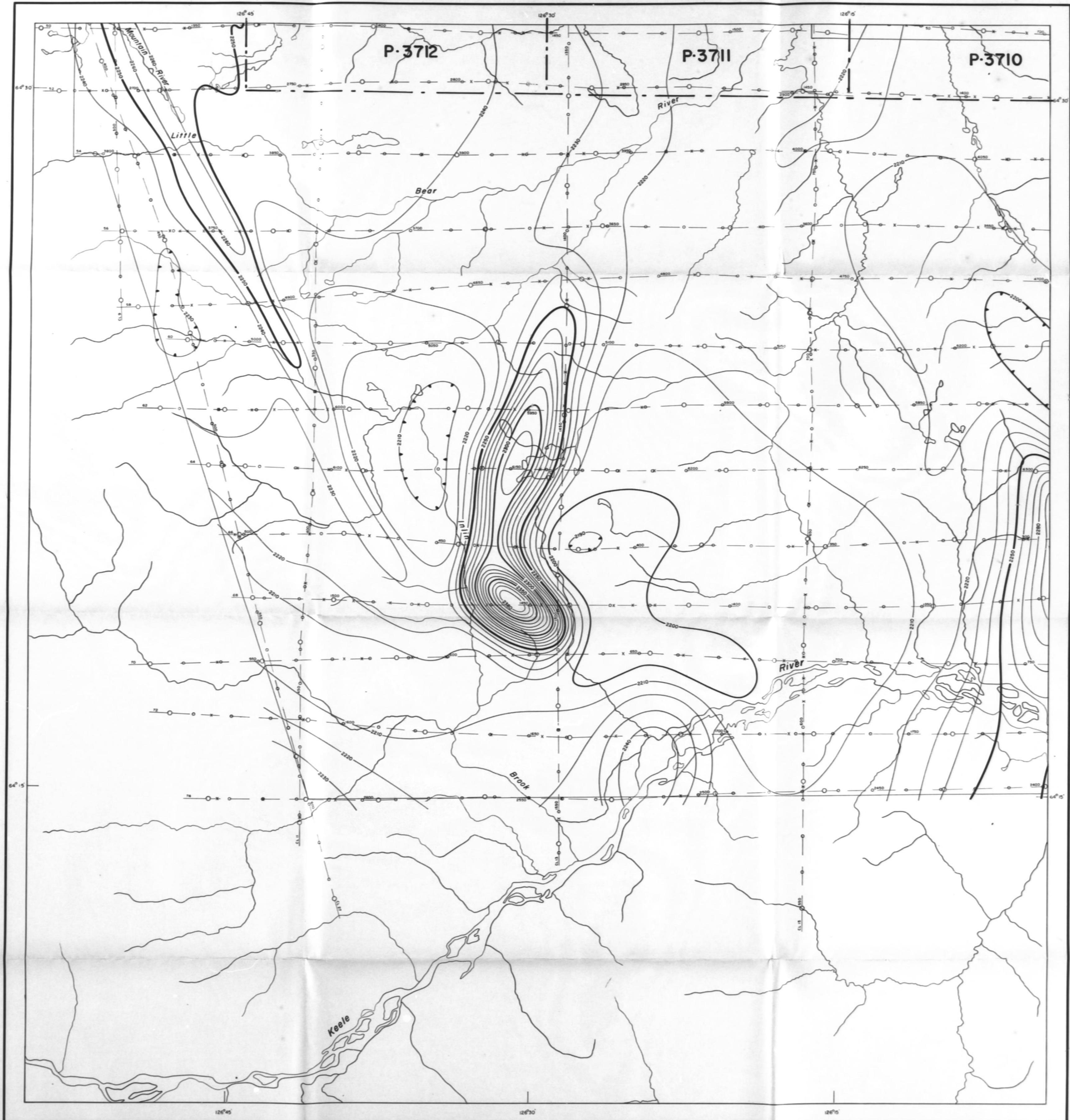
Flown and Compiled by
LOCKWOOD SURVEY CORPORATION LIMITED
TORONTO, CANADA
1965

A scale bar at the bottom of the map, labeled 'SCALE' in bold capital letters. It features a horizontal line with tick marks at 1, 0, 1, 2, 3, and 4 miles. Below the line, the word 'MILE' is written in bold capital letters. A label '1 inch = 1 mile' is positioned below the scale bar.

A correction for regional gradient has been applied at the rate of 0.21 gammas per mile S. to N. - 2.84 gammas per mile W. to E.



AMERADA PETROLEUM CORPORATION
AIRBORNE GEOPHYSICAL SURVEY



CONTOUR INTERVAL	10
MEAN FLIGHT LINE SPACING	2
CONTROL LINE SPACING	6
ALTITUDE ABOVE SEA LEVEL	4500
250 GAMMA CONTOUR	(solid line)
50 GAMMA CONTOUR	(solid line)
10 GAMMA CONTOUR	(solid line)
MAGNETIC LOW	(solid line)
FIDUCIAL POINTS	3
FLIGHT LINES	—
INFLECTION POINTS	—

FORT NORMAN AREA, N.W.T.

Printed and Gomed by
LOCKWOOD SURVEY CORPORATION LTD.
TORONTO, CANADA
1968

SCALE

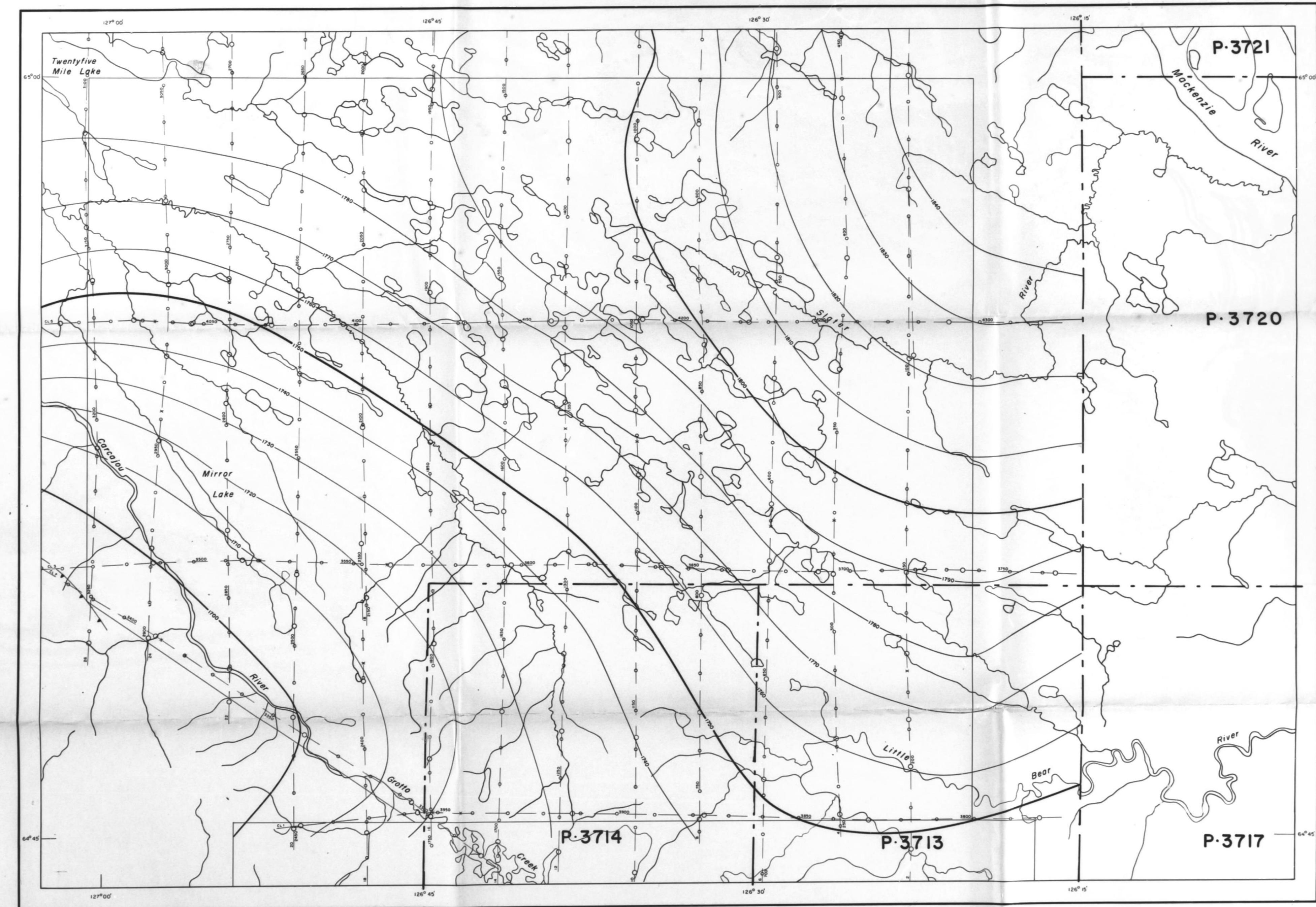
0 1 2 3

MILE

1 Inch to 1 Mile

The figure is a map of a riverine area, likely the Fort Verde River, showing stream networks and four study sites (1, 2, 3, 4) outlined by a black rectangle. The map includes latitude and longitude coordinates. The latitude lines are 64°30'N, 65°00'N, 65°30'N, and 66°00'N. The longitude lines are 128°00'E, 128°30'E, 129°00'E, 129°30'E, and 130°00'E. The map shows various river channels and their tributaries. Site 1 is located in the upper central part of the study area. Site 2 is located in the middle left part. Site 3 is located in the lower left part, partially shaded. Site 4 is located in the lower right part. Rivers are labeled with 'River' and 'Riv'.

AMERADA PETROLEUM CORPORATION
AIRBORNE GEOPHYSICAL SURVEY



CONTOUR INTERVAL - 10 GAMMA
MEAN FLIGHT LINE SPACING - 2 MILES
CONTROL LINE SPACING - 6 MILES
ALTITUDE ABOVE SEA LEVEL - 3500 FEET
250 GAMMA CONTOUR -
50 GAMMA CONTOUR -
10 GAMMA CONTOUR -
MAGNETIC LOW -
FIDUCIAL POINTS - 8800 O
FLIGHT LINES -
INFLECTION POINTS -

TN
M.H.
33°30'

Mean Declination for centre of area

FORT NORMAN AREA, N.W.T.

Flown and Compiled by
LOCKWOOD SURVEY CORPORATION LIMITED
TORONTO, CANADA
1965

SCALE
1 MILE
1 Inch to 1 Mile

A correction for regional gradient has been applied at the rate of -
0.74 gamma per mile S to N - 3.20 gamma per mile W to E.

