

MAR 19670018: WESTERN ALBERTA

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MAGNETOMETER EVALUATION

OF

IRON PROSPECTING PERMIT NO. 33, ALBERTA

FOR

CITY SAVINGS & TRUST COMPANY

BY

OVERLAND EXPLORATION SERVICES LTD.

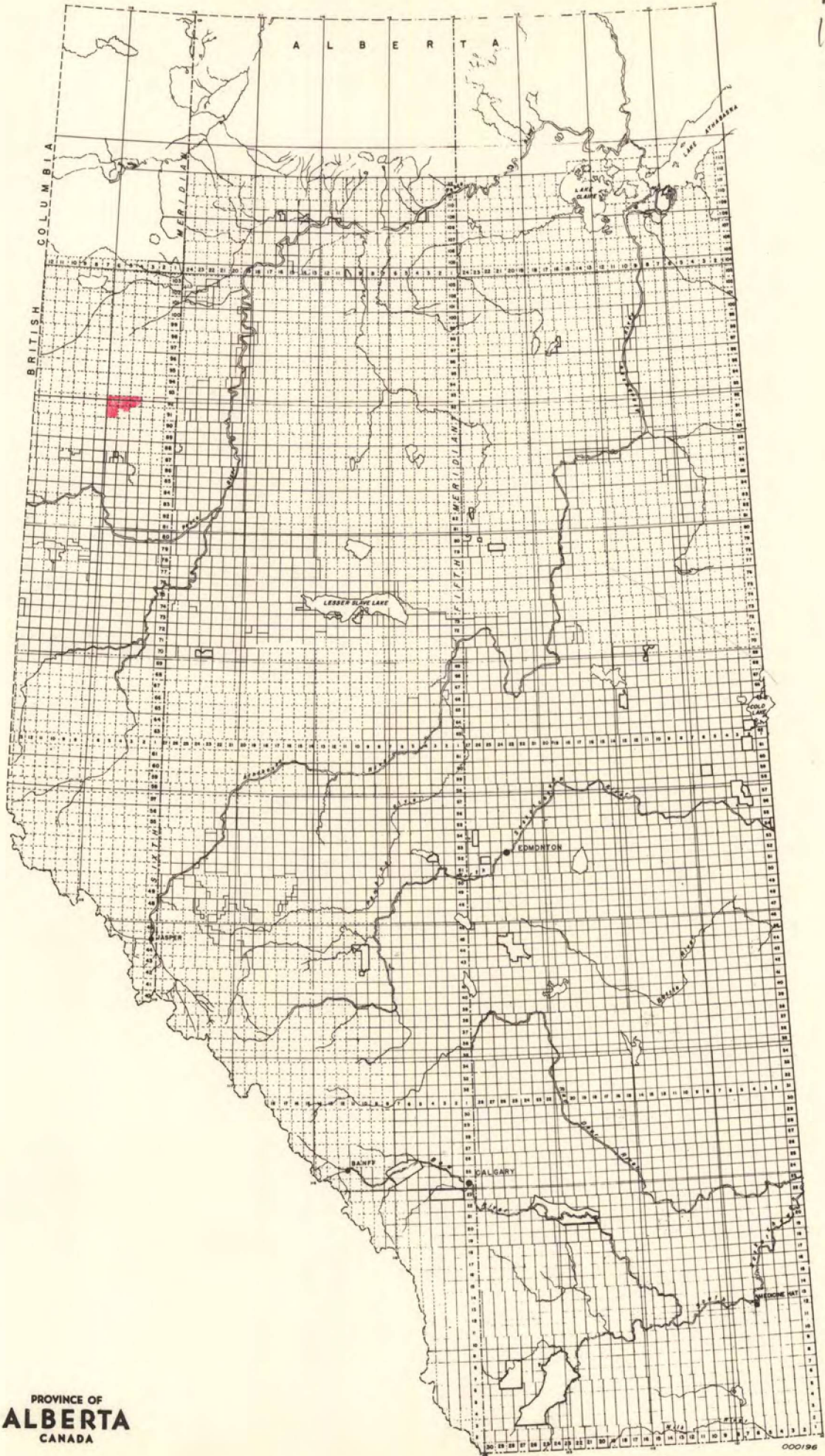
LOCATION AND ACCESS

Iron Permit No. 33 is located in Townships 89 and 90, Ranges 4, 5 and 6, West of the Sixth Meridian. This is in northwest Alberta, 70 miles northwest of Peace River town, 45 miles east of British Columbia-Alberta border, and 300 miles northwest of Edmonton.

The area can be reached by car by travelling north on Highway No. 2 from Grande Prairie to Fairview then from Fairview by secondary roads northwest to Worsley. Access to the area from Worsley is by bush roads and seismic trails which are only passable during the winter months.

Map No. 1 shows the location of the Permit on an Alberta Base Map and Map No. 2 shows the land included in the Permit, which totals 97,582 acres.

Map No. 1
19670018



PROVINCE OF
ALBERTA
CANADA

000196

Map No. 2
19670018

IRON PROSPECTING PERMIT No. 33

CITY SAVINGS & TRUST COMPANY
MCLEOD BLDG.,
EDMONTON, ALBERTA

DATE OF ISSUE - JANUARY 25, 1967
AREA - 97,582 ACRES

TP. 92

TP. 91

R. 6

R. 5

R. 4 W.G.M.

GENERAL STATEMENT

Included in this report are the results of an aerial magnetic map which includes Permit area No. 33. This map has been computed by Canadian Aero Services Ltd. and is at present in the oil files of Overland Exploration Services Ltd.

In exploring new areas for minerals, particularly unmapped sedimentary basins, the airborne magnetometer is often used as a device for making preliminary estimates of the thickness of the sedimentary section. The premise is that sedimentary rocks are nonmagnetic, so that any magnetic anomalies must originate from within the igneous crystalline complex. Calculation of the depth to the magnetic material therefore yields an upper limit to the total thickness of the sedimentary strata. Since in this application only the depth of the source is required and the details of its shape are of little direct interest, the use of elementary models such as poles and dipoles is rather common.

One of the chief difficulties with aeromagnetic interpretations is that the instrument is placed as a rule so far above the magnetic body that the body no longer appears to be two-dimensional no matter how elongated it may be. Therefore two-dimensional models are of little value in aeromagnetic curves used for interpreting ground surveys. For this and other reasons, the models that have achieved widespread use in aeromagnetics are different from those most often used for interpreting ground surveys.

Interpretation of magnetic data is based on the fact that the earth's normal magnetic field is uniform over areas of magnetically homogeneous composition but is distorted in certain regions of inhomogeneous composition, the amount of distortion depending on the relative magnetic susceptibilities of the subsurface materials and the relative masses and configurations of these component materials. Most magnetic anomalies are due to igneous rocks, iron ores, and those sedimentary deposits which contain magnetic material derived from igneous rocks. Magnetic methods are therefore directly applicable where the mineral whose presence is being explored is itself magnetic or is associated within its occurrence with magnetic material.

IRON PROSPECTING PERMIT # 33

The isodynamic pattern within Iron Prospecting Permit #33 is moderately variable. The highest reading is over 2620 gammas and the lowest reading is less than 2590 gammas giving a contrast of over 30 gammas. The main features present include one closed high, one closed low and one fairly abrupt high nose.

The closed high is present through the middle of Township 92, Range 6, West of the Sixth Meridian. The gamma value near the center of this high is in excess of 2620 and the feature has an egg shape with a north-south strike. A long high nose extends north from this feature into the south part of Township 92, Range 6, West of the Sixth Meridian. The Notikewin River flows eastwards through this isodynamic high.

The closed low covers about three square miles and is located in the middle corner of Township 92, Range 5, West of the Sixth Meridian. Readings within this area are below 2590 gammas, but rise uniformly in all direction except to the southeast, where low readings persist.

The large high nose occupies most of Township 92, Range 4, West of the Sixth Meridian. The strike of this feature is nearly north-south and the steepness of the nose increases to the north. This nose shows a drop in value of 40 gammas in five miles.

In conclusion, we suggest that this permit be dropped, as there appears to be no isodynamic feature present which would

indicate any extensive iron ore deposit.

Respectfully submitted by:



OVERLAND EXPLORATION SERVICES LTD.

WGC/jp

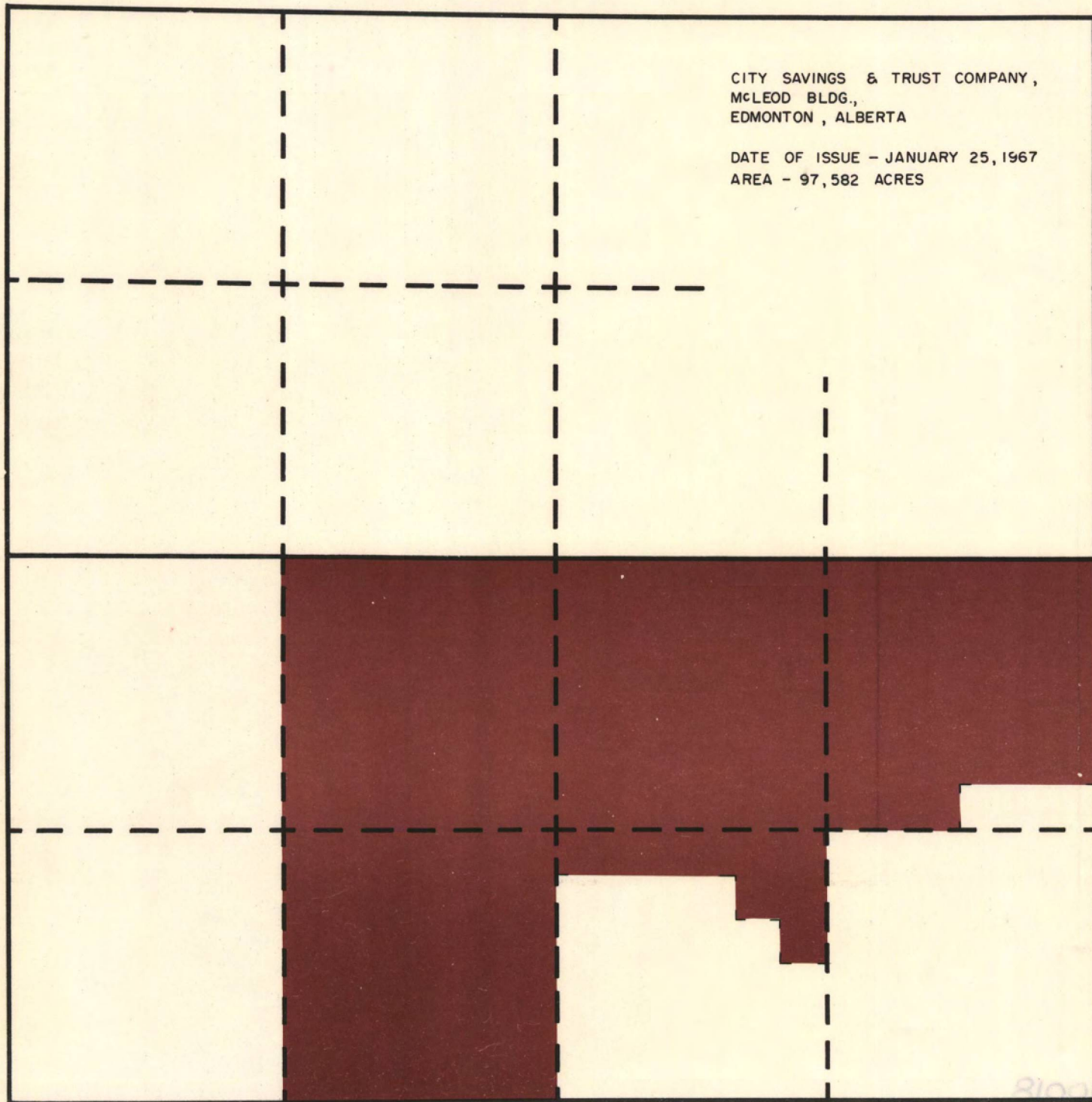
84D/15

84E/2

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R. 6

R. 5

R. 4 W.G.M.

TP. 92

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R6W6

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NOTIWEW RIVER

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IRON PERMIT # 33

T.99

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