

MAR 19670015: WESTERN ALBERTA

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MAGNETOMETER EVALUATION

OF

IRON PROSPECTING PERMIT NO. 30, ALBERTA

FOR

CITY SAVINGS & TRUST COMPANY

BY

OVERLAND EXPLORATION SERVICES LTD.

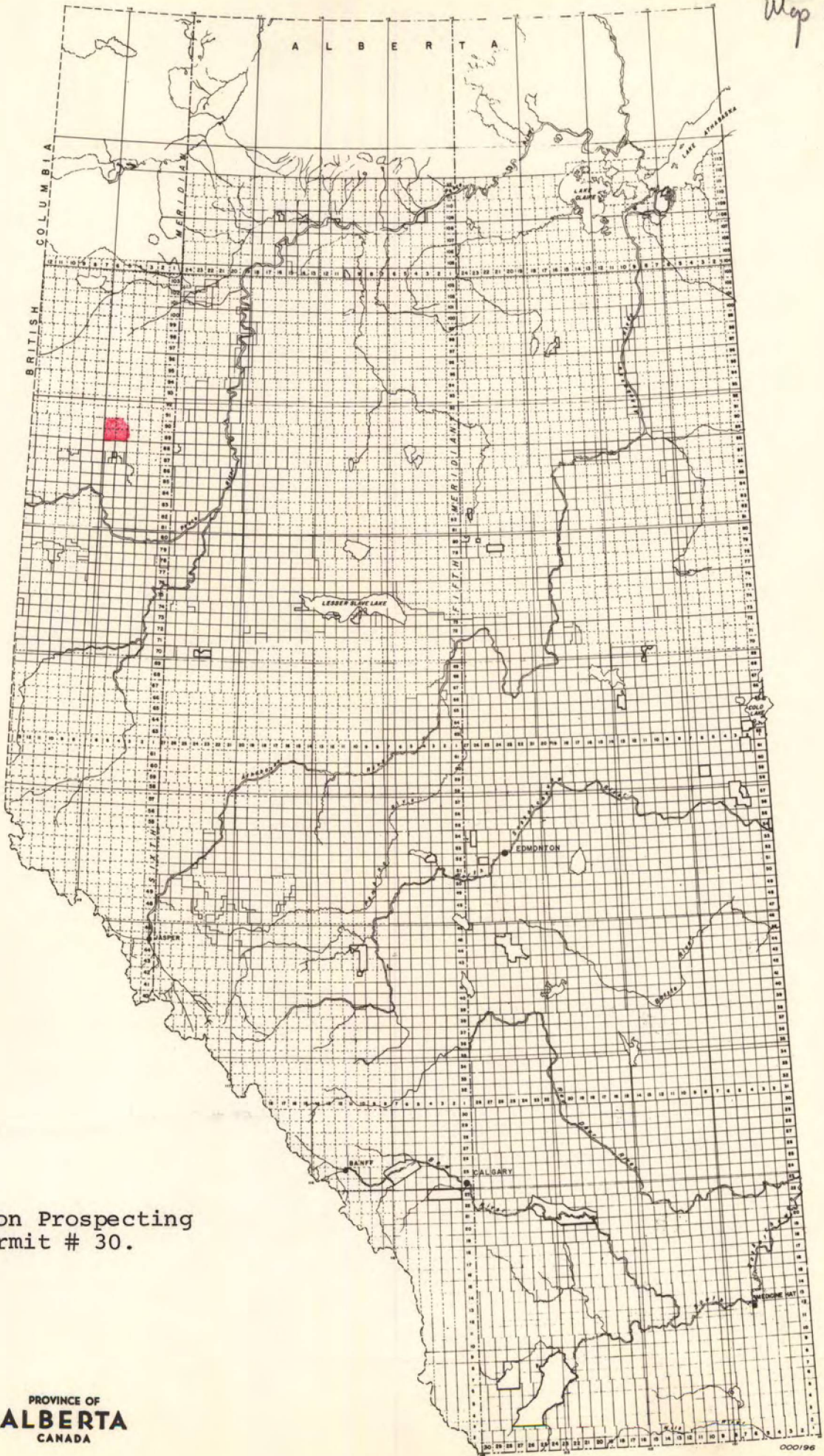
LOCATION AND ACCESS

Iron Permit No. 30 is located in Townships 89 and 90, Ranges 5 and 6, West of the Sixth Meridian. This is in north-west Alberta, 70 miles northwest of Peace River town, 45 miles east of the British Columbia-Alberta border, and 300 miles northwest of Edmonton.

The area is accessible by car 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 bushroads 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 97,794 acres.

19670015
Map No. 1



Iron Prospecting
Permit # 30.

PROVINCE OF
ALBERTA
CANADA

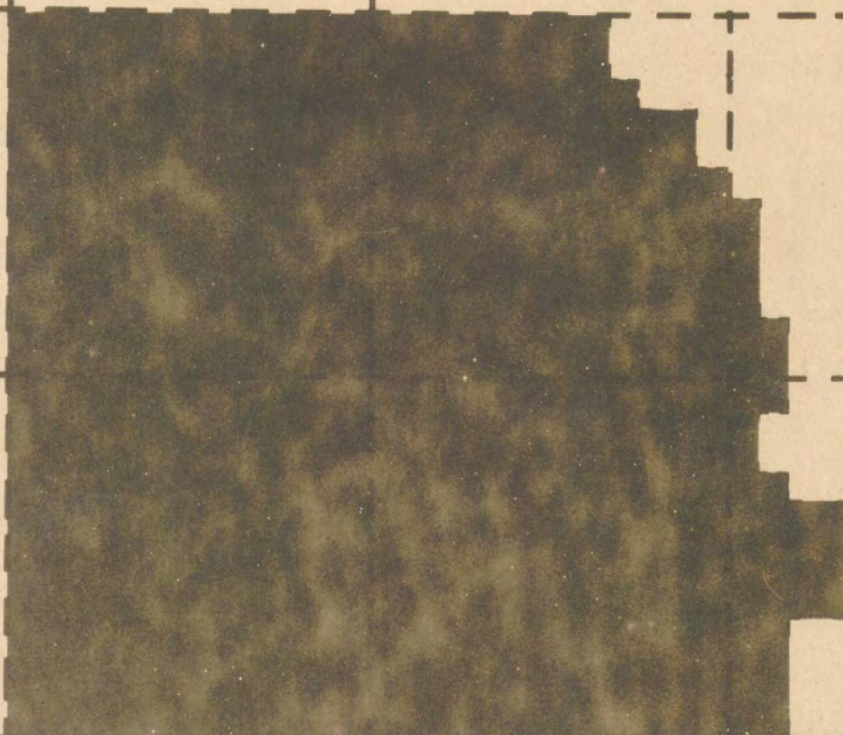
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Map #2

IRON PROSPECTING PERMIT No. 30

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

DATE OF ISSUE - JANUARY 25, 1967
AREA - 97,794 ACRES

SECTION LINE



TP. 90

TP. 89

TP. 88

R. 6

R. 5

R. 4 W. 6 M.

GENERAL STATEMENT

Included in this report are the results of an aerial magnetic map which includes Permit area No. 30. 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 interpretations, and neither is the majority of characteristic curves used for interpreting ground surveys. For this and other reasons, the models that have achieved widespread use in aeromagnetism 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 the occurrence with magnetic material.

IRON PROSPECTING PERMIT # 30

The isodynamic pattern within Iron Prospecting Permit # 30 is quite variable. The highest reading is over 2770 gammas and the lowest reading is less than 2600 gammas giving a contrast of over 170 gammas. The main features present include two closed highs, one closed low and one very abrupt high nose.

The largest closed high is present near the center of Township 89, Range 5, West of the Sixth Meridian. The gamma value near the center of this high is in excess of 2700 and the feature has an egg shape with a north-south strike. A long high nose extends north from this feature into the southeast part of Township 90, Range 5, West of the Sixth Meridian. A tributary of the Whitemud River flows eastwards through this isodynamic high.

A smaller closed high is located near the center of Township 90, Range 6, West of the Sixth Meridian. The gamma value in this high is in excess of 2650 and the values drop more or less uniformly in all direction a tributary of the Notikewin River flows through this feature.

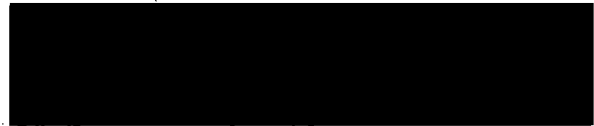
The closed low covers about three square miles and is located in the southwest corner of Township 90, Range 5, West of the Sixth Meridian. Readings within this area are below 2600 gammas, but rise uniformly in all direction except to the northeast, where low readings persist.

The large high nose occupies most of Township 89, Range 6, West of the Sixth Meridian. The strike of this feature is nearly north-south and the small closed high previously discussed

is on the north end of this feature. This nose shows a drop in value of 120 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/10+15

IRON PROSPECTING PERMIT No. 30

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

DATE OF ISSUE - JANUARY 25, 1967
AREA - 97,794 ACRES

CORRECTION LINE

TP. 90

TP. 89

TP. 88

R. 6

R. 5

R. 4 W. 6 M.

T. 90

IRON PERMIT # 30

T. 89

ROW 6

ROW 6

