

MAR 19670016: WESTERN ALBERTA

Received date: Dec 31, 1967

Public release date: Jan 01, 1969

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19670016

MAGNETOMETER EVALUATION

OF

IRON PROSPECTING PERMIT NO. 31, ALBERTA

FOR

CITY SAVINGS & TRUST COMPANY

BY

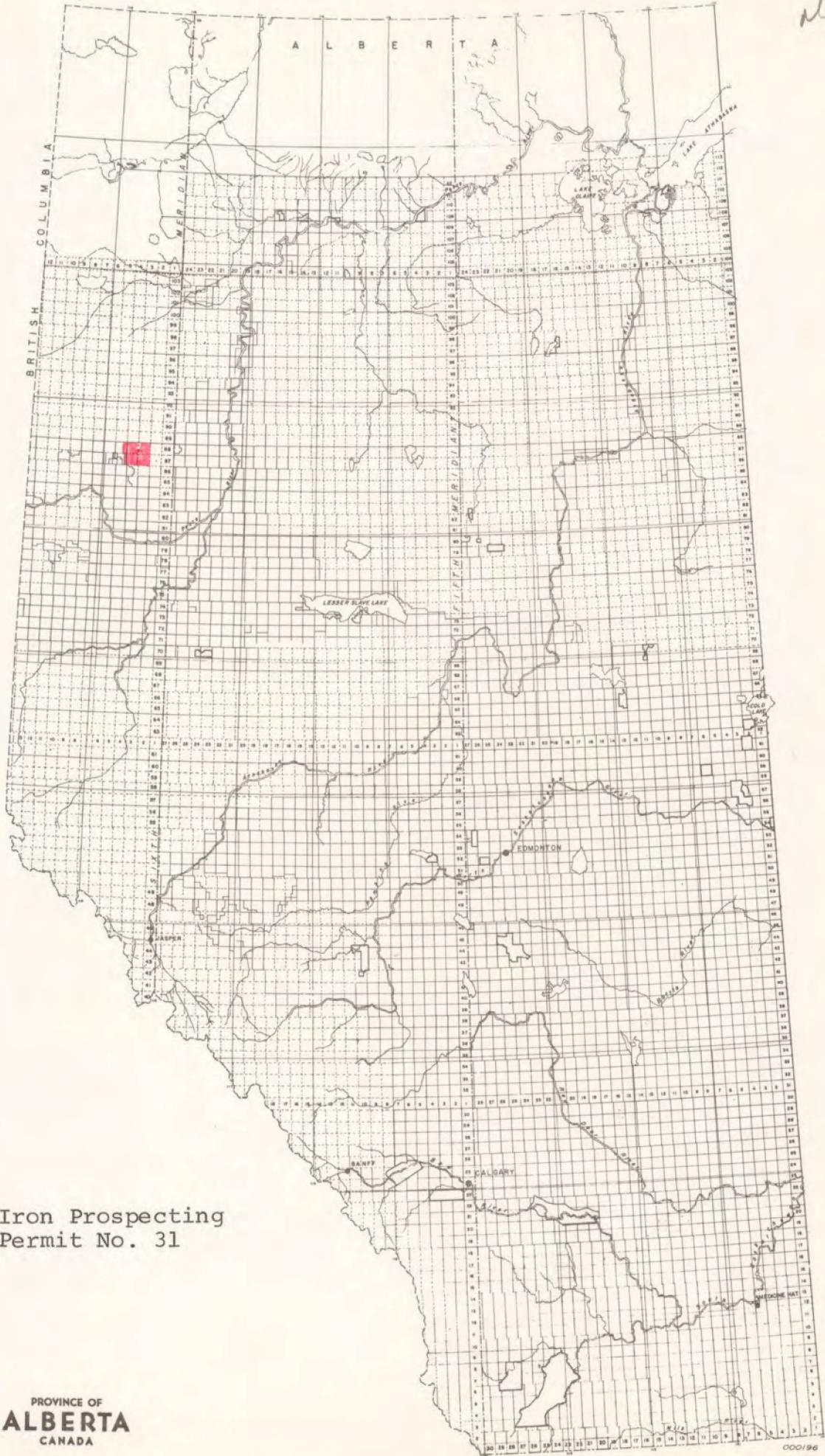
OVERLAND EXPLORATION SERVICES LTD.

LOCATION AND ACCESS

Iron Permit No. 31 is located in Township 87 and 88 Ranges 3, 4 and 5, 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 97,566 acres.



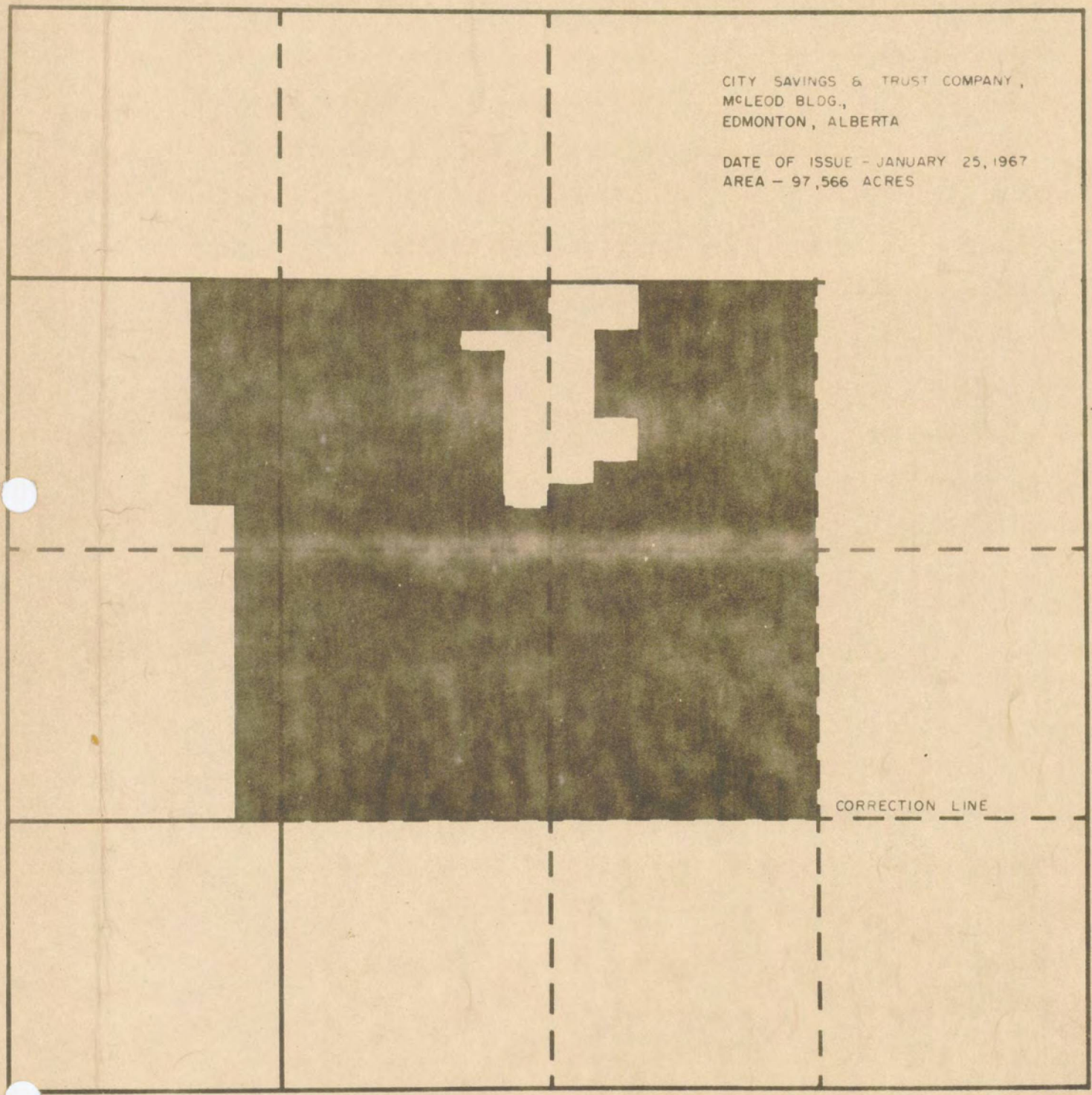
Iron Prospecting
Permit No. 31

19670016
Map No. 2

IRON PROSPECTING PERMIT No. 31

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

DATE OF ISSUE - JANUARY 25, 1967
AREA - 97,566 ACRES



TP. 8 8

TP. 8 7

TP. 8 6

R. 5

R. 4

R. 3

R. 2 W. 6 M.

CORRECTION LINE

GENERAL STATEMENT

Included in this report are the results of an aerial magnetic map which includes Permit area No. 31. 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 its occurrence with magnetic material.

IRON PROSPECTING PERMIT NO. 31


Only the north half of Permit No. 31 is shown on the enclosed isodynamic map, and the pattern shown is quite variable. The highest reading is 3000 gammas and the lowest reading is 2628 gammas giving a contrast of 372 gammas. There are two closed highs on the map and the largest is the most important feature present.

This largest isodynamic high is located on the east side of Township 88, Range 3, West of the Sixth Meridian. The gamma values drop off rapidly to the north and west and decrease 250 gammas in six miles. The actual closed high covers about one square mile and is nearly circular in shape.

The smaller closed high is located near the center of Township 88, Range 4, West of the Sixth Meridian and is a very minor feature compared with the previously mentioned high.

It is suggested that only the first mentioned isodynamic high has any subsurface significance and that it is probably associated with a Basement fault. In conclusion we suggest that the 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.

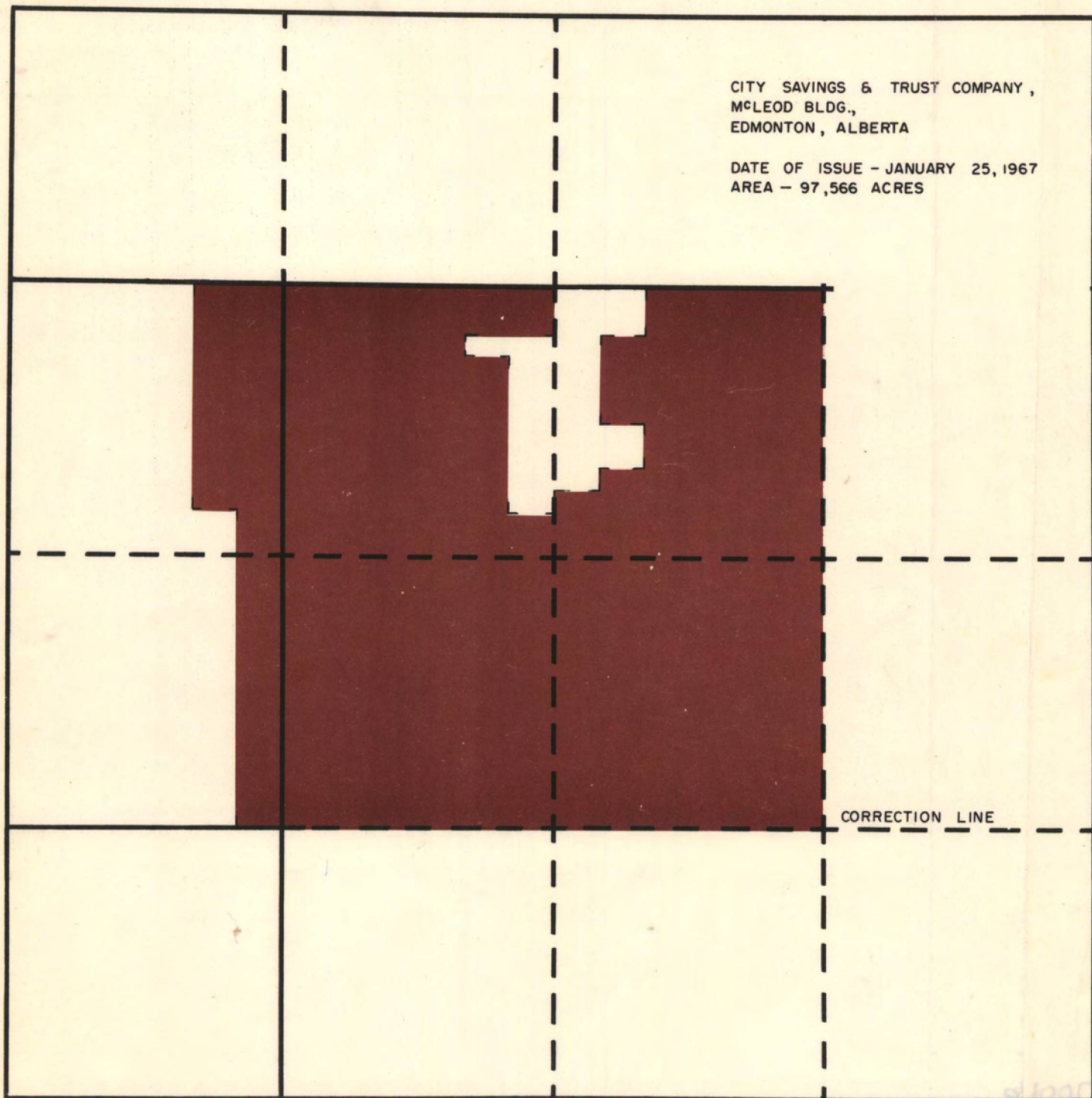
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84D/9+10

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