

648

REPORT OF GEOPHYSICAL SURVEYRIC and JAY CLAIM GROUPS

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58° N 131° E

ATLIN MINING DIVISION

By: G. Gutrath, B. Sc.

Supervised By: D. M. Cannon, P. Eng.

April 14, 1965.

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<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT</p> <p>NO. <u>648</u> MAP _____</p>
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REPORT OF GEOPHYSICAL SURVEY

RIC and JAY CLAIM GROUPS

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INTRODUCTION

During June, ¹⁹⁶⁴1965, a detailed airborne magnetic survey was carried out over the Ric and Jay Claim groups.

The base camp was located on Kennicott Lake, approximately 20 miles northwest of Telegraph Creek, B. C. The camp was serviced by Coast Range Airways "Beaver", from Atlin, B. C.

The airborne magnetometer was transported by a Bell G-2 helicopter chartered from Klondike Helicopters, Whitehorse, Yukon.

G. Gutrath, geological engineer, and A. W. Giesbrecht, assistant, carried out the survey under the overall supervision of D. M. Cannon.

Dr. Brant, consulting geophysicist, was responsible for the final interpretation of the results.

LOCATION

The Ric and Jay Claim groups are located at 131° 45' East Longitude and 58° 13' North Latitude, about 28 miles northwest of Telegraph Creek, B. C.

SURVEY EQUIPMENT

The airborne magnetometer used for the survey was a Varian nuclear precession magnetometer that has been refined and improved by Mr. G. McLaughlin, electronic engineer, on the geophysical staff of Newmont Exploration Limited, Danbury, Connecticut.

The following is a brief description of the instrument by Dr. A. A. Brant, geophysicist, Newmont Exploration Limited.

"A cylindrical bottle of about one pint containing kerosene is placed within a direct current bearing coil and is oriented approximately horizontal in a bird. Direct current is pushed through the coil for approximately $\frac{1}{2}$ to $\frac{3}{4}$ second. In this time, the proton orbit planes of the hydrogen tend to align perpendicular to the coil axis. When the current is shut off, these orbit planes return to their random orientation generating a die away envelope at a frequency of about 1 c.p.s. for each 25 gammas of field present. Thus in a field of 60,000 c.p.s. the frequency generated would be 2,400 c.p.s. This signal is picked up in the same coil, sealed, converted to gammas, and recorded on a chart by step units plus chart indication. A reading is made every $\frac{1}{2}$ to 1 second so that the chart record appears as a series of points or strokes.

The sensitive bottle is placed in a bird and towed some 50 feet below a helicopter. A step switching and frequency control box is provided, and a pen and ink recorder. Total weight is about 40 pounds. Readings are good to ± 5 gammas."

The instrument measures the total intensity of the earth's field in gammas. The average total field in the area reported was approximately 57,000 gammas.

SURVEY PROCEDURE

The magnetometer was mounted on a Bell G-4 helicopter, CF-LIM, under charter from Klondike Helicopters Limited, Whitehorse, Yukon. The pilot, John King, was responsible for maintaining the 500 foot elevation interval and for following a predetermined contour flight line. The magnetometer was operated by G. Gutrath, B.Sc., University of British Columbia, 1960, who has four years experience with airborne magnetic surveys.

Initial installation of the magnetometer in the helicopter was accomplished by Mr. G. McLaughlin. In addition, a series of test lines were also run in the Kennicott Lake area.

For this survey, the instrument bird was towed at 40 to 50 miles per hour and at an altitude of 500 feet above ground level.

Air photographs were used for navigation. In order to plot the flight lines on the map, all streams and prominent topographic features were marked on the recorder chart by a manually operated fiducial marker. Notes, regarding observations important to the interpretation of the chart or altitude readings from the helicopter altimeter, were recorded on the chart while it was operating.

SURVEY PERFORMED

The complete airborne survey in the Sheslay-Hackett River drainage covered 160 square miles. Of this total area, 55 square miles of magnetic coverage is shown on the enclosed map.

Between June 5th and June 8th, fourteen survey lines, Nos. 1 to 14 inclusive, were flown.

After completion of the flights, the magnetic charts were edited by G. Gutrath and the results checked by D. M. Cannon. The results were compiled and drafted on contour maps by A. W. Giesbrecht.

Final interpretation of the survey results was made by Dr. A. A. Brant.

The results of the survey are shown on the accompanying map contained in the folder of this report.

RESULTS

1. The general magnetic background in the area is established at approximately 57,800 gammas. This was the datum figure used for survey purpose.
2. The 4,200 gamma anomaly bordering the Ric Group in the east-central portion of the mapped area is occasioned by a coarse grained, magnetite rich, hornblende diorite formation.
3. The 1,000 gamma anomaly bordering the Jay Group on the south and west is occasioned by a coarse grained, magnetite rich intrusive diorite-syenite complex in which the magnetite is both disseminated and in narrow veinlets.

... *G. Gutrath* ...
G. Gutrath

... *D. M. Cannon* ...
D. M. Cannon, P. Eng.

April 14, 1965



AIRBORNE MAGNETIC SURVEY

RIC CLAIM GROUP
JAY CLAIM GROUP
ATLIN MINING DIVISION

Legend:
Isogams 200 gamma interval
-57,800-
Flight lines with numbered
fiducial

SCALE: 1" = 1000'

Operator: G. Gufrath
Supervisor: D.M. Cannon
P.Eng.

Surveyed: JUNE 1964

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 648 MAP 1



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LINE 4 START