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REPORT ON AIRBORNE GEOPHYSICAL SURVEY ADAMS PLATEAU, BRITISH COLUMBIA ON BEHALF OF DRESSER MINERALS INCORPORATED

by

Richard O. Crosby, B.Sc., P.Eng.

September 15, 1970

CLAIMS:

Names	Record Numbers
RAM 1 - 10 (inclusive)	~~977374 - 977383~~ (inclusive) 84246 - 84255 Inc. (N)

LOCATION:

About 45 miles northeast of Kamloops, B.C.
Kamloops Mining Division
51° 119° SW

DATES:

May 19 to May 21, 1970

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SUMMARY

A helicopter-borne magnetometer survey was executed over approximately 5 square miles in the Adams Lake area, British Columbia.

Magnetic data revealed that the rocks underlying the RAM claim group are acidic.

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INTRODUCTION

From May 19 to May 21, 1970, a geophysical survey was executed on behalf of Dresser Minerals Incorporated in the Adams Plateau area, British Columbia over some RAM claims (see Plate 1). Centre of the area is located 51°05' N - 119°30' W.

The airborne survey included magnetometer measurements taken with a Scintrex NPM-1 nuclear resonance, total intensity magnetometer.

Appendix "A", attached, gives full details of the airborne geophysical equipment and the ancillary equipment employed, as well as the treatment of data resulting from this survey. In the case of the present survey a Bell Jet Ranger helicopter, on charter from Haida Helicopters, was employed as the basic transport vehicle.

The aeromagnetic survey lines were flown at a nominal 1/8 mile line interval along lines oriented north-south at a mean terrain clearance of 250'. Flight navigation and flight path recovery have been based upon photomosaics on the scale of approximately 1" = 1000'.

The magnetometer sensor was flown 60 feet below the helicopter.

The value of the earth's total magnetic field in the survey area is approximately 58,000 gammas. The inclination is 73°.

PRESENTATION OF DATA

The results of the geophysical survey are presented on Plate 2, on the scale of 1" = 1000'. Some topographic features and flight lines are shown on the plate. Plate 2 shows the magnetic contours at an interval

of 100 gammas or less, according to magnetic relief. All data are plotted from an arbitrary base datum.

The magnetometer data are presented together with altimeter and fiducial recording on a dual trace Moseley recorder.

The original geophysical traces are on the scale of 1" = 100 gammas with automatic steps of 500 gammas.

DISCUSSION OF RESULTS

A magnetic depression reaching about 100 gammas below the general background level trends northerly across the centre of the contour map immediately east of Nikki Lake. A series of north trending positive anomalies limit this depression on the west. The maximum magnetic amplitude recorded in this zone measures over 400 gammas and is located on the extreme northern end of flight line 203.

East of the depression, the magnetic field increases gently and occurs primarily as an easterly trending positive anomaly reflecting a change in the magnetic trend of the crystalline rocks.

The rocks underlying the claim group are interpreted as a relatively narrow band of acidic rocks trending northerly and bounded on the west by a parallel trending assemblage of basic rocks. A northeasterly trending fault is interpreted in the southeastern portion of the claim group. The rocks located east of this fault exhibit an east-west structural trend.

CONCLUSIONS AND RECOMMENDATIONS

The airborne geophysical survey has revealed magnetic features which warrant further investigation.

It is recommended that these features and particularly the anomaly located on flight line 203 be field checked. Further work would depend upon the results of this field work.

Respectfully submitted,

SEIGEL ASSOCIATES LIMITED

Richard O. Crosby

Richard O. Crosby, B.Sc., P.Eng.
Geophysicist

Vancouver, B.C.
September 15, 1970

MAGNETOMETER - SCINTREX NPM-1

The Scintrex NPM-1 nuclear resonance airborne magnetometer is based on a Newmont modification of a Varian Associates magnetometer and is produced under license to both companies. It is a very light weight, solid state unit, especially designed for use in a helicopter or light fixed-wing aircraft where weight is an important consideration.

Its cycle period is 1.1 seconds. Each cycle it measures the total intensity of the earth's magnetic field and this quantity, in gammas, is recorded, in analogue form, on a suitable graphic recorder. The full scale sensitivity is usually 1000 gammas and the recorder automatically steps each 500 gammas. In very active areas a full scale sensitivity of 5000 gammas with steps of 2,500 gammas may be employed. Only the magnetic variations are actually recorded although the absolute base level may be established from the NPM-1 as well.

The magnetic sensing head may be on a cable as much as 100 ft. below the aircraft or, in some installations, may be rigidly attached to the aircraft on a suitable boom.

The intrinsic noise level of each reading is about 5 gammas.

Where it is intended to contour the NPM-1 information it is customary to fly tie lines across the survey grid. A fixed magnetic field monitor is often used as well, on the ground, primarily to indicate periods of magnetic storms during which the aeromagnetic data should be considered as unreliable.

The aeromagnetic data may be contoured if desired, using a contour interval of 25 gammas or up, depending on the amount of magnetic relief. Alternatively they may be used simply for purposes of correlation with simultaneously obtained electromagnetic data to determine which conductor zones are appreciably magnetic.

ANCILLARY EQUIPMENT

1. Altimeter

A Bonzer, high frequency solid state radioaltimeter is employed to continuously indicate the mean terrain clearance of the helicopter or other transporting aircraft. The altimeter is installed in the aircraft (unless otherwise indicated) so that the elevation of the sensing birds (electromagnetic or magnetic) will be less by the usual vertical displacement of these birds below the aircraft.

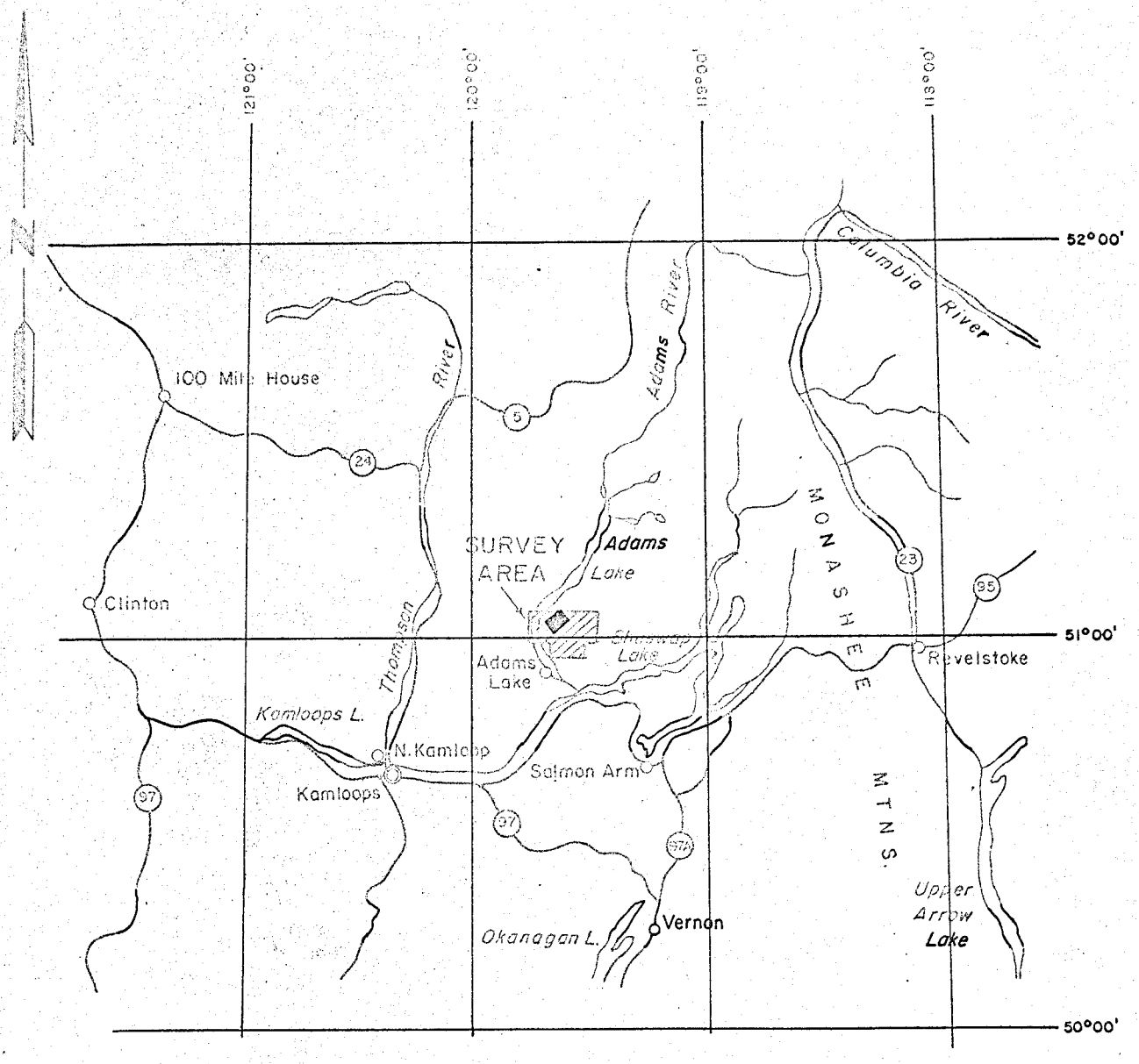
The output of the Bonzer may be expressed in analogue form on a suitable graphic recorder, or may be, for convenience, converted to a semi-digital form on a recorder side pen. In the latter event the altimeter record is a series of spaced pulses whose separation is proportional to the mean terrain clearance.

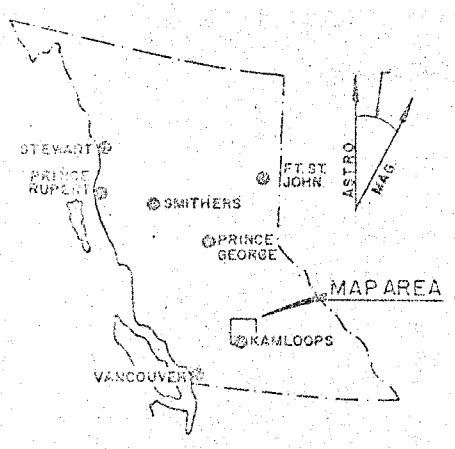
2. Positioning Camera

A Vinten Mark 3 16 mm positioning camera is employed with a wide angle lens. Photographs of the ground are taken with sufficient frequency to give a complete record of the flight path of the aircraft or helicopter. The frequency of exposure is controlled by the intervalometer referred to below.

3. Intervalometer

A Scintrex IA-2 intervalometer provides regularly spaced timing pulses which drive the positioning camera exposure mechanism and produces synchronous "fiducial marks" on the side pen of the geophysical graphic recorder or recorders. Because of the synchronization of the geophysical traces and the positioning camera it is then possible to relate the geophysical events of interest to their proper ground location. The timing pulse frequency may be adjusted in accordance with the ground speed of the aircraft so that an adequate flight path record is obtained.





DRESSER MINERALS

LOCATION MAP

AIRBORNE GEOPHYSICAL SURVEY

ADAMS PLATEAU AREA, B.C.

40 0 40 80

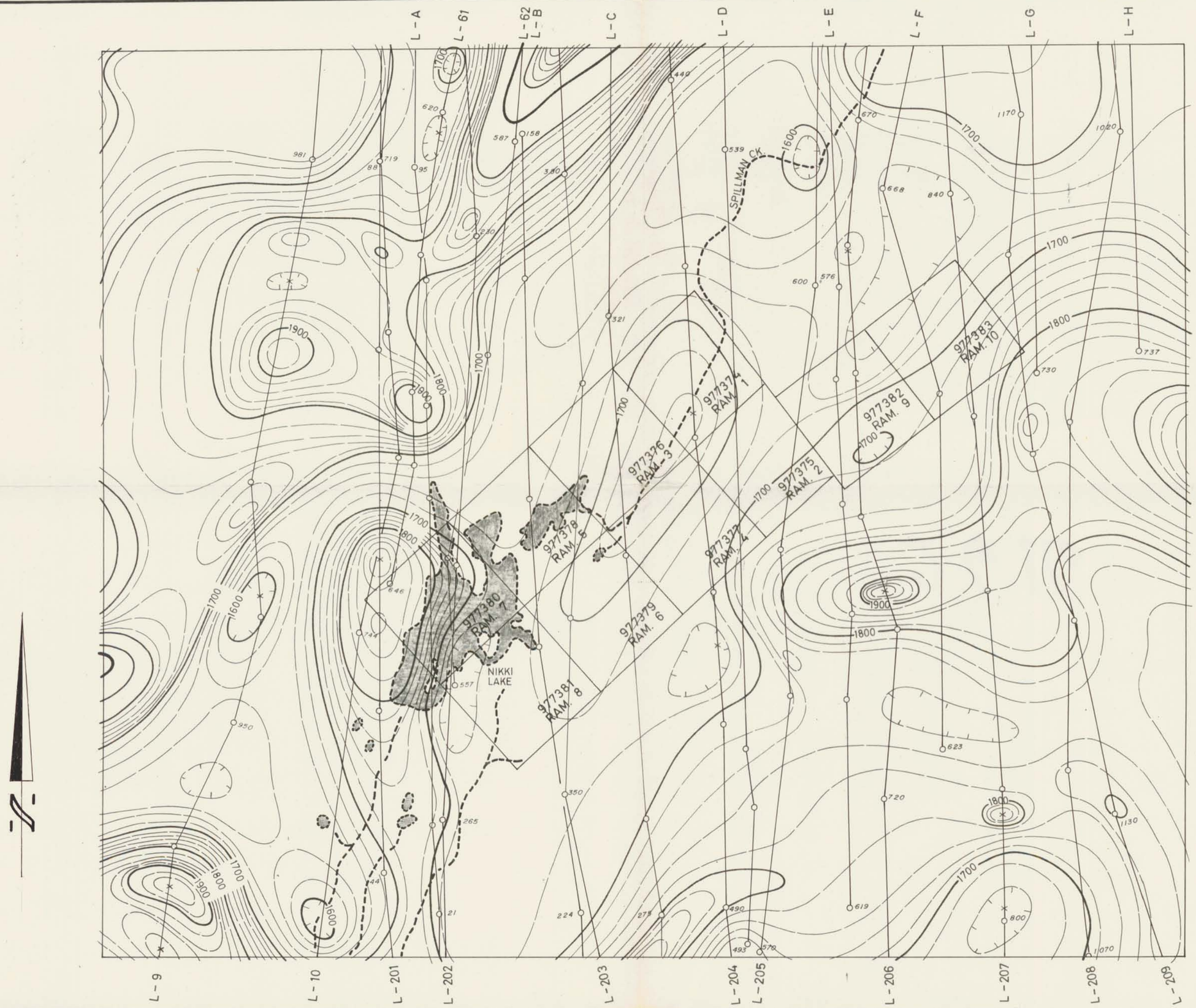
SCALE IN MILES

SURVEY BY

SEIGEL ASSOCIATES LIMITED

MAY 19. to 21. 1970

PLATE 1



LEGEND

L-2 —○123— FLIGHT LINE, FLIGHT LINE NUMBER AND NUMBERED FIDUCIAL POINTS.

500 GAMMA ISOMAGNETIC CONTOUR INTERVAL

100 GAMMA ISOMAGNETIC CONTOUR INTERVAL

20 GAMMA ISOMAGNETIC CONTOUR INTERVAL

MAGNETIC LOW

AIRCRAFT TERRAIN CLEARANCE - 250 FEET

FLIGHT LINE SPACING - 1/8 MILE

BASE INTENSITY ARBITRARY

DRAINAGE

PLATE 2

DRESSER MINERALS

ADAMS PLATEAU AREA, B.C.

AIRBORNE GEOPHYSICAL SURVEY

CLAIM LOCATION PLAN
AND
MAGNETIC CONTOURS

APPROX. SCALE 1" = 1000 FEET

0 1000 2000 3000 4000 FEET

SURVEY BY SEIGEL ASSOCIATES LIMITED

FLOWN AND COMPILED MAY-AUGUST 1970

SHEET 1 OF 1