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1970 YUKON GRAVITY PROGRAM

on the

LORNA, JEAN, OWL,
ROTO, SUN & GRAN
C L A I M S

for

ATLAS EXPLORATIONS LIMITED

by

OVERLAND EXPLORATION
SERVICES (1969) LTD.

CREW PERSONNEL


- Lorne Michalovsky - 66 Wakefield Drive S.W.
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- David K.Y. Chen - 1347 - 12th Avenue S.W.
CALGARY 3, Alberta
- W.T. Salt - 1347 - 12th Avenue S.W.
CALGARY 3, Alberta

5. I am a member of the following academic and professional societies:

- Society of Exploration Geophysicists
- American Geophysical Union
- European Association of Exploration Geophysicists
- Association of Professional Engineers of Alberta
- Geological Society of Republic of China
- Chinese Petroleum Institute
- Chinese Institution of Mining and Metallurgical Engineers.



DAVID K.Y. CHEN
Professional Geophysicist

DKYC/lp

CERTIFICATE OF QUALIFICATIONS

I, David K.Y. Chan, Geophysicist, of 6405 Center Street North, Calgary 47, Alberta Canada, hereby certify that:

1. I am a professional geophysicist associated with Overland Exploration Services (1969) Ltd., 1347 - 12th Avenue S.W., Calgary 3, Alberta, Canada.

2. I have no direct or indirect interest in, nor do I have or expect to receive any direct or indirect interest in any properties or securities of Atlas Explorations Limited.

3. I have attended the National Hunan University of Changsha, Hunan, China, 1947, receiving a Bachelor of Science Degree in Mining Engineering; that I hold a Master's Degree in Earth Sciences (geophysics major) from New Mexico Institute of Mining Technology at Socorro, New Mexico, U.S.A. During the period of 1964-67 I undertook part-time graduate studies in geophysics at Washington University, St. Louis, Missouri, U.S.A. I have completed all requirements of the graduate courses for my Ph. Degree work in geophysics except the thesis.

4. Since 1957, I have been intensively engaged in seismic, gravity and magnetic surveys and interpretations for oil/ore exploration in the U.S.A. and Far East with several Chinese, U.S. and Canadian oil and geophysical companies. In 1947, I was engaged as a Petroleum Engineer supervising oil well drilling and production. In 1957, I became involved in the geophysical oil/ore exploration field. I have held the following positions.

- Geophysicist
- Research Geophysicist
- Assistant Professor in Geophysics.

INTRODUCTION

In August and September, 1970, Overland Exploration Services (1969) Ltd., conducted a gravity survey on various properties in the Yukon Territory for Atlas Explorations Limited. This report is a discussion of each of the properties surveyed by Overland. All of the claims surveyed were northwest of the Faro townsite and were accessible only by helicopter. Atlas Explorations supplied the line cutting and the camp, while Overland supplied surveyor, surveyor-helper, meterman, and an interpretation of data collected.

SURVEY & FIELD
PROCEDURE

The Horizontal and Vertical Survey was conducted with a T-1A Theodolite. Stations were located and elevated along each of the grid lines. The elevation where possible, was then closed across the extremities of the grid lines, all of the closures thus formed were under 2.5 feet. The gravity readings were taken with a Worden Master meter and stations were metered on a two and one-half hour run from base to base interval. The base station plots were used for graphing the diurnal gravity drift which in turn was applied to all station readings. Each gravity station run had several repeat stations from preceding runs in order to prove the repeatability of the gravity meter. The repeats were all within a 0.00 to 0.08 milligal range. All gravity readings were corrected for diurnal tidal drift, Bouguer Free-Air-Correction, latitude correction, and terrain correction. A density factor of 0.060 for a surface density of 2.65 has been used in this interpretation.

DATA

Bouguer Free-Air Correction Factor	-	0.06
Latitude Correction	-	4911.15 feet/milligal
Density	-	2.65
Diurnal Drift	-	Taken from Base Plots
Terrain Corrections	-	Taken where necessary
Meter Number	-	Worden No. 806
Meter Constant	-	0.08351
Base Value	-	Arbitrary Value of 500 milligals

OWL CLAIMS

The total expenditures on the Owl Claims were \$1,695.00. This figure is inclusive of a portion of the crew travel time and expenses prorated to the Owl Claims.

BOUGUER MAP

The Bouguer Map of the Owl Claim Block displays an increase in gravity intensity to the southwest. Breaking up this general gradient are a series of density highs and lows scattered over the map area. Visually, these highs and lows have very little meaning as seen on the Bouguer Map and it is only through residual extraction that these features can be viewed in a meaningful manner.

RESIDUAL MAP

We have attempted to construct a regional gradient over the Owl Claim area which suppresses the influence

of large deep-seated mass effects. The remaining gravity features are then examined on their own residual merit. There are three anomalies worth investigating as possible sulphide targets.

The highest priority goes to Anomaly "A", which is located on the west side of the mapped area on Lines 20, 24, and 28 West. This anomaly is sourced at approximately 750 feet below surface. There is no surface or topographic expression of this anomaly and we feel that if "A" were entirely caused by glacial drift to native rock contrasts then there would be some surface expression of this event on such a steep topographic slope.

The second interesting anomaly is labelled "B" on the Residual Gravity Map. Here we have a dense mass having a more limited areal extent. Also the burial of this mass is not as deep as the "A" anomaly and the source material forming the "B" anomaly should be contacted within 300 feet of the surface. Again we can

see no surface expression of this anomaly and thus suggest that the feature is not a gravel to bedrock contrast.

The "C" anomaly lies to the east of what may be a fault zone. The fault is indicated by a series of north-west-southeast trending gravity lows lying immediately to the west of "C" anomaly. These lows may be the expression of a fault formed trench which has been filled with surface till. The "C" anomaly may be a direct result of this faulting, or, it may be a density variation caused by a mineralized zone which may accompany the faulting.

We feel that all three anomalies discussed above should be investigated further possibly to the extent of drilling.

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