

A Geophysical Report  
on  
Ground Magnetic & Gravity Surveys

on  
The Irma Claims  
(62°36'N, 133°24'W)  
N.T.S 105-K-11

015581

by  
Peter E. Walcott, P.Eng.  
December 75

Claims surveyed: IRMA 6-11, 13, 17  
24, 26

Survey Dates: Oct. 10th - 11th, 75

A REPORT

ON

MAGNETIC & GRAVITY SURVEYS

Anvil Area, Whitehorse M.D.

Yukon Territory

FOR

CYPRUS ANVIL MINING CORPORATION

Vancouver, British Columbia

BY

PETER E. WALCOTT & ASSOCIATES LIMITED

Vancouver, British Columbia

DECEMBER 1975

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INTRODUCTION

On October 10th and 11th, 1975, Peter E. Walcott & Associates Limited carried out ground magnetic and gravity surveys over a small grid established on the Irma claims by Cyprus Anvil Mining Corporation.

The surveys were carried out over three handcut north-south lines and an east-west baseline.

Readings of relative vertical intensity of the earth's field were taken every 100 feet along the lines using a Sharpe MF-1 magnetometer.

Measurements of relative gravity were made every 100 feet along the picket lines using a CG-2 gravity meter. In addition elevations at each of the gravity stations were obtained using a Sokkisha TM-20C theodolite and rod.

The data was then processed and presented in contour form on Maps W-208-1 to 3 that accompany this report.

PROPERTY, LOCATION AND ACCESS

The property is located in the Whitehorse Mining District of the Yukon Territory, and consists of the following claims:

<u>Claim Name</u>	<u>Record Number</u>
IRMA 1 to 31	YA 3250 - 3280

The claims are situated in a swampy valley about three miles north of Caribou Lake.

Access is obtained by means of helicopter from the Anvil minesite some 15 miles to the south.

PREVIOUS WORK

Previous work on the property to the best of the writer's knowledge consisted of airborne magnetic and electromagnetic surveying, the results of which are held by Cyprus Anvil Mining Corporation.

PURPOSE

The purpose of the survey was to locate and detail an airborne magnetic anomaly, interpreted by Cyprus geologists to be at roughly the same stratigraphic level as the previously drilled mineralization on the Dana claims to the southeast, and investigate its possible relationship to sulphide mineralization that could be detected as excess mass by the gravimetric method.

GEOLOGY

No rock exposure can be observed on the property, it being completely overburden covered. However for a review of the geology of the adjoining Hal and Dana claims and the general area the reader is referred to reports held by Cyprus Anvil Mining Corporation.

SURVEY SPECIFICATIONS AND PROCEDURES

The magnetic survey was carried out using a Sharpe MF-1 fluxgate magnetometer. This instrument measures variations in the vertical component of the earth's magnetic field to an accuracy of  $\pm 10$  gammas. Corrections for diurnal variations were made by tying in to previously established base stations at intervals not exceeding two hours.

The gravity survey was carried out using a Scintrex CG-2 gravity meter, which measures variations in the earth's gravitational field to an accuracy of  $\pm 0.01$  milligals.

Values of observed gravity were obtained every 100 feet along the picket lines. Corrections for meter drift were made by tying-in to previously established base stations at intervals not exceeding 2 to 3 hours. Drifts of over 0.10 milligals per hour were not allowable.

The elevations of the gravity stations were determined by rod and transit (Sokkisha TM-20C theodolite) using the stadia method. Errors in the tying-in of loops were kept to a minimal, and did not exceed 0.5 feet per loop.

Corrections were then applied to the observed gravity values for differences in elevation, using a density of 2.6 gm/cc, and latitude.

The final Bouguer gravity values were then plotted and contoured.

In all 3.2 miles of magnetic and gravity surveying were completed.

DISCUSSION OF RESULTS

The magnetic survey shows the broad smooth airborne anomaly to possibly have two causative sources - (1) narrow shallower (less than 50 feet) bodies and (2) a broader deeper body (in the order of 200 feet) as can be seen from the limited data on Map W-208-1.

The gravity survey, as evidenced by the contours of Bouguer gravity on Map W-208-3, shows the presence of a large undefined gravity anomaly centred about 7 N on Line 8 E to occur on the property, as distinct from the magnetic anomaly which lies to the south of the base-line.

No residual anomaly can be obtained as there is insufficient data to construct the regional gravity. However if a smooth curved regional is visualized with a 1.0 milligal anomaly (local source) then a maximum depth to the causative source of about 500 feet is expected. If a flat regional is visualized then maximum depths to a large causative source of about 2000 feet can be expected.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Between October 10th and 11th, 1975, Peter E, Walcott & Associates Limited carried out limited magnetic and gravity surveys over part of a property for Cyprus Anvil Mining Corporation.

The property, i.e. the Irma claim group, is located in the Anvil area of the Yukon Territory.

The magnetic survey located the ground expression of the airborne magnetic anomaly, but showed it to be possibly representative of two different sources, one shallow, the other moderately deep.

The gravity survey located the presence of a large undefined gravity anomaly not apparently associated with the magnetic anomaly.

This gravity anomaly unfortunately could not be subjected to interpretive study due to an insufficiency of field data.

Although there is no reason to suggest that the causative source of the anomaly is in any way related to sulphide mineralization, the writer feels that the anomaly should be subjected to further study.

This study, which should take the form of further gravity and induced polarization surveying, must unfortunately be carried out in two parts at different times on account of its location at the edge of a swamp - i.e. the gravity in the spring when the ground is still frozen to provide a stable surface for the sensitive gravity observations, and the I.P. in the summer when the ground is unfrozen in order to facilitate proper electrical contacts with the ground.

The writer therefore recommends that the following programme be carried out:

- (1) Extend and run gravity over
- |           |      |                          |
|-----------|------|--------------------------|
| Line 24 W | 25 S | to 35 N                  |
| Line 16 W | 0    | to 35 N                  |
| Line 8 W  | 16 N | to 35 N                  |
| Line 0    | 20 N | to 35 N                  |
| Line 8 E  | 25 S | to 20 S and 20 N to 35 N |
| Line 16 E | 8 S  | to 35 N                  |
| Line 24 S | 4 S  | to 35 N                  |
| Line 32 E | 8 S  | to 35 N                  |
| Line 40 E | 25 S | to 35 N                  |

in order to properly define the anomaly and establish a regional.

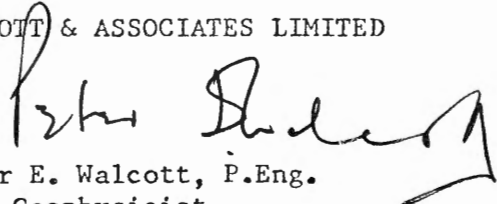
- (2) Complete the magnetic coverage.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS cont'd

- (3) Run two I.P. profiles over the gravity anomaly at suitable separations to properly investigate the causative source as determined from the gravity results to determine if the source could be sulphide mineralization.

Respectfully submitted,

PETER E. WALCOTT & ASSOCIATES LIMITED

  
Peter E. Walcott, P.Eng.  
Geophysicist

Vancouver, B.C.

December 1975

A P P E N D I X  
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COST OF SURVEY

Peter E. Walcott & Associates Limited undertook the survey on a daily basis. As a result the total cost of services provided was \$1,827.00.

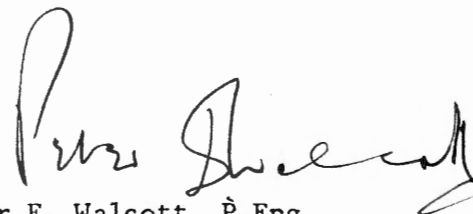
PERSONNEL EMPLOYED ON SURVEY

<u>Name</u>	<u>Occupation</u>	<u>Address</u>	<u>Dates</u>
Peter E. Walcott	Geophysicist	Peter E. Walcott & Assoc. 605 Rutland Court, Coquitlam, B.C.	Oct. 10th - 13th Nov. 8th, Dec. 28 1975
G. MacMillan	Geophysical Operator	" "	Oct. 10th - 13th 1975 Dec. 23-31st, 75
V. Pashniak	"	" "	Oct. 10th, 1975
S. Scurvey	Helper	" "	Oct. 10th & 11th, 1975
H. O'Brian	"	" "	Oct. 10th, 1975
J. Walcott	Typing	" "	Dec. 31st, 1975

CERTIFICATION.

I, Peter E. Walcott of the Municipality of Coquitlam, British Columbia, hereby certify that:

1. I am a Graduate of the University of Toronto in 1962 with a B.A.Sc. in Engineering Physics, Geophysics Option.
2. I have been practising my profession for the last fourteen years.
3. I am a member of the Association of Professional Engineers of British Columbia, Ontario and the Yukon Territory.
4. I hold no interest in the property described in this report nor do I expect to receive any.

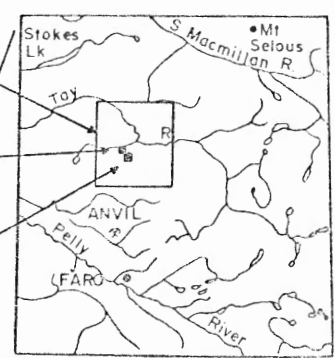


Peter E. Walcott, P.Eng.

Vancouver,  
British Columbia

December 1975

LOCATION MAP  
IRMA CLAIMS



105-K-11

IRMA  
1-31

DANA & HALO  
CLAIMS

TAY RIVER MAP AREA-105-K

NORTHWEST  
TERRITORIES

TERRITORIES

BRITISH COLUMBIA

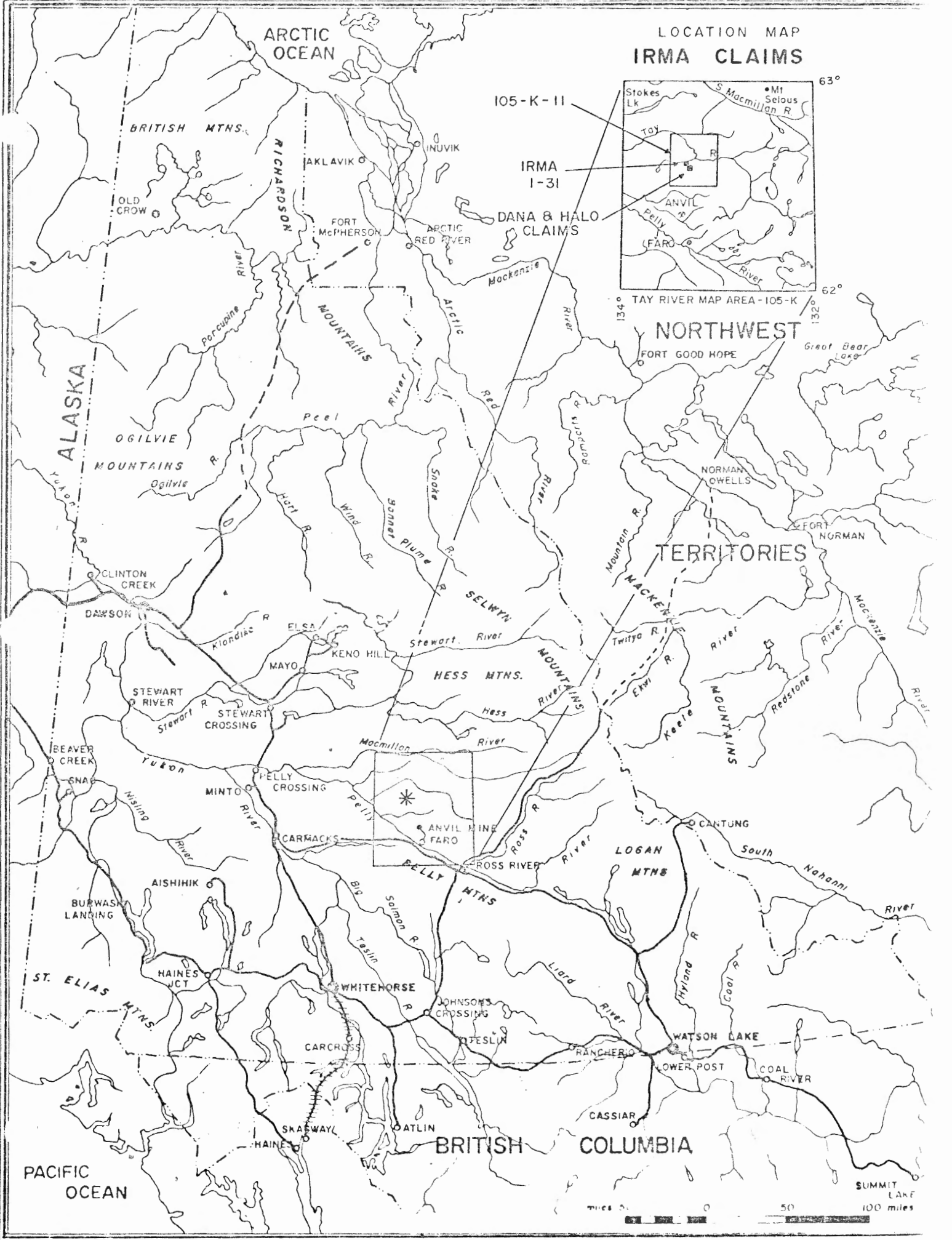
ARCTIC OCEAN

ALASKA

PACIFIC OCEAN



SUMMIT LAKE



31	29	27	25				
30	28	26 8W	24 OE 8E	23	22		
15	13	11	9	7	5	3	
14	12	10	8	6	4	2	1

IRMA

ON



21	19	17		11	12	2	1	18	17	38	37	58	57	
20	18	16		9	10	4	3	20	19	40	39	60	59	
				7	8	6	5	22	21	42	41	62	61	
				5	6	8	7	24	23	44	43	64	63	
				3	4	10	9	26	25	46	45	66	65	
				1	2	12	11	28	27	48	47	68	67	
								13	30	29	50	49	70	69
								14	32	31	52	51	72	71
								15	34	33	54	53	74	73
								16	36	35	56	55	76	75

HAL I-24

DDH 466-75-6

DDH 466-75-4

DDH 466-75-5

DANA

CYPRUS ANVIL MINING CORPORATION  
**DANA HALO & IRMA CLAIMS**

105/K/11  
 Scale: 1" = 1/2 Mile