Geophysical Survey
Amcana Group, Greenwood M.D.
Amcana Gold Mines Ltd. N.P.L.
49 - 118 N.W.
82E/7W
July-Aug.1961 By Alfred R.Allen

00364

364

MAGNETOMETER SURVEY

AMCANA GROUP

GREENWOOD M. D.

B. C.

by

Alfred R. Allen, P. Eng.

1961

C O N T E N T S

AMCANA GROUP

GREENWOOD M.D.

B.C.

INTRODUCTION

A magnetometer survey was conducted over the AMCANA group of mineral claims from July 5 to September 1st under the direction of the writer.

The field party consisted of the writer, P. Maharajh, Geochemist, U.B.C., M. Peterson, R. Lucas and P. Allen. A camp was set up on the property on the Barnato Fraction mineral claim.

Survey equipment included a Wilde transit and a sharpe D-1-M magnetometer. A Radar magnetometer was kept as a reserve instrument.

The object of the survey was to investigate the property systematically with the magnetometer in order to detect any variances in the normal magnetic field. Heavy pyrrhotite mineralization, and some magnetite, occur associated with known gold-bearing deposits on the property, hence in order to conduct a thorough exploration and development program it is necessary to locate and investigate all zones of magnetic deviation thereon.

LOCATION AND ACCESSIBILITY

The Amcana group is located in south central British Columbia. By highway from Rock Creek north it is 10 miles to Westbridge, and thence 25 miles by good secondary road to the property. Several logging roads and trails traverse the property.

PROPERTY

The Amcana group is made up of the following mineral claims, held in the name Amcana Gold Mines Ltd. (N.P.L.)

Golden Nuggett	Yorkshire Lass
Thunder Hill	Mountain View
Utopia	Mame
Hunter	Barnato Fraction
Silver Dollar	Coin Fraction
Mogula 1 Fraction	Hackla
Mogula 2 Fraction	Massinger Fraction
Gold Dollar	Kaffir King
Monetor	Silver Bell
Bonanza Fraction	

The Barnato claim is held under option agreement between Amcana Gold Mines Ltd. (N.P.L.) and Mr. M. Peterson of Grand Forks, B.C. All the above named claims are in the Greenwood Mining Division and shown on B.C. Dept. of Mines Mineral Claims Map 4-T-300.

TOPOGRAPHY

The claims are located on and near the crest of the Beaverdell Range between elevation 3,300 and

4,700 feet above sea level. The general gradient is to the south and east. Several small creeks flow in narrow V-shaped draws easterly into the Kettle River.

The overburden is light and the underbrush is not heavy. The area is presently being logged.

GEOLOGY

The property is underlain by igneous and volcanic rocks.

Greenstone of the Permian Anarchis Group has been intruded by Palaeocene Coryell syenite and monzonite. All the above have been overlain by fine-grained light coloured banded tuff of the Phoenix Group.

On the property the intrusive dioritic rock is the most common. The younger volcanic rock lies along the eastern part of the area surveyed.

Irregular deposits of iron-bearing mineralization, some containing veins bearing high-grade gold and low silver values have been partially explored on the property. The gold values appear to be directly associated with arsenopyrite. Pyrrhotite and in places magnetite have been noted closely associated with the gold-bearing arsenopyrite.

MAGNETOMETER SURVEY

The magnetometer survey was made on a grid pattern as follows.

A base line, tied to surveyed claims posts, was run by chains and transit in a general north-south direction through the property.

Spaced 200 feet apart 22 east-west lines were run by chain and Brunton compass across the property. Five similar lines were spaced 300 feet apart. On all these lines stakes, marked by designated station numbers, were placed at 100 - foot intervals. The 27 lines were tied to the base line and known surveyed claim posts. Those lines east of the base line were numbered with an E to designate the east side of the base line and the west lines marked with a W to designate the west side of the base line. Magnetometer readings were observed and recorded at all stations.

The magnetic diurnal was checked daily.

Where a series of high or low readings, or both, were noted a detailed survey was made of that area on a 25 foot grid pattern.

Normal readings taken by the D-I-M Sharpe magnetometer ranged around 2,300 to 2,800 gammas. Readings on anomolous areas were recorded from 300 to 17,000 gammas.

Anomaly No. 3

Location: Hunter, Monitor, Silver Dollar

Maximum Intensity: 4,700 gammas

Geology: This large upland area is chiefly underlain by diorite.

Note: This large anamalous area is believed to be comprised of a series of iron bearing zones carrying pyrrhotite rather than magnetite, and should be thoroughly prospected.

Anomalies 4 and 5

Location: Utopia claim

Maximum Intensity: 3,855 gammas

Note: These are believed outliers of the large anomaly number 3 to the east. The weak magnetic variance is possibly due to pyrrhotite mineralization.

Anomalies 6 and 7

Location: Gold Dollar and Mogula 1 Fraction

Maximum Intensity: 4,285 gammas

Note: These small and generally weak anomalous areas are close to number 1 anomaly and appear to be outliers of same.

Anomaly 8

Location: Mogula No. 1 Fraction and Mogula No. 2 Fraction claims

Maximum Intensity: 9.300

Note: This is a strong anomaly and should be thoroughly prospected.

Anomalies 9 and 10

Location: Golden Nuggett and Thunder Hill claims.

Maximum Intensity: 1,390

Minimum " 280

Note: These are lows and the results of polarization effect from the high anomalies to the south of each.

Anomalies 11, 12 and 13

Location: Thunder Hill and Golden Nuggett

Maximum Intensity: 4,200 gammas

Note: These are small isolated anomalies.

CONCLUSIONS AND RECOMMENDATIONS

Thirteen anomalous areas were outlined in the northern half of the property and none on the southern half.

The number one anomaly, on which both extremely high and low readings were recorded was prospected and veins and lenses of magnetite were noted in fracture zones in dioritic rock. A large shear zone is indicated in the west side of the anomaly, and small mineralized quartz stringers occur in and near the anomaly. The anomaly lies on and around a small rocky hill and outcrops are numerous. Stripping by bulldozer will not be required, but after further detailed geological mapping and trenching it may be found advisable to diamond drill the anomaly.

The number two anomaly is quite strong. Scattered outcrops indicate it to lie mostly on banded, fine-grained light coloured tuff, but it may extend across the contact into the nearby igneous rock. No actual iron mineralization was noted on the outcrops

within the anomalous area. It is possible that the volcanic rock is overlying a deposit of iron mineralization and masking it, but detailed geological mapping along with some trenching will be necessary to establish the source of the magnetic anomaly.

The number three anomaly covers a large area, where numerous mineral showings are known to occur, many of them along with pyrrhotite. Hence the entire area may be classed as favourable to prospecting and should be given careful study.

Small areas of low magnetometer readings lie to the north of the strong anomalies 1 and 2, and this is believed to be due to a polar effect. From experience on the edges of number one anomaly, where very low readings were noted and heavy magnetite was found nearby, it is suggested that these areas of low readings also are where veins and lenses of magnetite may be present.

It is concluded that on the Amcana group the north half of the claims are characterized by deposits of iron mineralization, whereas the southern portion of the property does not contain sizeable deposits of iron mineralization. Notwithstanding the above, there are mineralized quartz veins on the southern half of the property that contain excellent values in gold, along with sulphide minerals that are non-magnetic.

Which type of mineralized area will prove to contain the best mine-making possibilities will only be found by stripping and diamond drilling.

The following exploratory work is herewith recommended:

1. Detailed geological mapping of anomalies 1, 2, and 3
2. Strip by bulldozing the areas surrounding the showings on the Barnato and Hackla claims.
3. Map and sample the areas of stripping.

Respectfully submitted

Alfred R. Allen, P. Eng.

REFERENCES

Johnston, R.A.A., Geol. Surv. Canada, Numair 74

Little, H.W. " " " Map 6-1957

B.C. Dept. of Mines, Bulletin 1, 1932

British Columbia Minister of Mines Reports, 1900-1939

Form No. 220 (47) Statutory Declaration. Perfection Planned Products.

Dominion of Canada

Province of British Columbia
To Wit:

In the Matter of

THE MINERAL ACT

I, ALFRED ROY ALLEN, of the City of Vancouver in the Province of British Columbia

Do Solemnly Declare that

1. I am a consulting Geological Engineer engaged in conducting a Geophysical Survey for Amcana Gold Mines Ltd. (N.P.L.)

2. The statement hereunto annexed and marked Exhibit "A" to this my Declaration is a true and accurate statement of expenditures made by me with respect to Amcana Group of mineral claims owned by the aforementioned Company between July 5, 1961 and September 1, 1961.

And I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

Declared before me
at the City of Vancouver
in the Province of British Columbia
this 6th day of
September A.D. 1961

Alfred R Allen

J E Epstein

A Notary Public in and for the Province of British Columbia.
~~A Commissioner for taking affidavits within British Columbia.~~

ALFRED R. ALLEN

September 6, 1961

Evidence of Expenditure Incurred:

The field crew was made up of the following:

A.R. Allen, P. Eng.

P. Maharajh, Geochemist, student at the University of B.C., field experience in Brazil and Trinidad.

R. Lucas, Student

P. Allen, Student

M. Peterson, experienced prospector and geologist's assistant.

Remuneration for the survey work, paid by Amcana Gold Mines Ltd., was as follows:

	July	August
A.R. Allen	650.00	550.00
P. Maharajh	300.00	101.92
R. Lucas	282.50	375.00
P. Allen	282.50	375.00
M. Peterson	360.00	330.00
	$ 1,875.00	$ 1,731.92

Total $ 3,606.92

Days in the field by each man are as follows:

	A.R. Allen	P. Maharajh	R. Lucas	P. Allen	M. Peterson
July	5	5	5	5	1 to 31 incl.
	6	6	6	6	
	7	7	7	7	
	31	10-14 incl.	10-14 incl.	10-14 incl.	
		17	17	17	
		19-21 incl.	19-21 incl.	19-21 incl.	
		24-31 incl.	24-31 incl.	24-31 incl.	
	4	20	20	20	31
Aug.	13		1-3 incl.	1-3 incl.	
	14				1 to 31 incl.
	15		13-26 incl.	13-26 incl.	
	1 (Sept)		28-31 incl.	28-31 incl.	
	4		21	21	31
Total days	8		41	41	62

In addition to the above there were several days each month spent in Vancouver Office by all members of the crew except M. Peterson.

This is Exhibit "A" referred to in the affidavit of ALFRED R. ALLEN *sworn before me at* Vancouver *in the Province of British Columbia, this* 6 *day of* September *19*61.

A Epstein

~~A Commissioner for taking Affidavits~~ within the Province of British Columbia
A Notary Public

True

27 W 26 W 25 W 24 W 23 W 22 W 21 W 20 W 19 W 18 W 17 W 16 W 15 W 14 W 13 W 12 W 11 W 10 W 9 W 8 W 7 W 6 W 5 W 4 W 3 W 2 W

UTOPIA

HUNTER

MAME

BONANZA FR

MONETOR

SILVER DOLLAR

GOLD DOLLAR

GOLDEN NUGGETT

BARNATO

FR

YORKSHIRE LASS

MOGULA No1 FR

THUNDER HILL

BAR NATO

ROBIE BURNS

MOGULA No2 FR

MOUNTAIN VIEW

1 W

7 E 6 E 5 E 4 E 3 E 2 E 1 E

27 E 26 E 25 E 24 E 23 E 22 E 21 E 20 E 19 E 18 E 17 E 16 E 15 E 14 E 13 E 12 E 11 E 10 E 9 E 8 E

LEGEND

Grid Lines — 2E

Base Line 15 16

Claim Lines

Station .12

Magnetometer 2340 (Readings In Gammas)

Creeks

Lake

Swamp

Anomalies

Low, less than 1500 γ

High, more than 2100 γ

#1 - 3460 - 6000

6000 +

364 (MI)

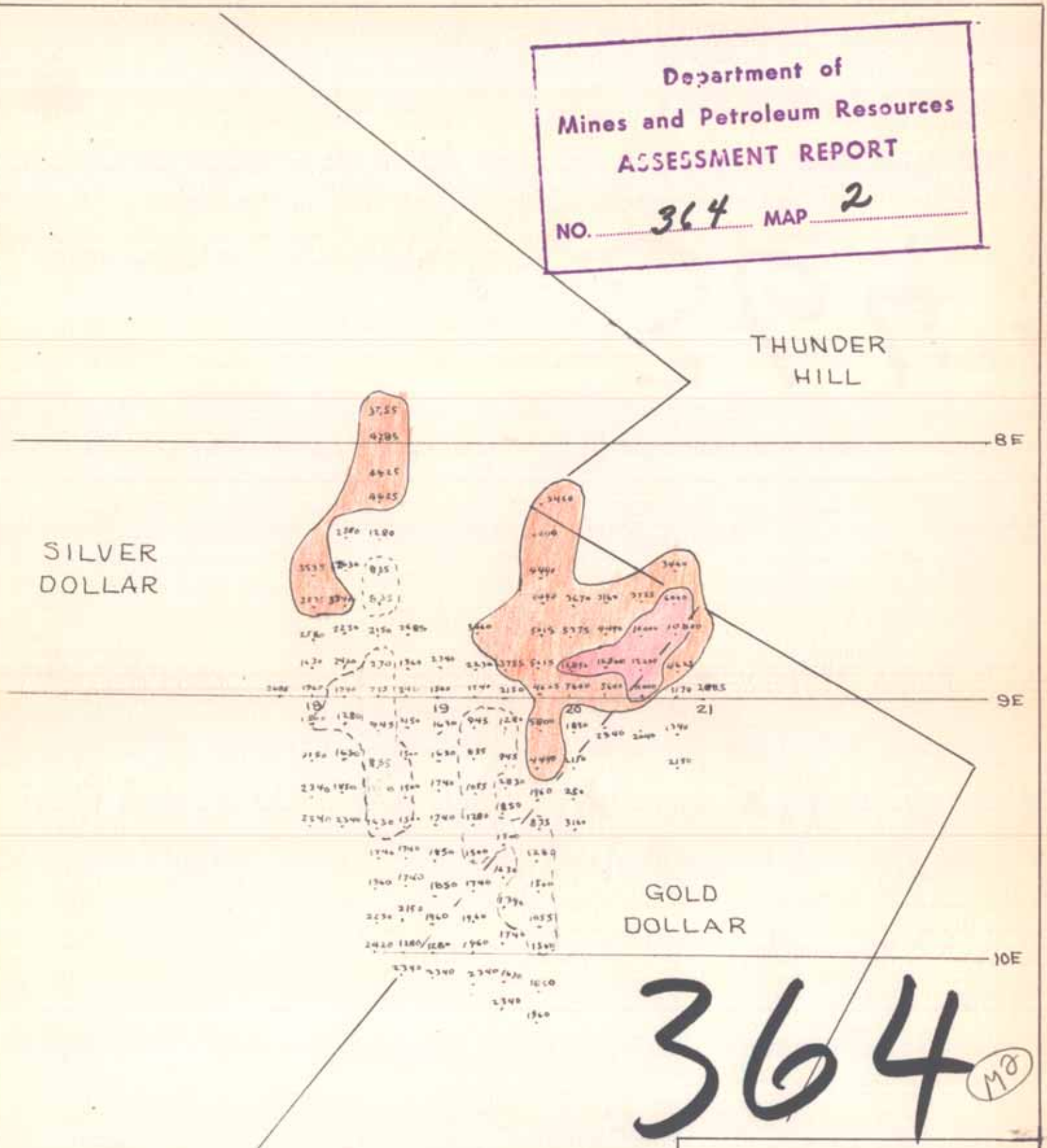
AMCANA GOLD MINES LTD (N.P.L.)

GEOPHYSICAL SURVEY

(MAGNETOMETER)

SCALE 1" = 300'

August 1961 49-118-NW By: Alfred R. Allen P.Eng.



364 M2

AMCANA GOLD MINES
LTD. (N.P.L.)

ANOMALY No 1

Scale 1" = 100'

Magnetometer Readings in Gammas.

August 1961

By: Alfred R. Allen
P. Eng.