A REPORT ON A GEOLOGICAL AND GEOPHYSICAL EXPLORATION PROGRAM CONDUCTED ON THE TROPHY MOUNTAIN PROPERTY LATITUDE 51°50' N. + LONGITUDE 119°53' W. for CONTINENTAL MEKINNEY MINES LTD. by Summit ANGUS G. MacKENZIE MINING CONSULTANTS LTD. SALGARY, ALBERTA SAMABW SEPTEMBER, 1972

4386

# A REPORT

ÔN

A GEOLOGICAL AND GEOPHYSICAL

EXPLORATION PROCRAM

CONDUCTED ON

THE TROPHY MOUNTAIN PROPERTY LATITUDE 51°50' N. - LONGITUDE 119°53' W. CLEARWATER AREA. BRITISH COLUMBIA

FOR

CONTINENTAL MCKINNEY MINES LTD.

BY

ANGUS G. MACKENZIE MINING CONSULTANTS LTD.

CALGARY, ALBERTA

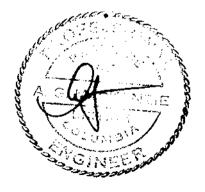
SEPTEMBER, 1972

Department of Mines and Petroloum Resources ASSESSMENT REPORT 4386 MAP



INDEX

	Pare
Introduction	1
Scope of Report	1
Eistory	2
Location and Accessibility	3
Topography and Physiography	3
General Geology	4
Regional Gedory	5
Granite Granitic Gneiss Cuarts-Mica-Schist Dikes Marble	6 6 7 7 7
Structure	8
Economic Geology	8
Азвауя	10
Paragenesia	104
Geophysics	10A
Instrumentation Instrument Specifications General Description Intrepration	12 13 14 15
Conclusions	16
Recommendations	16



\_ANGUS G. MacKENZIE MINING CONSULTANTS LTD.

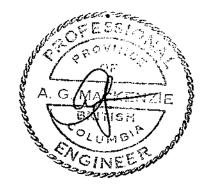
# LIST OF ILLUSTRATIONS

Figure 1	#  Index Map (after Page 3)
Figure 2	# ]General Geology (after Page 4)
Figure 3	t3Local Geology (in pocket)
Figure 4	#4Magnetometer Survey (in pocket)
	#5 Magnetic Anomaly Map #6 Claim Location map
	#6 Claim Location map

## APPENDIX

Cost Estimate

List of Personnel



4

\_ANGUS G. MacKENZIE MINING CONSULTANTS LTD.\_

## INTRODUCTION

The Continental McKinney Mines Ltd. claims are located about 12 miles northeast of Clear Water Station and lie on the north of Trophy Mountain. The area is centered around Discovery Hill, which is a divide between Raf River and Moule Creek, having an elevation between 6,800 and 7,075 feet.

The present investigation included a detailed magnetometer survey and geological mapping to the scale of 1 inch = 200 feet. Mineralized samples were collected and the results of the assays are attached in this report. Descriptive sections in the mineralized outcrop area were measured.

Mapping was completed during field trips in July and August, 1972. Two illustrations, a geological survey and a magnetometer survey accompany this report.

The application of Magnetic and/or Electromagnetic methods was found to be suitable geophysics for this type of depost.

#### SCOPE OF THE REPORT

This report contains elements of our previous report on this property in which the Geological information was based on work done by Dr. S. Holland of the British Columbia Department of Mines (1965), and on a detailed magnetometer survey and geological investigation conducted by our crewe in 1972.

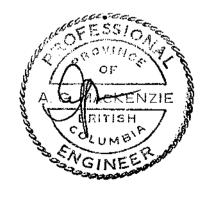
#### HISTORY

C)

There can be little doubt that the property was prospected before 1955 but the first recorded record we can find is from the Minister of Mines Report of 1955. It would appear that Goldcrest Mines Ltd. and Ormsby Mines Ltd. dropped the property after doing some geophysical work, as well as around 10,000 feet of diamond drilling in 1955-56.

The status of the property between 1957-58 and 1966 is not known. A search of the Minister of Mines Reports from 1953 through 1968 does not include any filing of certificates of work prior to 1967. The property was apparently restaked by M. Murtack in October and November, 1966 and is in good standing to November 7, 1972. The property was sold to TriNat Resources Ltd. on December 23, 1970 and the Bill of Sale has been recorded at Kamloops, British Columbia with the Mining Recorder, Receipt No. 58258 E.

Secondo Mining Ltd. holds a group of some 364 claims, increased from their reported and recorded 112 claims of the Tim, Ax and Nx groups, located between 4,000 feet and 8,000 feet on the summit and northwest slope of Trophy Mountain. Reported work on this property in 1968 was geochemical sampling along two reconnaiseance lines totalling 22,000 feet and four diamond drill holes totalling 334 feet. Eight men spent three months on the property. The property is listed as a copper-moly prospect. Secondo is part of the "Brynelsen Group".



 $\sim h$ 

#### LOCATION AND ACCESSIBILITY

The Summit Group of claims (61558 to 61567 and 61628 to 61645) were first located in November, 1955 on the north side of Trophy Mountain, which is situated about 12 miles northeast of Clearwater Station. Trophy Mountain lies between the Clearwater and Raf Rivers in the general Wells Gray Provincial Park area, but nd in the Park. (See Figure 1)

The property may be reached by helicopter or by float-equipped aircraft from Kamloope. A landing can be made at Summit Lake; from there a pack horse trail goes eastward for about two miles to what is called Discovery Hill, at the head of Houl Creek.

It is possible to build a road to the property and consideration must be given to the inclusion of such a project in any future program of work.

Logging and forestry roads provide access to the Raf, Moul and Adams Rivers.

#### TOPOGRAPHY AND PHYSIOGRAPHY

The area is mountainous. Trophy Mountain attains an altitude of 9,000 feet and the old showings lie between 6,800 and 7,075 feet. One exposed vein system outcrops between elevations of 6,800 and 6,890 feet. The most westerly vein system outcrops at 6,940 feet and what has been called the Ady Vein outcrops at an elevation of 7,075 feet.

Much of the map area is covered by heavy timber and dense undergrowth. Travel is generally difficult and bedrock exposures are sparse. The treeline extends to about 6,500 feet above sea level.





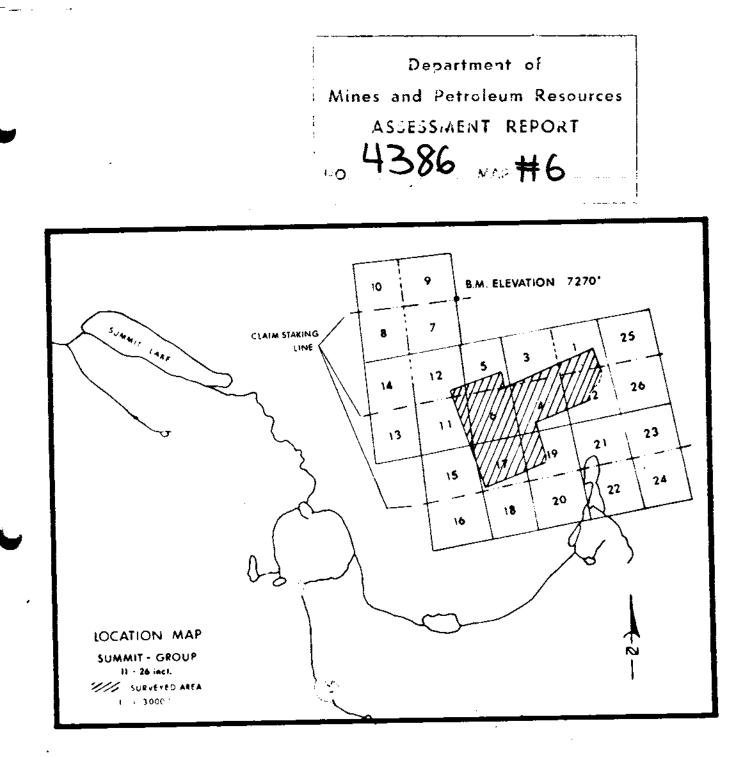
and the second the second s

Mines and Petroleum Resources ASSESSME LEMONI NO 4386 MAD #1

·-

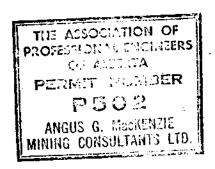


.



# SUMMIT LAKE PROPERTY

TROPHY MTN. KAMLOOPS MINING DISTRICT





Expiry Data: Supramour 20, 1973

ANGUS G. MACKENZIE

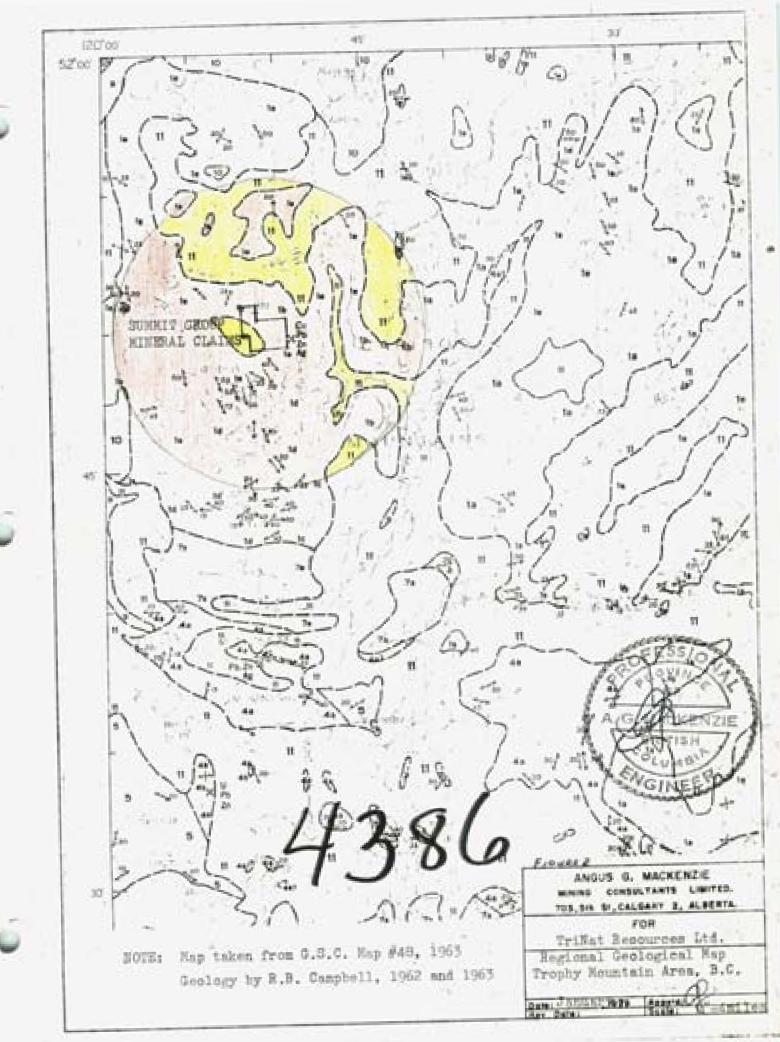
# GENERAL GEOLOGY

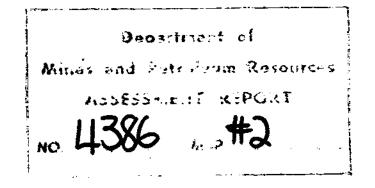
The general claim area is underlain by meta-sediments ranging from quartz-mica-schists to biotite gneiss. Locally, remnant limestone or marble beds can be found, but in general these carbonates have been altered to Wollastonite with brown garnets. In some areas remnant bedding is measurable and varies from about five to ten feet. All these rocks are cut by granitic dikes and sills and coarse pegmatites. All the rock sequences and also the mineralisation on the property have been cut by very dark green, andesite porphyry dikes varying from a few inches up to forty feet in width. These dikes are fracture filled and generally strike about  $10^{\circ}$  east of north and dip  $70^{\circ}$  to  $75^{\circ}$  west. (See Figure 2)

The regional strike is west and the dip is mainly to the south. Locally, and in the claim area, there are overturned folds with amplitudes of some hundreds of feet.

Mineralisation is generally widespread, cocurring as disseminated pyrite, pyrrhotite, chalcopyrite, galena and molybdenite. Locally these are concentrated, as in the three or more somes encountered in the claim group area. As far as we know, no chemical check has been made for NoS<sub>2</sub> on any samples from the Summit Group.

The Shuswap Netamorphic Complex is the predominating rock formation in the claim area. This complex is equivalent to the Monashee Group of the Vernon map area. It has been divided into sub-units but definitive boundaries are lacking. Sub-units are gradational from one to the other. They are





	LEGEND // C
	PLEISTOCENE AND RECENT Classical deposits and recent allovines; till, gravel, and, sill, and 4380
	PLEISTOCENE AND/OR EARLIER
	Clause hussis, einder cones, blocky flows, breccus, and agglometals
CENOROR.	TERTLARY MICCENE OR PLICCENE
81	9 Plat-lying olivine basalt flows; minor breezis and gravel
Ĭ.	TERTIARY (7)
	8 Congiometale
ND0000	TURASSIC AND/OR CRETACEOUS AND (7) EARLIER Ta, biotite granodiorite and granite; Tb, hornblande diorite; Te, manovile granite; 7d, biotite-boroblande synaite, biotite granodiorite, hornblande diorite, and felatie; includes septa and inclusions of intraded rotits
	6 Serpetiinite
	PERMAN OR EARLIER
CANLES .	Grassatine, greesschist, chlorits schist, phyllits, limestoss,     garta-sericits schist, quartaite, volcanit agglowerate
ALAROZOIC OR LANLER	<ul> <li>4a, dark grey and brown phyllite (commonly limy), limestone, aericicle quartitie; minor greenstone, quarts-feldepar-chlorite geniss, and meta-conglomerate; St. trachytic tulf and treects</li> </ul>
PALAEO	3 Grey and buff weathering, while, grey, and buff marble and linewatone; minor greenstone and phyllite
	2 Unitvided, includes rock types common to 4a and 5 minur quartermids action and areplabelite
	AGE UNCERTAIN SOUSWAP METAMORPHIC COMPLEX Is, characterized by well foliated granitic growing; quartz-feldenar- initic quartz-mice schist, quartatic, marble, and skare; abundent and locally dominant pegmatike, muscovite granite, and biotite granodiorite; 3, exclusively or dominantly biotite granodiorite; ic, characterized by quartz-mice schistore greiss (commonly garnetiferous), amplitbolite, quartatic, marble, and skare; pegmatite, muscovite granite, biotite granodiorite; marble, and skare; pegmatite, muscovite granite, biotite granodiorite; mixor granitic gneles; id, similar to unit ic with abundant and locally dominant dykes and
	ailia of pegmattia, musicovite granile, and biotite granodiorite; is, undivided, may include all rock types found in units is and in. The granitic rocks may be equivalent to these of 7
	Small rick interest
	Geological boundary operiod, approximate, and assumed
	Foliation including rock eleavage, schipicetty, gaelascelly, //+
	Lineation including fold axes, creculations, mineral lineations, and bedding-cleavage intersections (plunging, horizontal)
	Fossil locality
	Miseral prospect. 4 X. ANGUS G. MarkENZIE MINING CONSULTANTS LTD.

strongly foliated and lineated and, as stated above, intensely intruded by numerous dikes, sills and irregular granitic and pegnatitic bodies.

All meta-sediments are intensely deformed and appear to have been subjected to at least two periods of folding. Field evidence suggests that two of these folding periods were approximately at right angles to one another, the first northeast and the second northwest. As evidenced in the diamond drilling results and the Magnetometer and E.M. Surveys, faulting accompanied and/or closely followed this folding period and appreciably displaced mineralised showings.

## REGIONAL GEOLOGY

The Shuswap Metamorphic complex is the predominating rock formation in the area. This complex is equivalent to the Nonashee group of the Vernon area.

Granitic gneiss, granite and quarts-mica-schist are the main rock types in the area. Pegnatite dikes composed mainly of quarts, feldspar and white mica are found to occur within granite and gneiss, mostly across the strike of bedding planes, but in places along the strike. Dark blackish green porphyritic dikes, white quarts dikes ranging from a few inches to several feet thick are also located at different places.

The contact between granitic gneise and granite is traceable in many places. Schist occurs irregularly and occurs as thin beds and interbeds with granite. All rocks are strongly foliated.

#### GRANITE

Granite occurs in the central part of the investigated area and apparently overlies the granitic gneiss. It is even textured. Pink garnet is the important accessory mineral. The contact between granite gneiss and granite is well marked in the eastern, northern and southern part of the area but is obscured in the western section. Joints and fractures are very common. Dikes of various composition are also common. Thin layers of quarts-mica-schist are exposed in many places. Granite is believed to be intrusive into the metamorphic complex.

# GRANITIC CNEISS

Granite energy outcrops are common in the area investigated and constitutes about 50% of the rock masses. It is usually light brown in colour and consists of quarts, feldspar, mice and a few accessory ferromangesian minerals. Sulphide mineralization is noticed in different parts of the area but mostly concentrated on the east. Granitic gneiss forms prominent ridges. The intermediate rocks are highly weathered. Exaggerated weathering may be due to the higher percentages of ferromagnesian minerals. Pegmetite dikes are common. Andesite porphyry dikes are noted in the proximity of the mineralized zones, but no mineralization is noticed in these dikes.



ANGUS G. MacKENZIE MINING CONSULTANTS LTD. This report may not be reproduced in whole or in part without the written permission of Angus G. MacKenzie, P.Eng.

#### QUARTZ\_MICA-SCHIST

Schists occur irregularly in different places but were most common to the west above the E showing. They are grey to brownish grey in colour. Inclusion of quarts and mice are common. They are strongly foliated and grenulated. Schists and granite are intermixed in places. Pegmatite dikes occur quite irregularly within the schist.

### DIKES

Three kinds of dikes were observed and are dealt with separately. 1. <u>Permatite Dikes</u>: This is made up mostly of larger crystals of quarts, feldspar and muscovite. They wary in thickness from a few feet to 20 feet. 2. <u>Quarts Dikes</u>: White massive quarts dikes are found in many places. These can be from a few inches to about 12 feet wide. These dikes are generally barren.

3. <u>Andesite Porphyry Dikes</u>: Consist of dark green matrix with disseminated crystals of garnet. They can be from a few inches to about three feet in thickness.

#### MARBLE

About a foot of greenish grey marble was found in showing B, underlying the Andesite Dike.

ANGUS G. MacKENZIE MINING CONSULTANTS LTD. This report may not be reproduced in whole or in part without the written permission of Angus G. MacKenzie, P.Eng.

#### STRUCTURE

The general strike of the formation is N50°E and dips between 20° to 45° to the northwest. Except in places where the bedding is cross-cut by a fault or a dike, the strike is more or less maintained between N50°E and N75°E. At position B, the strike is north-south. This change is most probably due to a north-south trending fault. The direction of the dip is almost always west or northwest.

While following the granitic gneiss it was observed that the strike changes to  $\mathbb{R75}^{\circ}\mathbb{E}$  at the centre but returning to  $\mathbb{N50}^{\circ}\mathbb{E}$  strike on west. This change is possibly due to granitic intrusion at the central part of the area. The area is unaffected by any major folding and/or faulting.

Only a very minor fold is observed at the centre and plotted on the map. The trend of dikes generally is N20<sup>0</sup>E and they dip to the west. Faults trend northwest - southeast. All of these faults are apparently minor, and any displacement appears to be very low. Fractures and joints are very common.

## ECONOMIC GEOLOGY

Outcrops of the mineralised some have apparently been investigated in detail. Kost all of them have been skripped and trenched. The rocks surrounding these somes are all light brown in colour and contain stringers of mineralization.

ANGUS G. MacKENZIE MINING CONSULTANTS LTD. This report may not be reproduced in whole or in part without the written permission of Angus G. MacKenzie, P.Eng.

Outcrop A:	Granitic gneiss, brown
	Mineralization - 6 feet
	Granite gneiss - 6 feet
	Pegnatite dike - 4 feet
Outcrop B:	Granite gneiss - 6 feet +
	Mineralization - 4 feet Sample Bast Zone B
	Andesite porphyry - 3 feet
	Marble, Woolastonite - 2 feet
Outerop Et	Granite gneiss - 6 feet
	Mineralization - 5 feet Sample Center Zone C
	Granite - 3 feet
	Pegmatite - 6 feet +
Outcrop F:	Granite - 10 feet +
	Mineralization - 2 feet
	Granite and granitic gneiss - 12 feet
	Nineralization - 5 feet Sample West Zone E
	Mineralization alternated with quartzite and granite - 2 feet 6 inches
	Mineralisation - 3 feet
	Quarts-mica-schist -4feet +
All the a	bove occurrences are considered to be at different elevations,
the Outcrops A	and B may be the same, being displaced by a fault. The
eastern sone h	as a great concentration of economic minerals, presumably
affected by fa	ulting, fracture and dikes. All the mineralised somes
seemed to have	a similar type of mineralization but the assays inclusive
that the West	Zone has less sinc and more lead.

- 9

GINE



# OBCLOGICAL REPORT

MEN ATHONA MINES LTD.

CLAIM GROUP

NEAR

THOPHY NOUNTAIN, B. C.

Ĵ

A. O. - RODGBOR SEPTENDER, 1956 The strike length of any of these somes has not been exposed for any more than 20 feet. On the West Zone, two surface cuts, about 60 feet apart, along the strike, expose the same mineralization.

On the east, one outcrop at the edge of the cliff, north of Line 6 is possibly an extension of a mineralized outcrop south of Line 9. The distance between these two is about 450 feet. The mineralized outcrops to the north of Lines 16 and 17 could be the same, thus having a strike length of 350 feet.

#### ASSAYS

The following analytical report was obtained from Loring Laboratories, Calgary, Alberta.

	Silver Oz/Ton	% Copper	% Lenā	% Zinc	Туре
В	.16	.88	.02	9.29	Specimens collected from surface cuts on the higher
C	.10	.85	.02	8.48	anomaly sones, and are representative of
E	•92	.48	1.29	3.75	individual sones.

See Geological Map in pocket for location of samples.



\_ANGUS G. MacKENZIE MINING CONSULTANTS LTD.\_

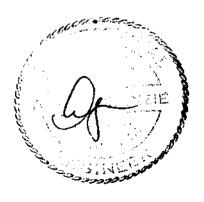
# PARAGENESIS

The mineralization is considered to be of the replacement type, with pyrrhotite, sphalerite, galena, pyrite and obalcopyrite, along pseudo-bedding planes in the granite gneiss. The granite intrusion, faulting and fracturing probably occurred contemporaneously with deposition. Dikes are post mineralization occurrences and may or may not have had any influence on the mineralization. The andesite porphyry at the base of mineralized sones is thought to have had more effect. The andesite porphyry usually in-fills minor faults and fractures.

Mineralization in all the showings appears to have had the same source. Exposed mineralization appeared to be botryoidal in gross texture.

## **GEOPHYSICS**

A McPhar Model M-700 Magnetometer, with a readability of 5 gamme in the 1,000 gamme range was used for the survey. The survey was extended for a length of 3,600 feet in the direction of N60°E and N20°E. (See Plan.) Recording stations were spaced every 100 foot and 200 foot intervals,



ANGUS G. MacKENZIE MINING CONSULTANTS LTD., This report may not be reproduced in whole or in part without the written permission of Angus G. MacKenzie, P.Eng. depending on the results obtained during the survey and similarly readings were taken every 25, 50 and 100 feet along the station lines. Usually the spacing was close where the Magnetometer indicated a higher reading. The instrument was set at 10,000 gammas as a background and 5,000 gammas was added during calculations.

(The accompanying magnetic contour map shows six anomalous somes labelled A, B, C, D, E and F.) These somes may be described as follows:

Zone A: This is located on the eastern edge, about 300 feet south of 03 Line. Magnetic intensity in this zone is 40,000 gammas, which is 25,000 gammas above background.

This is the maximum anomaly some in the surveyed area. The higher intensity is caused by sulphide mineralization, as is evidenced by surface outs.

Zone B: This is about 300 feet south of Line 04. Magnetic intensity in this some ranges from 8,000 to 9,260 gammas. Geological data indicates that this some is an extension of Zone A, being displaced by a fault.

Zone C: About 250 feet south of Line 09. Readings as high as 9,440 gammas were recorded. This sone is elongated north and south.

Zone D: About 400 feet south of Line 18. A magnetic intensity of 9,745 gammas was recorded. No surface work has been done on this anomaly.

Zone E: About 400 feet north of Line 17 and Line 16. A magnetic intensity of from 8,000 to 11,400 gammas were recorded. The showing to the north of Line 17 has been trenched, but on Line 16 an almost vertical wash-out exposed the entire mineralized zone.

<u>Zone F</u>: Lies about 200 feet south of Line 32, having a magnetic intensity of 7,168 gammas. This is on the extreme western end of the mapped area. Two trenches, about 60 feet spart, opened up this mineralised sone.

## INSTRUMENTATION

The M-700 Magnetometer is a vertical field magnetometer employing the flux gate principle. The instrument is self-levelling, and a self-cancelling circuit permits rapid, accurate measurement of the earth's magnetic field from a meter, without adjustments or calculations.

The self-levelling feature of this electronic magnetometer eliminates the need for bulky tripods and time consuming fine levelling procedures. Further, the instrument is practically insensitive to orientation. Errors are as low as 25 gammas for 180 degree rotation in a 15,000 gamma horisontal field.

Since the instrument can be adjusted electronically to measure vertical fields from plus 100,000 gammas to minus 100,000 gammas, there is no need for auxiliary magnets or complicated latitude adjustments.

The operation of the M-700 is very simple. The reading on the meter is set to zero at a chosen base station by operating the latitude adjustment control. This can be done to an accuracy of 5 gammas. Next, as successive stations are occupied, the instrument is held roughly level, and the increase or decrease in the vertical component of the earth's magnetic field is read

111

directly from the meter. Five scale ranges are available and on the most sensitive range the accuracy is 5 gammas.

The M-700 Magnetometer is the result of extensive engineering based on rugged field requirements. It incorporates the latest advances in solid state components and has built in temperature stability. The instrument provides rapid, accurate, repeatable measurements.

# INSTRUMENT SPECIFICATIONS

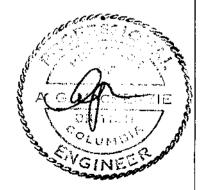
1. <u>Maximum Sensitivity</u> - 20 gammas per scale division on 1,000 gamma range. Readability is 1/4 scale division or 5 gammas.

2. <u>Maximum Neasurement</u> - Zero to - 100,000 gammas in five ranges.

Range Switch Position	Full Scale in Gappas	Gammas Per Scale Division
1 <u>K</u>	1,000	20 black scale
<b>3</b> K	3,000	50 red scale
1 <b>0</b> K	10,000	200 black scale
306	30,000	500 red scale
100K	100,000	2,000 black scale

3. <u>Heasurement Polarity</u> - The above ranges can be reversed in polarity as a simple function of the Polarity switch.

4. Latitude Adjustment - The latitude adjustment permits cancelling the earth's field up to a magnitude of  $\stackrel{+}{=}$  100,000 gammas. The adjustment control is a ten revolution precision potentioneter located under the sliding side panel. A positive type locking lever on the control removes the hasard of accidentally dislodging the setting.



5. <u>Jelf Levelling Sensing Head</u> - The unique self-levelling sensing head of this magnetometer is inserted as a plug-in unit. It is easily detached so that the same magnetometer can be used with other types of sensing heads such as the airborne gyro stabilized head, etc.

6. <u>Orientation Error</u> - The orientation error is set at the factory to 25 genmas or less in the presence of a 15,000 genma horizontal field. It is possible to adjust the orientation error.

7. <u>Temperature Stability</u> - Over the temperature range of -35 to +55 degrees centigrade the temperature drift is limited to less than 50 gammas.

#### GENERAL DESCRIPTION

The field sensitivity of the M-70° magnetometer originates in a flux gate element mounted so that its axis of maximum sensitivity is maintained in the vertical plane. The flux gate element contains an excitation winding and a detector winding. In addition there are auxiliary windings around the element which carry D.C. currents. With the auxiliary windings, a D.C. flux is created to cancel the earth's field. Latitude adjust control and automatic cancelling.

The flux gate element is continuously exited between saturation levels by an A.C. current. A detector winding consisting of differentially wound coils, picks up zero voltage when the resultant D.C. flux through the elements is zero.

When the external D.C. field changes in magnitude, a corresponding phase-reversible second harmonic output voltage is produced across the detector winding. The second harmonic output voltage is fed to a phase sensitive rectifier system and used to provide a cancelling D.C. current to oppose the external field attempting to unbalance the flux gate element.

The system therefore is a self-cancelling one and at all times approximates a condition of zero flux about the flux gate element.

The D.C. current fed back to maintain the zero flux condition is measured on the display meter and is directly proportional to the change in the earth's field. The meter, then, can be calibrated directly in gammas.

Five meter ranges are provided to permit the measurement of a change of field of up to 100,000 gammas. Because the field at any new measurement station may increase or decrease, a polarity reversal on the on-off switch is provided.

The main application of the instrument is for general ground surveying. Because of the lack of any set-up requirements and the rapid direct mater read out, it provides the fastest and most economical geophysical surveying available compared to any other type of instrument or technique.

### INTREPRATATION

Corrections were made for diurnal variation as determined from a series of base station readings.



ANGUS G. MacKENZIE MINING CONSULTANTS LTD. This report may not be reproduced in whole or in part without the written permission of Angus G. MacKenzie, P.Eng.

#### CONCLUSIONS

It has been noted that the mineralized zones in this area react to electromagnetic forces. A reconnaissance E.M. Survey conducted in 1971 established two mineralized zones to the east. A detailed E.M. Survey is therefore strongly recommended to cover the entire area.

The data on earlier drilling, if available, would be helpful in helping to determine the strike length of the mineralization. At least three zones, East B, Center E and West F could prove economical if extensions could be found.

## RECOMMENDATIONS

A detailed Electro-Magnetic Survey should be run over the entire claim area. The results of this survey would be most helpful in delineating offset strike extension of the presently known mineralised exposures and would be an assist in the layout of a realistic diamond drilling program.

It is unlikely that the data collected on previous drilling done by Violamac Mines would be available and we recommend, in addition to the E.M. Survey, a series of Ext. diamond drill holes to substantiate the work done by Violamac and to investigate the in-depth conditions of some of the other mineralized exposures in the claims area.

We would suggest a string of Ext. holes from the original showing more or less along the known strike, drilled at  $-45^{\circ}$  to intersect the

ANGUS G. MacKENZIE MINING CONSULTANTS LTD.

mineralization about 50 to 60 feet beneath the surface. Altogether perhaps ten - 100 foot holes or about 1,000 feet.

An estimate for the recommended work is appended.

ANGUS G. MackFINZIE MINING CONSULTANTS LTD.

Angus G. MacKensie 11 cocce

Anil B. Ro

Calgary, Alberta, September, 1972.

\_ANGUS G. MacKENZIE MINING CONSULTANTS LTD.\_

# COST ESTIMATE

# E-M Survey

Sub-Contract © \$90 per line mile Mobilization and Demobilization Supervision	\$ 900.00 500.00 1,500.00	\$ 2,900.00
Camp, Equipment & Supplies		
3 men for 15 days @ \$10 per day per man	\$ 450.00	450.00
Diamond Drilling		
Sub-Contractor © \$15 per foot for 1,000 feet (should include all but Mobilization and Demobilization)	\$ 15,000.00	
Mobilization and Demobilization	350.00	
Supervision - 15 days	1,000.00	16,350.00
Consultants Fee	\$ 1,500.00	1,500.00
		\$ 21,200.00
Contingencies - 15%		3.180.00
ESTIMATED TOTAL COST		\$ 24,380.00



\_

# LIST OF PERSONNEL

	arr <del> </del>	Man Days				
Tan	<u>He</u>	Field	Office	Date - Pield	Date - Office	
Mr.	A. G. MacKenzie	1	7	July 2	Nay 14, 17 September 16-21	
Mr.	M. Murtack	1	26	July 2	<b>July 17-31</b> August 21-31	
Mr.	Morris Cadell	9		August 8 - August 16		
Mr.	Anil B. Roy	20	42	July 2 - July 12 August 8 - August 16		
Mr.	Chris Murtack	20		July 2 - July 12 August 8 - August 16		
Mr.	Kab <b>iashi</b>	20		July 2 - July 12 August 8 - August 16		
Mr.	Mark	11		July 2 - July 12		



\_\_ANGUS G. MacKENZIE MINING CONSULTANTS LTD.

## DECLARATION OF QUALIFICATIONS

OF

ANCUS G. MacKENZIE, P. Eng., MCIM

- I. Angue G. MacKensie, hereby certify that I am a Consulting Mining Engineer-Mining Geologist. I am a graduate (B.B.) in Mining and Metallurgy of Nova Scotia Technical College, Halifax, Nova Scotia and I have taken post-graduate economic geology at Dalhousie University.
- 2. I have spent the past thirty years in the Mineral Industries as a Mining Engineer and/or Mining Geologist and have maintained responsible position in these fields at mining properties in Newfoundland, Nova Scotia, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, the Yukon and Northwest Territories. I have also had considerable experience in the United States and Mexico.
- 3. I am a Registered Professional Engineer in the Provinces of Alberta and Manitoba and am licensed to practime in Saskatchewan and British Columbia. I have been registered in Nova Scotia, Quebec and in the State of Colorado, U.S.A.
- 4. I have no personal interest in Continental McKinney Mines Ltd.
- 5. This report is the direct result of an examination by our Company over a period of several months, on the claims referred to and a review of all pertinent data for the area.

6. I have made this report at the request of Mr. M. Murtack, President of Continental McKinney Mines Ltd., 204, 2910 - 30 Avenue, Vernon, British Columbia.

Angus G. Mad Consulting Mini Geologist

Calgary, Alberta. September 20, 1972

\_\_\_ANGUS G. MacKENZIE MINING CONSULTANTS LTD.,

