| | | | |
|---|---|---|---|
| MAP NO.: | ASSESSMENT REPORT X | DOCUMENT NO: | 092716 |
| 105 [redacted] L 15 | PROSPECTUS | MINING DISTRICT: | Whitehorse |
| | CONFIDENTIAL X | TYPE OF WORK: | Geological evaluation |
| | OPEN FILE | | |

| | | | |
|---|---|---|---|
| REPORT FILED UNDER: | Archer, Cathro & Associates (1981) Ltd. | | |
| DATE PERFORMED: | 26-28 April, 1989 | DATE FILED: | 11 May, 1989 |
| LOCATION: LAT.: | 62°54'N | AREA: | MacMillan River |
| LONG.: | 134°54'W | VALUE $: | 700.00 |
| CLAIM NAME & NO.: | GAZ 1-4(YB13897-900) | | |

| | |
|---|---|
| WORK DONE BY: | W.D. Eaton |
| WORK DONE FOR: | Archer, Cathro & Associates (1981) Ltd. |

| DATE TO GOOD STANDING: | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

REMARKS: #49 LONE MOUNTAIN

A quartz-arsenopyrite-galena vein is exposed in four(4) 1982 hand trenches. The vein is 0.3 m wide, strikes 155° and dips north at a shallow angle. Two chip samples taken in 1988 in Trench three(3) averaged 2012.6 g/t Ag, 1.24% Pb, 0.41% Zn and 32 ppm Cu over 0.3 m.

ARCHER, CATHRO
& ASSOCIATES (1981) LIMITED
CONSULTING GEOLOGICAL ENGINEERS

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VANCOUVER, B.C. V6B 1L8
(604) 688-2568

# GEOLOGICAL REPORT (PROPERTY EVALUATION)

## LONE MOUNTAIN PROPERTY

## GAZ 1-4 CLAIMS
## (YB12897-YB13900)

Latitude 62°54'; Longitude 134°54'

NTS MAPSHEET 105L/15

WHITEHORSE MINING DISTRICT

YUKON TERRITORY


May 1, 1989

W.D. Eaton, B.A., B.Sc.

Work performed between April 26 and 28, 1989

092716

BOX 4127, 3125 THIRD AVENUE, WHITEHORSE, Y.T. Y1A 3S9
(403) 667-4415

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 700.00 .

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

## TABLE OF CONTENTS





## APPENDICES

## INTRODUCTION

The Lone Mountain property was staked on May 31, 1988 and is 100% owned by Archer, Cathro & Associates (1981) Limited. It covers a quartz-galena-arsenopyrite vein with exceptionally high silver to lead ratios similar to those at the United Keno Hill Mines Ltd. operation, 120 km to the north.

This report is a compilation of geological and exploration data available for the property including work done by previous owners, results of a traverse conducted during staking and an airphotography study done by the author on April 26, 1989. Appendix I contains the Author's Statement of Qualifications.

## PROPERTY, LOCATION AND ACCESS

The property consists of four contiguous claims registered in the name of Archer, Cathro with the Whitehorse Mining Recorder, as shown below.

| Claim Name | Grant Number | Expiry Date |
|---|---|---|
| Gaz 1-4 | YB13897-YB13900 | June 2, 1989 |

The claims cover the southwest half of Lone Mountain, a prominent hill located between the MacMillan and Pelly Rivers in Central Yukon, as shown on Figure 1. Access is by helicopter from Mayo, 90 km to the northwest, or Carmacks, 117 km to the southwest. A 70 km winter road extends from Pelly Crossing, a community on the Klondike Highway, to Oz Lake which lies 5 km southwest of the property.

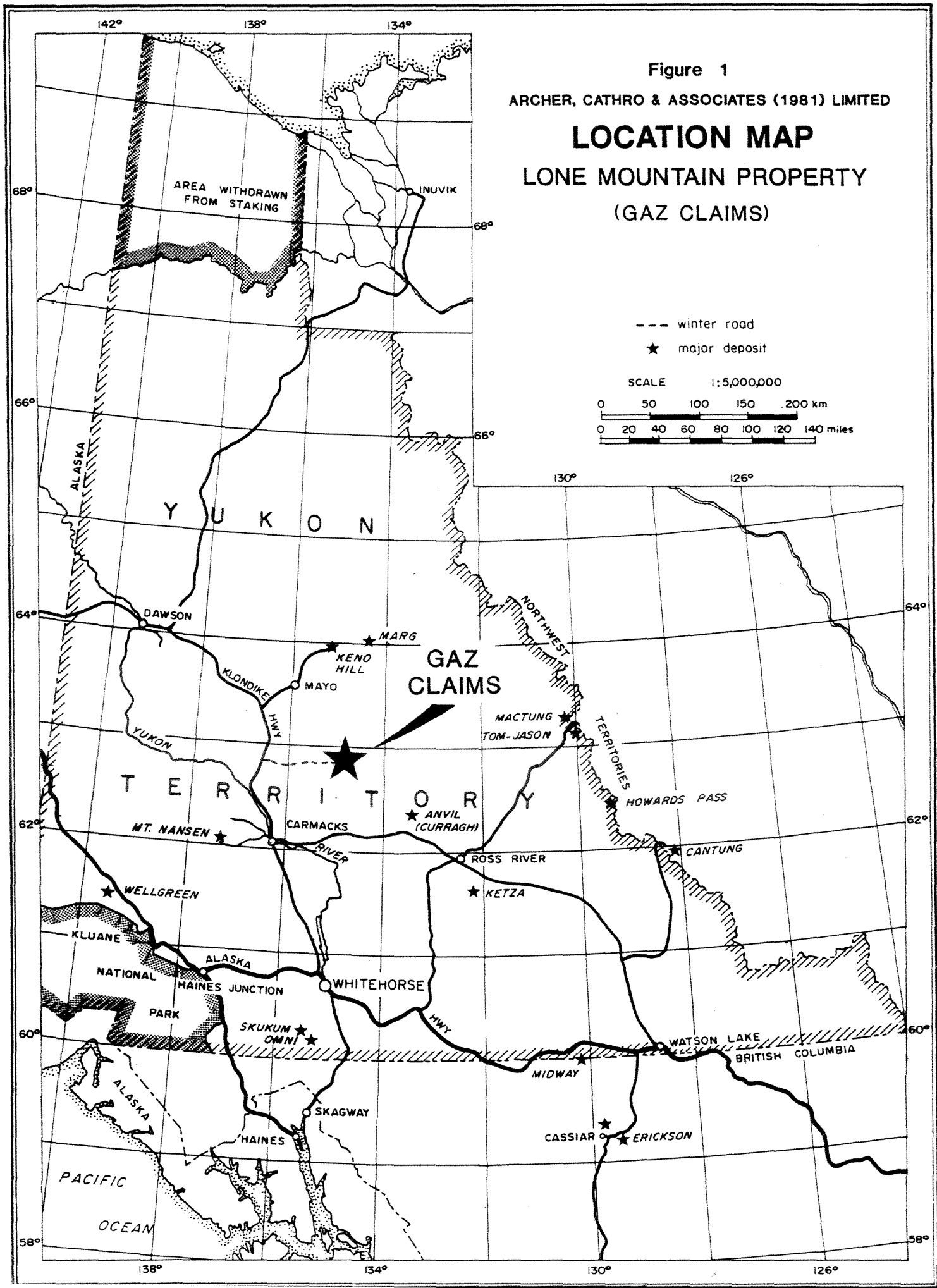


Figure 1
ARCHER, CATHRO & ASSOCIATES (1981) LIMITED
LOCATION MAP
LONE MOUNTAIN PROPERTY
(GAZ CLAIMS)
--- winter road
★ major deposit
SCALE 1:5,000,000
0 50 100 150 200 km
0 20 40 60 80 100 120 140 miles
142°
138°
134°
130°
126°
68°
66°
64°
62°
60°
58°
AREA WITHDRAWN FROM STAKING
INUVIK
ALASKA
YUKON
TERRITORY
NORTHWEST TERRITORIES
DAWSON
MARG
KENO HILL
KLONDIKE HWY
MAYO
GAZ CLAIMS
MACTUNG
TOM-JASON
YUKON
HOWARDS PASS
ANVIL (CURRAGH)
MT. NANSEN
CARMACKS
RIVER
ROSS RIVER
CANTUNG
WELLGREEN
KETZA
KLUANE
NATIONAL PARK
ALASKA
HAINES JUNCTION
WHITEHORSE
SKUKUM OMNI
HWY
WATSON LAKE
BRITISH COLUMBIA
MIDWAY
ALASKA
SKAGWAY
HAINES
CASSIAR
ERICKSON
PACIFIC OCEAN

## PREVIOUS WORK

The Lone Mountain area was first staked and explored in the early 1980's by Anaconda Canada Exploration Limited as part of a much larger claim block. This work was directed toward shale-hosted, sedimentary exhalative lead, zinc and barite mineralization and included airborne magnetic and electromagnetic surveys over the whole property, followed by ground geophysical and soil geochemical grid surveys in selected areas, one of which covered Lone Mountain.

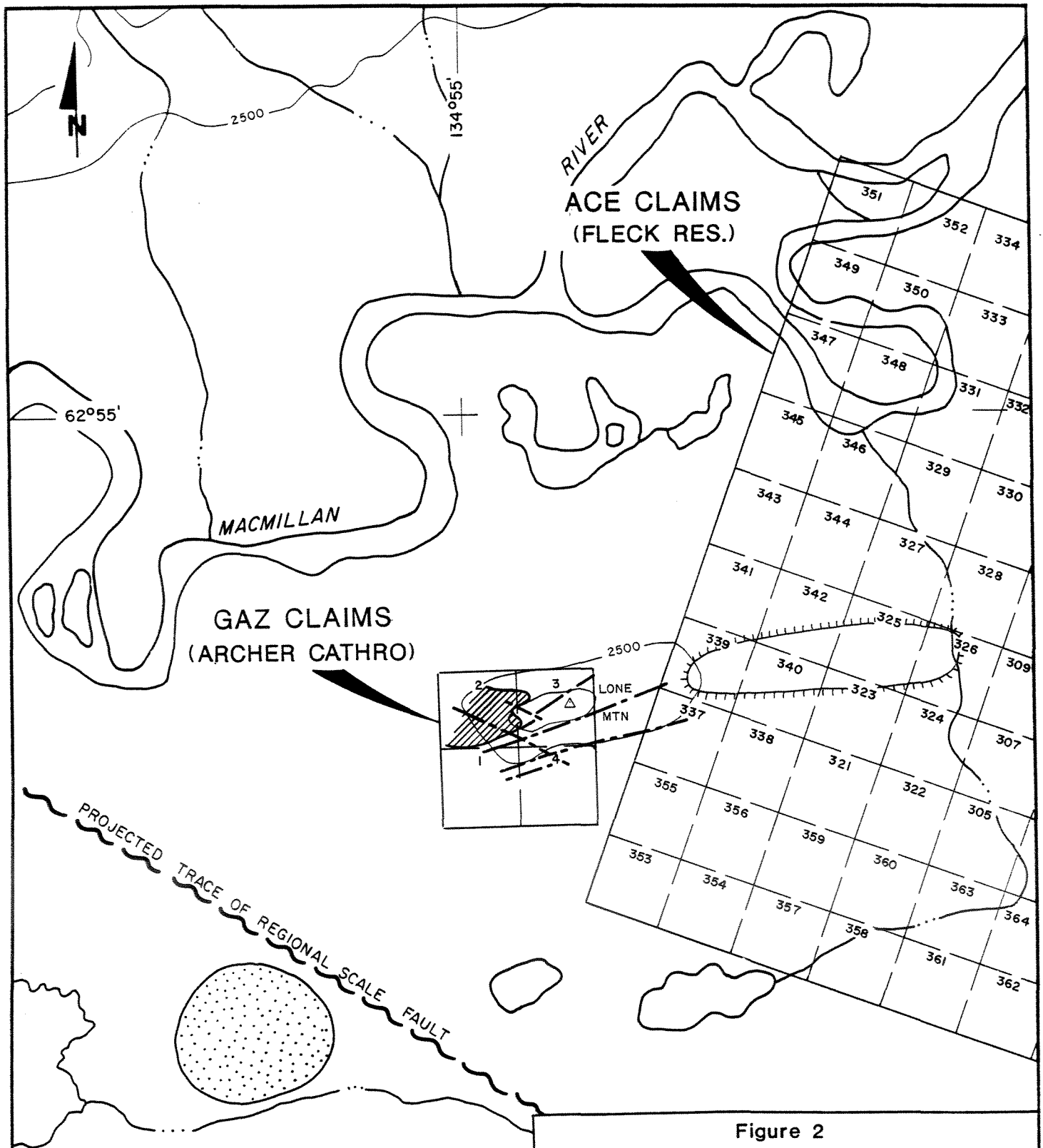
In 1982 the Lone Mountain grid was explored by HLEM, VLF-EM, magnetic, gravity and multi-element (Cu,Pb,Zn and Ag) soil geochemical surveys on cut lines spaced 100 to 200 m apart, as described in assessment reports by Alan R. Scott and Jerry Carlson. The geophysical work produced a few weak conductors and magnetic anomalies but was not particularly encouraging. However, the geochemical survey outlined a 350 by 350 m area of moderately anomalous lead response within which are smaller areas of strongly anomalous response. Prospecting showed that the magnetic highs are due to quartz-chlorite-actinolite-pyrrhotite skarns that contain minor chalcopyrite. No surface mineralization was found until four shallow hand trenches dug to test the geochemical anomaly exposed a vein. Anaconda sold its Canadian properties to Fleck Resources Ltd. in 1985 and the claims were allowed to lapse without further work.

## GEOLOGY

The property is located within the Selwyn Basin, 17 km northeast of the Tintina Fault. The most recent Geological Survey of Canada (GSC) map (Memoir 352) shows the Lone Mountain area as underlain by Mississippian Earn Group but more recent work by Anaconda geologists indicates the rocks belong to the Cambrian-Ordovician Ketchika Group. The main lithologies are interbedded slate, phyllite, marble and calc-silicate hornfels. The closest mapped intrusion is a 2 by 1 km Tertiary (?) quartz-feldspar porphyry stock located on Dromedary Mountain, 5 km to the southeast. However, most of the surrounding area is covered by glacial till and the airphotography study identified a pronounced circular feature 2 km southeast of the property that could represent a 1 km in diameter buried intrusion (see Figure 2).

The most significant structural feature in the immediate area is an unnamed, regional-scale fault that projects through the till-covered area about 2 km southwest of the claims. This structure is subparallel to the Tintina Fault and is shown as a high angle fault by the GSC and as a thrust fault by Anaconda. Airphotograph analysis identified two major linear trends on Lone Mountain, one striking about 120° (subparallel to the regional-scale fault) and the other 070°. No bedding attitudes are recorded for the Lone Mountain area but regional attitudes strike easterly to southeasterly with variable dips.

A small but relatively intense airborne magnetic high is shown on GSC Map 7209G on the eastern flank of Lone Mountain and may represent an intrusive centre or a well developed skarn zone. A similar magnetic high is developed on the margin of the feldspar porphyry stock on Dromedary Mountain.




Approximate outline of soil geochemical anomaly

Airborne magnetic high

Circular feature on airphotograph

Topographic linear on airphotograph

Airphotographs A11522-179 and 180

Figure 2

**ARCHER, CATHRO & ASSOCIATES (1981) LIMITED**

# COMPILATION MAP

## LONE MOUNTAIN PROPERTY

SCALE: 1/2 MILE TO 1 INCH
(1:31,680)

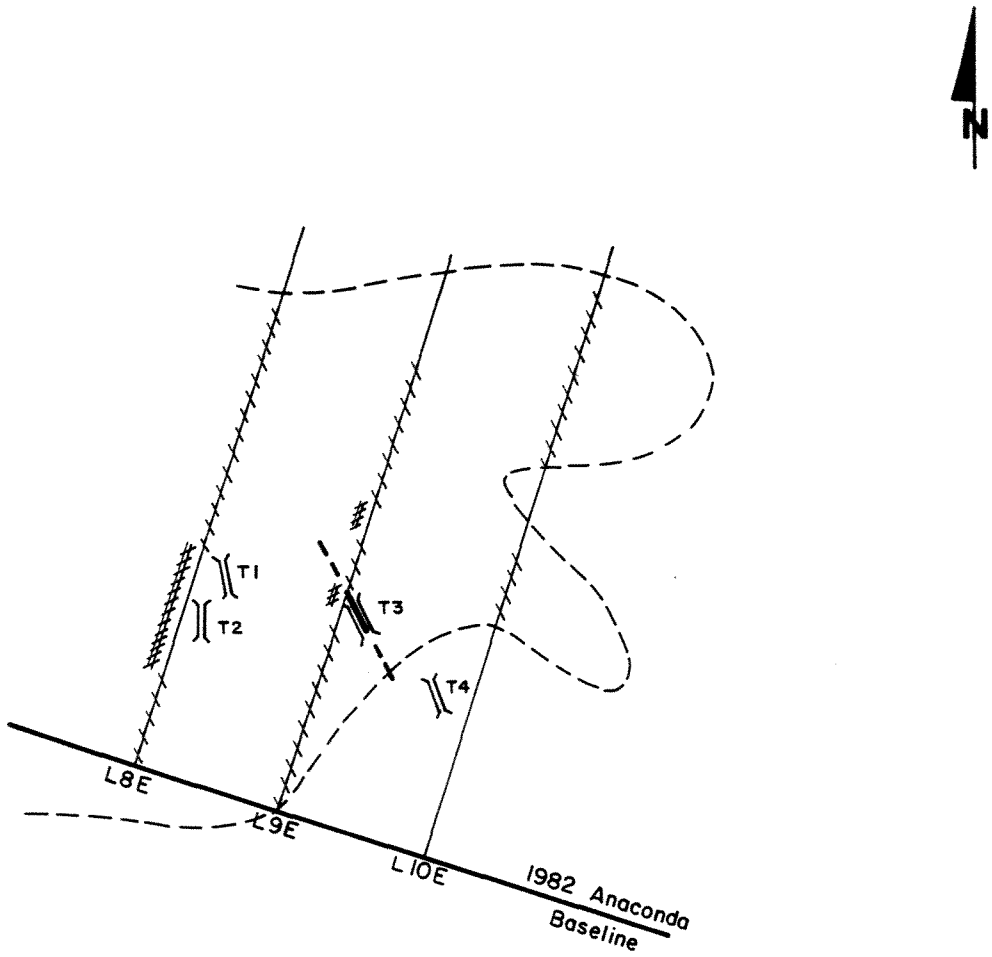
0 500 1000 1500 m

## MINERALIZATION AND GEOCHEMISTRY

The primary mineral occurrence on the Lone Mountain property is a quartz-arsenopyrite-galena vein exposed in one of four hand trenches dug in 1982 to test the lead soil geochemical anomaly. Figure 3 shows the outline of the anomaly, the positions of the trenches and the approximate trace of the vein. All four trenches were dug subparallel to the trend of the vein and, considering the distribution of the most anomalous samples, it appears that at least one additional vein could be present uphill from the known structure.

The vein is 0.3 m wide, strikes 155° and dips shallowly north. Although topography is quite steep, the hillside is heavily vegetated and the vein does not outcrop. Two chip samples taken from Trench 3 averaged 2012.6 g/t Ag, 1.24% Pb, 0.41% Zn and 32 ppm Cu over 0.3 m. No assays were done for gold or other metals, which is surprising considering that arsenopyrite is the most common sulphide mineral in the vein. Numerous quartz-carbonate veins were also noted but they are reportedly barren.

Other mineralization consists of minor chalcopyrite in quartz-chlorite-actinolite-pyrrhotite skarn and up to 1% pyrrhotite occurring as disseminations and thin stringers parallel to cleavage in non-calcareous beds. No assays were reported for mineralization of these types.




LEGEND

- Outline of soil Pb anomaly
- Soil Pb 40 ppm
- Soil Pb 300 ppm
- Quartz - galena - arsenopyrite vein trace
- Hand trench

**Figure 3**

**ARCHER, CATHRO & ASSOCIATES (1981) LIMITED**

# TRENCH & SOIL Pb ANOMALY

## LONE MOUNTAIN PROPERTY

SCALE 1:5000

0 100 200 m

## CONCLUSIONS AND RECOMMENDATIONS

The Lone Mountain occurrence is interesting and requires additional work for the reasons listed below.

1. Only a small part of the soil geochemical anomaly has been tested and the shape of the anomaly suggests that additional veins are probably present.
2. Veins with high silver to lead ratios are excellent exploration targets because sulphide concentrates made from them are extremely rich.
3. The vein contains arsenopyrite but has not been assayed for gold.
4. Flat-lying veins are uncommon and it is possible that the mineralization has been misinterpreted and is actually part of a stratabound system (such as a manto deposit) which could have greater tonnage potential.

The next stage of exploration should consist of close spaced, grid soil geochemistry with detailed prospecting and mapping, followed by hand trenching. The work is estimated to cost $14,700 including a report, as calculated on the attached budget.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

/mc

W.D. Eaton, B.A., B.Sc.

ARCHER, CATHRO
& ASSOCIATES (1981) LIMITED
CONSULTING GEOLOGICAL ENGINEERS

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PROPOSED BUDGET
LONE MOUNTAIN PROPERTY
MAY, 1989

| | |
|---|---|
| Helicopter - 8 hrs Bell 206B @ $650/hr ..... | $ 5,200 |
| Labour - 20 hrs senior supervision, 2 fieldmen for 8 days . | 3,840 |
| Geochemical Analysis - 250 soil and rock samples, ICP analysis for 30 elements @ $10/sample ..... | 2,500 |
| Room and Board - 18 mandays @ $70/day ..... | 1,260 |
| Drafting, Printing, Communications ..... | 500 |
| Transportation, Shipping ..... | 500 |
| Assessment ..... | 500 |
| Management ..... | 400 |
| TOTAL - | $14,700 |

This calculation assumes that the work is done during the summer months in conjunction with other nearby programs.

BOX 4127, 3125 THIRD AVENUE, WHITEHORSE, Y. T. Y1A 3S9 (403) 667-4415

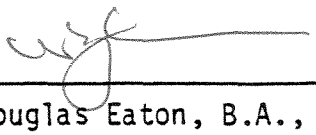
# APPENDIX I

## AUTHOR'S STATEMENT OF QUALIFICATIONS

## STATEMENT OF QUALIFICATIONS

I, W. Douglas Eaton, geologist, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in Burnaby, British Columbia, do hereby declare:

1. I graduated from the University of British Columbia in 1980 with a B.Sc.
2. From 1971 to present, I have been actively engaged in mineral exploration in British Columbia and Yukon Territory and on June 1, 1981, I became a partner in Archer, Cathro & Associates (1981) Limited.
3. I have personally participated in or supervised the field work reported herein and have interpreted all data resulting from this work.



W. Douglas Eaton, B.A., B.Sc.

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(604) 688-2568



# AFFIDAVIT

I, W. Douglas Eaton, of Burnaby, B.C. make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Gaz 1-4 mineral claims on Claim Sheet 105L/15 is accurate.

W. Douglas Eaton

Sworn before me at Vancouver, B.C.
this 8th day of May, 1989.

092716

Notary, Yukon Territory

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VANCOUVER, B.C. V6B 1L8 (604) 688-2568

# Statement of Expenditures
## Gaz Property
## May 5, 1989

Labour

| | |
|---|---|
| D. Eaton - 12 hr @ $50/hr ..... | $600.00 |
| M. Phillips - 1 hr @ $37.50/hr ..... | 37.50 |
| M. Cooke - 2 hr @ $24/hr ..... | 48.00 |
| A. Gelling - 2 hr @ $28/hr ..... | 56.00 |
| TOTAL - | $741.50 |

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ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

In Account With

Project — GAZ PROSPECT

Date — APRIL 1 - MAY 4, 1989

| | | | |
|---|---|---|---|
| **LABOUR** | | | |
| Supervisory | | | |
| Field | W.D. RATION - 12 hrs @ $50/hr | 600.00 | |
| | M.P. PHILLIPS - 1 hrs @ $37.50/hr | 37.50 | |
| Secretarial | M. COOKE - 2 hrs @ $24/hr. | 48.00 | |
| Accounting & Expediting | | | 685.50 |
| **OTHER SERVICES** | | | |
| Room & Board in Whitehorse | | | |
| Field equipment from AC stock | | | |
| Photocopies, copies at ¢/copy | | | |
| Rentals from AC | | | |
| Blueprinting, sq.ft. Ozalid at ¢/ft, plus sq.ft. Dilar at $ /ft. | | | |
| Drafting, 2 hrs at $ 28 /hr. | | 56.00 | |
| **EXPENSES** | | | |
| Petty Cash | | | 56.00 |
| Telephone | | | |
| **MANAGEMENT** | | | |
| | | | $ 741.50 |