PROSPECTING AND GEOCHEMICAL SAMPLING

Lugdush 1-16 Claims
Mayo Mining District, Yukon

January 31, 1972

This report has been examined by the Geological Technical Unit and is recmded to the Commissioner to be considered as representative work in the amount of $25,217.33

R.J. Cathro, P. Eng.
Consulting Engineer

Considered as representative work under Section 53 (4) Yukon Quartz Mining Act

Commissioner of Yukon Territory
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Figure 1 - Claim Location, Geology and Geochemical Sampling-Scale 1"=500 ft.
INTRODUCTION

The Lugdush 1-16 mineral claims (Grant Numbers Y56063 to Y56078) were staked on June 23, 1971, and recorded at Mayo, Yukon, on July 2, 1971. The property, located at 63°45' lat. and 136°57' long. near the headwaters of Vancouver Creek, was staked to cover an area of tungsten stream sediment geochemical response located during a regional exploration program conducted by Archer, Cathro and Associates Ltd. in 1969.

The property was explored on July 6, 7 and 18, 1972, with detailed prospecting and grid soil sampling by Archer, Cathro and Associates Ltd., P.O. Box 4127, Whitehorse for Chevron Standard Oil, 225 Bush Street, San Francisco, California. Exploration during July 6 and 7 was conducted from a field camp established on the Clear Creek road and was supported by helicopter supplied by Mayo Helicopters Ltd. of Mayo. Field crew personnel on July 6 were consulting engineer R.J. Cathro, geological engineer G. Abbott and field men T. McLeod and K. Carswell. On July 18, T. McLeod extended several of the lines of soil samples using a helicopter directly from Mayo.

A map illustrating claim location and results of prospecting and soil sampling is found in the pocket of this report.

PROSPECTING OBSERVATIONS

The Lugdush claims are above timerline in a portion of Yukon that escaped Pleistocene glaciation. Overburden consists of bedrock fragments up to two feet long in a thin soil layer. Outcrop is virtually nonexistent but a fair approximation of bedrock geology can be obtained by examination of rock fragments in the overburden. The overall geological setting is a contact between Cretaceous porphyritic granite and mica-schists and phyllites that probably
belong to the Cambrian or older Yukon Group. A small fine grained granodiorite stock is found near the southeast corner of the claims.

Mineralized skarn float is found scattered over an area some 2000 feet in length and up to 1000 feet in width near the centre of the claim block. Float is also found along a linear feature followed by Baseline D near the southwest corner of the claims. Two types of float are found. The first is a light green medium grained diopside skarn with a siliceous appearance. The second is a dark green coarse grained diopside skarn that occasionally contains quartz veinlets with black tourmaline. Both contain various quantities of scheelite that is sometimes accompanied by minor pyrrhotite and occasionally traces of arsenopyrite and chalcopyrite. Representative specimens of mineralized skarn were assayed by Chemex Labs Ltd., North Vancouver, B.C., with the following results:

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Description</th>
<th>Assay% WO₃</th>
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</thead>
<tbody>
<tr>
<td>10009</td>
<td>dark oxidized skarn - Type 1</td>
<td>0.98</td>
</tr>
<tr>
<td>10010</td>
<td>dark skarn - Type 1</td>
<td>0.12</td>
</tr>
<tr>
<td>10011</td>
<td>medium skarn - Type 2</td>
<td>0.22</td>
</tr>
<tr>
<td>10012</td>
<td>light skarn - Type 2</td>
<td>0.60</td>
</tr>
</tbody>
</table>

The relative abundance of the two types of skarn float suggests that two separate parallel horizons might exist. No estimates of widths are possible. The Yukon Group, on the basis of attitude of schistocity in one or two outcrops (outside the claims) appears to strike north and dip about 20° east. The skarn is probably formed in limy sections of the Yukon Group and should have a similar attitude.

GEOCHEMICAL SAMPLING

A northeast baselines system was established by tape and brunton compass across the claims. Soil samples were taken at 200 foot intervals on lines
400 feet apart established by pace and compass at right angles to the baseline. Samples were obtained by digging below the surface vegetation to a B or E+C soil horizon. Sample points were marked with a lath picket numbered according to the position relative to the baseline. Soil samples were collected in a standard kraft envelope and shipped to Chemex Labs Ltd. for tungsten analyses. Each sample was pulverized prior to obtaining a -80 mesh split for treatment. The tungsten assay was obtained by spectrophotometer analyses of a sample pulp dissolved in a hydrofluoric-phosphoric acid medium.

A contour of the soil values using 50 ppm tungsten as threshold indicates that the mineralized skarn has a strike length of at least 1500 feet and, assuming that the high values on the D baseline indicate a southern continuity, could have a length of more than 3000 feet. A portion of the anomaly on both the north and south end may be a result of downhill migration rather than an extension of the skarn.

RECOMMENDATIONS AND CONCLUSIONS

The general area of mineralized skarn is fairly well defined by prospecting and soil sampling. Further exploration will require either hand or bulldozer trenching to determine the exact width, assay, attitude and continuity of the skarn.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES LTD.

[Signature]

R.J. Cathro, P. Eng.
<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
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<tr>
<td><strong>Supervision</strong></td>
<td></td>
</tr>
<tr>
<td>R.J. Cathro - July 6, 1 day field plus 1 day office compiling data for report @ $150/day</td>
<td>$300.00</td>
</tr>
<tr>
<td><strong>Labour</strong></td>
<td></td>
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<tr>
<td>G. Abbott - July 6 @ $60/day</td>
<td>$60.00</td>
</tr>
<tr>
<td>T. McLeod - July 6,7,18 @ $50/day</td>
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</tr>
<tr>
<td>K. Carswell - July 6,7 @ $40/day</td>
<td>$80.00</td>
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<tr>
<td><strong>Expenses</strong></td>
<td></td>
</tr>
<tr>
<td>Field room and board supplied by Archer, Cathro at $15/man-day - 6 man days</td>
<td>$90.00</td>
</tr>
<tr>
<td>Radio rental - 2 days @ $5.</td>
<td>$10.00</td>
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<tr>
<td>Geochemical analyses - 125 samples @ $2.45 each</td>
<td>$306.25</td>
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<tr>
<td>Rock Assays - 4 @ $6.25 each</td>
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<td>Helicopter rental, Mayo Helicopters</td>
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<tr>
<td>Avgas</td>
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<td>Lath pickets</td>
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<tr>
<td>Drafting - 6 hrs @ $8/hr</td>
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<tr>
<td>Two days truck rentall (part of cost of maintaining camp at Clear Creek, Mobilizing avgas etc)</td>
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<td>$2521.73</td>
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In Account With

Cheyenne Standard Ltd.

July 31, 1971

North Stewart River Joint Venture

Consulting Fees

R.J. Cathro - field trip July 5-8, 10-11 (5 days) plus 1 1/2 day office - total 6 1/2 days @ $150 ................. $ 975.00

Labour

G. Abbott - July 1-14, 18, 24 - 16 days @ $60/day ................. $960.00
K. Carswell - July 1-14 - 14 days @ $40/day ....................... $560.00
T. Macleod - July 1-14, 18 - 15 days @ $50/day ....................... $750.00
B. Way - July 19-31 - 13 days @ $50/day ......................... $650.00

Expenses

Commercial Printers .................. $ 11.00
Carmacks Hotel (gas) .................. 13.00
Territorial Ventures - truck rental .. 520.00
Beaver Lumber (lath) .................. 20.25
Klondike Helicopters .................. 300.00
Receiver General (maps) ............... 36.00 (etc)
Room and board, field supplies
(78 man/days total including
Cathro, Dennett and bulldozer
operators of which 8 man/days
at Mayo @ $20/day and 70 days
field @ $15/day) ......................... $1,210.00
Radio rental July 1-31 @ $5/day $155.00
Xerox copies, 14 @ 15¢ 2.10
Expediting, R. Deneett July 5-7,
total 2 1/2 days including travel
time 125.00
R.J. Cathro expenses July 16 10.50
Receiver General (maps) 2.00
G. Abbott expense acct (gas &
maps) 11.00
Receiver General, recording fees
Gwaahir claims 1-24 240.00
Van Cal (maps) 117.13
White Pass 87.71
G.N.A. - freight 37.53
Westcoast Air Services 8.80
Mayo Helicopters 3416.00
McDermid & Kates - gas 187.37
Consultant's travel - R.J. Cathro
Whitehorse-Mayo (3 trips) 75.00
CP Air - freight 32.26
Receiver General, claim transfer
fees 19.00
T.H.T.A. - helicopter 782.70
Chemex Labs 1544.92
Seidler & Assoc - printing 8.16
Drafting - 52 hrs @ $8/hr 416.00
Telephone 22.90
B. Way expenses Aug 2 5.00
Yukon Airways 353.50

$9,769.73
Less credit June billing $5,275.72
Total $8,389.01

Respectfully submitted,
ARCHER, CATERING & ASSOCIATES LTD.

A.R. Archer

ARA: sh
AFFADAVIT

I, R.J. Cathro of Vancouver hereby make oath and say:

That to the best of my knowledge and belief the table of Expenditure and invoices as shown in my report Prospecting and Geochemical Sampling, Lugdush 1-16 Mayo Mining District is true and accurate.

R.J. Cathro, P.Eng.

Sworn and subscribed to at Vancouver, B.C. this 7 day of Feb 1972.

Notary Public, Yukon Territory
<table>
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<tr>
<th>Date</th>
<th>Nature and Number of Remittance</th>
<th>Invoice No.</th>
<th>Location and Location and Number of the Remittance</th>
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<tr>
<td>3 Aug 71</td>
<td>Cheque</td>
<td></td>
<td>Dawson</td>
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Received the sum of: Nineteen dollars $19.00.

From: Aschen, Cathie & Assco

Box 1708

Whitehorse Y.T.

For: Puseyman & Rielle

Mervick - 105 P-1

Authorized Officer: Functionnaire Autorisé
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<tr>
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<td>Dream Charge</td>
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Total: 155.28

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Total: 17.60
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<td></td>
<td>4 samples assayed for WO₃ @$6.25</td>
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TERMS — NET 30 DAYS
Archer Cathro & Associates Ltd.,
Box 1708
Whitehorse, Yukon
"NIRJU Project"

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<tr>
<td>333</td>
<td>Analyzed for Tungsten @ $2.25</td>
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<td>333</td>
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Terms—Net 30 Days
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- **Terms and Conditions:**
  - Net payable on receipt of statement.
  - Customer accounts are subject to a service charge.
  - Sales slip must accompany all returned goods.
  - Goods returned will be subject to a 10% handling charge.

**Provisional Sales Tax:**

**Order Filled by:**

**Shipment:**

**Delivery:**

**Cartage:**

**Total:**

**Date:**

**2 Day Lag Scale:** 34.00
**CHARTER TICKET**

**MAYO HELICOPTERS**

**Hillsville, CF MLW**  
**DATE: July 18, 1971**

**NAME:** Archibald & Cathro & Associates

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<th>FROM</th>
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<th>PASS.</th>
<th>REMARKS</th>
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**TO:** Clear Creek  

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**SPECIAL INSTRUCTIONS**

- 160 GALS @ $48.00
- 160 PER HOUR
- 160 PER MILE

**PICK UP DATE**

- Location

**CHARTER'S AUTHORIZATION**

- Archibald & Cathro & Associates

**TOTAL**  

1673 Mayo Base  

- **NAME:** Archibald & Cathro & Associates

**TOTAL:** $572.00
# Charter Ticket

**MAYO HELICOPTERS**

NAYO, Y.T., BOX 5, PHONE 989-2291  
WHITEHORSE, Y.T., BOX 2086, PHONE 633-2224

**A/C**  
**NAME**

**ADD.**

<table>
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<tr>
<th>FROM</th>
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<th>CARGO</th>
<th>PASS.</th>
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<tr>
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**SPECIAL INSTRUCTIONS**

- OUR FUEL: V
- THEIR FUEL: GALS
- AREA
- PICK UP DATE
- LOCATION

**1674 Mayo Base**

**CHARTER'S AUTHORIZATION**

**160.00**

**NO TRAVEL AFTER 12:00 A.M.**

**NO DRINKING OR SMOKING**

**DATE:** JULY 7, 1971

**A/C REGISTER**

**NAME:** Whitehead & Cadwell & Associates

**SIGNATURE:** Pilot's Signature

**REMARKS:**

**TOTAL:** 160.00

**NOTES:**

- Waiting Time
- Extra Landings
- Other

**SEEN REVERSE FOR CONDITIONS**

**CHARTER'S AUTHORIZATION**

**TOTAL:** 160.00

**NOTES:**

- Travel After 12:00 A.M.
- Drinking or Smoking