MAP NO.: 105 D 16

ASSESSMENT REPORT X

PROSPECTUS

CONFIDENTIAL X

OPEN FILE

DOCUMENT NO.: 092951

MINING DISTRICT: WHITEHORSE

TYPE OF WORK: TRENCHING

SAMPLING, GEOPHYSICS

REPORT FILED UNDER: LARRY CARLYLE

DATE PERFORMED: SUMMER, 1990

DATE FILED: APRIL 16, 1991

LOCATION: LAT.: 60°55'N

AREA: MT DYN

LONG.: 134°25'W

VALUE $: 2,800

CLAIM NAME & NO.: DM 1-47

WORK DONE BY: LARRY CARLYLE

WORK DONE FOR: LARRY CARLYLE

DATE TO GOOD STANDING: 

REMARKS: TRENCHING, SOIL SAMPLING AND A VLF SURVEY WERE CARRIED OUT ON THE DM CLAIMS. SAMPLING OF MAJACHITE QUARTZ-CARBONATE VEIN MATERIAL HAS RESULTED IN SPORATIC ASSAYS AS HIGH AS 126.9 G/T AU. SOIL SAMPLES HAD NOT YET BEEN SENT OFF FOR ANALYSIS AT THE TIME OF THE REPORT. STYLE OF MINERALIZATION IS BEING COMPARED TO MT NANSEN AREA MINERALIZATION.
**TRANSMITTAL FORM**

From Mining Recorder at **Whitehorse**

To Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:
- [ ] NEW APPLICATION FOR PLACER LEASE TO PROSPECT
- [ ] RENEWAL APPLICATION PLACER LEASE TO PROSPECT
- [ ] AFFIDAVIT OF EXPENDITURE ON PLACER LEASE
- [ ] SECURITY DEPOSIT
- [ ] FINANCIAL ABILITY
- [ ] ASSIGNMENT OF PLACER LEASE NO.
- [ ] GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT.
- [ ] DIAMOND DRILL LOGS
- [X] QUARTZ ASSESSMENT REPORT

<table>
<thead>
<tr>
<th>Name</th>
<th>Lease no.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Lease no.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Owner</th>
<th>Claim no.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of report</th>
<th>Submitted by</th>
<th>Claimed work performed on</th>
<th>$ req. for Ynt. application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geochem, GP</td>
<td>Larry Carlyle</td>
<td>BH 3, 4, 5, 9, 41, 44, 46</td>
<td>12,800.00</td>
</tr>
</tbody>
</table>

**REPLY ACTION**

**Date returned**

**092951**
REPORT ON THE 1990 WORK PROGRAM
BM CLAIMS, MT. BYNG AREA
WHITEHORSE MINING DISTRICT, YUKON,
NTS 105 D - 16
by
Larry W. Carlyle, F.G.A.C., P.Geo.
Whitehorse, Yukon
April, 1991
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 $11,000.

[Signature]

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

Introduction 1
Location, Access and Claims 1
History 2
Property Geology 2
1990 Program
A - Scintrex VLF-EM + Magnetometer Survey 5
B - Soil Sampling 5
C - Blast Trenching 6
1990 Statement of Costs 7
Conclusions 7
Recommendations 7
Proposed Work Program 8
References 8
Statement of Qualifications 9

FIGURES

Location Map 1
BM Claims VLF and Soil Survey Areas 2
Geology BM Claims 3
R-17 Zone Fruser Filtered VLF Data 4
R-17 Zone Soil Grid 5
West Extension Main Zone Soil Grid 5
R-17 Zone Trenches 6
1990 Trenches Main Zone 6
TABLES

Rock Description Table 5
Mt. Byng Soil ample Descriptions 5

APPENDICES

Appendix A -- Mount Byng Report Yukon Exploration 1990
Appendix B -- Assay Certificates
Appendix C -- Invoices Supporting Statement of Costs
INTRODUCTION

Preliminary geological mapping was done on the EM Claims by Trevor Bremner, Mineral Deposits Geologist with DIAND, during four days in July, 1989. Part of his work was to collect rock samples suitable for age dating (See Yukon Exploration 1990, pages 52 - 56).

During 1990, two trips were made to the EM Claims in the Mt. Byng area. The first trip was to consist of rock and soil sampling, blast trenching and geophysical surveys comprising of ground magnetic and VLF-EM measurements. The second trip consisted of a single day of blast trenching assisted by a gasoline powered Whacker Drill.

The object of this report is to summarize the information obtained from these property visits.

LOCATION, ACCESS AND CLAIMS

The EM Claims cover an area of ground on the north ridge of Mt. Byng on NTS Map Sheet 105 D-16. These claims come under an option agreement between the claim owners Carlyle/MacDonald and Aurora Gold Ltd. early in 1990.

In 1984, a winter road was constructed by placer miners to the headwaters of Sheldon Creek (See Location Map). An all-terrain vehicle may provide access to the property from this road.
HISTORY

In 1986, Carlyle and MacDonald prospected in the Mt. Byng area. They were attracted to the area by the diverse geology outlined by J.O. Wheeler in Memoir 312 (See Location Map). This prospecting resulted in the location of 6 claims covering an area of malachite and azurite-stained vuggy quartz float associated with steeply dipping rhyolite dykes.

During 1988, additional claims were staked and small programs of grid soil sampling, hand trenching and VLF-EM surveys were completed.

Work completed during 1989 and 1990 has been summarized earlier in the Introduction section.

PROPERTY GEOLOGY

The lack of 50,000 scale geological mapping in the region has left the understanding of the area at essentially the level of Wheeler's 1961 mapping. The work done by Trevor Bremner in 1989 has greatly advanced the geological knowledge of the BM Claims above this (See Figure - Geology BM Claims and Appendix A).

An abridged version of Bremner's geological description is given here but the complete paper is included as Appendix A.
BM CLAIMS
VLF and SOIL SURVEY AREAS
SCALE: 1 = 2000

FIGURE 1
Gold mineralization occurs in brecciated and vuggy quartz-carbonate veins associated with rhyolite dykes and small stocks. The rhyolite cuts andesitic flows, gabbroic intrusions and granodiorite. Samples of the vein material have returned gold values up to 126.9 g/tonne with anomalous values in mercury, arsenic, antimony, tungsten and barium.

There are four known areas of interest on the property. In the Main Zone, there are two flat-dipping, vuggy quartz veins stained with malachite and azurite exposed in blast trenches. Both of the veins strike at approximately 100°; one of them appears to strike at a shallow angle from a 9 metre wide rhyolite dyke. Similar gossanised quartz-carbonate vein material containing elevated gold values has been found associated with strong VLF anomalies in the R-12 and R-7 Zones (See Figure - Geology BM Claims). The R-17 Zone is a north-trending fault gully at the northwest corner of the claim block. It consists of a conspicuous gossan overlying a breccia of silicified fragments up to 15 cm. across and cemented by vuggy, orange-weathering chalcedony. The writer considers this to be a silica cap; to the present, this zone has returned low gold values.

Mapping of contact relationships and inclusions, and subsequent radiometric age dating, have shown that the igneous rocks fall within two suites. A mafic gabbro-anorthosite-andesite suite and a felsic granodiorite-feldspar porphyry-rhyolite suite.

The oldest unit in the mafic suite is a chloritic, aphanitic andesite having an age of approximately 252 +/- 10 Ma (See
Appendix A). This andesite is intruded by a coarse grained augite gabbro; this in turn, is cut by subcircular anorthosite plugs. These have been dated at 168 +/- 6 Ma by Armstrong and Gabites.

The felsic suite is younger than the mafic suite. The oldest of these units is a granodiorite to quartz-feldspar porphyry intrusion cut by rhyolite dykes and small stocks. The granodiorite has been dated at 121 +/- 5 Ma and the rhyolite at 104 +/- 4 Ma. The gold-bearing quartz veins are closely related to the rhyolite dyke controlled by nearly vertical north-trending faults. Mr. Bremmer located a small diatreme of heterolithic breccia containing angular fragments of all the major rock types and welded by granodiorite porphyry.

Mr. Bremner (See Appendix A) states that the gabbro and anorthosite probably form part of the Lewes River Arc which was active during the Triassic and Jurassic. He believes that the Early Triassic age of the andesite suggests it is either a part of the Cache Creek assemblage and pre-dates the Lewes River Arc, or forms a part of the Lewes River Arc and provides evidence for activity in the Lewes River Arc as long ago as Early Triassic. He believes the latter interpretation is most probable since the volcanic rocks are andesitic rather than basaltic.

He also indicates that the Lower Cretaceous age of the granodiorite and rhyolite are comparable in age to the rocks in the Mt. Nansen area, 200 km. to the northwest.
1990 WORK PROGRAM

A. SCINTREX VLF-EM + MAGNETOMETER SURVEY

The main portion of the 1990 program was to consist of magnetic surveys over areas covered by earlier VLF-EM surveys to see if the magnetic responses correlated. The R-17 Zone was to receive both magnetic and VLF-EM surveys. The planned work areas with priorities are marked with letter designations on the figure of EM Claim Geology included. A malfunction of the generator taken into the property to recharge the instrument batteries forced the cancelling of most of these surveys. A small VLF-EM and magnetometer survey was done over part of the R-17 Zone with the electrical charge left in one battery. Unfortunately, the magnetometer data was lost before it could be transferred to computer disk. The VLF data has survived (See Figure R-17 Zone Fraser Filtered VLF Data). This data indicates at least two north trending structures in the area.

B. SOIL SAMPLING

With the failure of the generator, it was decided to do a larger than originally planned grid soil sampling program. Part of the program over the R-17 Zone had been anticipated, to prevent contamination expected from the blast trenching which was to follow. This program was expanded and a small grid extended the Main Zone soil survey over the R-7 Zone (See Figures). A total of 176 soil samples were obtained. Assaying of these samples has not yet been done. See enclosed Sample Description Tables.
# Rock Description Table

<table>
<thead>
<tr>
<th>Sample #</th>
<th>Description</th>
<th>Au(opt)</th>
<th>Ag(opt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Zone</td>
<td>Vuggy quartz vein material</td>
<td>0.213</td>
<td>4.8</td>
</tr>
<tr>
<td>MZ - 2</td>
<td>Vuggy quartz vein breccia</td>
<td>0.292</td>
<td>0.257</td>
</tr>
<tr>
<td>MZ - 3</td>
<td>Malachite stained rhyolite</td>
<td>0.014</td>
<td>0.048</td>
</tr>
<tr>
<td>R12 - 1</td>
<td>Andesite breccia in qtz-carb</td>
<td>0.001</td>
<td>0.002</td>
</tr>
<tr>
<td>R - 17</td>
<td>Rhyolite breccia in chalcedony</td>
<td>&lt;0.001</td>
<td>0.002</td>
</tr>
<tr>
<td>128176</td>
<td>Qtz-carb V.M. - 35° vein</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>128177</td>
<td>Malachite stained qtz-rhy</td>
<td>0.006</td>
<td></td>
</tr>
<tr>
<td>128178</td>
<td>Vuggy qtz V.M. strong malachite staining</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td>128179</td>
<td>Malachite stained qtz-rhy</td>
<td>0.537</td>
<td></td>
</tr>
<tr>
<td>128180</td>
<td>Tr pyrite in calcite-rich gabbro</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>128181</td>
<td>Weakly malachite stained quggy quartz V.M.</td>
<td>3.704</td>
<td></td>
</tr>
<tr>
<td>128182</td>
<td>Vuggy qtz stockwork</td>
<td>0.005</td>
<td></td>
</tr>
<tr>
<td>128183</td>
<td>Grab of fines from T#1 R-17 Zone</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>128184</td>
<td>Grab of fines from T#2 R-17 Zone</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>128185</td>
<td>Rock Grab from T#4 R-17 Zone Tr Pyrite</td>
<td>&lt;0.001</td>
<td></td>
</tr>
<tr>
<td>Line</td>
<td>Station</td>
<td>Depth</td>
<td>Horizon</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>2+00N</td>
<td>35W</td>
<td>7&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td>40W</td>
<td>4&quot;</td>
<td>B</td>
<td>30°W</td>
</tr>
<tr>
<td>45W</td>
<td>5&quot;</td>
<td>B</td>
<td>20°W</td>
</tr>
<tr>
<td>50W</td>
<td>4&quot;</td>
<td>B</td>
<td>20°NW</td>
</tr>
<tr>
<td>55W</td>
<td>8&quot;</td>
<td>B</td>
<td>5°NW</td>
</tr>
<tr>
<td>60W</td>
<td>9&quot;</td>
<td>B</td>
<td>50°W</td>
</tr>
<tr>
<td>65W</td>
<td>6&quot;</td>
<td>A+B</td>
<td>F/qT</td>
</tr>
<tr>
<td>70W</td>
<td>6&quot;</td>
<td>B+A</td>
<td>50°E</td>
</tr>
<tr>
<td>75W</td>
<td>7&quot;</td>
<td>B</td>
<td>50°E</td>
</tr>
<tr>
<td>3+00N</td>
<td>25W</td>
<td>5&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td>30W</td>
<td>3&quot;</td>
<td>B</td>
<td>45°NW</td>
</tr>
<tr>
<td>35W</td>
<td>4&quot;</td>
<td>B</td>
<td>50°NW</td>
</tr>
<tr>
<td>40W</td>
<td>4&quot;</td>
<td>B</td>
<td>55°NW</td>
</tr>
<tr>
<td>45W</td>
<td>—</td>
<td>—</td>
<td>55°NW</td>
</tr>
<tr>
<td>50W</td>
<td>—</td>
<td>—</td>
<td>55-60°NW</td>
</tr>
<tr>
<td>55W</td>
<td>4&quot;</td>
<td>B</td>
<td>50°NW</td>
</tr>
<tr>
<td>60W</td>
<td>6&quot;</td>
<td>B</td>
<td>45°W</td>
</tr>
<tr>
<td>65W</td>
<td>4&quot;</td>
<td>B+A</td>
<td>5°E</td>
</tr>
<tr>
<td>70W</td>
<td>7&quot;</td>
<td>A</td>
<td>60°E</td>
</tr>
<tr>
<td>75W</td>
<td>7&quot;</td>
<td>B</td>
<td>55°E</td>
</tr>
<tr>
<td>7+00N</td>
<td>35W</td>
<td>7&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td>40W</td>
<td>—</td>
<td>—</td>
<td>45°W</td>
</tr>
<tr>
<td>45W</td>
<td>8&quot;</td>
<td>A</td>
<td>35°NW</td>
</tr>
<tr>
<td>50W</td>
<td>8&quot;</td>
<td>A+B</td>
<td>—</td>
</tr>
<tr>
<td>55W</td>
<td>5&quot;</td>
<td>A</td>
<td>50°E</td>
</tr>
<tr>
<td>60W</td>
<td>6°</td>
<td>A</td>
<td>60°E</td>
</tr>
<tr>
<td>65W</td>
<td>6&quot;</td>
<td>A</td>
<td>60°E</td>
</tr>
<tr>
<td>Line</td>
<td>Station</td>
<td>Depth</td>
<td>Horizon</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>5400N</td>
<td>35 W</td>
<td>7 &quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>40 W</td>
<td>7 &quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>45 W</td>
<td>6 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>50 W</td>
<td>5 &quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>35 W</td>
<td>7 &quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>40 W</td>
<td>5 &quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>45 W</td>
<td>5 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>50 W</td>
<td>7 &quot;</td>
<td>B</td>
</tr>
<tr>
<td>6400N</td>
<td>Zone</td>
<td>(Hotspring Deposit?)</td>
<td></td>
</tr>
<tr>
<td>000</td>
<td>30 W</td>
<td>7 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>25 W</td>
<td>6 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>20 W</td>
<td>5 &quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>15 W</td>
<td>8 &quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>10 W</td>
<td>4 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>5 W</td>
<td>6 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>B.L.</td>
<td>4 &quot;</td>
<td>B</td>
</tr>
<tr>
<td>10 E</td>
<td>8 &quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>15 E</td>
<td>8 &quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>20 E</td>
<td>12 &quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>25 E</td>
<td>6 &quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>30 E</td>
<td>6 &quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>30 W</td>
<td>7 &quot;</td>
<td>A+B</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25 W</td>
<td>8 &quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>20 W</td>
<td>8 &quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>15 W</td>
<td>7 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10 W</td>
<td>7 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>5 W</td>
<td>10 &quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>B.L.</td>
<td>7 &quot;</td>
<td>B</td>
</tr>
<tr>
<td>Line</td>
<td>Station</td>
<td>Depth</td>
<td>Horizon</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>1+00N</td>
<td>5E</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10E</td>
<td>10&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15E</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>20E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>25E</td>
<td>4&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30W</td>
<td>7&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>25W</td>
<td>7&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>20W</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15W</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10W</td>
<td>7&quot;</td>
<td>B+B</td>
</tr>
<tr>
<td></td>
<td>5W</td>
<td>7&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>B.L.</td>
<td>5&quot;</td>
<td>B+B</td>
</tr>
<tr>
<td>2+00N</td>
<td>5E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10E</td>
<td>5&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15E</td>
<td>4&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>20E</td>
<td>5&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>25E</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30W</td>
<td>5&quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>25W</td>
<td>7&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>20W</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15W</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10W</td>
<td>5&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>5W</td>
<td>6&quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B.L.</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>5E</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10E</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td>Line</td>
<td>Station</td>
<td>Depth</td>
<td>Horizon</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>300N</td>
<td>20E</td>
<td>10&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>25E</td>
<td>10&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30W</td>
<td>7&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>25W</td>
<td>7&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>20W</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15W</td>
<td>6&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>10W</td>
<td>6&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>5W</td>
<td>7&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td>00W</td>
<td>6,L.</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>5,E.</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>20,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>25,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30,E</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>30,W</td>
<td>6&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>25,W</td>
<td>7&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>20,W</td>
<td>6&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td></td>
<td>15,W</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10,W</td>
<td>7&quot;</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>5,W</td>
<td>4&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>8,L.</td>
<td>3&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>8,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>15,E</td>
<td>8&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>20,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>25,E</td>
<td>No</td>
<td>Sample</td>
</tr>
<tr>
<td></td>
<td>30,E</td>
<td>6&quot;</td>
<td>B</td>
</tr>
<tr>
<td>Line</td>
<td>Station</td>
<td>Depth</td>
<td>Horizon</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>6+00N</td>
<td>30W</td>
<td>6&quot;</td>
<td>A+B</td>
</tr>
<tr>
<td>25W</td>
<td>4&quot;</td>
<td>B</td>
<td>Flat</td>
</tr>
<tr>
<td>20W</td>
<td>4&quot;</td>
<td>B</td>
<td>Flat</td>
</tr>
<tr>
<td>15W</td>
<td>4&quot;</td>
<td>B</td>
<td>Flat</td>
</tr>
<tr>
<td>10W</td>
<td>5&quot;</td>
<td>B</td>
<td>Flat</td>
</tr>
<tr>
<td>5W</td>
<td>6&quot;</td>
<td>B</td>
<td>—</td>
</tr>
<tr>
<td>B/L</td>
<td>5&quot;</td>
<td>B(?)</td>
<td>Steep</td>
</tr>
<tr>
<td>5E</td>
<td>4&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>10E</td>
<td>4&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>15E</td>
<td>8&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>20E</td>
<td>10&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>25E</td>
<td>8&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>30E</td>
<td>8&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>30W</td>
<td>6&quot;</td>
<td>A</td>
<td>IS°NE</td>
</tr>
<tr>
<td>25W</td>
<td>5&quot;</td>
<td>A</td>
<td>20°E</td>
</tr>
<tr>
<td>20W</td>
<td>6&quot;</td>
<td>B</td>
<td>50°E</td>
</tr>
<tr>
<td>15W</td>
<td>5&quot;</td>
<td>B</td>
<td>30°N</td>
</tr>
<tr>
<td>10W</td>
<td>7&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>5W</td>
<td>6&quot;</td>
<td>A+B</td>
<td>40°NE</td>
</tr>
<tr>
<td>B/L</td>
<td>6&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>5E</td>
<td>6&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>10E</td>
<td>6&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>15E</td>
<td>6&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>19E</td>
<td>4&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>2SE</td>
<td>6&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>30E</td>
<td>6&quot;</td>
<td>B</td>
<td>Steep</td>
</tr>
<tr>
<td>30W</td>
<td>6&quot;</td>
<td>A+B</td>
<td>35°NE</td>
</tr>
<tr>
<td>25W</td>
<td>5&quot;</td>
<td>B</td>
<td>35°NE</td>
</tr>
<tr>
<td>20W</td>
<td>5&quot;</td>
<td>B</td>
<td>—</td>
</tr>
<tr>
<td>Line</td>
<td>Station</td>
<td>Depth</td>
<td>Horizon</td>
</tr>
<tr>
<td>------------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>8+00N</td>
<td>15W</td>
<td>6&quot;</td>
<td>B+A</td>
</tr>
<tr>
<td>10W</td>
<td>6&quot;</td>
<td>A+B</td>
<td>30°NE</td>
</tr>
<tr>
<td>5W</td>
<td>6&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>B.L.</td>
<td>5&quot;</td>
<td>B</td>
<td>50°NE</td>
</tr>
<tr>
<td>5E</td>
<td>No</td>
<td>Samp</td>
<td>30°NE</td>
</tr>
<tr>
<td>10E</td>
<td>6&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>15E</td>
<td>10&quot;</td>
<td>B</td>
<td>35°NE</td>
</tr>
<tr>
<td>20E</td>
<td>8&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>25E</td>
<td>8&quot;</td>
<td>B</td>
<td>35°NE</td>
</tr>
<tr>
<td>30E</td>
<td>6&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>35W</td>
<td>5&quot;</td>
<td>A+B</td>
<td>40°NE</td>
</tr>
<tr>
<td>25W</td>
<td>7&quot;</td>
<td>B+A</td>
<td>45°NE</td>
</tr>
<tr>
<td>20W</td>
<td>7&quot;</td>
<td>A+B</td>
<td>40°NE</td>
</tr>
<tr>
<td>15W</td>
<td>6&quot;</td>
<td>B</td>
<td>45°NE</td>
</tr>
<tr>
<td>10W</td>
<td>4&quot;</td>
<td>B</td>
<td>45°NE</td>
</tr>
<tr>
<td>5W</td>
<td>8&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>B.L.</td>
<td>6&quot;</td>
<td>B</td>
<td>35°NE</td>
</tr>
<tr>
<td>5E</td>
<td>6&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>10E</td>
<td>6&quot;</td>
<td>B</td>
<td>35°NE</td>
</tr>
<tr>
<td>15E</td>
<td>10&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>20E</td>
<td>8&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>25E</td>
<td>8&quot;</td>
<td>A+B</td>
<td>40°NE</td>
</tr>
<tr>
<td>30E</td>
<td>4&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>30W</td>
<td>7&quot;</td>
<td>B+A</td>
<td>40°NE</td>
</tr>
<tr>
<td>25W</td>
<td>6&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>20W</td>
<td>8&quot;</td>
<td>A</td>
<td>40°NE</td>
</tr>
<tr>
<td>15W</td>
<td>8&quot;</td>
<td>A</td>
<td>35°NE</td>
</tr>
<tr>
<td>10W</td>
<td>6&quot;</td>
<td>B+A</td>
<td>40°NE</td>
</tr>
<tr>
<td>5W</td>
<td>4&quot;</td>
<td>B</td>
<td>40°NE</td>
</tr>
<tr>
<td>Line</td>
<td>Station</td>
<td>Depth</td>
<td>Horizon</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>1000N</td>
<td>B.L.</td>
<td>10&quot;</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>5E</td>
<td>6&quot;</td>
<td>A</td>
</tr>
<tr>
<td>10E</td>
<td>6&quot;</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>15E</td>
<td>6&quot;</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>20E</td>
<td>12&quot;</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>25E</td>
<td>6&quot;</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>30E</td>
<td>8&quot;</td>
<td>B</td>
<td></td>
</tr>
</tbody>
</table>
West Extension
Main Zone
Soil Grid
Element

Scale 1:5000
C. BLAST TRENCHING

Blast trenching was done on both the Main Zone and the R-17 Zone. The trenches excavated in 1990 are located on the Figures 1990 Trenches Main Zone and R-17 Zone Trenches. Trench T#6 in the Main Zone was blasted on October 1, 1990 with the aid of the Whacker Drill.

MAIN ZONE TRENCH VOLUMES

<table>
<thead>
<tr>
<th>Trench</th>
<th>Length(ft)</th>
<th>Width(ft)</th>
<th>Depth(ft)</th>
<th>Cubic Feet</th>
<th>Cubic Yards</th>
</tr>
</thead>
<tbody>
<tr>
<td>T#1</td>
<td>20.0</td>
<td>6.5</td>
<td>3.5</td>
<td>455.0</td>
<td>16.9</td>
</tr>
<tr>
<td>T#2</td>
<td>11.5</td>
<td>6.5</td>
<td>3.5</td>
<td>261.6</td>
<td>9.7</td>
</tr>
<tr>
<td>T#3</td>
<td>11.5</td>
<td>6.5</td>
<td>3.5</td>
<td>261.6</td>
<td>9.7</td>
</tr>
<tr>
<td>T#4</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>4.1</td>
<td>0.2</td>
</tr>
<tr>
<td>T#5</td>
<td>3.5</td>
<td>3.5</td>
<td>1.6</td>
<td>19.6</td>
<td>0.7</td>
</tr>
<tr>
<td>T#6</td>
<td>19.7</td>
<td>13.1</td>
<td>3.5</td>
<td>903.3</td>
<td>33.5</td>
</tr>
</tbody>
</table>

Total 70.7

R-17 ZONE TRENCH VOLUMES

<table>
<thead>
<tr>
<th>Trench</th>
<th>Length(ft)</th>
<th>Width(ft)</th>
<th>Depth(ft)</th>
<th>Cubic Feet</th>
<th>Cubic Yards</th>
</tr>
</thead>
<tbody>
<tr>
<td>T#1</td>
<td>14.0</td>
<td>4.0</td>
<td>4.0</td>
<td>274.0</td>
<td>8.3</td>
</tr>
<tr>
<td>T#2</td>
<td>10.0</td>
<td>8.0</td>
<td>3.0</td>
<td>240.0</td>
<td>8.9</td>
</tr>
<tr>
<td>T#2</td>
<td>10.0</td>
<td>10.0</td>
<td>2.0</td>
<td>200.0</td>
<td>7.4</td>
</tr>
<tr>
<td>T#3</td>
<td>8.0</td>
<td>10.0</td>
<td>3.5</td>
<td>280.0</td>
<td>10.4</td>
</tr>
<tr>
<td>T#3</td>
<td>12.0</td>
<td>5.0</td>
<td>2.0</td>
<td>120.0</td>
<td>4.5</td>
</tr>
<tr>
<td>T#4</td>
<td>4.9</td>
<td>4.9</td>
<td>3.5</td>
<td>84.0</td>
<td>3.1</td>
</tr>
<tr>
<td>T#4</td>
<td>10.0</td>
<td>2.0</td>
<td>2.0</td>
<td>40.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Total 44.1

The low volumes excavated (114.8 yds³), even with the benefit of explosives, shows how important the drill is to blast trenching in this area. In a single day, 33.5 yds³ (29.2% of the total) were excavated from a single trench. Several rock samples were taken as miscellaneous grab samples and grab samples from the trenches.
1990 TRENCHES
MAIN ZONE
SCALE 1:2000

::: EARLIER TRENCHES
1990 TRENCHES

T#1, T#2, T#3, T#4, T#5, T#6

1+00 S
0+00
1+00 N
2+00 N
Please see enclosed Sample Descriptions and assay certificates (Appendix E).

1990 STATEMENT OF COSTS (See Appendix C for Invoices)

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour</td>
<td>$6,000.00</td>
</tr>
<tr>
<td>Helicopter</td>
<td>$2,525.60</td>
</tr>
<tr>
<td>Airplane Charter</td>
<td>$1,170.00</td>
</tr>
<tr>
<td>Explosives</td>
<td>$1,311.90</td>
</tr>
<tr>
<td>Food</td>
<td>$307.00</td>
</tr>
<tr>
<td>Geophysical Instrument Rental</td>
<td>$2,332.33</td>
</tr>
<tr>
<td>Assaying</td>
<td>$226.20</td>
</tr>
<tr>
<td>Whacker Drill Rental</td>
<td>$600.00</td>
</tr>
<tr>
<td>Nolin Supervision</td>
<td>$878.87</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$324.38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$15,176.28</strong></td>
</tr>
</tbody>
</table>

CONCLUSIONS

1. Strong north-striking faults and rhyolite dykes have been located in at least four areas of this property. Flat lying vuggy quartz-carbonate veins with sporadic high gold values have been grab sampled near these dykes and faults.

2. Age dating and geological associations have shown a similarity between the area covered by the BM Claims and the Mt. Nansen area, 200 km to the northwest. It may be possible to produce a single geological model to explain the gold values in the veins at both localities.

RECOMMENDATIONS

1. It is most important to expose the veins located on this property to allow in-situ chip sampling. This may permit the continuity of the veins and the gold values to be assessed.

2. More work should be done in comparing this property with the Mt. Nansen properties.
PROPOSED WORK PROGRAM

A work program should be developed to carry out the recommendations expressed above. For the present, the cost of such a program has not been determined.

REFERENCES


STATEMENT OF QUALIFICATIONS

I, LARRY W. CARLYLE, do certify:

1. That I am a professional geologist operating a business registered as CARLYLE GEOLOGICAL SERVICES LTD. with an office at 74 Tamarack Drive, Whitehorse, Yukon Y1A 4Y6.

2. That I hold a B. Sc. degree in geology from the University of British Columbia (1970).

3. That I am a Fellow of the Geological Association of Canada (F - 4355).

4. That I am a Registered Professional Geologist in the Association of Professional Engineers, Geologists and Geophysicists of the Province of Alberta (41097).

5. That I am a Member of the Canadian Institute of Mining and Metallurgy.

6. That I have practiced my profession as a mine and exploration geologist for sixteen years.

7. The conclusions and recommendations in the attached report are based on a review of all available private and public reports on the property and a work program carried out under my supervision on the property.

8. That the property discussed in this report is owned on a 50% - 50% basis between the writer and Mr. S. Drew MacDonald. The property has been optioned to Aurora Gold Ltd. of Calgary, Alberta.

DATED at Whitehorse, Yukon, this 16th day of April, 1991.
APPENDIX A

MOUNT BYNG REPORT

YUKON EXPLORATION 1990
YUKON EXPLORATION 1990

Part A:
1990 Mining and Exploration Overview

Part B:
Exploration and Geological Services Division

Part C:
Geological Descriptions of Selected Properties
INTRODUCTION
An interesting grassroots exploration prospect is associated with a Lower Cretaceous intrusive complex on the ridge north of Mt Byng, 50 km northeast of Whitehorse. Brecciated quartz-carbonate veins which return sporadic high gold values are associated with north-trending rhyolite dykes and small stocks.

HISTORY
In 1987, Larry Carlyle and Drew MacDonald discovered malachite and azurite-stained vuggy quartz float associated with altered rhyolite while following up several weak gold anomalies identified by a 1986 Geological Survey of Canada regional silt sampling program. Preliminary work on the property included hand trenching and a small soil grid in 1987, and VLF-EM surveys and further soil sampling in 1988. Four days of reconnaissance geological mapping were done in 1989 and further work in 1990 included soil sampling, blast trenching and VLF-EM surveys.

REGIONAL SETTING
The property covers two distinct suites of igneous rocks which intrude Upper Triassic and Jurassic sedimentary rocks on the east side of the Whitehorse Trough.

GEOLOGY AND MINERALIZATION
Gold occurs in brecciated quartz-carbonate veins associated with rhyolite dykes and small stocks which cut a thick sequence of andesite flows, gabbroic intrusions and granodiorite on the north ridge of Mt Byng (Figure 1). Samples of the vein material have returned values up to 128.9 g/t Au and also contain anomalous levels of mercury, arsenic, antimony and tungsten.

Four main areas of interest were identified by the 1987 and 1988 work. From southeast to northwest, these are designated the R12, main, R7 and R17 zones (Figure 2). The main zone showing is a vuggy, brecciated quartz-carbonate vein (Figure 3), which strikes 160° following the margin of a 9 m wide rhyolite dyke. A specimen taken from this vein in 1987 assayed 68.6 g/t Au. Similar rusty quartz-carbonate vein material containing elevated gold values has been found associated with strong VLF anomalies in the R12 and R7 zones. The R17 zone is a north-trending fault gully at the northwest corner of the claim block, where a conspicuous gossan overlies a breccia of silicified fragments up to 15 cm across, cemented by vuggy, orange-weathering chalcedony (Figures 4a,b).

Figure 1. Main showing area north of Mt Byng. Lineaments mark the location of vertical, north-trending rhyolite dykes 9-15 m wide which appear to be associated with gold-bearing quartz veins.
Mapping and radiometric age dating show that igneous rocks in the Mt Byng area fall into distinct mafic and felsic suites. The oldest unit is an aphanitic andesite, which is commonly found as xenoliths in all the other units (Figures 5, 6). The andesite appears greenish due to chloritic alteration, and fresh samples are difficult to obtain. A Rb/Sr whole rock age of $252 \pm 10$ Ma was obtained by Dr R. Armstrong and J. Gables (University of British Columbia).

The andesite is intruded by coarse grained gabbro (Figure 6) which is cut by two subcircular anorthosite plugs. The age of the gabbro and the anorthosite is questionable, but Armstrong and Gables obtained a K/Ar whole rock date of $168 \pm 6$ Ma, with minor argon loss suspected.

A younger suite of felsic rocks consists of a large granodiorite to quartz-feldspar porphyry intrusion cut by rhyolite dykes and small stocks. Armstrong and Gables obtained a K/Ar hornblende age of $121 \pm 5$ Ma for the granodiorite, and a whole rock age of $104 \pm 4$ Ma for the rhyolite. Gold-bearing quartz veins described above appear to be closely associated with the rhyolite. The youngest igneous phase is a small diatreme of heterolithic breccia which contains angular fragments of all of the major rock types in the area, welded by granodiorite porphyry (Figure 7).

DISCUSSION

The gabbro and anorthosite probably form part of the Lewes River Arc which was active during the Triassic and Jurassic. The Early Triassic age of the andesite suggests it is either a part of the Cache Creek assemblage and pre-dates the Lewes River Arc, or forms a part of the Lewes River Arc and provides evidence for activity in the Lewes River Arc as long ago as Early Triassic. The latter interpretation seems most probable based on the petrographic identification of the volcanic rock as andesitic rather than basaltic.

The granodiorite and rhyolite (Lower Cretaceous) are comparable in age to felsic and intrusive and volcanic rocks in the Mt Nansen area, 200 km to the northwest.

Gold-bearing quartz veins in the area have so far been found adjacent to rhyolite dykes and appear to be structurally controlled, by vertical north-trending lineaments.

CURRENT WORK

A modest amount of work was done on the property in 1990, under an option agreement between owners Carlyle and MacDonald, and Aurora Gold Ltd. The work was confined to the Main and R-17 zones, where 176 soil samples were taken and 9 blast trenches totalling 86 cubic metres were excavated. VLF-EM surveys were also carried out across the central part of the R-17 zone. Ten rock samples taken from the 1990 trenches were assayed. Two specimens from the main zone returned values of 18.5 g/t Au and 126.9 g/t Au.

Figures 4a,b. Chalcedony breccia on trend with a rhyolite dyke in a north-trending linear gully at the R-17 zone.
Figure 5. Fractured basalt invaded by granodiorite dykes on ridge north of Mt Byng. Basalt xenoliths occur in the granodiorite.

Figure 7. Heterolithic breccia from a small circular diatreme cutting granodiorite near the head of Byng Creek. Angular clasts include all of the major rock types in the area (basalt, gabbro, granodiorite and rhyolite) welded together by feldspar porphyry.

Figure 6. Deformed basalt xenoliths in gabbro, east flank of ridge north of Mt Byng.
ACKNOWLEDGEMENTS

T. Bremner visited the property for four days in 1989, and is grateful to Larry Carlyle for supplying hospitality and sharing his knowledge of the property. Dr Richard Armstrong and Janet Gabites (University of British Columbia) provided K/Ar and Rb/Sr dates for samples of the main igneous rock types. Grant Abbott contributed to the interpretation of the data and edited the manuscript.

REFERENCES


APPENDIX

Radiometric age data: Analyses by Dr R. Armstrong and J. Gabites (University of British Columbia)

Y89-18-1 Whole Rock K/Ar
105D/16

104 ± 4 Ma

Wt % K = 0.514
Rad. Ar = 2.509 x 10^-6 cm^3/gm
% Atmos. Ar = 91.0

From a saddle at the head of Byng Creek, Yukon, 60°56'01" N, 134°22'33"W. Sample TJB89-18-01, collected and interpreted by T.J. Bremner. Consists of hornblende from an intrusion northeast of Mt Byng.

Y89-18-2 Whole Rock K/Ar
105D/16

168 ± 6 Ma

Wt % K = 0.132
Rad. Ar = 0.906 x 10^-6 cm^3/gm
% Atmos. Ar = 74.4

From the ridge north of Mt Byng, Yukon, 60°56'27"N, 134°22'54"W. Sample TJB89-18-02, collected and interpreted by T.J. Bremner. Consists of coarse grained pyroxene gabbro.

Y89-18-3 Whole Rock K/Ar
105D/16

252 ± 10 Ma

Wt % K = 2.76
Rad. Ar = 11.471 x 10^-6 cm^3/gm
% Atmos. Ar = 95.2

Near saddle at the head of Byng Creek, Yukon, 60°56'01" N, 134°22'33"W. Sample TJB89-18-03, collected and interpreted by T.J. Bremner. Consists of quartz-eye rhyolite from a dyke cutting andesite.

Y89-18-4 Whole Rock Rb/Sr
105D/16

90.6 ppm Sr = 90.6
1.6 ppm Rb = 1.6
Rb/Sr = 0.017
87Sr/86Sr = 0.70463

From the north ridge of Mt Byng, Yukon, 60°55'37"N, 134°20'44"W. Sample TJB89-18-04, collected and interpreted by T.J. Bremner. Consists of aphanitic andesite, with a greenish cast due to chlorite alteration of hornblende. Contact relationships show it is the oldest rock type in the area. A K/Ar age of 143 ± 5 Ma from the same sample is unreasonable as it is clearly older than sample Y89-18-2. Moderate argon loss was reported with the K/Ar analysis.
APPENDIX B

ASSAY CERTIFICATES
GEOCHEMICAL LABORATORY REPORT

SAMPLE TYPE: ROCK

<table>
<thead>
<tr>
<th>SAMPLE NUMBER</th>
<th>FIRE ASSAY AU OZ/TON</th>
<th>FIRE ASSAY AG OZ/TON</th>
</tr>
</thead>
<tbody>
<tr>
<td>MZ-2</td>
<td>0.292</td>
<td>0.257</td>
</tr>
<tr>
<td>MZ-3</td>
<td>0.014</td>
<td>0.048</td>
</tr>
<tr>
<td>R12-1</td>
<td>0.001</td>
<td>0.002</td>
</tr>
<tr>
<td>R-17</td>
<td>&lt;0.001</td>
<td>0.002</td>
</tr>
<tr>
<td>MAIN ZONE</td>
<td>0.213</td>
<td>4.8</td>
</tr>
</tbody>
</table>

SIGNED: C. Douglas Read,
LABORATORY MANAGER

FOOTNOTES:
P=QUESTIONABLE PRECISION; *=INTERFERENCE; TR=TRACE; ND=NOT DETECTED;
IS=INSUFFICIENT SAMPLE; NA=NOT ANALYZED; MS=MISSING SAMPLE
**GEOCHEMICAL LABORATORY REPORT**

**SAMPLE TYPE:** ROCK

**FIRE ASSAY**

<table>
<thead>
<tr>
<th>SAMPLE NUMBER</th>
<th>OZ/TON</th>
</tr>
</thead>
<tbody>
<tr>
<td>128176</td>
<td>0.02</td>
</tr>
<tr>
<td>128177</td>
<td>0.006</td>
</tr>
<tr>
<td>128178</td>
<td>0.007</td>
</tr>
<tr>
<td>128179</td>
<td>0.537</td>
</tr>
<tr>
<td>128180</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>128181</td>
<td>3.704</td>
</tr>
<tr>
<td>128182</td>
<td>0.005</td>
</tr>
<tr>
<td>128183</td>
<td>0.001</td>
</tr>
<tr>
<td>128184</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>128185</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

**SIGNED:**

C. Douglas Read,
LABORATORY MANAGER

**ORIGINAL TO:**
AURORA GOLD INC.
CALGARY, ALBERTA T2P 0Z1
G. NOLIN

**FOOTNOTES:**
P=QUESTIONABLE PRECISION; *=INTERFERENCE; TR=TRACE; ND=NOT DETECTED; IS=INSUFFICIENT SAMPLE; NA=NOT ANALYZED; MS=MISSING SAMPLE

ADVANCED TECHNIQUES AND INSTRUMENTATION FOR THE EARTH SCIENCES
APPENDIX C

INVOICES SUPPORTING

STATEMENT OF COSTS
<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Re: Mt. Byng (Carlyle-MacDonald) Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 men for 11 days @ $450.00/day</td>
<td>4950</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Field Supplies</td>
<td>257</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Helicopter</td>
<td>15233</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Airplane, Charter</td>
<td>1482</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Explosives</td>
<td>170</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Sample Shipment</td>
<td>1311</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Sample Shipment</td>
<td>9775</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total:</strong></td>
<td>34217</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td><strong>Minus: Advance Received</strong></td>
<td></td>
<td>2500</td>
</tr>
<tr>
<td></td>
<td><strong>Please Pay</strong></td>
<td></td>
<td>59217</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Re: Mt. Byng Trip, October 1990</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 men for 1 day</td>
<td>450</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Helicopter</td>
<td>1013</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td>Food</td>
<td>50</td>
<td>00</td>
</tr>
<tr>
<td></td>
<td><strong>Please Pay</strong></td>
<td></td>
<td>1513</td>
</tr>
<tr>
<td>QUANTITY</td>
<td>DESCRIPTION</td>
<td>PRICE</td>
<td>AMOUNT</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------</td>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td>Re: Mt. Byng Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>days Assessment, Report Preparation</td>
<td>300.00</td>
<td>600.00</td>
</tr>
<tr>
<td></td>
<td>Office Supplies + Copying</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>630.00</td>
<td>630.00</td>
</tr>
<tr>
<td></td>
<td>G.S.T. (7%)</td>
<td>44.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Please Pay</td>
<td></td>
<td>674.10</td>
</tr>
</tbody>
</table>

GST: R100818137
SALES PERSON: 42
CUSTOMER NBR: 01140

TO: AURORA GOLD LTD
2100 144 4TH AVE SW
CALGARY ALBERTA T2P 3N4

FOR: NOLIN/GARY MR
REF: 1140

24 JUL 90 - TUESDAY
AIR CANADIAN AIRLINES FLT: 669
LV CALGARY INTL
AR VANCOUVER BC
AIR CANADIAN AIRLINES FLT: 582
LV VANCOUVER BC
AR WHITEHORSE Y T
HOTEL WHITEHORSE Y T
WHITEHORSE CENTER INN
206 JARVIS ST
WHITEHORSE YUKON YIA1K1
PHONE 403-668-4567
CAR WHITEHORSE Y T
BUDGET RENT A CAR
PICK UP-CP582
RETURN-27JUL
RATES-90.00 PER NIGHT
CONFIRMATION NUMBER BILL
RATE IS SUBJ TO CHG

27 JUL 90 - FRIDAY
AIR CANADIAN AIRLINES FLT: 583
LV WHITEHORSE Y T
AR VANCOUVER BC
AIR CANADIAN AIRLINES FLT: 672
LV VANCOUVER BC
AR CALGARY INTL

AIR TICKET CP3769283141 NOLIN GARY MR 968.00

CONTINUED ON PAGE 2

[Handwritten notes]
50% Written
Upper Belt
50% Art. Bev. Liquid
July 23, 1990

Aurora Gold Ltd.
2000, 144 - 4th Avenue S.W.
Calgary, Alberta
T2P 0Z1

Invoice: 098  (previous invoice: 046)

re: Rental of Integrated Geophysical System comprising one IGS-2/MP-4/VLF-4 c/w one MP-3 Base Station Magnetometer, Toshiba T-1600 Computer and Epson Printer

Rental Period: July 20 - 26, 1990
1 week @ $1,600.00  $1,600.00
Insurance @ $6.00/day  42.00
Shipping Canadian Airlines #018-3222 5771  145.60

$1,787.60

N.B.
1. Rentals are payable in advance.
2. 1.5% per month interest on overdue accounts.

T. HASEK ASSOCIATES LTD.
704 - 850 West Hastings Street
Vancouver, British Columbia
Canada V6C 1E1
Tel: (604) 684-1107
Fax: (604) 681-7480
July 30, 1990

Aurora Gold Ltd.
2000, 144 - 4th Avenue S.W.
Calgary, Alberta
T2P 0Z1

Invoice: 120

re: Rental of Integrated Geophysical System comprising one IGS-2/MP-4/VLF-4 c/w one MP-3 Base Station Magnetometer, Toshiba T-1600 Computer and Epson Printer

Rental Period: July 27 - 30, 1990
pro-rated @ $1,600.00/week $914.29
Return shipping charges (Canadian 018-27239332) 106.44
Insurance @ $6.00/day 24.00
$1,044.73

N.B. 1. Rentals are payable in advance.
2. 1.5% per month interest on overdue accounts.

H. Byng
Day Side

company with previous invoice.
DATE: July 31, 1990

PROJECT: 

PERIOD COVERED: 

SALES ORDER: 

PROGRESS BILLING: 

SHIPPING REPORT: 7110-90 

WORK REPORT: 

FED. SALES TAX: Exempt 

AUTHORITY: G. Nolin 

TO: 

5 Au, Ag assays 13.50 67.5 

5 Rock Sample Preparation 3.75 18.7 

TOTAL AMOUNT DUE: $ 86.2 

$50.29 

001 | 

Int. Byng Project 

Ray Nolin 

09-10 4601017-0 

INVOICE 3928
Aurora Gold Inc.
2000, 144 -4 Ave. S.W.
Calgary, AB
T2P 3N4

DATE: August 30, 1990
PROJECT: Mt. Byng

PERIOD COVERED:
SALES ORDER: 7128-90
PROGRESS BILLING:
SHIPPING REPORT:
WORK REPORT:
FED. SALES TAX: Exempt

AUTHORIZED: G. Nolin

TO:

<table>
<thead>
<tr>
<th>Items</th>
<th>Qty</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rockk Sample preparation</td>
<td>10</td>
<td>3.75</td>
<td>37.50</td>
</tr>
<tr>
<td>Au assays</td>
<td>10</td>
<td>10.25</td>
<td>102.50</td>
</tr>
</tbody>
</table>

TOTAL AMOUNT DUE: $140.00

INVOICE 3947
NOLIN GEO ENTERPRISES LTD
P.O. BOX 6542 STATION "D"
CALGARY ALBERTA T2P2E4

INVOICE $1,000

IN ACCOUNT WITH:

Aurora Gold Ltd.
#2100,144-4th avenue S.W.
Calgary ALBERTA
T2P 4M4

Attention: Mr. C.A.Teare, President

RE: Mt. Byng Property
     White Horse Copper Belt Property Visit

To invoice you as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maps and Publications</td>
<td>$ 23.00</td>
</tr>
<tr>
<td>Meals and PR</td>
<td>$ 32.50</td>
</tr>
<tr>
<td>Parking</td>
<td>$ 18.00</td>
</tr>
<tr>
<td><strong>Total this invoice</strong></td>
<td>$ 73.50</td>
</tr>
</tbody>
</table>

Yours very truly,

Nolin Geo Enterprises Ltd.

Gary A. Nolin P. Geol.
President

No4038Au

Location: ..................................
End Use: ..................................
Approved for Pmt.: ......................
Comments: ..............................
<table>
<thead>
<tr>
<th>Description</th>
<th>Charges</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>THREE GREENHORNS RESTR CALGARY AB IN#567292</td>
<td>3800</td>
<td>FR</td>
<td></td>
</tr>
<tr>
<td>THREE GREENHORNS RESTR CALGARY AB IN#567311</td>
<td>3650</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>PENTICTON TRAVELODGE PENTICTON BC IN#393819</td>
<td>719</td>
<td>SUSP</td>
<td>45</td>
</tr>
<tr>
<td>PENQUIN PUB CALGARY AB IN#21720</td>
<td>1645</td>
<td>SUSP</td>
<td>45</td>
</tr>
<tr>
<td>WHITEHORSE CTR MTR INN CP WHITEHORSE YT IN#49735</td>
<td>1192</td>
<td>MT.BNG</td>
<td>33</td>
</tr>
<tr>
<td>WHITEHORSE MOTORS LTD WHITEHORSE YT IN#27011</td>
<td>1644</td>
<td>MT.BNG</td>
<td></td>
</tr>
<tr>
<td><strong>Page Total</strong></td>
<td>38241</td>
<td>21056</td>
<td></td>
</tr>
</tbody>
</table>

Date: 08/19/90  
Page: 03155  
Balance: $223.78  
New Charges: 81.75  
Credits: 12.82  
Fees:  

FOR HELP WITH ANY PROBLEM OR QUESTION ABOUT YOUR ACCOUNT, CALL TOLL-FREE 800-387-9700  
Listing of Charges and Credits  

Thank you.
<table>
<thead>
<tr>
<th>Charges</th>
<th>Debit</th>
<th>Credit</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100</td>
<td></td>
<td></td>
<td>1214</td>
</tr>
<tr>
<td>725</td>
<td></td>
<td></td>
<td>1990</td>
</tr>
<tr>
<td>885</td>
<td>1602</td>
<td></td>
<td>1990</td>
</tr>
<tr>
<td>6831</td>
<td>1440</td>
<td></td>
<td>1990</td>
</tr>
<tr>
<td>13583</td>
<td></td>
<td></td>
<td>1990</td>
</tr>
</tbody>
</table>
INVOICE # 1006

February 27, 1991

IN ACCOUNT WITH:

Aurora Gold Ltd.
#2100,144-4th avenue S.W.
Calgary ALBERTA
T2P 4N4

Attention: Mr. C.A. Teare, President

RE: Mt. Byng Property
Rental on Wacker Drill

To invoice you as follows:

September 15 - October 15, 1990 $ 600

Total this invoice $ 600

Yours very truly,
Nolin Geo Enterprises Ltd.

[Signature]
Gary A. Nolin P.Geol.
President

in1005Au