REPORT ON GEOCHEMICAL SOIL AND MAGNETOMETER SURVEYS

Carried Out June 1 - August 30, 1971

FOR ASSESSMENT WORK PERFORMED ON
HUDSON’S BAY OIL AND GAS COMPANY LIMITED
BAY CLAIMS
HOOCHEKOO CREEK, CARMACKS AREA
MAP SHEET 115 I/7, LATITUDE 62°23’,
LONGITUDE 136°45’

by D. C. Mitchell
The report has been examined by the
Comptroller & Auditor of the Government of the
Province of the Yukon and approved for certification
in accordance with the requirements of
39,333,33

John Craig
Minister of Finance

Considered as representation work under
Section 56 (2) Yukon Quartz Mining Act.

[Signature]
Commissioner of Yukon Territory
ABSTRACT

During the autumn of 1970 a significant copper discovery was made on Williams Creek about 30 miles northwest of Carmacks in the Yukon. The discovery was brought to the attention of Hudson's Bay Oil and Gas Company Limited, and it was decided to stake 204 claims on the most favorable ground north of the prospect.

In June of 1971 a crew of summer students, under direction of the author, was moved onto the property to set up camp and commence the summer's field programme. The first phase of the programme consisted of:

1. Cutting base lines for survey control
2. Geochemical soil sampling
3. Magnetometer surveying
4. Reconnaissance geological mapping

The second phase carried out during the latter part of August, after assessing the first phase, consisted of:

1. Follow-up soil sampling to fill in anomalous zones
2. Trenching

The results of this work indicated several anomalous copper zones, but individual high copper values tended to be rather scattered even within the zones. Trenching on one of the anomalies was inconclusive as bedrock was not reached.

Further work is recommended in order to determine the causes of the copper anomalies.
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Figure 1  Yukon Location Map  1" = 112 miles

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INTRODUCTION

During the spring and summer of 1971, line cutting, soil sampling and a magnetometer survey were carried out over the 204 Bay claims in the Carmacks area.

A base line system was established for control of the surveys. Geochemistry, geophysics and reconnaissance geology were then carried out on 800-foot spaced lines at 90° to the structural fabric of the rock. Further follow-up sampling was carried out to delineate anomalous areas and one trench was dug.

Expediting was carried out by R. G. Hilker, consultant, from Whitehorse. The work was performed by a six-man crew under the direction of the author.

PROPERTY

General

The property is situated in the Yukon Plateau where the relief is generally no more than 1,000 feet. It is fairly heavily wooded, but very dry. There is only one perennial stream (Hoochekoo Creek) flowing through the property. Permafrost is common, especially in muskeg and stream valleys.

Only the lowest parts of the property have been glaciated. Some glacial features were noted in the stream valleys.
Location and Access

The property is located to the west of the Yukon River at a point opposite Midway Lodge on the Klondike Highway, about 30 miles northwest of Carmacks, and is bisected by Hoochekoo Creek. The claims can be located on the Whitehorse Mining District, Claim Sheet 115 I/7.

Access to the property is at present only by helicopter from Carmacks or Whitehorse, but there is road access to Williams Creek, about three miles south of the property.

Claims

The claims block consists of 204 claims with grant numbers Y60061 to Y60264 to be grouped as per grouping forms (see Plate 5).

GEOLOGY

For the regional geology of the area, the reader is referred to the Government Publication:

Bostock, H. S. (1936), Carmacks District, Yukon G.S.C. Memoir 189.

Reconnaissance mapping was carried out with the geochemical sampling (see Plate 4). The northeastern part of the property is underlain by volcanics of the Mount Nansen Group. Wherever observed, the volcanics are fairly fresh andesites which appear to have been altered to amphibolites along the contact with the granite. Small quartz veins are present in the amphibolites. A few
small intrusions of mafic rock, mainly diorite, were observed in this group.

The volcanics are in contact with a porphyritic granite that underlies about 3/4 of the property. The granite is composed of large phenocrysts of white to pinkish orthoclase in a mass of quartz, orthoclase, plagioclase and biotite with occasional accessory titaniferous magnetite. The porphyritic granite is intruded(?) by two stocks of fine-grained, orange-spotted, white to pinkish leuco-granite in the southeast and southwest quarters of the property. These are frequently cut by small pegmatite dykes and quartz veins.

One sill or dyke of fresh basaltic rock was observed on the western edge of the property. This is probably quite young and may be related to the Carmacks volcanics of Cenozoic age. One outcrop of conglomerate was observed in the Hoochekoo Valley; it may be related to the older Laberge Series(?).

PICKET LINE CUTTING

A total of 17 line miles of picket lines were contracted for, to give control for the surveys. The work was done by Eastern Associates Ltd. of Whitehorse.

Three base lines were cut on a bearing of 330° true; these were the 60 EBL, the 0+00 BL and the 45 WBL. The base lines were tied together by the 0+00 TL cut on a bearing of 60° true (see Plate 5).
GEOCHEMISTRY

General

The soil sampling was carried out to assess the possibility of further copper deposits on strike to the north of the Williams Creek discovery, and along the contact with the Mount Nansen volcanics.

Soil sampling over the Bay claims was hampered by a layer of dense fine white volcanic ash which averages six inches to one foot in thickness. It was rarely absent and sometimes up to two feet thick in the valleys. It was found that there was practically no upward penetration of metal ions through the ash so that values of less than 10 ppm copper could be expected in or above this layer.

A further complication was encountered in the form of frozen ground. About 30% of the initial sampling had to be missed due to frost. In low areas with heavy moss cover, muskegs, etc. permafrost is present and is generally impenetrable. In other areas frost conditions improved somewhat as the season advanced.

Sampling

The sampling was done by two, 2-man crews using ice picks and augers. A total of approximately 4,800 samples were taken over a compass and pace line grid on lines bearing 60°. Lines were spaced 800 feet apart with samples taken every 100 feet. Where possible, the light brown "B" horizon was taken from under the volcanic ash. In some cases a thick humic layer was encountered under the ash and if necessary, this was taken.
Sample locations, soil types, slopes and slope directions plus any other pertinent data were recorded on the sample bags. Samples have been filed and can be examined if further reference is required. All sample points were well flagged in order that they could be relocated if necessary.

Analysis

After collection samples were dried and sieved, and the -80# fraction was sent to Chemex Labs in Vancouver for analysis. The samples were analyzed for Cu, Mo, Pb and Ag by the atomic absorption method.

Plotting

Plotting of copper values was done at a scale of 1" = 1000'; each sample point is indicated by a tic on the line. All copper values are plotted on Plate 1; only above-threshold values are plotted on Plate 2. Where values are significantly anomalous but contained a large proportion of humic material, the value is accompanied by a five or six on both maps.

Interpretation

Geochemical results for Cu, Mo, Pb and Ag were examined and given a rough statistical analysis. It was found that the background for copper was around 15 ppm and the threshold at about 50 ppm, except over the volcanic rocks, where the threshold significantly increases to 75 ppm. The results for the other metals gave only isolated values slightly above background, because of this no plot has been included in this report.
The copper anomalies are rather difficult to interpret in that no very clear patterns of anomalous values emerge; high values tend to be isolated. There are several reasons for these "spotty" highs. The main ones are low mobility and depth of overburden. Due to the lack of pyrite in association with mineralization in this area, the ground waters remain fairly alkaline, and therefore, cannot carry much copper in solution. The overburden appears to be fairly deep in most places, and almost always covered by a layer of ash. Considering the low mobility factor, the upward migration of ions may become attenuated very rapidly.

At least five rather broadly anomalous zones are apparent on the property. These have been picked in order of relative priority (Plate 2):

Anomaly 1: A northerly trending well defined group of values moderately above threshold, of special interest, because of the grouping of the values and proximity to the contact between the granite and volcanics.

Anomaly 2: A few well-grouped values, moderately above threshold, flanked by a slight magnetic high and associated with a stock? of fine grained leuco-granite.

Anomaly 3: A few well grouped values including one very high value of probable significance, which will require checking in the field. This anomaly may be due to a small vein-type occurrence on the contact between the granite and volcanics and similar to the type seen farther south on the Crown Grants on Williams Creek, as
described by Bostock. An attempt to trench on this anomaly failed as bedrock was not reached.

Anomaly 4: Poorly grouped values, moderately above threshold but most of the samples are humic-rich and not reliable.

Anomaly 5: Poorly grouped—scattered values significantly above threshold persisting along the ridge above the volcanic granite contact and roughly parallel to it. These rather scattered values may be due to a relatively higher, but erratic copper content in the volcanic rocks.

Other values above threshold were found over most of the property, but are too scattered or contain too high a proportion of humic material to be of interest at the present time.

GEOPHYSICS

General

A magnetometer survey was conducted over many of the same lines as the geochemical survey. The purpose was to aid in delineating the geology, which, due to heavy overburden, was not too clear.

Method and Equipment

The instrument used was a McPhar M700 Magnetometer. This is a self-leveling, vertical field fluxgate magnetometer which reads to 5 gammas.
Readings were taken at 100-foot intervals along the 800-foot spaced lines.

A base station was established at camp where the instrument was zeroed by taking several readings at the same point. Further base stations were established at 800-foot intervals along the 0+00 BL, 45 WBL and 60 EBL during the survey. Magnetic variations could be determined by comparing readings at a base station at any time. This procedure was carried out three to four times a day during the survey in order to check for magnetic fluctuation.

The reduced data was plotted in profile at 1" = 1000' horizontal scale and 1" = 1000 gammas vertical scale (see Plate 3).

Calculations

The raw data, acquired in the field, was reduced in order to roughly filter out the effect of magnetic drift and short term fluctuation. This was done by taking the difference in readings between base stations, then apportioning this difference over the number of intermediate readings.

Interpretation

The most prominent feature revealed by the survey is the magnetic contrast between the volcanics and granitic rocks, allowing easy recognition of the contact. One or two prominent narrow highs indicate the presence of younger dykes in the granitic rocks. Other less prominent features are in association with the increased magnetite content in the porphyritic granite.
The following personnel were used to conduct the soil and magnetometer surveys on the Bay claims:

<table>
<thead>
<tr>
<th>Name and Address</th>
<th>Position</th>
<th>Period on the Property</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. C. Mitchell 928 Mapledale Place, SE Calgary 30, Alberta</td>
<td>Geologist</td>
<td>June 5 - July 15</td>
<td>$33/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aug. 15 - Aug. 30</td>
<td></td>
</tr>
<tr>
<td>D. Herdman 134 Renfrew Avenue Ottawa 1, Ontario</td>
<td>Student Assistant</td>
<td>May 31 - July 15</td>
<td>$30/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aug. 15 - Aug. 30</td>
<td></td>
</tr>
<tr>
<td>L. Preweda 397 Cairnsmore Street Winnipeg 14, Manitoba</td>
<td>Student Assistant</td>
<td>June 5 - July 15</td>
<td>$28/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aug. 15 - Aug. 30</td>
<td></td>
</tr>
<tr>
<td>R. Humiski 972 Elizabeth Road Winnipeg 6, Manitoba</td>
<td>Student Assistant</td>
<td>June 5 - July 15</td>
<td>$23/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aug. 15 - Aug. 30</td>
<td></td>
</tr>
<tr>
<td>J. Kasarda 442 North Brodie Street Thunder Bay, Ontario</td>
<td>Student Assistant</td>
<td>May 31 - July 15</td>
<td>$23/day</td>
</tr>
<tr>
<td></td>
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<td>Aug. 15 - Aug. 30</td>
<td></td>
</tr>
<tr>
<td>I. Thomas c/o Hudson's Bay Oil and Gas Company Limited 320 - 7th Avenue, SW Calgary 2, Alberta</td>
<td>Geological Technician</td>
<td>June 5 - July 15</td>
<td>$25/day</td>
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<td>Aug. 15 - Aug. 30</td>
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</tr>
<tr>
<td>J. Bull 306 - 10A Street, NW Calgary, Alberta</td>
<td>Camp Cook</td>
<td>June 5 - July 15</td>
<td>$25/day</td>
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<td></td>
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<td>Aug. 15 - Aug. 30</td>
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EXPENDITURES

Expenditures incurred by Hudson's Bay Oil and Gas Company Limited during the soil sampling and magnetometer surveys of the Bay claims on
Hoochekoo Creek, May 30 to July 16, 1971 and August 15 to August 30, 1971

are listed below. For documentation see Appendix.

1. Aircraft Costs, Helicopter

   T.N.T.A. Invoice No. 151-71, May 12th  $ 798.80
   T.N.T.A. Invoice No. 204-71, May 31st  1,008.90
   T.N.T.A. Invoice No. 212-71, June 8th  242.76
   T.N.T.A. Invoice No. 243-71, June 18th  829.20
   T.N.T.A. Invoice No. 304-71, June 29th  1,221.87
   T.N.T.A. Invoice No. 329-71, June 30th  162.92
   T.N.T.A. Invoice No. 426-71, July 29th  2,286.50
   T.N.T.A. Invoice No. 644-71, Aug. 31st  1,926.60 $ 8,477.55

2. Geochemical Determinations

   Chemex Invoice No. 5143, June 18th $ 630.00
   Chemex Invoice No. 5246, June 29th  480.00
   Chemex Invoice No. 5248, June 30th  1,121.04
   Chemex Invoice No. 5259, July 1st  803.52
   Chemex Invoice No. 5300, July 6th  2,098.00
   Chemex Invoice No. 5479, July 21st  1,200.00
   Chemex Invoice No. 5500, July 22nd  1,472.00
   Chemex Invoice No. 6024, Sept. 4th  950.40
   Chemex Invoice No. 6031, Sept. 7th  1,149.12 $ 9,904.08

3. Camp Supplies and Sundries

   Depreciation of HBOG Camping Equipment $1,000.00
   Riverside Grocery, May 25th  150.42
   Riverside Grocery, June 5th  954.98
   Riverside Grocery, June 11th  37.38
   Riverside Grocery, June 18th  77.63
   Riverside Grocery, June 29th  84.78
   Riverside Grocery, Aug. 3rd  171.37
   Burns Meats, June 4th  326.59
   Burns Meats, June 18th  86.28
   Burns Meats, June 28th  82.90
   Burns Meats, July 5th  100.02
   Burns Meats, July 16th  147.48
   Canadian Propane (Total Propane Payments
   June 5th - July 13th)  189.75
   General Enterprises, June 5th  64.22 $ 3,473.42
4. Salaries  
   Total of 262 Man Days @ $162/day  
   $6,969.00

5. Consultants Fees, Expediting, etc.  
   Hilker Invoice No. 2045, May 31st  
   $338.68
   Hilker Invoice No. 2055, June 29th  
   1,344.45
   Hilker Invoice No. 2071, Aug. 31st  
   1,169.00  
   $2,552.13

6. Line Cutting  
   Eastern Associates, June 14th  
   $1,629.25

7. Travelling and Hotel Expenses  
   Airline Tickets, Calgary to Whitehorse Return  
   $1,957.00
   Hotel, Tourists Services Whitehorse  
   796.00  
   $2,753.00

8. Office Contingencies 10% of Total  
   $3,575.00

   TOTAL EXPENDITURES  
   $39,333.43

CONCLUSIONS AND RECOMMENDATIONS

As a result of the geochemistry, geophysics and reconnaissance geology performed during the past season on the Hoochekoo property, some copper geochemical anomalies were uncovered. Unfortunately, none of the anomalies are very definite, but tend to be spotty and erratic, characterized by a few high values with intervening low ones, poorly grouped. The reasons for this type of geochemical expression may be due to the nature of the overburden, thick ash cover and frequent areas of permafrost, and not the lack of mineralization. Neither the magnetometer survey nor the reconnaissance mapping revealed anything of economic significance.
Due to the two recent discoveries in this area, Williams Creek to the south and Silver Standard to the north, this property cannot be discarded without a thorough follow-up programme.

Further work on the property should consist of:

1. An induced polarization survey on the same grid lay out as the geochemistry, using a "gradient" transmitting array, in order to clarify some of the geochemical information. This survey should better define targets for trenching and stripping, and possible drill targets if drilling seems warranted.

2. As a continuing part of the follow-up work, stripping on some of the geochemical highs, and if present, IP conductors is recommended in order to determine their causes. It will probably be necessary to use a caterpillar tractor due to the depth of overburden, although some preliminary test pitting may be helpful in places.

Signed:  

D. C. Mitchell  

October, 1971

E. C. Burgan, P. Eng.
APPENDIX 1
STATUTORY DECLARATION OF EXPENSES

CANADA

TOWIT:

I, E. C. Burgan, Agent for Hudson's Bay Oil and Gas Company Limited of 320 Seventh Avenue S. W., Calgary 2, Alberta

do solemnly declare - that the expenses as declared in the cost of this Report are true and accurate to the best of my knowledge and that the invoices as submitted with this Report cover the costs of this survey.

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath.

DECLARED BEFORE ME at Calgary

in the Province of Alberta this 20th day of December, 1971

[Signature]

Notary Public

A Notary Public in and for the Province of Alberta

My Commission expires at
TO: Hudson Bay Oil & Gas Co. Ltd.
c/o R.G. Hilker Ltd.
Box 1566
Whitehorse, Yukon

Attention: Mr. Dave Mitchell

DATE: July 29, 1971
INVOICE NO.: 426-71

TO: Charge you with the charter of Bell 47G-3E-2 Helicopter CF-QJY
Crew: Brown and Engst

FLYING: July 1 - 5, 8, 9 & 15, 1971
Daily Flight Report Nos. 8731, 8734, 8738, 8741, 8744, 8751, 8752 and 8765

13.1 hours at $155.00 per hour (rate when carrier supplies fuel) $2,030.50

PLUS: Excess cost of fuel at Carmacks Charterer assessed with cost of fuel over 60¢ per gallon
235 gallons at $.40¢ per gallon 94.00
PLUS: Prorated crew expenses at Carmacks 92.00
PLUS: Crew expenses at Carmacks omitted on our June invoices 70.00

INVOICE TOTAL $2,286.50

TERMS: One per cent interest per month will be charged on all invoices not paid within 30 days of date issued.
TO:

Hudson's Bay Oil & Gas Co. Ltd.
c/o R.G. Milker Ltd.
Box 1566
WHITEHORSE, Yukon

ATTN: Mr. Dave Mitchell

DATE: June 30, 1971
INVOICE NO.: 229-71

P.O. NO.: 1234

TO: Charge you with the following helicopter charters:

Bell 47G-3B-1 Helicopter CF-301M
Pilot: Gene Drzymala

FLYING: June 30, 1971
Daily Flight Report No. 6466
1.6 hours at $155.00 per hour
(rate when carrier supplies fuel)

Bell 47G-3B-2 Helicopter CF-30A
Pilot: G.D. Brown

FLYING: June 30, 1971
Daily Flight Report No. 8727
1.0 hours at $155.00 per hour
(rate when carrier supplies fuel)

PLUS: Excess cost of fuel at Pelly Crossing
Charterer assessed with cost of fuel over 60¢ per gallon
18 gallons at 44¢ per gallon

INVOICE TOTAL

$410.92

TERMS: One percent interest per month will be charged on all invoices not paid within 30 days of date issued.

[Signatures]

[Stamp: For payment]
TO:

Hudson Bay Oil & Gas Co., Ltd.
c/o R.G. Hilkor Ltd.
Box 1566
WHITE HORSE, Yukon

[Attention: Mr. Dave Mitchell]

DATE: June 29, 1971

INVOICE NO.

P.O. NO.

TO: Charge you with the following helicopter charters:

Bell 47G-2 Helicopter CP-EIR
Crew: Johnson and Stout

FLYING: June 23, 1971
Daily Flight Report No. 6049

6.0 hours at $120.00 per hour (rate when carrier supplies fuel) $ 720.00

PLUS: Excess cost of fuel at Minto Charterer assessed with cost of fuel over 60¢ per gallon

55 gallons at 41¢ per gallon 22.25

Bell 47G-3B-2 Helicopter CP-QJK
Crew: Dunbar and Engst

FLYING: June 8 and 12, 1971
Daily Flight Report Nos. 3463, 3471

2.9 hours at $155.00 per hour (rate when carrier supplies fuel) 449.50

Continued ...............2
PLUS: Excess cost of fuel at following points:
Charterer assessed with cost of fuel over 60¢ per gallon

Cannaka -
20 gallons at 40¢ per gallon $ 8.00

Tatchun Lake -
32 gallons at 41¢ per gallon 13.12 $ 21.12

PLUS: Gasoline purchased by TNTA per Royalite invoice 3152987 7.00

PLUS: Telephone call on June 8, 1971 2.00

INVOICE TOTAL $1,221.87

OK for Payment

[Signature]

TERM: One per cent interest per month will be charged on all invoices not paid within 30 days of date issued.
TO: Hudson Bay Oil & Gas Co. Ltd.
    c/o R.G. Hilker Ltd.
    Box 1566
    WHITEHORSE, Yukon

FROM: TRANS NORTH TURBO AIR LTD.

DATE: June 18, 1971

INVOICE NO.: 243-71

TO: Charge you with the charter of Bell 47G-3D-2
    Helicopter CF-QJX
    Crew: Dunbar and Engst

FLYING: June 6 and 7, 1971
        Daily Flight Report Nos. 3458, 3461
        Hoochekoo Project

5.1 hours at $155.00 per hour
(rate when carrier supplies fuel)

PLUS: Excess cost of fuel at following points:
      Charterer assessed with cost
      of fuel over 60¢ per gallon

Carcaska -
    45 gallons at 40¢ per gallon
    18.00
Midway -
    45 gallons at 46¢ per gallon
    20.70

INVOICE TOTAL

$829.20

TERMS: One per cent interest per month will be
        charged on all invoices not paid within
        30 days of date issued.
TO:
Judson's Jay Oil and Gas Co. Ltd,
c/o R.G. Hilker Ltd,
Box 1566
WHITEHORSE, Yukon

DATE June 8, 1971
INVOICE NO. 212-71

TO: Charge you with the charter of Bell 47G-3B-2
Helicopter CF-658X
Crew: Dunbar and Engst

FLYING: June 2, 1971
Daily Flight Report No. 3453
1.5 hours at $155.00 per hour
(rate when carrier supplies fuel)

PLUS: Excess cost of fuel at Carmacks
Charterer assessed with cost
of fuel over 60¢ per gallon

27 gallons at 38¢ per gallon

INVOICE TOTAL

$242.76

TERMS: One per cent interest per month will be charged on all invoices not paid within 30 days of date issued.
TO: Hudson's Bay Oil & Gas Co. Ltd.
320 Seventh Avenue S.W.
CALGARY 2, Alberta

DATE: May 31, 1971

INVOICE NO. 2047-71

TO: Charge you with the charter of Bell 47G-3B-2
   Helicopter CF-CQX
   Crew: Dunbar and Engst

FLYING: May 31, 1971
   Daily Flight Report No. 3450

6.2 hours at $153.00 per hour
   (rate when carrier supplies fuel)
   $ 961.00

PLUS: Excess cost of fuel at following points:

   Charterer assessed with cost of fuel over 60¢ per gallon

   Canyonora - 23 gallons at 38¢ per gallon
   Niame - 69 gallons at 44¢ per gallon
   8.74
   39.16

   INVOICE TOTAL
   $1,008.90

TERMS: One per cent interest per month will be charged on all invoices not paid within 30 days of date issued.

[Signature]
TO:
Hudson's Bay Oil and Gas Co. Ltd.
320 Seventh Avenue S.W.
CALGARY 2, Alberta

DATE May 12, 1971
INVOICE NO. 151-71

TO:
Charge you with the charter of Bell 206A
JetRanger Helicopter CF-CPH
Pilot: Tony Hanulik

FLYING:
May 11, 1971
Daily Flight Report No. 9567
3.2 hours at $248.00 per hour
(rate when carrier supplies fuel) $793.60

PLUX:
Excess cost of fuel at Camsack
Charterer assessed with cost
of fuel over 60¢ per gallon
20 gallons at 26¢ per gallon 5.20

INVOICE TOTAL $798.80

TERMS: One per cent interest per month will be
charged on all invoices not paid within
30 days of date issued.
TO:  
Hudson's Bay Oil & Gas Co. Ltd  
c/o R.G. Hilker Ltd.  
P.O. Box 1566  
Whitehorse, Yukon  
Attention: Mr. Dave Mitchell

Date: August 31, 1971  
Invoice No. 644-71

P.O. No.

TO:  
Charge you with the following helicopter charters:

Bell 47G-3B-2 Helicopter CF-QJX  
Crew: Stringer & Kerklywich

FLYING:  
August 20, 1971  
Daily Flight Report No. 8810  
2.2 hours at $155.00 per hour  
(rate when carrier supplies fuel)  
$ 341.00

PLUS:  
Excess cost of fuel at Carmacks  
Charterer assessed with cost of fuel over  
$.60 per gallon  
40 gallons at $.40 per gallon  
16.00

PLUS:  
Prorated crew expenses at Carmacks  
(½ cost of 2 men for one day)  
Bell 47G-3B-2 Helicopter CF-QJY  
Crew: Plaster, Stringer & Domonkos

FLYING:  
August 15, 17 & 30, 1971  
Daily Flight Report No.'s 9100, 9103 & 9113  
9.4 hours at $155.00 per hour  
(rate when carrier supplies fuel)  
1,457.00

PLUS:  
Excess cost of fuel at Carmacks  
Charterer assessed with cost of fuel over  
$.60 per gallon  
169 gallons at $.40 per gallon  
67.60

PLUS:  
Prorated crew expenses at Carmacks  
31.00

INVOICE TOTAL  
$1,926.60

TERMS:  
One per cent interest per month will be charged on all invoices not paid within one month of date issued.
## INVOICE

**CERTIFEX LABS LTD.** 212 BROOKSBANK AVE., NORTH VANCOUVER, B.C. TELEPHONE 955-0618

**Hudson's Bay Oil & Gas Co. Ltd.,**
320 Seventh Ave., S.W.
Calgary, Alberta

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUB-TOTAL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>532</td>
<td>samples analyzed for Cu, Mo, Pb, Ag $2.50</td>
<td>$1330.00</td>
<td>$1330.00</td>
</tr>
<tr>
<td>532</td>
<td>samples prepared $90.20</td>
<td>$106.00</td>
<td>$106.00</td>
</tr>
</tbody>
</table>

Less 20%  

$267.28  

$1143.72

**DATE** Sept. 7, 1973  
**INVOICE NO.** 4921  
**CERTIFICATE NO.** 16343-16354  
**ATTN.** Mr. D.C. McMillan

---

## REMARKS

- "Roche Project"
- 532 samples analyzed for Cu, Mo, Pb, Ag $2.50
- 532 samples prepared $90.20

Less 20%

$267.28

$1143.72

**Sept. 9, 1973**

**[Signature]**

- [Signature]
- [Signature]
- [Signature]
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUB-TOTAL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>Analyzed for Copper, Nolycdum, Lead &amp; Silver @ $2.50</td>
<td>$1500.00</td>
<td>$1500.00</td>
</tr>
</tbody>
</table>

**Notes:**
- Aug 7th, 1971
- $1250.00
- Mineral Exploration
- $1250.00

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUB-TOTAL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>735</td>
<td>Analyzed for Copper, Nolycdum, Lead &amp; Silver @ $2.50</td>
<td>$1500.00</td>
<td>$1472.00</td>
</tr>
</tbody>
</table>

**Notes:**
- **-**
## Invoice 1

**CHEMTEX LABS LTD.**

212 FROGSPANK AVE., NORTH VANCOUVER, B.C. TELEPHONE 985-0618

**To:** Hudson Bay Oil & Gas Co. Ltd.

**From:** CHEMTEX LABS LTD.

**Date:** July 1/71

**Invoice No.:** 5250

**Certificate No.:** 14730 to 14735

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUB-TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>372</td>
<td>Analyzed for Copper, Cobalt, Lead &amp; Silver @ $2.50</td>
<td>$920.50</td>
</tr>
<tr>
<td>372</td>
<td>Prepared @ $0.20</td>
<td>74.40</td>
</tr>
<tr>
<td></td>
<td>Less 20%</td>
<td>100.60</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>$895.52</strong></td>
</tr>
</tbody>
</table>

## Invoice 2

**CHEMTEX LABS LTD.**

212 FROGSPANK AVE., NORTH VANCOUVER, B.C. TELEPHONE 985-0618

**To:** Hudson Bay Oil & Gas Co. Ltd.

**From:** CHEMTEX LABS LTD.

**Date:** July 6/71

**Invoice No.:** 5300

**Certificate No.:** 14730 to 14755

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUB-TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1049</td>
<td>Samples from R. G. Miller</td>
<td>$2522.50</td>
</tr>
<tr>
<td></td>
<td>Analyzed for Copper, Cobalt, Lead, Zinc @ $2.50</td>
<td>$631.50</td>
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<tr>
<td></td>
<td>Less 20%</td>
<td>505.20</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>$2938.00</strong></td>
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</table>

Reference: Headed on Page 23

July 9/71

$10,980.00

Invoice (oration)
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUB-TOTAL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>519</td>
<td>Analyzed for Copper, Molybdenum, Lead &amp; Silver @ $2.50</td>
<td>$1,257.50</td>
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</tr>
<tr>
<td>519</td>
<td>Prepared @ $0.20</td>
<td>103.60</td>
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</tr>
<tr>
<td></td>
<td>Less 20%</td>
<td>1401.90</td>
<td>260.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1662.15</td>
<td>$1121.64</td>
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</table>

The handwritten note on the bottom of the invoice is: "July 5/72" and "Mineral Exploration No. 10, 1944, Report # 23 S.G. Moore."
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>SUB-TOTAL</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>440</td>
<td>samples analyzed for Cu, Mo, Pb, As $2.50</td>
<td>$1100.00</td>
<td>$1100.00</td>
</tr>
<tr>
<td>440</td>
<td>samples prepared $50.20</td>
<td>$32.00</td>
<td>$1132.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>loss 20%</td>
<td></td>
<td>$237.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$950.40</td>
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TERMS—NET 30 DAYS
<table>
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<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.4 lb.</td>
<td>Menchi, after 6</td>
<td>9.37</td>
</tr>
<tr>
<td>34.4 lb.</td>
<td>Nor'Wester Project</td>
<td>3.23</td>
</tr>
<tr>
<td>10 lb.</td>
<td>Menchi</td>
<td>2.94</td>
</tr>
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**TAX**: 0.17

**TOTAL**: 15.81
<table>
<thead>
<tr>
<th>DATE</th>
<th>DESCRIPTION</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/6</td>
<td></td>
<td>77.63</td>
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<tr>
<td>1/6</td>
<td></td>
<td>77.63</td>
</tr>
<tr>
<td>1/6</td>
<td></td>
<td>77.63</td>
</tr>
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</table>

**Tax:**

*Signature: David McAllister*
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>PRICE</th>
<th>TAX</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>lard</td>
<td>1</td>
<td>0.20</td>
<td></td>
<td>0.20</td>
</tr>
<tr>
<td>margarine</td>
<td>1</td>
<td>0.75</td>
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<td>0.75</td>
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<tr>
<td>tea</td>
<td>1</td>
<td>0.25</td>
<td></td>
<td>0.25</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>1.20</strong></td>
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</table>

**Total:** 1.20

**Receipt:** 1.20

**Paid Out:** 1.20

**Cash:** 1.20

**Total:** 1.20

**Date:** June 17, 1931

**Address:** 2307 7th Ave, Whitehorse, Yukon

**Riverside Grocery**

**Box 2302**

**Phone:** 657-7712

**Whitehorse - Yukon**

**Received by:**

**Paid Out:**

**Check:**

**Cash:**

**C.O.D.:**

**On Account:**

**Paid Out:**

**Total:** 1.20

**Price:** 1.20

**Tax:** 1.20

**Cash:** 1.20

**Check:** 1.20

**C.O.D.:** 1.20

**On Account:** 1.20

**Paid Out:** 1.20

**Total:** 1.20

**Date:**

**Address:**

**Riverside Grocery**

**Box 2302**

**Phone:** 657-7712

**Whitehorse - Yukon**

**Received by:**

**Paid Out:**

**Check:**

**Cash:**

**C.O.D.:**

**On Account:**

**Paid Out:**

**Total:** 1.20

**Price:** 1.20

**Tax:** 1.20

**Cash:** 1.20

**Check:** 1.20

**C.O.D.:** 1.20

**On Account:** 1.20

**Paid Out:** 1.20

**Total:** 1.20
<table>
<thead>
<tr>
<th>Ship Via</th>
<th>C.O.D.</th>
<th>Description</th>
<th>Route</th>
<th>Date</th>
<th>Pieces</th>
<th>Gross Weight</th>
<th>Rate</th>
<th>Weight</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>C.O.D.</td>
<td></td>
<td>C.O.D.</td>
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<td>C.O.D.</td>
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<td></td>
<td></td>
<td></td>
<td>C.O.D.</td>
<td></td>
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</tr>
</tbody>
</table>

COPY

Claims will be entertained after 3 days from date of receipt of shipment. All claims for shortage or damage must be verified by Carrier's agent and supported by notation on the freight receipt.

This sale made subject to conditions on back of invoice.
<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>ROUTE</th>
<th>UNITS</th>
<th>WEIGHT</th>
<th>COST</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>123</td>
<td>13</td>
<td>12</td>
<td>16.5</td>
<td>22.5</td>
<td></td>
</tr>
<tr>
<td>123</td>
<td>12</td>
<td>11</td>
<td>54</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>17</td>
<td>34.6</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>7</td>
<td>79</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Description</td>
<td>Route</td>
<td>Pieces</td>
<td>Net Weight</td>
<td>Free</td>
</tr>
<tr>
<td>----</td>
<td>-----------------------------------</td>
<td>-------</td>
<td>--------</td>
<td>------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>Round Roast 10%</td>
<td>1</td>
<td>6</td>
<td>13</td>
<td>133</td>
</tr>
<tr>
<td>1</td>
<td>Leg Chops</td>
<td>1</td>
<td>6</td>
<td>10</td>
<td>107</td>
</tr>
<tr>
<td>2</td>
<td>Ground Round</td>
<td>5</td>
<td>5</td>
<td>83</td>
<td>908</td>
</tr>
<tr>
<td>3</td>
<td>Pork Chops</td>
<td>6</td>
<td>5</td>
<td>83</td>
<td>908</td>
</tr>
<tr>
<td>4</td>
<td>Sliced Bacon</td>
<td>7</td>
<td>6</td>
<td>125</td>
<td>125</td>
</tr>
<tr>
<td>5</td>
<td>Boneless Cooked Ham (Pullman)</td>
<td>8</td>
<td>2</td>
<td>55</td>
<td>110</td>
</tr>
<tr>
<td>6</td>
<td>Turkey 16%</td>
<td>9</td>
<td>12</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>7</td>
<td>Fryers Whole</td>
<td>10</td>
<td>12</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>8</td>
<td>Salmon Steaks</td>
<td>11</td>
<td>4</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>9</td>
<td>Salami Sticks 1 1/2</td>
<td>12</td>
<td>2</td>
<td>79</td>
<td>79</td>
</tr>
<tr>
<td>10</td>
<td>Bread</td>
<td>14</td>
<td>1</td>
<td>580</td>
<td>580</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

**TOTAL** | 147 |
Hudson's Bay Oil & Gas Co. Ltd.,
320 Seventh Ave. S.W.
Calgary 2, Alberta

August 31, 1971
Re - Teslin, Carmacks Project

<table>
<thead>
<tr>
<th>INVOICE # 2071</th>
</tr>
</thead>
<tbody>
<tr>
<td>77-047 Northern Metallic 25.52</td>
</tr>
<tr>
<td>41365 Vehicle Rentals - R.G. Hilker Limited</td>
</tr>
<tr>
<td>August 16 - Minto Airstrip 155.00</td>
</tr>
<tr>
<td>August 31 - Dave Mitchell 45.00</td>
</tr>
<tr>
<td>August 31 - Midway Lodge 92.50</td>
</tr>
<tr>
<td>Payroll</td>
</tr>
<tr>
<td>41369 Ian Thomas - Month of August 750.00</td>
</tr>
<tr>
<td>41369 Expediting</td>
</tr>
<tr>
<td>100.00</td>
</tr>
<tr>
<td>Telephone</td>
</tr>
<tr>
<td>Long distance August 2, 1971 1.00</td>
</tr>
<tr>
<td>Total invoice 1169.02</td>
</tr>
</tbody>
</table>

67% Payment Cheque Hoochikoo

[Signature]

Sept. 8th
#1169.02

[Signature]

[Handwritten notes]
Hudson's Bay Oil & Gas Co. Ltd.
320 Seventh Ave. S.W.
CALGARY 2, Alberta

June 29, 1971

Re: Carmacks Project

Invoice #2055

Reference

R.G. Hilker Limited

<table>
<thead>
<tr>
<th>Truck Rental June 5 - 6</th>
<th>$95.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 7</td>
<td>$35.00</td>
</tr>
<tr>
<td>June 12</td>
<td>$62.00</td>
</tr>
<tr>
<td>June 22</td>
<td>$47.50</td>
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<tr>
<td>June 30</td>
<td>$60.00</td>
</tr>
<tr>
<td></td>
<td>$339.50</td>
</tr>
</tbody>
</table>

Supplies

<table>
<thead>
<tr>
<th>10 gal. fuel barrel &amp; cycle oil</th>
<th>13.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>76-004 Freight - Yukon Bus Lines Ltd</td>
<td>1.95</td>
</tr>
<tr>
<td>Radio Rental - July</td>
<td>140.00</td>
</tr>
<tr>
<td>Expediting June 1-30</td>
<td>100.00</td>
</tr>
<tr>
<td>Wages - Ian Thomas June 2-30, 1971</td>
<td>750.00</td>
</tr>
</tbody>
</table>

TOTAL INVOICE $1,344.45
Invoices

Reference

R.G. Hilker Limited

Radio Rental June 1 to 30, 1971 $ 140.00
Vehicle Rental 50.00
Expediting - Camp & Groceries 75.00
Camp Supplies

795-004 Consolidated Hydrocarbons Limited $57.75
Mic Mac Motors (Yukon) Ltd $66.98

Add 10% expediting fee 6.70 73.68

TOTAL INVOICE 338.68
June 14th, 1971

IN ACCOUNT WITH:

Hudson Bay Oil & Gas Company Ltd.
Whitehorse, Y.T.

RE: Hoochikoo Project, 1971
Line Cutting Grid

17.15 miles @ $95.00 per mile

$1,629.25

OK for payment

David Mitchell

June 25/71

7/1,629.25

Tendered for:
Hoochikoo Project 23
A. C. Murr
FIG. 2
ARCHER CATROD & ASSOCIATES LTD
COPPER GEOCHEMISTRY-TK CLAIM OPTION
WILLIAMS CREEK PROPERTY
DAWSON RANGE JOINT VENTURE

LEGEND
- 75 Soil sample point, copper assay in ppm
☐ Claim posts

SCALE IN FEET

0 500 1000