ASSESSMENT REPORT

GEOL OGY, G EOCHEMISTRY, GEOPHYSICS

FIN PROPERTY

WATSON LAKE M.D.

YUKON TERRITORY

LATITUDE: 61°40'N

LONGITUDE: 129°50'W

WORK PERIOD: JUNE 1 to AUGUST 23, 1982

JANUARY, 1983

T.W. Hodson
This report has been examined by
the Geological Survey of
under Section 34 of the Quartz
Mineralization Act.

A return was made to the extent
of $160,000.

[Signature]

for Regional Mineral Exploration and
Geological Services for Commissioner
of Yukon Territory.
Worksheet - Fin Property

Total value of work = $127,605.28

Work done = June 1 - August 23, 1982

Work cost Breakdown:
Fin 1 - 56 : Geology, Geochemistry, Geophysics
    : total value = $85,668.24
    : $1,529.79 per claim

    : Geology, Geochemistry
    : total value = $41,937.04
    : $2,74.09 per claim for 152 claims
    : $275.36 per Fin 455

91407
geophysical report
MAKE OATH AND SAY, THAT:

1. I am the agent of the owner, of the mineral claim(s) to which reference is made herein.

Cominco Ltd.

2. I caused to be done, work on the following mineral claim(s):

   Grant No.  Claim
   YA45939-954  Fin 253-268

   situated at 5° mi. NW of north end of Frances Lake in the Watson Lake Mining District, to the value of at least 4385.44 dollars, since the 1st day of June 1982,

   to represent the following mineral claims under the authority of Grouping Certificate No. Fin 82-3

   Grant No.  Claim
   YA45939-954  Fin 253-268 Please apply 2yrs. to each ($3200)

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology: Geochem, June 1-Aug 23/82, on Fin 253-268 4385.44
   Amount available 4385.44
   Work applied 3200.00
   Remainder 1185.44

Sworn before me at Vancouver, B.C.
this 3rd day of November 1982

Notary Public

Applicant

091407

Work done by: T. Hodson, P. Sarabia, R. Edmunds,
B. Marron, P. Cochlan - Cominco Staff
MAKE OATH AND SAY, THAT:—

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have caused to be done, work on the following mineral claim(s): (Here list claims on which work was actually done by number and name)

   Grant No.      Claim
   YA45773 - 788  Fin 87-102

   situated at 5m NNW of north end of Claim Sheet No. 105 H 12 in the Watson Lake Mining District, to the value of at least $4385.44, dollars, since the 1 day of June 1982 to represent the following mineral claims under the authority of Grouping Certificate No. 3:561 (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

   Grant No.      Claim
   YA45773 - 788  Fin 87-102

   Please apply $3200 to each.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   GEOLOGY & GEOCHEM, June 1 - Aug. 23, 1982, on Fin 87-102

   Amount available                      4385.44
   Work applied                          3200.00
   Remainder                             1185.44

   Sworn before me at Vancouver, B.C., this 8 day of November 1982

   (Work done by: T. Hudson, P Sorbara, R Edmunds, B. Mawer, D. Cooledge - Cominco Staff)

   Applicant.

   S.A. Weller
   Occupation: Records Technician
   Records Technician
**FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK**

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>Name</th>
<th>Occupation</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.A. Weller</td>
<td>Records Technician</td>
<td>700 - 409 Granville St., Vancouver</td>
</tr>
</tbody>
</table>

MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.
2. I caused to be done, work on the following mineral claim(s):

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Work done since</th>
<th>Amount available</th>
<th>Remainder</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45761-764</td>
<td>Fin 75-78</td>
<td>19-82</td>
<td>3289.08</td>
<td>3000.00</td>
</tr>
<tr>
<td>YA45792, YA45794, YA45796</td>
<td>Fin 106,108,110</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YA45798, YA45803-804</td>
<td>Fin 112, 117-118</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YA45813, YA45815</td>
<td>Fin 127,129</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

situated at 5 mi N.W. of north end of, Claim Sheet No. 105 H-12, on the Watson Lake, Mining District, to the value of at least 3289.08 dollars, since the 1 day of June 1982.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

<table>
<thead>
<tr>
<th>Work done since</th>
<th>Amount available</th>
<th>Remainder</th>
</tr>
</thead>
<tbody>
<tr>
<td>75-78,106,108,110</td>
<td>3289.08</td>
<td>3000.00</td>
</tr>
</tbody>
</table>

Sworn before me at Vancouver, B.C. this 9th day of November 1982.

Notary Public
**FORM “C” - APPLICATION FOR A CERTIFICATE OF WORK**

 TForme 5Cm are xiicral, to comiss showig 10 loca o CONTENTS.

<table>
<thead>
<tr>
<th>(Name)</th>
<th>S.A. Weller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation</td>
<td>Records Technician</td>
</tr>
</tbody>
</table>

(Postal Address) 700- 409 Granville St., Vancouver

**OFFICE DATE STAMP**

MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. The work caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 35013</td>
<td>Fin 12</td>
</tr>
<tr>
<td>YA 45759 -760</td>
<td>Fin 73-74</td>
</tr>
<tr>
<td>YA 45314</td>
<td>Fin 128</td>
</tr>
</tbody>
</table>

situated at 5 mi. N.W. of north end of Watson Lake in the Yukon District, to the value of at least ____________ dollars, since the day of ________________ 19__.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 45759 -760</td>
<td>Fin 73-74 Dec.</td>
</tr>
<tr>
<td>YA 45806-810</td>
<td>Fin 119-124</td>
</tr>
<tr>
<td>YA 45314</td>
<td>Fin 128</td>
</tr>
<tr>
<td>YA 45816-819</td>
<td>Fin 130-133</td>
</tr>
</tbody>
</table>

   Please apply 2.45 to each claim ($2,600)

   Amount available 3208.77
   Work applied 2600.00
   Remainder 608.77

Sworn before me at Vancouver, B.C. this __ day of November 19__.

Notary Public

applicant.

(a) Work done by T. Heddon, P. Barber, A. Edmunds.

(b) Mailer, D. Colledge - Commins, Staff.
FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

I (Name) S.A. Weller

Occupation Records Technician

(Portal Address) 700-409 Granville St., Vancouver

MAKE OATH AND SAY, THAT:-

1. I am agent of the owner, of the mineral claim(s) to which reference is made herein.

2. caused to be done, work on the following mineral claim(s):

   Grant No. YA45919
   Clay Fin 233
   YA45921-922
   Fin 236-236
   YA56175, YA56140
   Fin 433, 448

   situated at 5 mi NNW of north end of Claim Sheet No. 105 H 112
   in the Frances Lake Mining District, to the value of at least 2173.80 dollars, since the 1st day of June 1982.

   to represent the following mineral claims under the authority of Grouping Certificate No. 735561
   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

   Grant No. YA45919
   Claim Fin 233 Please apply 2 yrs. to
   YA45921-922 Fin 236-236 each ($600)
   YA56175 Fin 433 Please apply 4 yrs. to
   YA56140 Fin 448 each ($800)

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology, Geochem, June 1 - Aug. 23, 1982, on Fin 233, 236-36, 433, 448

   Amount available Work applied
   2173.80 1400.00
   Remainder 773.80

   Sworn before me at Vancouver, B.C. this 8th day of November 1982.

   Notary Public

(Work done by T. Hodson, P. Sorbara, R. Edmunds, S. Motier, D. Coalbridge - Company Staff)
Form "C" - Application for a Certificate of Work

<table>
<thead>
<tr>
<th>I (Name)</th>
<th>S.A. Weller</th>
<th>Occupation</th>
<th>Records Technician</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Postal Address)</td>
<td>700-409 Granville St., Vancouver</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MAKE OATH AND SAY, THAT:—

1. I am agent of the owner of the mineral claim(s) to which reference is made herein.

Cominco Ltd.

2. Work was done on the following mineral claim(s):

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45903</td>
<td>Fin 217</td>
</tr>
<tr>
<td>YA45905-918</td>
<td>Fin 219 - 232</td>
</tr>
<tr>
<td>YA45924</td>
<td>Fin 233</td>
</tr>
</tbody>
</table>

situated at S. NW of north end of Frances Lake, Mining District, to the value of at least $4385.44 dollars, since the 1 day of June, 1982.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Geology/Geochem, June 1-Aug 23, 1982, on Fin 217, 219-232, 233

<table>
<thead>
<tr>
<th>Amount available</th>
<th>Work applied</th>
<th>Remainder</th>
</tr>
</thead>
<tbody>
<tr>
<td>4385.44</td>
<td>3200.00</td>
<td>1185.44</td>
</tr>
</tbody>
</table>

Sworn before me at Vancouver, B.C., this 3 day of November, 1982.

[Signature]

Notary Public

(Work done by: T. Hudson, P. Sorbara, R. Edmunds)

B. Mauver, B. Coolidge - Cominco Staff
MAKE OATH AND SAY, THAT:—

1. I am the agent of the owner, of the mineral claim(s) to which reference is made herein. Comeco Ltd.

2. I hereby caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No.          Claim
   YA45765            Fin 79
   YA45923            Fin 237
   YA45925-938        Fin 239-252

situated at 5 mi NNE of north end of Claim Sheet No. 1054112
in the Watson Lake Mining District, to the value of at least 4385.44 dollars, since the 1st day of June 1982.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology-Geochem, June 1-Aug 23/82, on Fin 79, 237, 239-252

   Amount available 4385.44
   Work applied 3200.00
   Remainder 1185.44

   Sworn before me Vancouver, B.C. this 5th day of November 1982

   [Signature]

   Notary Public

   (Work done by T. Hudson, P. Sorbara, R. Edmunds, B. Mauer, D. Gogulas — Comeco Staff)
I, S.A. Weller, records technician, make oath and say, that:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I caused to be done, work on the following mineral claim(s):

   Grant No. | Claim
   --------- |------
   YA45766-712 | Fin 80-86
   YA45789-791 | Fin 103-105
   YA45793, YA45795, YA45797 | Fin 107, 109, 111
   YA45799, YA45801-802 | Fin 113, 115-116

   Situated at S. NW of north end of Claim Sheet No. 105 H 12 in the Watson Lake Mining District, to the value of at least 4385.44 dollars, since the 19th day of June, 1982.

3. The following is a detailed statement of such work:

   Geology + Geochem, June 1 - Aug 23, '82, on Fin 80-86, 103-105, 4385
   Amount available
   Work applied
   Remainder
   4385.44
   3200.00
   1185.44

   Sworn before me at Vancouver, B.C. this 3rd day of November, 1982.

   S.Weller
   Applicant.
MAKE OATH AND SAY, THAT:

1. I am the       agent of the owner, of the mineral claim(s) to which reference is made herein.

2. The work done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 36035</td>
<td>Fin 34</td>
</tr>
<tr>
<td>YA 45960 - 961</td>
<td>Fin 274 - 275</td>
</tr>
<tr>
<td>YA 56081 - 082</td>
<td>Fin 395</td>
</tr>
<tr>
<td>YA 56084</td>
<td>Fin 392</td>
</tr>
</tbody>
</table>

   situated at .5 mi NNW of north end of Claim Sheet No. 105 H 12.

   in the Watson Lake Mining District, to the value of at least $5026.47,

dated this day of June _19_ 82.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   | Amount available | 5026.47 |
   | Work applied     | 4000.00 |
   | Remainder to be used on Group Fin 82-8 | 1026.47 |

   Remainder on Fin 37, 33 2126.73
   Remainder on Fin 34 5129.74
   Remainder on Fin 35 1370.45
   Remainder on Fin 36 5026.47

   Sworn before me at Vancouver, B.C. on the _3_ day of November 1982.

   [Signature]

   Notary Public

   (Work done by T. Hudson, P. Scibara, R. Edmunds, B. Molnar, D. concluding - Cominco Staff)
Technical Report will be sent to Watson Lake by January 11, 1983.
Department of Indian Affairs and Northern Development
YUKON QUATZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK
(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>I (Name)</th>
<th>S.A. Weller</th>
<th>Occupation</th>
<th>Technician</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Postal Address)</td>
<td>700 - 409 Granville St., Vancouver</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No. | Claim | Fin 33, 35
   ----------|-------|------
   YA 35034, YA 35036 | Fin 33, 35
   YA 45962, YA 963 | Fin 276, 277

   Situated at 5 mi. N.W. of north end of, Claim Sheet No. 105 H 12.

   in the Watson Lake Mining District, to the value of at least 5482.81
   Dollars, since the 1 day of June 1982.

   to represent the following mineral claims under the authority of Grouping Certificate No. 33d:

   Grant No. | Claim | Fin 276, 277
   ----------|-------|------
   YA 45962, YA 963 | Fin 276, 277
   YA 56071, YA 56073 | Fin 379, 381
   YA 56075, YA 56077 | Fin 383, 385
   YA 56083, YA 56086 | Fin 390, 394
   YA 56097, YA 56094 | Fin 400, 402
   YA 56096 | Fin 404

   Amount available 5482.81
   Work applied 4860.00
   Remainder 622.81 onto Fin 33
   Remainder to be used on Group Fin 82-7

   Sworn before me at Vancouver, B.C., this 8 day of November 1982.

   Notary Public

   (Work done by T. Hudson, P. Corbari, R. Edmond,)
   (P. Muller, P. Coderie - Cominco Staff)
Technical Report will be sent to Watson Lake by January 11, 1933.
Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Fin 278 - 279</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA35033, YA45964 - G6</td>
<td>Fin 32, 278 - 279</td>
<td></td>
</tr>
<tr>
<td>YA56091, YA56093, YA56095</td>
<td>Fin 399, 401, 403</td>
<td></td>
</tr>
<tr>
<td>YA56098, YA56104</td>
<td>Fin 406, 412</td>
<td></td>
</tr>
<tr>
<td>YA56087, YA56108</td>
<td>Fin 414, 416</td>
<td></td>
</tr>
</tbody>
</table>

sitting at 5 mi. WNW of north end of claim Sheet No. 105 H 12.

in the Watson Lake Mining District, to the value of at least 5978.69 dollars, since the day of June 19 1982.

to represent the following mineral claims under the authority of Grouping Certificate No. 3351.

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Fin 82-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45964 - G6</td>
<td>Fin 278 - 279, 48 yrs.</td>
<td>Please apply 2 yrs. to each ($400)</td>
</tr>
<tr>
<td>YA56095, YA56087</td>
<td>Fin 393, 395</td>
<td></td>
</tr>
<tr>
<td>YA56099, YA56091</td>
<td>Fin 397, 399</td>
<td></td>
</tr>
<tr>
<td>YA56093, YA56095</td>
<td>Fin 401, 403</td>
<td></td>
</tr>
<tr>
<td>YA56098, YA56100</td>
<td>Fin 406, 408</td>
<td></td>
</tr>
<tr>
<td>YA56102, YA56104</td>
<td>Fin 410, 412</td>
<td></td>
</tr>
<tr>
<td>YA56106, YA56108</td>
<td>Fin 414, 416</td>
<td></td>
</tr>
</tbody>
</table>

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)


Amount available 5978.69.

Work applied 5200.00.

Remainder 778.69 onto Fin 32.

Remainder to be used on Group Fin 82-6.

Swean before me of Vancouver, B.C.

A. Wells

Notary Public

A. Wells, Public Notary

Work done by: T. Haden, P. Cornara, R. Edmonds,

B. McNeer, R. Cochrane - Company Staff.
HAKE
OATH AND SAY, THAT:

1. I am the agent of the owner, of the mineral claim(s) to which reference is made herein.

Cominco Ltd.,

2. Work was actually done by miner and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Work (1982)</th>
<th>Please apply ($400)</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA36029, YA36031-32</td>
<td>Fin 28, 30-31</td>
<td>2.81</td>
<td>to each</td>
</tr>
<tr>
<td>YA46966-67, YA56097</td>
<td>Fin 260-81, 405</td>
<td>415</td>
<td>to each</td>
</tr>
<tr>
<td>YA56103, YA56105, YA56107</td>
<td>Fin 411, 413, 415</td>
<td>428</td>
<td>to each</td>
</tr>
<tr>
<td>YA56110, YA56120</td>
<td>Fin 418, 428</td>
<td>428</td>
<td>to each</td>
</tr>
</tbody>
</table>

sited at 5 mi. NW of north end of, Claim No. 105 H 112.

in the Watson Lake, Mining District, to the value of at least 6782.00.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 33.)

Geology, Geochem, Geopty, June 1 - Aug 23/82, on Fin 28,30,31

4589.37

Geology, Geochem, June 1 - Aug 23/82, on Fin 280-1, 406,411

2192.73

413,415, 418, 428

6782.00

Amount available 6782.00

Work applied 4300.00

Remainder 1982.09 onto Fin 31

Remainder to be used on Group Fin 82-5

Sworn before me at Vancouver, B.C.

this 9 day of November 1982

[Signature]

Notary Public
A duly Public, having for the Province of British Columbia,

Work done by: T. Handson, P. Sarbar, R. Emindns, P. Mauer, D. Cooledge - Cominco Staff
MAKE OATH AND SAY, THAT:

1. I am __________ agent of the owner, of the mineral claim(s) to which reference is made herein.
   Cominco Ltd.

2. __________ caused to be done, work on the following mineral claim(s):
   (Here list claims on which work was actually done by number and name)

   Grant No.    Claim
   YA36004, YA36007    Fin 3,6
   YA45901, YA45904    Fin 215,218
   YA46920, YA56123, YA56126    Fin 234, 431, 434
   YA56138-139, YA56147    Fin 446-47, 455
   situated at 5 mi NNE of north end of Claim Sheet No. 105 H 12 in the Watson Lake Mining District, to the value of at least 6043.42 dollars, since the 1 day of June 1982.

   to represent the following mineral claims under the authority of Group Certificate No. S-571
   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested)

   Grant No.    Claim
   YA45901, YA45904    Fin 215,218 Please apply 2 yrs. to each ($600)
   YA45920    Fin 234 Please apply 2 yrs. to each ($600)

   YA56123, YA56126    Fin 431,434 11Nov82
   YA56136-139    Fin 443-447 Please apply 4 yrs. to each ($4000)
   YA56145-147    Fin 453-455

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Amount available 6043.42
   Work applied 1443.42 onto Fin 3
   Remainder to be used on Group Fin 82-7

   789.65
   2059.58
   1918.63
   275.36
   6043.42

   Sworn before me at Vancouver, B.C. this 3 day of November 1982

   A. Weller
   Applicant.

   Notary Public
   Witnessed for me and for the Province of British Columbia
   (Work done by T. Hodgson, P. Sorensen, R. Edmonds, B. Mayer, D. Cochlan - Company Staff.)
MAKE OATH AND SAY, THAT:

1. I am the agent of the owner, of the mineral claim(s) to which reference is made herein.

2. The following work is to be done, work on the following mineral claim(s):

   Grant No. Claim
   YA 35003, YA 35030 Fin 2, 29
   YA 45900, YA 45968 Fin 214, 282
   YA 56109, YA 56112 Fin 417, 420
   YA 56122 Fin 430

sited at 5 mi NNW of north end of Frances Lake Clain Sheet No. 105 H 12.

in the Watson Lake Mining District, to the value of at least $5589.85

Dollars, since the day of June 10, 1982

to represent the following mineral claims under the authority of Grouping Certificate No. 36654

Grant No. Claim
YA 45900, YA 45968 Fin 214, 282 Please apply 2 yrs. to each (#400)

YA 56109 Fin 417 Please apply 4 yrs. to each (#4400)

YA 56117, YA 56119 Fin 420-421, 423
YA 56122, YA 56130 Fin 425, 427
YA 56132-133 Fin 430, 438
YA 56144 Fin 440-441

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

- Remaider on Fin 1 $159.82
- Geology, Geochem., Geophy., June 1 - Aug 23, 1982, on Fin 2, 29 $3059.58
- Geology, Geochem., June 1 - Aug 23, 1982, on Fin 214, 282, 417, 420, 1370.45

Amount available in Group Fin 82-3 $5589.85

Remaider to be used on 2 yrs. $4800.00

Remaider to be used on Fin $789.85 onto Fin 2

Sworn before me at Vancouver, B.C. this 10 day of November 1982.

Notary Public

(Work done by T. Hackett, P. Corbin, A. R. Erlandson,)

M. Weller, D. Collier - Company Staff.
Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

I (Name) S.A. Weller

Occupation Records Technician

Postal Address: 100-409 Granville St., Vancouver

I, S.A. Weller, hereby make oath and say, that:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. Cause to be done, work on the following mineral claim(s):

   Grant No. Claim
   YA 35002, YA 35006
   YA 35028
   YA 45899, YA 45902
   YA 5G111, YA 5G121, YA 5G124

   situated at 5.1 NNW of north end of Claim Sheet No. 105 H 12.

   in the Watson Lake Mining District, to the value of at least $5,959.82.

   dollars, since the day of June 19, 1982.

   to represent the following mineral claims under the authority of Grouping Certificate No. 3.

   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested.)

   Grant No. Claim
   YA 45899, YA 45902
   YA 5G111
   YA 5G121, YA 5G124
   YA 5G127 - 129
   YA 5G131, YA 5G134
   YA 5G141 - 143

   Please apply 2 yrs. to each. ($400)

   Amount available $5,959.82

   Work applied 4,800.00

   Remainder to be used on Group Fin 82-2

   Remainder to be used on Group Fin 82-2

   Amount available 1,159.82 onto Fin 1

   Fin 82-1

   Fin 82-2

3. The following is a detailed statement of such work:

   (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology, Geochemistry, Geophysics, June 1-Aug 23, 1982, on Fin 1, 4, 27
   4,589.37

   Geology, Geochemistry, June 1-Aug 23, 1982, on Fin 213, 216, 419;
   1370.45
   4,429.432

   Total Amount
   $5,959.82

   Sworn before me at Vancouver, B.C.

   this 3rd day of November, 1982

   Notary Public

   (Work done by T. Heaton, P. Sasbarra, R. Edmunds,)

   I, B. Mower, D. Cendron, Cominco Staff.
MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. Cause to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No. | Claim  
   --------- | ----- 
   YA35023, YA35026 | Fin 22, 25 
   YA45955 | Fin 269

situated at 5 mi NNW of north end of Claim Sheet No. 105 H 12, 

in the Watson Lake District, to the value of at least 4224.61 dollars, since the 1 day of June 1982.

to represent the following mineral claims under the authority of Grouping Certificate No. 836:

   Grant No. | Claim  
   --------- | ----- 
   YA45955 | Fin 269 

   YA56017, YA56019 | Please apply 2 yrs. to claim (* 200)
   YA56036-037 | Fin 326, 327, 11/Nov/82
   YA56040-041 | Fin 344-345 k, Please apply 4 yrs.
   YA56054-055 | Fin 348-349 k, to each (* 3200)

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Amount available 4224.61
   Work applied 3400.00
   Remainder on Fin 24 890.94
   Geology, Geochem., Geoph., June 1-Aug 23/82, on Fin 22, 25
   Geology, Geochem., June 1-Aug 23/82, on Fin 269

   Remainder to be used on Group Fin 82-13

Sworn before me at Vancouver, B.C. this 3 day of November 1982.

[Signature]

Weller

Applicant.
Technical Report will be sent to Watson Lake by January 11, 1983.

Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>I (Name)</th>
<th>S.A. Weller</th>
<th>Occupation</th>
<th>Records Technician</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Postal Address)</td>
<td>100-409 Granville St., Vancouver</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OFFICE DATE STAMP

MADE OATH AND SAY, THAT:

1. I am an agent of the owner of the mineral claim(s) to which reference is made herein.

Cominco Ltd.

2. Caused to be done, work on the following mineral claim(s):

(Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA36027, YA36025</td>
<td>Fin 21, 24</td>
</tr>
<tr>
<td>YA45957</td>
<td>Fin 271</td>
</tr>
</tbody>
</table>

situated at 5 m NNW of north end of Claim Sheet No. 105 H 12.

in the Watson Lake Mining District, to the value of at least 4290.94 dollars, since the June 19, 1982.

to represent the following mineral claims under the authority of Grouping Certificate No. 3365.

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45957</td>
<td>Fin 271</td>
</tr>
<tr>
<td>YA56016</td>
<td>Fin 326</td>
</tr>
<tr>
<td>YA56020 - 023</td>
<td>Fin 338 - 331</td>
</tr>
<tr>
<td>YA56038 - 039</td>
<td>Fin 346 - 347</td>
</tr>
<tr>
<td>YA56056</td>
<td>Fin 364</td>
</tr>
</tbody>
</table>

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Remainder on Fin 39

Geology, Geochem, Geoconf, June 1 - Aug 23, 1982, on Fin 21, 24

Geology, Geochem, June 1 - Aug 23, 1982, on Fin 271

Amount available 4290.94

Work applied 3400.00

Remainder 890.94 onto Fin 24

Remainder to be used on Group Fin 82 - 12

Sworn before me at Vancouver, B.C. this 3 day of November 1982

[Signature]

Notary Public

(Work done by T. Hudson, P. Sorbara, R. Edwards.)

J. Weller, D. Skolnick - Cominco Ltd.

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)
MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein. 
   Cominco Ltd.

2. I caused to be done, work on the following mineral claim(s):
   (Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 35040</td>
<td>Fin 39</td>
</tr>
<tr>
<td>YA 35042</td>
<td>Fin 41</td>
</tr>
<tr>
<td>YA 45956</td>
<td>Fin 270</td>
</tr>
</tbody>
</table>

   Situated at 5 mi NWW of north end of Claim Sheet No. 105 H 12 in the 
   Watson Lake Mining District, to the value of at least $4557.27 dollars, since the 
   day of June 30, 1982. 

   to represent the following mineral claims under the authority of Grouping Certificate No. 10344:
   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period 
   requested.)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 45879, YA 45956</td>
<td>Fin 193,270,000 Please apply 2 yrs. to each ($400)</td>
</tr>
<tr>
<td>YA 56001, YA 56003</td>
<td>Fin 309,311,111 Please apply 4 yrs. to each ($3200)</td>
</tr>
<tr>
<td>YA 56005, YA 56007</td>
<td>Fin 313,315</td>
</tr>
<tr>
<td>YA 56016</td>
<td>Fin 324</td>
</tr>
<tr>
<td>YA 56024-025</td>
<td>Fin 332-33</td>
</tr>
<tr>
<td>YA 56042</td>
<td>Fin 350</td>
</tr>
</tbody>
</table>

   3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating 
   dates work commenced and ended in the twelve months in which such work is required to be done as shown by 
   Section 53.)

   Remainder on Fin 56
   Geology, Geochem, Geophy, June 1 - Aug 23, 1982 on Fin 39, 41
   Geology, Geochem, June 1 - Aug 23, 1982 on Fin 270

   Amount available $4557.27
   Work applied 3600.00
   Remainder 957.27 onto Fin 39
   Remainder to be used on Group Fin 82-11

   Sworn before me at Vancouver, B.C.
   Vancouver, B.C.
   3rd day of November 1982

   Notary Public

   (Work done by T. Hudson, P. Colbard, R. Edmunds.)

   C. Weller, D. Cooke - Cominco, Staff.
FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>I (Name)</th>
<th>S.A. Weller</th>
<th>Occupation</th>
<th>Records Technician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postal Address</td>
<td>700- 409 Granville St., Vancouver</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have caused to be done, work on the following mineral claim(s):

   Grant No. | Claim | Work Done |
   ----------|-------|-----------|
   YA 35024  | Fin 23 |           |
   YA 35027  | Fin 26 |           |
   YA 35067  | Fin 56 |           |

sitting at 5 mi. NNW of north end of Claim Sheet No. 105 H 112, in the Watson Lake Mining District, to the value of at least 4823.60 dollars, since the 1 day of June 1982, to represent the following mineral claims under the authority of Grouping Certificate No. 358-04.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Grant No. | Claim | Work Done |
   ----------|-------|-----------|
   YA 45880-881 | Fin 194-195 | Please apply 2 yrs. to each (# 400) |
   YA 56002, YA 56004 | Fin 310, 312 | Please apply 4 yrs. to each (# 3200) |
   YA 56006 | Fin 314 | |
   YA 56008 - 010 | Fin 316 - 318 | |
   YA 56026 - 027 | Fin 334 - 335 | |

Amount available: 4823.60
Work applied: 3660.00
Remainder: 1273.60 on Fin 56
Remainder to be used on Group Fin 82-10

Sworn before me at Vancouver, B.C., this 9 day of November 1982.

A. Weller

Applicant.

OFFICE DATE STAMP

Technical Report will be sent to Watson Lake by January 11, 1983.
MAKE OATH AND SAY, THAT:-

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. The following cause(s) to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Fin 36-37</th>
<th>Fin 272-273</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA35037-038</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YA45968-969</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

situated at 5 mi NW of north end of, Claim Sheet No. 105 H 12, in the Watson Lake Mining District, to the value of at least 4634.23 dollars, since the 1st day of June 1982.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 52.)

   Amount available: 4634.23
   Work applied: 4400.00
   Remainder: 234.23 onto Fin 36
   Remainder to be used on Group Fin 82-9

   Sworn before me at Vancouver, B.C. this 8th day of November 1982.

[Signature]

Notary Public

(Work done by T. Hedden, P. Sorbara, R. Edmonds, B. Mouw, D. Cookson, L. Dinnik, S. Hunt.)
MAKE OATH AND SAY, THAT:

1. I am an agent of the owner of the mineral claim(s) to which reference is made herein.

   Cominco Ltd.

2. The following claims were caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Fin 13,15</th>
<th>Fin 71</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 35014, YA 35016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YA 45757</td>
<td></td>
<td>Fin 71-72</td>
<td></td>
</tr>
<tr>
<td>YA 46820-830</td>
<td></td>
<td>Fin 134-144</td>
<td></td>
</tr>
</tbody>
</table>

situated at 5 mi. NNW of north end of Claim Sheet No. 105 H 12

in the Watson Lake Mining District, to the value of at least

$19,724.09

dollars, since the 10 day of June 1982.

to represent the following mineral claims under the authority of Grouping Certificate No. 28-

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period as requested)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Fin 82-28</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 35014, YA 35016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YA 45757</td>
<td></td>
<td>Fin 71-72</td>
</tr>
<tr>
<td>YA 46820-830</td>
<td></td>
<td>Fin 134-144</td>
</tr>
</tbody>
</table>

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 52.)

<table>
<thead>
<tr>
<th>Amount available</th>
<th>Work applied</th>
<th>Remainder on Fin 16</th>
<th>Remainder to be used on Group Fin 82-28</th>
</tr>
</thead>
<tbody>
<tr>
<td>3456.71</td>
<td>2600.00</td>
<td>123.04</td>
<td>856.71 onto Fin 13</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sworn before me at Vancouver, B.C.

this 8 day of November 1982

[Signature]

Notary Public

(Work done by: T. Hudson, P. S. Corrara, R. Edmunds, J. B. Meurer, D. Cook.)

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 52.)

<table>
<thead>
<tr>
<th>Amount available</th>
<th>Work applied</th>
<th>Remainder on Fin 17</th>
<th>Remainder to be used on Group Fin 82-27</th>
</tr>
</thead>
<tbody>
<tr>
<td>2523.04</td>
<td>2400.00</td>
<td>123.04 onto Fin 16</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sworn before me at Vancouver, B.C.

this 8 day of November 1982

[Signature]

Notary Public

(Work done by: T. Hudson, P. S. Corrara, R. Edmunds, J. B. Meurer, D. Cook.)
MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.
2. I have caused to be done, work on the following mineral claim(s):
   (Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA36015</td>
<td>Fin 14</td>
</tr>
<tr>
<td>YA36018</td>
<td>Fin 17</td>
</tr>
</tbody>
</table>

   situated at S M W N W of north end of Claim Sheet No. 105 H 112 in the Watson Lake Mining District, to the value of at least $3319.16.

   To represent the following mineral claims under the authority of Grouping Certificate No. 259.
   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45763 - 754</td>
<td>Fin 67 - 68</td>
</tr>
<tr>
<td>YA45838, YA45840</td>
<td>Fin 152, 154</td>
</tr>
<tr>
<td>YA45842</td>
<td>Fin 156</td>
</tr>
<tr>
<td>YA45844 - 848</td>
<td>Fin 158 - 162</td>
</tr>
<tr>
<td>YA45857</td>
<td>Fin 171</td>
</tr>
<tr>
<td>YA45859 - 860</td>
<td>Fin 173 - 174</td>
</tr>
</tbody>
</table>

   3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Amount available 3319.16
   Work applied 2600.00
   Remainder 719.16 onto Fin 17
   Remainder will be used on Group Fin 82-26

   Sworn before me at Vancouver, B.C. this 3rd day of November 1932.

   [Signature]

   Notary Public
MAKE OATH AND SAY, THAT:-

1. I am agent of the owner, of the mineral claim(s) to which reference is made herein.

2. Work caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No.         Claim
   YA 36019-20        Fin 18-19

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology, Geochem, Geophy, June 1 - Aug 23, 82, on Fin 18, 19 3059.58

<table>
<thead>
<tr>
<th>Amount available</th>
<th>Work applied</th>
<th>Remainder to be used on Group Fin 82-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>3059.58</td>
<td>2800.00</td>
<td>259.58 onto Fin 18</td>
</tr>
</tbody>
</table>

Sworn before me at Vancouver, B.C., this 8 day of November, 1982.

C. We...  
Notary Public

(Work done by T. Hend... P. Car... R. Edm...)

A. We...  
Applicant.
MAKE OATH AND SAY, THAT:

1. I am *agent of the owner, of the mineral claim(s) to which reference is made herein.

Cominco Ltd.

2. *caused to be done, work on the following mineral claim(s):

(Here list claims on which work was actually done by number and name)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA35021</td>
<td>Fin 20</td>
</tr>
</tbody>
</table>

situated at 5 mi NNW of north end of Clame Sheet No. 106 H 12 in the Watson Lake Frances Lake Mining District, to the value of at least $2,606.43 dollars, since the 1 day of June 1982.

to represent the following mineral claims under the authority of Grouping Certificate No. 5.

(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45746</td>
<td>Fin 60</td>
</tr>
<tr>
<td>YA46748</td>
<td>Fin 62</td>
</tr>
<tr>
<td>YA45861-870</td>
<td>Fin 175-184</td>
</tr>
<tr>
<td>YA4878</td>
<td>Fin 192</td>
</tr>
</tbody>
</table>

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Geology, Geochem, Geoph. June 1 - Aug. 23/82, on Fin 20 Remainder on Fin 47

<table>
<thead>
<tr>
<th>Geology</th>
<th>Geochem</th>
<th>Geoph.</th>
<th>June 1 - Aug. 23/82 on Fin 20</th>
<th>Remainder on Fin 47</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Amount allocable Work applied 2606.43

Remainder 2600.00

6.43

Sworn before me at Vancouver, B.C. this 8 day of November 1982

[Signature]

Notary Public

(Applicant)
FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA35046</td>
<td>Fin 45</td>
</tr>
<tr>
<td>YA35048</td>
<td>Fin 47</td>
</tr>
</tbody>
</table>

situated at 5 mi NW of north end of Claim Sheet No. 105 H 12

in the Watson Lake Mining District, to the value of at least $36,760.04 dollars, since the 19 day of June 1932,

to represent the following mineral claims under the authority of Grouping Certificate No. 35/46

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45743-745</td>
<td>Fin 57-59</td>
</tr>
<tr>
<td>YA45747, YA45749</td>
<td>Fin 61, 63</td>
</tr>
<tr>
<td>YA45873-877</td>
<td>Fin 197-191</td>
</tr>
<tr>
<td>YA45896-898</td>
<td>Fin 210-212</td>
</tr>
</tbody>
</table>

Amount available 36,760.04
Work applied 2,600.00
Remainder 10,760.04 onto Fin 47
Remainder to be used on Group Fin 82-23

Sworn before me at Vancouver, B.C. on this 3 day of November 1932

Applicant.

(Work done by T. Hedden, P. Corbara, R. Edmunds, L. B. Meurer, D. Condie, and N. Ruff)
MAKE OATH AND SAY, THAT:

1. I am the agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No. | Claim
   ---------- | ---------
   YA35049-051 | Fin 48-60

situated at 5 mi NNE of north end of Claim Sheet No. 105 H/12, Watson Lake, Frances Lake, Mining District, to the value of at least 48,17,06 dollars, since the 1 day of June 1982, to represent the following mineral claims under the authority of Grouping Certificate No. 2-572:

   Grant No. | Claim
   ---------- | ---------
   YA45893-895 | Fin 207-209 | Please apply to each ($ 600)
   YA65975-930 | Fin 283-288 | Please apply to each ($ 3600)
   YA56998-56000 | Fin 306-308 | 

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology, Geochem, Geophy, June 1 - Aug 23/82, on Fin 43,49,50 4589
   Geology, Geochem, Geophy, June 1 - Aug 23/82, on Fin 49 4817
   Geology, Geochem, Geophy, June 1 - Aug 23/82, on Fin 82 227.

   Amount available work applied
   Remainder on Fin 51 227.

   Remainder to be used on Group Fin 82-82

   Sworn before me at Vancouver, B.C.
   this 3 day of November 1982

   A. Weller
   Applicant.

   Notary Public

(Work done by: T. Hudson, P. Scourbut, R. Edmunds, )
MAKE OATH AND SAY, THAT:-

1. I am the agent of the owner, of the mineral claim(s) to which reference is made herein.

Cominco Ltd.

2. I caused to be done, work on the following mineral claim(s):

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA35047</td>
<td>Fin 46</td>
</tr>
<tr>
<td>YA35052</td>
<td>Fin 51</td>
</tr>
</tbody>
</table>

situated at 5 mi. NNW of north end of Frances Lake in the Watson Lake Mining District, to the value of at least 4277.69 dollars, since the 1 day of June 1982.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

| Grant No.   | Claim            | Work applied | Amount available
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>YA45891-892</td>
<td>Fin 208-219</td>
<td>Remainder on Fin 52</td>
<td>4277.69</td>
</tr>
<tr>
<td>YA55971</td>
<td>Fin 279</td>
<td>Please apply 2 yrs. to each ($400)</td>
<td>4277.69</td>
</tr>
<tr>
<td>YA55973-974</td>
<td>Fin 281-282</td>
<td>Please apply 4 yrs. to each ($300)</td>
<td>4277.69</td>
</tr>
<tr>
<td>YA55992-997</td>
<td>Fin 300-305</td>
<td></td>
<td>4277.69</td>
</tr>
</tbody>
</table>

Remainder to be used on Group Fin 82-21

Amount allocable onto Fin 51 227.69

Remainder 227.69 onto Fin 51

Sworn before me at Vancouver, B.C. this 8th day of November 1982

[Signature]

A. Weller

Applicant.

Notary Public
FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

This form required in duplicate with sketch showing location of work.

I, S.A. Weller, Occupation Records Technician

MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.
   Cominco Ltd.

2. I have caused to be done, work on the following mineral claim(s):
   (Here list claims on which work was actually done by number and name)

   Grant No.          Claim
   Y43044-046            Fin 43-44
   Y43063                Fin 52

   situated at 5 mi. NNW of north end of Claim Sheet No. 105 H 12.
   in the Watson Lake Frances Lake
   Mining District, to the value of at least $168.11 dollars, since the 1 day of June 1983.
   to represent the following mineral claims under the authority of Grouping Certificate No. 3993.
   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period
   requested).

   Grant No.          Claim
   Y45887-890
   Y45967-970
   Y55972
   Y55989-991
   Fin 201-204 Please apply 2 yrs. to each ($800)
   Fin 275-278 Please apply 4 yrs. to each ($3200)

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating
   dates work commenced and ended in the twelve months in which such work is required to be done as shown by
   Section 53.)
   Remainder on Fin 53
   Geology, Geochem., Geophy. June 1 - Aug. 23 82, on Fin 43, 44, 52
   Amount available $168.11
   Work applied 4000.00
   Remainder 1168.11 onto Fin 52
   Remainder to be used on Group Fin 82-20
   Sworn before me at Vancouver, B.C.
   this 3 day of November 1982

   Sworn to and subscribed in accordance with Section 53.
   Notary Public

   (Work done by T. Hadden, P. Barbara, R. Edmunds,)
   (P. Mower, W. Cooledge - Cominco Staff)
MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

Cominco Ltd.

2. I caused to be done, work on the following mineral claim(s):

(Here list claims on which work was actually done by number and name)

Grant No. | Claim
---|---
YA35041, YA35043 | Fin 40, 42
YA35054 | Fin 53

situated at 5 mi. NNW of north end of Claim Sheet No. 105 H 12

Yorkon Quartz Mining Act

in the Watson Lake Mining District, to the value of at least 4778.74 dollars, since the 1 day of June 1982.

to represent the following mineral claims under the authority of Grouping Certificate No.

Fin 82-19

Grant No. | Claim
---|---
YA45884 - 986 | Fin 198-200 please apply 2 yrs. to each (# 600)
YA55963 - 966 | Fin 271-274 please apply 4 yrs. to each (# 3600)
YA55984 - 988 | Fin 292-296

The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Remainder on Fin 54

Geology, Geochemistry, Geophysics, June 1 - Aug 31, 1982, on Fin 40, 42, 53

Amount available 4778.74

Work applied 4200.00

Remainder 578.74 onto Fin 53

Remainder to be used on Group Fin 82-19

Sworn before me at Vancouver, B.C.

this day of November 1982

Notary Public

M A Weller

Applicant.
FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
<th>Fin 38</th>
<th>Fin 54-55</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 35039</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YA 36065-056</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

situated at 5 mi NW of north end of Watson Lake in the Mining District, to the value of at least 4,589.37 dollars, since the 1st day of June 1982.

Second Section

Grant No.       | Claim | Fin 196-1971 Please apply 2 yrs. to each ($4,000)
YA 45862-883    |       |        |           |
YA 5991-962     |       |        |           |
YA 5981-983     |       |        |           |
YA 6011-014     |       |        |           |
YA 6028         |       |        |           |

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Geology, Geochemistry, Geophysics, June 1-August 31, 1982, on Fin 38, 54-55 4,589.37

Amount available 4,589.37
Work applied 4,400.00
Remainder to be used 189.37 onto Fin 54

Sworn before me at Vancouver, B.C. this 8th day of November 1982.

[Signature] A. Weller

Applicant.
DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

1 (Name) S.A. Weller  Occupation Records Technician

(Postal Address) 700-409 Granville St., Vancouver

MAKE OATH AND SAY, THAT:-

1. I am the agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No. YA3500G  Claim Fin S

   situated at 5 mi. NNW of north end of Claim Sheet No. 105 H 12 in the Watson Lake Mining District, to the value of at least $1203.35 dollars, since the 1st day of June 1982, to represent the following mineral claims under the authority of Grouping Certificate No. 53010.

   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

   Grant No. YA5604S  Claim Fin 353 Please apply 4 yrs. to claim ($400)

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology, Geochem, Geophy, June 1 - Aug 23, 1982, on Fin S
   Geology, Geochem, Geophy, June 1 - Aug 23, 1982, on Fin 1203.35

   Amount available 1203.35  Work applied 400.00
   Remainder on Fin S 803.35 onto Fin S
   Remainder to be used on Group Fin S82-35

   Sworn before me at Vancouver, B.C.  this 8 day of November 1982

   [Signature]
   Notary Public

   (Work done by T. Edwards, P. Sorbara, R. Edmunds, J. B. Moore, D. Cochrane - Computer Draft)
MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, or the mineral claim(s) to which reference is made herein, Cominco Ltd.

2. caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No.  | Claim
   -----------|------
   YA 35006  | Fin 6
   YA 35008  | Fin 7

   situated at 5 mi NNE of north end of Frances Lake in the Watson Lake Mining District, to the value of at least $4003.35 dollars, since the 1st day of June, 1982.

   to represent the following mineral claims under the authority of Grouping Certificate No. 3-3-1

   (Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

   Grant No.  | Claim
   -----------|------
   YA56043    | Fin 351
   YA56046-049| Fin 354-357
   YA56064    | Fin 372
   YA56066    | Fin 374

   The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Geology, Geochem., Geoph., June 1 - Aug 23, 1982, on Fin 5, 7

   Amount available 4003.35
   Work applied 2800.00
   Remainder on Fin 8 1203.35 onto Fin 5
   Remainder to be used on Group Fin 82-16

   Sworn before me at Vancouver, B.C. this 8th day of November, 1982.

   A. Weller
   Applicant.

   Notary Public
Deportment of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>I (Name)</th>
<th>S.A. Weller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation</td>
<td>Records Technician</td>
</tr>
<tr>
<td>Postal Address</td>
<td>700 - 409 Granville St., Vancouver</td>
</tr>
</tbody>
</table>

MAKE OATH AND SAY, THAT:

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. Cause to be done, work on the following mineral claim(s):

   Grant No. | Claim |
   ---------- | ----- |
   YA35009   | Fin 8 |
   YA35010   | Fin 9 |

situated at 5 mi. NNW of north end of Claim Sheet No. 105 H 12, in the Mining District, to the value of at least 3743.77 dollars, since the 1st day of June 1982.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA56029, YA56031</td>
<td>Fin 337, 339, 341</td>
</tr>
<tr>
<td>YA56033</td>
<td>Fin 341</td>
</tr>
<tr>
<td>YA56044</td>
<td>Fin 352</td>
</tr>
<tr>
<td>YA56050-051</td>
<td>Fin 358-359</td>
</tr>
<tr>
<td>YA56063</td>
<td>Fin 376</td>
</tr>
</tbody>
</table>

Please apply 4 yrs to each ($2800)

Amount available: 3743.77
Work applied: 2800.00

Remainder to be used on Group Fin 32-15

Sworn before me at Vancouver, B.C. this 9th day of November 1982.

Notary Public

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA35011 - 012</td>
<td>Fin 10 - 11</td>
</tr>
</tbody>
</table>

situated at S mi NNW of north end of Claim Sheet No. 105 H/12, in the Watson Lake Mining District, to the value of at least 3884.19 dollars, since the 1 day of June 1982. to represent the following mineral claims under the authority of Grouping Certificate No. 3-31.

Cominco Ltd.

Grant No. | Claim | Work applied |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>YA5G015</td>
<td>Fin 323</td>
<td>3200.00</td>
</tr>
<tr>
<td>YA56033, YA56032</td>
<td>Fin 338,340</td>
<td>3200.00</td>
</tr>
<tr>
<td>YA56034 - 35</td>
<td>Fin 342 - 343</td>
<td>3200.00</td>
</tr>
<tr>
<td>YA56052 - 53</td>
<td>Fin 360 - 361</td>
<td>3200.00</td>
</tr>
<tr>
<td>YA56070</td>
<td>Fin 378</td>
<td>3200.00</td>
</tr>
</tbody>
</table>

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Remainder on Fin 25 824.61
Remainder 684.19 onto Fin 10

Amount available 3884.19 Work applied 3200.00 Remainder 684.19 onto Fin 10 Remainder to be used on Group Fin 82 - 14

Sworn before me at Vancouver, B.C. this 6 day of November 1982

Notary Public

S. J. W., Notary Public

[Signature]

(Work done by: T. Hatcher, P. Cordova, B. Edmunds.)
MAKE OATH AND SAY, THAT:

1. I am ___________________ agent of the owner, of the mineral claim(s) to which reference is made herein.

2. ___________________ caused to be done, work on the following mineral claim(s):

   (Here list claims on which work was actually done by number and name)

   Grant No.   Claim
   YA 35017    Fin 16
   YA 45755    Fin 69

situated at 5 mi. NW of north end of Watson Lake in the Frances Lake Mining District, to the value of at least ______ dollars, since the 1 day of June 1982.

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

   Amount available 2523.04
   Work applied 2400.00
   Remainder 123.04 onto Fin 16
   Remainder will be used on Group Fin 82-27

   Geology, Geochem., Geoph., June 1 - Aug. 23/82, on Fin 16
   Geology, Geochem., June 1 - Aug. 23/82, on Fin 69

   Sworn before me at Vancouver, B.C. this 8 day of November 1982

   [Signature]

   Nocary Public

   (Work done by: T. Hudson, P. Ceballos, R. Edmunds.

   B. Mourea, D. Colcher, J. Cumming Staff)
MAKE OATH AND SAY, THAT:—

1. I am an agent of the owner, of the mineral claim(s) to which reference is made herein.

2. Work was caused to be done, on the following mineral claim(s):

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 35014, YA 35016</td>
<td>Fin 13, 15</td>
</tr>
<tr>
<td>YA 45757</td>
<td>Fin 71</td>
</tr>
</tbody>
</table>

...situated at 5 mi. NNW of north end of Claim Sheet No. 105 H 12 in the Watson Lake Mining District, containing land to the value of at least $1,000.00... to represent the following mineral claims under the authority of Grouping Certificate No. 3-12:

<table>
<thead>
<tr>
<th>Grant No.</th>
<th>Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>YA 45757-758</td>
<td>Fin 71-72 &amp; 73 Please apply 2 yrs to each (# 2,600)</td>
</tr>
<tr>
<td>YA 463820-830</td>
<td>Fin 134-144</td>
</tr>
</tbody>
</table>

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 33.)

| Geology, Geochem, Geophy, June 1 - Aug. 23, 1982, on Fin 13, 15 | 3059.58 |
| Geology, Geochem, Geophy, June 1 - Aug. 23, 1982, on Fin 71 | 274.09 |

Amount available: 3456.71

Work applied: 2,600.00

Remainder: 856.71 onto Fin 13

Remainder to be used on Group Fin 82-28

Sworn before me at Vancouver, B.C. this 8th day of November 1982

[Signature] Weller

Applicant.

Notary Public

[Seal]

Work done by: T. Hudson, P. Sorbara, R. Edmunds.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. SUMMARY</td>
<td>1</td>
</tr>
<tr>
<td>II. INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>A. Location</td>
<td>1</td>
</tr>
<tr>
<td>B. History and Previous Exploration</td>
<td>2</td>
</tr>
<tr>
<td>C. Ownership</td>
<td>2</td>
</tr>
<tr>
<td>III. EXPLORATION</td>
<td>2</td>
</tr>
<tr>
<td>IV. GEOLOGY</td>
<td>2</td>
</tr>
<tr>
<td>A. Property Geology</td>
<td>2</td>
</tr>
<tr>
<td>B. Age</td>
<td>5</td>
</tr>
<tr>
<td>C. Mineralization</td>
<td>5</td>
</tr>
<tr>
<td>V. GEOCHEMISTRY</td>
<td></td>
</tr>
<tr>
<td>A. Analytical Procedure</td>
<td>6</td>
</tr>
<tr>
<td>B. Results</td>
<td>6</td>
</tr>
<tr>
<td>VI. GEOPHYSICS</td>
<td>7</td>
</tr>
<tr>
<td>VII. CONCLUSIONS</td>
<td>7</td>
</tr>
<tr>
<td>APPENDIX A</td>
<td></td>
</tr>
<tr>
<td>- Statement of Expenditures</td>
<td></td>
</tr>
<tr>
<td>APPENDIX B</td>
<td></td>
</tr>
<tr>
<td>- Affidavit</td>
<td></td>
</tr>
<tr>
<td>APPENDIX C</td>
<td></td>
</tr>
<tr>
<td>- Statement of Qualifications</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plate</th>
<th>Description</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location Map</td>
<td>1:3,000,000</td>
</tr>
<tr>
<td>2</td>
<td>Claim Map</td>
<td>1:31,686</td>
</tr>
<tr>
<td>3</td>
<td>Geology</td>
<td>1:5,000</td>
</tr>
<tr>
<td>4</td>
<td>Geology</td>
<td>1:20,000</td>
</tr>
<tr>
<td>5</td>
<td>Lead Geochemistry</td>
<td>1:10,000</td>
</tr>
<tr>
<td>6</td>
<td>Zinc Geochemistry</td>
<td>1:10,000</td>
</tr>
<tr>
<td>7</td>
<td>Barium Geochemistry</td>
<td>1:10,000</td>
</tr>
</tbody>
</table>
I. SUMMARY

The Fin property is located within the Watson Lake Mining District, 180 kilometers northwest of Watson Lake, Yukon Territory. This property totals 469 claims and is 100% Cominco Ltd. owned.

Property exploration in 1982 consisted of geological mapping, soil geochemistry and a UTEM geophysical survey. Mapping showed the property to be underlain by Proterozoic to Devonian-Mississippian marine sediments. Rock units of the Devonian to Mississippian Besa River Formation (Lower Earn Group) occur over most of the property with lesser Road River Formation rocks present. Significant mineralization found to date has been confined to the Besa River Formation Mudstone Member.

A coincident Pb-Zn anomaly was revealed by the soil survey in the vicinity of a pyrite-barite showing located at grid location 45+00N, 1+00E. Also of interest is a large open-ended Zn anomaly located southwest of the mineralized exposures. This soil anomaly is within an extensive open-ended UTEM anomaly while a second UTEM anomaly covers the main showing area.

II. INTRODUCTION

A. Location

The Fin property is situated within the Watson Lake Mining District 180 kilometers northwest of Watson Lake, Yukon Territory (Plate 1). Access to the claims is by helicopter either from Watson Lake or Ross River. The Robert Campbell Highway is located within 15 kilometers of the claims' southern boundary, but there are no roads into any portion of the property at the present time.

Latitude: 61°40'N  
Longitude: 129°50'W  
N.T.S.: 105H/12

Generally the topography is flat to gently rolling covered by forests of spruce and poplar or extensive swamps. Outcrop exposures are mainly limited to creek and river cuts and total <1% of the claim area.
B. History and Previous Exploration

Cominco Ltd. first acquired the property by staking 56 claims to cover black shales which yielded high grade Pb-Zn-Ag-Cd mineralized float. An additional 222 claims were staked in 1979 in response to favourable results from the 1979 program of mapping, trenching and soil geochemistry. After the 1980 drill program (697 m) a further 187 claims were added to bring the total to its present 469 claims. The 1981 program consisted of mapping and soil geochemistry.

C. Ownership

The Fin property consists of 469 claims 100% owned by Cominco Ltd. (Plate 2).

<table>
<thead>
<tr>
<th>Claim</th>
<th>Grant Numbers</th>
<th>Date Recorded</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin 56-268</td>
<td></td>
<td>Sept. 14, 1979</td>
<td>Dec. 1, 1984*</td>
</tr>
<tr>
<td>Fin 269-282</td>
<td>YA45955-YA45968</td>
<td>Sept. 14, 1979</td>
<td>Dec. 1, 1984*</td>
</tr>
<tr>
<td>Fin 269-282</td>
<td>YA55961-YA55974</td>
<td>Aug. 11, 1980</td>
<td>Nov. 11, 1982*</td>
</tr>
<tr>
<td>Fin 283-455</td>
<td></td>
<td>Aug. 11, 1980</td>
<td>Nov. 11, 1982*</td>
</tr>
</tbody>
</table>

*1982 assessment credits to be applied

III. EXPLORATION

The 1982 exploration program consisted of geological mapping at 1:10,000 and 1:20,000 scales, soil and rock geochemistry and a 26 kilometer UTEM geophysical survey. This program was carried out during the period June 1 to August 23, 1982.

IV. GEOLOGY

Situated in the southwest portion of the paleo-Selwyn Basin, the Fin property is underlain by shallow water clastics and carbonates or deeper water fine sediments of Proterozoic to Devonian-Mississippian age. With the exception of the carbonate reef features seen in the area and some chert exposures, these sediments vary from proximal to distal turbidites. The carbonates are found to the northwest, south and east of the property which locates the Fin within a paleo-basin between the carbonate complexes.

A. Property Geology

Mapping of the property was done on a scale of 1:5,000 (Plate 3) and 1:20,000 (Plate 4) using the geochemical grid lines and various creeks for control. Areas of outcrop exposure are limited to the creek valleys and surrounding hills. This limited exposure has made correlation between outcrops and the development of a good stratigraphic column difficult. The interpretation and correlation of the Fin geology has therefore been done on the information available at this time and is subject to review.
3.

The majority of the rock units mapped are thought to belong to the Devonian-Mississippian Besa River Formation. The Besa River Formation is equivalent to the Lower Earn Group but for this report this stratigraphy will be referred to as Besa River Formation. Lesser amounts of Ordovician to Silurian Road River Formation units are present and only one Proterozoic unit was found. The stratigraphy of the Besa River Formation listed below is not necessarily in the correct stratigraphic order, while that of the Road River Formation is believed to be correct.

DEVONIAN TO MISSISSIPPIAN

Besa River Formation

Chert Pebble Conglomerate:

Light grey weathered, grey chert pebble conglomerate. Chert pebbles are subrounded to subangular, up to 3 cm in size, are matrix supported and are white, grey or black in colour. The matrix consists of a fine to medium-grained silica cemented sandstone. Minor grey sandstone beds are found associated with this unit. This member is found along Grit Creek, a tributary of Fin Creek, and in the area of the Tan claims located just southwest of the Fin claims.

Upper Siltstone-Mudstone Member:

Dark grey weathered, fissile to platy parting, laminated to thin bedded, grey to black siltstone to mudstone turbidites. Mainly siltstone with 10 to 30% mudstone content and up to 5% sandstone as beds and laminae. Pyrite nodules to 2 cm are locally found. Minor white gypsum coated outcrops are seen. This member is mainly found in the central area of the property along Grit Creek and Fin Creek.

Lower Siltstone-Mudstone Member:

Dark grey to black weathered, fissile to platy parting, laminated to thin bedded black siltstone to mudstone. Mudstone content is greater than or equal to siltstone content. Gypsum or hydrozincite coated outcrops are common. Only found in the Fin Creek canyon in the central portion of the property.

Mudstone Member:

Dark grey to black weathered, papery to fissile parting, locally siliceous, carbonaceous black mudstone. Contains abundant calcareous or mudstone concretions to 0.5 m. Locally carbonate channel scour deposits are found within this unit. Outcrops are coated by gypsum or hydrozincite. Contains laminated to bedded Pb-Zn-Fe sulphides. Only found in the central portion of the property along Fin Creek.

Siltstone-Sandstone Member:

Grey to rusty weathered, flaggy to blocky parting, laminated to bedded grey turbidites. Locally ripple marks and graded bedding are seen. Sandstone beds contain up to 1% disseminated pyrite. Mainly siltstone with up to 40% sandstone content and <5% mudstone.
Siltstone-Mudstone-Sandstone Member

Similar to above only sandstone content is at most 10% while siltstone and mudstone contents are up. Laminated to thin bedded with minor gypsum or hydrozincite coated outcrops. This is a slightly more distal facies of the above Siltstone-Sandstone Member.

These coarser more proximal turbidites are the most abundant units on the property and can be found in most locations.

LOWER MIDDLE DEVONIAN

Dolomite Member:

White to yellow weathered, light grey fossiliferous dolomite. Bedding is only detected in larger outcrops with beds to 30 cm and generally flat lying. Locally black chert clasts to 10 cm by 30 cm are seen. Two-holed crinoids are abundant. This member is found in the southern portion of the claim block and also to the east and north of the claims.

ORDOVICIAN TO SILURIAN

Road River Formation

Mudstone-Chert Member:

Black to silvery weathered, interbedded black chert and black mudstone to siltstone. Contains the occasional rounded limestone concretion to 0.5 m and locally near the upper contact dolomite lenses. Seen in the area of the Tan claims and also to the south near Frances Lake.

Siltstone Member:

Tan weathered, platy, laminated, grey siltstone. Locally minor mudstone is found associated with this unit. Hosts the barite veins seen on the Tan claims. May be equivalent to the Marker Member of the Road River Formation as seen in the MacMillan and Howard's Pass areas.

Chert-Siltstone Member:

Green, white, grey, black chert with minor interbedded siltstone. Siltstone content increases rapidly downsection. Wispy pyrite laminations, pyrite nodules, barite nodules or lenses and ferromagnesium dolomite nodules and lenses are associated with the chert beds. This unit is the probable type source of the above described chert pebble conglomerate. Outcrops of this unit are found along Chert Creek, a tributary of Fin Creek.
PROTEROZOIC

Arkosic Sandstone

Light grey weathered, massive, moderately foliated grey sandstone. Contains approximately 55% feldspar grains and 40% chert and quartz grains to 2 mm with minor amounts of sericite and pyrite also present. This unit has a slight salt and pepper appearance to it. Occasional mudstone and siltstone clasts to 10 cm are rarely found. This unit is found near the junction of Fin and Chert Creeks.

B. Age

The age and stratigraphic order of lithologic members on the property is still not known with a high degree of confidence as fossil evidence is still lacking from most of the members. One fossil, a two-holed crinoid, was found and is dated as Lower Middle Devonian giving an age to the Dolomite Member separating the Road River Formation from the Besa River Formation. The presence of this unit along with data from the UTEM survey and a stratigraphic section near the Tan claims, indicates the relative position and age of most of the rock units up to the Chert Pebble Conglomerate Member is correct. The exception to this is the Lower Siltstone-Mudstone and Mudstone Members which may be lower in the section or as young as post chert pebble conglomerate.

Until further fossil evidence proves otherwise, all units above the Lower Middle Devonian Dolomite Member will be considered as part of the Besa River Formation, and all those lower in the section except for the Proterozoic arkosic sandstone will be included in the Road River Formation.

C. Mineralization

Lead-zinc mineralization is only found within the Mudstone Member on the Fin property. All showings and drill intersections of sulphides within this unit have been restricted to the central portion of the property along the Fin Creek canyon. Mineralization is located roughly at the top, middle and base of this 50 meter thick Mudstone Member and is traceable for one kilometer along strike. This unit is believed to extend to the east and south until it is cut off by a major east-west fault, is seen to dip northerly towards a fault, and either dips beneath overlying stratigraphy to the west or is faulted off. Tracing this unit and identifying it from the overlying unit is made possible by its being distinctly anomalous in Pb-Zn-Ag rock geochemistry.

A pyrite-barite showing was found at grid location 45+00N, 1+00E (HF-171,184) within a siltstone-sandstone outcrop. This represents the only other mineralization found outside the main showing area.
V. GEOCHEMISTRY

A. Analytical Procedure

The 1982 Fin geochemical program consisted of soil sampling every 50 meters along soil lines 1.5 to 2.0 kilometers long, spaced 200 meters apart. Rock and silt samples were taken wherever information was needed. All samples were shipped to Cominco's Exploration Research Laboratory in Vancouver, B.C. for analysis. In total 1398 soil, 12 silt, and 74 rock samples were analysed. Lead, zinc and manganese were determined by aqua regia digestion followed by atomic absorption and barite by x-ray fluorescence.

B. Results

Sampling difficulties encountered during the 1982 soil survey included extensive swamps, permafrost and a volcanic ash layer. Results may or may not be affected by these difficulties. Lead, zinc and barium results are shown on Plates 5, 6 and 7 respectfully. Anomalous values for lead, zinc and barium soils are given in Table 1.

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anomalous Soil Values</td>
</tr>
<tr>
<td>Probably Anomal (ppm)</td>
</tr>
<tr>
<td>Lead</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>Zinc</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>Barium</td>
</tr>
<tr>
<td>2300</td>
</tr>
</tbody>
</table>

Lead results revealed only one small attractive anomaly located near the laminated pyrite-barite showing found at grid location 45+00N, 1+00E. The center of this 200 m x 400 m plus 50 ppm lead anomaly is about one kilometer southwest of the pyrite-barite showing. This anomaly may be significant as the only other lead anomaly obtained from previous soil surveys is over the main showing area. None of the other one or two sample lead anomalies scattered about the property are considered important at this time.

Zinc results show numerous large plus 200 ppm anomalies the most significant of which are considered to be a 400 m x 700 m anomaly coincident with the above lead anomaly and a 600 m x 1300 m open-ended anomaly located 2 kilometers to the southwest of the main showing. This latter anomaly corresponds to an area where the 1982 UTEM survey also picked up an anomalous response.

Two interesting barium anomalies were detected, one located around grid location 10+00N, 53+50E and the other within the Zn anomaly southwest of the main showing. The former is slightly wishbone shaped, trails off and is not closed off to the southwest. The latter is coincident with part of the zinc anomaly and is also open-ended. Numerous other small anomalies were obtained but none seem significant at this time.
VI. GEOPHYSICS

A detailed analysis of the 26 kilometer 1982 UTEM survey can be found in a separate report by J.J. Lajoie (December, 1982). In summary the UTEM performed very well in the clastic environment as it picked out the mineralized horizon and traced it to the east and somewhat to the west of the main showing. This geophysical anomaly is open to the east and west.

Another UTEM anomaly was detected about 600 meters south of the above anomaly. This widespread anomaly is extensive in an east-west direction and contains a second stronger UTEM response within it and also covers the area where a large open-ended Zn soil anomaly was found. This larger widespread anomaly is probably related to a specific stratigraphic unit. As there is no outcrop in this area, this cannot be determined for certain nor can the reason be determined for the enclosed stronger UTEM response. This anomaly is open to the east, west and south.

VII. CONCLUSIONS

1. The relative order of the stratigraphic units on the Fin property is still not known for certain, but it is reasonable to conclude that those units that lie stratigraphically below the Lower Middle Devonian Dolomite Member belong to the Road River Formation and those that lie above belong to the Besa River Formation.

2. Lead-zinc mineralization found to date on the Fin is restricted to the Mudstone Member, is high grade, laminated, and is discontinuous due to shearing.

3. Two anomalies were picked up by the UTEM survey, one over the main showing area and the other to the south of the main showing. This southern anomaly includes a second stronger UTEM response.

4. Soil geochemistry produced numerous anomalies, the best of which were a coincident Pb-Zn anomaly in the vicinity of the pyrite-barite showing found far to the west of the main showing and a large open-ended Zn anomaly southwest from the main showing. This latter soil anomaly corresponds with the western end of the southern UTEM anomaly.

Report by: T.W. Hodson, Geologist

Endorsed by: A.B. Mower, Senior Geologist

Approved for Release by: G. Harden, Manager Exploration Western District
Distribution
Mining Recorder (2)
Western District (1)
TWH (1)

TWH/skm
APPENDIX A

STATEMENT OF EXPENDITURES

FIN PROPERTY

JUNE 1 TO AUGUST 23, 1982

<table>
<thead>
<tr>
<th>Salaries</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>T.W. Hodson (76 days @ $154.88/day)</td>
<td>$11,770.88</td>
</tr>
<tr>
<td>J.P. Sorbara (26 days @ $159.50/day)</td>
<td>4,944.50</td>
</tr>
<tr>
<td>D.C. Coolidge (18 days @ $110.53/day)</td>
<td>1,989.54</td>
</tr>
<tr>
<td>F.R. Edmunds (7 days @ $234.96/day)</td>
<td>1,707.72</td>
</tr>
<tr>
<td>A.B. Mawer (8 days @ $265.76/day)</td>
<td>2,126.08</td>
</tr>
<tr>
<td>M. Legault (32 days @ $101.20/day)</td>
<td>3,238.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Communications</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,848.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10,125.84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Linecutting - 46.6 km @ $310/km</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14,446.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Geophysics (26.0 km)</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15,134.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Geochemistry - contract soil samplers</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1410 soils and silts @ $6.10/sample</td>
<td>8,601.00</td>
</tr>
<tr>
<td>74 rocks @ $5.50/sample</td>
<td>407.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transportation - helicopter</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>helicopter</td>
<td>23,944.51</td>
</tr>
<tr>
<td>truck</td>
<td>1,028.49</td>
</tr>
<tr>
<td>freight</td>
<td>1,650.79</td>
</tr>
<tr>
<td>fuel</td>
<td>1,519.88</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Domicile</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8,280.75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expediting</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,602.84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Report Preparation</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4,929.23</td>
</tr>
<tr>
<td></td>
<td>$128,072.20</td>
</tr>
</tbody>
</table>

Signed: 
T.W. Hodson, Geologist
APPENDIX B

AFFIDAVIT

I, Terence W. Hodson, of the Municipality of Surrey, in the Province of British Columbia, make oath and say:

1. THAT I am employed as a geologist by Cominco Ltd., and as such have a personal knowledge of the facts to which I hereinafter depose;

2. THAT annexed hereto and marked as Appendix A to this my affidavit is a true copy of expenditures incurred in connection with a geological program carried out on the Fin mineral claims;

3. THAT said expenditures were incurred between the first day of June and the twenty-third day of August, 1982 for the purpose of mineral exploration on the above noted claims.

Signed: [Signature]

T.W. Hodson, Geologist
STATEMENT OF QUALIFICATIONS

I, TERENCE W. HODSON, OF THE MUNICIPALITY OF SURREY, IN THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY:

1. THAT I am a geologist residing at 1773 Southmere Crescent, Surrey, British Columbia, with a business address at 700-409 Granville Street, Vanouver, British Columbia.

2. THAT I graduated with a B.Sc. in geology from the University of British Columbia in 1980.

3. THAT I have practiced geology with Cominco Ltd. from May 1980 to the present.

Signed: T.W. Hodson, Geologist
EXPLORATION

NTS: 105-H/12

WESTERN DISTRICT

GEOPHYSICAL REPORT

ON THE

UTEM ELECTROMAGNETIC SURVEY

ON THE

FIN CLAIMS

Latitude : 61°40’N
Longitude : 129°50’W

Claims Covered : FIN 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 39, 40, 41, 43, 224, 225, 226, 274, 280 and 282

Claim Owner and Operator : COMINCO LTD.

DECEMBER 1982

Jules J. Lajoie
Ph.D., P.Eng.

091407
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>TABLE OF CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>DESCRIPTION OF THE UTEM SYSTEM</td>
<td>1</td>
</tr>
<tr>
<td>DATA PRESENTATION</td>
<td>2</td>
</tr>
<tr>
<td>INTERPRETATION</td>
<td>3</td>
</tr>
<tr>
<td>CONCLUSIONS</td>
<td>5</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>7</td>
</tr>
<tr>
<td>PLATE 237-82-1 LOCATION MAP</td>
<td>8</td>
</tr>
<tr>
<td>LEGEND - UTEM COMPILATION MAP AND DATA SECTIONS</td>
<td>9</td>
</tr>
<tr>
<td>DATA SECTIONS</td>
<td></td>
</tr>
<tr>
<td>STATEMENT</td>
<td></td>
</tr>
<tr>
<td>CERTIFICATION</td>
<td></td>
</tr>
<tr>
<td>PLATE 237-82-2 UTEM SURVEY LINES ON THE FIN CLAIMS</td>
<td></td>
</tr>
</tbody>
</table>
| PLATE 237-82-3 UTEM COMPILATION MAP                         |      | (in envelope)
INTRODUCTION

The FIN claims are located about 185 km north of Watson Lake, Yukon as shown in Plate 237-82-1. Access is by gravel road from Watson Lake, north to Frances Lake, then a 20 km helicopter jaunt to the property. The geology on the property is described in a separate report by T.W. Hodson, to which this geophysical report is an addendum.

This report describes a UTEM time domain electromagnetic survey performed on the property from July 23rd to August 9th, 1982. Twenty-six kilometers of surveying were completed. This work was performed on FIN claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 39, 40, 41, 43, 224, 225, 226, 274, 280 and 282 as shown in Plate 237-82-2. The field work was executed by J.J. Lajoie, A. O'Hara and G.E. Lillos, all of Cominco Ltd.

DESCRIPTION OF THE UTEM SYSTEM

UTEM is an acronym for "University of Toronto Electromagnetometer". The system was developed by Dr. Y. Lamontagne (1975) while he was a graduate student at that university.

The field procedure consists of first laying out a large loop of single strand insulated wire and energizing it with current from a transmitter which is powered by a 1.7 kw motor generator. Survey lines are generally oriented perpendicular to one side of the loop and surveying can be performed both inside and outside the loop. The field procedure is similar to Turam, a better known electromagnetic surveying method.
The transmitter loop is energized with a precise triangular current waveform at a carefully controlled frequency (30.9 Hz for most of this survey). The receiver system includes a sensor coil and backpack portable receiver module which has a digital recording facility on cassette magnetic tape. The time synchronization between transmitter and receiver is achieved through quartz crystal clocks in both units which must be accurate to about one second in 50 years.

The receiver sensor coil measures the vertical magnetic component of the electromagnetic field and response to its time derivative. Since the transmitter current waveform is triangular, the receiver coil will sense a perfect square wave in the absence of geologic conductors. Deviations from a perfect square wave are caused by electrical conductors which may be geologic or cultural in origin. The receiver stacks any preset number of cycles in order to increase the signal to noise ratio.

The UTEM receiver gathers and records 9 channels of data at each station. The later number channels (7-8-9) correspond to short time or high frequency while the lower number channels (1-2-3) correspond to long time or low frequency. Therefore, poor or weak conductors will respond on channels 9, 8, 7 and 6. Progressively better conductors will give responses on progressively lower number channels as well. For example, massive, highly conducting sulphides or graphite will produce a response on all nine channels.

It was mentioned above that the UTEM receiver records data digitally on a cassette. This tape is played back into a computer at the base camp. The computer processes the data and controls the plotting on an 11" x 15" graphics plotter. Data are portrayed on data sections (D.S.) as profiles of each of the nine channels, one section for each survey line.

DATA PRESENTATION

The results of the survey are presented in one compilation map (Plate 237-82-3) and 19 data sections. The loop number is indicated on each data section and loops are shown outlined in Plate 237-82-3.

Legends for both the UTEM compilation maps and the data sections are also attached.

The data sections are arranged in order of loop number, then in order of line number. The reconnaissance lines are last, in data sections 17 to 19.
The magnetic field amplitudes from both the transmitter loop (primary field) and from the electric currents induced in the ground (secondary field) vary by a few orders of magnitude from the beginning of a line near the transmitter loop to the end of the survey line far from the transmitter loop. To present such data, a normalized scheme must be used. In this survey, the primary field from the loop is used for normalizing and presenting the data according to the following scheme:

a) for channel 1:

\[ \% \text{ Ch. 1 anomaly} = \frac{\text{Ch.1} - P}{P} \times 100\% \]

where \( P \) is the primary field from the loop at the station and Ch.1 is the observed amplitude for channel 1.

b) For the remaining channels (\( n = 2 \) to 9)

\[ \% \text{ Ch.n anomaly} = \frac{(\text{Ch.n} - \text{Ch.2})}{\text{Ch.1}} \times 100\% \]

where Ch.n is the observed amplitude of Channel n (\( n = 2 \) to 9).

The above normalization procedures result in chaining errors displayed in Channel 1 only.

**INTERPRETATION**

The interpretation is compiled onto Plate 237-82-3 and the anomalous responses are discussed individually below. There are two types of anomalies in this survey. Firstly, there are large conductive areas extending across the whole survey area called Zones A and B. Anomalies from these result from current channelling effects, that is, regionally induced electric currents being channelled into the conductive zones. It is very difficult to arrive at meaningful absolute conductance estimates for such anomalies. Secondly, there are more isolated anomalies and these are called Conductors 1 to 4. Anomalies from these are due to standard electromagnetic induction effects restricted within the conductors and so conductance estimates are made where size dimensions may be estimated.
ZONE A

A crossover type of anomaly occurs at about 4700N on all lines, except Line 4200E, as can be seen for example at 4800N on Line 4800E in Data Section 4 (D.S. 4). In Plate 237-82-3, it is represented by the crosses defining the southern limit of Zone A.

To the west, the source is either getting deeper, as shown by the broad anomaly shape on Line 4400E (D.S. 2), or is faulted off between Lines 4400E and 4600E. In the latter case, the anomaly on Line 4400E would be responding to the conductive zone east of the line.

To the east, the anomaly amplitude is progressively greater and occurs at later time as seen by the Channel 2 anomaly at 4725N on Line 5800E (D.S. 9). This indicates increasing conductance of Zone A to the east.

The northern limit for Zone A is bounded by an early time (low conductivity), small amplitude anomaly. This postulated boundary for Zone A is uncertain. It is not clearly defined in the data east of Line 5200E.

Conductors 1a and 1b

Conductors 1a and 1b are two small, adjacent conductors occurring with Zone A, observed only on Line 5000E (D.S. 5) between 4650N and 4950N. The evidence for two separate conductors comes from two well-defined trough-shaped anomalies each with a different time constant. Conductor 1a, about 150 meters wide on Line 5000E, has a strong late time response up to channel 2; its conductance is estimated at about 170 mhos, putting it in the good to excellent range. Conductor 1b, about 110 meters wide, has a conductance estimated at about 50 mhos. Both conductors are nearly flat-lying at a depth of 30-50 meters.

In this data, Conductors 1a and 1b appear as isolated conductors within Zone A. Geologically, however, the increasing conductivity of Zone A to the east could indicate that the source material causing Conductors 1a and 1b extends to the east.

ZONE B

Zone B (Plate 237-82-3) is a very large conductive zone occupying the southern part of the survey area. It produces a prominent anomaly up to late time (Channel 2 or 1) on most lines. The northern boundary is very sharp, and may be a fault contact between resistive rocks to the north and conductive rocks to the south. Lines 4200E, 4600E, 5000E, 5400E and 5800E were extended south of 4000N to map the zone. The southern limit was not found. Three reconnaissance lines were also surveyed, R1 and R2 heading southeast and east respectively,
and line R3 heading southwest. The conductivity of Zone B is highest in the southeast part of the grid, in the vicinity of 4000N, Line 5800E.

It is uncertain what happens to Zone B to the west. A strong anomaly is not obtained on Line 4200E and so it is not certain if the conductor on line R3 is an isolated conductor or simply the extension of Zone B to the west.

Conductors 2 and 3

Conductors 2 and 3 are sub zones of higher conductivity within Zone B. Assuming an overall dimension of about 700 meters for Conductor 2, its conductance is estimated at about 75 mhos. It is open to the south and its depth is estimated at less than 75 meters. The shape of Conductor 3 is less well-defined and so no conductance estimate is made for it except to say that it appears to be of the same order as that of Conductor 2.

Conductor 4

Another conductor was located on reconnaissance line R3. It is not known if it represents the westerly extension of Zone B or an isolated conductor. More fill-in work would be required to determine this.

Conductor 5

Conductor 5 is on early time (low conductance) anomaly striking east-west in the northern part of the grid. It may be caused by a fault.

CONCLUSIONS

A 25 km UTEM electromagnetic survey was conducted on a portion of the FIN Claims in 1982. Large regional conductive zones and isolated conductors were located. Drilling is recommended to identify the source material for these anomalies.

Report by: Jules J. Lajoie
Ph.D., P.Eng.

Approved for Release by: Jon A. Collins
Ph.D., P.Eng.
Distribution:

Mining Recorder, Whitehorse (2)

Cominco Exploration:
  Western District (1)
  Technical Support (1)
REFERENCES

Lamontagne, Y., 1975
Applying for Wideband Time Domain
EM Measurements in Mineral Exploration:
Doctoral Thesis, University of Toronto
Axis of a cross-over anomaly. The number indicates the latest anomalous channel.

Depth indicated by:  
S - Shallow  \(<30m\)  
M - Moderate  \((30-75m)\)  
D - Deep  \((>75m)\)

Axis of reversed cross-over anomaly produced when a small conductor dips at less than 70° towards the transmitter. In normal cross-over the positive response is towards the transmitter; reversed one, it is away from the transmitter.

Indicates a negative anomaly of width shown by the dash. The latest anomalous channel is shown. Can sometimes be confused with the negative part of a cross-over anomaly.

Outline of a transmitter loop.

Conductor axis located by cross-over anomalies with a conductance determination. The conductance is the interpreted conductivity \(\times\) thickness of the conductor in mhos (same as Siemens).

Only the principal cross-overs are indicated.
DATA SECTIONS

D.S. 1 to D.S. 19
Area FIN 27-JULY-82 Cominco operator JUL&AOH freq(hz) 30.974
Loopno 0001 Line 4200E component Hz secondary Ch 1 normalized

DS 1
Area FIN 27-Jul-82 COMINCO operator JU&AOH freq(hz) 30.974
Loopno 0001 Line 4400E component Hz secondary Ch 1 normalized

DS 2
Area FIN 27-Jul-82  COMINCO  operator JUL&AOH  freq(hz) 30.974
Loopno 0001  Line 4400E component Hz secondary Ch l normalized
Area FIN 27-Jul-82 COMINCO operator JLL&AOH freq(hz) 30.974
Loopno 0001 Line 4400E component Hz secondary Ch 1 normalized

DS 2b
FCN 26-JULY-82
Line 4600E component Hz secondary Ch I normalized
Loop no 000

FIN CREEK
MAIN CAMP
Area FIN 26-JULY-82 Cominco operator JJI&AOH freq(kHz) 38.974
Loopno 0001 Line 4600E component Hz secondary Ch I normalized

DS 3a
Area FIN 26-JULY-82 Cominco operator JJL&AOH freq(hz) 30.974
Loopno 0001 Line 4800E component Hz secondary Ch 1 normalized
Area FIN 26-JULY-82 Cominco operator JIL&AOH freq(hz) 38.974
Loopno 0001 Line 4900E component Hz secondary Ch 1 normalized
DS 4b
Area FIN 25-JULY-82 Cominco operator JUL&ACH freq(hz) 30.974
Loopno 0001 Line 5000E component Hz secondary Ch I normalized
Area FIN 25-JULY-82 Cominco operator JJL&AOH freq(hz) 30.974
Loopno 0001 Line 5000E component Hz secondary Ch 1 normalized

DS 5b
Area FIN 28-JULY-82 Cominco operator J.J.A.OH freq(hz) 30.974
Loopno 0002 Line 5200E component Hz secondary Ch 1 normalized

DS 6a
Area FIN 29-JULY-82 (RESURVEY) Cominco operator JUL&AOH freqs(hz) 30.9
Loopno 0082 Line 5200E component Hz secondary Ch 1 normalized

DS 6d
Area FIN 29-JULY-82 Coquinco operator JULAEOH freq (Hz) 30.974
Loopno 0002 Line 5400E component Hz secondary primary field normalized

DS 7b
Area FIN 29-JULY-82 Cominco operator JUL&AOH freq(hz) 30.974
Loopno 0002 Line 5400E component Hz secondary Ch I normalized

DS 7c
Area FIN 29-JULY-82 Cominco operator JJJ&AOH freq(hz) 30.974
Loopno 0002 Line 5400E component Hz secondary Ch 1 normalized

DS 7d
Area FIN 30-July-82 Cominco operator JKL&AOH freq(hz) 30.974
Loopno 0002 Line 5600E component Hz secondary primary field normalized

DS 8b
Area FIN 30-JULY-82 Cominco operator JKL&AOH freq(hz) 30.974
Loopno 0002 Line 5800E component Hz secondary Ch1 normalized

DS 9a
Area FIN 30-JULY-82 Cominco operator JJJ&ACH freq(hz) 30.974
Loopno 0002 Line 5800E component Hz secondary primary field normalized

DS 9b
Area FIN 30-JULY-82  Cominco  operator JU&AOH  freq(hz) 30.974
Loopno 0002 Line 5800E component Hz secondary Ch 1 normalized
Area FIN 2-AUG-82 Cominco operator JUL&AOH freq (Hz) 30.974
Loopno 0003 Line 4200E component Hz secondary Ch normalized

DS 10
Area FIN 2-AUG-82 Cominco operator JUL&AOH freq(hz) 30.974
Loopno 0003 Line 4200E component Hz secondary ChI normalized

DS 10a
Area FIN 2-AUG-82  Cominco  operator JHL&ACI freq(hz) 30.974
Loopno 0003  Line 4600E component Hz secondary Ch 1 normalized
Area FIN 3-AUG-82  Cominco  operator JHL&AOH  freq(hz) 30.974
Loopno 0003  Line 4200E component Hz secondary Ch 1 normalized

DS 12
Area FIN 3-AUG-82 Cominco operator JJL&AOH freq(hz) 30.974
Loopno 0003 Line 4200E component Hz secondary Ch 1 normalized

DS 12a
Area FIN 3-AUG-82  Cominco operator JUL&AOH freq(hz) 30.974
Loopno 0003 Line 4208E component Hz secondary Ch1 normalized

DS 12b
Area FIN 3-AUG-82  Cominco  operator JUL&AOH  freq(hz) 30.974
Loopno 0004  Line 5000E component Hz secondary Ch 1 normalized

DS 13
Area FIN 3-AUG-82 Cominco operator JUL&AOH freq(hz) 30.974
Loopno 0004 Line 5000E component Hz secondary Ch 1 normalized

DS 13a
Area FIN 3-AUG-82  Cominco  operator JIL&AOH  freq(hz) 30.974
Loopno 0004  Line 5000E  component Hz secondary Ch I normalized

DS 13b
Area FIN 4-aug-82 COMINCO operator JH & AOH freq(hz) 30.974
Loopno 8004 Line 5000E component Hz secondary Ch 1 normalized

DS 14a
Area FIN 4-AUG-82 Cominco operator JU&AOH freq(hz) 30.974
Loopno 0004 Line 5000E component Hz secondary Ch 1 normalized

DS 14c
Area FIN 7-AUG-82  Cominco  operator JKL&AOH  freq(hz) 30.974
Loopno 0004  Line 5400E component Hz secondary  Ch 1 normalized

DS 15
Area FIN 6-AUG-82 RECONNAISSANCE Cominco operator JULIAOH freq(ths) 30°
Loopno 0004 Line 1NE component Hz secondary Ch 1 normalized

DS 17c
Area FIN 6-AUG-82 RECONNAISSANCE COMINCO operator JU&AOH freq(hz) 30°
Loopno 0004 Line 2N component Hz secondary Ch 1 normalized
Area FIN 6-AUG-82 RECONNAISSANCE COMINCO operator JULIAOH freq(hz) 30°
Loopno 0004 Line 2N component Hz secondary Ch l normalized

DS 18a
Area FIN 6-AUG-82 RECONNAISSANCE COMINCO operator JJL&AOH freq(hz) 30°
Loopno 0004 Line 2N component Hz secondary primary field normalized
Area FIN 6-AUG-82 RECONNAISSANCE COMINCO operator JUL&AOH freq(hz) 30'
Loopno 0004 Line 2N component Hz secondary Ch 1 normalized
DS IBc
Area FIN 6-AUG-82 RECONNAISSANCE COMINCO operator JJL & AOH (freqHz) 30'
Loop no 0004 Line 2N component Hz secondary Ch 1 normalized

DS 18d
Area FIN 7-AUG-82 Cominco operaor JU&AOH freq(hz) 30.974
Loopno 0003 Line 3SE component Hz secondary Ch I normalized

DS 19a
Area FIN 7-AUG-82 Cominco operator JUN&AOH freq(hz) 30.974
Loop no 0003 Line 3SE component Hz secondary Ch 1 normalized

DS 19b
IN THE MATTER OF THE YUKON MINERAL ACT
AND IN THE MATTER OF A GEOPHYSICAL PROGRAMME
CARRIED OUT ON THE FIN CLAIMS
LOCATED 185 KM. N. OF WATSON LAKE
IN THE YUKON TERRITORY, MORE PARTICULARLY
N.T.S. 105-H/12

STATEMENT

I, Jules J. Lajoie of the City of West Vancouver in the Province of British Columbia, make oath and say:

1. THAT I am employed as a geophysicist by Cominco Ltd. and, as such have a personal knowledge of the facts to which I herein-after depose;

2. THAT annexed hereto and marked as "Exhibit A", to this statement is a true copy of expenditures incurred on a geophysical survey on the FIN mineral claims;

3. THAT the said expenditures were incurred between July 23rd and August 9th, 1982, for the purpose of mineral exploration on the above-mentioned claims.

Jules J. Lajoie, Ph.D., P.Eng.
Geophysicist, Cominco Ltd.
EXHIBIT "A"

STATEMENT OF EXPENDITURES (1982)

FIN PROPERTY

FIN CLAIMS: 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 39, 40, 41, 43, 224, 225, 226, 274, 280 and 282

SALARIES

a) Dr. J.J. Lajoie, Senior Geophysicist, Cominco Ltd., 18 days @ $245/day $ 4,410.00
b) A. P. O'Hara, Summer Geophysicist, Cominco Ltd., 18 days @ $135/day 2,430.00
c) G. E. Lillos, Assistant, Cominco Ltd., 10 days @ $135/day 1,350.00 $ 8,190.00

EQUIPMENT RENTAL - UTEM

Travel & Standby 7 days @ $75/day 525.00
Operating 11 days @ $150/day 1,650.00 2,175.00

OPERATING DAY CHARGES

11 days @ $250/day 2,750.00

EXPENSE ACCOUNTS

J.J. Lajoie $ 584.50
A.P. O'Hara (incl. freight) 918.25
G.E. Lillos 516.80 2,019.55

TOTAL $ 15,134.55

I certify this to be a true statement of expenditures for the UTEM geophysical survey on the FIN claims in 1982.

Jules J. Lajoie, Ph.D., P.Eng.
Geophysicist, Cominco Ltd.
CERTIFICATION

I, Jules J. Lajoie, of 5655 Keith Road, in the City of West Vancouver, in the Province of British Columbia, do hereby certify that:

1. I graduated from the University of Ottawa in 1968 with an Honours B.Sc. in Physics, from the University of British Columbia in 1970 with a M.Sc. in Geophysics, and from the University of Toronto in 1973 with a Ph.D in Geophysics.

2. I am a registered member of the Association of Professional Engineers of the Province of British Columbia, the Society of Exploration Geophysicists, and the British Columbia Geophysical Society.

3. I have been practicing my profession for the past nine years.

Jules J. Lajoie, Ph.D., P.Eng.
Geophysicist, Cominco Ltd.