

DIAMOND DRILL CORE ASSAY AND GEOLOGICAL  
ASSESSMENT REPORT FOR SPROG MINERAL CLAIM  
(#09997) - HOBEO CREEK PROPERTY

MINERAL RESOURCES DEPARTMENT  
ASSESSMENT REPORT  
**9162**  
NO.

ATLIN MINING DIVISION  
NTS SHEET 104M - 1 (E $\frac{1}{2}$ )  
59° 14' N - 134° 07' W

FOR NORANDA EXPLORATION COMPANY, LIMITED (NO PERSONAL LIABILITY)

BY : G.C. MACDONALD

APRIL , 1981

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INTRODUCTION

The Sprog Mineral Claim (#09997) was staked as the Hoboe Creek Property for Noranda Exploration Company Limited (No Personal Liability), on April 4th, 1979, by R. MacArthur, and G. MacDonald. The claim was recorded April 23, 1979, in Atlin.

Assessment work for 1980 consisted of an examination of previously drilled diamond drill core and re-sampling of some sections. This examination was made for Noranda Exploration by K. Grapes, geologist, and R. MacIntyre, geological technician, working under the supervision of G. MacDonald. All are employees of Noranda Exploration Company, Limited.

The core from a deep diamond drill hole drilled in 1973 on the Hoboe Creek property (then held by Hobo Creek Coppermines Ltd.) was acquired by Noranda Exploration from Whitehorse Copper Mines (the last owner of the property) in March 1981. The core was restored and examined in Noranda Exploration's warehouse in Whitehorse, Yukon. A drill log made by Whitehorse Copper Mines was confirmed and amended and some additional sampling of the core carried out in April 1981 by Noranda Exploration personnel.

The purpose of this technical study was to examine the core for granitic rock alteration and to test for any significant tungsten or precious metal content.

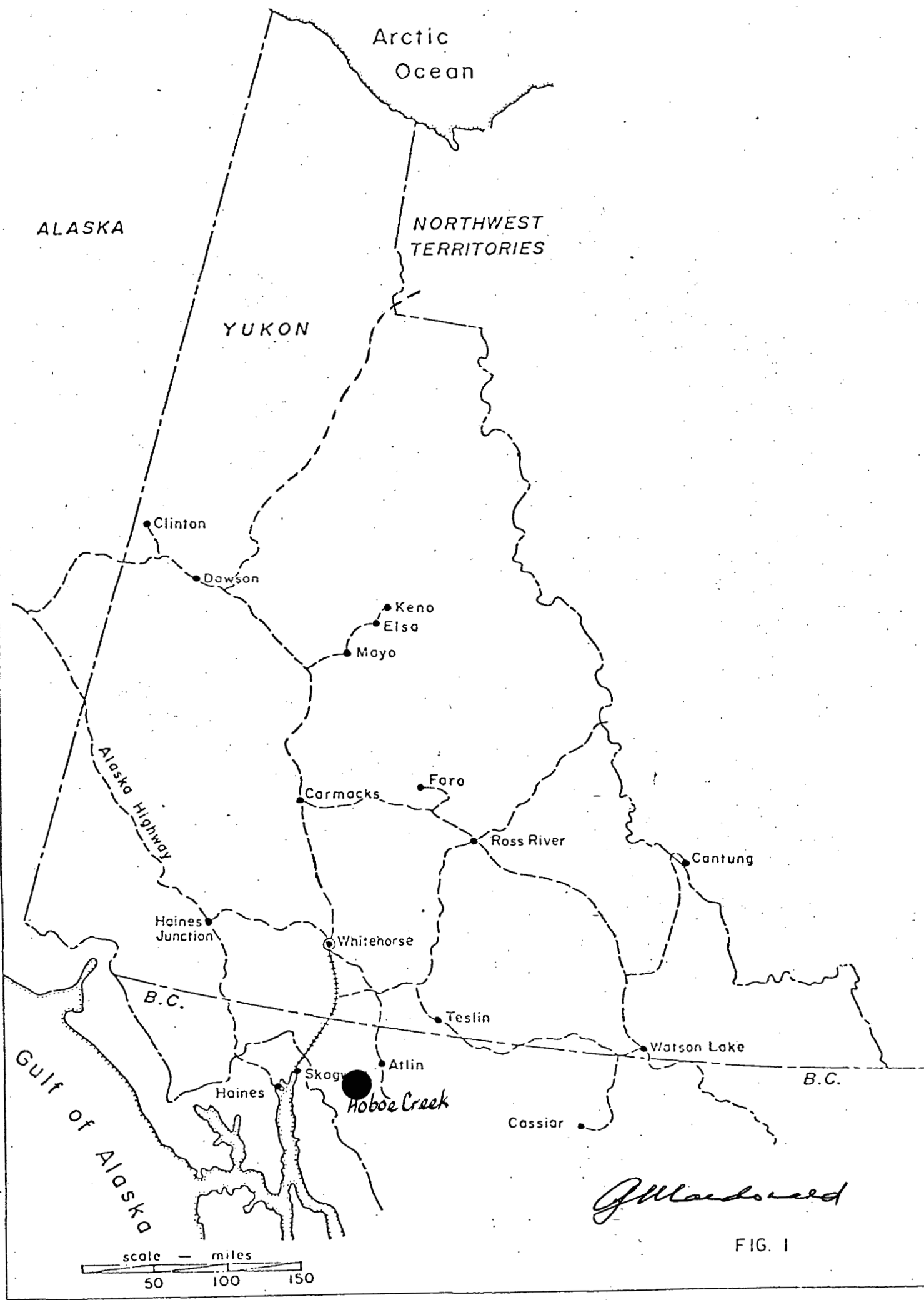
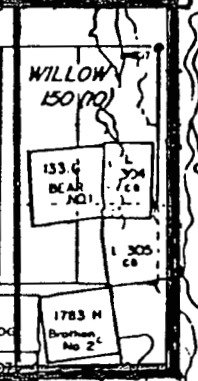


FIG. 1

BC 5624

|                    |                    |                   |                    |                    |                     |                     |
|--------------------|--------------------|-------------------|--------------------|--------------------|---------------------|---------------------|
| 5458 P<br>MOLLY 21 | 5434 N<br>MOLLY 6  | 5435 N<br>MOLLY 6 | 5442 R<br>MOLLY 23 | 5444 P<br>MOLLY 27 | 5520 R<br>MOLLY 28  | 5522 R<br>MOLLY 31  |
| 5440 N<br>MOLLY 1  | 5437 N<br>MOLLY 8  | 5436 N<br>MOLLY 7 | 5441 P<br>MOLLY 24 | 5443 P<br>MOLLY 26 | 5445 P<br>MOLLY 28  | 5521 R<br>MOLLY 32  |
| 5442 N<br>MOLLY 3  | 5439 N<br>MOLLY 10 | 5438 N<br>MOLLY 9 | 5448 N<br>MOLLY 15 | 5442 N<br>MOLLY 14 | 5444 N<br>MOLLY 11  | 5445 N<br>MOLLY 12  |
|                    |                    |                   | 5451 N<br>MOLLY 18 | 5450 N<br>MOLLY 17 | 5300 H<br>FAYE 5 F. | 5301 H<br>FAYE 6 F. |
|                    |                    |                   |                    | 5447 N<br>MOLLY 14 | 5446 N<br>MOLLY 13  | 5298 H<br>FAYE 3 F. |
|                    |                    |                   | 16396              | 16397              | 10288 H<br>FAYE 1   | 10297               |
|                    |                    |                   | 16394              | 16395              | 1637                | 1637                |
|                    |                    |                   | 16382              | 16383              | 1637                | 1637                |
|                    |                    |                   | 16390              | 16391              | 1637                | 1637                |
|                    |                    |                   | 16388              | 16389              | 1637                | 1637                |
|                    |                    |                   | 16386              | 16387              | 1636                | 1636                |
|                    |                    |                   | 16412              | 16413              | 1640                | 1640                |
|                    |                    |                   | 16418              | 16411              | 16404               | 16405               |

L.C.P. - Tag 0999  
SPROG-M.C.  
SS-3W  
15 UNITS



BC 5617

162

# ATLANTA RECREATION AREA

MT. CAPLICE

Hoboe

Staking Sketc  
SPROG-Clai  
NTS 104M/IE  
FIG. 2

Scale 1:50,000

BC 5617

138

136

PROPERTY LOCATION AND ACCESS

The Hoboe Creek property (Sprog Mineral Claim - #09997), is located 45 km southwest of Atlin, B.C., and 3.2 km south of Willison Bay (part of Lake Atlin). The claim is located at  $59^{\circ}14'N/134^{\circ}07'W$  on NTS sheet 105M-1 ( $E\frac{1}{2}$ ) and is accessible at present by helicopter from Atlin. Construction of land access would require a road around Willison Bay, with a link to the Whitehorse-Skagway highway via Warm River, Ben-My-Cree, Warm Creek and Teepee Creek to Canada Customs (Fraser) on the White Pass Railway.

PROPERTY CLIMATE AND PHYSIOLOGY

The Hoboe Creek property lies in a rugged part of the Boundary Range Mountains (the Chilkoot Range). Ice fields surround the area to the south and west, between Lake Atlin, Tagish Lake and the Pacific coast. Elevations range up to 2392 meters above sea level, with relief above the lake altitude averaging 1370 meters to the ridge tops. Valleys are typically glacier scoured U-shaped topography with steep sides and flat till and swamp in-filled bottoms.

The Hoboe Creek Valley is characterized by heavy snowfalls in winter and considerable rain and fog in summer (a consequence of its close proximity to the Chilkoot Range Icefield and Llewellyn Glacier).

Vegetation in the Hoboe Creek Valley is sparse and consists mostly of dense groves of swamp willow and alder intermingled with occasional stands of small (to 10cm diameter) black spruce on better drained slopes.

#### PROPERTY HISTORY

The Hoboe Creek property has had a long history of intermittent exploration. Between 1899 and 1918, development work was conducted by the Laverdier Group and included driving for adits (see Table 1 for descriptions). Three Crown granted claims (Lots 245 - 247) were issued in 1903 to the Laverdiers, and three (Lots 304 - 306) to John Caplice. Lots 245 - 247 were subsequently allowed to lapse. From 1918 to 1956 the property lay idle with minor prospecting done from time to time by H. Read and W.J. Hussellbee of Atlin, B.C. Bethlehem Copper Corporation purchased the property in 1956 and following geological investigation optioned the property to Cominco in 1964. Cominco drilled 154 meters in five holes before



abandoning the option. In 1969, the property was again optioned by Bethlehem, to Centex Mines Ltd., who drilled two short holes and transferred the option to Hobo Creek Coppermines. Rio Plata Mines apparently managed the exploration program for Hobo Creek Coppermines and ultimately drilled five short holes and one deep hole (321 meters). Following the last hole, the option with Bethlehem was dropped and subsequently any staked mineral claims expired. Whitehorse Copper Mines staked the ground not held by Bethlehem's Crown grants in 1976, and dropped it in 1979 following some basic geophysical exploration. (See Table 2 for a summary of exploration work).

#### PROPERTY GEOLOGICAL SUMMARY

The Hoboe Creek property is underlain by a lower Paleozoic assemblage of quartzite, gneiss and crystalline limestone ("marble") which has been intruded by an equigranular medium grained biotite granodiorite or quartz diorite. Along the contact with the intrusive, pelitic sediments have been altered to a grey-green hornfels (in part) and carbonates have formed a garnet-diopside  $\pm$ wollastonite.  $\pm$ serpentine,  $\pm$ quartz,  $\pm$ magnetite skarn, or have recrystallized to marble. Chalcopyrite and bornite ( $\pm$ valleriite) occur disseminated irregularly in various skarns, and chalcopyrite, with minor scheelite, occurs in fractures in moderately altered granodiorite phases. There is a suggestion that a multiple phase intrusive event has occurred at Hoboe Creek, with a younger granitic pulse modifying a slightly older phase of similiar bulk composition.

TABLE NO. 1

SUMMARY OF HOBEO CREEK UNDERGROUND DEVELOPMENT

|       | ADIT NAME    | LENGTH (M) | APPROX. LOCATION            | RESULT  | STATUS |
|-------|--------------|------------|-----------------------------|---|--------|
| NO. 1 | "FRENCH"     | 60         | 125M North of<br>DDH - H1   | 27M @ 1.2%Cu                                  | Open   |
| NO. 2 | "HOLY CROSS" | 12         | 500M North of<br>Adit No. 1 | Cut Massive<br>Pyrrhotie                      | Caved  |
| NO. 3 | "SOUTH"      | 68         | 330M South of<br>Adit No. 1 | Limestone;<br>stopped short<br>of contact     | Open   |
| NO. 4 | "FREE GOLD"  | 15         | 330M South of<br>Adit No. 3 | Driven on quartz<br>vein in granod-<br>iorito | Caved  |

TABLE 2SUMMARY OF EXPLORATION WORK AT HOBOE CREEK PROPERTY - TO DATE

| YEARS     | OPERATOR(S)  | TYPE OF WORK  | RESULTS   |
|-----------|--|---|---|
| 1899-1918 | Laverdier Bros.<br>John Caplice                              | See Table 1   | See Table 1   |
| 1918-1956 | H. Read<br>W. Hussellbee                                     | Prospecting and Test Pitting  | Unknown   |
| 1956-1964 | Bethlehem Copper Corp.                                       | Geology   | Unknown   |
| 1964-1968 | Cominco Ltd.   | Magnetometer Survey<br>Geological Survey<br>5 DDH (505')                                | Anomaly<br>Permissive<br>One Good Hole<br>Two Lost Holes        |
| 1969-1973 | Centex Mines/<br>Hobo Creek Copper Mines/<br>Rio Plate Mines | Air Mag Survey 1969<br>Two Holes 1969 (33M)<br>Five Holes 1974 (57M)<br>One Hole (321M) | Indeterminate<br>Good Results<br>Unknown<br>Good Mineralization |
| 1976-1979 | Whitehorse Copper Mines                                      | Magnetometer Survey<br>Geological Survey  | Encouraging<br>Encouraging                                      |

DRILL CORE ASSESSMENT

Core from Hobo Creek Coppermines deep drill hole (DDH-H1) was removed from Whitehorse Copper Mines yard to the Noranda Exploration Company, Whitehorse, warehouse. The core was restored to a useable state and logging originally done by A. Hureau, Exploration Geologist for Whitehorse Copper, was confirmed. Occassioned modifications, as neccessary, were made to the logs.

The core was tested with an ultra-violet lamp for tungsten content (see Table 3 - Tungsten Occurrance note). Some additional sampling was done with assay tests run for gold, silver, copper and sometimes tungsten (see Table 5 in the Appendix - Table of Assay Results, Hoboe Creek Property). The appendixd drill logs will summarize the drill core project (see Apprndix 4 - Hoboe Creek Drill Logs for DDH - H1).

TABLE NO. 3DISTRIBUTION OF  
FRACTURE-FILLED SCHEELITE  
DEPTH IN METERS

59.44  
66.45  
75.29  
82.61  
92.35  
104.24  
105.46  
107.59  
151.49  
153.01  
173.13-174.65  
175.26-175.41  
184.04  
185.93  
200.86  
203.61-204.83  
205.44-205.74  
208.18  
208.79  
210.31  
210.62  
212.45  
213.59  
214.58  
216.41  
216.71

(Cont. Next Page)

DISTRIBUTION OF FRACTURE-FILLED SCHEELITE  
DEPTH IN METERS (Cont.)

218.54

219.76

238.35

238.96

246.28

251.46

261.52

285.59

289.10

308.76

311.81

314.25

INTERPRETATION OF ASSAY RESULTS

Assay results for copper, molybdenum, tungsten and precious metals are not directly correlative, will be discussed separately below.

i ) Copper - Molybdenum Results

Assays received for copper in 1980 confirm both earlier assays and visual estimates of copper content (by Noranda personnel and others) made for Hoboe Creek Diamond Drill Hole H1. An overall average content for copper in well-fractured, moderately altered granitic rock from 0-175.4 meters as determined in 1980 work is 0.27% Cu. The skarn zone from intersected from 175.4 - 301.6 meters contains sections of good copper mineralization. From 173.28 to 179.22 (5.94 meters), for example, averages 1.6% Cu. and from 186.23 - 194.01 (7.78 meters) averages 1.4% Cu. for remaining core. Some portions of core in this skarn section are missing (for example, from 187.77 to 190.81 meters) except for minor amounts of core chips. As a result, an overall assay average cannot at this time be competently calculated for all the mineralized section. Rather, an indication of potential metal content is all that can be achieved.

Molybdenite occurs sporadically throughout the core as minor rosette disseminations in altered granodiorite and in small fracture-filling quartz veinlets. Several assays run to test for an average grade of molybdenum (J1351-56) indicate that the grade of this metal is very low, with results in the range of 0.001-0.002% MoS<sub>2</sub>.

ii) Tungsten

Scheelite was observed by the ultra-violet lamping technique to occur commonly in small quartz in-filled fractures in granitic rocks in association with chalcopyrite.

Four samples were assayed to test for tungsten ( $WO_3$ ) content in sections where the presence of scheelite was recognized. These assays were as follows :

|                        |              |
|------------------------|--------------|
| 40.08 - 41.61 meters   | 0.03% $WO_3$ |
| 41.76 - 43.28 meters   | 0.02% $WO_3$ |
| 53.19 - 54.71 meters   | 0.05% $WO_3$ |
| 173.28 - 174.80 meters | 0.08% $WO_3$ |

These results indicate that the Hoboe Creek prospect has an unexpectedly high tungsten content.

iii) Precious Metal Content

Samples assayed for gold and silver content returned consistently low results. Only one gold assay (J1373) exceeded 0.01 ounce per ton, and most were in the 0.00 X range. Silver also assayed an order of magnitude below economic interest, with the best value reaching only 0.54 ounces per ton. Most silver assays were under 0.10 ounces per ton. Gold assays showed no noticeable correlation with copper content, whereas silver assays generally correlated well with copper content.



CONCLUSIONS AND RECOMMENDATIONS

The Hoboe Creek property (Sprog Mineral Claim) is a significant copper-tungsten occurrence. The intrusive environment represents a potential host for a larger volume-low grade copper-tungsten deposit. This may represent one particular metallogenic event of the same granitic phase which emplaced the molybdenum occurrence 3 km north west in similar granitic rocks.

A second type of metal deposit present at Hoboe Creek is represented by a high-grade copper bearing skarn occurrence dipping underneath the intrusive body. The relationship between skarn mineralization in Adit No. 1 and DDH-H1 is uncertain but indicates the distinct possibility of significant down-dip skarn development of the sedimentary sequence (ie. the sedimentary rock package is not cut off shortly below surface by an easterly dip of the granite-sediment contact).

The following recommendations would test the economic significance of the two type of mineral occurrence recognized at Hoboe Creek.

i ) Phase 1

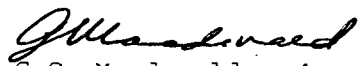
- a) A detailed magnetometer and geological survey should be conducted to trace the granite-sediment contact to the southeast;
- b) The dump of Adit No. 2 should be lamped to test for tungsten content in the massive pyrrhotite; and
- c) The granitic rock should be mapped to recognize alteration phases, mineralization and quartz veining.

ii) Phase 11

- a) Diamond drilling will be required to further assess the skarn environment between Adit No. 1 and the lower portion of DDH-H1.
- b) Phase 1 will probably develop additional targets requiring drill testing.

SUBMITTED BY :

NORANDA EXPLORATION COMPANY LIMITED  
(NO PERSONAL LIABILITY)

  
G.C. Macdonald  
DISTRICT GEOLOGIST (YUKON)

A P P E N D I C I E S



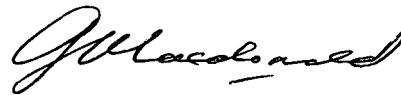
A P P E N D I X No. 1.

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STATEMENT OF QUALIFICATIONS

I, G. MACDONALD, DO HEREBY CERTIFY THAT :

- 1) I am a graduate from the University of British Columbia, with degrees in Economics (Bachelor of Arts), and Geology (Bachelor of Science);
- 2) I am a member of the Canadian Institute of Mining and Metallurgy ;
- 3) I have been employed by Noranda Exploration Company Limited (No Personal Liability) since May 1976, and have represented the Company as Yukon District Geologist since 1978.



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G. MACDONALD

STATEMENT OF QUALIFICATIONS

I, KATHRYN J. GRAPES, OF THE CITY OF WHITEHORSE, IN THE  
YUKON TERRITORY, DO HEREBY CERTIFY THAT :

- 1) I have been employed as a Geologist by Noranda Exploration  
Company Limited (No Personal Liability) since April 1, 1981.
- 2) I am a graduate of the University of Western Ontario with a  
Bachelor of Arts degree in Geology, and a Certificate of  
Honors equivalent.
- 3) I am a member of the Canadian Institute of Mining and  
Metallurgy.

  
K.J. GRAPES

A P P E N D I X No. 2

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NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

PROJECT HOBEO CREEK DATE APRIL, 1981  
TYPE OF REPORT DIAMOND DRILL LOG

a) Wages:

No. of Days 6  
Rate per Day \$ 106.21  
Dates From: April 1981  
Total Wages 6 x \$ 106.21 \$ 637.26

b) Food and Accomodation:

No of days  
Rate per day \$  
Dates From:  
Total Cost x \$

c) Transportation:

No of days  
Rate per day \$  
Dates From:  
Total Cost X \$

d) Instrument Rental:

Type of Instrument  
No of days  
Rate per day \$  
Dates From:  
Total Cost X \$

Type of Instrument  
No of days  
Rate per day \$  
Dates From:  
Total Cost X \$



|  |            |                   |
|--|------------|-------------------|
| f) Analysis<br>(See attached schedule) |            | \$ 738.00         |
| g) Cost of preparation of Report       |            |                   |
| Author                                 |            |                   |
| Drafting + Typing                      |            | 100.00            |
| Typing                                 |            |                   |
| h) Other:                              |            |                   |
|  |            | <hr/>             |
|  | TOTAL COST | <u>\$1,475.26</u> |

Total Cost

|                   |   |  |
|-------------------|---|--|
| e) Unit costs for |   |  |
| No of days        |   |  |
| No of units       |   |  |
| Unit costs        | / |  |
| Total Cost        | x |  |

A P P E N D I X   N O . 3 .

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19 CORE

## NORANDA EXPLORATION COMPANY, LIMITED

4-13

N.T.S. 109 MIE

PROPERTY HOROE CREEK HOLE # 1DATE APRIL 3/81  
APRIL 6/81

## SAMPLE REPORT

| LE NO. | LOCATION & DESCRIPTION | TYPE    | WIDTH | ASSAYS |    |    |    |    |  | SAMPLED BY |
|--------|------------------------|---------|-------|--------|----|----|----|----|--|------------|
|        |                        |         |       | Cu     | Ag | Au | Mo | Wg |  |            |
| J1351  | 70-75' 1/4 CORE        | AQ CORE | 5'    | ✓      | ✓  | ✓  | ✓  |    |  |            |
| 1352   | 119-124' 1/4 CORE      | AQ CORE | 5'    | ✓      | ✓  | ✓  | ✓  |    |  |            |
| 1353   | 126-131' 1/4 CORE      | "       | "     | ✓      | ✓  | ✓  | ✓  |    |  |            |
| 1354   | 131.5-136.5 1/4 CORE   | "       | "     | ✓      | ✓  | ✓  | ✓  | ✓  |  |            |
| 1355   | 137-142 1/4 CORE       | "       | "     | ✓      | ✓  | ✓  | ✓  | ✓  |  |            |
| 1356   | 142.5-147.5 1/4 CORE   | "       | "     | ✓      | ✓  | ✓  | ✓  |    |  |            |
| 1357   | 169-174 1/4 CORE       | AQ CORE | 5'    | ✓      | ✓  | ✓  |    |    |  |            |
| 1358   | 174.5-179.5 1/4 CORE   | "       | "     | ✓      | ✓  | ✓  |    | ✓  |  |            |
| 1359   | 284-289 1/4 CORE       | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1360   | 296-301 1/2 CORE       | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1361   | 495-500' 1/2 CORE      | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1362   | 484-489 1/2 CORE       | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1363   | 502-507' 1/2 CORE      | AQ CORE | 5'    | ✓      | ✓  | ✓  |    |    |  |            |
| 1364   | 507.5-512.5 1/2 CORE   | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1365   | 563-568 1/2 CORE       | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1366   | 568.5-573.5 1/2 CORE   | "       | "     | ✓      | ✓  | ✓  |    | ✓  |  |            |
| 1367   | 573.5-578.5 1/2 CORE   | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1368   | 578-583 1/2 CORE       | "       | "     | ✓      | ✓  | ✓  |    |    |  |            |
| 1370   | 583-588 1/2 CORE       | AQ CORE | 5'    | ✓      | ✓  | ✓  |    |    |  |            |

29 core

NORANDA EXPLORATION COMPANY, LIMITED

#4-15

N.T.S. 104 131E

PROPERTY Hudson Lake

DATE 1956

SAMPLE REPORT

| LE NO. | LOCATION & DESCRIPTION | TYPE   | WIDTH | ASSAYS |    |    |  |  |  | SAMPLED BY |           |
|--------|------------------------|--------|-------|--------|----|----|--|--|--|------------|-----------|
|        |                        |        |       | Ca     | Mg | Al |  |  |  |            |           |
| J1371  | 603 - 608 feet         | ALGORE | 5'    | ✓      | ✓  | ✓  |  |  |  |            | K.S. ERIC |
| 1372   | 611 - 616'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1373   | 626 - 631'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1374   | 631.5 - 636.5'         | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1375   | 653 - 658'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
|        |                        | "      | "     |        |    |    |  |  |  |            |           |
|        |                        | "      | "     |        |    |    |  |  |  |            |           |
| P1701  | 663 - 668'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1702   | 672 - 677'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1703   | 685 - 690'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1704   | 715 - 720'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1705   | 735 - 740 ft.          | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1706   | 745 - 750'             | ALGORE | 5'    | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1707   | 760 - 765'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1708   | 772 - 777'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1709   | 790 - 795'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1710   | 795 - 800'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1711   | 822 - 827'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1712   | 843 - 848'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1713   | 873 - 878'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1714   | 896 - 901'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1715   | 917 - 922'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            |           |
| 1716   | 961 - 966'             | "      | "     | ✓      | ✓  | ✓  |  |  |  |            | ✓         |



A P P E N D I X N O . 4 .

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NORANDA EXPLORATION COMPANY, LIMITED

|                   |                     |              |                      |                 |                 |
|-------------------|---------------------|--------------|----------------------|-----------------|-----------------|
| Collared 0.91 m.  | Completed 320.65 m. | Core Size AQ | Property Hoboe Creek | Project No 1019 | NTS No. 104 M 1 |
| FIELD COORDINATES |                     |              | SURVEYED COORDINATES |                 |                 |
| Lat.              | Elev.               | Dip -80° W   | Lat.                 | Elev.           | Dip             |
| Dep.              | Depth 320.65m.      | Bearing      | Dep.                 | Depth           | Bearing         |
|                   |                     |              | Sheet 1 of 6         |                 |                 |
|                   |                     |              | Hole No. 1.          |                 |                 |

| meters | Rec'y | Graphic Log | Description   | % Sulp. | Est. Grade | Sample No.  | Cu%  | Ag opt. | Au opt. | Mo %  | W <sub>3</sub> % |
|--------|-------|-------------|---|---------|------------|-------------|------|---------|---------|-------|------------------|
| 10.06  |       |             | Pink granite, abundant k-spar   |         |            |             |      |         |         |       |                  |
| 17.07  |       |             | Fine grained dark gray/green basic dyke   |         |            |             |      |         |         |       |                  |
| 76.20  |       |             | Pink granite abundant k-spar looks like mainly fair-good coring, granite is equigranular with tendency to be foliated in places; some light green chloritic alteration, fine grained chalcopryrite widespread traces molybdenite, small xtals pyrite, minor scheelite in fractures. |         |            |             |      |         |         |       |                  |
|        |       |             |   |         |            | 21.34-22.86 |      |         |         |       |                  |
|        |       |             |   |         |            | J 1351      | 0.05 | 0.06    | 0.004   | 0.001 |                  |
|        |       |             | traces pyrite possible molybdenite and scheelite  |         |            | 36.27-37.80 |      |         |         |       |                  |
|        |       |             |   |         |            | J 1352      | 0.10 | 0.04    | 0.002   | 0.001 |                  |
|        |       |             |   |         |            | 38.40-39.93 |      |         |         |       |                  |
|        |       |             |   |         |            | J 1353      | 0.14 | 0.02    | 0.002   | 0.001 |                  |
|        |       |             | scheelite in fractures  |         |            | 40.08-41.61 |      |         |         |       | 0.03             |
|        |       |             |   |         |            | J 1354      | 0.15 | 0.04    | 0.003   | 0.002 |                  |
|        |       |             | 41.45, 42.06, 44.20, 44.81, 52.73, 55.47, 56.69, traces grained chalcopryrite; 55.34-54.25, 59.44, 66.45, 75.29, traces scheelite   |         |            |             |      |         |         |       |                  |
|        |       |             |   |         |            | 41.76-43.28 |      |         |         |       |                  |
|        |       |             |   |         |            | J 1355      | 0.23 | 0.04    | 0.002   | 0.002 | 0.02             |
|        |       |             |   |         |            | 43.43-44.96 |      |         |         |       |                  |
|        |       |             |   |         |            | J1356       | 0.46 | 0.06    | 0.002   | 0.002 |                  |
|        |       |             |   |         |            | 51.51-53.04 |      |         |         |       |                  |
|        |       |             |   |         |            | J 1357      | 0.25 | 0.04    | 0.001   |       |                  |
|        |       |             | dyke or alteration zone with very fine grained pyrite, chalcopryrite and scheelite  |         |            | 53.19-54.71 |      |         |         |       |                  |
|        |       |             |   |         |            | J 1358      | 0.42 | 0.08    | 0.001   |       | 0.05             |
|        |       |             | traces molybdenite, scheelite at 66.75 m.   |         |            |             |      |         |         |       |                  |

NORANDA EXPLORATION COMPANY, LIMITED

| Collared          |       |             | Completed  |         |  | Core Size            |  |       | Property    |            |            | Project No      |         |        | NTS No. |                  |  |
|-------------------|-------|-------------|--|---------|--|----------------------|--|-------|-------------|------------|------------|-----------------|---------|--------|---------|------------------|--|
|                   |       |             |  |         |  |                      |  |       | Hoboe Creek |            |            | 1019            |         |        | 104 M L |                  |  |
| FIELD COORDINATES |       |             |  |         |  | SURVEYED COORDINATES |  |       |             |            |            | Sheet 2 of 6    |         |        |         |                  |  |
| Lat.              |       | Elev.       |  | Dip     |  | Lat.                 |  | Elev. |             | Dip        |            | Hole No.        |         |        |         |                  |  |
| Dep.              |       | Depth       |  | Bearing |  | Dep.                 |  | Depth |             | Bearing    |            |                 |         |        |         |                  |  |
| meters            | Rec'y | Graphic Log | Description  |         |  |                      |  |       | % Sulp.     | Est. Grade | Sample No. | Cu <sub>g</sub> | Ag. opt | Au opt | Mo%     | W <sub>3</sub> % |  |
| 170.99            |       |             | Pink and white granite, less k-spar than previous section - disseminated fine grained chalcopurite |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 85.65, 103.02, 107.59, 117.65, 121.92, 122.23, 130.76-137.77                                       |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 148.74, 152.40, 154.69, 106.63; disseminated chalcopurite  |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 88.70, 96.01, 103.63, 121.92, 130.76-137.77; scheelite in fractures                                |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 82.60, 92.35, 104.24, 105.46, 107.59, 151-49, 153.01.  |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 86.56-88.09  |         |  |                      |  |       |             |            | J 1359     | 0.02            | 0.02    | 0.001  |         |                  |  |
|                   |       |             | 90.22-91.75  |         |  |                      |  |       |             |            | J 1360     | 0.04            | 0.02    | 0.001  |         |                  |  |
|                   |       |             | 113.39-114.61 fault gravel   |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 141.73-144.78 jointed and broken   |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 147.52-149.05  |         |  |                      |  |       |             |            | J 1362     | 0.14            | 0.04    | 0.001  |         |                  |  |
|                   |       |             | 150.88-152.40  |         |  |                      |  |       |             |            | J 1361     | 0.33            | 0.14    | 0.001  |         |                  |  |
|                   |       |             | 153.01-154.53  |         |  |                      |  |       |             |            | J 1363     | 1.22            | 0.30    | 0.001  |         |                  |  |
|                   |       |             | 154.69-156.21  |         |  |                      |  |       |             |            | J 1364     | 0.64            | 0.16    | 0.002  |         |                  |  |
|                   |       |             | 167.33-170.99 less quartz more diorite and disseminated chalcopurite                               |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
| 175.41            |       |             | Black magnetite ( 80%) diopside skarn with minor serpentine; small section strong chalcopurite     |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 173.74-174.04 abundant chalcopurite  |         |  |                      |  |       |             |            | J 1365     | 0.31            | 0.02    | 0.002  |         |                  |  |
|                   |       |             | 171.60-173.13  |         |  |                      |  |       |             |            |            |                 |         |        |         |                  |  |
|                   |       |             | 173.28-174.80  |         |  |                      |  |       |             |            | J 1366     | 0.24            | 0.12    | 0.006  |         | 0.08             |  |

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NORANDA EXPLORATION COMPANY, LIMITED

| Collared          |       |             | Completed   |         |  | Core Size            |  |       | Property Hoboe Creek |            |            | Project No 1019 |        |        | NTS No. 104 M 1 |                  |  |
|-------------------|-------|-------------|---|---------|--|----------------------|--|-------|----------------------|------------|------------|-----------------|--------|--------|-----------------|------------------|--|
| FIELD COORDINATES |       |             |   |         |  | SURVEYED COORDINATES |  |       |                      |            |            | Sheet 3 of 6    |        |        |                 |                  |  |
| Lat.              |       | Elev.       |   | Dip     |  | Lat.                 |  | Elev. |                      | Dip        |            | Hole No.        |        |        |                 |                  |  |
| Dep.              |       | Depth       |   | Bearing |  | Dep.                 |  | Depth |                      | Bearing    |            |                 |        |        |                 |                  |  |
| meters            | Rec'y | Graphic Log | Description   |         |  |                      |  |       | % Sulp.              | Est. Grade | Sample No. | Cu %            | Ag opt | Au opt | Mo %            | W <sub>3</sub> % |  |
|                   |       |             | 174.80-176.33   |         |  |                      |  |       |                      |            | J 1367     | 1.88            | 0.20   | 0.008  |                 |                  |  |
|                   |       |             | 176.17-177.70   |         |  |                      |  |       |                      |            | J 1368     | 1.64            | 0.20   | 0.005  |                 |                  |  |
|                   |       |             | 177.70-179.22   |         |  |                      |  |       |                      |            | J1370      | 2.30            | 0.24   | 0.009  |                 |                  |  |
| 181.97            |       |             | Magnetite (75%) skarn; abundant to very abundant chalcopyrite<br>(no visible hornite) good ground |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |
| 183.79            |       |             | Light green serpentinous skarn- broken core   |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |
|                   |       |             | 183.79-185.32   |         |  |                      |  |       |                      |            | J 1371     | 0.10            | 0.04   | 0.002  |                 |                  |  |
| 185.32            |       |             | Magnetite ( abundant ) skarn with traces chalcopyrite   |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |
| 186.23            |       |             | Dyke and skarn with traces chalcopyrite   |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |
| 193.24            |       |             | Black magnetite ( abundant ) skarn with disseminated<br>chalcopyrite                              |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |
|                   |       |             | 186.23-187.77   |         |  |                      |  |       |                      |            | J 1372     | 1.00            | 0.12   | 0.004  |                 |                  |  |
|                   |       |             | 190.81-192.33   |         |  |                      |  |       |                      |            | J 1373     | 2.20            | 0.20   | 0.012  |                 |                  |  |
|                   |       |             | 192.48-194.01   |         |  |                      |  |       |                      |            | J 1374     | 1.04            | 0.10   | 0.006  |                 |                  |  |
| 195.38            |       |             | Green and black magnetite serpentine skarn trace chalco   |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |
| 196.60            |       |             | Green talc serpentine skarn with chalcopyrite   |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |
| 200.25            |       |             | Magnetite serpentine skarn with chalcopyrite  |         |  |                      |  |       |                      |            |            |                 |        |        |                 |                  |  |

NORANDA EXPLORATION COMPANY, LIMITED

| Collared          |       |             | Completed  |  | Core Size |  | Property Hoboe Creek |         |            | Project No 1019 |      |         | NTS No. 104 M 1 |      |                  |
|-------------------|-------|-------------|--|--|-----------|--|----------------------|---------|------------|-----------------|------|---------|-----------------|------|------------------|
| FIELD COORDINATES |       |             |  |  |           |  | SURVEYED COORDINATES |         |            |                 |      |         | Sheet 4 of 6    |      |                  |
| Lat.              |       |             | Elev.  |  | Dip       |  | Lat.                 |         |            | Elev.           |      | Dip     |                 |      |                  |
| Dep.              |       |             | Depth  |  | Bearing   |  | Dep.                 |         |            | Depth           |      | Bearing |                 |      |                  |
| meters            | Rec'y | Graphic Log | Description  |  |           |  |                      | % Sulp. | Est. Grade | Sample No.      | Cu%  | Ag. opt | Au opt          | Mo % | W <sub>3</sub> % |
|                   |       |             | 199.03-200.56  |  |           |  |                      |         |            | J 1375          | 0.38 | 0.06    | 0.001           |      |                  |
| 206.35            |       |             | Serpentine diopside actinolite skarn with red k-spar and fine grained chalcopyrite   |  |           |  |                      |         |            |                 |      |         |                 |      |                  |
|                   |       |             | 202.08-203.61  |  |           |  |                      |         |            | P 1701          | 0.39 | 0.10    | 0.005           |      |                  |
|                   |       |             | 204.83-205.59 abundant chalcopyrite  |  |           |  |                      |         |            | P 1702          | 3.10 | 0.54    | 0.001           |      |                  |
| 212.75            |       |             | Diopside actinolite skarn fine grained chalcopyrite  |  |           |  |                      |         |            |                 |      |         |                 |      |                  |
|                   |       |             | 207.26-207.87 broken fault   |  |           |  |                      |         |            | P 1703          | 0.06 | 0.04    | 0.001           |      |                  |
| 301.60            |       |             | Red k-spar granite fine grained pyrite ( 1% ) green chloritized joints throughout - disseminated chalcopyrite @ 214.58, 222.81, 223.27, 230.28, 240.18 ( + quartz) 247.50 ( specks) 285.60, 285.90, 274.32 |  |           |  |                      |         |            |                 |      |         |                 |      |                  |
|                   |       |             | 217.93-219.46  |  |           |  |                      |         |            | P 1704          | 0.01 | 0.02    | 0.001           |      |                  |
|                   |       |             | 224.03-225.55  |  |           |  |                      |         |            | P 1705          | 0.01 | 0.02    | 0.001           |      |                  |
|                   |       |             | 227.08-228.60  |  |           |  |                      |         |            | P 1706          | 0.01 | 0.02    | 0.001           |      |                  |
|                   |       |             | 231.65-233.17  |  |           |  |                      |         |            | P 1707          | 0.01 | 0.02    | 0.001           |      |                  |
|                   |       |             | 236.37-236.53 fine grained dark grey basic dyke  |  |           |  |                      |         |            |                 |      |         |                 |      |                  |
|                   |       |             | 235.30-236.83  |  |           |  |                      |         |            | P 1708          | 0.01 | 0.02    | 0.001           |      |                  |
|                   |       |             | 237.74-239.27  |  |           |  |                      |         |            | P 1709          | 0.01 | 0.02    | 0.001           |      |                  |

DATE March 18, 1977

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NORANDA EXPLORATION COMPANY, LIMITED

| Collared          |       | Completed   |               | Core Size   |               | Property Hoboe Creek |         | Project No 1019 |            | NTS No.104 M 1 |        |              |     |       |
|-------------------|-------|-------------|---------------|---|---------------|----------------------|---------|-----------------|------------|----------------|--------|--------------|-----|-------|
| FIELD COORDINATES |       |             |               |   |               | SURVEYED COORDINATES |         |                 |            |                |        | Sheet 5 of 6 |     |       |
| Lat.              |       | Elev.       |               | Dip   |               | Lat.                 |         | Elev.           |            | Dip            |        | Hole No.     |     |       |
| Dep.              |       | Depth       |               | Bearing   |               | Dep.                 |         | Depth           |            | Bearing        |        |              |     |       |
| meters            | Rec'y | Graphic Log | Description   |   |               |                      | % Sulp. | Est. Grade      | Sample No. | Cu%            | Ag opt | Au opt       | Mo% | Wo 3% |
|                   |       |             | 248.87        | traces molybdenite and chlorite                           | 242.32-243.84 |                      |         | P 1710          | 0.01       | 0.02           | 0.001  |              |     |       |
|                   |       |             |               |   | 250.55-252.07 |                      |         | P 1711          | 0.01       | 0.02           | 0.001  |              |     |       |
|                   |       |             |               |   | 256.95-258.47 |                      |         | P 1712          | 0.03       | 0.02           | 0.001  |              |     |       |
|                   |       |             |               |   | 266.09-267.61 |                      |         | P 1713          | 0.01       | 0.02           | 0.001  |              |     |       |
|                   |       |             |               |   | 273.10-274.63 |                      |         | P 1714          | 0.05       | 0.04           | 0.001  |              |     |       |
|                   |       |             |               |   | 279.50-281.03 |                      |         | P 1715          | 0.01       | 0.02           | 0.001  |              |     |       |
|                   |       |             | 283.16        | fine grained pyrite                                       | 285.29-286.82 |                      |         | P 1717          | 0.11       | 0.06           | 0.001  |              |     |       |
|                   |       |             | 294.13-294.59 | pyrite and chalcoppyrite                                  | 292.91-294.44 |                      |         | P 1716          | 0.04       | 0.04           | 0.001  |              |     |       |
|                   |       |             |               |   | 295.96-297.49 |                      |         | P 1718          | 0.01       | 0.02           | 0.001  |              |     |       |
| 302.67            |       |             |               | Green actinolite skarn and magnetite pyrite trace chalco. |               |                      |         |                 |            |                |        |              |     |       |
|                   |       |             |               |   | 299.01-300.50 |                      |         | P 1720          | 0.08       | 0.06           | 0.001  |              |     |       |
| 320.65            |       |             |               | Talc serpentine skarn ( green) and magnetite              |               |                      |         |                 |            |                |        |              |     |       |
|                   |       |             |               |   | 302.67-304.19 |                      |         | P 1719          | 0.24       | 0.10           | 0.001  |              |     |       |
|                   |       |             |               |   | 306.93-308.46 |                      |         | P 1721          | 0.01       | 0.02           | 0.001  |              |     |       |
|                   |       |             |               |   | 310.59-312.12 |                      |         | P 1722          | 0.01       | 0.02           | 0.001  |              |     |       |

DATE March 18, 1981

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NORANDA EXPLORATION COMPANY, LIMITED

| Collared          |             | Completed   |  | Core Size |  | Property <u>Hoboe Creek</u> |         |            | Project No <u>1019</u> |         | NTS No. <u>104</u> M <u>1</u> |                   |     |                  |
|-------------------|-------------|-------------|--|-----------|--|-----------------------------|---------|------------|------------------------|---------|-------------------------------|-------------------|-----|------------------|
| FIELD COORDINATES |             |             |  |           |  | SURVEYED COORDINATES        |         |            |                        |         |                               | Sheet <u>6</u> of |     |                  |
| Lat.              |             | Elev.       |  | Dip       |  | Lat.                        |         | Elev.      |                        | Dip     |                               | Hole No.          |     |                  |
| Dep.              |             | Depth       |  | Bearing   |  | Dep.                        |         | Depth      |                        | Bearing |                               |                   |     |                  |
| Rec'y             | Graphic Log | Description |  |           |  |                             | % Sulp. | Est. Grade | Sample No.             | Cu%     | Ag opt                        | Au opt            | Mo% | W <sub>3</sub> % |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |
|                   |             |             |  |           |  |                             |         |            |                        |         |                               |                   |     |                  |

DATE March 18 1981

LOGGED BY A. Hureau (amended April 1981)

A P P E N D I X No. 5.

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# Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,  
BURNABY, B. C.  
CANADA  
TELEPHONE: 299-6910  
AREA CODE: 604

## CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 81061/64

TO: NORANDA EXPLORATION CO. LTD.  
1050 DAVIE STREET  
VANCOUVER, B.C.

INVOICE NO. 1195

DATE RECEIVED

104 M/E

DATE ANALYSED April 21/61.

ATTN: 19 # 4-13/15 HOBGE CREEK R.M.

| SAMPLE NO.: | %<br>Cu | oz/t<br>Au | oz/t<br>Ag | %<br>T.Mo | %<br>Wg |
|-------------|---------|------------|------------|-----------|---------|
| J 1351      | 0.05    | 0.004      | 0.06       | 0.001     |         |
| 52          | 0.10    | 0.002      | 0.04       | 0.001     |         |
| 53          | 0.14    | 0.002      | 0.02       | 0.001     |         |
| 54          | 0.15    | 0.003      | 0.04       | 0.002     | 0.03    |
| 55          | 0.23    | 0.002      | 0.04       | 0.002     | 0.02    |
| J 1356      | 0.46    | 0.002      | 0.06       | 0.002     |         |
| 57          | 0.25    | 0.001      | 0.04       |           |         |
| 58          | 0.42    | 0.001      | 0.08       |           | 0.05    |
| 59          | 0.02    | 0.001      | 0.02       |           |         |
| 60          | 0.04    | 0.001      | 0.02       |           |         |
| J 1361      | 0.33    | 0.001      | 0.14       |           |         |
| 62          | 0.14    | 0.001      | 0.04       |           |         |
| 63          | 1.22    | 0.001      | 0.30       |           |         |
| 64          | 0.64    | 0.002      | 0.16       |           |         |
| 65          | 0.31    | 0.002      | 0.02       |           |         |
| J 1366      | 0.24    | 0.006      | 0.12       |           | 0.08    |
| 67          | 1.88    | 0.008      | 0.20       |           |         |
| 68          | 1.64    | 0.005      | 0.20       |           |         |
| 70          | 2.30    | 0.009      | 0.24       |           |         |
| 71          | 0.16    | 0.002      | 0.04       |           |         |
| J 1372      | 1.00    | 0.004      | 0.12       |           |         |
| 73          | 2.20    | 0.012      | 0.20       |           |         |
| 74          | 1.04    | 0.006      | 0.10       |           |         |
| 75          | 0.38    | 0.001      | 0.06       |           |         |
| P 1701      | 0.39    | 0.005      | 0.10       |           |         |
| 02          | 3.10    | 0.001      | 0.54       |           |         |
| 03          | 0.06    | 0.001      | 0.04       |           |         |
| 04          | 0.01    | 0.001      | 0.02       |           |         |
| 05          | 0.01    | 0.001      | 0.02       |           |         |
| 06          | 0.01    | 0.001      | 0.02       |           |         |
| 07          | 0.01    | 0.001      | 0.02       |           |         |
| 08          | 0.01    | 0.001      | 0.02       |           |         |
| 09          | 0.01    | 0.001      | 0.02       |           |         |
| 10          | 0.01    | 0.001      | 0.02       |           |         |
| 11          | 0.01    | 0.001      | 0.02       |           |         |
| 12          | 0.03    | 0.001      | 0.02       |           |         |
| 13          | 0.01    | 0.001      | 0.02       |           |         |
| 14          | 0.05    | 0.001      | 0.04       |           |         |
| 15          | 0.01    | 0.001      | 0.02       |           |         |
| P 1716      | 0.04    | 0.001      | 0.04       |           |         |

Certified by

*J. Rossbacher*

# Rossbacher Laboratory Ltd.

GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,  
BURNABY, B. C.  
CANADA  
TELEPHONE: 299-6910  
AREA CODE: 604

## CERTIFICATE OF ANALYSIS

TO: NORANDA EXPLORATION CO. LTD.  
1050 DAVIE STREET  
VANCOUVER, B.C.

CERTIFICATE NO. 81061/64

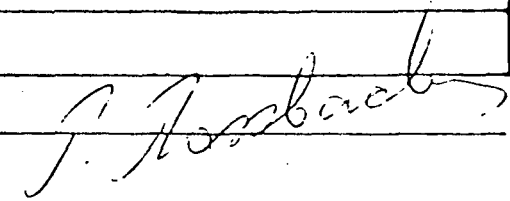
INVOICE NO. 1195

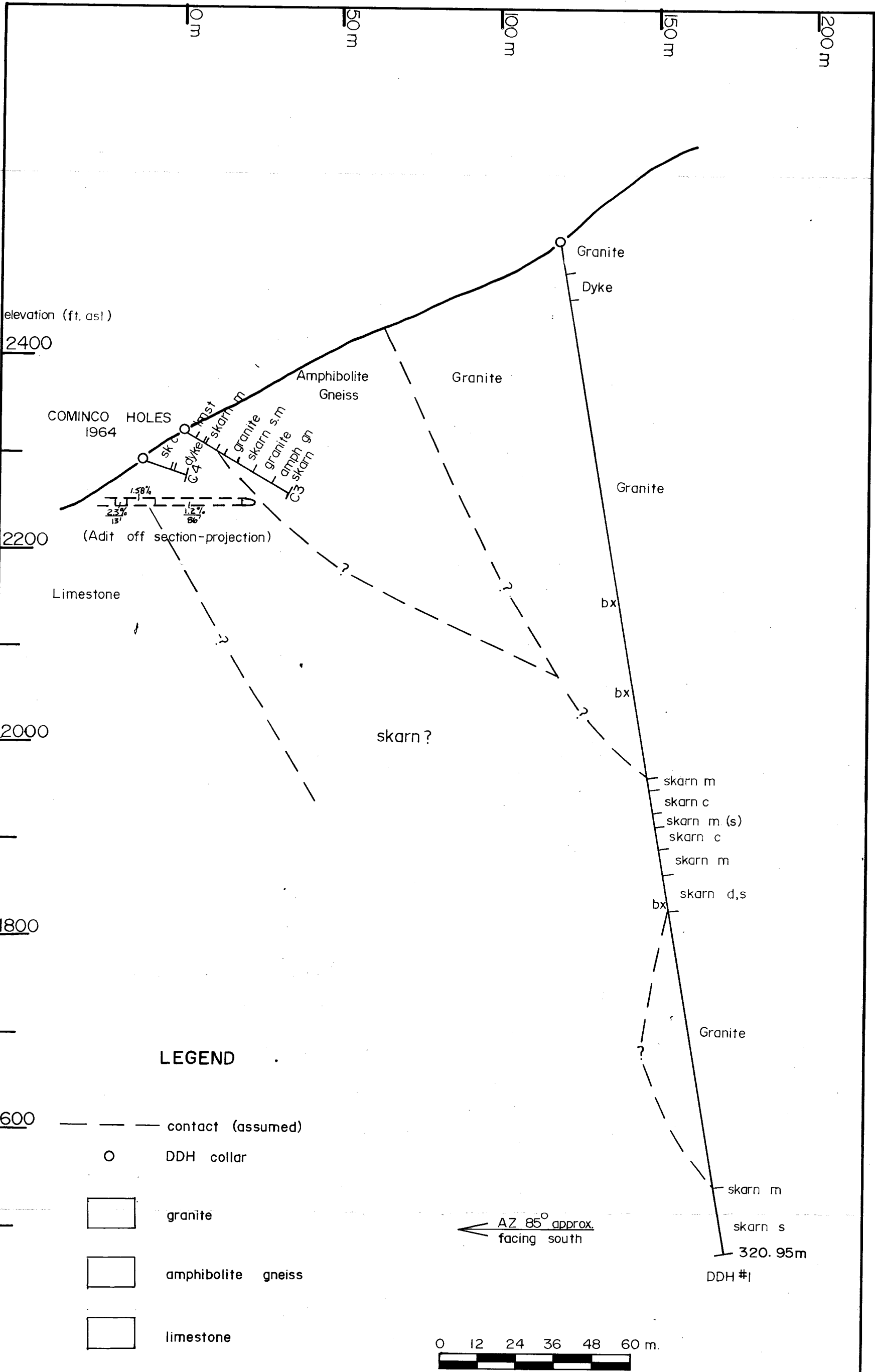
DATE RECEIVED

DATE ANALYSED April 21/81.

ATTN: 19 # 4-13/15

| SAMPLE NO.: | %<br>Cu | oz/t<br>Au | oz/t<br>Ag |
|-------------|---------|------------|------------|
| P 1717      | 0.11    | 0.001      | 0.06       |
| 18          | 0.01    | 0.001      | 0.02       |
| 19          | 0.24    | 0.001      | 0.10       |
| 20          | 0.08    | 0.001      | 0.06       |
| 21          | 0.01    | 0.001      | 0.02       |
| 22          | 0.01    | 0.001      | 0.02       |
| 23          | 0.18    | 0.001      | 0.20       |
| P 1724      | 0.01    | 0.001      | 0.04       |
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Certified by 



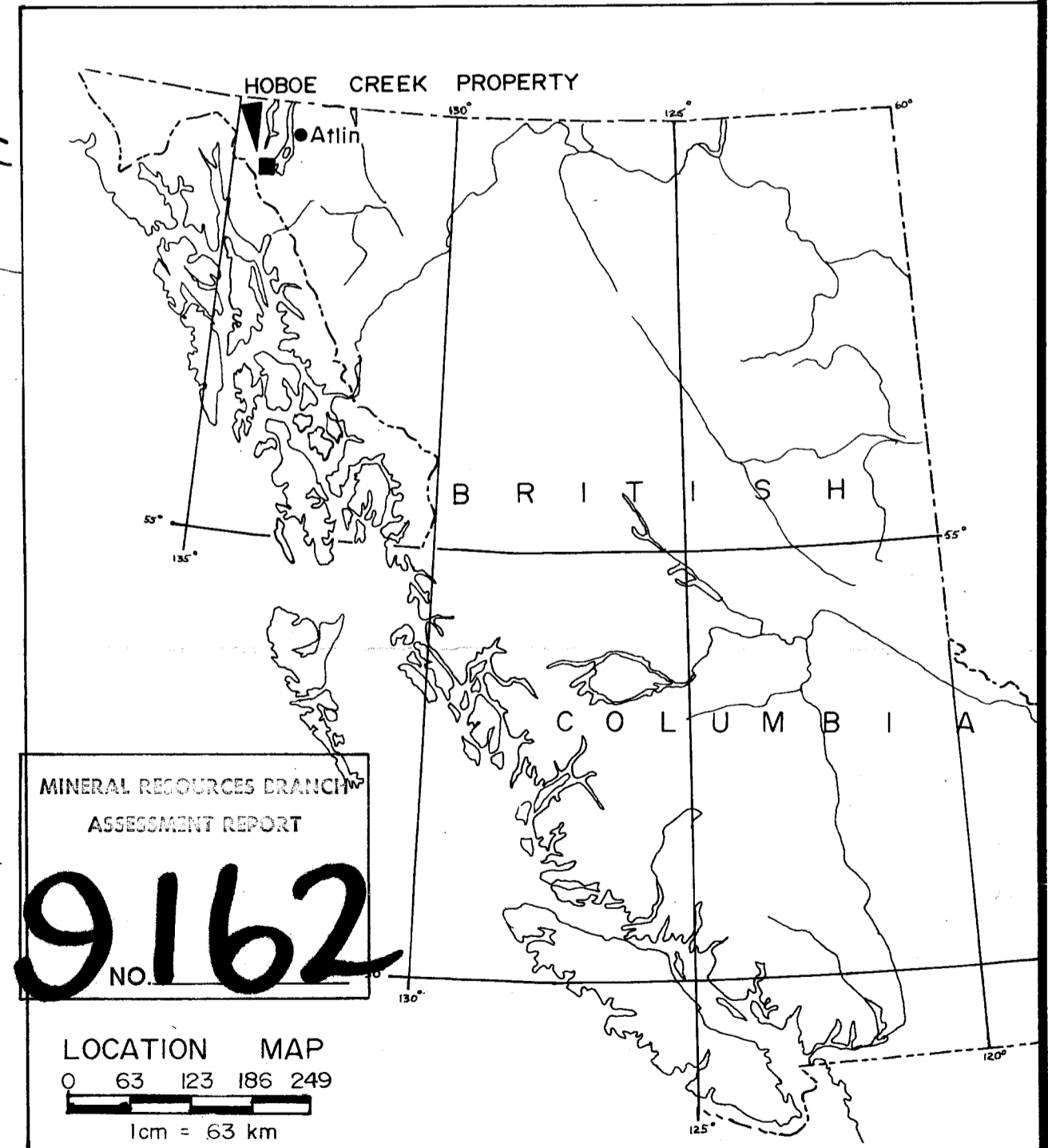
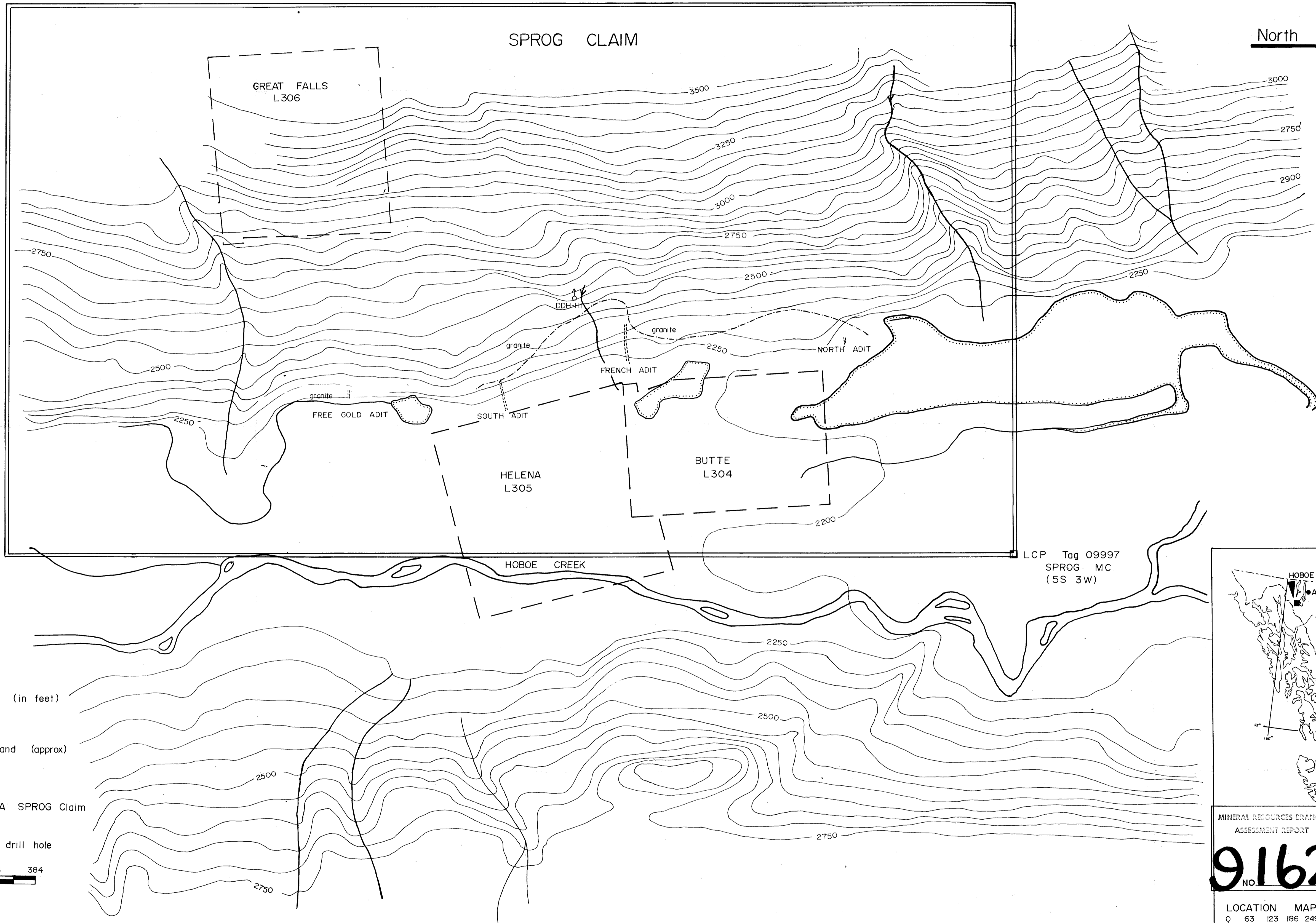
**LEGEND**

- contact (assumed)
- DDH collar
- granite
- amphibolite gneiss
- limestone
- skarn c Cu mineralization
- skarn m magnetite
- skarn gd(s) garnet diopside serpentine
- bx breccia

*J. MacDonald*

|   |      |
|---|------|
| <b>HOBEO CREEK PROPERTY</b>               |      |
| MINERAL RESOURCES BRANCH                  |      |
| ASSESSMENT REPORT                         |      |
| DDH - H1<br>SECTION                       | 9162 |
| DWG. No. 2                                |      |
| NO.                                       |      |
| SURVEY BY: ..... DATE: MAY 1981           |      |
| DRAWN BY: ...K.J.G. .... SCALE: 1cm = 12m |      |
| <b>NORANDA EXPLORATION</b>                |      |
| OFFICE: Whitehorse                        |      |





*J. Macdonald*

|                    |   |                  |
|--------------------|---|------------------|
| REVISED            | HOBEO CREEK PROPERTY<br>DRILL HOLE LOCATION<br>PLAN |                  |
| PROJ. No. 1019     | SURVEY BY: .....                                    | DATE: MAY, 1981  |
| N.T.S. 1:04-M.H.E. | DRAWN BY: K.J.G.                                    | SCALE: 1cm = 48m |
| DWG. No.           | <b>NORANDA EXPLORATION</b>                          |                  |
|                    | OFFICE: WHITEHORSE                                  |                  |