

6491

77-#382-#6491

vic

1977 DIAMOND DRILLING ASSESSMENT REPORT

TITLE Logtung Property
CLAIMS Jam #1 - #5 inclusive
COMMODITY W-Mo

LOCATED 66 km southeast of Teslin, Yukon
Latitude 59°59'W Longitude 131°35'N
Atlin Mining Division 104 0 13/E

BY F.R. Harris
FOR AMAX Potash Limited
WORK PERIOD July 29 to August 17, 1977

AMAX VANCOUVER OFFICE

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT

NO. _____

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ILLUSTRATIONS

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APPENDICES

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GENERAL STATEMENT

The Logtung Property was discovered by Cordilleran Engineering Ltd. while following up a tungsten anomaly in the Logjam Creek-Two Ladder Creek area in late 1976. Cordilleran staked six claims (100 units) in British Columbia and 138 claims in the Yukon. AMAX Potash Limited optioned the property in 1977.

From July 29 to August 17, 1977, Caron Diamond Drilling completed 475.4 metres of diamond drilling in four holes under a contract with AMAX Potash Limited.

LOCATION AND ACCESS

The five Jam claims (98 units) and one Camp claim (2 units), which comprise the British Columbia portion of the Logtung Property, are within the Atlin Mining Division at the headwaters of West Logjam Creek (Figure 1) Centre of the Jam claim block is 8 km north of the Alaska Highway and 9 km east of Smart River. The northern boundary of the Jam claims is the British Columbia-Yukon border -- a cut and surveyed line.

Access to the Jam claims is by a 13 km road which joins the Alaska Highway at km 1213.

DIAMOND DRILL PROGRAM

From July 29 to August 17, 1977 (20 days) Caron Diamond Drilling of Whitehorse drilled 416.6 metres of NQ (48 mm diameter) and 58.8 metres of BQ (37 mm diameter) core in four holes. All holes are located within Jam 2 and as shown in Figure 2. Drill core is stored on the property.

Logs of the four holes are appended to this report.

F.R. Harris No. 4/77
F.R. Harris

Hole Number LT-77-1 Collar Elevation 1588.0 m
Total Depth 123.2 m
Core Size NQ
Azimuth 180°
Inclination -55°

0-10 m Grey fine-grained hornfelsed quartzite with two
5 cm bands of garnet-pyroxene skarn

10-72 Interbanded white to light grey aphanitic
calc-silicate (50%), brown-grey hornfels (25%)
and light green cherty skarn (25%). Two quartz
monzonite porphyry dykes cut metasediments at
54.6 - 55.0 m and 66.2 - 67.5 m.

72-132.2 END Predominantly grey to brown hornfels with 10%
interbanded light green cherty skarn. Three
fine-grained diorite dykes cut metasediments at
78.9 - 80.2, 94.8 - 95.1 and 112.2 - 114.6 m.

One aplite dyke cut metasediments at 81.1 - 81.7 m.

Throughout the hole all metasediments are cut by
narrow quartz-scheelite veins and rare quartz-
molybdenite veins.

Frank Harris
Nov. 4/77

Hole Number LT-77-2

Collar Elevation 1646.0 m
Total Depth 107.4 m
Core Size NQ
Azimuth 180°
Inclination -70°

- 0-15 m Light to medium grey hornfels
- 15-19 Medium to coarse-grained porphyritic quartz monzonite
- 19-29 Grey hornfels with 30% interbanded light green cherty skarn
- 29-66 Grey to brown hornfels with 5% interbanded dark green garnet-pyroxene skarn. Metasediments in this section are cut by three narrow (average width 0.4 m) dykes of aplite and one dyke of quartz monzonite porphyry from 37.2 - 38.8 m
- 66-69 Coarse-grained biotite-quartz monzonite
- 69-107.4 END Predominantly grey to brown hornfels interbanded with 5% narrow light to dark green garnet-pyroxene skarn bands

Narrow scheelite-quartz veins cut the metasediments throughout the hole.

Paul R. Harris
Nov. 4 / 77

Hole Number LT-77-3

Collar Elevation 1740.0 m
Total Depth 145.6 m
Core Size NQ
Azimuth 180°
Inclination -70°

0-7 m Grey hornfels

7-10 Fine-grained diorite

10-12 Grey hornfels

12-19 Light green skarn with 10% interbanded dark pyroxene skarn

19-104 Predominantly grey to brown hornfels with 5% interbanded light green cherty skarn or dark green garnet-pyroxene skarn. Fine-grained diorite dykes cut metasediments at 64-65, 82-86 and 89-89.3 m. Aplite dykes cut metasediments or diorite at 81.5-82.0, 86.0-89.0, 89.3-90.0 and 102.3-102.7 m

104-139 Fine-grained massive diorite with inclusions of hornfels at 119-120, 125-126 and 130-133 m

139-145.6 END Grey hornfels cut by 0.2 m diorite dyke at 141.5 m

Narrow quartz-scheelite veins cut metasediments and diorite throughout the hole.

L. R. Harris
Nov. 4/77

Hole Number LT-77-4

Collar Elevation 1583.0 m
Total Depth 98.2 m
Core Size 0-47.0 m NQ
47-98.2 m BQ
Azimuth 305°
Inclination -70°

0-44 m Fine to medium-grained diorite with an inclusion of hornfels at 21-22 m and inclusions of skarn at 22-24 and 41-42 m

44-62 Grey to brown hornfels with 10% interbanded light to dark green skarn

62-65 Aplite

65-75 Grey to brown hornfels with a light green skarn bed from 60-70 m and a diorite dyke from 72-73 m

75-79 Fine-grained diorite

79-81 Light green cherty skarn

81-98.2 END Coarse-grained porphyritic quartz monzonite

Fred R. Harris
Nov. 4/77

APPENDIX I - STATEMENT OF COSTS

LOGTUNG PROPERTY

| | <u>Claim Status</u> | <u>Anniversary Date</u> |
|------------------|---------------------|-------------------------|
| Jam 1 (20 units) | | September 17, 1977 |
| Jam 2 (20 units) | | September 17, 1977 |
| Jam 3 (20 units) | | September 17, 1981 |
| Jam 4 (18 units) | | October 7, 1982 |
| Jam 5 (20 units) | | October 7, 1982 |

Period of Work July 29 - August 17, 1977

Summary of Work

416.6 metres NQ and 58.8 metres BQ Diamond Drilling \$45,573.55
Invoice Nos. 292,300,304
E. Caron Diamond Drilling Limited,
Whitehorse, Yukon
=====

This work to be applied as six years each to Jam #1 and
Jam #2.

APPENDIX II
CONTRACTOR'S INVOICES AND CONTRACT

AUG 15 1977

E. Caron Diamond Drilling Limited

CONTRACT DIAMOND DRILLING

HEAD OFFICE:
7 ROUNDEL ROAD
WHITEHORSE, Y.T. Y1A-3H3
PHONE 668-2424 - 668-2425
TELEX 036-8-337

VANCOUVER OFFICE:
XX33225 HOWE STREET XX
VANCOUVER B.C. V6C 2B9A
PHONE 687-4534

July 31, 1977

Invoice #292

IN ACCOUNT WITH:

Amax Potash Limited,
601 - 535 Thurlow Street,
Vancouver, B. C.
V6E 3L6

AMAX
RECEIVED
AUG 23 1977

Drilling Charges July 23 to 31, VANCOUVER OFFICE (Logjam Project)

Hole: 1/55°/NQ

Moving

173 man hrs. @ \$13.15 per hr. = \$2,274.95

Reaming Cave

2 man hrs. @ \$13.15 per hr. = \$ 26.30

1 machine hr. @ \$8.30 per hr. = \$ 8.50 \$ 34.80

Mud Time

20 man hrs. @ \$13.15 per hr. = \$ 263.00

10 machine hrs. @ \$8.50 per hr. = \$ 85.00 \$ 348.00

Travelling Time

10 man hrs. @ \$13.15 per hr. = \$ ~~131.50~~ 65.75

Truck Time

11 machine hrs. @ \$25.00 per hr. = \$ 275.00

Casing

0 - 6 = 6 ft. @ \$22.50 (NW) per ft. = \$ 135.00

Coring

6 - 177 = 171 ft. @ \$18.75 per ft. = \$3,206.25

Mobilization of Drill (from Whse to Mile 733) = \$ 900.00

Mobilization of Crew (from Whse to Mile 733) = \$ 300.00 \$7,605.50

Mobilization

Ross Fooks Transport Invoice # 143073 = \$ 112.50

Ross Fooks Transport Invoice # 143074 = \$ 200.00 \$ 312.50

Supplies Consumed in Hole

23 bags of mud @ \$10.75 per bag = \$ 247.25

3 bags of Quik Trol @ \$7.75 per bag = \$ 23.25 \$ 270.50

| APPROVED | | | | | |
|------------------------|------------|---------------|---------------|-----------|----------|
| Laurie S. McLean | | | | | |
| DATE 8/24/77 | | | | | |
| Project Number | Group Code | Activity Code | Account Class | Sub Class | Amount |
| 036 | - | - | 8681 | - | 8,122.75 |
| X. 16 0 9 9 AUG 25 '77 | | | | | |

Total Invoice \$8,188.50

\$,132.75

Approved for payment.
Proj. 836
Fred R. Harris

E. Caron Diamond Drilling Limited

HEAD OFFICE:
7 ROUND ROAD
WHITEHORSE, Y.T. Y1A-3H3
PHONE 668-2424 - 668-2425
TELEX 036-8-337

CONTRACT DIAMOND DRILLING

VANCOUVER OFFICE:
XX 87425, HOWE STREET XX
VANCOUVER, B.C. V6C 2A8
PHONE 687-4634

August 15, 1977

Invoice #300

IN ACCOUNT WITH:

Amax Potash Limited,
601 - 535 Thurlow Street,
Vancouver, B. C.
V6E 3L6

Drilling Charges August 1 to 15, 1977

(Logjam Project)

Hole: 1/55°/NQ

| | | | | |
|---------------------|-------------------|------|------------|-------------|
| <u>Moving</u> | | | | |
| 16 man hrs. | @ \$13.15 per hr. | = | \$ 210.40 | |
| <u>Reaming Cave</u> | | | | |
| 31 man hrs. | @ \$13.15 per hr. | = \$ | 407.65 | |
| 15.5 machine hrs. | @ \$8.50 per hr. | = \$ | 131.75 | \$ 539.40 |
| <u>Waterline</u> | | | | |
| 2 man hrs. | @ \$13.15 per hr. | = \$ | 26.30 | |
| 1 machine hr. | @ \$8.50 per hr. | = \$ | 8.50 | \$ 34.80 |
| <u>Mud Time</u> | | | | |
| 20 man hrs. | @ \$13.15 per hr. | = \$ | 263.00 | |
| 10 machine hrs. | @ \$8.50 per hr. | = \$ | 85.00 | \$ 348.00 |
| <u>Testing</u> | | | | |
| 2 man hrs. | @ \$13.15 per hr. | = \$ | 26.30 | |
| 1 machine hr. | @ \$8.50 per hr. | = \$ | 8.50 | \$ 34.80 |
| <u>Travelling</u> | | | | |
| 8 man hrs. | @ \$13.15 per hr. | = | | \$ 105.20 |
| <u>Casing</u> | | | | |
| 6 - 8 = 2 ft. | @ \$22.50 per ft. | = | | \$ 45.00 |
| <u>Coring</u> | | | | |
| 177 - 404 = 227 ft. | @ \$18.75 per ft. | = | \$4,256.25 | \$ 5,573.85 |

Hole: 2/70°/NQ

| | | | | |
|--------------------------------|-------------------|------|------------|-------------|
| <u>Moving</u> | | | | |
| 5 man hrs. <i>First 2 hrs.</i> | @ \$13.15 per hr. | = | \$ 65.75 | |
| <u>Waterline</u> | | | | |
| 8 man hrs. | @ \$13.15 per hr. | = \$ | 105.20 | |
| 4 machine hrs. | @ \$8.50 per hr. | = \$ | 34.00 | \$ 139.20 |
| <u>Travelling</u> | | | | |
| 10 man hrs. | @ \$13.15 per hr. | = | | \$ 131.50 |
| <u>Casing</u> | | | | |
| 0 - 12 = 12 ft. | @ \$22.50 per ft. | = | | \$ 270.00 |
| <u>Coring</u> | | | | |
| 12 - 351 = 339 ft. | @ \$18.75 per ft. | = | \$6,356.25 | \$ 6,962.70 |

Approved for payment
proj. 836
Fred F. Harris

E. Caron Diamond Drilling Limited

HEAD OFFICE:
7 ROUNDEL ROAD
WHITEHORSE, Y.T. Y1A-3H3
PHONE 668-2424 - 668-2425
TELEX 036-8-337

CONTRACT DIAMOND DRILLING

VANCOUVER OFFICE:
~~XXX-425 HOWE STREET~~
VANCOUVER, B.C. V6C-2A2
PHONE 687-4634

Hole: 3/70°/NQ

Moving

12 man hrs. (no) @ \$13.15 per hr. = \$ 157.80

Reaming Cave

8 man hrs. 2✓ @ \$13.15 per hr. = \$ 105.20

4 machine hrs. @ \$8.50 per hr. = \$ 34.00 ✓ \$ 139.20

Travelling

6 man hrs. ✓ @ \$13.15 per hr. = \$ 78.90 ✓

Casing

0 - 6 = 6 ft. ✓ @ \$22.50 per ft. = \$ 135.00 ✓

Coring

6 - 479 = 473 ft. ✓ @ \$18.75 per ft. = \$ 8,868.75 ✓ \$ 9,379.65

Hole: 4/70°/NQ

Moving

10 man hrs. No @ \$13.15 per hr. = \$ 131.50

Reaming Cave

6 man hrs. ✓ @ \$13.15 per hr. = \$ 78.90

3 machine hrs. ✓ @ \$8.50 per hr. = \$ 25.50 ✓ \$ 104.40

Waterline

2 man hrs. @ \$13.15 per hr. = \$ 26.30

1 machine hr. @ \$8.50 per hr. = \$ 8.50 ✓ \$ 34.80

Mud Time

2 man hrs. @ \$13.15 per hr. = \$ 26.30

1 machine hr. @ \$8.50 per hr. = \$ 8.50 ✓ \$ 34.80

Travelling

4 man hrs. ✓ @ \$13.15 per hr. = \$ 52.60 ✓

Casing

0 - 12 = 12 ft. @ \$22.50 per ft. = \$ 270.00 ✓

Coring

12 - 138 = 126 ft. @ \$18.75 per ft. = \$ 2,362.50 ✓ \$ 2,990.60

Cat Time over 30 hr. gratis time

3 man hrs. @ \$13.15 per hr. = \$ 39.45

3 machine hrs. @ \$30.00 per hr. = \$ 90.00 ✓ \$ 129.45

Shipped & Stored in Van at Amax

250 bags of mud @ \$10.75 per bag = \$2,687.50

Aug 12 40 boxes Quik Trol @ \$7.75/bag 10 bags per box = \$3,100.00

July 27 174 mud - 23 bags at end of July =

151 bags @ \$10.75 per bag = \$1,623.25 ✓ \$ 7,410.75

Waterline Costs Hole #2 & #3

26 man hrs. @ \$13.15 per hr. = \$ 341.90 ✓

E. Caron Diamond Drilling Limited

HEAD OFFICE:
7 ROUNDEL ROAD
WHITEHORSE, Y.T. Y1A-3H3
PHONE 668-2424 - 668-2425
TELEX 036-8-337

CONTRACT DIAMOND DRILLING

VANCOUVER OFFICE:
113-425 HOWE STREET
VANCOUVER, B.C. V6C-2A9
PHONE 687-4634

Tractor Time Hole #2

| | | | |
|----------------|-------------------|-------------|-----------|
| 6 man hrs. | @ \$13.15 per hr. | = \$ 78.90 | |
| 6 machine hrs. | @ \$30.00 per hr. | = \$ 180.00 | \$ 258.90 |

Amax Meals

| | | | |
|--------------|-------------------|-------------|-----------|
| July 26 - 31 | @ \$20.00 per day | = \$ 220.00 | |
| Aug 1 - 15 | @ \$20.00 per day | = \$ 620.00 | \$ 840.00 |

Total Invoice \$33,887.80

| ADD & EXT. CORRECT | | <i>Laura B. McLean</i> | | | |
|--------------------|------------|------------------------|---------------|-----------|------------------|
| APPROVED | | DATE <i>9/6/77</i> | | | |
| Project Number | Group Code | Activity Code | Account Class | Sub Class | Amount |
| <i>836</i> | <i>-</i> | <i>-</i> | <i>8681</i> | <i>-</i> | <i>33047.80</i> |
| <i>836</i> | <i>-</i> | <i>-</i> | <i>8692</i> | <i>-</i> | <i>840.00</i> |
| | | | | | <i>33,887.80</i> |
| | | | | | |
| | | | | | |

EX 16150 SEP 7 '77

E. Caron Diamond Drilling Limited

HEAD OFFICE:
7 ROUND ROAD
WHITEHORSE, Y.T. Y1A-3H3
PHONE 668-2424-668-2425
TELEX 036-8-337

CONTRACT DIAMOND DRILLING

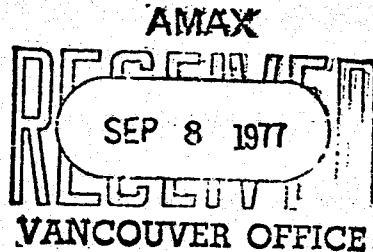
VANCOUVER OFFICE:
XX-425 HOWE STREET XX
VANCOUVER, B.C. V6C 2A9
PHONE 687-4634

August 31, 1977

Invoice #304

IN ACCOUNT WITH:

Amax Potash Limited,
601 - 535 Thurlow Street,
Vancouver, B. C.
V6E 3L6



Drilling Charges August 16 to 31, 1977 (Logjam Project)

Hole: 4/70°/NQ-BQ

Reaming Cave

| | | | |
|----------------|-------------------|-------------|-----------|
| 10 man hrs. | @ \$13.15 per hr. | = \$ 131.50 | |
| 5 machine hrs. | @ \$8.50 per hr. | = \$ 42.50 | \$ 174.00 |

Waterline

| | | | |
|---------------|-------------------|------------|----------|
| 2 man hrs. | @ \$13.15 per hr. | = \$ 26.30 | |
| 1 machine hr. | @ \$8.50 per hr. | = \$ 8.50 | \$ 34.80 |

Mud Time

| | | | |
|----------------|-------------------|------------|----------|
| 4 man hrs. | @ \$13.15 per hr. | = \$ 52.60 | |
| 2 machine hrs. | @ \$8.50 per hr. | = \$ 17.00 | \$ 69.60 |

Travelling Time

| | | | |
|------------|-------------------|---|----------|
| 4 man hrs. | @ \$13.15 per hr. | = | \$ 52.60 |
|------------|-------------------|---|----------|

Cat Hours

| | | | |
|----------------|-------------------|---|-----------|
| 4 machine hrs. | @ \$30.00 per hr. | = | \$ 120.00 |
|----------------|-------------------|---|-----------|

Coring

| | | | |
|---------------------|-------------------|--------------|-------------|
| 138 - 153 = 15 ft. | @ \$18.75 per ft. | = \$ 281.25 | |
| 153 - 322 = 169 ft. | @ \$16.75 per ft. | = \$2,830.75 | \$ 3,112.00 |
| | | | \$ 3,563.00 |

Hole: 5/70°/NQ

Moving

| | | | |
|------------|-------------------|---|----------|
| 2 man hrs. | @ \$13.15 per hr. | = | \$ 26.30 |
|------------|-------------------|---|----------|

Reaming Cave

| | | | |
|-----------------|-------------------|-------------|-----------|
| 32 man hrs. | @ \$13.15 per hr. | = \$ 420.80 | |
| 16 machine hrs. | @ \$8.50 per hr. | = \$ 136.00 | \$ 556.80 |

Waterline

| | | | |
|-------------------|-------------------|-------------|-----------|
| 51 man hrs. | @ \$13.15 per hr. | = \$ 670.65 | |
| 25.5 machine hrs. | @ \$8.50 per hr. | = \$ 216.75 | \$ 887.40 |

Mud Time

| | | | |
|----------------|-------------------|------------|----------|
| 4 man hrs. | @ \$13.15 per hr. | = \$ 52.60 | |
| 2 machine hrs. | @ \$8.50 per hr. | = \$ 17.00 | \$ 69.60 |

Travelling Time

| | | | |
|-------------|-------------------|---|-----------|
| 15 man hrs. | @ \$13.15 per hr. | = | \$ 197.25 |
|-------------|-------------------|---|-----------|

Cat Hours

| | | | |
|----------------|-------------------|---|----------|
| 3 machine hrs. | @ \$30.00 per hr. | = | \$ 90.00 |
|----------------|-------------------|---|----------|

Approved for payment
Proj. 836
Fred R. Harris

AGREEMENT made as of the 22nd day of August, 1977

BETWEEN: E. CARON DIAMOND DRILLING LIMITED
7 Roundel Road,
Whitehorse, Yukon Y1A 3H3

Hereinafter called the "CONTRACTOR" on one part

AND: AMAX POTASH LIMITED
601 - 535 Thurlow Street
Vancouver, B. C. V6E 3L6

Hereinafter called the "CLIENT" on the other part.

WHEREAS the CLIENT wishes to have performed certain diamond drilling on mining properties located approximately 110 miles west of Watson Lake on the Yukon Territory-British Columbia border, and WHEREAS the CONTRACTOR in consideration of payments specified hereinafter, undertakes to do the said diamond drilling.

NOW THEREFORE IT IS WITNESSED

SCOPE OF THE PROGRAM

1. Minimum Footage The CLIENT guarantees a minimum of three thousand five hundred (3,500) feet of diamond drilling in a series of 50° to 90° holes; of a minimum depth of two hundred (200) feet and a maximum depth of fifteen hundred (1,500) feet. All measurements to be taken from the top of the casing.
2. Core Size and Equipment The CONTRACTOR guarantees to sink with standpipe and/or bore by diamond drill the specified minimum footage, recovering NQ Wire Line core, approximately 1-7/8 inches in diameter and/or BQ Wire Line core, approximately 1-7/16 inches in diameter, and/or AQ Wire Line core, approximately 1-1/16 inches in diameter, and to supply forthwith one (1) Longyear 38 diamond drill with a GMC 353 diesel engine along with necessary associated equipment, industrial diamonds and labour, to commence
3. Starting Date approximately July 15, 1977. The CONTRACTOR agrees to have a second diamond drilling machine available upon request by the CLIENT. The CONTRACTOR guarantees the capability of drilling five thousand (5,000) feet of diamond drilling in the period July 15, 1977 to September 15, 1977 at the following schedule of rates,
4. Footage Guaranteed

SCHEDULE OF PAYMENTS

5. Coring Rate

| <u>Rock Coring</u> | <u>NQ Size</u> | <u>BQ Size</u> | <u>AQ Size</u> |
|--------------------|----------------|----------------|----------------|
| Bedrock - 500' | \$18.75 | \$16.75 | \$16.50 |
| 500 - 1000' | \$19.50 | \$17.50 | \$17.25 |
| 1000 - 1500' | \$20.75 | \$18.75 | \$18.50 |

An additional one (1) dollar per foot will be charged on all holes with a dip of 49° or less.

If holes of a greater depth than fifteen hundred (1500) feet are desired, such drilling shall be performed only upon such conditions and at such rates as may be agreed upon before commencement of such drilling.

6. Casing Rates

The CONTRACTOR agrees that all its labour, diamond wear and loss, and all other operating expenses, except as hereinafter provided, shall be at its own cost and expense and for its own account. Wherever overburden or weathered bedrock (such that casing is required) is encountered on a set-up, it is agreed that the CONTRACTOR'S charge for penetrating such overburden or weathered bedrock shall be \$20.50/BW (approximately 2 3/8 inches inside diameter), \$22.50/NW (approximately 3 inches inside diameter), \$26.50/HW (approximately 4 inches inside diameter) per foot, for the first fifty (50) feet. For penetrating overburden or weathered bedrock in excess of fifty (50) feet the CLIENT agrees to pay the CONTRACTOR at field cost rates for penetrating such additional overburden or weathered bedrock, providing the cost of penetration exceeds \$20.50/BW, \$22.50/NW and \$26.50/HW.

7. Field Cost

It is agreed that field cost shall be defined as:

- a) Labour - \$13.15 per man hour
- b) Drill - \$8.50 per operating hour
- c) Consumables - Diamonds, cement, mud ingredients and other chemical additives used where hourly rate applies will be charged at CONTRACTOR'S cost plus 15%

FIELD COST OPERATIONS

8. When Applicable

The CLIENT agrees to pay for the following operations on a Field Cost basis:

- a) Cementing and wedging.
- b) Reaming of casing in bedrock to allow drilling to proceed.
- c) Mud and/or calcium chloride, quantities to be mutually agreed upon as per supplier invoices.
- d) The CLIENT agrees to pay for all casing and diamond products left in holes at the CLIENT'S request.

- e) Reduction of hole if requested by the CLIENT.
- f) In the event that permafrost, cavities or loose and caving materials or excessive water flows are encountered of a nature so as to prevent the successful completion of any hole, the CONTRACTOR does not, under such conditions guarantee to drill to a predetermined depth and, in the event that it becomes necessary to abandon the hole, the CLIENT agrees to pay for such uncompleted holes at the rates herein specified for all footage completed. However, should the CLIENT request that further work be carried out in the hole beyond this point, then the CONTRACTOR shall continue the work in the hole, but such continuing work shall be at Field Cost Rates.

9. Water Supply

When water supply exceeds three thousand (3,000) feet in length and/or two hundred fifty (250) feet in elevation, the CLIENT agrees to pay those costs which are apportioned to the excess length and/or lift of the water line at \$13.15 per man hour and the CONTRACTOR agrees to supply additional pipe, hose and pumps at no cost to the CLIENT with the exception of freight cost of the additional supplies. Cost to set up and operate a waterline heater system, if required, shall be to the CLIENT's account at Field Cost.

10. Standby Time

Standby time at convenience of CLIENT will be charged at \$13.15 per man hour. Standby time caused by machine breakdown or lack of drill supplies and equipment will be at the CONTRACTOR's expense.

11. Sludge
Sampling

If sludge sampling is considered to be necessary by the CLIENT the CONTRACTOR agrees to assist in obtaining sludge samples and to supply and install the necessary fittings to the standpipe to divert the sludge to the sludge sampling device. The CLIENT agrees to supply a representative to collect the sludge sample.

TRANSPORTATION

12. Mobilization
and
Demobilization
To Access Road

a) Mobilization of CONTRACTOR's drill between Whitehorse and Mile 733 on the Alaska Highway will be charged to the CLIENT at nine hundred (900) dollars. Mobilization of CONTRACTOR's men between Whitehorse and property will be charged to the CLIENT at three hundred (300) dollars.

b) Demobilization of CONTRACTOR's drill between Mile 733 on the Alaska Highway and Whitehorse will be charged to the CLIENT at six hundred (600) dollars. Demobilization of CONTRACTOR's men between property and Whitehorse will be charged to the CLIENT at three hundred (300) dollars.

13. Mobilization and Demobilization On Access Road Moving in on the access road to the property and setting up on Hole #1 and tearing down and moving out to the same point at the completion of the contract will be charged to the CLIENT at \$13.15 per man hour for the personnel required to complete the move. Machine rental will not be chargeable while moving in and setting up and tearing down and moving out.
14. Moves Between Drill Sites In moving from one drill site to another the first twenty (20) man hours per move will be at no cost to the CLIENT. Hours in excess of twenty (20) man hours per move will be to the CLIENT's account at Field Cost rates.
15. Freight Once drilling has commenced, the transportation of any extra equipment required in excess of the original amounts contemplated in this contract, such as extra rods, casing, hose, mud, cement and calcium chloride etc. will be at cost to the CLIENT from Whitehorse to property. The CONTRACTOR will supply one service trip per week between Whitehorse and the property at no cost to the CLIENT. Any trips needed for drill and pumps repairs will be at CONTRACTOR's expense from Whitehorse to property.
16. On Site Transportation The CONTRACTOR will supply one 4 wheel-drive vehicle for its own use at no cost to the CLIENT.
17. On Site Travel Time When travelling time between drill and camp site exceeds one-half ($\frac{1}{2}$) hour per man per day, time in excess of one-half ($\frac{1}{2}$) hour will be chargeable to the CLIENT at \$13.15 per man hour.
18. Tractor The CONTRACTOR will supply a D-6 cat for general road and site clearing, movement of fuel, equipment and supplies etc. at no cost to the CLIENT for the first thirty (30) hours, thereafter the D-6 cat will be charged at thirty (30) dollars per hour. Cat operator will be charged at \$13.15 per man hour. Fuel for cat will be supplied by CONTRACTOR at no cost to the CLIENT.

CLIENT
RESPONSIBILITIES

19. Client Provides
- It is agreed that the CLIENT will provide:
- a) Engineering and geological control.
 - b) A representative on site to approve CLIENT charges on a daily basis.
 - c) Site access including work permits, off road permits, etc., if and as required.
 - d) The CLIENT will pay to the CONTRACTOR for all work contemplated by this agreement as the work progresses as follows:
- For all work done on and before the last day of each calendar month, not later than the 30th day of the calendar month next following.

(Interest at one and one-half (1-1/2) per cent per month will be charged on overdue accounts.)

e) It is understood that the CLIENT will provide adequate access roads from the Alaska Highway to the initial drill sites.

f) Core boxes will be supplied by the CLIENT at no cost to the CONTRACTOR.

CONTRACTOR
RESPONSIBILITIES

20. Board and
Lodging

The CONTRACTOR agrees to provide:

Board and lodging for its own men, and at its own expense, and to provide meals to the CLIENT's representatives at a rate of twenty (20) dollars per man per day.

21. Discipline

The CONTRACTOR shall, at all times, enforce strict discipline and maintain good order among its employees as well as enforce good housekeeping practices in camp as well as at the drill sites at all times.

Also the CONTRACTOR shall not retain on the work any unfit person or anyone not skilled in the work assigned to him. Any employees of the CONTRACTOR who are objectionable or unsatisfactory to the CLIENT shall be removed from the work and replaced by an employee satisfactory to the CLIENT.

22. Labour

The work under this agreement will be continued by the CONTRACTOR with such number of working shifts as it may think advisable with reasonable diligence until completed.

23. Fuel

Diesel fuel, oil and gas for drill, pumps and oil stoves will be provided by the CONTRACTOR at no cost to the CLIENT.

24. Ecology and
Sanitation

During the course of the work, the CONTRACTOR shall keep the site of any drilling and camp site area free from accumulation of waste materials, rubbish or garbage and upon completion of the work, shall remove all tools, scaffolding, surplus materials, rubbish and garbage and leave the working and camp site in a clean condition. The CONTRACTOR shall observe and comply with all applicable Federal, Territorial and Provincial laws, regulations and orders relating to prevention of forest fires and sanitation in the bush. The CLIENT will withhold two thousand (2000) dollars from the final invoice, until all drill sites and the camp site have passed inspection for cleanliness by the CLIENT's representative.

25. Acts and
Regulations

The CONTRACTOR agrees to comply with all requirements of the Worker's Compensation Act, Unemployment Insurance Act, Hours of Work and Vacations with Pay Act, and generally all Federal and Territorial Acts and Regulations applicable to the CONTRACTOR's operations.

INSURANCE

26. To Be Held By Contractor

CONTRACTOR shall maintain in full force and effect at its expense during the performance of this contract the following insurance in amounts not less than those specified below:

- a) Worker's Compensation Insurance in compliance with applicable provincial, territorial and federal laws;
- b) Comprehensive Public Liability Insurance, including non-owned automobile, contractual liability, and completed operations, with bodily injury limits not less than five hundred thousand (500,000) dollars per person and five hundred thousand (500,000) dollars per occurrence and property damage limits not less than five hundred thousand (\$500,000) dollars per occurrence; and
- c) Comprehensive Automobile Liability and Property Damage Insurance with bodily injury limits not less than five hundred thousand (500,000) dollars per person and five hundred thousand (500,000) dollars per occurrence and property damage limits not less than five hundred thousand (500,000) dollars per accident.

CONTRACTOR shall furnish CLIENT, insurer's certificates evidencing the existence of the insurances referred to in paragraphs (b) and (c) above, which certificates shall specifically state that the policy covers the above mentioned requirements and stipulates that such policies shall not be modified or cancelled unless ten (10) days prior written notice thereof is furnished to CLIENT.

27. Indemnification

The CONTRACTOR agrees to indemnify and save harmless personnel of the CLIENT against any and all loss and expense including attorney's fees and other legal expenses by reason of liability imposed or claimed to be imposed by law upon the CLIENT, for damages because of bodily injuries, including death, at any time resulting from, or on account of damage to property sustained by any person or persons arising out of or in consequence of the performance of the work called for by this contract whether or not such bodily injuries, death, or damage to property arise or are claimed to arise in whole or in part out of the negligence or any other ground of legal liability, including violation of any duty imposed by a statute or ordinance or regulation on the part of the CONTRACTOR, their employees, or agents of them.

GENERAL PROVISIONS

28. Reporting

CONTRACTOR shall keep a daily record, on forms furnished by the CLIENT, of all work performed and shall cooperate with the CLIENT's representative in securing maximum accurate data on the formations drilled through.

29. Non-Disclosure The CONTRACTOR and its employees shall not disclose any information obtained in the course of the work performed or show cores or other samples procured in connection to third parties.
30. Right to Vacate Upon completion of the work herein contracted to be performed the CONTRACTOR shall have the right to remove within a reasonable length of time all temporary buildings and other fixtures including trade fixtures, machinery, equipment and appliances placed by the CONTRACTOR upon such lands.
31. Mutual Agreement In complying with the obligations of this agreement neither the CLIENT nor the CONTRACTOR shall be held responsible for strikes, fires, war or any damage or delay due to causes beyond their control. It is understood that in the event of such an occurrence both parties shall act with due diligence to cure such damages or delays in order to fulfill their obligations under this contract.

IN WITNESS WHEREOF the parties hereunto affixed their corporate seals in the presence of their respective proper officers first duly qualified in that behalf as of the day and year first above written.

The Corporate Seal of
 E. CARON DIAMOND DRILLING LIMITED
 was hereunto affixed in the presence of
 Title

A. J. Loran
Blair Woodruff

 OFFICE MANAGER

The Corporate Seal of
 AMAX POTASH LIMITED
 was hereunto affixed in the presence of
 Title

Anthony J. D. Muma
 VICE PRESIDENT
[Signature]

~~Vice President~~ ASSISTANT SECRETARY

Attest:
[Signature]
 And Secretary

APPENDIX III

STATEMENT OF QUALIFICATIONS

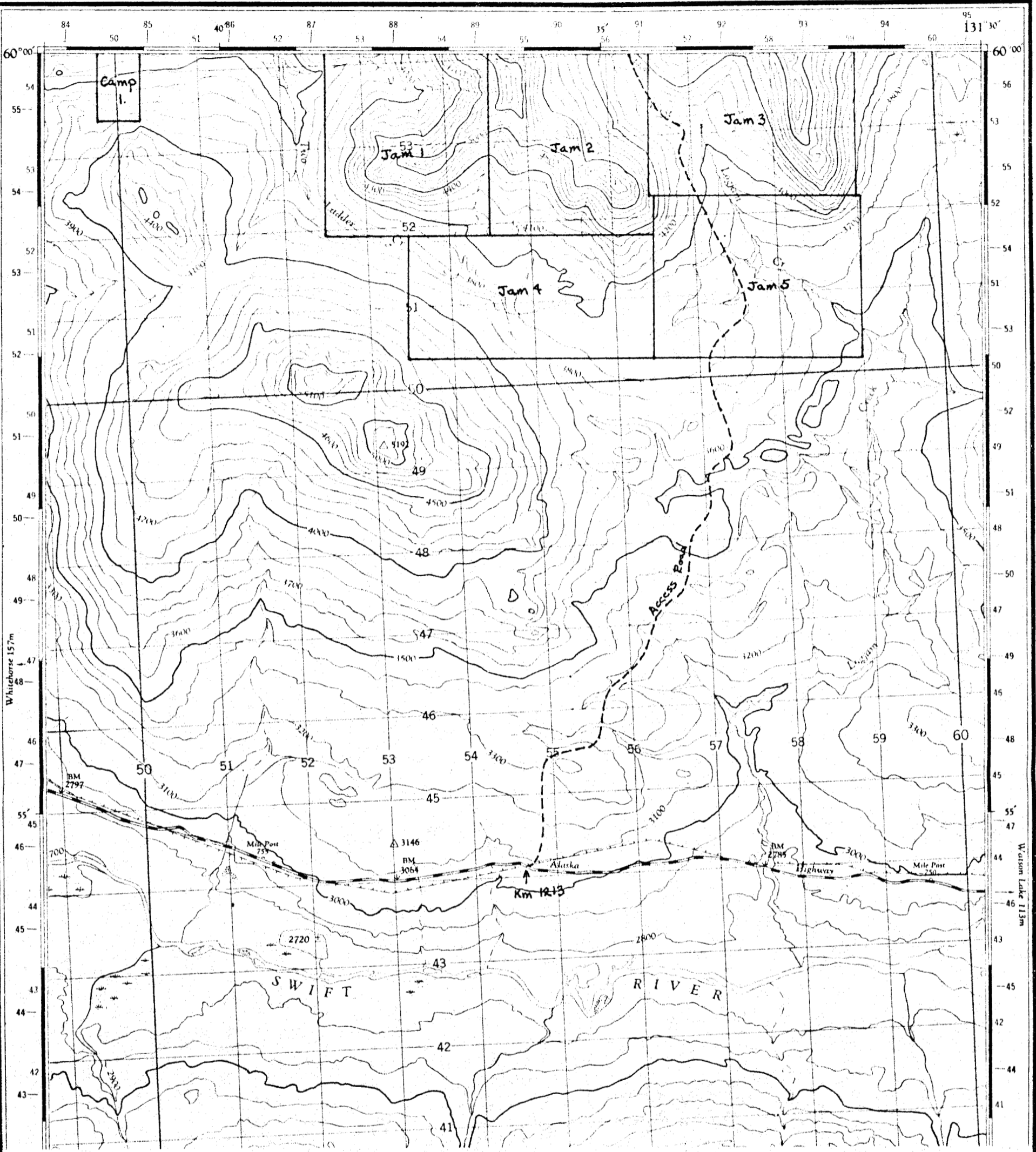
F.R. Harris

Education

University of Western Ontario - B.Sc. Honours Geology 1961
University of New Brunswick - M.Sc. Geology 1964

Experience

- May 60 - May 64 - Summer employment while attending university with Geological Survey of Canada and the New Brunswick Department of Lands & Mines
- May 64 - June 70 - Ontario Department of Mines based in Thunder Bay. Party Chief - mapping and writing final reports on areas ranging from 100 to 150 square miles
- July 70 - Amax Exploration, Inc - Staff Geologist
Plans, organizes and supervises small property and prospect evaluation programs or assists with the planning and management of large property exploration programs utilizing all exploration techniques.
Selects, applies and interprets the most effective exploration approaches and techniques for any type of exploration survey.



AMAX POTASH LIMITED

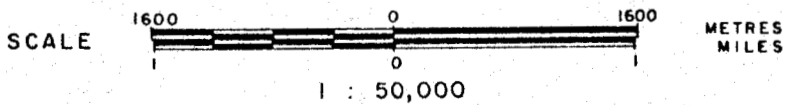
LOGTUNG PROPERTY
 ATLIN MINING DIVISION — BRITISH COLUMBIA

CLAIMS LOCATION MAP

MINERAL RESOURCES BRANCH

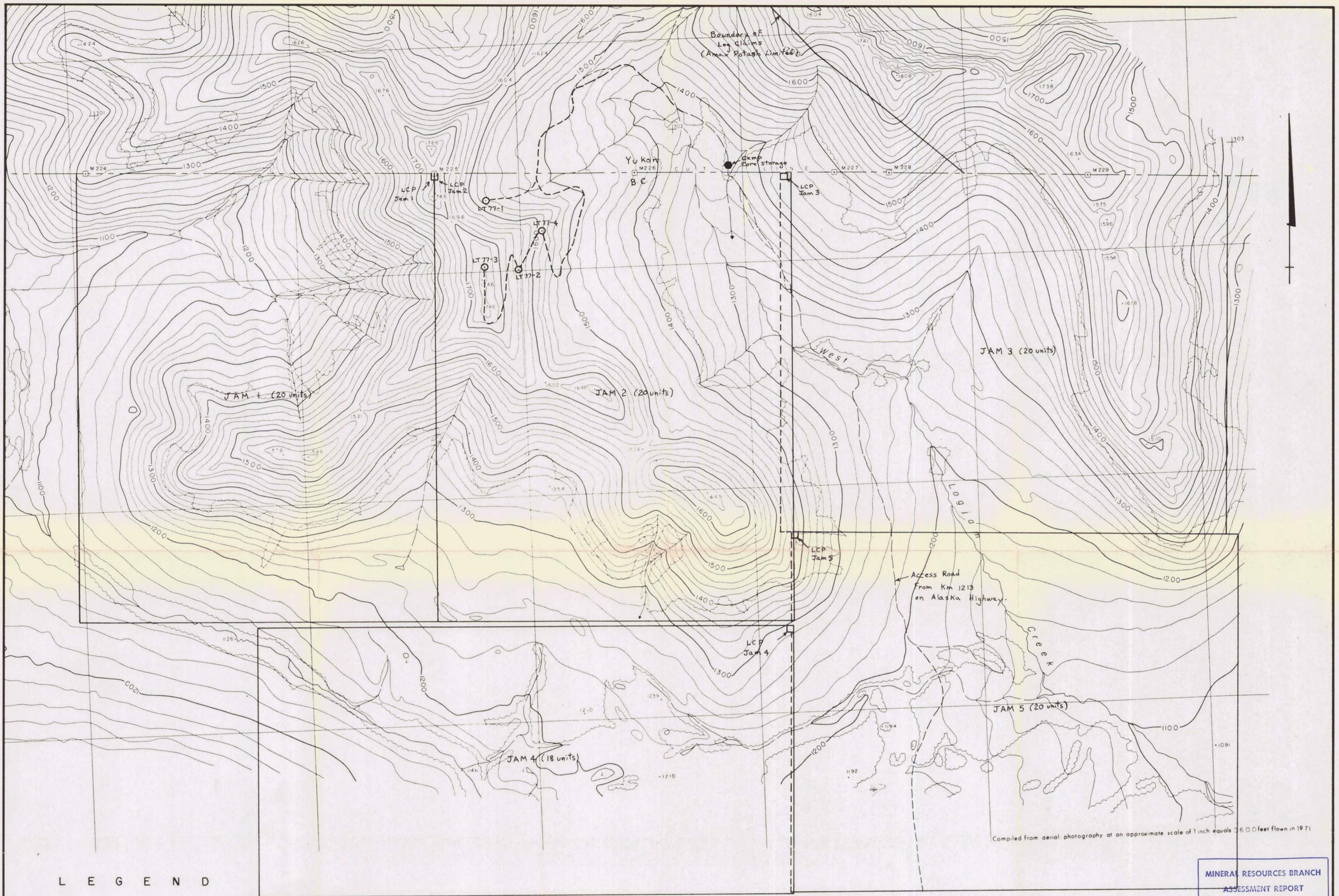
ASSESSMENT REPORT

NO. **6491**



Fred R. Harris
 Vancouver — Nov. 4/77

N.T.S. Ref. 104 0 13
 FIG. 1



Compiled from aerial photography at an approximate scale of 1 inch equals 2600 feet flown in 1971

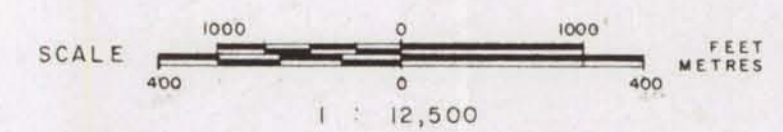
L E G E N D

- Topographic contour, contour interval 20 metres.
- Legal corner post, claim boundary.
- Diamond drill hole collar location.
- Road.
- Stream.
- Limit of vegetation cover.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
No. **6491**

AMAX POTASH LIMITED
LOGTUNG PROPERTY
ATLIN MINING DIVISION - BRITISH COLUMBIA

LOCATION OF DIAMOND DRILL HOLES



To accompany 1977 diamond drilling assessment report by: F. R. Harris.

Vancouver — *F. R. Harris, Nov. 4, 1977*