GEOCHEMICAL SURVEY

LIL CLAIMS

Latitude 63°36' Longitude 138°12'

J. McClintock

N.T.S. 115-O-9

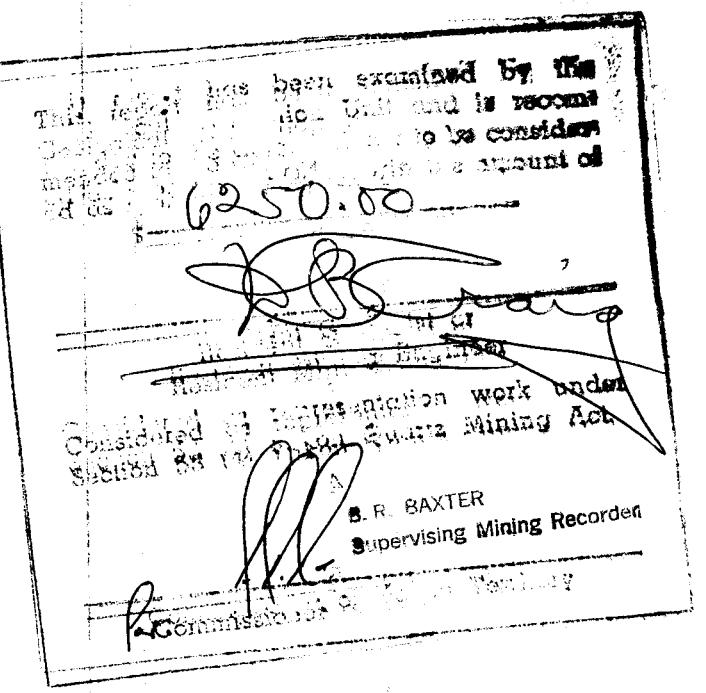




Complete List of Claims

| Claims | Numbers | Due Date |
|---|---|---|
| Lil 1 to 50 | YA 10441 to YA 10490 | August 10, 1978 |

090333


6250.00
B. R. BAXTER
Supervising Mining Recorder

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## APPENDICES


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## LIST OF ILLUSTRATIONS


| | Illustration No. | Scale |
|---|---|---|
| LOCATION MAP | GC-7484 | 1:12,500 |
| SOIL SAMPLE LOCATION-RESULTS PPM Cu | GC-7491 | 1:5,000 |
| GEOCHEM MAP Pb PPM IN SOIL | GC-7500 | 1:5,000 |
| GEOCHEM MAP Zn PPM IN SOIL | GC-7501 | 1:5,000 |

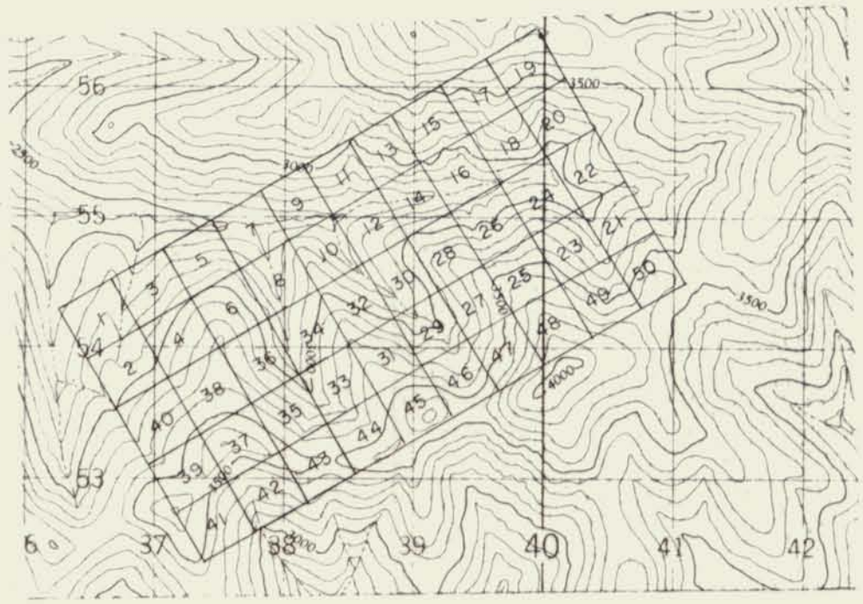
# GEOCHEMICAL SURVEY
# ON THE
# LIL CLAIMS
# AUSTRALIA MOUNTAIN AREA, Y.T.

## 1. INTRODUCTION

In August of 1977 Rio Tinto Canadian Exploration Limited staked a block of 50 mineral claims, the 'Lil' claims, located in the Australia Mountain area, Yukon Territory.

The 'Lil' claims were staked to cover an area of copper anomalous silt samples found during a regional silt sampling project by Riocanex in June of 1977. Immediately after staking, Riocanex carried out a small soil sampling programme to locate the source of the anomalous copper values in the silt samples.

This programme was carried out under the supervision of Mr. John McClintock. Results of the survey are discussed in the following report.


SCALE 1:50,000

N.T.S. 115-0-9

| | | |
|---|---|---|
| RIO TINTO CANADIAN EXPLORATION LTD. | | |
| LIL CLAIMS | | |
| LOCATION | | |
| MAY 1978 | J.M./y.m. | DWG. L-6525 |

## 2. LOCATION AND ACCESS

The property is located in west central Yukon in map sheet 115-O-9. The claims overlie the headwaters of a small tributary creek of Australia Mountain, approximately 4 km southwest of Australia Mountain, and 80 km southeast of Dawson City. Centre of the property occurs at Latitude $63^{o}36'$ and Longitude $138^{o}12'$.

Currently, the property is accessible only by helicopter Trans North Turbo Air presently operate a Bell 206B helicopter out of their permanent base at Dawson City. During the summer months, Trans West keeps a Hughes 500 helicopter on a casual charter basis, and it was this machine which was used for access during the current programme.

## 3. GEOLOGICAL SETTING

The area was mapped at a scale of 1 inch to 4 miles by the G.S.C. in 1934 and 1935 (G.S.C. Map 711 A; Bostock, 1942). Bostocks map shows the property to be underlain by Yukon Group gneiss and schist. Outcrop and float noted during the current survey suggest this work to be accurate.

## 4. SAMPLING, SAMPLE PREPARATION AND ANALYTICAL PROCEDURE

The soil sampling programme was carried out by a four man crew working from a base camp located on the Lil 8 claim. Work was carried out over a 10 day period, between August 1 and August 10. During this 10 day period a total of 180 soil samples were collected.

Soil samples were collected at 50 metre intervals along 200 metre spaced northeast trending lines. Soil samples were taken from the 'B' soil horizon. Where 'B' horizon material could not be obtained no samples were collected, and the sample site was marked as N.S.

All samples were placed in Kraft paper envelopes and shipped to the Rio Tinto Laboratory in North Vancouver, B.C. Here, samples were seived through 80-mesh bolting cloth, and oversized material discarded. Analyses was carried out on the minus 80-mesh fraction by atomic absorption spectrometer after digestion with hot concentrated nitric and perchloric acid. All samples were analysed for Cu, Pb and Zn.

## 5. INTERPRETATION OF RESULTS

The results of the soil sampling programme are shown on three accompanying drawings. Sample locations are shown on drawing GC-7484. The value in ppm obtained for the elements Cu, Pb and Zn are shown on drawings GC-7491, GC-7500 and GC-7501.

Threshold and anomalous levels for each of the metals of interest have been derived for 'B' horizon soils and are shown in Table I. The statistics were carried out on approximately 310 samples taken from the Lil claims and surrounding area. Previous work carried out in this part of the Yukon has shown all of the elements of interest to show a log normal distribution in the 'B' soil horizon. Therefore, statistical manipulations were carried out on the logs of the values. Threshold and anomalous levels were taken at the mean plus two standard deviations, and the mean plus three standard deviations respectively for each of the metals investigated.

TABLE I

Threshold and Anomalous Metal Values in
'B' Horizon Soils
Lil Claims

| Metal | Threshold Value | Anomalous Value |
|---|---|---|
| Cu | 80 ppm | 100 ppm |
| Pb | 14 ppm | 32 ppm |
| Zn | 130 ppm | 200 ppm |

(Data on the minus 80-mesh fraction; analyses on the Atomic Absorption spectrometer after digestion with hot nitric and perchloric acid)

The recent soil survey has revealed an area 500 metres by 250 metres to contain anomalous (>100 ppm) values for copper. Several reconnaissance soil samples collected from outside of the grid contained threshold or anomalous values for copper, suggesting that other areas of anomalous copper in soils are present on the claim block.

Analysis of the samples for lead and zinc failed to locate any area which contained anomalous values. Only a few sporadic samples within the grid contained threshold values for lead or zinc.

## 6. CONCLUSION AND RECOMMENDATIONS

The soil survey succeeded in locating a copper-soil anomaly 500 metres by 250 metres. In addition, reconnaissance soil sampling conducted outside of the soil sampling revealed several threshold and anomalous copper values. The presence of these anomalous samples indicate that other copper soil anomalies outside of the one currently defined on the soil grid may exist.

Further work on the Lil claims is recommended to determine the cause of the copper-soil anomalies. This proposed work should include the extension of the present soil grid over the entire claim block, and geological mapping of the property at a scale of 1:5000.

J. McClintock B Sc

H.W. Marsh, Eng.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA H.W. MARSH

# APPENDIX II

YUKON SCHIST 1977 GEOCHEMICAL RESULTS
AUSTRALIAN MOUNTAIN - LIL CLAIMS (AREA 6)

| NUMBER | COPPER | LEAD | ZINC |
|---|---|---|---|
| 7705800.0 | 35 | 7 | 60 |
| 7705801.0 | 31 | 8 | 56 |
| 7705802.0 | 34 | 11 | 38 |
| 7705803.0 | 21 | 8 | 56 |
| 7705804.0 | 9 | 8 | 44 |
| 7705805.0 | 65 | 10 | 96 |
| 7705806.0 | 82 | 3 | 92 |
| 7705807.0 | 44 | 10 | 84 |
| 7705808.0 | 38 | 5 | 76 |
| 7705809.0 | 131 | 5 | 60 |
| 7705810.0 | 58 | 8 | 72 |
| 7705811.0 | 93 | 9 | 60 |
| 7705812.0 | 13 | 4 | 40 |
| 7705813.0 | 22 | 6 | 52 |
| 7705814.0 | 33 | 13 | 98 |
| 7705815.0 | 54 | 8 | 122 |
| 7705816.0 | 43 | 9 | 80 |
| 7705817.0 | 48 | 9 | 75 |
| 7705818.0 | 14 | 6 | 35 |
| 7705819.0 | 15 | 7 | 34 |
| 7705820.0 | 18 | 9 | 40 |
| 7705821.0 | 27 | 12 | 66 |
| 7705822.0 | 21 | 10 | 66 |
| 7705823.0 | 23 | 8 | 60 |
| 7705824.0 | 20 | 6 | 55 |
| 7705825.0 | 35 | 8 | 76 |
| 7705826.0 | 40 | 7 | 63 |
| 7705827.0 | 43 | 6 | 85 |
| 7705828.0 | 64 | 7 | 85 |
| 7705829.0 | 40 | 5 | 70 |
| 7705830.0 | 40 | 5 | 74 |
| 7705831.0 | 49 | 5 | 82 |
| 7705832.0 | 56 | 8 | 130 |
| 7705833.0 | 43 | 8 | 40 |
| 7705834.0 | 15 | 8 | 46 |
| 7705835.0 | 28 | 10 | 56 |
| 7705836.0 | 19 | 9 | 48 |
| 7705837.0 | 20 | 10 | 68 |
| 7705839.0 | 15 | 6 | 51 |
| 7705840.0 | 35 | 7 | 102 |
| 7705841.0 | 55 | 9 | 86 |
| 7705842.0 | 76 | 8 | 76 |
| 7705843.0 | 43 | 7 | 102 |
| 7705844.0 | 33 | 7 | 78 |
| 7705845.0 | 14 | 7 | 44 |
| 7705846.0 | 65 | 3 | 44 |
| 7705847.0 | 73 | 3 | 42 |
| 7705848.0 | 64 | 5 | 46 |

| | | | |
|---|---|---|---|
| 7705849.0 | 55 | 5 | 40 |
| 7707031.0 | 14 | 7 | 25 |
| 7707032.0 | 18 | 4 | 42 |
| 7707033.0 | 52 | 3 | 123 |
| 7707034.0 | 21 | 2 | 28 |
| 7707035.0 | 15 | 7 | 68 |
| 7707036.0 | 28 | 7 | 102 |
| 7707037.0 | 83 | 9 | 30 |
| 7707038.0 | 19 | 4 | 38 |
| 7707039.0 | 32 | 3 | 65 |
| 7707040.0 | 79 | 2 | 94 |
| 7707041.0 | 15 | 4 | 44 |
| 7707042.0 | 22 | 3 | 114 |
| 7707043.0 | 225 | 1 | 30 |
| 7707044.0 | 15 | 8 | 52 |
| 7707045.0 | 29 | 3 | 48 |
| 7707046.0 | 39 | 6 | 80 |
| 7707047.0 | 21 | 5 | 45 |
| 7707048.0 | 49 | 9 | 110 |
| 7707049.0 | 360 | | 103 |
| 7707050.0 | 72 | 6 | 75 |
| 7707051.0 | 31 | 5 | 52 |
| 7707052.0 | 29 | 5 | 42 |
| 7707053.0 | 38 | 2 | 24 |
| 7707054.0 | 37 | 25 | 165 |
| 7707055.0 | 23 | 6 | 62 |
| 7707056.0 | 30 | 9 | 64 |
| 7707057.0 | 18 | 7 | 47 |
| 7707058.0 | 17 | 4 | 54 |
| 7707059.0 | 61 | 6 | 90 |
| 7707060.0 | 55 | 3 | 47 |
| 7707061.0 | 47 | 5 | 90 |
| 7707062.0 | 25 | 3 | 44 |
| 7707063.0 | 22 | 4 | 48 |
| 7707064.0 | 23 | 6 | 55 |
| 7707500.0 | 48 | 8 | 74 |
| 7707501.0 | 23 | 7 | 51 |
| 7707502.0 | 56 | 4 | 32 |
| 7707503.0 | 78 | 4 | 38 |
| 7707504.0 | 27 | 5 | 32 |
| 7707505.0 | 45 | 8 | 42 |
| 7707506.0 | 138 | 7 | 92 |
| 7707507.0 | 46 | 4 | 64 |
| 7707508.0 | 56 | 8 | 69 |
| 7707509.0 | 43 | 4 | 40 |
| 7707510.0 | 70 | 5 | 90 |
| 7707511.0 | 32 | 8 | 65 |
| 7707512.0 | 32 | 8 | 82 |
| 7707513.0 | 41 | 8 | 72 |
| 7707514.0 | 35 | 6 | 80 |
| 7707515.0 | 36 | 6 | 88 |
| 7707516.0 | 47 | 8 | 96 |
| 7707517.0 | 47 | 5 | 137 |
| 7707518.0 | 32 | 6 | 79 |

| | | | |
|---|---|---|---|
| 7707519.0 | 31 | 7 | 89 |
| 7707520.0 | 14 | 7 | 34 |
| 7707521.0 | 27 | 5 | 46 |
| 7707522.0 | 19 | 5 | 39 |
| 7707523.0 | 23 | 6 | 51 |
| 7707524.0 | 24 | 4 | 58 |
| 7707525.0 | 30 | 7 | 72 |
| 7707526.0 | 57 | 7 | 104 |
| 7707527.0 | 33 | 7 | 70 |
| 7707528.0 | 36 | 9 | 85 |
| 7707529.0 | 31 | 5 | 62 |
| 7707530.0 | 106 | 4 | 60 |
| 7707531.0 | 35 | 5 | 66 |
| 7707532.0 | 195 | 3 | 64 |
| 7707533.0 | 175 | 6 | 73 |
| 7707534.0 | 112 | 7 | 50 |
| 7707535.0 | 79 | 7 | 74 |
| 7707536.0 | 126 | 6 | 62 |
| 7707537.0 | 9 | 7 | 28 |
| 7707538.0 | 24 | 7 | 36 |
| 7707539.0 | 25 | 9 | 48 |
| 7707540.0 | 39 | 10 | 72 |
| 7707541.0 | 103 | 10 | 245 |
| 7707542.0 | 29 | 4 | 44 |
| 7707543.0 | 37 | 4 | 42 |
| 7707544.0 | 83 | 3 | 58 |
| 7707545.0 | 83 | 8 | 84 |
| 7707546.0 | 15 | 6 | 46 |
| 7707547.0 | 14 | 5 | 37 |
| 7707548.0 | 10 | 7 | 28 |
| 7707549.0 | 25 | 5 | 42 |
| 7707550.0 | 28 | 6 | 39 |
| 7707551.0 | 25 | 5 | 47 |
| 7708150.0 | 24 | 10 | 122 |
| 7708151.0 | 44 | 8 | 106 |
| 7708152.0 | 37 | 8 | 78 |
| 7708153.0 | 31 | 8 | 62 |
| 7708154.0 | 19 | 7 | 42 |
| 7708155.0 | 22 | 9 | 50 |
| 7708156.0 | 28 | 8 | 42 |
| 7708157.0 | 21 | 10 | 50 |
| 7708158.0 | 32 | 8 | 64 |
| 7708159.0 | 73 | 8 | 74 |
| 7708160.0 | 56 | 5 | 82 |
| 7708161.0 | 50 | 4 | 82 |
| 7708162.0 | 43 | 5 | 66 |
| 7708163.0 | 80 | 5 | 130 |
| 7708164.0 | 33 | 8 | 90 |
| 7708165.0 | 32 | 5 | 68 |
| 7708166.0 | 43 | 6 | 82 |
| 7708167.0 | 25 | 5 | 62 |
| 7708168.0 | 40 | 8 | 84 |
| 7708169.0 | 21 | 8 | 75 |
| 7708170.0 | 39 | 7 | 86 |

| | | | |
|---|---|---|---|
| 7708171.0 | 39 | 9 | 88 |
| 7708172.0 | 32 | 9 | 64 |
| 7708173.0 | 30 | 8 | 70 |
| 7708174.0 | 15 | 6 | 44 |
| 7708175.0 | 9 | 5 | 20 |
| 7708176.0 | 17 | 5 | 42 |
| 7708177.0 | 22 | 6 | 52 |
| 7708178.0 | 79 | 14 | 64 |
| 7708179.0 | 36 | 7 | 76 |
| 7708180.0 | 51 | 8 | 48 |
| 7708181.0 | 15 | 7 | 44 |
| 7708182.0 | 15 | 10 | 43 |
| 7708183.0 | 17 | 5 | 48 |
| 7708184.0 | 24 | 8 | 54 |
| 7708185.0 | 34 | 3 | 64 |
| 7708186.0 | 68 | 3 | 62 |
| 7708187.0 | 72 | 4 | 68 |
| 7708188.0 | 24 | 4 | 60 |
| 7708189.0 | 67 | 7 | 115 |
| 7708190.0 | 29 | 7 | 75 |
| 7708191.0 | 59 | 6 | 88 |
| 7708192.0 | 57 | 6 | 52 |
| 7708193.0 | 32 | 6 | 34 |
| 7708194.0 | 56 | 3 | 30 |


## MELBA CREEK AREA 5

N.T.S. 115-0-9

| Sample No. | Cu | Pb | Zn |
|---|---|---|---|
| 7065 | 35 | 4 | 56 |
| 7066 | 25 | 3 | 72 |
| 7067 | 4 | 7 | 20 |
| 7068 | 10 | 8 | 40 |
| 7069 | 11 | 9 | 28 |
| 7070 | 14 | 4 | 40 |
| 7071 | 10 | 5 | 34 |
| 7072 | 27 | 4 | 32 |

ppm

SCALE 1: 25000 ( approx. )

Metres 0 500 1000 2000 Metres

## AUSTRALIA MOUNTAIN - LIL CLAIMS

N.T.S. 115-0-9

| Sample No. | Cu | Pb | Zn |
|---|---|---|---|
| 6525 | 105 | 2 | 78 |
| 6527 | 33 | 3 | 56 |
| 6529 | 33 | 2 | 44 |
| 7030 | 98 | 7 | 32 |
| 7031 | 14 | 7 | 25 |
| 7032 | 18 | 4 | 42 |
| 7033 | 52 | 3 | 23 |
| 7034 | 21 | 2 | 28 |
| 7035 | 15 | 7 | 68 |
| 7036 | 28 | 7 | 102 |
| 7037 | 83 | 9 | 30 |
| 7038 | 19 | 4 | 38 |
| 7039 | 32 | 3 | 65 |
| 7040 | 79 | 2 | 94 |
| 7041 | 15 | 4 | 44 |
| 7042 | 22 | 3 | 114 |
| 7043 | 225 | 1 | 30 |
| 7044 | 15 | 8 | 52 |
| 7045 | 29 | 3 | 48 |
| 7046 | 39 | 6 | 80 |
| 7047 | 21 | 5 | 45 |
| 7048 | 49 | 9 | 110 |
| 7049 | 360 | – | 103 |
| 7050 | 72 | 6 | 75 |
| 7051 | 31 | 5 | 52 |
| 7052 | 29 | 5 | 42 |
| 7053 | 38 | 2 | 24 |
| 7054 | 37 | 25 | 165 |
| 7055 | 23 | 6 | 62 |
| 7056 | 30 | 9 | 64 |
| 7057 | 18 | 7 | 47 |
| 7058 | 17 | 4 | 54 |
| 7059 | 61 | 6 | 90 |
| 7060 | 55 | 3 | 47 |
| 7061 | 47 | 5 | 90 |
| 7062 | 25 | 3 | 44 |
| 7063 | 22 | 4 | 48 |
| 7064 | 23 | 6 | 55 |

ppm


## LEGEND

- (42) Reconnaissance silt sample location with copper value in ppm
- 7033 ⊗ Silt sample location Riocanex
- 7032 ○ Soil sample location Riocanex
- ⊗ ≥ 38 ppm copper in silt sample
- ◎ ≥ 60 ppm copper in soil sample
- 8150 — 8169 Soil sampling line location Riocanex Sample colected every 50 metres

Lil claim block

N.T.S. 115-0-9

SCALE 1: 10,000 ( approx. )

METRES 200 100 0 200 400 600 800 METRES

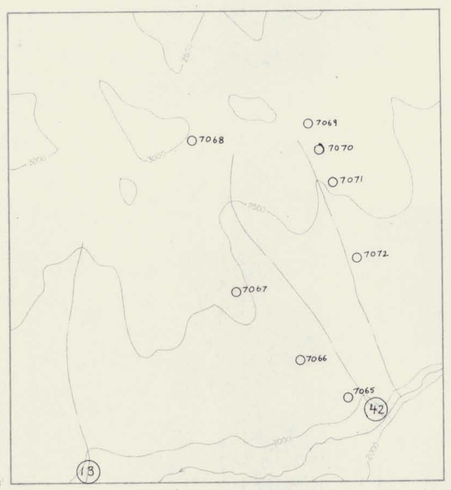
RIO TINTO CANADIAN EXPLORATION LIMITED

YUKON SOIL CLAIMS RECONNAISSANCE

GEOCHEMISTRY

SAMPLE LOCATION

JAN. 1978 J.Mc./a.b. GC-7499




## MELBA CREEK AREA 5

N.T.S. 115-0-9

| Sample No. | Cu | Pb | Zn |
|---|---|---|---|
| 7065 | 35 | 4 | 56 |
| 7066 | 25 | 3 | 72 |
| 7067 | 4 | 7 | 20 |
| 7068 | 10 | 8 | 40 |
| 7069 | 11 | 9 | 28 |
| 7070 | 14 | 4 | 40 |
| 7071 | 10 | 5 | 34 |
| 7072 | 27 | 4 | 32 |

ppm

SCALE 1: 25000 ( approx. )

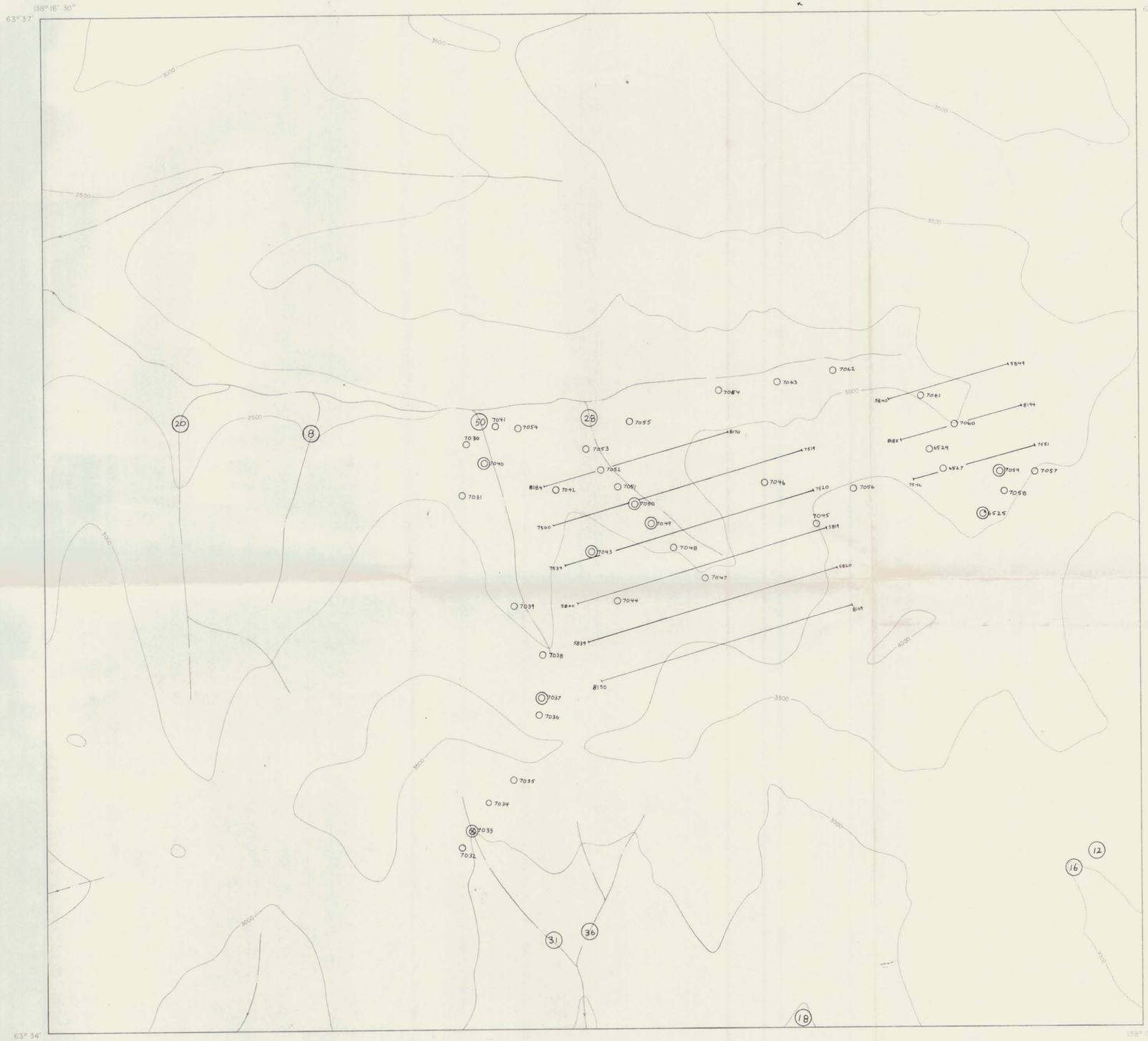
Metres 0 500 1000 2000 Metres

## AUSTRALIA MOUNTAIN - LIL CLAIMS

N.T.S. 115-0-9

| Sample No. | Cu | Pb | Zn |
|---|---|---|---|
| 6525 | 105 | 2 | 78 |
| 6527 | 33 | 3 | 56 |
| 6529 | 33 | 2 | 44 |
| 7030 | 98 | 7 | 32 |
| 7031 | 14 | 7 | 25 |
| 7032 | 18 | 4 | 42 |
| 7033 | 52 | 3 | 23 |
| 7034 | 21 | 2 | 28 |
| 7035 | 15 | 7 | 68 |
| 7036 | 28 | 7 | 102 |
| 7037 | 83 | 9 | 30 |
| 7038 | 19 | 4 | 38 |
| 7039 | 32 | 3 | 65 |
| 7040 | 79 | 2 | 94 |
| 7041 | 15 | 4 | 44 |
| 7042 | 22 | 3 | 114 |
| 7043 | 225 | 1 | 30 |
| 7044 | 15 | 8 | 52 |
| 7045 | 29 | 3 | 48 |
| 7046 | 39 | 6 | 80 |
| 7047 | 21 | 5 | 45 |
| 7048 | 49 | 9 | 110 |
| 7049 | 360 | – | 103 |
| 7050 | 72 | 6 | 75 |
| 7051 | 31 | 5 | 52 |
| 7052 | 29 | 5 | 42 |
| 7053 | 38 | 2 | 24 |
| 7054 | 37 | 25 | 165 |
| 7055 | 23 | 6 | 62 |
| 7056 | 30 | 9 | 64 |
| 7057 | 18 | 7 | 47 |
| 7058 | 17 | 4 | 54 |
| 7059 | 61 | 6 | 90 |
| 7060 | 55 | 3 | 47 |
| 7061 | 47 | 5 | 90 |
| 7062 | 25 | 3 | 44 |
| 7063 | 22 | 4 | 48 |
| 7064 | 23 | 6 | 55 |

ppm




### LEGEND

- (42) Silver Standard silt sample location with ppm copper
- 7033 ⊗ Silt sample location Riocanex
- 7032 ○ Soil sample location Riocanex
- ⊗ ≥ 38 ppm copper in silt sample
- ◎ ≥ 60 ppm copper in soil sample
- 8150—8169 Soil sampling line location Riocanex Sample colected every 50 metres

N.T.S 115-0-9

SCALE 1: 10,000 (approx.)

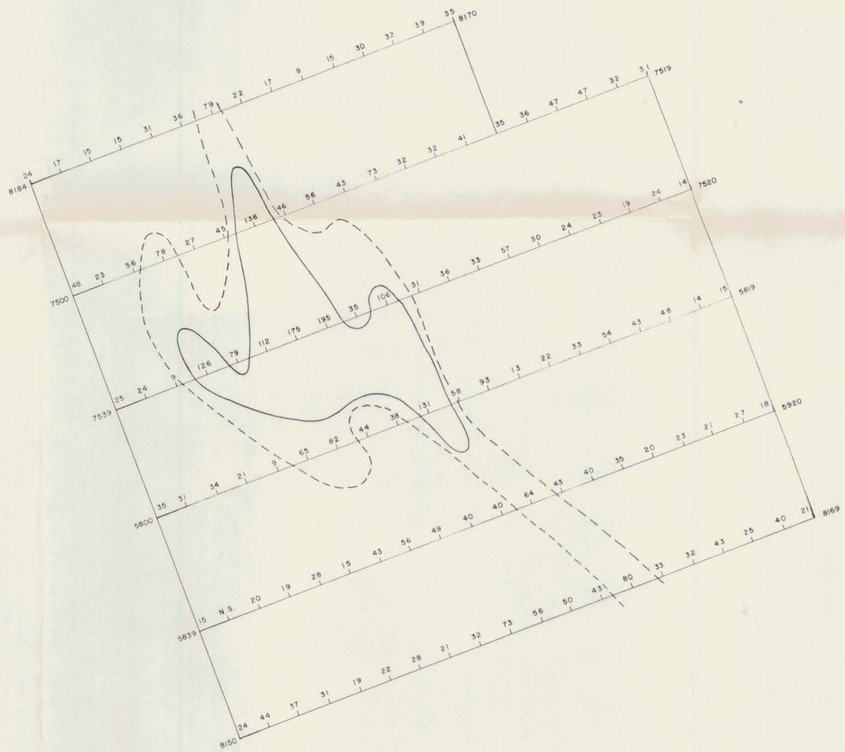
METRES 200 100 0 200 400 600 800 METRES

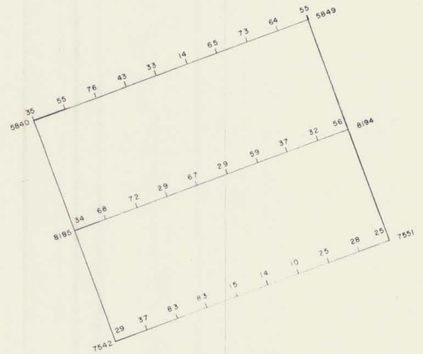
RIO TINTO CANADIAN EXPLORATION LIMITED

YUKON SCHIST RECONNAISSANCE

GEOCHEMISTRY
AREAS 5 and 6

JAN. 1978 J.Mc./a.b. GC-7484




N

LEGEND

5920 ····· Sample No.

20 ····· ppm Cu

····· Area of Cu ≥ 100 ppm

····· Area of Cu ≥ 70 ppm

N.T.S. 115-0-9

SCALE 1:5000

Metres 100 50 0 100 200 300 400 500 Metres

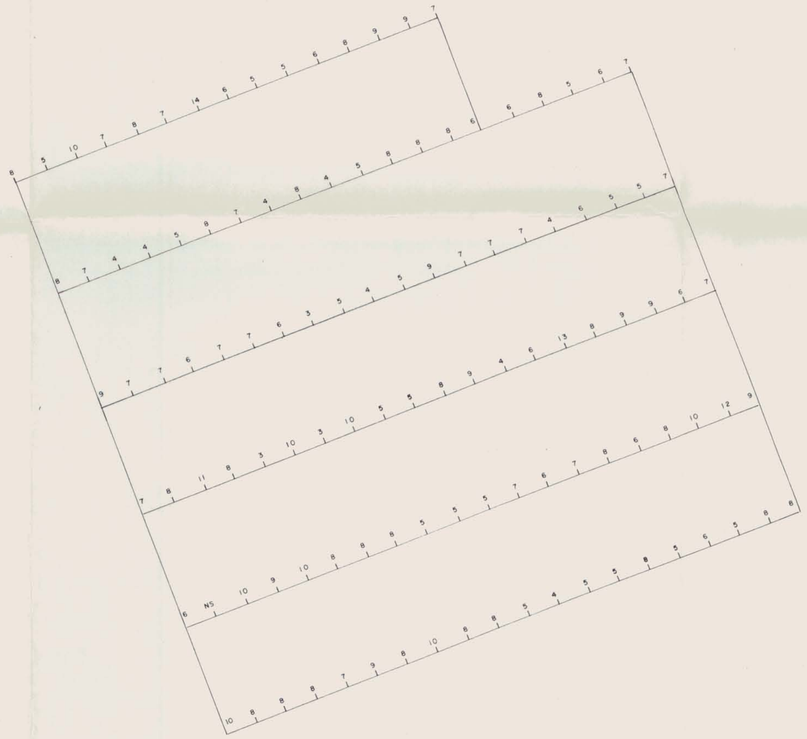
RIO TINTO CANADIAN EXPLORATION LIMITED

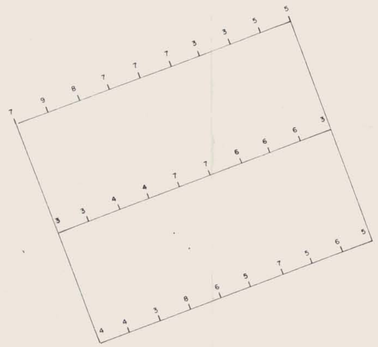
LIL CLAIMS AUSTRALIA MTN.

SOIL SAMPLE LOCATION

RESULTS ppm Cu

JAN. 1978 | J.Mc./a.b. | DWG. GC-7491





N

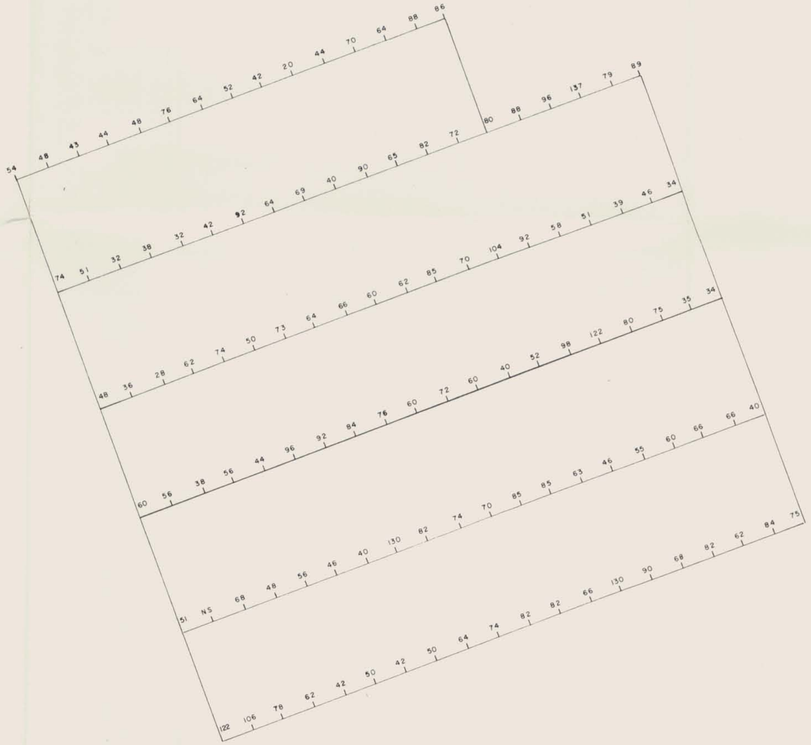
10 ..... ppm Pb

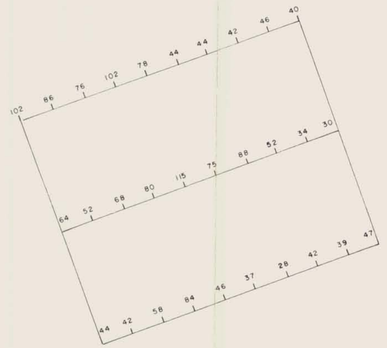
N.T.S 115-0-9

SCALE 1: 5000

Metres 100 50 0 100 200 300 400 500 Metres

| | | |
|---|---|---|
| RIO TINTO CANADIAN EXPLORATION LIMITED | | |
| LIL CLAIMS | | |
| PPM Pb | | |
| MAY 1978 | J.M./y.m. | DWG. GC - 7500 |




N

40 ppm Zn

N.T.S 115-0-9

SCALE 1:5000

Metres 100 50 0 100 200 300 400 500 Metres

RIO TINTO CANADIAN EXPLORATION LIMITED

LIL CLAIMS

PPM Zn

MAY 1978 | J.M./y.m. | DWG. GC - 7501