YULE CLAIMS, B.C.

GEOLOGY, GEOPHYSICS & GEOCHEMISTRY, 1981

57° 34'N 125° 13'W

N.T.S. 94F/11E&W

Omineca M.D.

G.D. Hodgson, October 1981
C.J. Campbell,

Owner and Operator: Riocanex Inc.

Work Performed on: Yule 1-14

81-#1030.-#9798

SUMMARY

Devonian black shale is known to host important deposits of lead, zinc and silver in the northern Rockies of B.C. The Yule claims are adjacent to the Cirque deposit on strike to the north-west.

In 1981 detailed mapping revealed that blebby barite and pyrite laminae characterize the Active Zone on the Yule. Internal structure is complicated and dominated by a series of NW-plunging isoclinal, overturned folds. The potential for mineralization remains.

Additional soil sampling did not appreciably extend areas anomalous for lead.

VLF aided in mapping prominent thrust faults. HEM and VLF EM results correlated well and verified the presence of a major thrust.

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	"	1:5000	GP-6726
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SILT and SOIL Sample locations	GC-8807
Ag ppm	GC-8808
Pb ppm	GC-8809
Zn ppm	GC-8810

1. INTRODUCTION

Devonian black shale in the northern Rockies of British Columbia hosts important deposits of lead, zinc and silver, e.g. the Cirque deposit of Hudson's Bay Oil & Gas Co. Ltd. The Yule claims are adjacent to the Cirque, on strike to the northwest. They were staked by Riocanex in 1978 to cover anomalous stream-silt geochemistry. Exploration by Riocanex prior to 1981 included geological mapping, soil sampling and minor orientation geophysics. The 1981 programme comprised detailed geological mapping and a VLF survey, with some soil sampling.

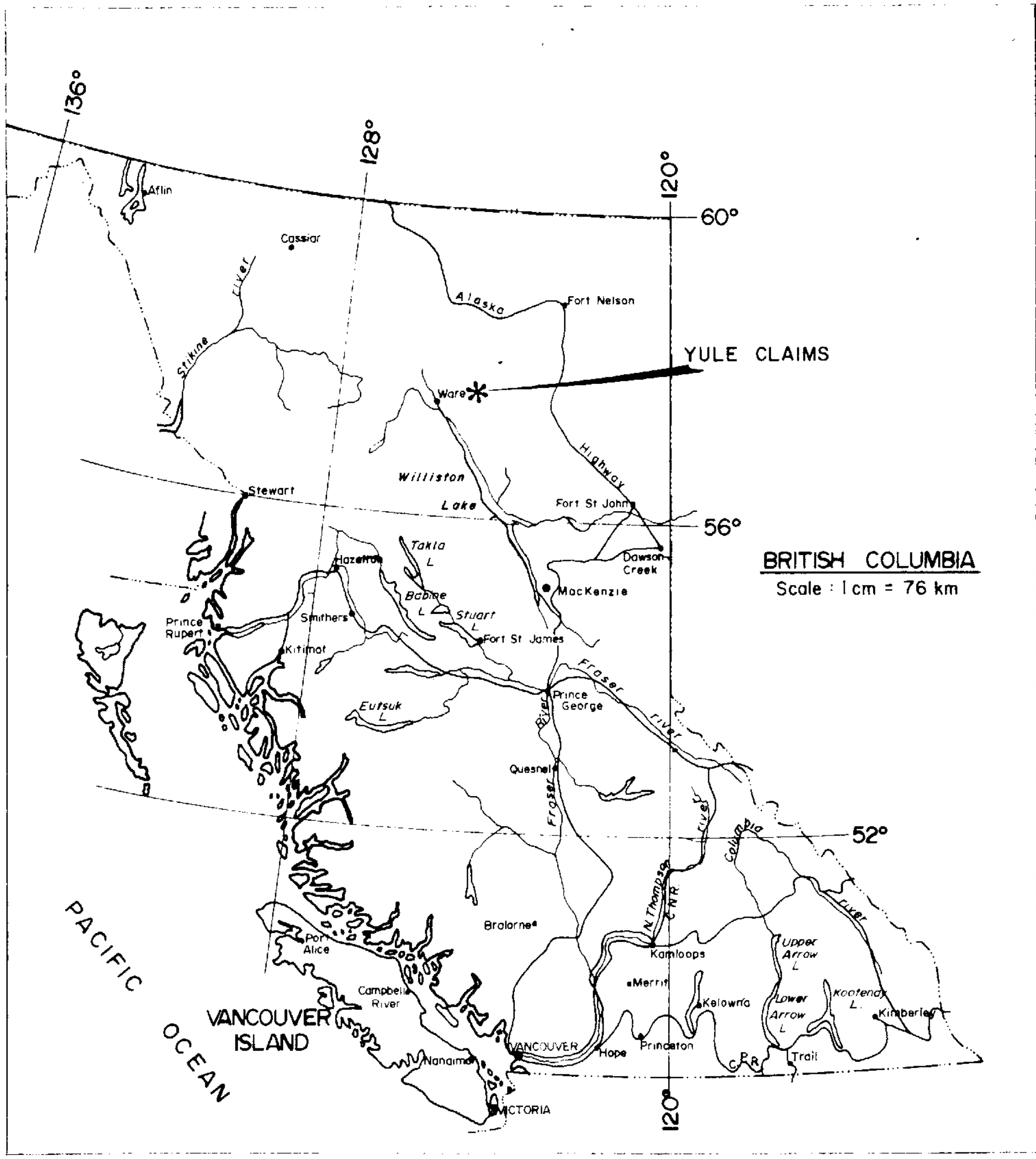
2. LOCATION & ACCESS

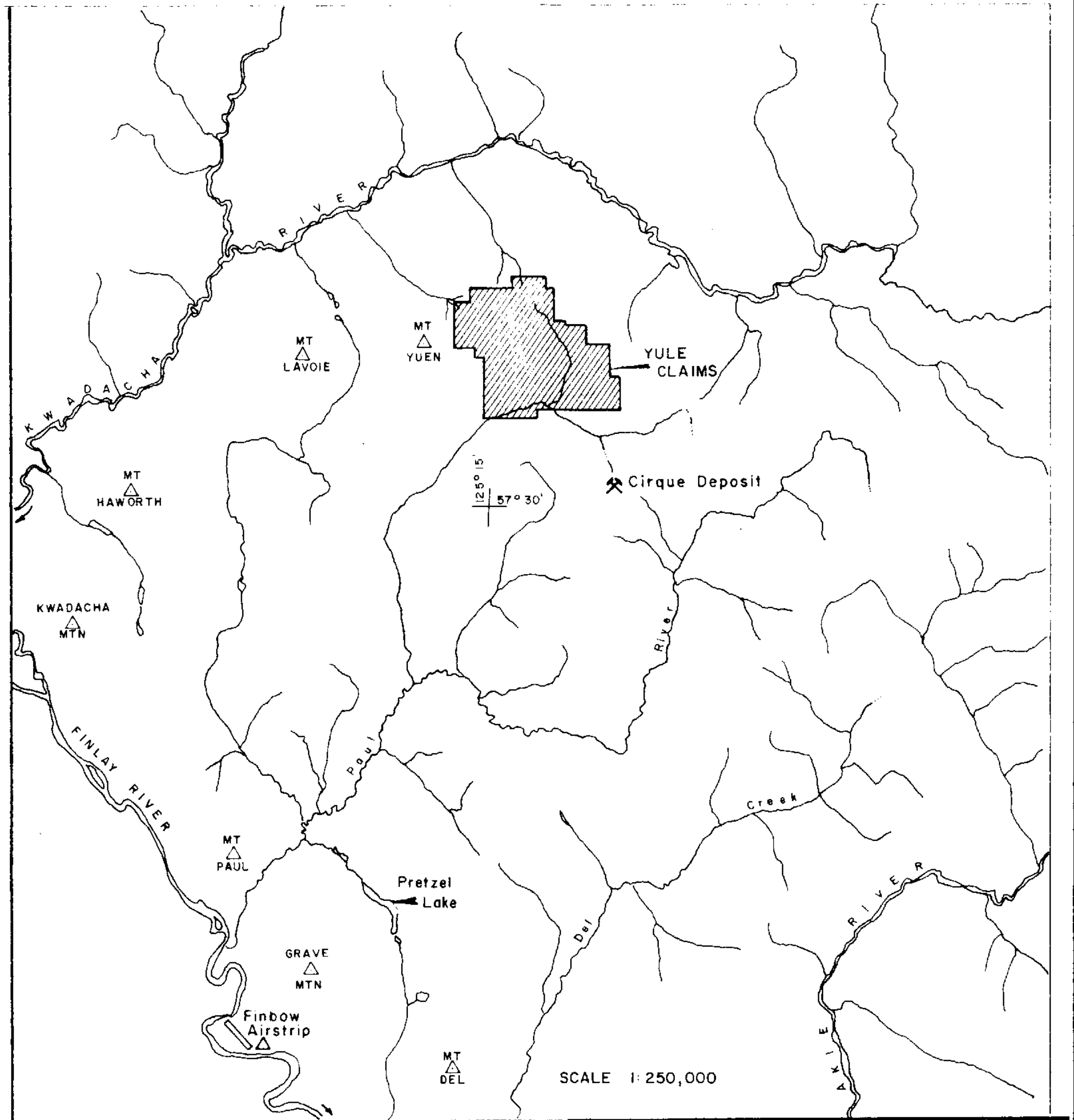
The claims are situated in the western ranges of the northern Rocky Mountains south of the Kwadacha River, a major tributary of the Finlay (Dwg. L-6682).

Latitude: 57° 34'N
Longitude: 125° 13'W
N.T.S.: 94F/11E and W
Omineca Mining Division

The nearest towns are Fort Nelson, 200km to the northeast, and Mackenzie, 280km to the southeast at the southern end of Williston Lake. A 1500m gravel airstrip has been built on the Finlay River at "Finbow", the exploration camp for the Cirque property. A winter road now connects Finbow with logging roads on the west side of Williston Lake. After the spring breakup barges run from Mackenzie to the north end of Williston Lake.

Access to the Yule claims is by helicopter. In 1981 the Riocanex exploration camp was situated at Pretzel Lake, 25km south of the property. Helicopters are permanently based at Mackenzie and Ft. Nelson.





NO. 9798

N.T.S. 94 F/11

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS

LOCATION MAP

DEC. 80	GDH / sg	DWG. L-6682

3. TOPOGRAPHY & VEGETATION

The area is mountainous and elevations range from 1200m to over 2100m above sea level. Much of the area is above tree line and is covered by alpine meadows. Lower slopes and valley bottoms are forested with spruce and alder.

4. HISTORY & PREVIOUS WORK

In 1977 barite-pyrite-sphalerite-galena was discovered in Devonian black shale by geologists working for a Cyprus Anvil Mining Corporation- Hudson's Bay Oil & Gas Co. Ltd. exploration joint venture. This mineralization is now staked as the Cirque property and drilling by the joint venture began in 1978. By the end of 1980 published reserves were 30 million tonnes grading about 11% Pb and Zn.

Riocanex staked the Yule claims in 1978 following a regional exploration programme. Prior to 1981 geological mapping and soil sampling were done.

The Geological Survey of Canada has produced Open File maps of the area on a scale of 1:125,000 (Gabrielse, 1977; Taylor 1979). MacIntyre (1981) has mapped part of the belt at 1:50,000 for the B.C. Ministry of Energy, Mines and Petroleum Resources.

5. WORK PERFORMED IN 1981

The 1981 Riocanex exploration programme comprised 1:2,000 geological mapping, 50km VLF, 9km MaxMin horizontal-loop EM geophysics, and minor soil sampling.

Geological mapping was by G.D. Hodgson and N.G. Smith. S. Gokool supervised the VLF survey and the soil sampling. D. Sexsmith operated the horizontal loop equipment. Geophysics interpretation is by C.J. Campbell. Vernon Helicopters Ltd. provided helicopter support.

6. GEOLOGY

6.1 General Statement

Barite-pyrite-sphalerite-galena mineralization occurs locally in Devonian shale. Tectonic elements trend NW-SE and the different rock units are exposed as narrow linear belts. Mapping on the Yule claims was done at a scale of 1:2,000 with a compilation map being produced at 1:10,000 (Dwg. G-7597).

There are few published accounts of the geology of the area. Regional mapping has been by Gabrielse (1962, 1975, 1977), Taylor & Stott (1973), Taylor (1979) and MacIntyre (1980, 1981). Major Riocanex reports are by Graf (1978), Hodgson (1979, 1980) and Hodgson & Thompson (1980).

6.2 Stratigraphy

Because there are so few formal names for the rock units in the area, many of those used by company geologists have been introduced without type sections having been established. A brief description is given below.

Kechika Group

Talcy-lime shale and shaly banded limestone of the Kechika Group are the oldest rocks exposed in the area.

They are thought to be of Cambro-Ordovician age, though their relationship with underlying older strata is not known.

The Skoki Formation overlies Kechika rocks and crops out to the north and east. It comprises banded grey silty dolostone. It is not exposed in the area of the claims, but at about the same stratigraphic horizon is a thinly banded tan and grey carbonate unit.

Road River Group

The Road River Group encompasses an assortment of sediments and minor igneous rocks of Ordovician and Silurian age. Four major but informal units have been mapped:

(IV)	Muskwa siltstone	Silurian
(III)	Nep formation	
(II)	Del Creek formation	Ordovician
(I)	Road River shale	

(I) Road River shale: This unit comprises dark grey, black, calcareous, graphitic shale containing an abundant graptolite fauna. Towards the base, a chert facies may be present locally and from place to place this is associated with limestone beds up to 10m thick.

(II) Del Creek formation: An orange-weathering hematitic siltstone has its maximum expression in the Akie River area. It appears to be a facies equivalent of the lower part of the Road River black shale package. Iron oxides commonly occur as discontinuous laminae. Minor chert and limestone are interbedded with the siltstone. Included within this unit is a distinctive agglomerate, comprising limy breccia and conglomerate with clasts of various sizes and compositions in a chloritic matrix.

(III) Nep formation: The Road River shale passes, apparently conformably, up into a unit of grey limestone locally interbedded with black chert. Siltstone with shale pods and limestone may occur, and these commonly bear graptolites. The unit is from place to place cut out by thrust faulting or by an overlying unconformity.

(IV) Muskwa siltstone: This tan weathering, dolomitic Silurian siltstone is resistant and commonly underlies the higher peaks and ridges. It varies from a fissile, silty flagstone to a highly bioturbated, rubbly siltstone with numerous worm burrows and spiral feeding trails. Graptolites up to 1m long are locally present. Not uncommon are hematite or pyrite nodules and calcareous concretions 1m across.

Besa River Group

Mississippian ?	(V)	Warneford facies
	(IV)	Upper Gunsteel shale
Middle Devonian	(III)	Lower Gunsteel shale
	(II)	Akie shale
	(I)	Kwadacha limestone

(I) The middle Devonian Kwadacha limestone overlies the Silurian siltstone. Above a locally developed basal conglomerate there is a lower unit of reefal debris, a central unit of interbedded chert and limestone, and an upper unit of reefal limestone. Middle Devonian two-hole crinoids, corals and stromatoporoids are present. The Kwadacha limestone is thickest in the area of the headwaters of the Paul River. Elsewhere it is much reduced, representing little more than debris flows or thin shelf deposits, or is absent entirely.

(II) The Akie shale is in part a basinward equivalent of the Kwadacha reef, directly overlying the Silurian package to the west, but spilling eastwards over the Kwadacha reef limestone. The Akie shale consists of a locally silty, pyritic, hematite-stained, black shale with chert nodules and rare plant fragments. It is not well exposed on the Yule claims, but does outcrop in both Noël Creek and Christmas Creek.

(III) The Lower Gunsteel Shale is similar to the upper parts of the Akie in that it is essentially a dark grey to black shale largely devoid of coarse clastic material. Its base is indistinct on the Yule claims. "Poker-chip" shale predominates; on surface this is a fine-grained, non-siliceous mudrock which commonly weathers to paper shale. The unit contains abundant carbonaceous material and there is a suggestion of an upward increase in iron content.

Within the lower part of the lower Gunsteel is the so-called "Active Zone" which hosts the mineralization on the Cirque claims. It appears to be widely distributed but only locally developed. On the Cirque property the Active Zone has a basal, thinly bedded chert sequence, a central barite unit of mineralized, massive, bedded barite, and an upper, mineralized, siliceous black shale unit. Along strike, the 50m thick barite unit grades rapidly into shale with blebs of barite, and the upper siliceous unit is mineralized only with laminae of fine-grained pyrite - the so-called "pregnant shale". On the Yule claims shale with blebby barite and pyrite laminae characterize the Active Zone.

(IV) The lower Gunsteel grades into Upper Gunsteel rocks. These latter are characteristically siliceous, comprising medium grey to black chert and light grey to blue-grey siliceous shale. Whereas the chert is typically banded or laminated, the shale appears to be featureless.

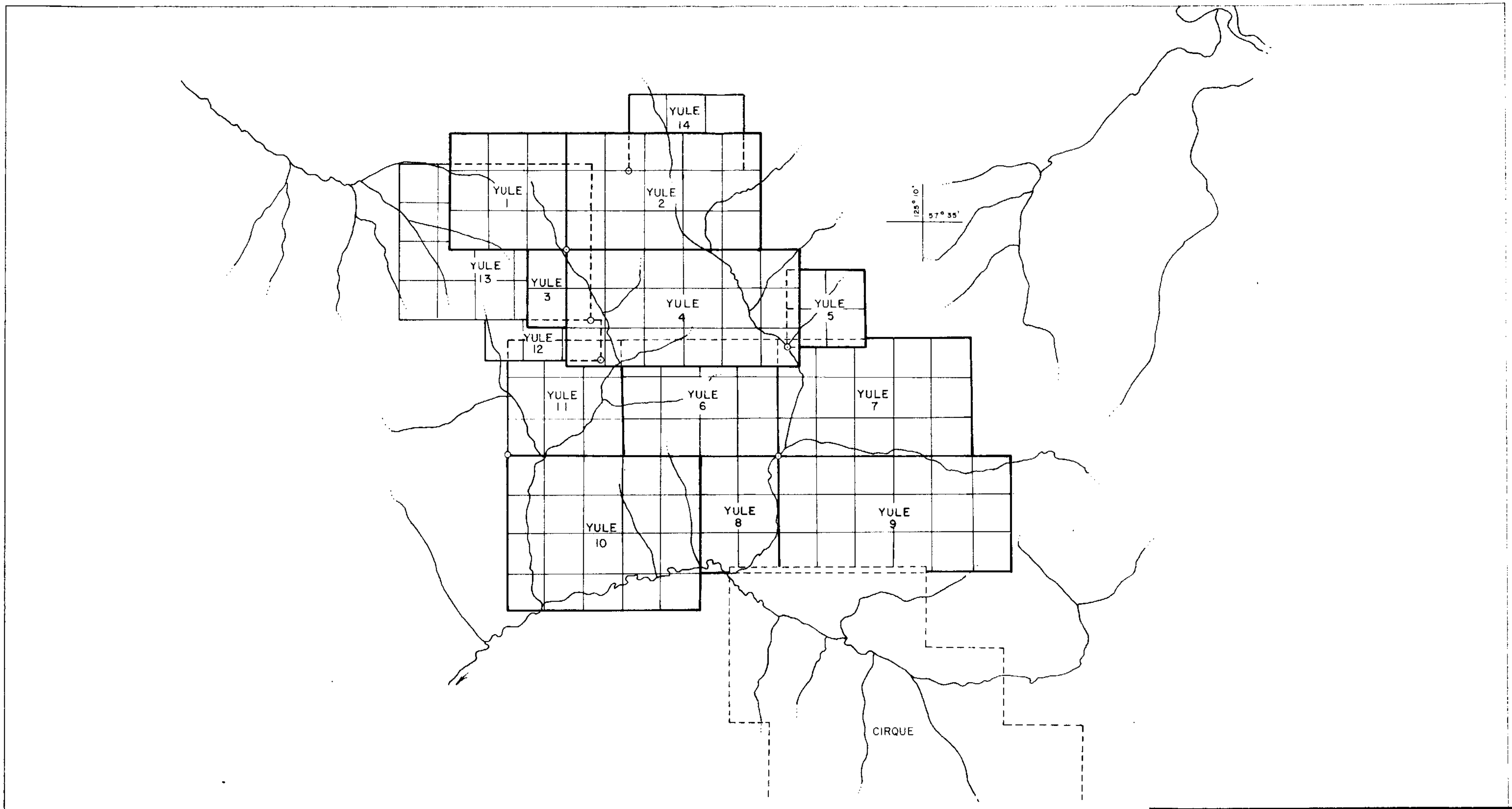
Towards the top chert becomes subordinate to shale but there is much interdigitation between the two rock types. On the west side of Noël Creek upper Gunsteel rocks form prominant crags.

(V) Warneford is the name given to a unit variously comprising black hematitic shale, quartzite and polymictic conglomerate. In part it interdigitates with the Gunsteel shale, but elsewhere is younger. The unit is best developed north of the Kwadacha River. It has not been recognized on the Yule claims.

6.3 Structure

The Rocky Mountain Trench to the west represents a major dextral strike-slip fault. The main ranges of the Rocky Mountains to the east comprise older strata exposed in the core of an anticlinorium. The rocks of the western ranges, which include the metalliferous Devonian black shale lie within a NW-SE trending synclinorium. Within this synclinorium, the structure is dominated by upright folds, high-angle reverse faults and thrusts. Units are exposed in long, thin belts between these structures. Cross-cutting valleys represent the loci of the NE-SW trending structures that may have been important since late Proterozoic time and which have influenced deposition throughout the Phanerozoic.

On the Yule claims Devonian rocks are exposed as two parallel belts within the NW-SE trending valleys of Christmas Creek and Noël Creek. The internal structure is complicated and apparently dominated by a series of NW-plunging isoclinal, overturned folds. Faults, both reverse and normal, are also probably important, but these are difficult to define precisely with the poor outcrop. Many trend subparallel to the strike of the



N

N. T. S. 94 F 11E , 11W

SCALE 1:50,000

1000 500 0 1000 2000 3000 4000 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS

CLAIM MAP

DEC 80	GDH / sg	DWG. C-6683

rocks. There are also major cross-cutting normal faults.

The base of the Devonian shale package is not exposed. The top is always sliced off by a high-angle reverse fault or a thrust that has caused pre-Devonian strata to rest on top of the Devonian.

7. GEOCHEMISTRY

7.1 Objectives

The Yule claims were the object of a major soil sampling programme in 1980. This programme did not cover the southeastern corner of the claim group where an anomalous trend in the soil geochemistry remained open. The soil sampling in 1981 was designed to extend coverage in this southeast corner to explore further the high soil geochemical values.

7.2 Procedure

96 soil samples were collected on the Yule claims in 1981 (Dwg. GC-8807). Soil samples were taken at 40m intervals along two lines, 200m apart (L3700N, L3500N). Where possible the 'B' soil horizon was sampled; care was taken to avoid coarse detritus and organic material. The samples were collected in Kraft paper bags and sent to the Riocanex laboratory in North Vancouver for analysis.

The Cu, Pb, Zn and Ag analyses were done as follows. Each sample was prepared by drying and sieving to -80 mesh, 0.6gm of which was placed in a test tube with 2ml of concentrated nitric acid. After heating in a hot water bath at 95°C for 1/2 hour, and subsequent cooling, 1ml concentrated hydrochloric acid was added and the solution, heated in a hot water bath at 95°C for 1 1/2 hours, allowed to cool, and diluted with deionized water to a final volume of 12ml. The sample solutions were then analyzed by atomic absorption. Sample locations and results are shown in Dwgs. GC-8808 to GC-8810. Copper results are not plotted.

7.3 Results

Pb Lead values are uniformly low. Highest values are in the 20-35ppm range and are erratically distributed.

Zn values range from 21 to 6460ppm with many greater than 400ppm. Highs on L-3700N continue north-east to the end of the line and connect with high values on adjacent lines. Highs further south on L-3700N and 3500N connect with high values to the west.

Ag values are generally low but higher values are present sporadically. There is no 1:1 correlation with higher zinc or lead values.

Cu Copper results are inconclusive and hence were not plotted.

8. GEOPHYSICS

A total of 50.425 kilometres of VLF-EM were run over the Yule claims, utilizing the soil geochemistry grid. A further 9.075 kilometres of horizontal-loop EM were run over two particular areas, China Ridge and Noël Creek. These geophysical efforts are detailed in the following sections.

8.1 VLF-EM

Object of the VLF survey was to assist in mapping geological trends and discrete units underlying the Yule claims. 50.425 kilometres were surveyed utilizing the soil geochemistry grid which had been established by means of compass and hip-chain; line interval was a nominal 100 metres and stations were read every 25 metres. Instruments used were two EM-16's (obtained on a rental basis from Geonics Limited, Toronto) utilizing transmission from Seattle NLK at 18.6 kHz.

The EM-16 uses military and time standard Very Low Frequency (radio) transmissions as primary fields which are generated as a concentric horizontal magnetic field. When these horizontal magnetic fields encounter conductive bodies in the ground, a secondary vertical magnetic field is in turn generated. The total field will then be tilted on either side of a local conductor. This local vertical field is not always in the same phase as the primary field on the ground surface. The EM-16 receiver measures the in-phase and quadrature components of the vertical field.

The VLF data has been filtered using the standard Fraser filter operator: $F_{2,3} = (\theta_3+\theta_4) - (\theta_1+\theta_2)$. Data is presented in contour form on Dwg.'s GP- 8875 & GP- 8876 and in profile form on Dwg.'s GP-8873 & GP- 8874, all at a horizontal scale of 1:5000.

VLF trends, particularly as evidenced by the Fraser Filter Contour Map, confirm the general northwest-southeast strike of the underlying strata. VLF is seen to be a definite aid in mapping a prominant thrust fault whose surface expression lies just east of the 5280E Baseline. The presence of this fault axis is shown by a strong VLF high feature (Dwg. GP-8875). A similar VLF anomaly shown to the southwest (Dwg. GP-8876), lying just east of the 5000E Baseline, may represent a southwest extension of the aforementioned thrust fault though there is no hard geological evidence to support this. The remainder of the surveyed area is revealed to be fairly anomalous, characterized by "banding" on the Fraser Filter Contour Map. The

VLF banding may be thought of as representative of distinct zones of contrasting resistivities. No significant VLF anomalies typical of a near-surface sulphide occurrence are obvious. Rough topography is certainly influencing the data, although the Fraser Filter does tend to remove much of its effect.

8.2 Horizontal-Loop EM

Object of the HLEM work was to search for direct indications of massive sulphide accumulations in two pre-selected (on the basis of likely geology and favourable geochemistry) zones. 4.875km and 4.2km were surveyed in the China Ridge and Noël Creek areas, respectively. Instrumentation employed was the company-owned Apex Parametrics Limited MaxMin II utilizing three frequencies, 222, 888 & 3555 Hz. Traverses were run with a 100 metre Tx-Rx coil separation.

The MaxMin II is a two-man EM system designed to measure both the vertical and horizontal in-phase and quadrature-phase components of anomalous fields from electrically conductive zones. The plane of the transmitter is always kept parallel to the mean slope between Tx and Rx. When the MaxMinn II is being operated as a horizontal-loop (maximum coupled) system, the plane of the receiver is kept parallel to the mean slope and measurements of anomalous components perpendicular to that mean slope are made. It is also used as a minimum-coupled system wherein the receiver measures anomalous components parallel to the mean slope between coils. Generally, the MaxMin II is run in the maximum-coupled, horizontal-loop mode with the minimum-coupling mode being used in the few instances where it can improve on the data of the former. It also has the ability to be operated utilizing the following variables:

(i) five system frequencies (222, 444, 888, 1777 & 3555 Hz) in order to deal effectively with a wide range of overburden and bedrock conductor conductivities.

(ii) six Tx-Rx separations (25, 50, 100, 150, 200 & 250 metres) in order to search from large deep conductive zones to the resolution of shallow, parallel conductive zones.

Mean slopes between Tx and Rx coils as well as actual coil separation were computed using a programmable calculator. Since the two coils were always operated in a coplanar fashion, only a short or long coil separation correction (arising from rough topography) factor was applied to the data. The same program that computed mean slope and actual coil separation also calculated the following:

(i) in-phase correction $= \pm \left[1-\left(\frac{\text{actual coil spacing}}{\text{nominal coil spacing}}\right)^3\right] 100$

(ii) in-phase & quadrature phase correction $= x\left(\frac{\text{actual coil spacing}}{\text{nominal coil spacing}}\right)^3$

The MaxMin II corrected data is presented in profile form at a horizontal scale of 1:5000 on Dwg.'s GP-6724, GP-6725, GP-6726, GP-6727, GP-6728, GP-6729.

The China Ridge area was surveyed in order to verify and detail a HLEM anomaly located during the 1980 reconnaissance traverse of Line 5000N. In addition, the 1980 traverse of Line 5000N at 444 & 1777 Hz has been reproduced on Dwg. GP-6725 for comparison purposes. The 1980 anomaly is located on Line 5000N at 150W. The 1981 work intercepted this zone on Line 5100N, 200W and Line 5200N, 270W. Strike length of this conductor is 200 to 300 metres. An examination of the Fraser Filter Contour Map (Dwg. GP-8876) shows verification of the conductor presence by a medium-strength VLF anomaly trending right through this area. The strongest HLEM intercept, an 80% peak-to-peak in-phase response at 3555 Hz, occurs on Line 5100N; however the same source at 222 Hz shows only a 5% peak-to-peak in-phase response. Further, at 222 Hz the R/Q (in-phase/quadrature) ratio is about 1:4. These frequency and component ratios do not indicate a source of highly conductive characterisitics. The probable source is thus interpreted to be a weakly-mineralized shear or zone of poorly-connected particles. A lack of outcrop in this area does not allow definitive geological conclusions to be drawn; however, geology does suggest a zone of extensive structural activity, including northwest trending, major faults. A weakly-mineralized shear zone or fault therefore becomes the most likely source of the anomalous EM responses.

The Noël Creek grid covers an area thought to include the "Active Zone" shale; the HLEM survey was primarily intended to identify, if possible, potential marker horizons that might be associated with this zone. Drawings GP-6727, GP-6728 & GP-6729 show the HLEM profiles of the Noël Creek area at 222, 888 & 3555 Hz respectively. They reveal two conductor systems.

The primary conductor is reflected by an anomalous zone that extends from Line 7400N, 175E to Line 6800N, 150E and which is open at both ends, especially to the north. It appears to have a width of 20-25 metres and to dip moderately to the southeast. Strongest response is that at 3555 Hz on Lines 7200N & 7400N; a weakening and narrowing is shown to the southwest towards Line 6800N. Although a 70% peak-to-peak response does occur on Line 7400N at 3555 Hz, the frequency and component ratios are generally quite low which again suggests a formation or structural source of weakly conductive properties rather than a concentration of sulphides or graphite. An examination of the Fraser Filter Contour Map (Dwg. GP-8875) shows verification of the HLEM conductor by a strong VLF feature trending right through the area. This zone of anomalous EM activity corresponds to a geologically-mapped high-angle reverse or thrust fault dipping to the southwest.

A secondary conductor extends from Line 7100N, 325E to Line 7000N, 425E, or possibly further to Line 6900N, 650E. Although considerably weaker and narrower than the primary conductor zone discussed in the preceding paragraph, frequency and component ratios of this zone indicate much better conductivity characteristics. The srike and location of this secondary anomaly shows good agreement with a cross-cutting fault as mapped by geology. A graphitic gouge is therefore proposed as a likely conductor source.

9. DISCUSSION AND CONCLUSIONS

9.1 Geology

Work in 1981 was primarily concerned with the Devonian shale package. Outcrop is not good and is essentially limited to the Noël Creek and Christmas

Creek valleys. No lead or zinc mineralization was discovered.

Structure is complex and facies variations within the shale sequence could not be defined with any confidence. The Active Zone, comprising rusty-weathering baritic shale, proved to be the only reliable marker unit. The potential for mineralization does, however, remain.

9.2 Geochemistry

Some high zinc values are present on the lines sampled and show some continuity with lines previously sampled to the west. Lead values are relatively low and show no continuity with spot highs to the west. Silver shows no correlation with high lead or zinc values.

9.3 Geophysics

Rough topography influenced VLF-EM readings, but the banding confirmed the general NW-SE strike to the underlying strata. VLF definitely helped in mapping prominant thrust faults.

Horizontal-loop EM results defined a conductor on China Ridge in the south of the property. It is suggested the source is a weakly-mineralized shear in rocks older than the Devonian. Elsewhere, HEM results correlated with those of the VLF-EM, and verified the presence of a major thrust faults. HEM also located a secondary conductor that probably related to an important cross-cutting fault.

10. REFERENCES

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COST STATEMENT

B.C. SIKANNI YULE CLAIMS

GEOLOGY, GEOPHYSICS (LINE-CUTTING), GEOCHEMISTRY

5 MAY THROUGH 30 SEPTEMBER 1981

GENERAL COSTS

FOOD & ACCOMMODATION		
10 Men, 25 May-30 Aug., 362 Man Days @ $17		$ 6,046
RIOCANEX EQUIPMENT		
362 Man Days @ $3		1,086
SUPPLIES		4,546
FIXED WING		
Watson Lake Flying, Beaver, 30 Jun, 495 miles @ $132/split		327
Northern Thunderbird Air, Sundry, 26 May-27Aug, 60.24 miles @ $1.85	$11,168	
Universal Travel, 5May-19Aug, 13 Trips @ $75.62	983	12,478
HELICOPTER		
Vernon, B206, 28 May - 26 Aug, 104.7 Hrs. @ $325	$34,025	
Viking, 500D, 26 Jul, .33 Hrs. @ $400	132	34,157
FUEL		9,240
RENTAL EQUIPMENT		
Traeger 2 SSB5X5 Radios, 22 May - 21 Jun, 1 Mon. @$274	$549	
VHF Portables 15 May - 14 Sept, 3Mon. @ 186	557	
Mackenzie Building Materials BSA 6 Water Pump, 27 May - 26 Jun, 1 Mon.	191	
Generator 5KVA, 27 May - 28 Aug, 3 Mon @ $227	680	1,977

REPAIRS	283
RADIO LICENCE FEES	75
TOTAL GENERAL COSTS	$69,858

GEOPHYSICS AND LINE-CUTTING COSTS

SALARIES AND WAGES	
10 Men, 25 May-30 Aug, 180 Man Days @ $56	$10,098
BENEFITS: @ 20%	2,020
RENTAL EQUIPMENT	
Scintrex, BGS-ISL Scint, 16Jul - 1 Sept., 1.5 Mon @ $ 341.57	512
Exploranium/Geometrics GR-410A Spectrometer, 12 Jun - 11 Jul, 1 Mon	1,344
Geonics, 2 EM16's 1 Jun - 18 Sept, 3.5 Mon @ $110/wk	3,190
RIOCANEX EQUIPMENT	
Maxmin II, 1-30 Jun, 22 Days @ $360/Mon.	264
REPORT PREPARATION	2,669
GENERAL COSTS	
180/362 x $69,858	34,736
TOTAL GEOPHYSICS COSTS	$54,833

GEOLOGY COSTS

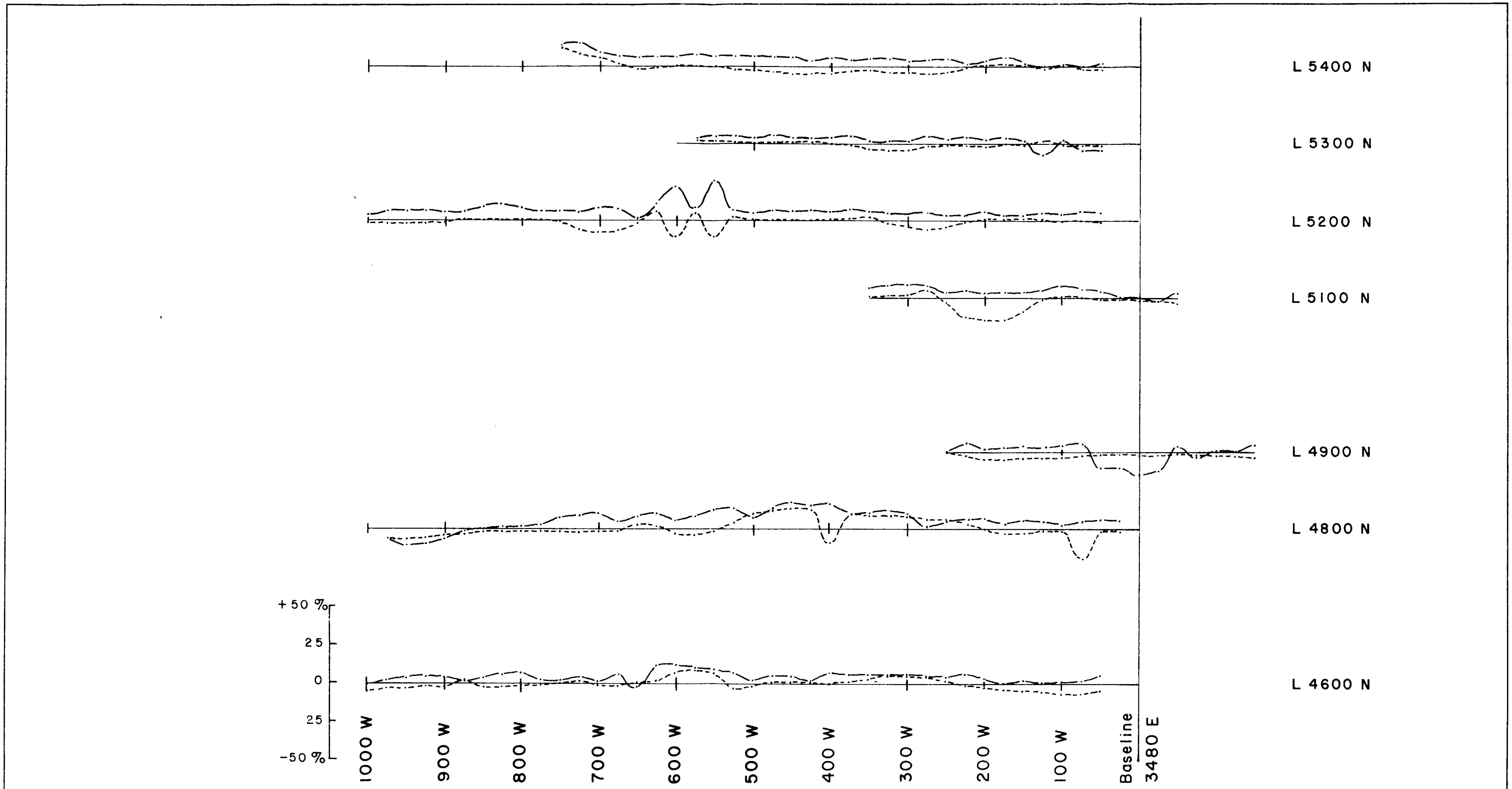
SALARIES & WAGES	
10 Men, 174 Man Days @ $56	$ 9,744
BENEFITS: @ 20%	1,949
REPORT PREPARATION	736
GENREAL COSTS	
174/362 x $69,858	33,578
TOTAL GEOPHYSICS COSTS	$46,007

GEOCHEMISTRY COSTS

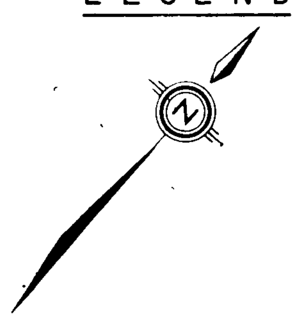
SALARIES & WAGES			
10 Men, 8 Man Days @ $56			$ 448
BENEFITS: @ 20%			90
ROCK ASSAYS			
Chemex Labs,	1 For BA,TI,CU,PB,ZN,AG	$31.75	
	2 For CU,PB,ZN,AG @ $23	46.00	
	1 For PB,ZN AG	19.50	
SOIL ANALYSIS			
Chemex Labs,	55 For TI @ $5	275.00	
	307 For BA,TI @$8.50	2,609.50	
	6 For BA @ $3.50	21.00	3,003
REPORT PREPARATION			736
GENERAL COSTS			
8/362 x $69,858			1,544
TOTAL GEOCHEMISTRY COSTS			$ 5,821

COSTS APPORTIONED TO CLAIMS

CLAIM	UNITS	GEOLOGY	GEOPHYSICS	GEOCHEMISTRY	TOTAL
YULE 1	9	$ 3,113.26	$ 3,710.50	393.90	$ 7,217.66
YULE 2	15	5,188.76	6,184.17	656.50	12,029.43
YULE 3	2	691.83	824.56	87.53	1,603.92
YULE 4	18	6,226.51	7,421.01	787.80	14,435.32
YULE 5	4	1,383.67	1,649.11	175.07	3,207.85
YULE 6	12	4,151.00	4,947.34	525.20	9,623.54
YULE 7	15	5,188.76	6,184.17	656.50	12,029.43
YULE 8	6	-	-	-	-
YULE 9	18	-	-	-	-
YULE 10	20	6,918.35	8,245.56	875.35	16,039.26
YULE 11	9	3,113.26	3,710.50	393.90	7,217.66
YULE 12	3	1,037.75	1,236.85	131.30	2,405.90
YULE 13	20	6,918.35	8,245.56	875.35	16,039.26
YULE 14	6	2,075.50	2,473.67	262.60	4,811.77
	157	$46,007.00	$54,833.00	$5,821.00	$106,661.00



LEGEND



HLEM Survey: MaxMin II

Coil Separation...... 100 metres

Vertical Scale...... 1 cm = 25 %

In-phase 222 Hz

Quadrature 222 Hz

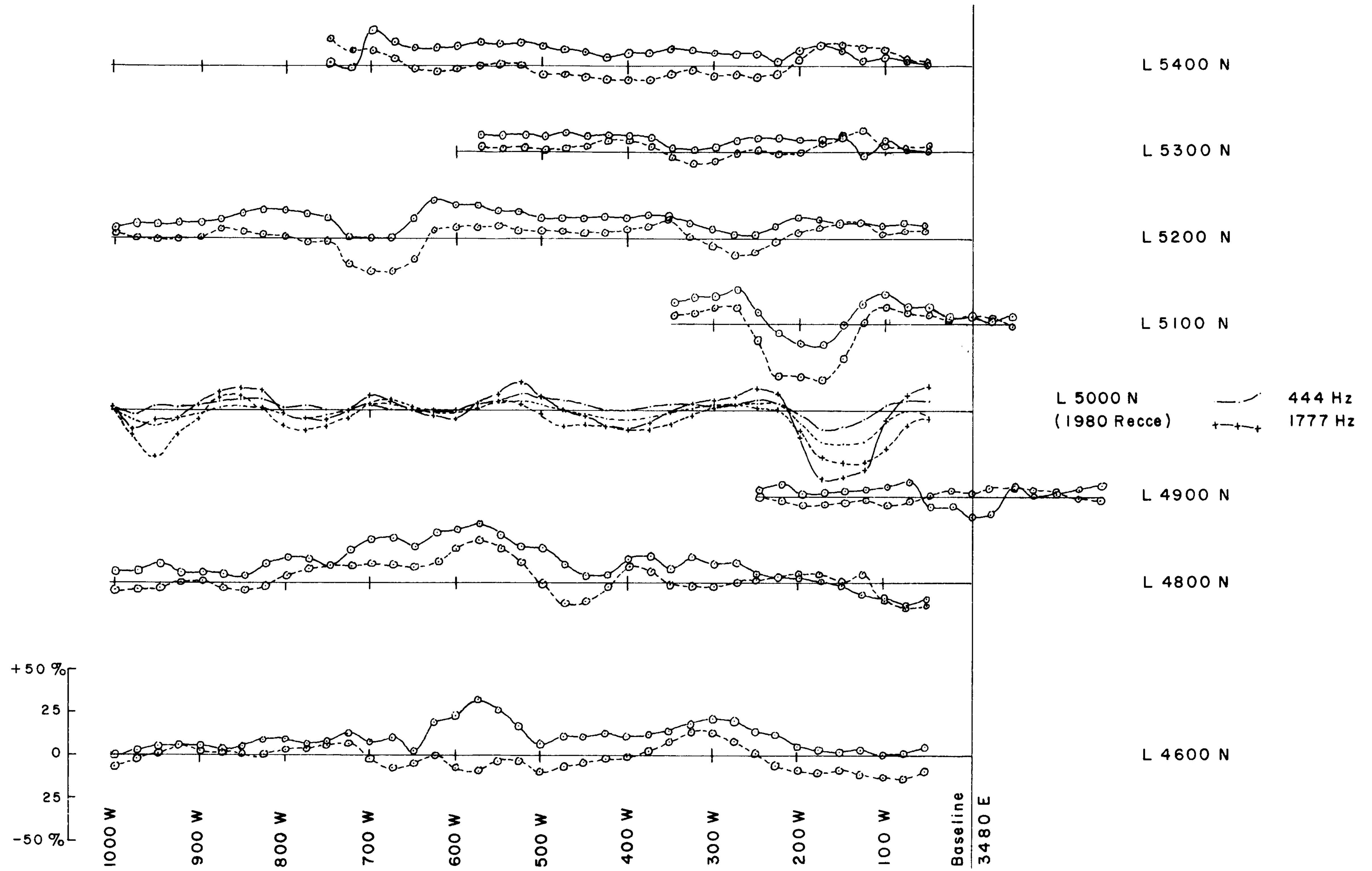
NO. 9798

NTS 94 F/11

SCALE 1:5000

100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.		
YULE CLAIMS S.		
HORIZONTAL LOOP E M PROFILES 222 Hz		
DATE OCT. 1981	DRAWN BY CJC / dag	DWG. GP 6724



LEGEND

HLEM Survey : MaxMin II

Coil Separation...... 100 metres

Vertical Scale...... 1 cm = 25 %

In-phase 888 Hz

Quadrature 888 Hz

NTS 94F/11
SCALE 1:5000

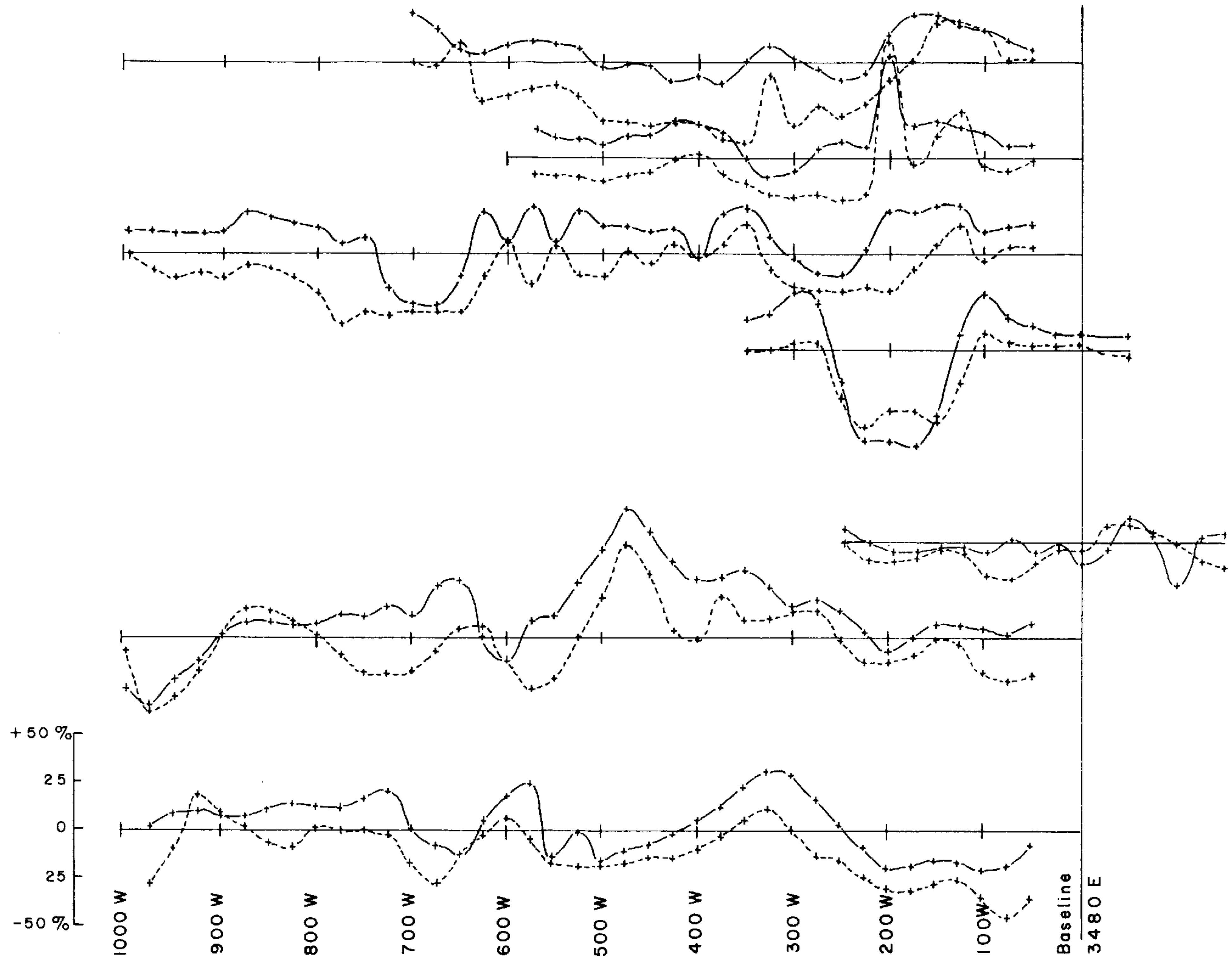
100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS S.

HORIZONTAL LOOP E M PROFILES
888 Hz

DATE	DRAWN BY	DWG.
OCT. 1981	CJC / dag	GP 6725



LEGEND

HLEM Survey: MaxMin II

Coil Separation...... 100 metres

Vertical Scale...... 1 cm = 25 %

In-phase 3555 Hz

Quadrature 3555 Hz

NTS 94F/11
SCALE 1:5000

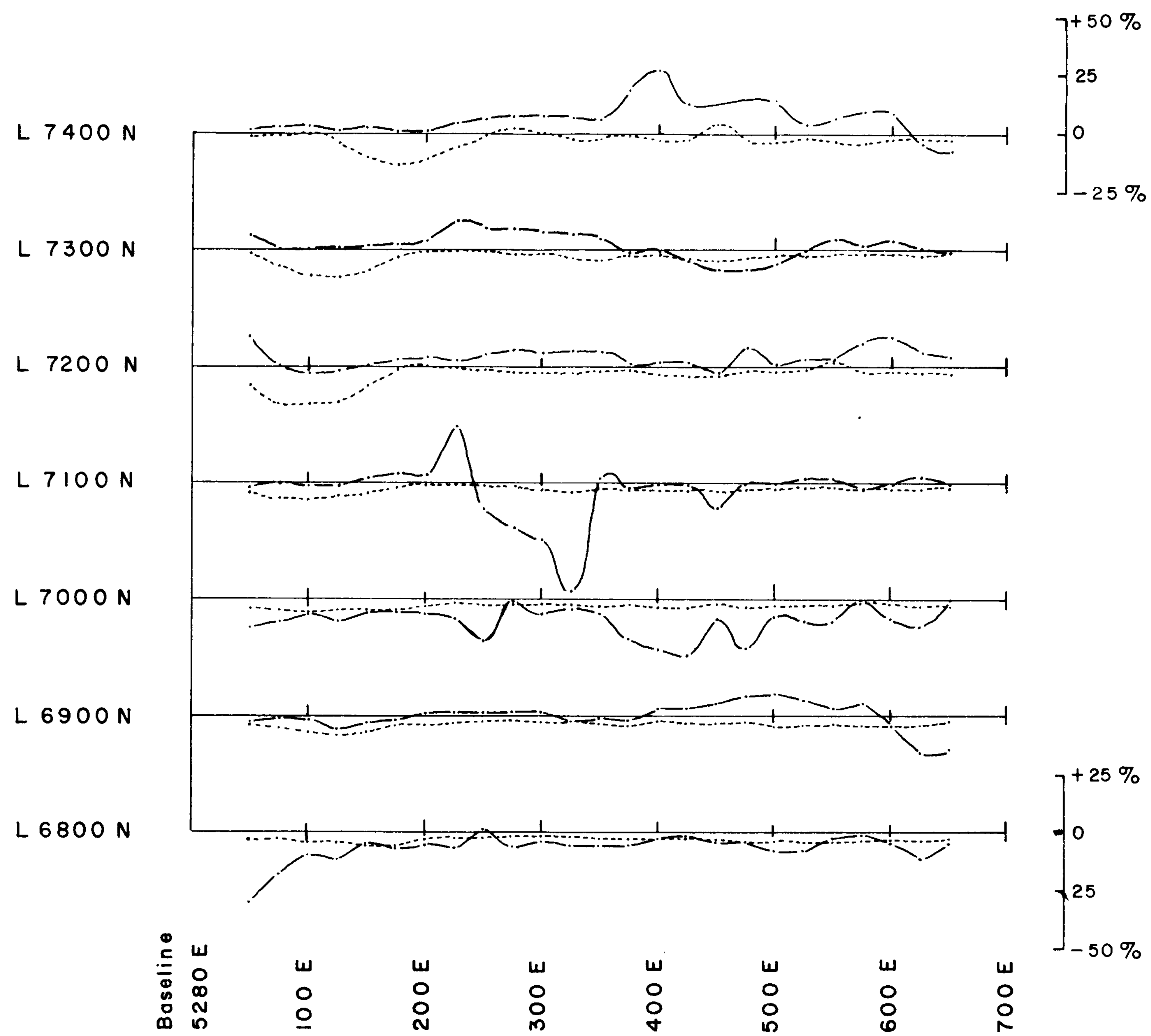
100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS S.

HORIZONTAL LOOP E M PROFILES
3555 Hz

DATE	DRAWN BY	DWG.
OCT. 1981	CJC /dag	GP 6726



LEGEND

HLEM Survey: MaxMin II

Coil Separation...... 100 metres

Vertical Scale...... 1cm = 25 %

In-phase 222 Hz

Quadrature 222 Hz

NTS 94F/11
SCALE 1:5000

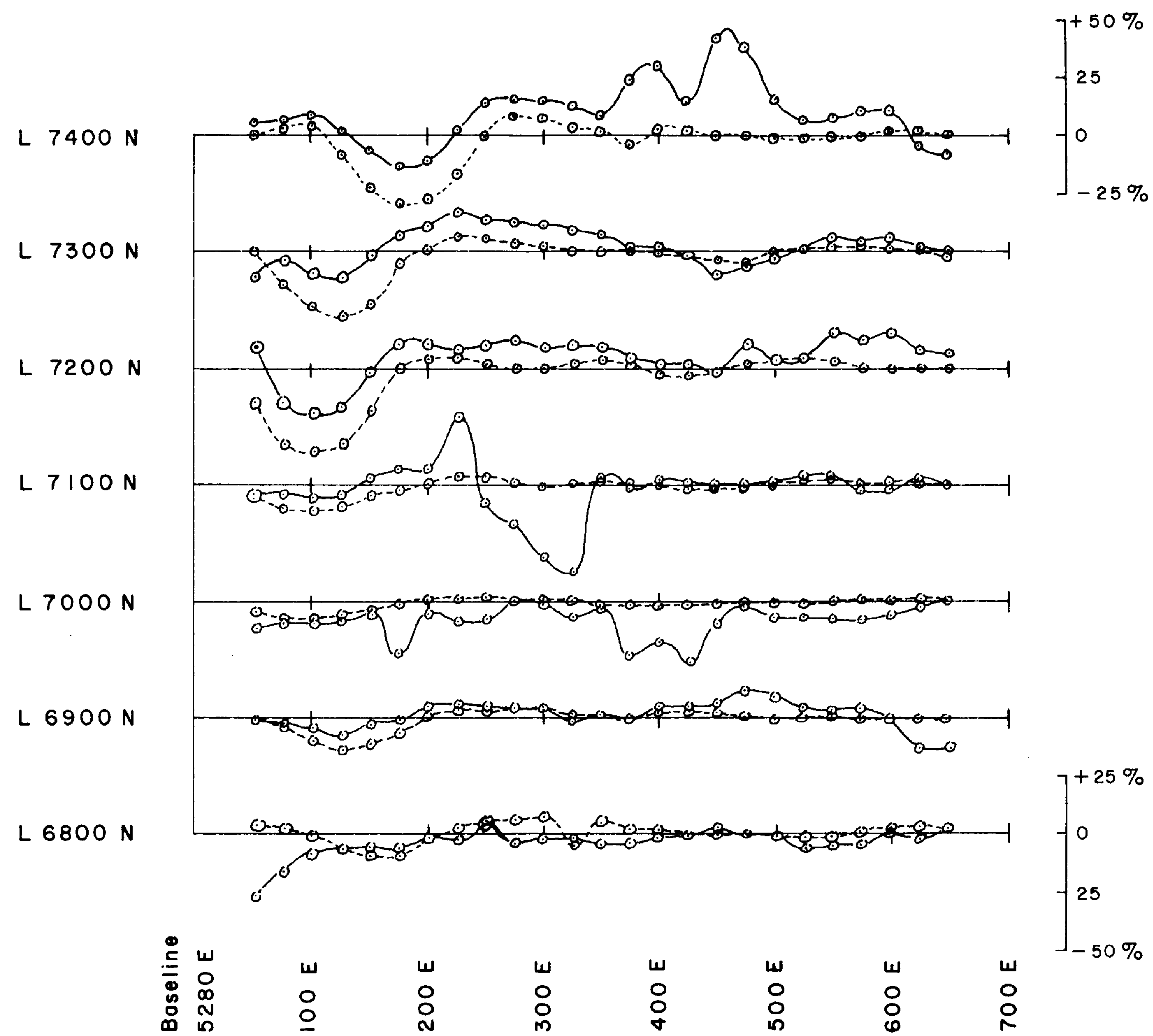
100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS N.

HORIZONTAL LOOP E M PROFILES
222 Hz

DATE	DRAWN BY	DWG.
OCT. 1981	CJC / dag	GP 6727



LEGEND

HLEM Survey: MaxMin II

Coil Separation...... 100 metres

Vertical Scale...... 1cm = 25 %

In - phase 888 Hz

Quadrature 888 Hz

NTS 94F/11

SCALE 1:5000

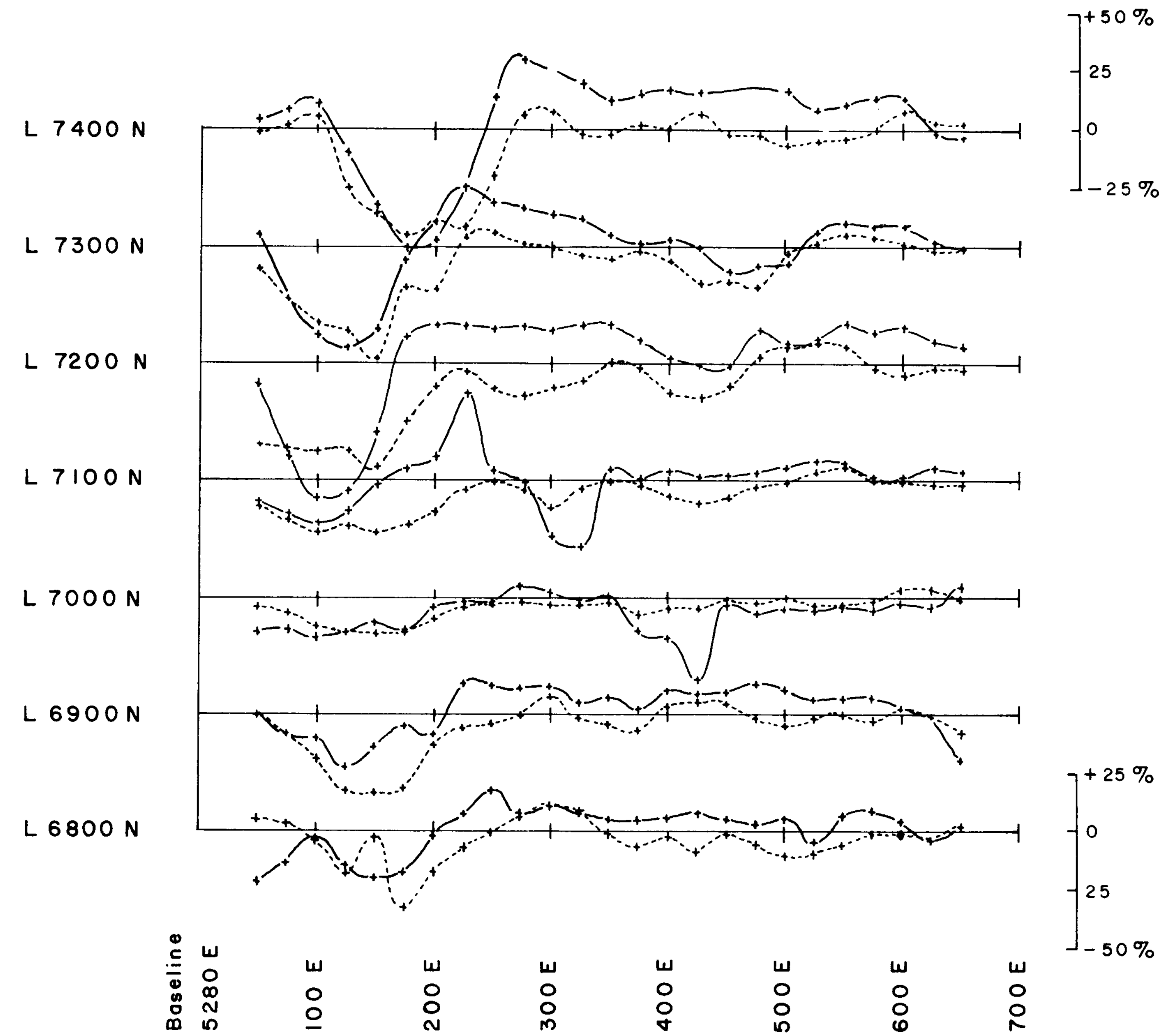
100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

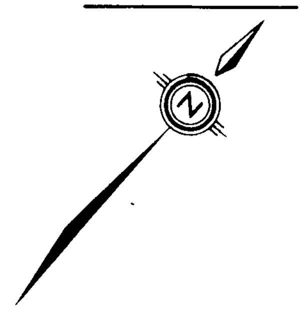
YULE CLAIMS N.

HORIZONTAL LOOP E M PROFILES
888 Hz

DATE	DRAWN BY	DWG.
OCT. 1981	CJC / dag	GP 6728



LEGEND



HLEM Survey: MaxMin II

Coil Separation...... 100 metres

Vertical Scale...... 1cm = 25 %

In-phase 3555 Hz

Quadrature 3555 Hz

NTS 94F/11

SCALE 1:5000

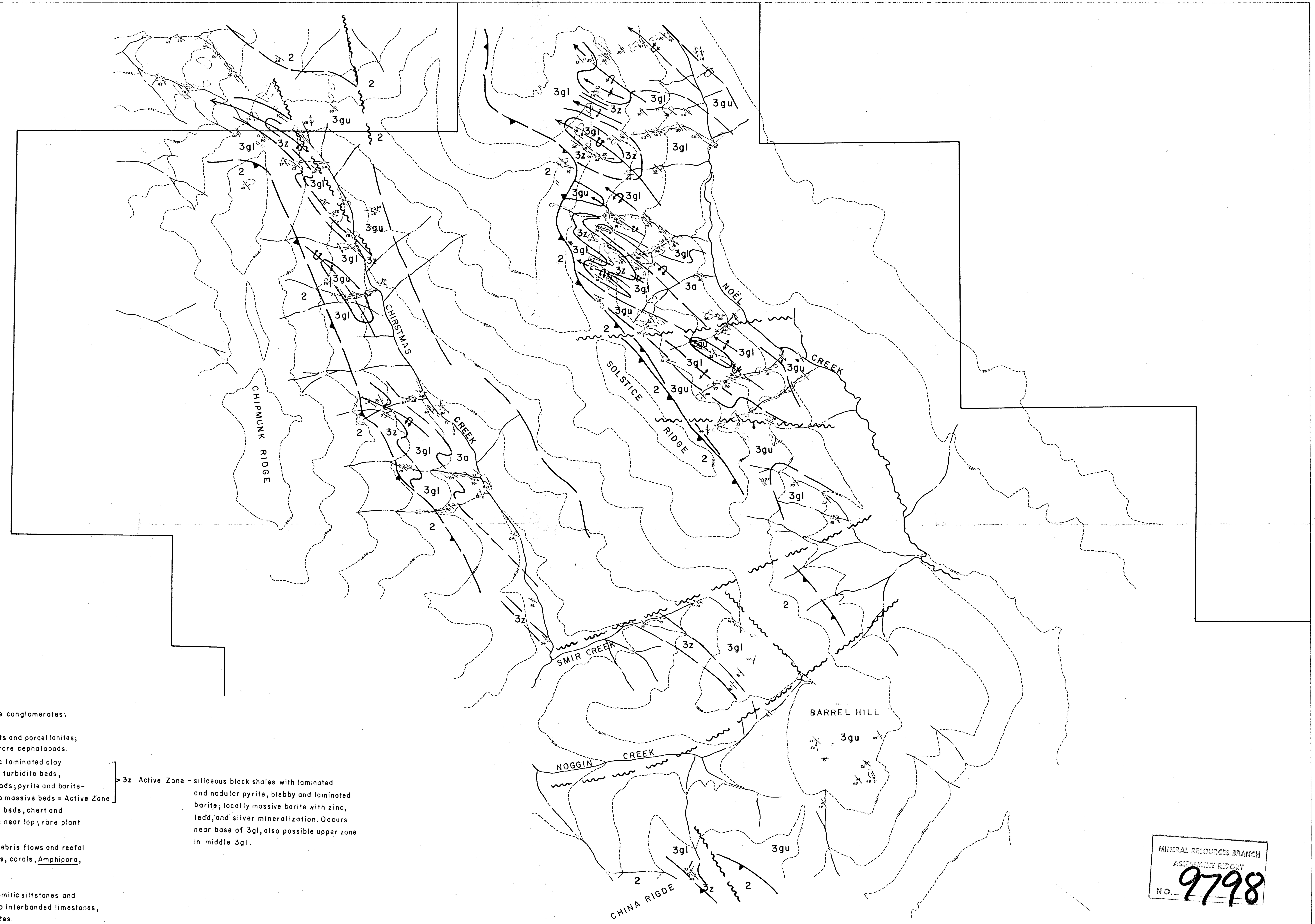
100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS N.

HORIZONTAL LOOP E M PROFILES
3555 Hz

DATE	DRAWN BY	DWG.
OCT. 1981	CJC / dag	GP 6729



DEVONIAN and MISSISSIPPIAN

3 Besa River Group

3w Warneford Clastics - polymict, polymodal pebble conglomerates; grits and black sandstones.

3gu Upper Gunsteel Shales - black thinly-banded cherts and porcellanites; blue-grey siliceous shales; rare cephalopods.

3gl Lower Gunsteel Shales - black carbonaceous fabric laminated clay shales; rare rhythmites and turbidite beds, septarian nodules, cephalopods; pyrite and barite - as small blebs to laminae to massive beds = Active Zone

3z Active Zone - siliceous black shales with laminated and nodular pyrite, blebby and laminated barite; locally massive barite with zinc, lead, and silver mineralization. Occurs near base of 3gl, also possible upper zone in middle 3gl.

3a Akie Shales - silty mudrocks with local siltstone beds, chert and limestone nodules; hematitic near top; rare plant fragments.

3k Kwadacha Limestone - includes limestone sands, debris flows and reefal material with stromatoporoids, corals, Amphipora, crinoids etc.

SILURIAN and OLDER

2 Road River Group, Kechika Group - includes dolomitic siltstones and black graptolitic shales, also interbanded limestones, agglomerates, talcose phyllites.

Strike direction and dip magnitude

Cleavage strike and dip magnitude

Strike direction and dip magnitude of overturned beds

Thrust fault

Fault - indicated or assumed

Fault - downthrown side indicated

Anticlinal axis, overturned anticlinal axis

Synclinal axis

Fold Axis plunge

Cleavage / Bedding Intersection plunge

NTS 94 F/11

SCALE 1:10,000

200 100 0 200 400 600 800 Metres

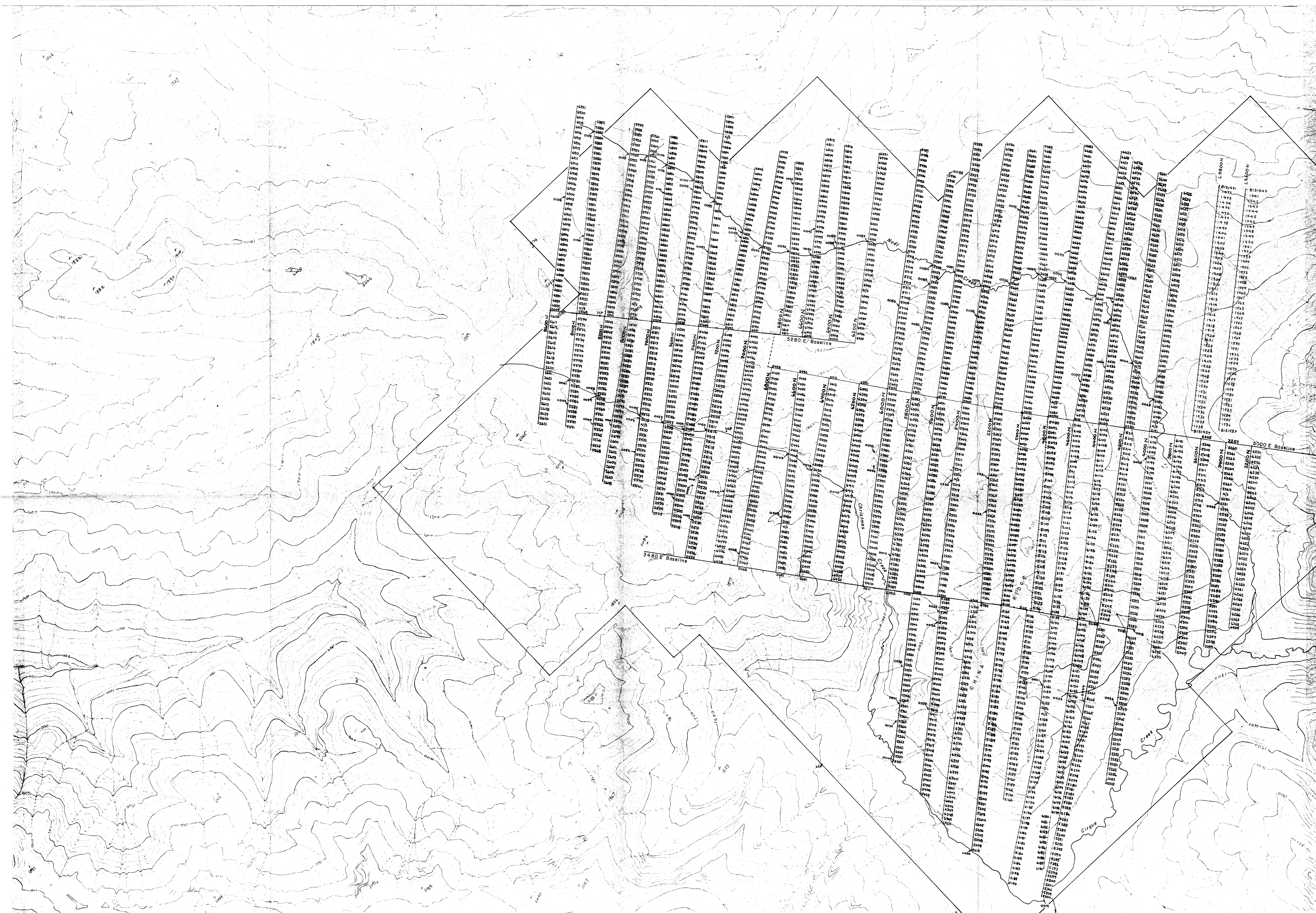
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9798

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS

GEOLOGY 1981

DATE	DRAWN BY	DWG
OCTOBER 1981	GDH/dm	G 7597



N.T.S. 94F/11

SCALE 1:10,000

200 100 0 200 400 600 800 Metres

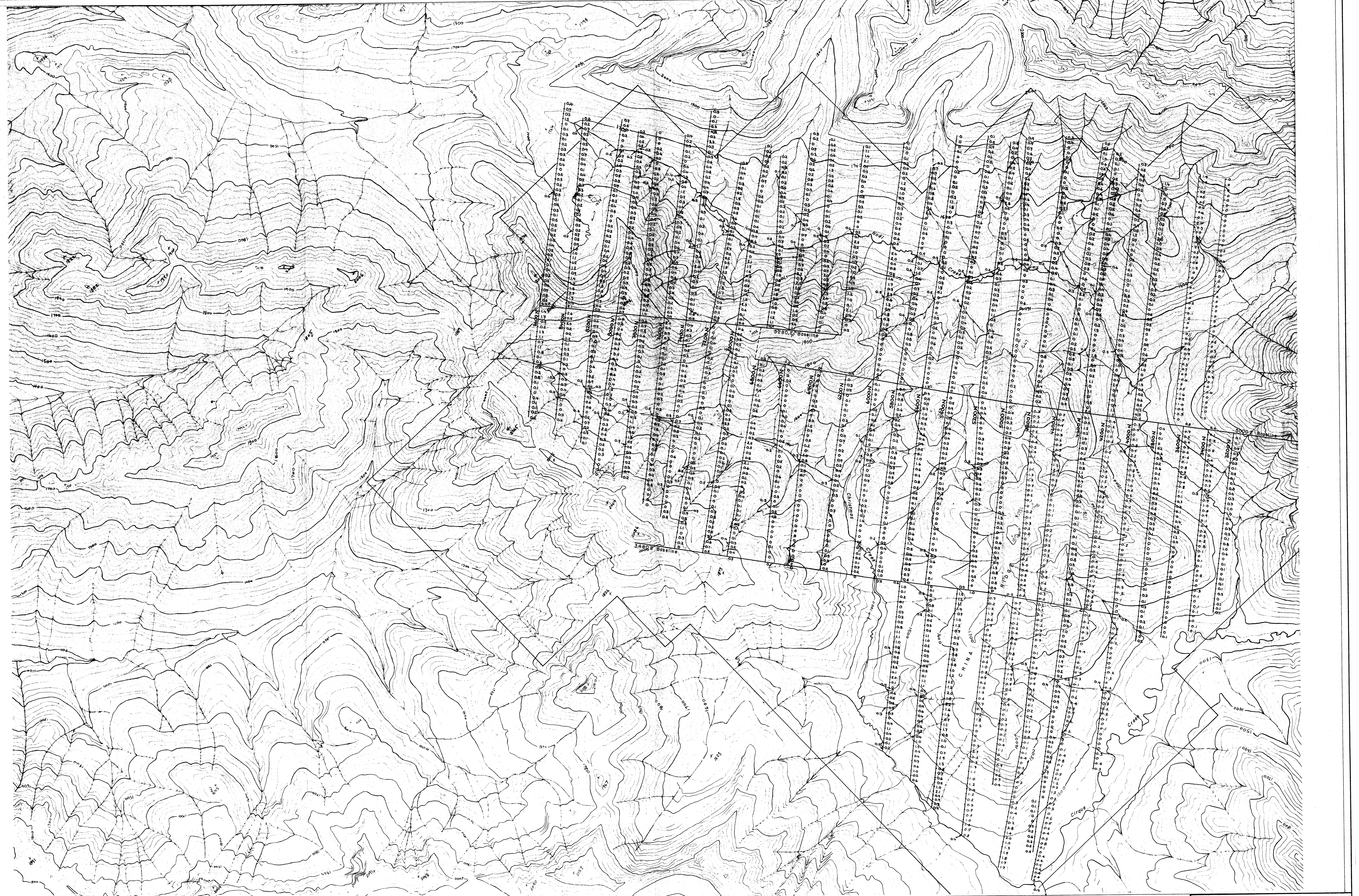
RIO TINTO CANADIAN EXPLORATION LTD.		
YULE CLAIMS		
SILT AND SOIL SAMPLE LOCATIONS		
DATE	DRAWN BY	DWG.
OCT. 1980	PMc	GC 8807

N.T.S. 94F/11

SCALE 1:10,000

200 100 0 200 400 600 800 Metres

RIO TINTO CANADIAN EXPLORATION LTD.		
YULE CLAIMS		
SILT AND SOIL SAMPLE RESULTS Pb ppm		
DATE OCT. 1980	DRAWN BY PMc	DWG. GC 8809

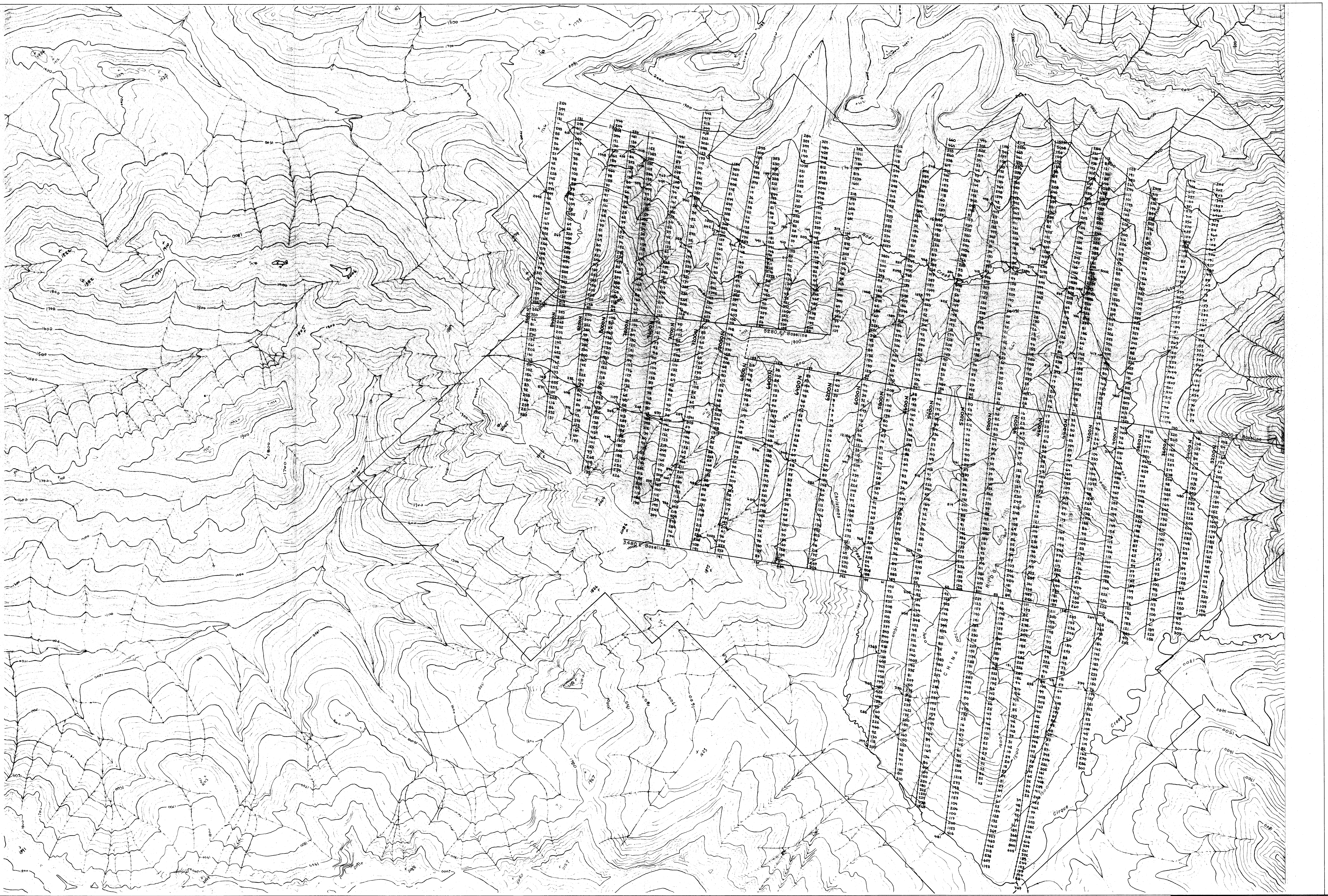


N.T.S. 94F/11

SCALE 1:10,000

200 100 0 200 400 600 800 Metres

RIO TINTO CANADIAN EXPLORATION LTD.		
YULE CLAIMS		
SILT AND SOIL SAMPLE RESULTS Ag ppm		
DATE OCT. 1980	DRAWN BY PMc	DWG. GC 8808

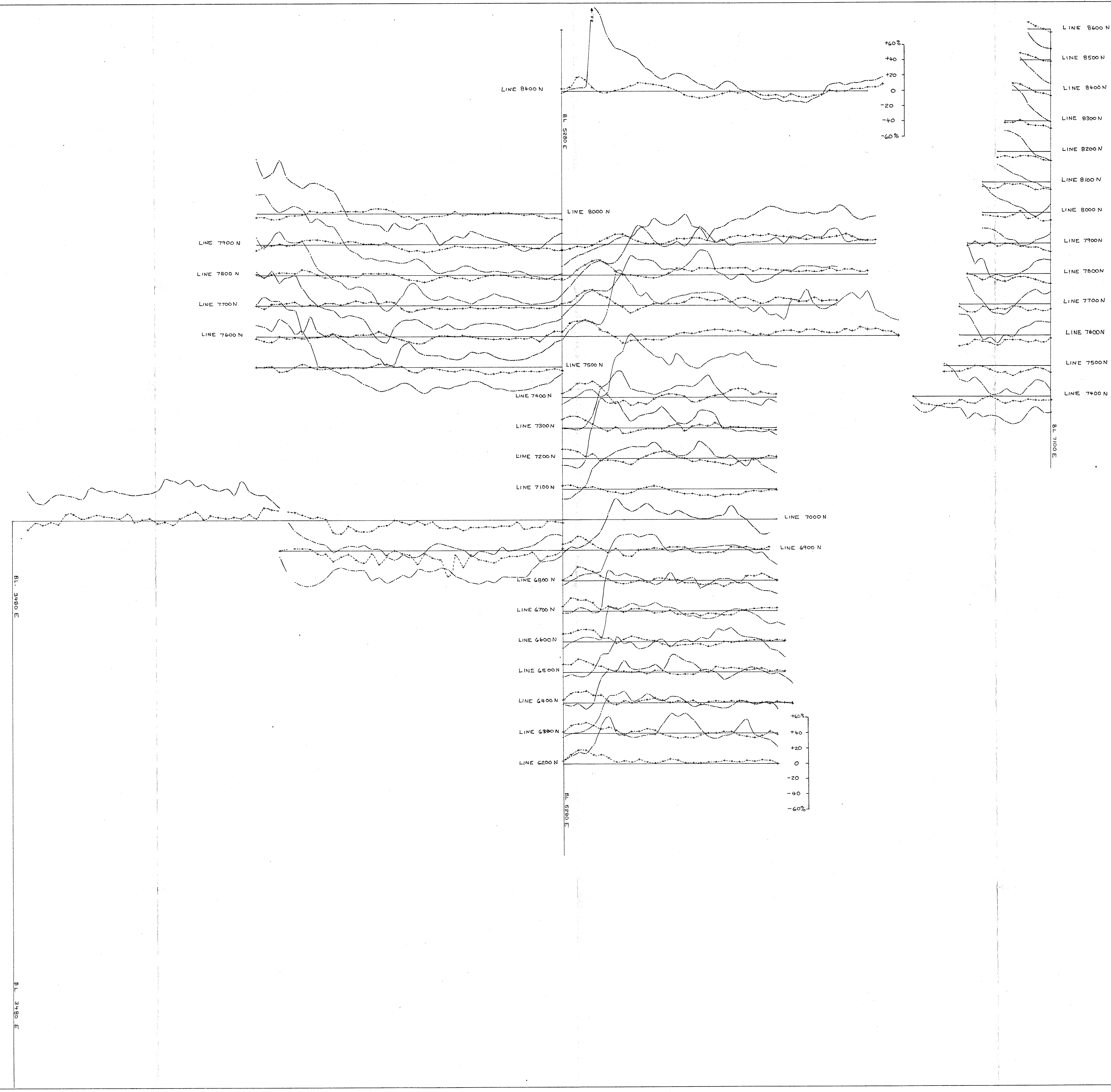


N.T.S. 94F/11

SCALE 1:10,000

100 0 200 400 600 800 Metres

RIO TINTO CANADIAN EXPLORATION LTD.		
YULE CLAIMS		
SILT AND SOIL SAMPLE RESULTS		
Zn ppm		
DATE OCT. 1980	DRAWN BY PMc	DWG. GC-8810



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 9798

LEGEND

VLF-EM Survey Conducted Via Transmission from Seattle NLK 18.6 kHz

Positive Angles (%) Denote West Dip

Negative Angles (%) Denote East Dip

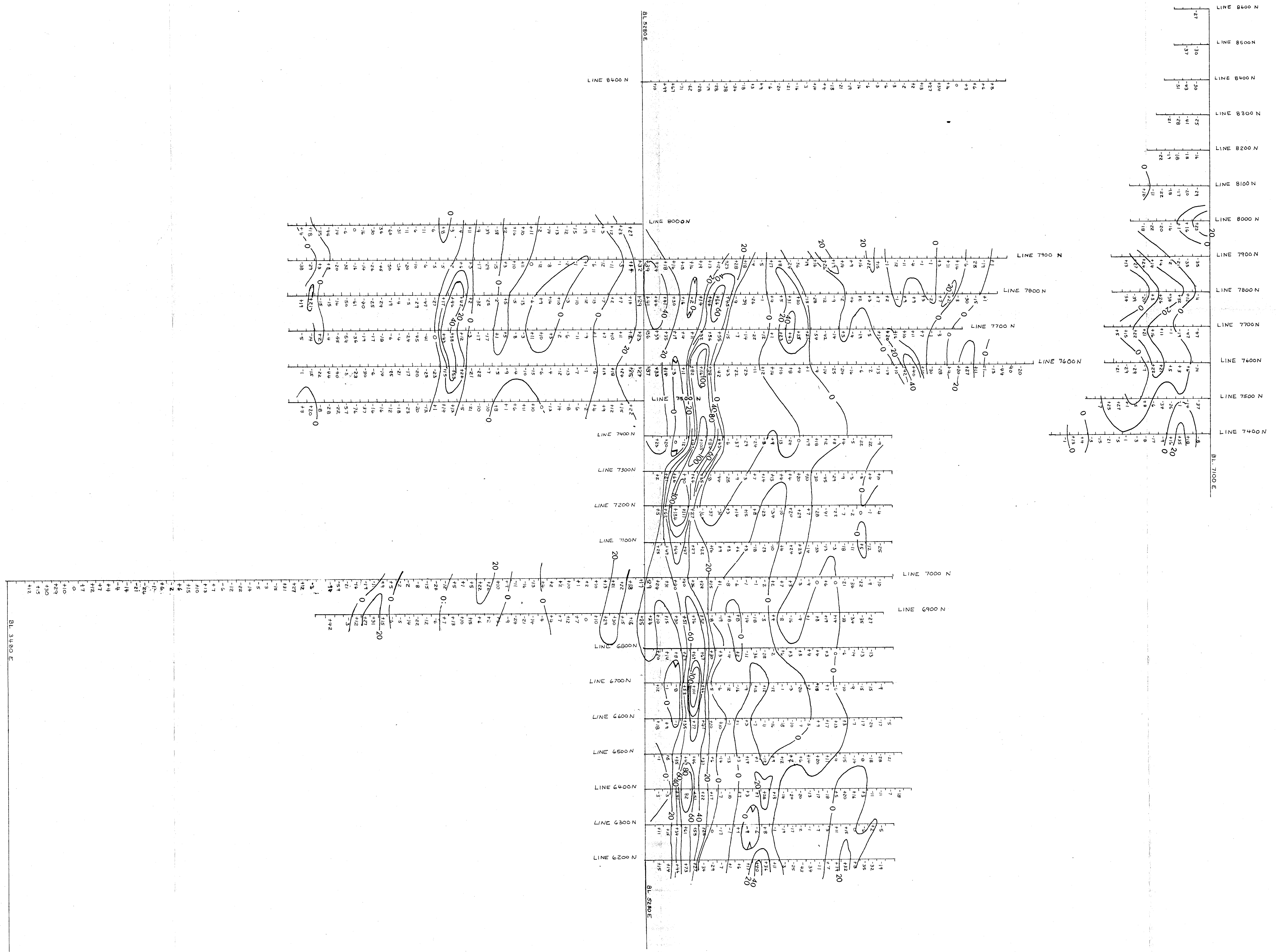
Vertical Scale 1cm : 20 %

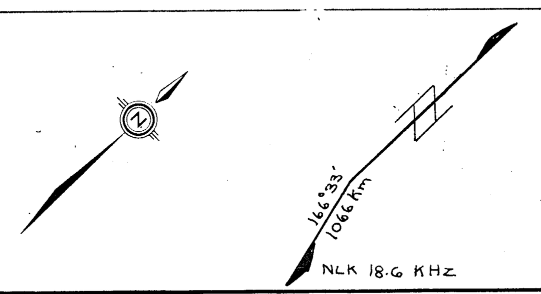
Station Interval 25 metres

SCALE 1:5000

100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.		
YULE CLAIMS (N)		
VFL-EM PROFILES		
DATE OCT. 1981	DRAWN BY D.G.M\C.J.C	DWG. GP 8873





LEGEND

VLF-EM Survey Conducted Via Transmission from Seattle NLK 18.6 KHz

Data Filtered Using Standard Fraser Filter : $F_{2,3} = (\theta_3+\theta_4) - (\theta_1+\theta_2)$

Contour Interval.....20%

Station Interval......25 metres

SCALE

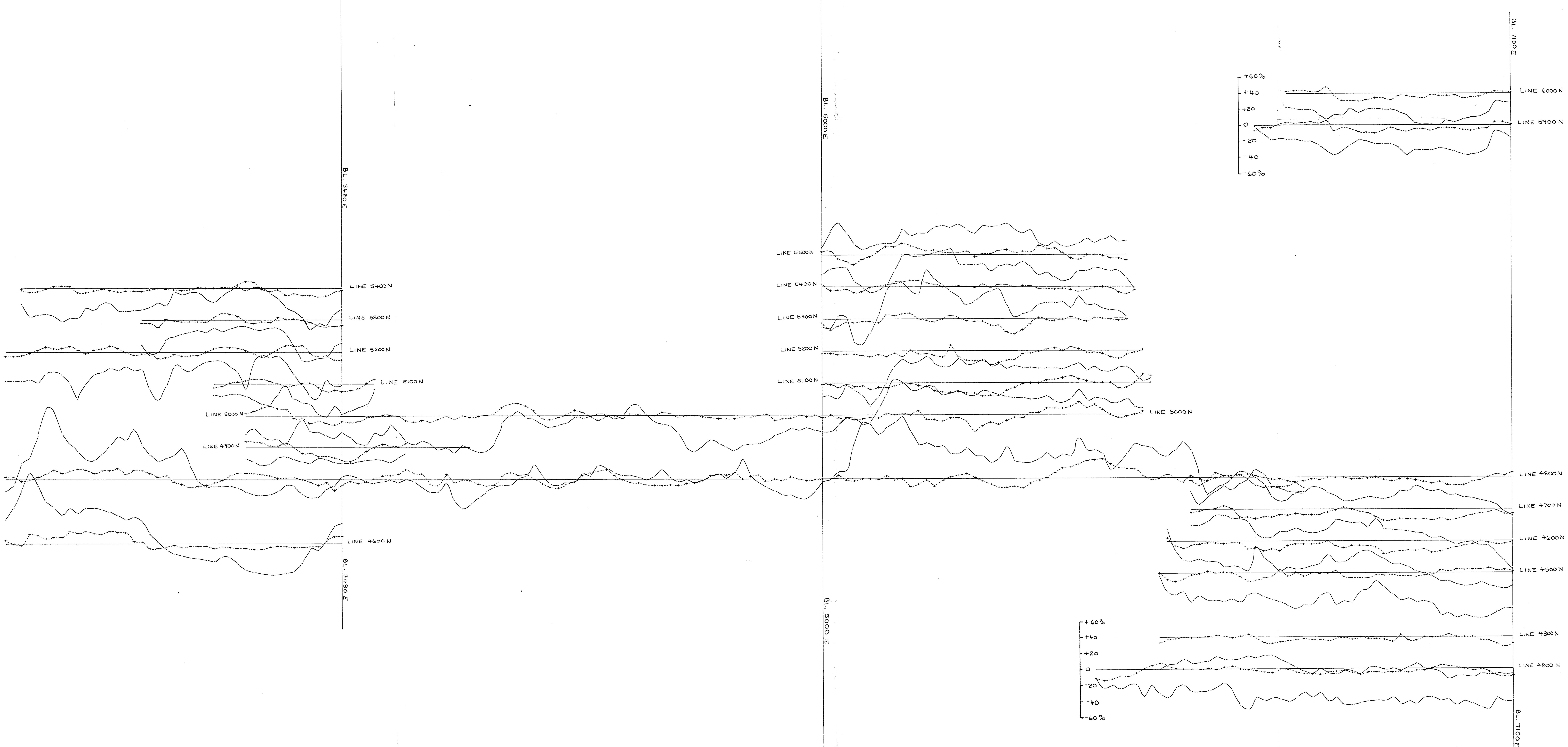
100 50 0 100 200 300 400 Metres

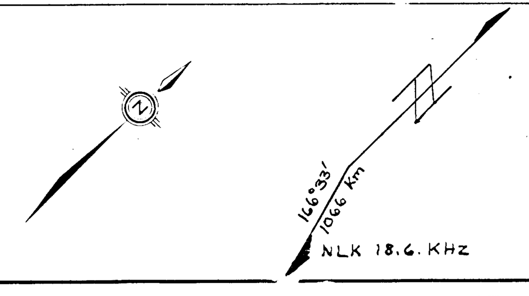
RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS (N)

VLF-EM
FRASER FILTER CONTOUR MAP

DATE	DRAWN BY	DWG.
OCT 1981	D.G.M\C.J.C	GP 8875





LEGEND

VLF- EM Survey Conducted Via Transmission from Seattle NLK, 18.6 kHz

Positive Angles (%) Denote West Dip

Negative Angles (%) Denote East Dip

Vertical Scale..... 1 cm : 20 %

Station Interval.... 25 metres

SCALE 1:5000

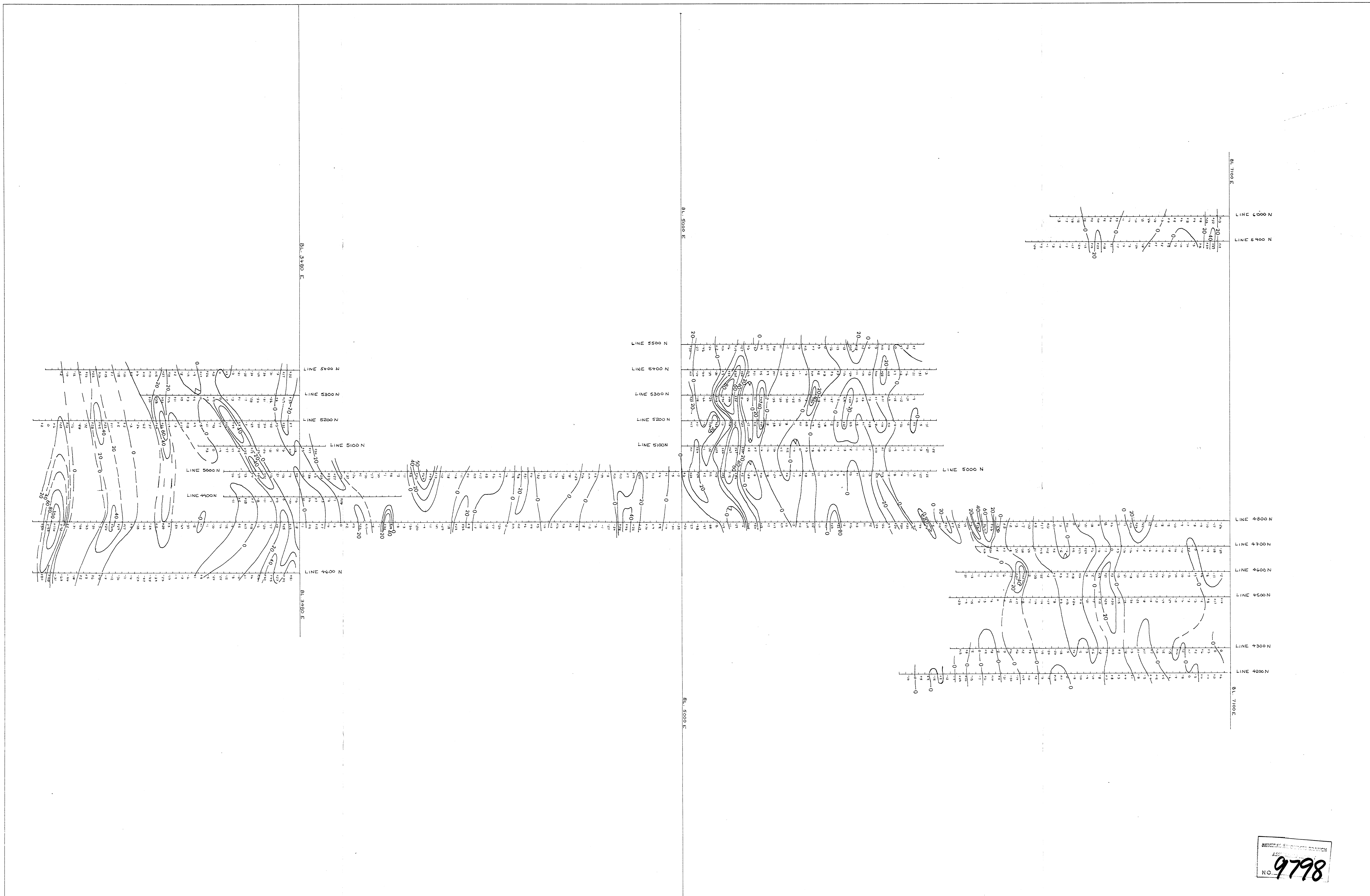
100 50 0 100 200 300 400 Metres

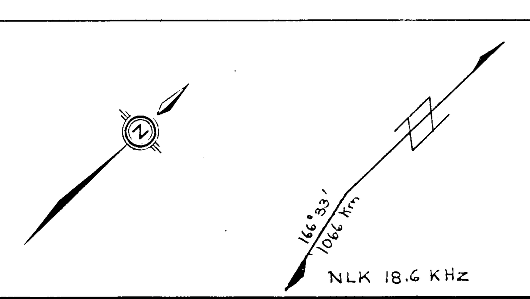
RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS (S)

VFL - EM PROFILES

DATE	DRAWN BY	DWG.
OCT. 1981	D.G.M\C.J.C	GP 8874





LEGEND

VLF-EM Survey Conducted Via Transmission from Seattle NLK 18.6 KHz

Data Filtered Using Standard Fraser Filter : $F_{2,3} = (\theta_3 + \theta_4) - (\theta_1 + \theta_2)$

Contour Interval...... 20%

Station Interval..... 25 metres

SCALE

100 50 0 100 200 300 400 Metres

RIO TINTO CANADIAN EXPLORATION LTD.

YULE CLAIMS (S)

VLF-EM
FRASER FILTER CONTOUR MAP

DATE	DRAWN BY	DWG.
OCT. 1981	D.G.M\C.J.C	GP 8876