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THE MOUNT LYELL MINING & RAILWAY COMPANY LTD.

ANNUAL REPORT

1976/77

E.L. 41/71

(HENTY-YOLANDE)

By: R. M. D. Meares

Draughting: R. G. Wilson

**OPEN FILE**

August, 1977

Copies to: General Office  
Mine Office (2)  
Tas. Mines Department  
Getty Oil Development Ltd.

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1. INTRODUCTION

During the 1976/77 field season, exploration was confined to the West Sedgwick and Basin Lake grids. At West Sedgwick, soil sampling and an E.I.P. survey were completed over the south-west extension of the grid. The Basin Lake soil sampling program, commenced during the 1975/76 season, was completed and a combined geophysical/geochemical anomaly was costeained.

Exploration proposed for the 1977/78 season includes diamond drilling at West Sedgwick and Basin Lake, and a reconnaissance stream sediment sampling program covering the south-west portion of the licence. Allocated budget is \$110,000.

On May 20th 1976, E.L. 41/71 became the subject of a Joint Venture between the Mount Lyell Mining & Railway Company Ltd. and Getty Oil Development Limited. Consequently exploration conducted during the period May 20th 1976 to June 29th 1977 is included in this report.

Expenditure on E.L. 41/71 during 1976/77 was \$51,187, bringing the total expenditure since 1971 to \$146,843.

2. WORK COMPLETED 1976/77

2.1. INTRODUCTION

The exploration objective in both the West Sedgwick and Basin Lake areas for the 1976/77 field season was to complete geophysical and geochemical coverage of both grids, enabling diamond drilling to commence in both areas during the 1977/78 field season.

2.2 WEST SEDGWICK GRID

2.2.1 Access

Gridding of Lines 66S, 72S, 78S and 90S in the Crown Hill area completed the south-west extension of the West Sedgwick grid.

2.2.2 Geophysics

The south-west extension of the grid, extending west of the main base line between Line 48S and Line 120S was surveyed with E.I.P. by Scintrex Pty. Ltd. during November 1976 and February 1977. The gradient array technique was used on Lines 48S, 54S, 60S, 66S, 72S, 78S, 84S, 90S and 96S, while a pole-dipole survey was used on Lines 96S, 99S, 105S and 108S.

The data from this survey has been combined with data from previous geophysical surveys (December 1973, December 1974-January 1975) and is presented in Maps 3 and 4.

A very strong chargeability anomaly trending NNE and having a length of 2,000 feet was detected on the eastern slopes of Crown Hill. The anomaly extends from Line 60S, 1800E to Line 78S, 1400E.

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Chargeability rises from a background level of 10-15 milliseconds to a maximum of 55 milliseconds at Line 66S, 1600E. A low resistivity zone of 500-600 ohm-metres against a background level of 2,000-3,000 ohm-metres coincides with the chargeable zone. Geophysical interpretation by Scintrex Pty. Ltd. suggests that this anomaly is caused by graphite or disseminated sulphides within a host sequence which is more conductive than the enclosing lithologies.

Similar, less intense, high chargeability-low resistivity anomalies lie in a zone extending SSW from the Crown Hill anomaly, and coincide with outcropping black shale lenses. At the southern end of this zone, the Lake Margaret tramway pyrite body had no anomalous geophysical response.

Subsequent to the end of the 1976/77 year, on August 4th and 5th 1977, a detailed gradient array E.I.P. survey was carried out to more closely define two strong chargeability anomalies located 3,000 feet south-east of Crown Hill, on Line 84S at 300E and 1200E (main grid). The detailed survey involved 10,000 feet of traversing using 50 feet electrode spacing on lines 300 feet apart. Lines 75S, 78S, 81S, 84S and 87S were surveyed from 2000E (SW extension grid) to 1500E (main grid).

2.2.3 Geochemistry

Soil sampling commenced during the 1974/75 year to evaluate all significant E.I.P. anomalies on the grid, was completed during the 1976/77 year. The following lines were sampled on 50 feet spacing during 1976/77.

Main Grid

Line 48S: 00-1000E  
 Line 72S: 2000E-2550E  
 Line 78S: 500E-1300E  
 Line 81S: 500E-1200E  
 Line 84S: 900E-1500E  
 Line 90S: 1100E-1700E

South-west Extension Grid

Line 60S: 1400E-2200E  
 Line 66S: 1300E-2050E  
 Line 72S: 1200E-1800E  
 Line 78S: 300E-2500E

Significant results of the geochemical program include the following:

- (i) The Crown Hill geophysical anomaly described in the previous section has no anomalous geochemical response. Geological information from C horizon soil augering and follow-up geological mapping indicates that the geophysical anomaly is coincident with a 150 feet wide black shale horizon within a sequence of intermediate tuffs. Concentrations of graphite within the black shale are interpreted to be the source of the chargeability anomaly.

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(ii) The broad zone of anomalous Cu-Pb-Zn responses extending NNW from No. 3 Dam has yet to be evaluated. The zone is 700 feet wide by 2,000 feet long and is open at its southern end, extending from Line 84S, 500E-1000E to Line 96S, 600E-1400E. In comparison to the rest of the grid, lead and zinc values are strongly anomalous throughout this zone, with maxima of 1882 ppm Pb and 465 ppm Zn. Geophysically, the zone lies within an area of low chargeability and is flanked by elongate zones of high chargeability. Geological data from C horizon soil augering indicates that the geochemical anomaly lies near the western contact of a body of Crown Hill type hornblende-feldspar porphyry intrusive.

(iii) South-east of Crown Hill, check and fill-in C horizon soil geochemistry evaluated the zone containing the two chargeability anomalies on Line 84S at 300E and 1150E. Soil sampling during 1976/77 was carried out on Lines 78S, 81S, 84S and 90S. Previous sampling detected a strong Pb anomaly coincident with the western E.I.P. anomaly (Max. 1250 ppm Pb), associated with a 100 feet thick black shale horizon enclosed by a sequence of intermediate tuffs. Soil sampling over the eastern E.I.P. anomaly at 50 feet spacing detected a strong single-sample Pb anomaly (5300 ppm Pb) at 1000E, 150 feet west of the E.I.P. zone.

A costean was excavated on Line 84S from 900E to 1200E to define the sources of the anomalous Pb value and the E.I.P. zone. Map 6 shows the geology of the south wall of the costean and Cu, Pb, Zn and Mn assay values for single rock samples and 25 foot channel samples from the costean wall. The anomalous Pb response was traced to a zone containing small areas of black manganiferous clay within extensively weathered, chloritised intermediate tuffs.

A sample of the manganiferous clay assayed 315 ppm Cu, 5200 ppm Pb, 90 ppm Zn and 2.3% Mn. An analysis of Pb/Mn ratios from soil, rock chip and channel samples from the intermediate tuff zone indicates that significant scavenging of Pb by Mn has taken place and that the Mn level of Pb anomalies should be determined to detect scavenging. The source of the E.I.P. anomaly was found to be a 50 foot wide lens of black shales within a sequence of pyritic sericitised felsic tuffs.

2.2.4 Diamond Drilling

Diamond drilling to test the Lake Margaret tramway pyrite body commenced on June 16th 1977 with D.D.H. WSl collared on Line 96S, 650W (SW extension grid).

Three holes totalling 580 m are programmed to evaluate geophysical/geochemical anomalous zones within the pyroclastic-black shale sequence on the south-west grid extension. Four drill sites have been prepared at the following locations:

Line 96S-650W: WSl in progress.  
Line 90S-400W: to test a possible WSl intersection along strike.  
Line 84S-150E } to test chargeable zones with some  
Line 84S-750E } anomalous Pb responses SE of Crown Hill.

Due to the results of the costeaning on Line 84S, the fourth target has been downgraded and will not be tested in the current program. The drill site excavated at Line 84S, 750E, before the costean was completed, exposed a strongly pyritic black shale horizon which is the source of a significant chargeability anomaly located during the detailed E.I.P. survey, but which had been missed in the previous wider-spaced E.I.P. survey.

## 2.3 BASIN LAKE GRID

### 2.3.1 Introduction

Soil sampling at 50 foot spacing on grid lines 600 feet apart was carried out during 1976/77 to evaluate geophysically anomalous zones delineated during the 1975 E.I.P. survey of the grid. Basin Lake grid covers the southern extension of a black shale-pyroclastic sequence which has been partly tested on E.L. 9/66 immediately to the north.

Diamond drilling by Pickands Mather in 1970 intersected galena-sphalerite-pyrite-chalcopyrite mineralisation within chlorite-sericite schists in D.D.H. BL802, located 150 feet south of Line 72S, 6350E. The drill hole was stopped in the mineralised zone at 222 feet, after intersecting 15 feet of 0.47% Pb, 0.19% Zn and 0.04% Cu.

### 2.3.2 Geochemistry

Three areas containing significant zones of chargeable responses were sampled by soil auger geochemistry during 1976/77. These zones are underlain by pyroclastic-black shale sequences lying to the NW, SW and E of a large intrusive body of hornblende-felspar porphyry, which underlies the central area of the grid. Pickand Mather's D.D.H. BL802 is located at the southern end of the eastern zone.

Significant results of the geochemical program include the following:

- (1) NW zone: Low order Pb anomalies at Line 6S, 2800E and 2850E (129, 114 ppm Pb) are flanked by elongate chargeable zones. Due to overlap by the Basin Lake grid onto the East Henty South grid, the northern end of the western chargeable zone was drilled in 1968 by D.D.H. T2. Collared at Line 00S, 2200E (Basin Lake grid), the hole intersected unmineralised black shales beneath the location of the western chargeable zone.

The hole did not penetrate far enough east across strike to test the low order Pb anomalies described above.

- (ii) SW zone: This zone is characterised by two types of geochemical anomalies. In the NE section of the zone, combined strong Zn lesser Cu-Pb anomalies are underlain by the SW margin of the hornblende-felspar porphyry intrusive. In the southern and western sections of the zone, narrow elongate Pb anomalies trend NNE parallel to the strike of the underlying pyroclastic-black shale sequence. The most significant of these latter anomalies extends over a length of 2,000 feet from Line 42S, 200-250E to Line 60S, 00E. The anomaly varies from 50 feet to 100 feet wide and is open to the south. Maximum value is 276 ppm Pb against a background of 30 ppm Pb.

The only significant chargeable zones within this SW area occur on Lines 48S and 54S within the hornblende-felspar porphyry intrusive near its western contact with the pyroclastic sequence. On Line 48S, a costean was excavated from 850E to 1000E to test a soil Zn anomaly coincident with a strong chargeability anomaly. Values of 172 ppm and 262 ppm Zn at 850E and 900E respectively, lie just east of a major 38 millisecond chargeability anomaly and coincident low resistivity zone at 800E. The costean indicated that the anomalous Zn values were caused by secondary enrichment in bog ironstone, developed in the weathering profile over intrusive hornblende-felspar porphyry. Maximum chip values from the ironstone in the costean were 540 ppm Cu and 460 ppm Zn.

- (iii) E zone: This zone extends for in excess of 8,000 feet along the full length of the eastern side of the grid and is open to north and south. The zone is 1,500 feet wide and includes two strongly anomalous geochemical zones and numerous weakly to moderately anomalous zones. Both the strongly anomalous zones and several of the weaker zones have co-incident chargeability anomalies.

A strong Pb-Cu anomaly extending from Line 72S, 5400E to Line 84S, 5300E-5500E and open to the south, is co-incident with the contact of black shales and altered hornblende-felspar porphyry intrusive intersected by Pickands Mather in D.D.H. BL 801. The chilled margin of the intrusive contains disseminated galena-sphalerite mineralisation grading 0.28% Pb over 10 feet. To date soil geochemistry has not been carried out in the area of mineralised D.D.H. BL802.

A coincident Pb-Zn/chargeability anomaly extending from Line 3S, 7200E to Line 3N, 7450E and open to the north requires further investigation. Maximum values are 268 ppm Pb and 555 ppm Zn in C horizon soils, against backgrounds of 50 ppm Pb and 30 ppm Zn.

#### 2.4 EXPLORATION EXPENDITURE 1976/77

1. Salaries and Wages	\$ 14,978
Burden charges	\$ 5,024
2. Materials, Equipment, Facilities	\$ 8,091
3. Access, Track Cutting	\$ 3,844
4. Geophysics	\$ 6,896
5. Geochemistry Petrology	\$ 2,495
6. Diamond Drilling	\$ 6,059
7. General Costs	\$ 719
Indirect Charges of 6½% of 1, 2, 3, 4, 5, 6	\$ 3,081
TOTAL	<u>\$ 51,187</u>

Expenditure on E.L. 41/71 from May 20th 1976 to June 29th, 1977 totals \$51,187. Total expenditure since 1971 is \$146,843.

### 3. PROPOSED EXPLORATION PROGRAM 1977/78

#### 3.1 INTRODUCTION

Objectives of the program include 580 m of diamond drilling at West Sedgwick and 600 m of diamond drilling at Basin Lake. These drilling programs will commence the evaluation and testing of geochemically and geophysically anomalous zones detected on both grids during surface surveys during the period 1973/77.

In addition a reconnaissance stream sediment sampling program will be completed over the south-west portion of the licence.

#### 3.2 WEST SEDGWICK GRID

As indicated in Section 2,2, three diamond drill holes have been planned to test targets on the south-west grid extension. D.D.H. WSl was in progress at the end of the 1976/77 year testing the Lake Margaret tramway pyrite body which is exposed in a cutting just south of Line 96S, 1000E. The hole is collared at Line 96S, 650E with an inclination of -55°.

Depending on the result of D.D.H. WS1, a second hole may be drilled from a site on Line 90S, 400W to test for possible strike extensions to the north.

The third hole will be drilled from Line 84S, 150E to test the combined soil Pb-chargeability anomaly centred on Line 84S, 300E. Encouragement in this hole would necessitate a re-assessment of the recently down-graded zone costeanned on Line 84S, 900E to 1200E.

### 3.3 BASIN LAKE GRID

#### 3.3.1 Introduction

Diamond drilling at Basin Lake during 1977/78 will test the mineralisation intersected in D.D.H. BL802, and will test several combined chargeable/anomalous Pb targets located during 1973-77 surveys within the eastern zone. To more closely define drill targets, fill-in grid lines at 300 feet spacing will be cut and pegged in zones of interest. Soil auger sampling and detailed gradient array E.I.P. surveys will be carried out in these areas.

#### 3.3.2 Access

Cutting and pegging of fill-in grid lines totalling 3 km is planned.

#### 3.3.3 Geophysics

Detailed gradient array E.I.P. covering three blocks of 2.5 Line-km each has been programmed to define drill targets. An attempt will be made to geophysically map the mineralised zone of D.D.H. BL802 by geophysically logging the hole, and by placing a current electrode in the mineralised zone in the hole and mapping out the resultant geophysical response on surface.

#### 3.3.4 Geochemistry

Geochemical anomalies located during previous programs will be more closely delineated on the fill-in grid lines. In addition, soil sampling will be carried out in the area of D.D.H. BL802 to determine whether the mineralisation has a geochemical response in A horizon soils. This area was not covered by previous soil sampling programs and is mantled by a 100-150 feet thick regolith of glacial moraine.

#### 3.3.5 Diamond Drilling

Drilling at Basin Lake is planned to commence during period 9 immediately following completion of the Red Hills (E.L. 9/66) drilling program. A total of 600 m of diamond drilling will be completed in 2 or 3 holes.

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3.4 STREAM SEDIMENT PROGRAM

A reconnaissance stream sediment sampling program covering the Henty and Yolande drainage systems is programmed for periods 11 and 12. Eluvial and bank samples will be collected to provide a broad geochemical frame-work on which to base further exploration.

3.5 EXPLORATION BUDGET 1977/78 (\$110,000)

3.5.1 Manpower

Salaries, wages and burden charges totalling \$32,073 allow for the full-time employment of one geologist and one field assistant throughout the year. The actual manpower usage will be at that rate in periods 1-5 and 9-10, no manpower during periods 6-8, and 2 geologists and 2 field assistants for the stream sediment program in periods 11 and 12.

3.5.2 Access

3 km of gridding by Mount Lyell personnel will commence during period 4 (\$1,200). Road maintenance and drill site preparation - 4 days (\$1,000).

3.5.3 Geophysics

Detailed gradient array E.I.P. surveying totalling 7.5 Line-km and logging of D.D.H. BL802 are planned to commence mid period 5 (\$3,346).

3.5.4 Geochemistry

Assaying costs for 300 soil samples (Basin Lake), 80 x 1.5 m drill core samples (Basin Lake and West Sedgwick), and 100 stream sediment samples are included in the budget (\$1,483).

3.5.5 Diamond Drilling

Basin Lake drilling (600 m) using a contractor has been costed at an all-inclusive figure of \$55/m (\$33,000). West Sedgwick diamond drilling by Mount Lyell crews (580 m) has been costed at \$50/m (\$29,000).

3.5.6 Other Items

The cost of remaining items including equipment, facilities, materials, capital items, indirect and general costs has been budgeted at \$15,000.

APPENDIXWEST SEDGWICK DIAMOND DRILLING PROGRAM: JUNE-SEPTEMBER, 19771. INTRODUCTION

Three diamond drill holes (WS1, WS2, WS3) evaluated two targets as indicated in sections 2.2.4 and 3.2 of the 1976/77 Annual Report. A total of 571.6 m of NX and NQ drilling was completed by Mount Lyell crews using a Mindrill F49J rig. Targets tested were the Lake Margaret tramway pyrite body (WS1, WS2) and a combined geophysical/geochemical anomaly on Line 84S east of Crown Hill (WS3).

Pyritic black shale-intermediate tuff sequences were intersected in both areas, however, no significant base metal sulphides were located. The results of the drilling program will be used to rate other geophysical and geochemical anomalies on the grid, and to evaluate the effectiveness of current geophysical and geochemical exploration techniques.

2. DRILL HOLE DETAILS2.1 D.D.H. WS1 (FIGURE 1)

Collar location: SW extension grid-Line 96S, 650W  
 Target: Lake Margaret tramway pyrite body exposed in cutting 30 m S of Line 96S, 1000W  
 Hole orientation: Bearing 234° magnetic, inclination - 55°  
 Date commenced: 16th June, 1977  
 Date completed: 4th July, 1977  
 Length of hole: 92.0 m; 0-36.0 m (NXCU) 36.0 - 92.0 m (NQ)  
 Summary log: 0-51.90 m: medium grained intermediate crystal-lithic tuff  
 51.90 - 92.00 m: pyritic black shale  
 Comment: Hole had to be abandoned at 92.0 m before reaching target when rod broke at 55.0 m down hole. Recovery of rods and attempt to drill past lost rods failed. No core assayed. WS2 drilled from same site to test WS1 target.

2.2 D.D.H. WS2 (FIGURE 1)

Collar location: as for WS1  
 Target: as for WS1  
 Hole orientation: Bearing 234° magnetic, inclination - 70°  
 Date commenced: 7th July, 1977  
 Date completed: 27th July, 1977  
 Length of hole: 224.4 m; 0-76.6 m (NXCU) 76.6 m - 224.4 m (NQ)

Summary log: 0-81.3 m: Medium grained intermediate crystal-lithic tuff  
 81.3-139.8 m: Pyritic black shale  
 139.8-224.4 m: Medium to coarse grained intermediate crystal-lithic tuff. Pyrite <1%, trace pyrrhotite, chalcopyrite.

Comment: Hole penetrated complete sequence of intermediate tuffs hosting pyrite body at surface with only disseminated pyrite mineralisation (<1%) present, indicating pyrite body has lensed out in 500 ft. down-dip from outcrop to drill hole level (see section). Had WS1 continued to planned depth, it would have intersected the target zone 250 ft. down-dip, and may have provided more data on the size of the pyrite body than WS2.

Assays: To provide information on background metal values, 42 sections of core each 1.5 m long were split and assayed. Results are tabulated below:

	6 Black Shale Samples		36 Intermediate Tuff Samples	
	Mean (ppm)	Range (ppm)	Mean (ppm)	Range (ppm)
Cu	127	104-215	80	27-150
Pb	71	26-100	46	21-100
Zn	115	83-138	70	24-188

2.3 D.D.H. WS3 (FIGURE 2)

Collar location: Main grid - Line 84S, 150E  
 Target: Combined chargeability - Pb soil anomaly within black shales at Line 84S, 300-350E  
 Hole orientation: Bearing 45° magnetic, inclination - 55°  
 Date commenced: 4th August, 1977  
 Date completed: 2nd September, 1977  
 Length of hole: 259.70 m; 0-33.0 m (NXCU) 33.0-259.70 m (NQ)

Summary log: 0-37.7 m: Medium grained intermediate crystal-lithic tuff.  
 37.7-39.0 m: Black shale.  
 39.0-152.2 m: Intermediate tuff, local sericitisation at 105.5-118.0 m, interbedded black shales at 138.4-144.5 m.  
 152.2-162.4 m: Black shale.  
 162.4-231.8 m: Silicified intermediate tuff breccia.  
 231.8-259.7 m: Interbedded pyritic black shale and medium grained intermediate crystal-lithic tuff, locally sericitised.

Comment: Interbedded intermediate tuff-black shale sequence intersected, similar to sequence tested by D.D.H. WS2. Black shale target was not intersected, indicating that 100 ft. wide shale lens at surface has lensed out 250 ft. down-dip (see section). Intermediate tuffs sericitised in extrapolated down-dip projection of shale lens. Shale lens intersected over 231.8-259.7 m down-dip extension of shales on surface at 700E on east bank of West Queen River, and interbedded intermediate tuffs show encouraging alteration but no mineralisation.

Assays: To provide information on background metal values 17 sections of core each 1.5 m long were split and assayed. Results are tabulated below:

	5 Black Shale Samples		12 Intermediate Tuff Samples	
	Mean (ppm)	Range (ppm)	Mean (ppm)	Range (ppm)
Cu	83	76-93	44	39-56
Pb	572	420-760	35	20-66
Zn	512	185-1100	86	72-122

297015

RIVER

TULLAH

PIEMAN

ROSEBERY

MURCHISON RIVER

RENISON BELL

Mt. Murchison

Mt. Read

Mt. Heemskirk

MT. TYNDALL  
Red Hills

Mt. Agnew

ZEEHAN

AREA

E.L. 9/66

TRIAL HARBOUR

HENTY -  
YOLANDE  
AREA

West

DORA -  
Mt. Sedgwick  
HUXLEY

E.L. 41/71

MT. LYELL  
AREA

HENTY RIVER

QUEENSTOWN

GORMANSTON

Mt. Owen

THE MT. LYELL M. & R. CO. LTD.  
CONSOLIDATED MINING LEASE.

E.L. 10/69  
Mt. Huxley

STRAHAN

Mt. Jukes

JUKES -

DARWIN

AREA

Mt. Darwin

E.L. 21/76

Mt. Sorell

South Darwin  
Peak

KING RIVER

CAPE SORELL

MACQUARIE

HARBOUR

SOUTHERN OCEAN



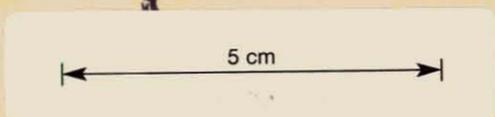
MAP 1

77-1228

THE MOUNT LYELL M. & R. CO. LTD.  
EXPLORATION DEPARTMENT.

EXPLORATION LICENCES  
LOCALITY PLAN

Drawn: R.G.W.  
Checked:  
Date: April '77  
Scale: 1:250,000

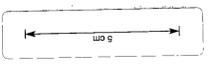






NOVEMBER - FEBRUARY 1977

SURVEYED & COMPILED BY  
SCINTRIX



CHARGEABILITY CONTOURS

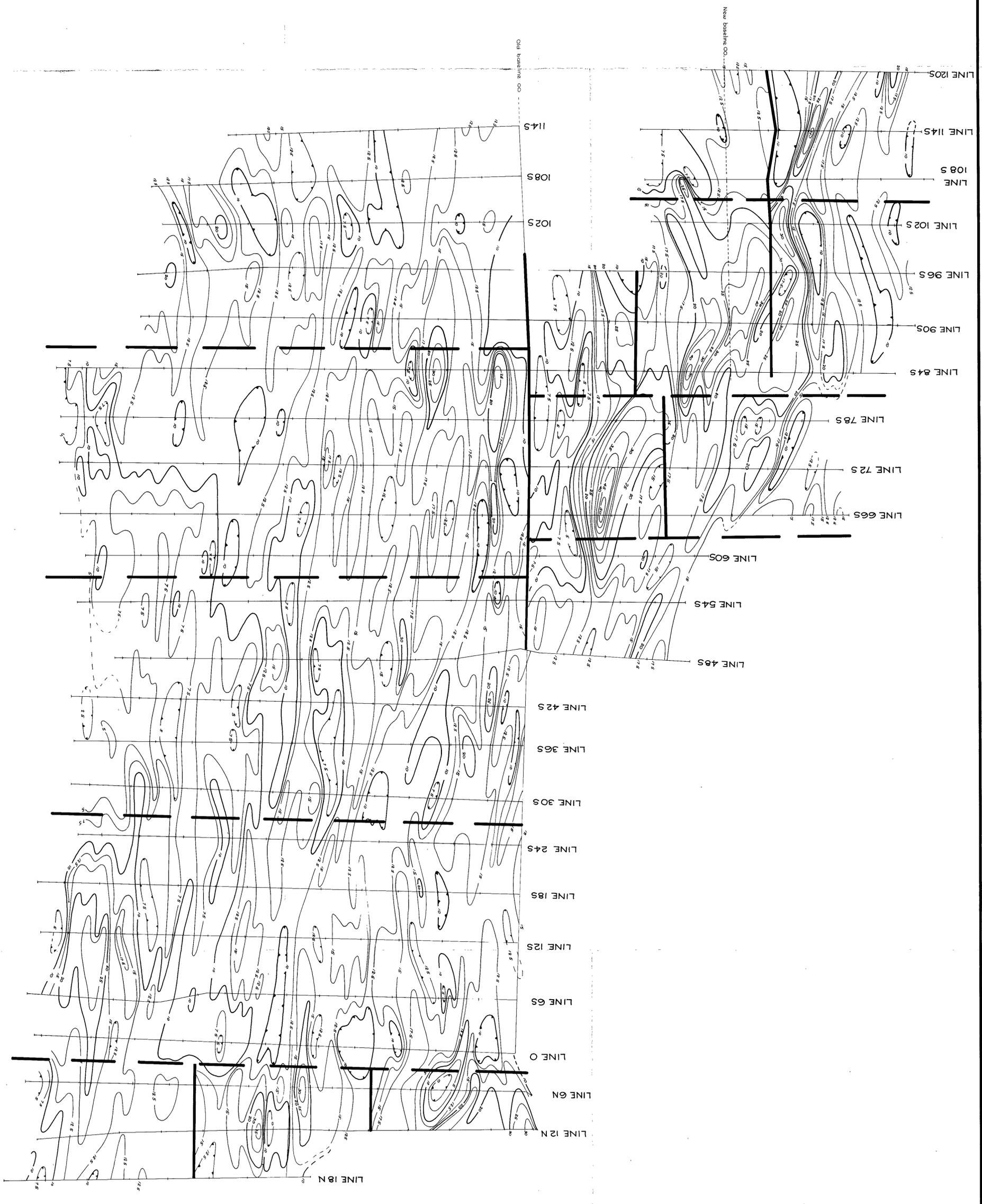
GRADIENT ARRAY

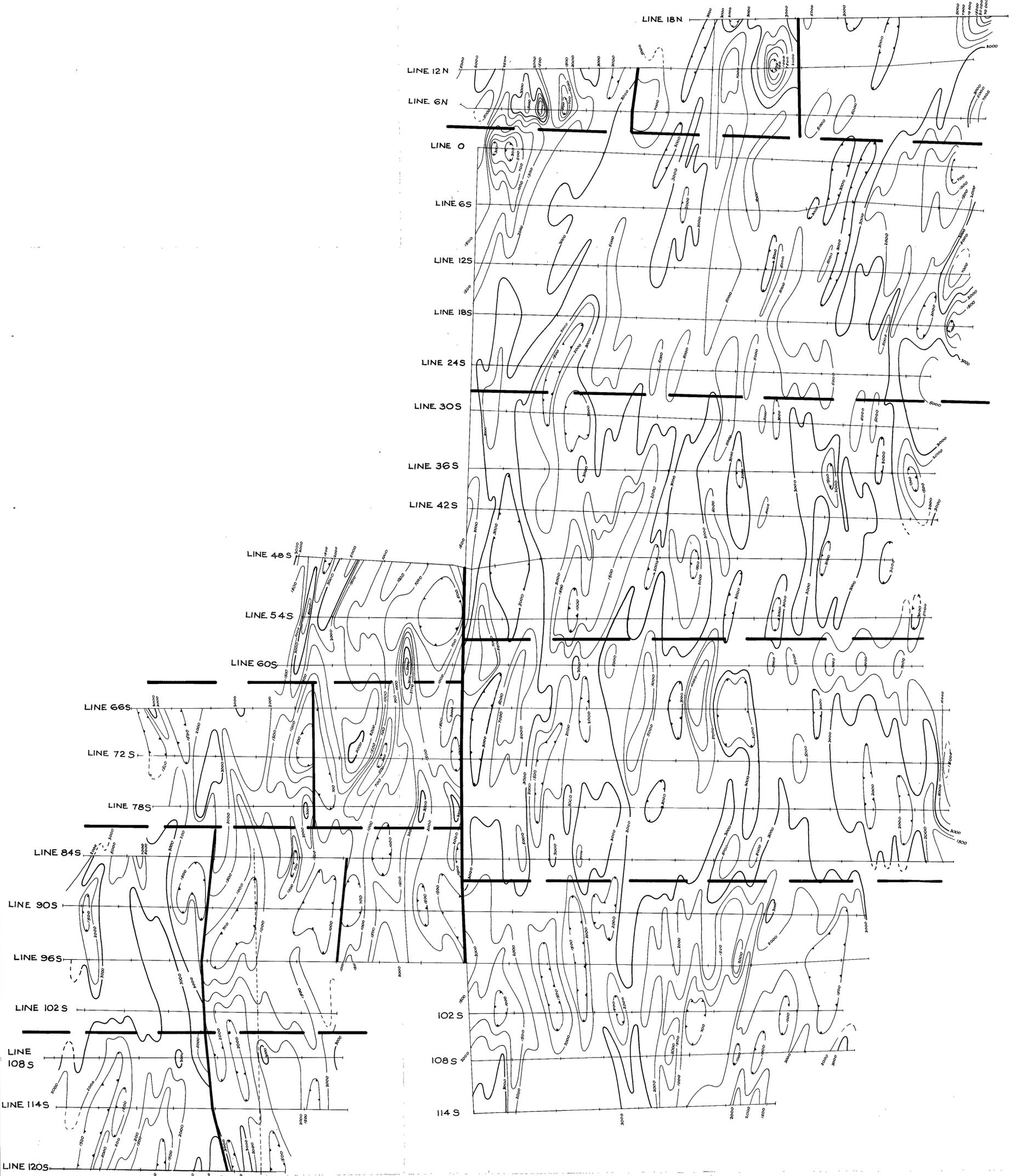
ELECTRICAL INDUCED POLARIZATION SURVEY

WEST SEDGWICK  
RAILWAY COMPANY LTD  
(MR) QUEENSTOWN - WEST COAST - TASMANIA

LEGEND:

Chargeability contours in milliseconds  
Gradient block boundary





LEGEND:  
 Resistivity contours in ohm-metres  
 Gradient block boundaries

**MOUNT LYELL MINING &  
 RAILWAY COMPANY LTD**

WEST SEDGWICK

(NR) QUEENSTOWN - WEST COAST - TASMANIA

ELECTRICAL INDUCED POLARIZATION SURVEY  
 GRADIENT ARRAY  
 RESISTIVITY CONTOURS



SURVEYED & COMPILED BY  
 SCINTREX

NOVEMBER - FEBRUARY 1977



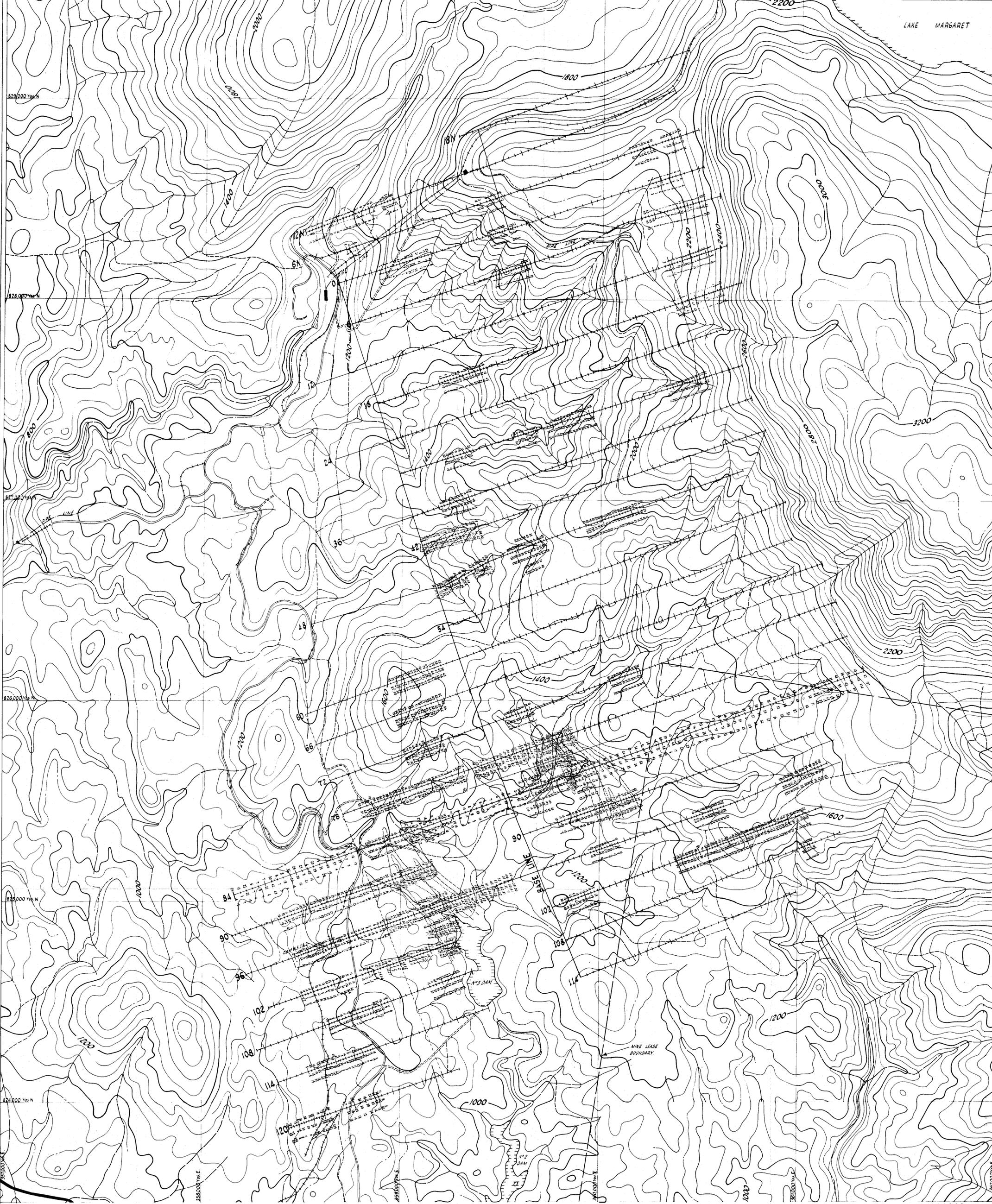
Scale 1:6000

297018

2192

MAP 4

77-1228



297019

THE MOUNT LYELL M. & R. COY. LTD.  
 GEOLOGICAL DEPARTMENT  
 HENTY - YOLANDE E.L. 41/71  
 WEST SEDGWICK GRID  
 SOIL GEOCHEMISTRY - 80# FRACTION

DRAWN, R. MEARES  
 CHECKED, R.B. WILSON  
 DATE, SEPT. 1977  
 SCALE, 1:6,000  
 MAP 5  
 2193

100 + p.p.m. Cu  
 100 + p.p.m. Pb  
 100 + p.p.m. Zn

COSTEAN  
 DIAMOND DRILL HOLES

5cm

80#  
 Cu, Pb, Zn  
 100 80, 50

WEST SEDGWICK GRID - COSTEAN LINE 84 S.  
SOUTH WALL - GEOLOGY & GEOCHEMISTRY

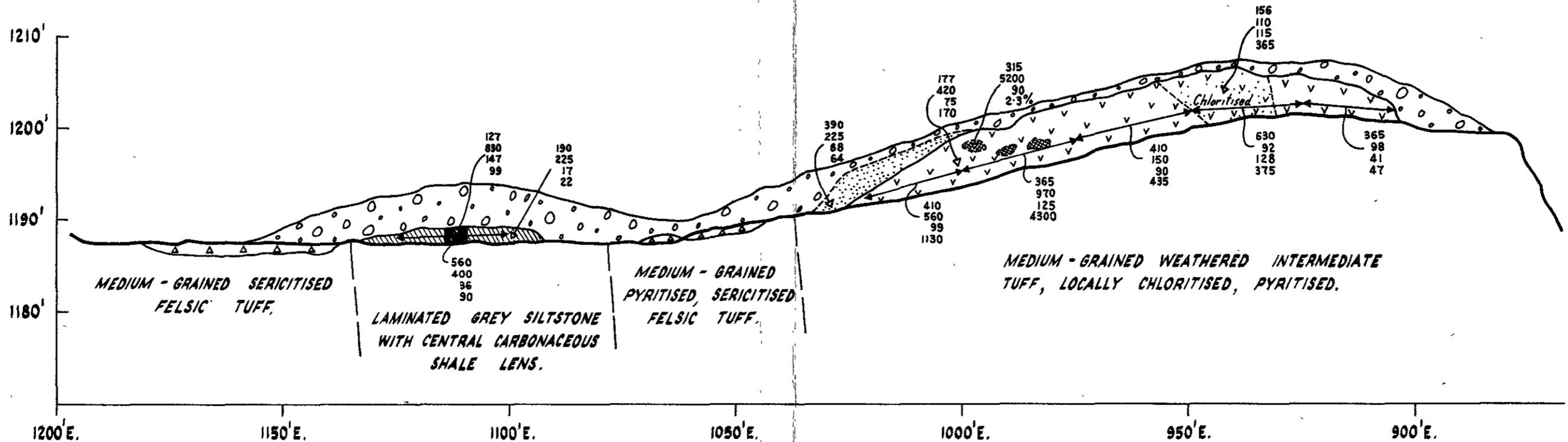
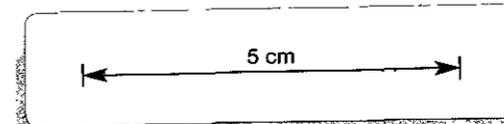
LEGEND

- |  |                        |     |                    |
|--|------------------------|-----|--------------------|
|  | GLACIAL MORAINE        |     | 25' CHANNEL SAMPLE |
|  | RESIDUAL SOIL          | 560 | Cu                 |
|  |                        | 400 | Pb                 |
|  |                        | 36  | Zn                 |
|  |                        | 90  | Mn                 |
|  | INTERMEDIATE TUFF      |     | SINGLE ROCK SAMPLE |
|  | SILTSTONE, BLACK SHALE | 390 | Cu                 |
|  | FELSIC TUFF            | 225 | Pb                 |
|  |                        | 88  | Zn                 |
|  |                        | 64  | Mn                 |
|  | MANGANIFEROUS CLAY     |     | FLOOR OF COSTEAN   |

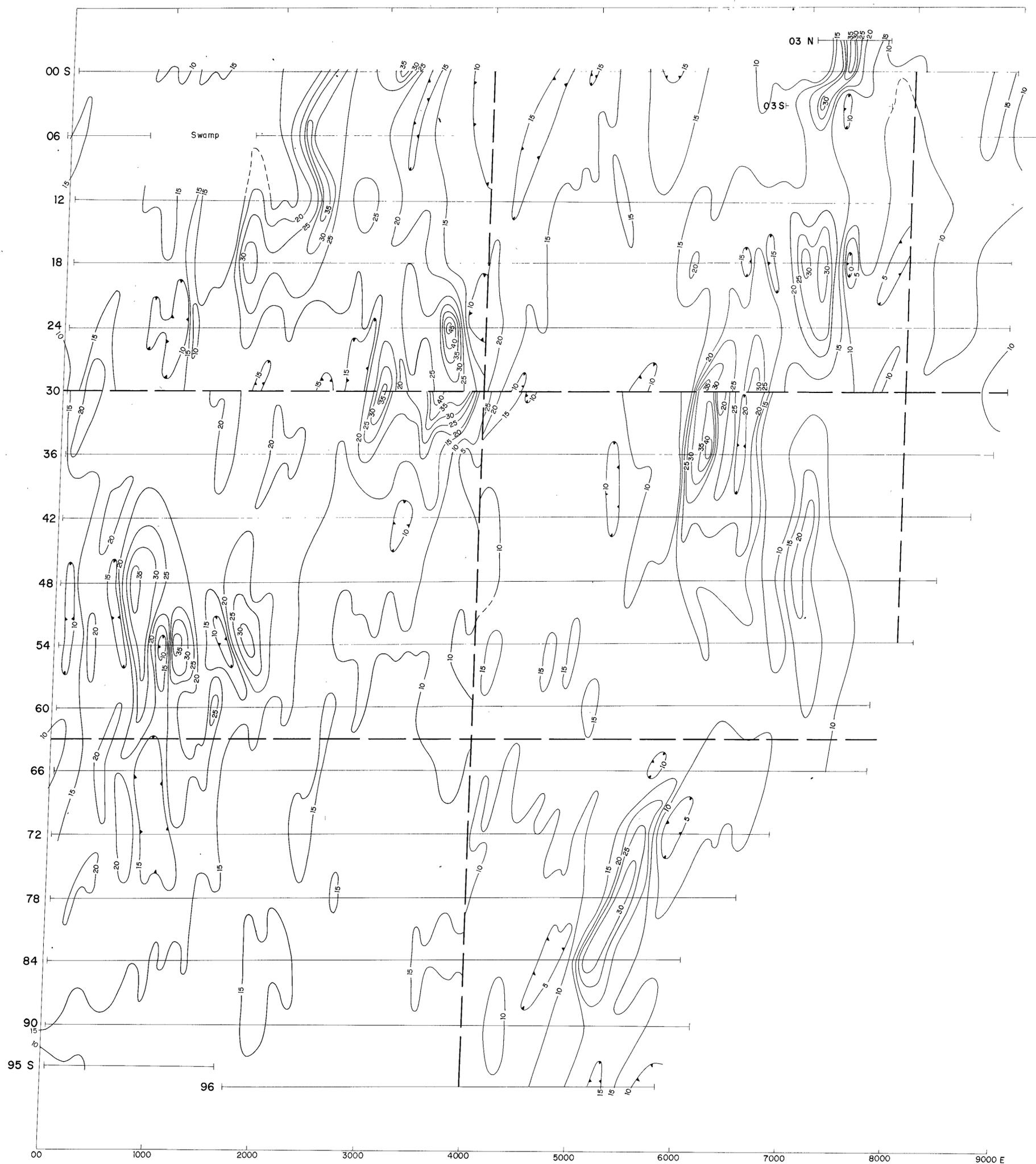
SCALE

HORIZONTAL: 1" = 25'

VERTICAL: 1" = 12.5'





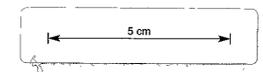


**LEGEND**  
 — 15 — Contours in milliseconds  
 - - - Gradient block boundary

**THE MOUNT LYELL  
 MINING AND RAILWAY COMPANY LTD.**

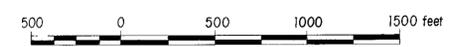
**BASIN LAKE GRID  
 WEST COAST, TASMANIA**

**CHARGEABILITY CONTOUR MAP**



SURVEYED & COMPILED BY -  
**SCINTREX PTY. LTD.**

OCT - DEC 1974  
 297022

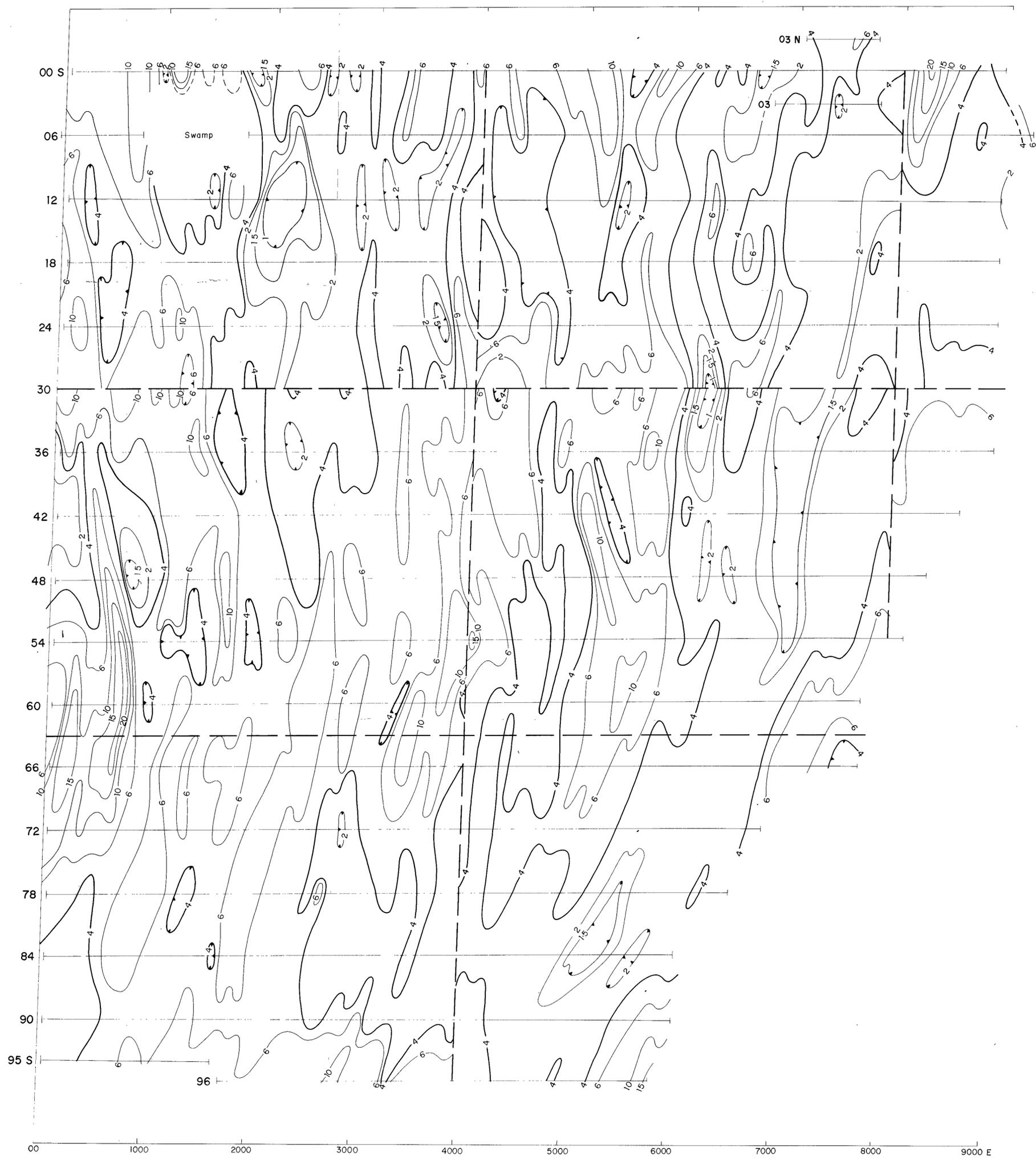


SCALE - 1 6000

2196

77-1228

**MAP 8**



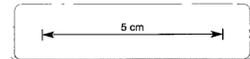
**LEGEND**

-  Contours in 1000's of ohm-metres
-  Gradient block boundary

**THE MOUNT LYELL  
MINING AND RAILWAY COMPANY LTD.**

**BASIN LAKE GRID  
WEST COAST, TASMANIA**

**RESISTIVITY CONTOUR MAP**



SURVEYED & COMPILED BY:-  
**SCINTREX PTY. LTD.**  
OCT - DEC 1974

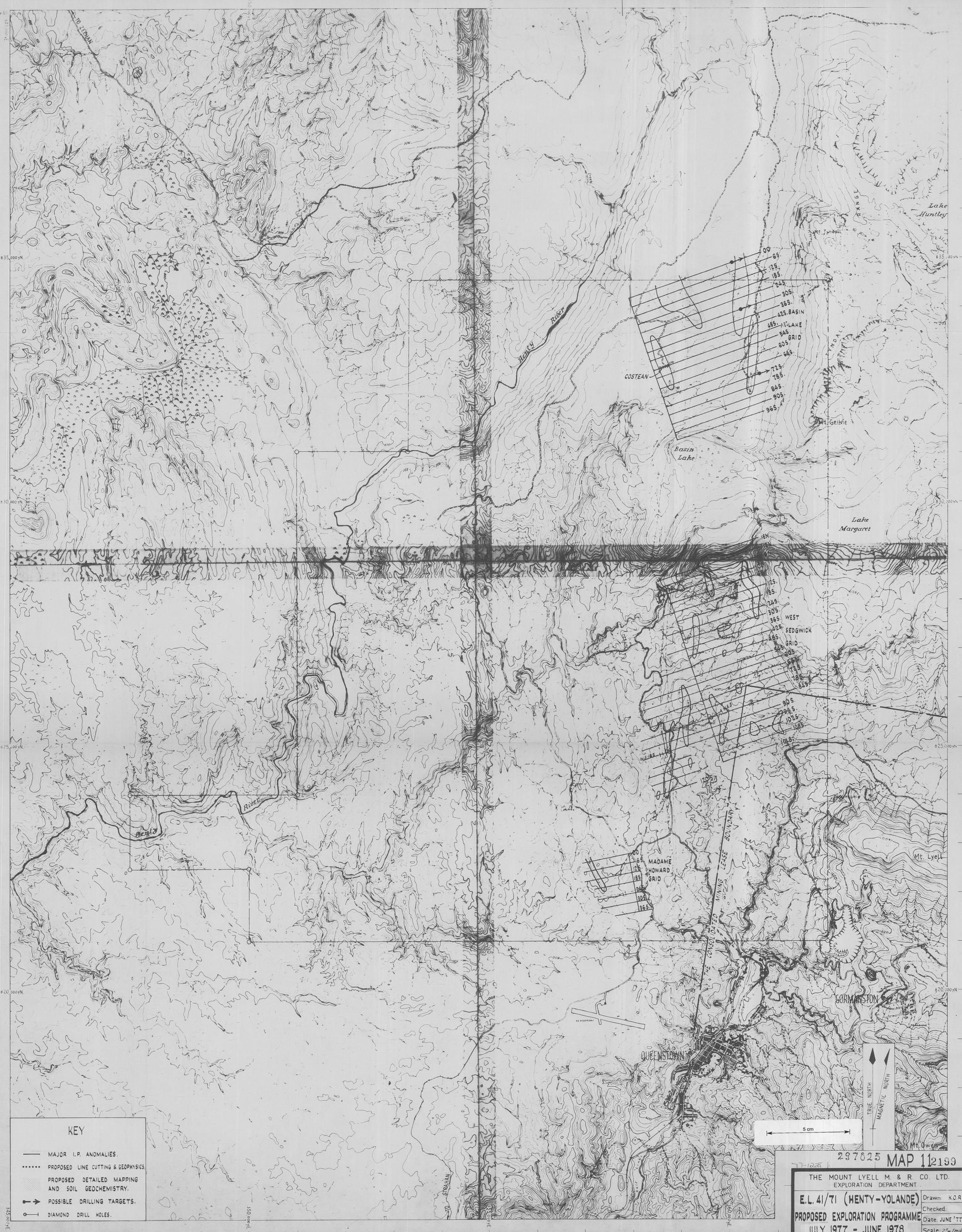
297023



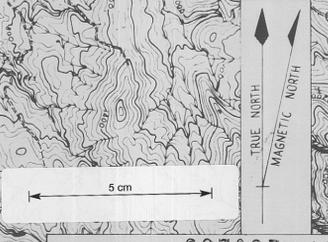
SCALE - 1 6000

2197  
77-1228 **MAP 9**





KEY	
	MAJOR I.P. ANOMALIES.
	PROPOSED LINE CUTTING & GEOPHYSICS.
	PROPOSED DETAILED MAPPING AND SOIL GEOCHEMISTRY.
	POSSIBLE DRILLING TARGETS.
	DIAMOND DRILL HOLES.



297825 MAP 112193

THE MOUNT LYELL M. & R. CO. LTD.  
EXPLORATION DEPARTMENT

**E.L. 41/71 (HENTY-YOLANDE)** Drawn: K.O.R.  
Checked:  
Date: JUNE '77  
**PROPOSED EXPLORATION PROGRAMME**  
JULY 1977 - JUNE 1978 Scale: 2" = 1 mile