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THE MOUNT LYELL MINING AND RAILWAY CO. LTD.

MICROFILMED

ANNUAL REPORT

ON

MOINA AREA - E.L. 8/65

1971 - 72

BY: J.P. McKibben
DRAFTING: R.G. Wilson
APPENDIX BY: K.O. Reid

Copies To: General Office (1)
Exploration Department (2)
Department of Mines, Hobart (1)

August, 1972

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1. INTRODUCTION

This report covers the work performed on E.L. 8/65 from June, 1971 to May, 1972.

Regional geological mapping over Cambrian Bull Creek Volcanics was completed in the Iris River and Bismuth Creek area.

Detailed geochemical soil sampling was carried out on Dolcoath Hill. A program of diamond drilling was completed on Oliver's Hill. Two drill holes, totalling 1,340 feet, were drilled.

No geological personnel were available for permanent stationing in the licence area during the 1971-72 year.

During the 1970-71 year the area of E.L. 8/65 was reduced to 63 square miles. In November, 1971 35 square miles were relinquished reducing the total licence area to 28 square miles. A decision was made to relinquish the entire licence area and accordingly the licence was allowed to expire on May 13, 1972. The former boundaries of E.L. 8/65 are plotted on Map 1.

Expenditure on E.L. 8/65 during 1971-72 totalled \$17,092, bringing final total expenditure on the Moina area to \$154,744.

2. REGIONAL MAPPING

A period of two days was spent by a party of four geologists and a field assistant in mapping Cambrian volcanics outcropping in the following areas:

- (i) Iris River
- (ii) Bismuth Creek

The results of this regional geological mapping are shown on Map 2.

2.1 Iris River Traverse

A traverse over about 8,000 ft. in the Iris River was completed in order to map the Cambrian Bull Creek Volcanics outcropping in the core of an E-W trending anticlinorium (refer Map 2).

The predominant rock type within the Bull Creek Volcanics in this area, is a massive black-green fine grained rock with numerous clear, rounded quartz phenocrysts up to 2 mm in diameter. Minor scattered pyrite and magnetite mineralisation occurs as rare blebs within this rock unit.

Towards the northern limb of the anticlinorium a narrow 100 ft. unit of siltstones is faulted against the massive porphyritic volcanics. Further north a 30 - 40 ft. unit of bedded tuff passes into a fine pink rhyolitic lava exposed adjacent to the unconformable Roland Conglomerate contact (refer Map 2).

2.2 Bismuth Creek Traverses

Geological mapping was carried out over an area of Bull Creek Volcanics outcropping adjacent to the Bismuth Creek Fault zone, south east of the Iris Mine (refer Map 2).

Massive black-green volcanics containing clear rounded quartz phenocrysts (approximately 2 mm diameter) outcrop to the NE of the Bismuth Creek Fault. These rocks are identical to the massive porphyritic volcanics outcropping in the Iris River. Minor patches of coarse pyrite occur as "clusters" in this rock type.

To the SW of the fault zone, poorly exposed area of very fine grained acid lavas, quartz-sericite schists and cherts (?) is

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bounded by typical massive black-green porphyritic volcanics (refer Map 2). The fine grained "cherty" rocks are brecciated in places and contain minor pyrite in the broken matrix.

Lenses of highly sheared quartz-sericite schists occur within the fine grained acid rocks. The schists may originally have been quartz rich acid fragmentals. Variable amounts of finely disseminated pyrite are common in the schistose zones. No other sulphide minerals were observed in hand specimen. Trace analysis of typical pyritic quartz-sericite schist (in particular M22, M26) gave results as shown in Table I.

A thin blanket of Tertiary "greybilly" obscures the Cambrian volcanics to the NW. The "greybilly" is covered by an extensive plateau of Tertiary basalt which completely covers all underlying rock units.

It is apparent from Map 2 that the outcropping zone of pyrite bearing schistose rocks is fairly restricted. It is possible that the Bismuth Creek Fault zone may have caused local concentration of disseminated pyrite mineralisation.

Geochemical results on specimens taken within the zone of fine grained acid lavas and pyritic quartz sericite schists show generally very low concentrations of Cu, Pb, Zn, Au, Ag, Co and Ni.

Table I summaries geochemical results on samples collected at the localities shown on Map 2.

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TABLE I : Geochemical Data - Bismuth Creek Area

Sample Number	Cu	Pb	Zn	Co	Ni	Au	Ag
M20	16	5	15	N.D.	5	N.D.	1
M21	194	20	43	18	28	N.D.	1
M22	78	20	96	18	43	N.D.	1.5
M23	283	20	8	N.D.	N.D.	N.D.	1
M26	36	40	12	13	33	N.D.	1
M29	15	10	19	N.D.	10	N.D.	1

3. DOLCOATH HILL GRID

A zone of soil geochemical anomalies in a favourable geological environment was outlined on Dolcoath Hill during 1970-71.

A small area of anomalous Sn, WO_4 , Bi and Mo response occurs in soil over a granite batholith. It was considered that economic concentrations of disseminated cassiterite-molybdenite-bismuthinite mineralisation could potentially be developed in the structural and geological environment present on Dolcoath Hill.

During 1971-72 a further program of geochemical soil sampling was carried out to confirm and further define the area of anomalous response previously obtained.

Three additional lines (0.5E, 1.5E, 2.5E) were sampled at 100 ft. intervals over the anomalous area. A total of 46 soil samples were collected and analysed for Sn, WO_4 , Bi and Mo. The results of this work, together with previous results, are plotted on Maps 6, 7, 8 and 9.

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It is apparent that some difference exists in detection limits and concentration levels between the two sets of data. As all samples were taken from the same environment it is likely that the difference reflects an improvement in analytical accuracy of the XRF equipment used in the analysis.

Despite the difference in analytical data a similar pattern of anomalous geochemical response is preserved. The zone of anomalous Sn response is more restricted than previously.

A detailed examination of available exposures of granite upslope from the geochemically anomalous zones did not reveal any significant amounts of cassiterite, molybdenite, wolframite or bismuthinite mineralisation. A number of small workings and trenches contain quartz veins with wolframite, cassiterite and molybdenite and the Squib Mine was developed on a small tin greisen deposit containing wolframite and minor bismuthinite and molybdenite.

It is unlikely that the known mineral deposits would entirely account for all the anomalous geochemical response. However it is also unlikely that any sizeable near surface deposit of disseminated or greisen type mineralisation occurs within this area as exposure is reasonably good.

No further work was undertaken to define the origin of the geochemical anomalies. No recommendations for further investigation were made as the potential for a sizeable economic mineral deposit in the area is considered to be low.

4. OLIVER'S HILL AREA

4.1 Introduction

Geological mapping by the Department of Mines during March, 1969 revealed outcrops of ironstone "gossan" extending for approximately one mile on the northern slopes of Oliver's Hill (refer Map 3). Subsequent geochemical soil sampling showed a broad zone of anomalous lead concentrations with associated weak copper and zinc anomalies. The results of these investigations are detailed by Baker (1971).

Work conducted in this area by Mt. Lyell has been adequately detailed in the Annual Report for 1969-70. In summary this work consisted of geological mapping, soil sampling, magnetometry and a detailed gradient array I.P. coverage.

A total of 8 I.P. anomalies were outlined; of which anomaly A1 (refer Map 3) was considered to represent a favourable drilling target. Anomaly A1 coincided with an ironstone "gossan" outcrop and an S.P. anomaly was recorded on line 16W. Two diamond drill holes were recommended by Compagnie Generale de Geophysique to test this anomaly.

4.2 Diamond Drilling Results

Drilling of D.D.H. Oliver's Hill No. 1 (refer Map 4) commenced on June 25th, 1971.

The hole was collared on line 8W/360S in soil containing blocky "gossan" boulders to a depth of 59 ft. From 59 - 112 ft. the hole intersected massive ironstone "gossan" and passed into highly weathered Moina Sandstone with strong iron oxide staining from 112 - 166 ft. Typical facies of the Moina Sandstone were intersected from 166 - 470 ft. and contained only very minor traces of disseminated pyrite. Roland Conglomerate occurred from 470 - 540 ft., at which depth the hole was completed.

No economic mineralisation was intersected in this hole. It is apparent that the hole was collared too close (see section) to the I.P. axis to give an optimum intersection. This was due to an error in co-ordinates quoted by C.G.G. Nevertheless, the results obtained suggest a shallow "gossan" and indicate the general geological structure.

D.D.H. Oliver's Hill No. 2 was collared on line 16W/600S on July 26th, 1971. The hole passed through typical Moina Sandstone from 0 - 442 ft. with a narrow intrusion (?) of quartz-feldspar porphyry from 79 - 101 ft. From 442 - 561 ft. the hole intersected typical red, haematitic facies of the Roland Conglomerate, passing into massive dark green, chloritised quartz-feldspar porphyry from 561 - 800 ft.

Mineralisation was present as rare finely disseminated specks of pyrite in the Moina Sandstone and as very minor traces of pyrite and galena in the porphyry. No evidence of economically significant mineralisation was observed.

4.3 Interpretation and Recommendations

The results of the drilling program significantly downgrade the potential of the Oliver's Hill area.

Although D.D.H. Oliver's Hill No. 1 did not provide a particularly good test of anomaly A1 on line 8W, the "gossan" appears to extend to a depth of about 100 ft. beneath the surface.

D.D.H. Oliver's Hill No. 2 provided an effective test both of anomaly A1 and also of the depth extensions of the extensive "gossan" outcropping on line 16W.

The source of the I.P. anomaly on line 16W is apparently unrelated to sulphide mineralisation; however the anomaly may reflect the presence of a thin intrusive sheet (?) of quartz porphyry within the Moina Sandstone. This sheet (?) of porphyry is present as a narrow intersection in D.D.H. Oliver's Hill No. 2 and outcrops sporadically between lines 8W and 16W. It is variably weathered to a yellow clayey matrix and hence could possibly give rise to both an I.P and S.P. response.

D.D.H. Oliver's Hill No. 2 passed beneath an extensive surface outcrop of ironstone "gossan" at a vertical depth of 500 - 600 ft. without intersecting any trace of economic sulphide mineralisation.

The following conclusions may be drawn:

- (i) I.P. anomaly A1 is unrelated to sulphide mineralisation.
- (ii) The "gossan" outcrops have no demonstrated depth extension. In particular, on line 16W, no significant depth extension of the surface "gossan" is present.

It is considered that the Oliver's Hill ironstone "gossan" outcrops may represent Cretaceous surface erosional deposits which were buried by Tertiary basalt and have subsequently been re-exposed. A source for the high lead contents of the "gossan" material may have been a galena deposit similar to that developed in the Round Hill Mine area. A similar view to the above hypothesis is suggested by Baker (1971, p.166).

It is the writer's opinion that the potential for discovery of a sizeable economic mineral deposit in the Oliver's Hill area is limited. It appears unlikely that any possible mineralisation would represent a target of sufficient interest to this Company.

No further drilling was recommended in the Oliver's Hill area and accordingly the area was relinquished as part of a general reduction of E.L. 8/65 on November 12th, 1971.

5. SHEPHERD AND MURPHY MINE - TI TREE CREEK SKARN ZONE

In the 1970-71 Annual Report on the Moina Area, McKibben (1971 p.35) outlined a program of diamond drilling to test an area adjacent to Ti-Tree Creek. Two quotations for 700 feet of diamond drilling in this area were called from Longyear Inc. and Associated Diamond Drillers Pty. Ltd.

However Reid (1971) has completed a thorough review of the results of this Company's activity in the Moina area. His memorandum (reproduced as Appendix I) covers the geological setting of mineralisation and potential for location of deposits of interest to this Company within the Dolcoath Hill - Shepherd and Murphy - Ti Tree Creek - Lea River zone of Sn-W-Mo-Bi mineralisation.

It is concluded that potential reserves, sufficient to permit a small, profitable operation, could possibly be located in this zone. However such operations are of only marginal interest to this Company.

In accordance with the conclusions and recommendations of Reid (1971) the Moina licence area was relinquished on May 13, 1972.

6. EXPENDITURE 1965 - 1972

Exploration Licence 8/65 was granted originally for 110 square miles on May 12, 1965. The area was finally relinquished on May 13, 1972.

The expenditure on E.L. 8/65 during the 7 year period in which investigations were carried out totalled \$154,744. A summary of annual costs is tabulated below.

<u>Year</u>	<u>Total Expenditure</u>
1965 - 66	\$ 8,722
1966 - 67	\$ 14,689
1967 - 68	\$ 10,218
1968 - 69	\$ 20,860
1969 - 70	\$ 23,748
1970 - 71	\$ 59,415
1971 - 72	\$ 17,092
	<hr/>
	<u>\$154,744</u>

G. B. Mitchell

7. REFERENCES

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Internal Memorandum Mt. Lyell Mining & Railway Co. Ltd.

APPENDIX I

14th December, 1971

MEMO TO: Mr. T.F. Lanz
FROM: K.O. Reid
COPY TO: G.F. Hudspeth

MOINA AREA, E.L. 8/65INTRODUCTION

The Moina area E.L. 8/65 has had a rather protracted and somewhat chequered history of exploration. Its exploratory development has essentially completed a full circle from:

1. regional assessment of the old workings in the area, leading to the area being taken up under exploration licence,
2. reconnaissance coverage (geological, geochemical and aeromagnetic methods) of the area with some more detailed follow up investigations in restricted areas, in anticipation of locating other areas of mineralisation of greater potential,
3. the return of exploration to the vicinity of the mineralisation previously prospected in the Dolcoath Hill - Lea River zone.

The reduced area of E.L. 8/65 contains two main zones of potential interest for further exploratory investigations, notably:

1. that mineralisation associated with the intrusion of the Devonian Dolcoath Granite, extending westwards from Dolcoath Hill to the Stormont Mine area on the Lea River,
2. the sheared pyritic sericite quartz schists of the Bull Creek Volcanics (Cambrian) observed sporadically between Lorinna and the Lea River.

Since E.L. 8/65 was granted in 1965 a total exploration expenditure of \$153,890 has been incurred i.e. approximately \$25,600 per annum.

The aim of this report is to review the geological setting and potential of the mineralised zone between Dolcoath Hill and the Lea River.

1. Dolcoath Hill - Lea River Zone

The mineralisation in this area is obviously derived from the Dolcoath Granite and occurs as three main types:

1. narrow quartz fissure type lodes up to 2'6" wide and 1,400 ft. long cutting various host rocks and containing cassiterite and wolframite with minor amounts of molybdenite and bismuthinite,
2. disseminated sulphides (including pyrite, bismuthinite, chalcopyrite, galena and sphalerite) frequently associated with magnetiferous skarn. Minor amounts of gold also occur sporadically,
3. scattered minor Sn-W-Mo veins and local disseminations associated with the northern and upper margins of the granite.

*The assaying
has been
sporadic*

A broad zonation of the mineralisation is evident from the surface mineral occurrences, as illustrated on the accompanying schematic, east-west section (refer Map 10).

To date, three diamond drill holes have been completed in the Shepherd and Murphy Mine area to test for lateral and depth extensions of the known lodes. While no significant mineralisation was encountered, granite was intersected at between 700 and 900 feet below the surface in two of the holes, indicating that the granite extends westward from Dolcoath Hill, beneath the All Nations Mine, to the Shepherd and Murphy Mine at relatively shall depths. Furthermore, the development

of magnetite-pyrite mineralisation within the skarn in the Ti-Tree Creek area (similar to that at the Shepherd and Murphy Mine) and approximately one mile to the west in the Lea River, also suggests that the granite occurs at a relatively shallow depth (of the order of 1,000 feet).

If this conclusion is correct, then the potential of the zone as a target for Sn-W-Mo lodes is enhanced. At the eastern end of the zone the known Sn-W fissure lodes are associated with a zone of tension on the northern limb of an east-west trending anticline. No positive evidence is available from surface indications on the possible location of similar tension features in the western part of the zone. The problem remains as to how to locate such a target, which must be concealed with little or no surface expression.

Possibly the only available clue is the skarn. The skarn horizon at the base of the Gordon Limestone represents the highest level reached by the hydrothermal solutions rising from the granite body. These solutions, which also introduced the mineralisation, reacted with the limestone to form the skarn. Variations in the intensity of alteration of the limestone are reflected in variations in the skarn composition, from a calc-silicate rock (least altered), through a garnet-epidote-pyroxene rock (skarn), to a magnetiferous and sulphide bearing skarn. The alteration intensity decreases stratigraphically up through the limestone, however the more intense alteration may have been controlled by pre-existing faults, tension zones or more strongly fractured areas. That is, the potential for locating additional fissure lodes carrying Sn-W mineralisation may be greater beneath the more intensely altered skarn zones.

Further discoveries of the Sn-W lode type mineralisation in this area would most probably be similar to those already known and sporadically worked e.g. Shepherd and Murphy, All Nations, Squib Mines.

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The Shepherd and Murphy Mine was the main producer on the field and in the period 1893 - 1957 produced 2,356 tons of ore, yielding 539 tons Sn (metallic), 242 tons W and 71 tons Bi. The ore occurs as a vein system comprised of four main and two subsidiary veins with an average width of 15 inches. The veins occupy subparallel tension fractures approximately perpendicular to the host rocks, with a dip of 85° to the south, on apparent westerly plunge and a general east-west trend. The ore occurs sporadically in the veins as bunches of cassiterite, wolframite and bismuthinite with minor pyrite, chalcopyrite, galena, sphalerite, molybdenite and magnetite in a predominantly quartz gangue with minor fluorite, topaz, beryl, phlogopite and calcite. A vertical north-west branch lode occurs on the western extremity of No. 6 lode, suggesting that the tension vein system is weakening to the west. The three diamond drill holes completed by this Company to test for lateral and depth extensions of the lode system, failed to intersect any lode material, thus supporting the above indication and considerably downgrading the potential of locating any significant tonnage on the prospect.

When the mine was closed in 1957, Robinson (1957) estimated the ore reserves as 42,400 tons of probable ore and 44,600 tons of possible ore at an approximate average grade of 0.3% Sn and 0.5% WO_3 . These tonnage estimates appear to be reasonable.

The records of production from other mines on similar lodes in the area are incomplete:

1. The All Nations Mine produced 47 tons W (metallic), with no record of tin or bismuth production - part of the production from the mine may have been included with that from the Shepherd and Murphy Mine.
2. The Squib Mine produced 34.5 tons WO_3 .
3. The Stormont Mine produced 4.3 tons Bi.

4. The alluvial workings of the Iris Mine produced 19.2 tons Sn and 11.8 tons WO_3 from 200 tons of ore.

There is no record of the production from the Lawkmlaw or Pig and Whistle Mines, however these were much smaller than the Shepherd and Murphy Mine.

The optimum lode size to be expected in the area would have the following parameters : length 1,000 ft., depth 500 ft., width 2 ft., i.e. a contained tonnage of approximately 100,000 tons.

As no average grade figures are available, assume a grade of 0.4% Sn and 0.8% W.

Contained Sn	=	400 tons @ \$2,500/ton	=	$\$1 \times 10^6$
Contained W	=	800 tons @ \$5,000/ton	=	$\$4 \times 10^6$
				<u>$\\$5 \times 10^6$</u>

Assume a total cost of capitalisation, development, mining and treatment of \$15/ton	=	$\$1.5 \times 10^6$
		<u>$\\$3.5 \times 10^6$</u>

Rounding this figure downwards, allowing for exploration costs of about \$500,000 to $\$3 \times 10^6$, provides a profitability per ton of ore of \$30.

Such a body could be mined at a rate of about 100,000 tons per annum; consequently in order to provide for a mining operation with a minimum life of 10 years, at least ten such lodes would have to be proved.

The potential of the zone to provide a million tons of Sn-W ore must be regarded as doubtful, and despite this any further lodes located would most probably be widely separated and would require separate development.

The disseminated sulphide mineralisation associated with the skarn is more difficult to predict and assess. It appears that the disseminated Bi-Cu-pyrite-magnetite mineralisation in the skarn is most probably locally controlled by fault zones. The exposed mineralised skarn zones such as at the Stormont Mine, Shepherd and Murphy Mine and Ti-Tree Creek appear to be of limited tonnage potential i.e. 250,000 tons - 1,000,000 tons of low grade bismuth (maximum 0.4% Bi) and copper (maximum 0.4% Cu), and low gold potential.

CONCLUSIONS AND RECOMMENDATIONS

The main potential of the area is now considered to be in the location of further Sn-W fissure lodes of similar dimensions to those already known and to a lesser extent in the disseminated Bi-Cu sulphide mineralisation within the skarn.

Exploration for the concealed fissure lodes would involve an initial broad program of about six diamond drill holes, each approximately 1,500 ft. in length, in the zone between Dolcoath Hill and the Ti-Tree Creek area.

Depending on the results obtained by the early drill holes, this program would entail between 5,000 and 9,000 feet of essentially "blind" drilling and an expenditure of between \$50,000 and about \$120,000. Such a program would, at best, give some indication of the existence of concealed, mineralised, fissure lodes and extensive pattern drilling would then be required to further assess the deposit, incurring an additional expenditure of about \$500,000.

Assuming that additional concealed fissure lodes were located, their potential for providing adequate reserves on which to establish a viable mining operation with a production rate of about 100,000 tons per annum over a 5 to 10 year period, must be regarded as low. However it is probably not unrealistic to assume that reserves of about 150,000 tons

might be located, sufficient to permit a small profitable operation.

The potential of the fissure lode and disseminated mineralisation appears to be low and of marginal interest to this Company. This leaves two courses of action to be considered:

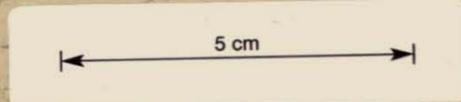
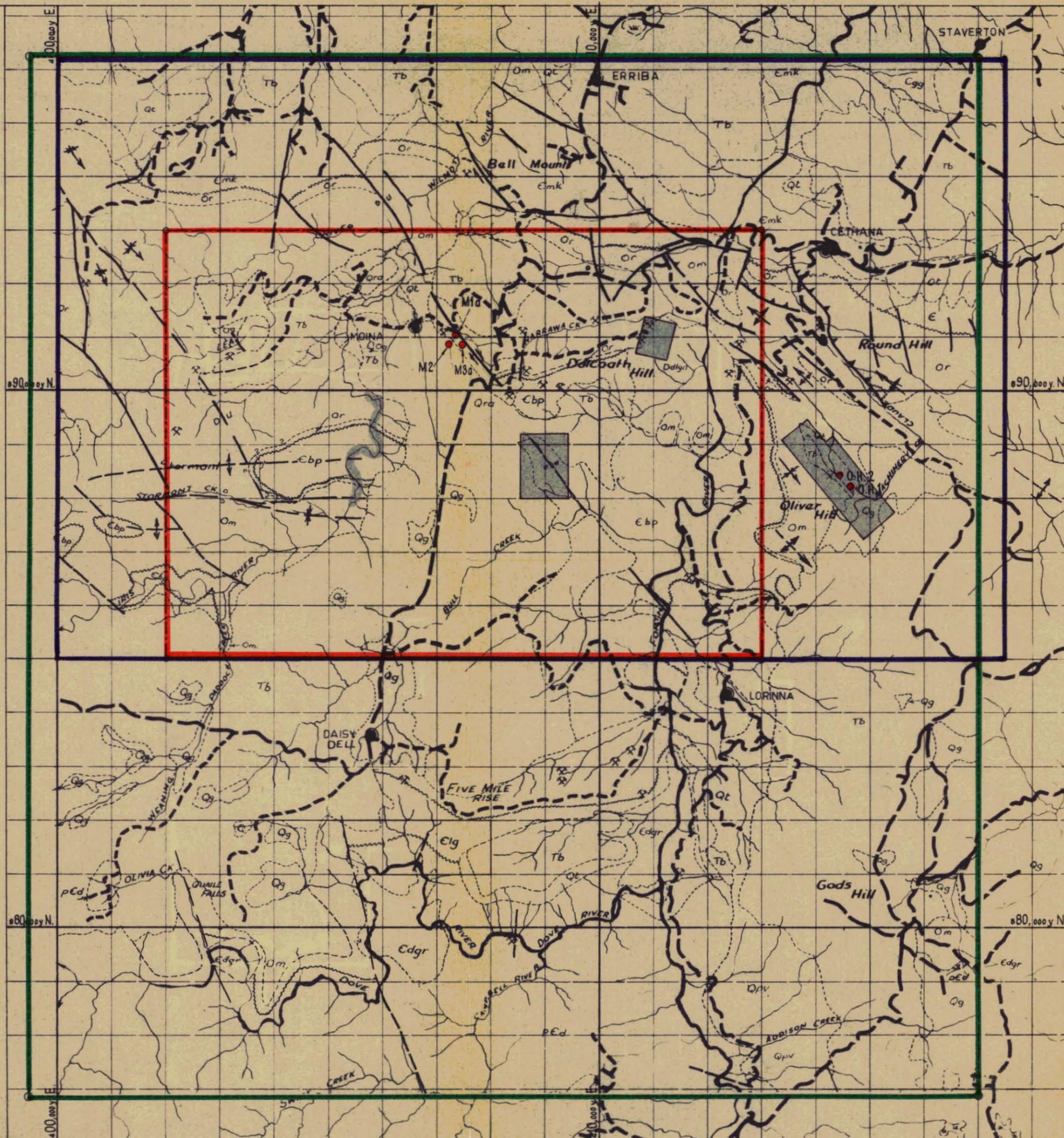
1. attempt to interest another mining exploration company in continuing the exploration program under a joint-venture agreement. An obvious company to be considered in this regard is the Scamander Mining Corporation, who already have an option over the All Nations Mine,
2. to relinquish the licence area at the next renewal date (12th May, 1972).

In view of the apparent potential of the Dolcoath Hill - Lea River zone I consider that this Company would only be interested in a joint-venture agreement wherein, the other partner undertakes to carry out an initial program of exploratory diamond drilling (such as previously indicated) entirely at their own expense, in order to gain a 50 percent interest in the area. Assuming that this phase of drilling indicates the existence of additional fissure lodes, any further exploratory investigations and development would be on a 50 : 50 basis unless either partner decides to withdraw from the agreement prior to the commencement of the second phase. However under the prevailing economic conditions and for other reasons indicated above, I consider that it is unlikely that an agreement will be obtained on terms which do not involve this Company in immediate additional expenditure.

The above alternative considerations are exclusive of the continued exploration program as outlined by Mr. J.P. McKibben ("Interim Report on Moina, E.L. 8/65", 1st November, 1971) with the exception of the proposed diamond drilling in the Ti-Tree Creek area. The routine follow-up work outlined for the northern margin of the granite on Dolcoath Hill and the pyritic Bull Creek Volcanics, will be completed during the present field season.

Assuming that these investigations are not sufficiently encouraging and that negotiations for a satisfactory joint-venture agreement are unsuccessful, then the area should be relinquished on or before the next renewal date.

Chief Geologist.



LEASE BOUNDARY
 — ORIGINAL
 — 1st REDUCTION
 — 2nd REDUCTION

■ AREAS WORKED 1971-72
 M1 ○ D. D. H. LOCATION & №.

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 E. L. 8/65 MOINA AREA
 37/30
 SCALE: 1"=1mile
 DATE: June '72
 CHECKED: *KOR.*
 MAP 1

J.H.C.

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MOINA AREA E.L. 8/65

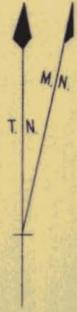
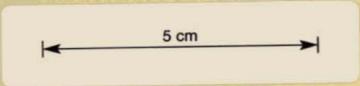
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GEOLOGICAL MAPPING

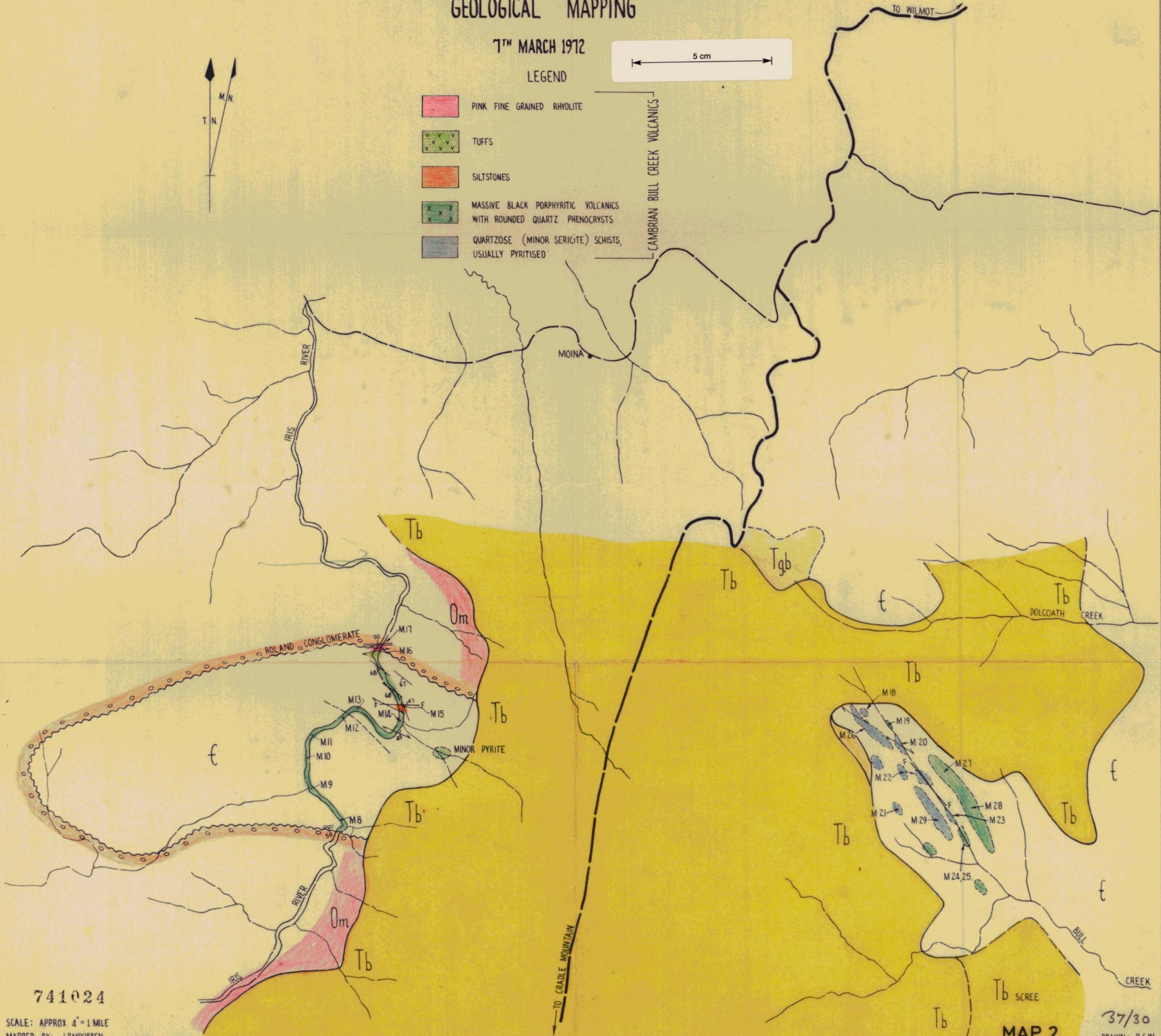
7TH MARCH 1972

LEGEND

-  PINK FINE GRAINED RHYOLITE
-  TUFFS
-  SILTSTONES
-  MASSIVE BLACK PORPHYRITIC VOLCANICS WITH ROUNDED QUARTZ PHENOCRYSTS
-  QUARTZOSE (MINOR SERICITE) SCHISTS, USUALLY PYRITISED



CAMBRIAN BULL CREEK VOLCANICS



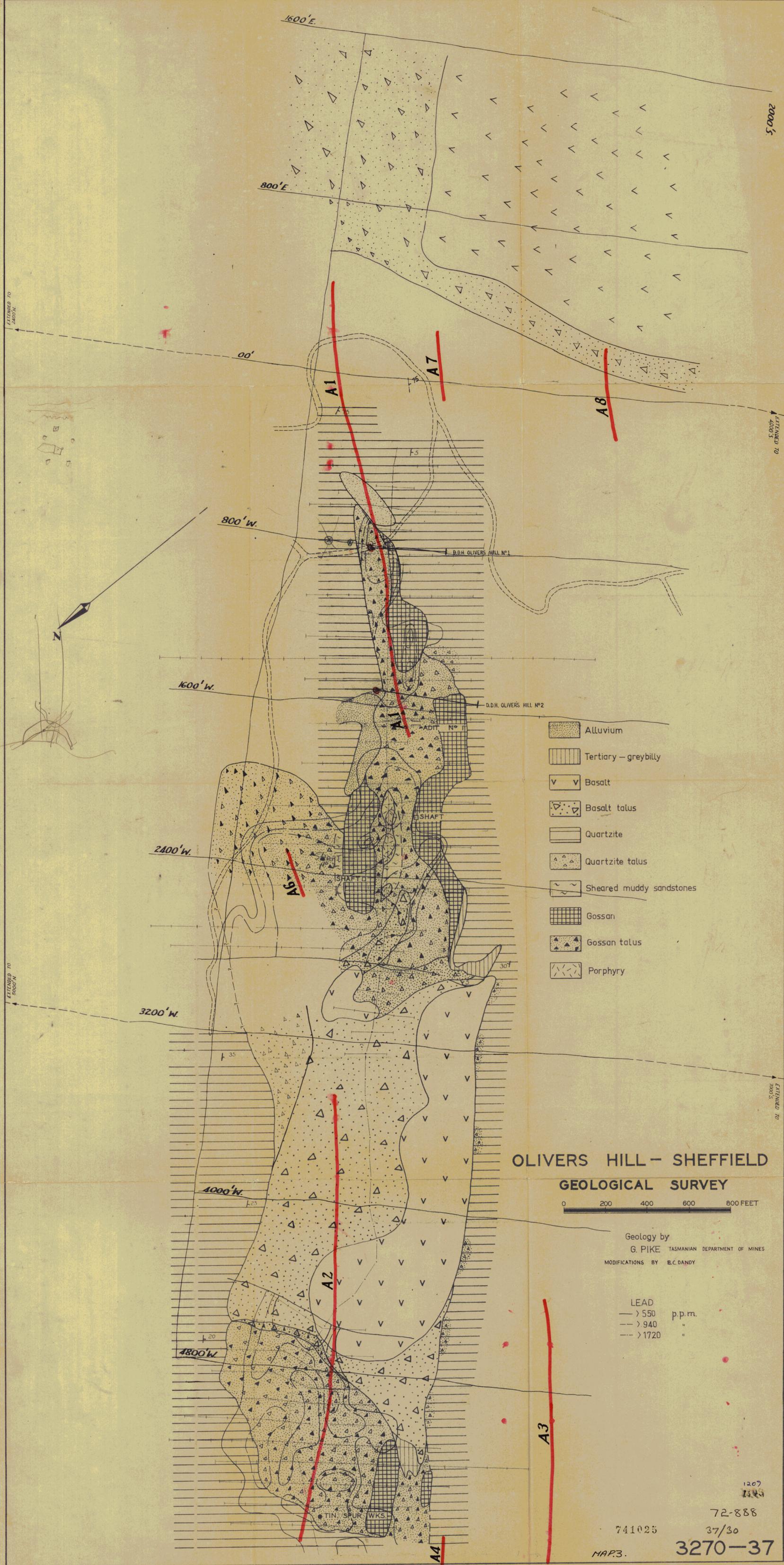
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SCALE: APPROX. 4" = 1 MILE
MAPPED BY: J.P.M. KIBBEN

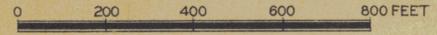
MAP 2

37/30
DRAWN: R.G.W.

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**OLIVERS HILL - SHEFFIELD
GEOLOGICAL SURVEY**

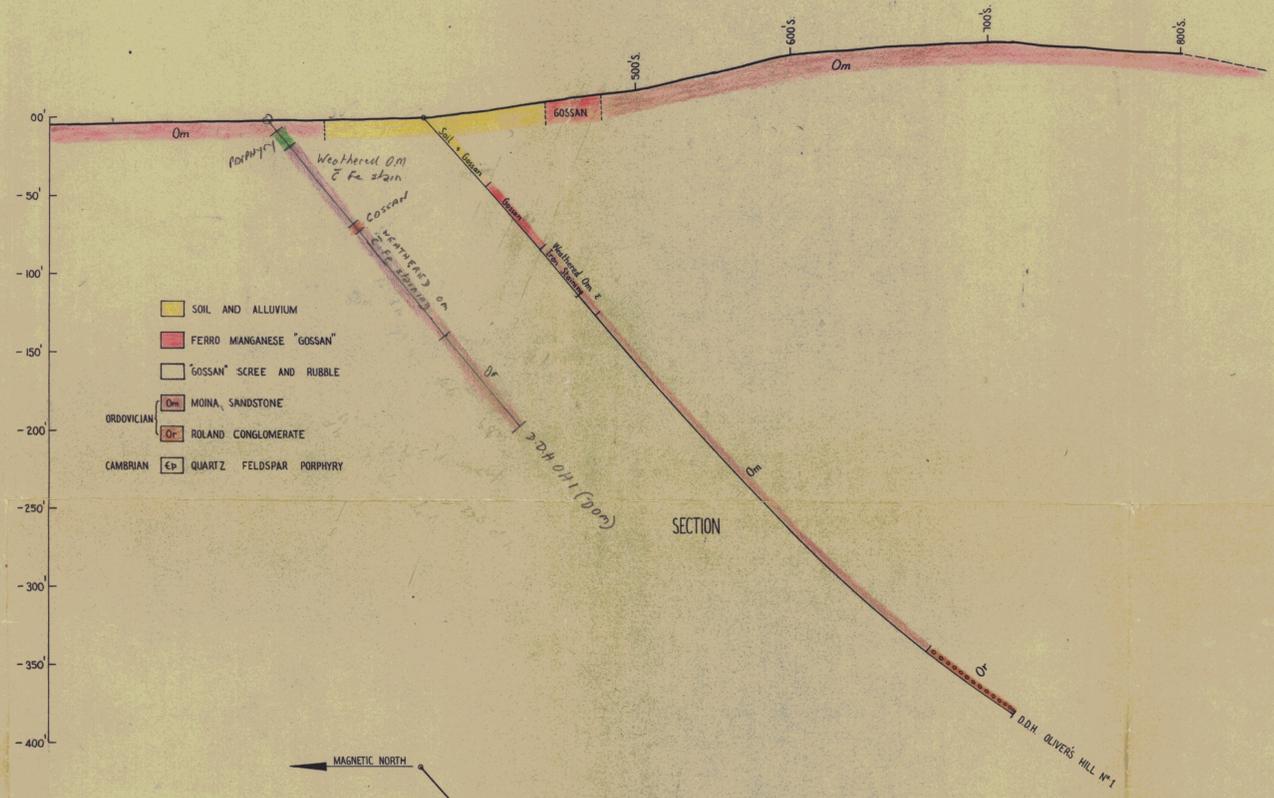
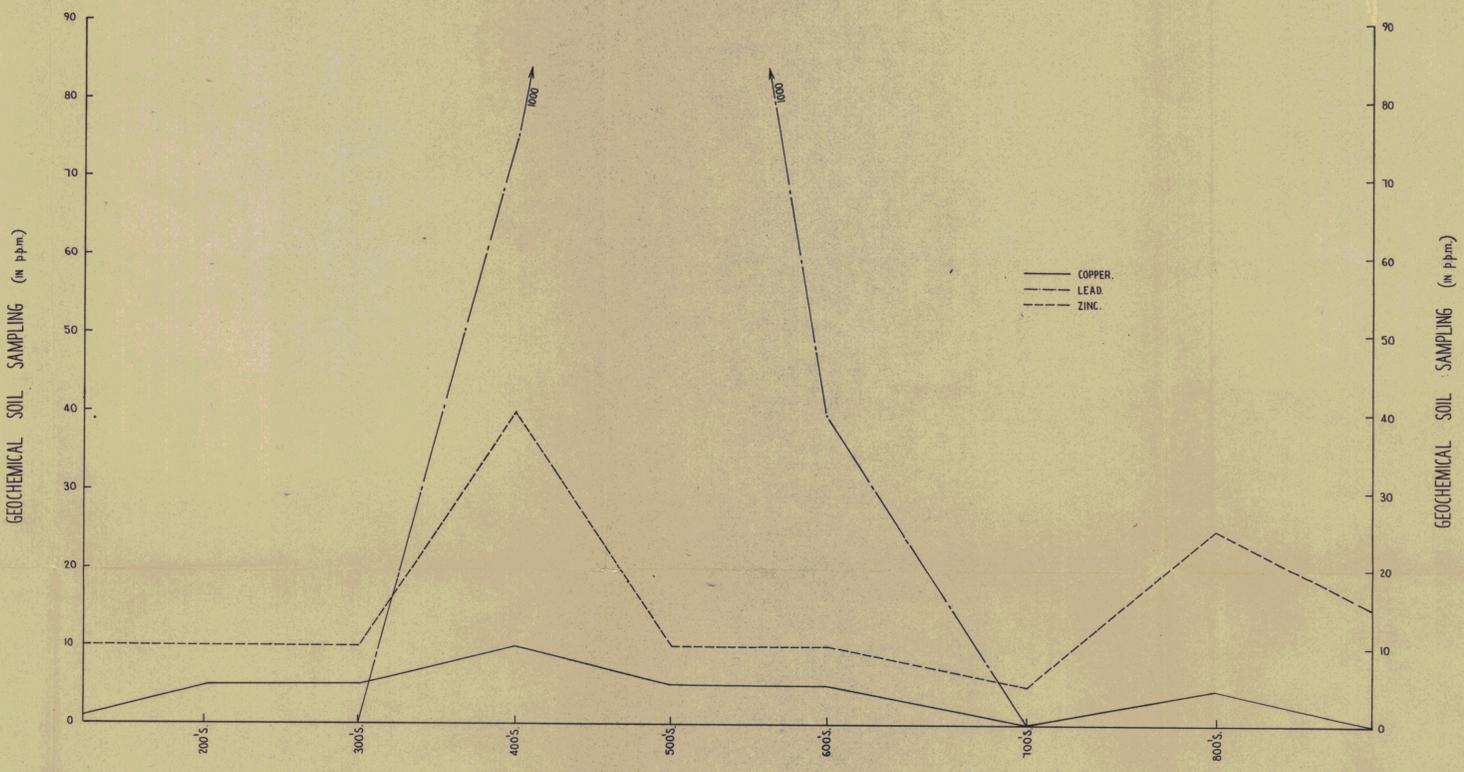
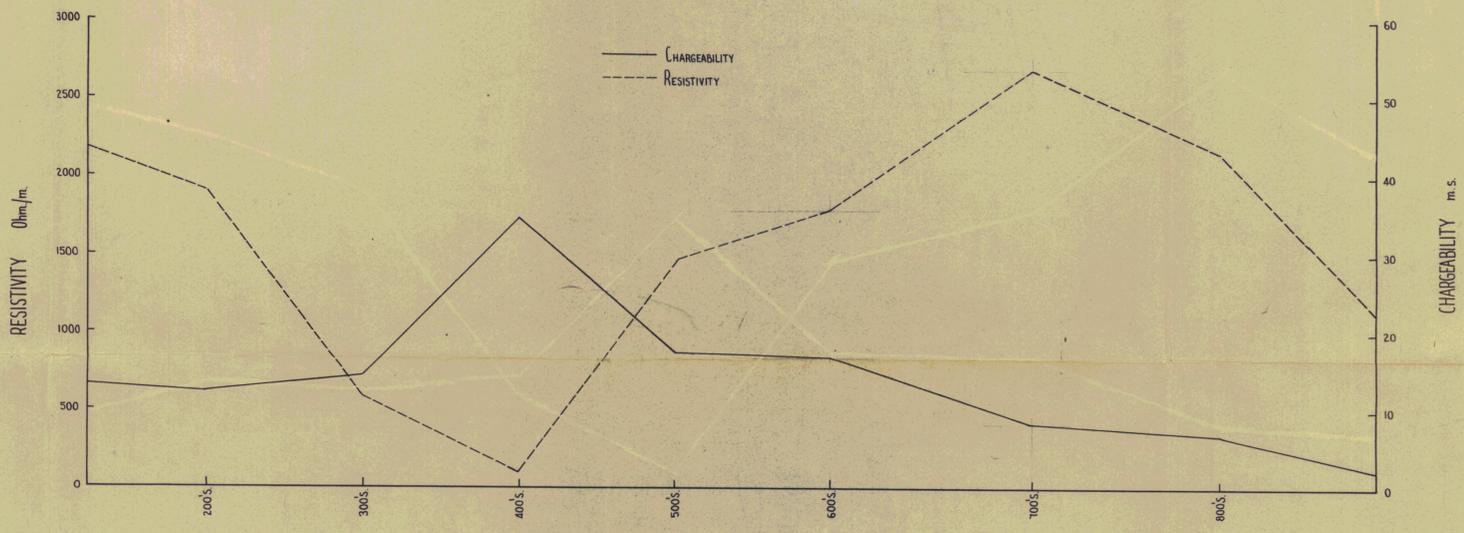


Geology by
G. PIKE TASMANIAN DEPARTMENT OF MINES
MODIFICATIONS BY E.C. DANDY

LEAD
 --- > 550 p.p.m.
 --- > 940 "
 --- > 1720 "

1207
 72-888
 741025 37/30
 MAR 3. 3270-37

1210



MAGNETIC NORTH

PLAN

741026



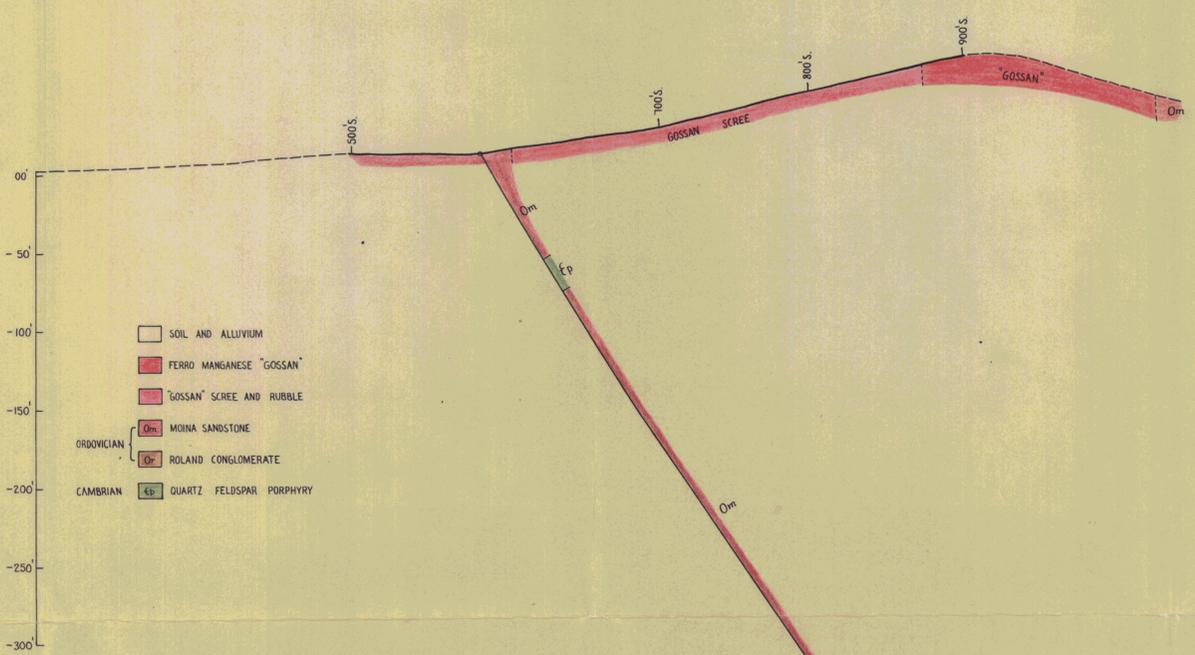
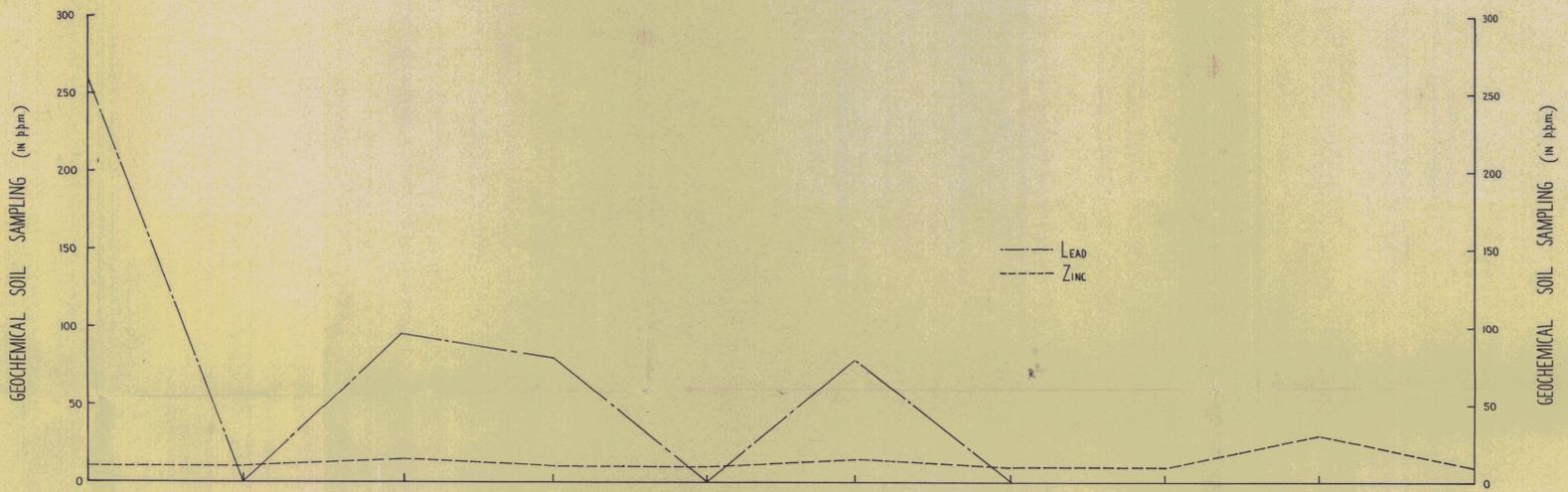
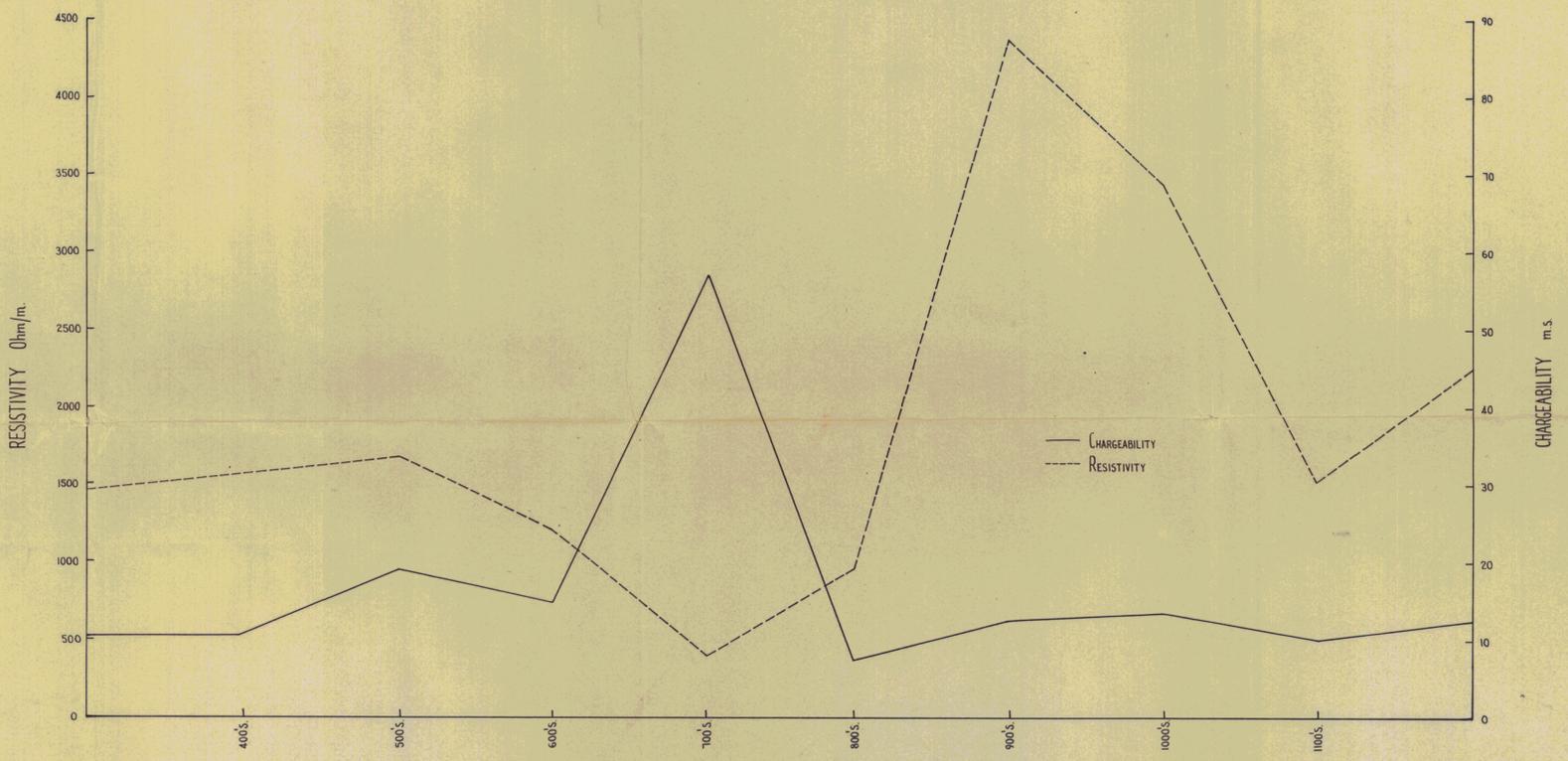
1210

LOCAL DATUM COLLAR DDH O.H.1

72-888

THE MOUNT LYELL M. & R. COY. LTD. EXPLORATION DEPARTMENT		DRAWN R.G.W. TRACED R.G.W.
MOINA E.L. 8/65 OLIVER'S HILL GRID		CHECKED DATE 1-9-'11 SCALE 1" = 50' 37/30
GEOPHYSICAL & DRILLING RESULTS ON LINE 8W		MAP 4

1121



- SOIL AND ALLUVIUM
- FERRO MANGANESE "GOSSAN"
- "GOSSAN" SCREE AND RUBBLE
- ORDOVICIAN
 - Om MOINA SANDSTONE
 - Or ROLAND CONGLOMERATE
- CAMBRIAN
 - Qf QUARTZ FELDSPAR PORPHYRY

MAGNETIC NORTH

741027

5 cm

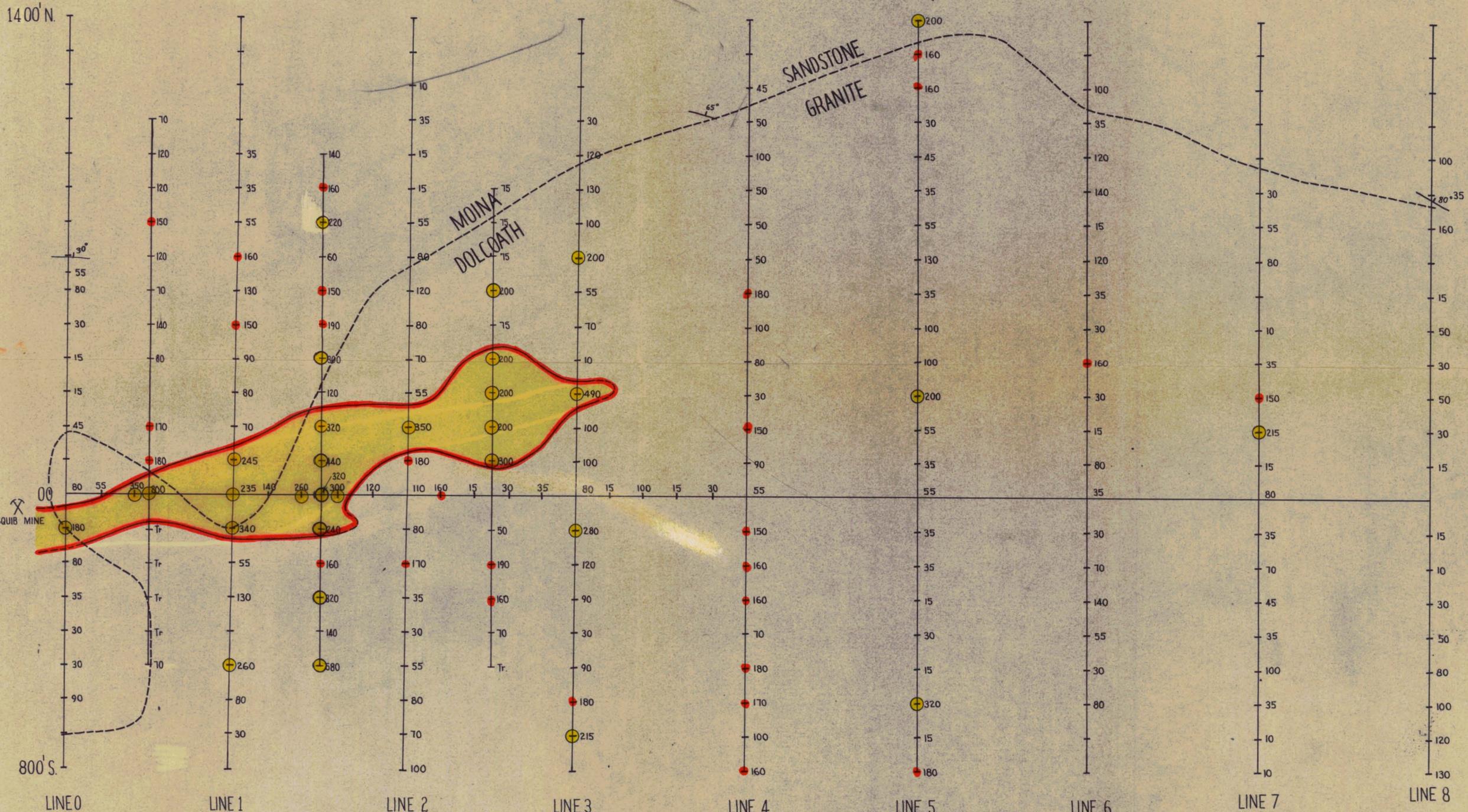
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LOCAL DATUM - COLLAR DDH. OH.1

72-888

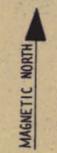
THE MOUNT LYELL M. & R. COY. LTD.
 EXPLORATION DEPARTMENT
 MOINA E.L. 8/65
 OLIVER'S HILL GRID
 GEOPHYSICAL & DRILLING RESULTS ON LINE 16W.

DRAWN. R.G.W.
 TRACED. R.G.W.
 CHECKED.
 DATE. 1-9-'71
 SCALE. 1" = 50'
 1" = 600'
 37/30
 MAP 5



- LEGEND**
- 150 - 200 p.p.m.
 - > 200 p.p.m.
 - 200 p.p.m. CONTOUR

(THEORETICAL GRID)

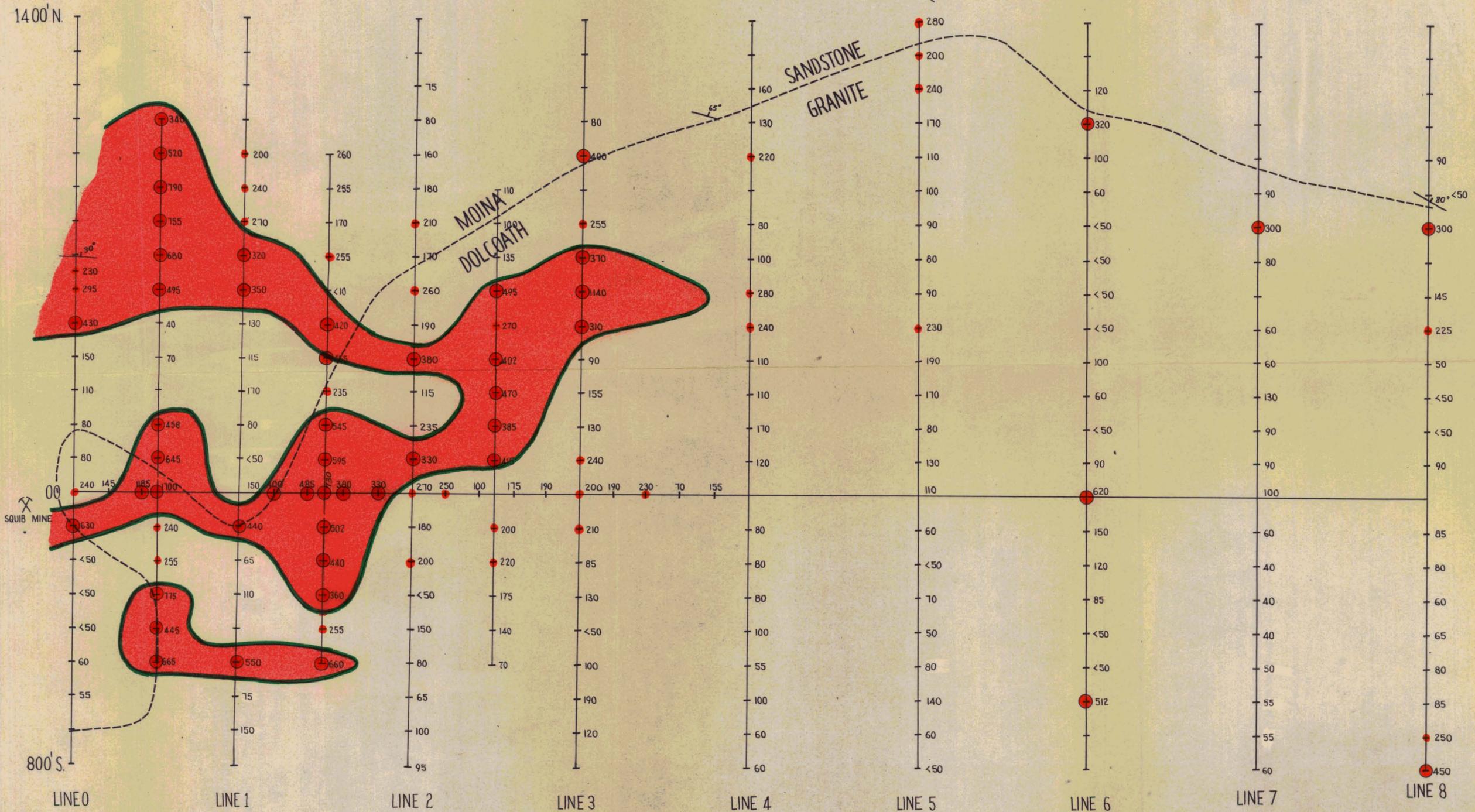


741028 1212
72-888

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

DOLCOATH HILL GRID
GEOCHEMICAL SOIL SAMPLING RESULTS
BISMUTH MAP 6

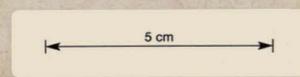
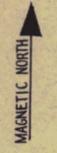
DRAWN. R.G.W.	
TRACED. R.G.W.	
CHECKED. J.P.M.K.	
DATE. JUNE '72	
SCALE 1" = 200'	1 : 2400



LEGEND

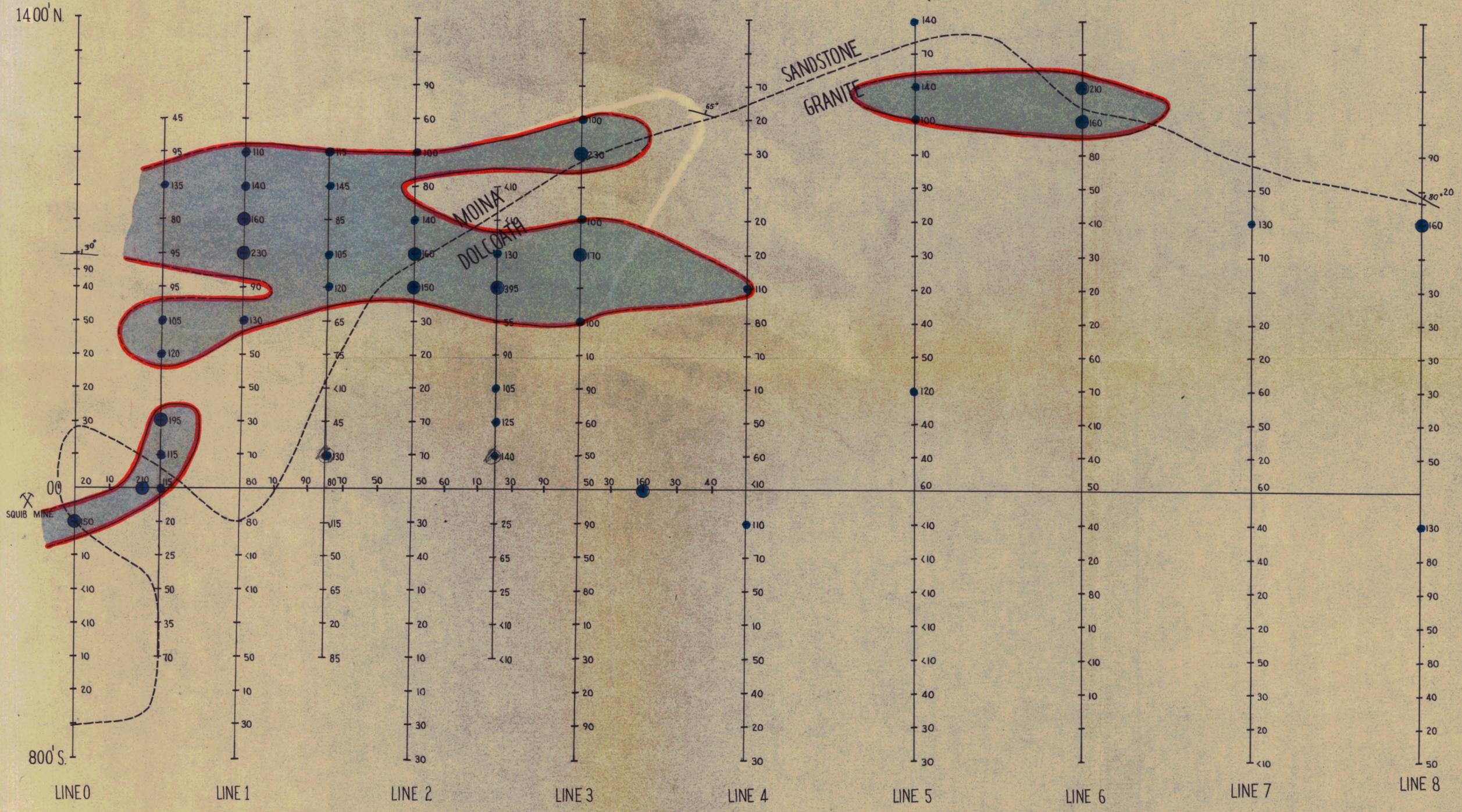
- 200-300 p.p.m.
- > 300 p.p.m.
- 300 p.p.m. CONTOUR.

(THEORETICAL GRID)



741029
72-888

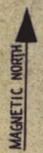
THE MOUNT LYELL M. & R. COY. LTD. EXPLORATION DEPARTMENT	
DOLCOATH HILL GRID GEOCHEMICAL SOIL SAMPLING RESULTS TUNGSTEN 37/30 MAP 7	
DRAWN. R.G.W. TRACED. R.G.W. CHECKED. J.P.M.C. DATE. JUNE '72 SCALE. 1" = 200' 1 : 2400	



LEGEND

- 100 - 150 p.p.m.
- > 150 p.p.m.
- 100 p.p.m. CONTOUR

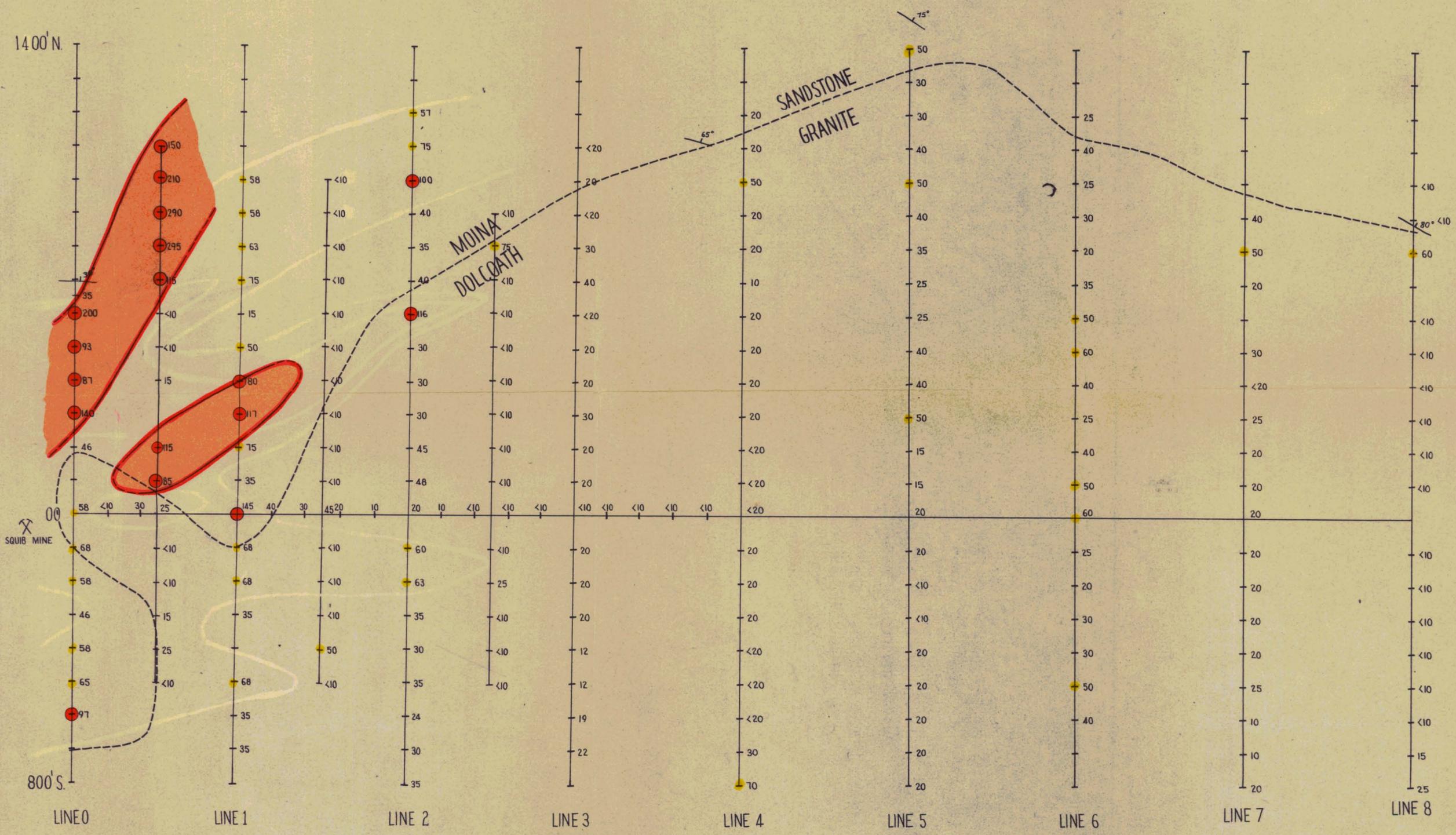
(THEORETICAL GRID)



741030

72-888

THE MOUNT LYELL M. & R. COY. LTD. EXPLORATION DEPARTMENT	
DOLCOATH HILL GRID GEOCHEMICAL SOIL SAMPLING RESULTS MOLYBDENUM 37/30 MAP 8	
DRAWN. R.G.W. TRACED. R.G.W. CHECKED. J.P.M.K. DATE. JUNE '72 SCALE. 1" = 200' 1 : 2400	

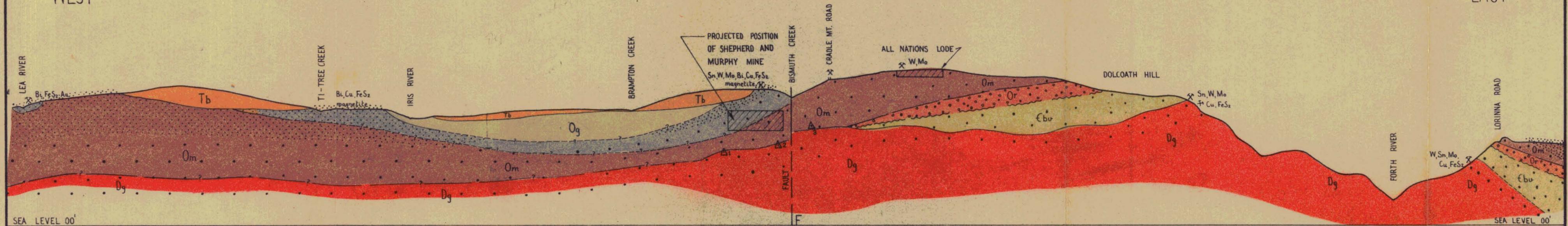


THE MOUNT LYELL M. & R. COY. LTD.
EXPLORATION DEPARTMENT

DOLCOATH HILL GRID	DRAWN. R.G.W.
GEOCHEMICAL SOIL SAMPLING RESULTS	TRACED. R.G.W.
TIN MAP 9	CHECKED. J.R.M.F.
	DATE. JUNE '72
	SCALE 1" = 200'
	1 : 2400

WEST

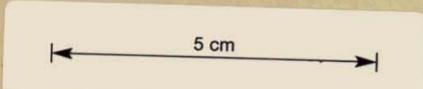
EAST



LEGEND

TERTIARY	Tb	BASALT	CAMBRIAN	€bu	BULL CREEK VOLCANICS
	Og	GORDON LIMESTONE	DEVONIAN	Dg	DOLCOATH GRANITE
ORDOVICIAN	Sk	SKARN		x	Sn - W - Mo ZONE
	Om	MOINA SANDSTONE		m	Bi - Cu ZONE
	Or	ROLAND CONGLOMERATE		Δ	DIAMOND DRILL HOLE

741032



**SCHEMATIC GEOLOGICAL SECTION
SHOWING MINERAL ZONING**

HORIZONTAL SCALE: 4 INCHES = 1 MILE
VERTICAL SCALE: 1 INCH = 1,000 FEET

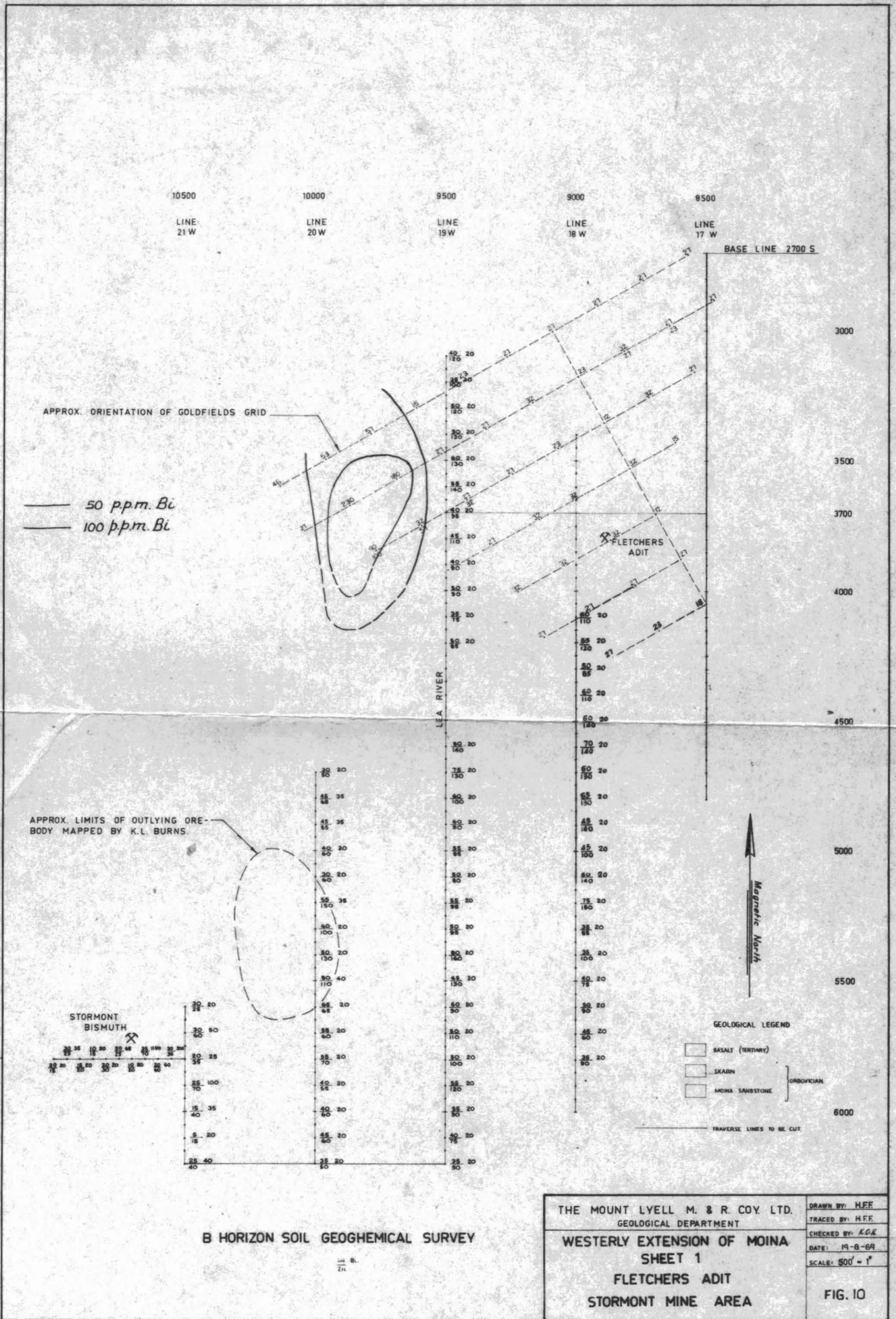
72-888

37/30

MAP 10

1216

022



5 cm

72-888

741033