

ANNUAL REPORT

72 - 892

ON

E.L. 10/69

(DORA - HUXLEY AREA)

1971 - 72

BY: K. Wells
Mt. Lyell Mining and Railway Co. Ltd.

DRAUGHTING BY: R.G. Wilson

Copies To: General Office
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August, 1972

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1. INTRODUCTION

The Exploration Licence was originally issued to the Company on June 5th, 1969 covering an area of 40 square miles to the East and South of the Consolidated Mining Lease (Map 2). The area was enlarged in December (8th), 1970 with the amalgamation of E.L. 40/70, extending the Exploration Licence Northwards to the Southern boundary of E.L. 9/66 (Mt. Tyndall) and including a separate area between the Henty and Yolande rivers, known as E.L. 10/69, Part 1. At the same time 15 square miles of ground was relinquished giving the E.L. a total area of 68 square miles. The Henty-Yolande area (E.L. 10/69, Part 1) was reduced by 8 square miles on December 5th, 1971 and amalgamated with E.L. 41/71. The present E.L. 10/69 covers 45 square miles from Lake Dora Southwards to the King River Gorge.

At the beginning of the field season, there was a change in the Company's exploration philosophy, when it was realized that not all of the Mt. Read Volcanics have any economic potential. Limited mapping had shown that it was possible to define rock units within the Cambrian sequence, consequently the year's work was largely involved with mapping certain areas of the Cambrian rocks, although a limited amount of magnetics and geochemistry was also accomplished. On the basis of this work, the licence can be divided into three areas:-

- (a) Mt. Huxley - Whip Spur
- (b) Whip Spur - Lyell Highway
- (c) Mt. Sedgwick - Comstock Valley

Expenditure over the year amounted to \$15,378 and total expenditure on E.L. 10/69 since 1969 has reached \$38,384.

2. WORK COMPLETED 1971-72

2.1 Mt. Huxley - Whip Spur

2.1.1 Access

The first part of the field season was involved with completing access into the area. By early October the Mt. Huxley road had been repaired (including the by-passing of a badly eroded section to the South of Whip Spur) and extended by approximately 1 mile, giving the road a total length of $5\frac{1}{2}$ miles and reaching to the Northern shoulder of Mt. Huxley (Map 2).

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An exploration grid was established by early December with a baseline of 16,000' extending from Roaring Meg Creek Southwards to the Eastern side of Mt. Huxley with grid lines at 1,600' intervals (Map 3). Total footages are:-

Baseline	:	4800N - 11200S	=	16,000'
Line 00	:	3200E - 3000W	=	6,200'
" 1600S	:	2600E - 2000W	=	4,600'
" 3200S	:	2500E - 1400W	=	3,900'
" 4800S	:	2300E - 1800W	=	4,100'
" 6400S	:	2200E - 2600W	=	4,800'
" 8000S	:	1700E - 3300W	=	5,000'
" 9600S	:	1100E - 3200W	=	4,300'
" 11200S	:	- - 3500W	=	3,500'
				Total Footage = 52,400'

Due to the extremely thick vegetation and the non availability of track-cutters no lines were pegged North of Line 00 and only pegged a relatively short distance to the West of the baseline. Some of these lines will need to be cut and pegged before the commencement of next seasons programme.

2.1.2 Geological Mapping

The grid area and the road were mapped on a scale of 1" : 500' (Maps 3, 4 and 5). The Cambrian rocks in the grid area consist essentially of a thick sequence of acid lavas, agglomerates and tuffs with interbedded lenses of ignimbrites, breccias and waterlain tuffs (Whip Spur Sequence). The acid lavas are : white, fairly massive and usually fine grained; fragmental outcrops do occur and consist generally of subrounded or elongate fragments of acid lava up to 3", set in a matrix of acid lava occasionally flowbanded; these have been described as agglomerates but are thought possibly to be the tops of lava flows. The ignimbrites and breccias seem to be associated with each other and occur as relatively small finite lenses. The breccias are very coarse with irregular fragments composed mainly of acid lava up to 15" in diameter. The ignimbrites are finer with dark green welded shards and pumaceous and acid lava fragments up to 2" long flattened and elongated parallel to the bedding. The Whip Spur

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Sequence of "waterlain tuffs" is a much larger body, being 2 miles long and up to $\frac{1}{2}$ mile wide. In the centre the tuffs are graded with distinct units 10' - 15' wide, each unit has a fragmental base passing up into a fine grained "silty" top. The tops of the units exhibit slumping and other sedimentary structures, while the coarse material at the base of the units often penetrates into the finer grained material underneath (most probably due to scouring during deposition). Towards the Northern and Southern margins of the Whip Spur Tuff, the graded units are not as distinct, the rock consisting essentially of the coarser fragmental material with occasional bands of siltstone.

In the South to the East of Mt. Huxley outcrop a sequence of greywackes (Map 4). Although the exact relationship is not clear they appear to interfinger Northwards with the acid lava sequence.

To the West of the grid area mapping has been largely confined to the road. However, it is obvious from facings that the sequence described above is overlain by a more sedimentary succession consisting largely of : black shales and siltstones with tuffs and some minor lavas. It is thought that the two sequences are separated by an unconformity with another unconformity occurring further West at the base of the Quartz Keratophyric Agglomerate (See Discussion : Section 3).

Shearing which strikes approximately 290° decreases in intensity Westwards and although bedding and facings are virtually non-existent within the acid lavas; the Whip Spur Tuffs and the sediments to the West give very good facings. The rocks strike North-South and dip West at approximately 50° . Superimposed on this Westerly dipping sequence is a small anticline centred on Miner's Slate Ridge (X-section A-B, Map 3).

The Eastern section of the King River Gorge was mapped as far as the Eastern side of Mt. Huxley (Map 8). The series of quartzose and felspathic tuffs mapped do not appear to be similar to the greywackes mapped at the South end of the grid area. However, these may interfinger Southwards with the tuffs in a similar

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fashion to their Northward interfingering with the acid lavas.

2.1.3 Magnetics

All the grid lines have been covered by a ground magnetometer survey and the results calculated for drift. Although no obvious anomalies were encountered some of the higher values coincide with areas mineralised with pyrite. The trend of the magnetic contours is subparallel to the bedding and values increase Northwards (Map 6).

2.1.4 Geochemistry

An attempt was made to try ~~and~~ overcome the problem of contamination from the old Mt. Lyell smelting operations. Tests by the Company in 1960 demonstrated that the flue dust was averaging 19.4% Cu and 1.20% Zn and previous work by Pickands & Mather International Co. in the area shows that the area is contaminated by this dust (Annual Report E.L. 10/69, 1970-71; P.M.I. reports on Roaring Meg and Lynch Creek Prospects 1967).

It was hoped that stream sediment sampling would help to overcome the contamination. However, in all the creeks examined no silt or clay sized material was found, most of the creeks running over bare rock, coarse gravel and occasionally sand. It was therefore decided to soil sample Line 48S at 100' intervals, also to collect colluvial samples every 500' along a creek draining the same area. Soil profiles in the area vary from entirely peat to entirely clay but as many samples as possible, in the time available, were fractioned in order to try and eliminate the contaminated portion. The samples were sieved into 6 fractions : -10 mesh, -20 mesh, -35 mesh, -100 mesh, -200 mesh and -325 mesh; these fractions were then analysed by A.A.S. for copper, lead and zinc.

From Map 7 it can be seen that most of the contamination by copper and zinc is in the fractions : -200 mesh and -325 mesh. This is the same as the size of the flue dust from the old Mt. Lyell Smelter, all the dust was -200 mesh and 97% -325 mesh. However, these are the size fractions that natural geochemical anomalies occur

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and the contamination is obscuring any anomalies that may be occurring, e.g. on Map 7 a lead anomaly can be seen at station 100W, elsewhere lead values are very low and negligible amounts of lead came out in the smelter dust. Copper and zinc values also rise with this lead anomaly, but it is not clear whether this is due to contamination or a genuine anomaly. Contamination was also found to occur in the colluvial samples although not so marked.

Geochemical exploration would seem to be of limited value within the immediate vicinity of Queenstown, at the present time.

2.2 Whip Spur - Lyell Highway

2.2.1 Access

This area is immediately to the East of Queenstown and apart from Queenstown and the Lyell Highway itself, two small roads cross the Western edge of the area (Map 2) : the new dam road and the P.M.I. track from the old dam road; both roads have been surveyed by tape and compass. The old P.M.I. road from Conglomerate Creek extended towards the Great Lyell area in the 1970-71 season has had little use this year and although still passable will need repairing before proper use can be made of it in the future. Apart from the Northern part of the Mt. Huxley grid baseline no track cutting was undertaken in the area.

2.2.2 Geological Mapping

Mapping in this area, to date, suggests that the Cambrian sequence is similar to that in the Mt. Huxley area (Maps 5 and 3). However, the acid lava sequence seems to have a greater percentage of tuffs and also some fine grained sediments. The sequence appears to be folded into a syncline striking North to South through Little Owen (X-section C-D, Map 3). The core of the syncline is composed of an acid agglomerate with blocks of acid lava up to 18" in diameter exhibiting cooling cracks and flattening (due to impact while still molten/plastic). Most of the sequence is made up of tuffs but bands of siltstone exhibiting good facings outcrop in Conglomerate Creek and along the walking track from the old dams.

The syncline is intruded by a quartz porphyry to the West and by two bodies of andesitic composition in the central zone. The quartz porphyry is badly weathered, outcrops consisting generally of clear rounded quartz phenocrysts 3-4 mm in diameter in a matrix of white clay. The two bodies of basic andesite, which are probably connected at depth, weather to a characteristic deep red clay but in unweathered specimens are fine to coarse grained with phenocrysts of pyroxene and plagioclase in a dark green, fine grained groundmass of felspar, pyroxene, quartz and chlorite. Where they intrude tuffaceous rocks a chloritic halo can be detected.

The area has been affected by two N.W.-S.E. striking faults, the Northern one passing through the Great Lyell/Duke Lyell area where it is strongly mineralised with both pyrite and chalcopyrite for a distance of at least 6,000'.

2.2.3 Geochemistry

Apart from one small gossan near the Gordon Limestone outcrop, at the beginning of the Great Lyell road, which proved to be due to pyrite, geochemical work was essentially confined to the Great Lyell/Duke Lyell area. It was hoped to complete the sampling of the Great Lyell adits started in 1970-71. However, on closer inspection the adits still unsampled were considered unsafe and sampling was confined to gossans and dumps.

A gossan outcrop adjacent to the Duke Lyell adits was sampled and analysed for Cu, Pb and Zn with the following results:-

		Cu ppm	Pb ppm	Zn ppm	Au oz/ton	Ag oz/ton
D.L. Goss.	1	170	260	220	Trace	Trace
"	" 2	105	160	110	Nil	Nil
"	" 3	198	180	160	Trace	Trace
"	" 4	250	600	3300	Trace	Trace
"	" 5	70	960	2300	Trace	Trace

Although the copper results are very low, the zinc values in samples 4 and 5 are high for a gossan. The low copper values would seem to rule out contamination and further work is warranted.

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Ore samples collected from the Great Lyell shaft consist of massive hematite with pyrite and chalcopyrite. Four samples collected assayed:-

2.30% Cu	22.30% FeS ₂	
2.10% Cu	3.46% FeS ₂	
0.89% Cu	15.93% FeS ₂	50.9% Fe
1.28% Cu	16.93% FeS ₂	

Work undertaken by J. Walshe (1971) on trace elements in pyrite from Prince Lyell indicates that it has a high Co : Ni ratio; pyrite from areas low in copper having a low Co : Ni ratio. Pyrite samples from the Great Lyell shaft have a Co : Ni ratio similar to Prince Lyell. Further research is at present underway.

2.3 Mt. Sedgwick - Comstock Valley

Work in this area was confined to a limited amount of geological mapping and some air photo interpretation. Cambrian rocks examined on the Southern slopes of Mt. Sedgwick are similar to the acid lavas North of Mt. Huxley. It is hoped that during the 1972-73 field season, the relative positions of the two sequences within the Mt. Read Volcanics will be defined.

The floor of the Comstock Valley appears to be a syncline with Silurian Crotty Quartzite in the core flanked by Gordon Limestone and Owen Conglomerate.

3. DISCUSSION

Within the Cambrian sequence the two unconformities found this year are of considerable interest due to the possibility of their separating mineralised and unmineralised strata. While the lower unconformity is not entirely proven within the lease area at the present time, mapping conducted to the South (N. White 1971) in the Jukes-Darwin area adjoining the Mt. Huxley area strongly suggests that this unconformity exists, separating sheared, mineralised acid lavas from relatively unshaped, unmineralised rocks above it. Certainly within the Mt. Huxley - Whip Spur area the sequence of acid lavas are sheared and mineralised with pyrite, while to the West the rocks are less sheared and unmineralised. If an unconformity or similar discontinuity, can be proved separating mineralised from unmineralised strata, the Cambrian succession above the unconformity is obviously of no economic interest.

The above picture is complicated by the second unconformity beneath the Quartz Keratophyric Agglomerate (Q.K.A.) found at : Comstock, behind the Mine Office and East of Lynchford. The Q.K.A. was deposited after the intrusion of the "andesites", e.g. from Map 3 an andesitic intrusion can be seen disappearing beneath the Q.K.A. at Comstock and fragments of the basic andesite have been found in the Q.K.A. outcrop behind the Mine Office. This unconformity is very much later than the one in the Jukes-Darwin area, being immediately overlain by Dora Conglomerate, if the lower unconformity does separate mineralised from unmineralised strata, the succession below the Q.K.A. should be unmineralised. However, the Q.K.A. unconformity directly overlies the Comstock orebodies.

The indications are that mineralisation within the Cambrian is being found on at least two horizons, i.e. in the acid lava sequence which appears to be Lower/Middle Cambrian and below the Q.K.A. which appears to be Middle/Upper Cambrian. It has been suggested that the lower mineralisation within the acid lavas are the uneconomic root zones of Lyell type mineralisation higher up in the sequence, presumably beneath the Q.K.A. If this is true, the higher unconformity is obviously the one of economic significance. However, the age of the Rosebery horizon although not firmly established is thought to be Lower/Middle Cambrian.

Obviously further work is required to establish the true succession relative to mineralisation, within the Cambrian and assess the complete significance of the unconformities.

4. RECOMMENDATIONS FOR 1972-73

4.1 Staffing

The majority of work this year will be concerned with further extending the geological mapping already accomplished. Most of the year, therefore, one geologist and one field assistant will be required supplemented occasionally by other personnel for specific assignments.

4.2 Access

At the present time, no new roads are envisaged for this year, although a certain amount of repair work will be required on existing roads, especially the Great Lyell road.

Track-cutters will be needed very early in the season to complete the Northern part of the Mt. Huxley grid, with lines extending from the Owen/Cambrian contact Westwards to the Huxley road, approximately 30,000' of cutting. Lines 16S, 48S and 80S will each need to be extended approximately 7,000' Westwards to either the King River or to the track along Miner's Slate Ridge, to provide access into the area. The Miner's Slate Ridge track and other tracks further West originating from Lynchford will also need to be cleared.

4.3 Geological Mapping

The mapping programme can be broken up according to areas similar to this year : mapping in the Whip Spur - Lyell Highway region is as yet incomplete, certain areas on the Western slopes of Mt. Owen have yet to be mapped and some more detailed work is required further West. This area could be completed while the track cutting is being undertaken further South. When this mapping and the track cutting is finished the mapping in the Mt. Huxley - Whip Spur area can be extended Westwards as far as the Queen River.

After this mapping two other areas of Cambrian rocks will remain unmapped : the Eastern end of Mt. Lyell and the Mt. Sedgwick - Lake Beatrice area. Probably the most efficient way to examine the Eastern end of Mt. Lyell would be a one day exercise using three parties, which would ensure a rapid and complete coverage. The Mt. Sedgwick - Lake Beatrice area will be much harder to evaluate due to the difficulties of access and terrain. If a helicopter is available on the West Coast during the summer, it is suggested that it be employed for one day, again in order to drop several parties in a similar exercise to the one undertaken on E.L. 9/66 during this last year.

4.4 Geophysics

The Great Lyell/Duke Lyell zone is an obvious area for a geophysical survey : it is known to be mineralised with copper and it is just over 1 mile from the present mill. I.P. would seem to be the obvious method at the moment; however, the B.M.R. recorded a Turam anomaly here in 1957 and possibly a modern Turair survey would be more specific than I.P.

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This area occurs largely within the Consolidated Mining Lease and consequently no expenditure for any geophysical coverage has been proposed in the E.L. 10/69, 1972-73 budget.

5. CONCLUSIONS

With the exception of the Great Lyell/Duke Lyell area, the work completed to date has not indicated any areas of significant economic potential. Although, the sequence of acid lavas and agglomerates North of Mt. Huxley contain fragmental rocks, occasionally mineralised with pyrite, similar to those within the Consolidated Mining Lease. They are thought to be lower in the Cambrian succession (see Section 4) and are not, at this stage, of strong economic potential.

Geophysical surveys conducted by the B.M.R. (1957) and McPhar (1959) in the Great Lyell/Duke Lyell area outlined significant Turam, S.P. and I.P. anomalies. Subsequently a limited diamond drilling programme intersected 5' of 0.4% Cu (G.L. 1) and 40' of 0.4% Cu (G.L. 2). Mapping, sampling and work on trace elements in the last year (see Sections 2.2.2 and 2.2.3) has increased the economic potential of the zone. Further investigations are warranted.

Despite the failure to outline additional zones of potential economic interest, the results of geological mapping are proving to be a considerable aid in the understanding of the overall structure, distribution and nature of the Cambrian rocks throughout the West Coast Range. Continued investigations in the licence area will contribute further to our understanding of the geology of the Mt. Read Volcanics and hence zones of potential economic interest.

6. PROPOSED BUDGET

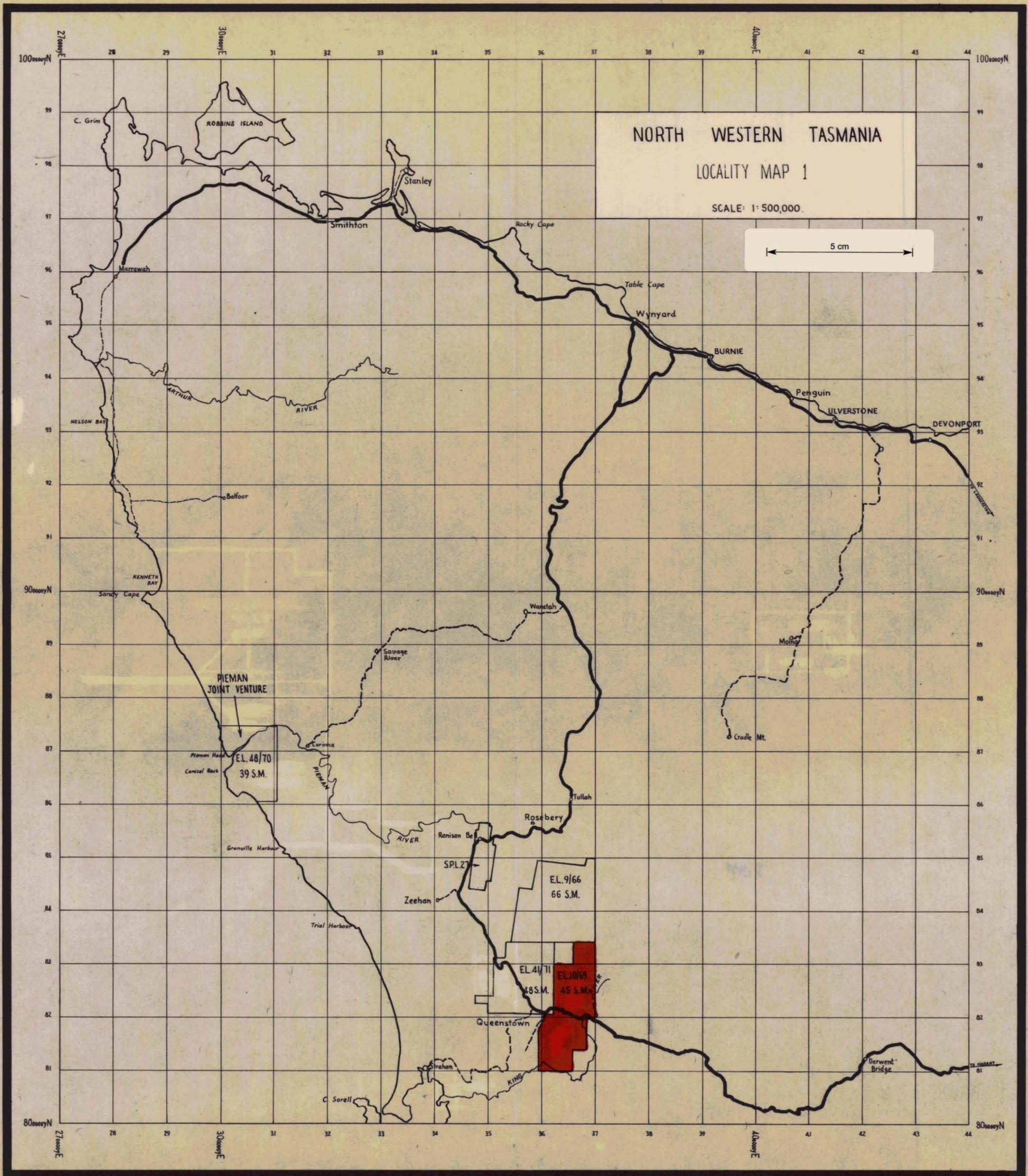
Budget for E.L. 10/69 1972-73

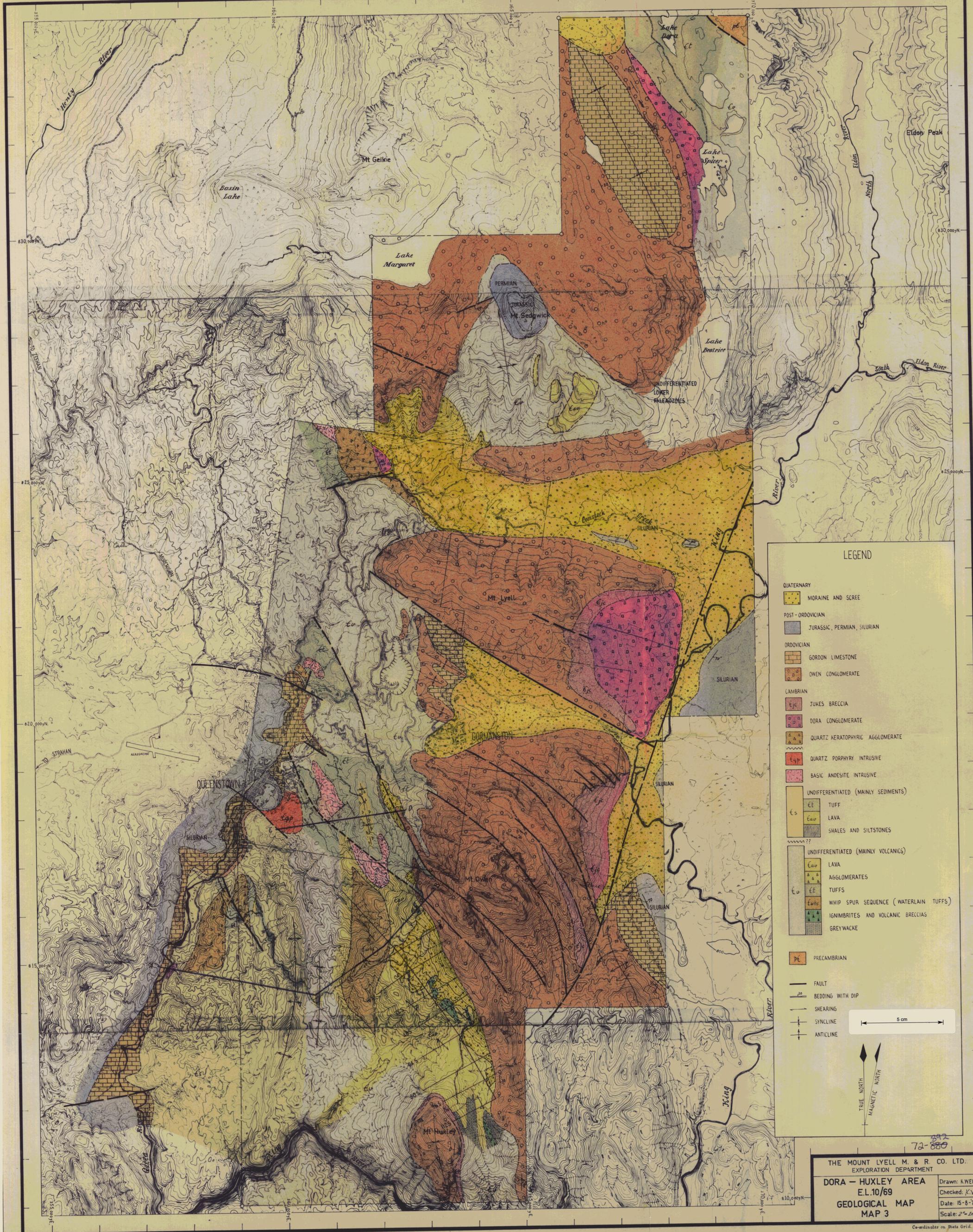
<u>Items</u>	<u>Cost</u>
Salaries (Geologist & Field Assistants)	\$11,000
Outside Services (Track Cutting etc.)	\$ 5,000
Geology (Slide Preparation etc.)	\$ 1,000
Materials	\$ 1,000
General Costs	\$ 1,000
	<hr/>
TOTAL	\$19,000
	<hr/>

REFERENCES

- HODGES, M. Status Roaring Meg Prospect, March 1967 -
Pickands Mather International Co.
- SMITH, H.D. Geological Investigations in the Queenstown Area,
November 1967 - Pickands Mather International Co.
- WALSHE, J.L. Geology of the Southern Mt. Lyell Field, 1971 -
Unpublished B. Sc. Honours Thesis, University of
Tasmania.
- WELLS, K. Annual Report on E.L. 10/69, 1970-71 - Mt. Lyell
Mining & Railway Co. Ltd.
- WHITE, N.C. Geology and Mineralisation of the Jukes-Darwin Area,
1972 - B.H.P. Co. Ltd.
- ROWSTON, D.L. **Geophysical Survey of Great Lyell, East Darwin and
Gomstock Area, Queenstown, Tasmania.**
B.M.R. Records 1959, No. 36.

737015





LEGEND

QUATERNARY		MORAINES AND SCREE
POST-ORDOVICIAN		JURASSIC, PERMIAN, SILURIAN
ORDOVICIAN		GORDON LIMESTONE
		OWEN CONGLOMERATE
CAMBRIAN		JUKES BRECCIA
		DORA CONGLOMERATE
		QUARTZ KERATOPHYRIC AGGLOMERATE
		QUARTZ PORPHYRY INTRUSIVE
		BASIC ANDESITE INTRUSIVE
		UNDIFFERENTIATED (MAINLY SEDIMENTS)
		TUFF
		LAVA
		SHALES AND SILTSTONES
		UNDIFFERENTIATED (MAINLY VOLCANICS)
		LAVA
		AGGLOMERATES
		TUFFS
		WHIP SPUR SEQUENCE (WATERLAIN TUFFS)
		IGNIMBRITES AND VOLCANIC BRECCIAS
		GREYWACKE
		PRECAMBRIAN
		FAULT
		BEDDING WITH DIP
		SHEARING
		SYNCLINE
		ANTICLINE

5 cm

TRUE NORTH
MAGNETIC NORTH

72-880

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EXPLORATION DEPARTMENT

DORA - HUXLEY AREA
E.L.10/69
GEOLOGICAL MAP
MAP 3

Drawn: K.W.	Checked: K.W.
Date: 15-8-72	Scale: 2" = 1 mile

Base map by Lands and Surveys Department, Hobart. 40 chains to 1 inch sheets.

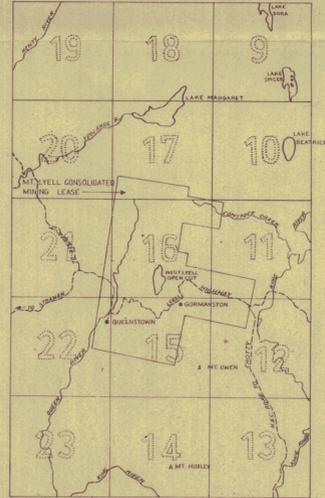


LEGEND

- OWEN CONGLOMERATE SCREE AND PLEISTOCENE MORAINES.
- ORDOVICIAN OWEN CONGLOMERATE.
- CAMBRIAN**
 - SHALE, BRECCIA. } JUKES BRECCIA.
 - SHALES, TUFFS, ACID LAVAS. } WHIP SPIR SEQUENCE. - GRADED WATERLAIN TUFFS AND SHALES.
 - ACID LAVAS, TUFFS, SHALES. } ACID LAVA SEQUENCE. - ACID LAVAS WITH SOME INTERBEDDED TUFFS AND VERY MINOR SHALES.
- VOLCANIC BRECCIAS AND IGNIMBRITES
- GREYWACKE.
- DEFINITE GEOLOGICAL BOUNDARY.
- - - APPROXIMATE GEOLOGICAL BOUNDARY.
- INFERRED GEOLOGICAL BOUNDARY.
- SYNCLINE.
- ANTICLINE.
- BEDDING WITH DIRECTION OF DIP
- VERTICAL BEDDING.
- SHEARING.
- DIRECTION OF YOUNGING
- FAULT.
- OLD WORKINGS.
- OUTCROP.
- PYRITE.
- HEMATITE.
- QUARTZ VEINS.



LOCATION



5 cm

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 GEOLOGICAL DEPARTMENT
DORA - HUXLEY AREA
 E.L. 10/69
 SHEET 14
 GEOLOGICAL MAP

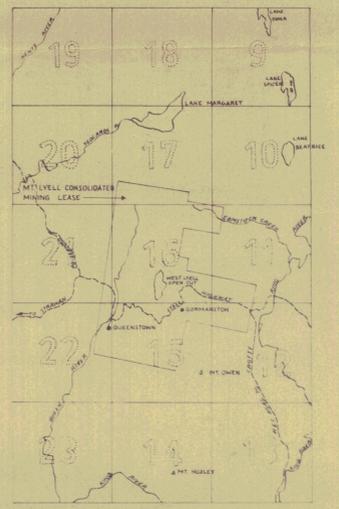
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 892
 72-899
 DRAWN K.WELLS
 TRACED R.G.W.
 CHECKED K.WELLS
 DATE 30-6-1972
 SCALE 1" = 500'
 1:6000
 MAP 4



- LEGEND**
- QUATERNARY
 - OWEN CONGLOMERATE, SCREE AND PLEISTOCENE MORANE
 - ORDOVICIAN
 - PIONEER BEDS
 - GORDON LIMESTONE
 - OWEN CONGLOMERATE
 - CAMBRIAN
 - FELDSPAR PYROXENE PORPHYRY INTRUSION (BASIC ANDESITE)
 - QUARTZ PORPHYRY INTRUSION
 - SHALES } WHIP SPUR SEQUENCE - GRADED WATERLAIN TUFFS AND SHALES.
 - TUFFS }
 - ACID LAVAS } ACID LAVA SEQUENCE - ACID LAVAS WITH SOME INTERBEDDED TUFFS AND VERY MINOR SHALES.
 - ACID LAVAS }
 - AGglomerate } ACID LAVA SEQUENCE - ACID LAVAS WITH SOME INTERBEDDED TUFFS AND VERY MINOR SHALES.
 - SHALES }
 - VOLCANIC BRECCIAS AND IGIMBRITES
 - GREYWACKE
 - DEFINITE GEOLOGICAL BOUNDARY
 - APPROXIMATE GEOLOGICAL BOUNDARY
 - INFERRED GEOLOGICAL BOUNDARY
 - SYNCLINE
 - ANTICLINE
 - BEDDING WITH DIRECTION OF DIP
 - VERTICAL BEDDING
 - SHEARING
 - DIRECTION OF YOUNGING
 - FAULT
 - OLD WORKINGS
 - OUTCROP
 - PYRITE
 - HEMATITE
 - QUARTZ VEINS



LOCATION



THE MOUNT LYELL M. & R. COY. LTD.
 GEOLOGICAL DEPARTMENT
DORA - HUXLEY AREA
 E.L. 10/69
 SHEET 15
 GEOLOGICAL MAP

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 72-880
 DRAWN: K. WELLS
 TRACED: R. G. WILSON
 CHECKED: K. WELLS
 DATE: 30-6-1972
 SCALE: 1" = 500'
 1" = 6000'
 005
 MAP 5



LEGEND

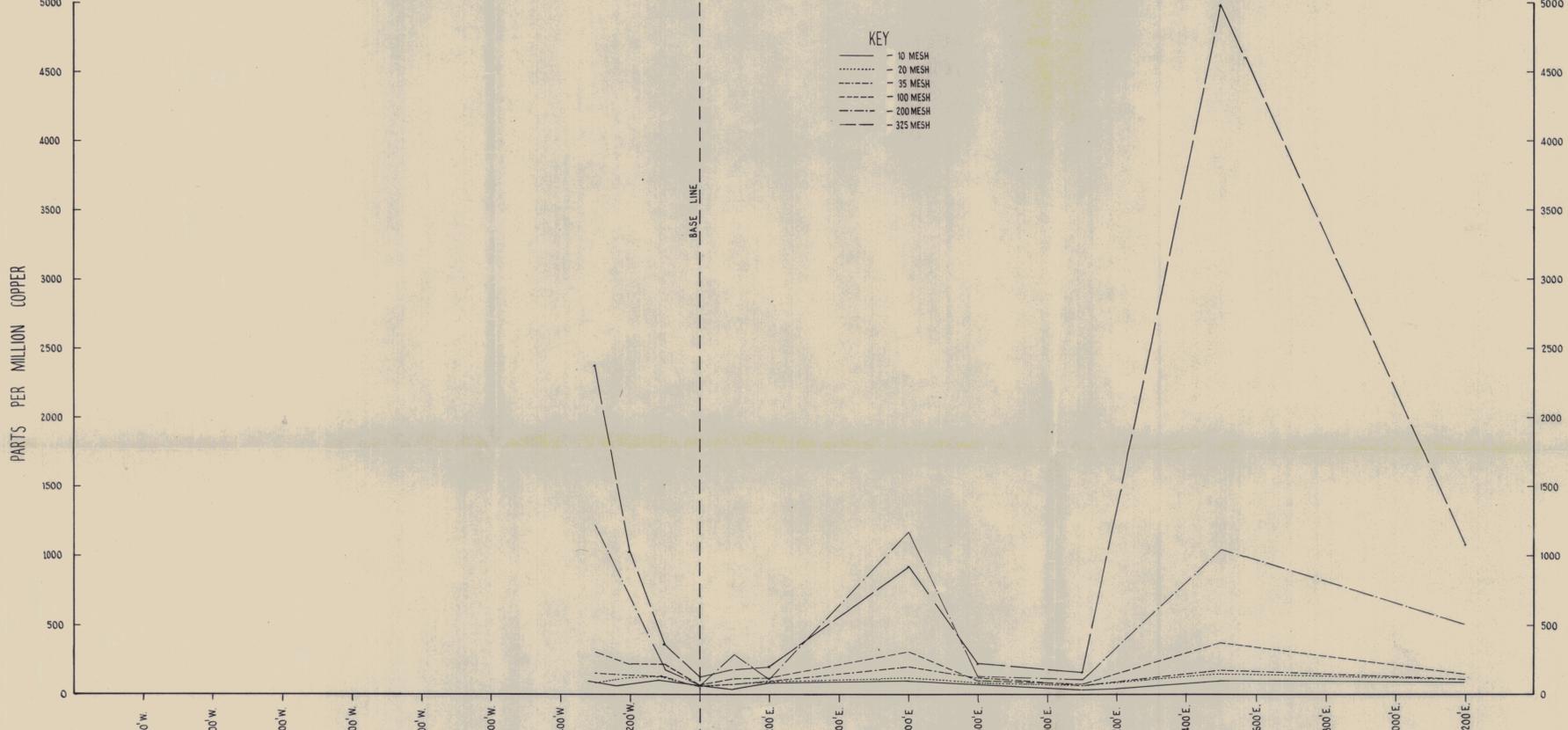
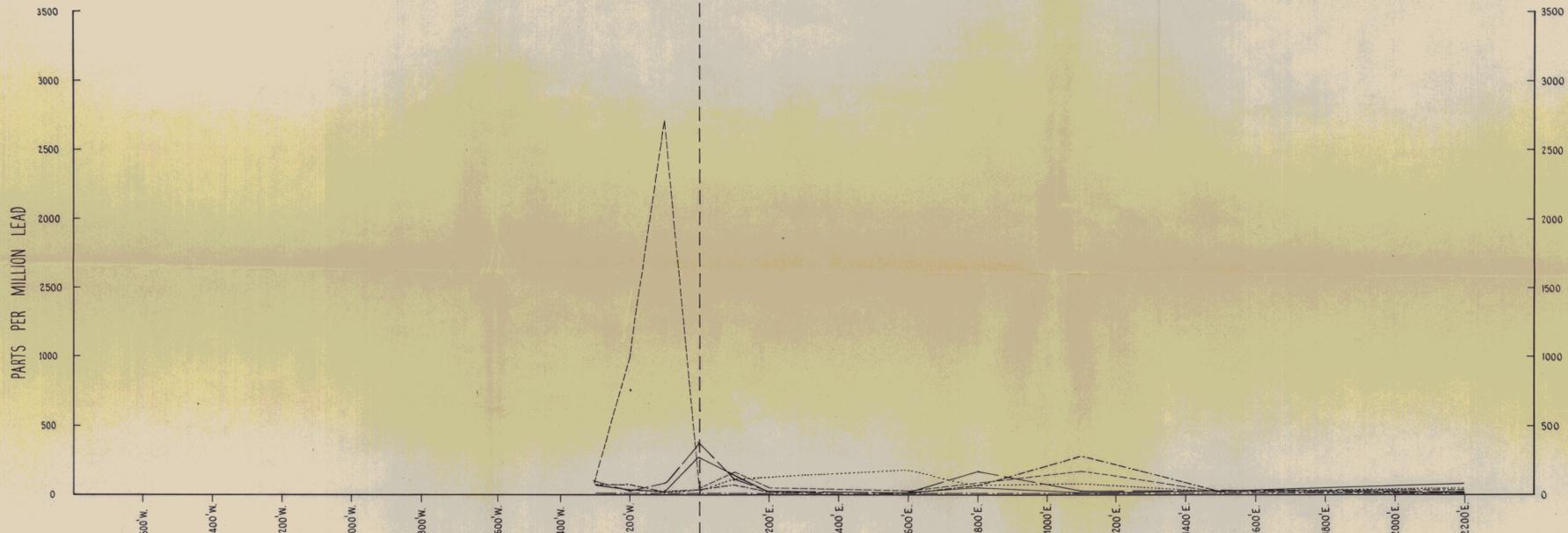
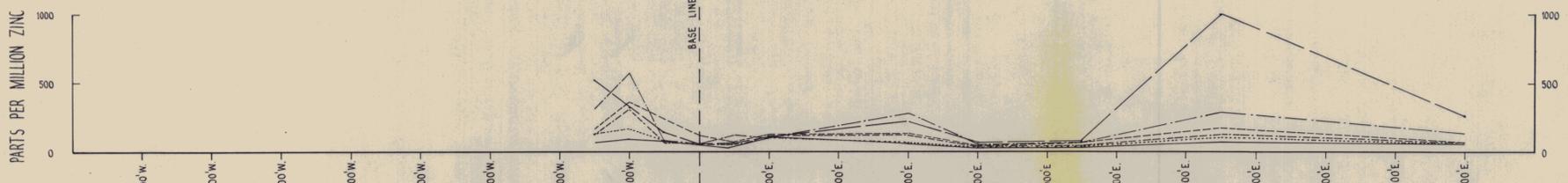
- GREATER THAN +150 GAMMAS
 - +150 TO 0
 - 0 TO -150
 - 150 TO -300
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 - 450 TO -600
 - LESS THAN -600 GAMMAS
- CONTOUR INTERVAL 50 GAMMAS

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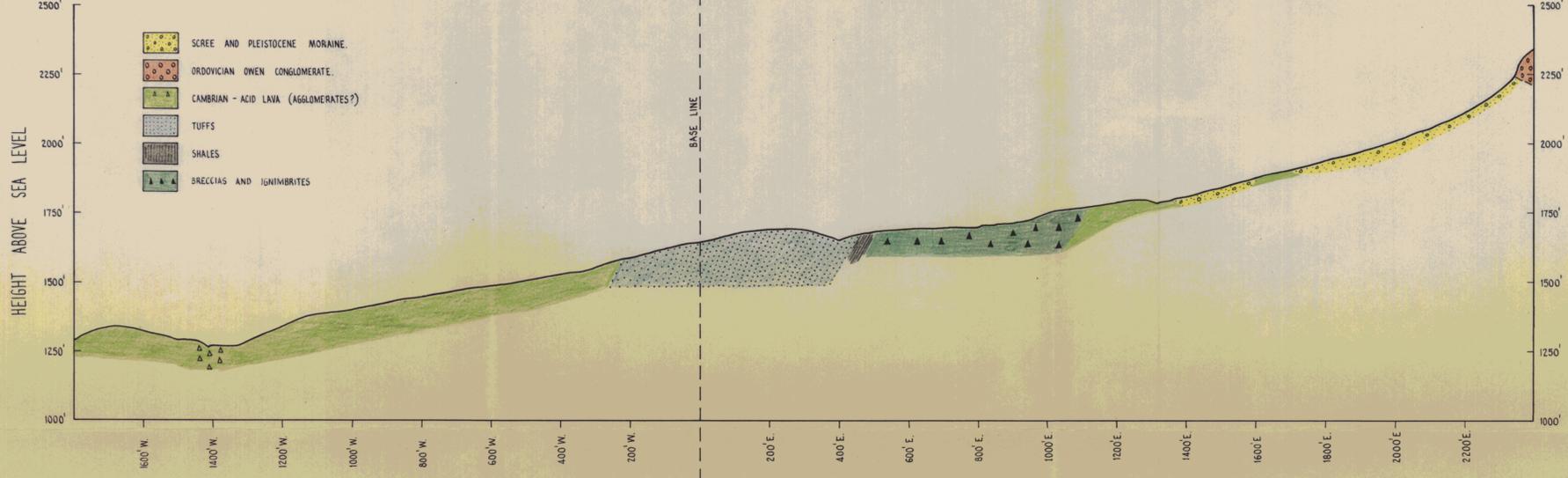


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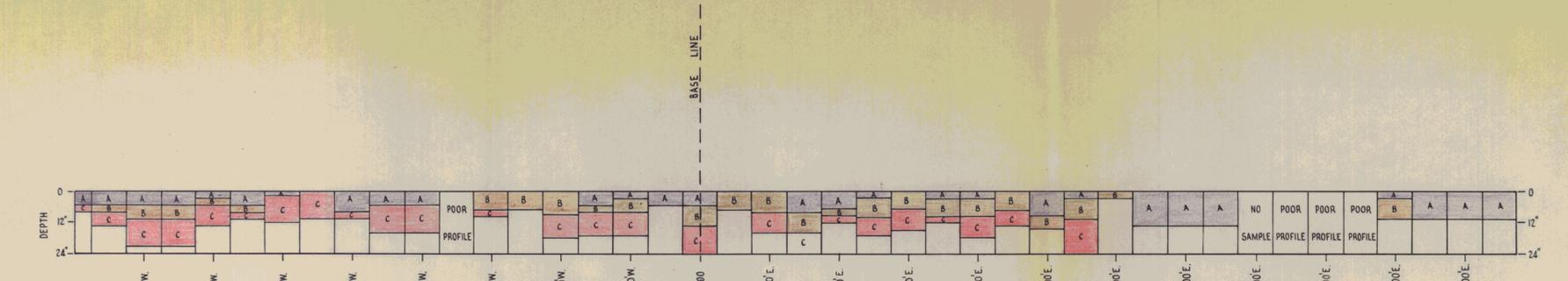
THE MOUNT LYELL M. & R. COY. LTD. EXPLORATION DEPARTMENT		DRAWN BY K.W. TRACED BY R.W. CHECKED BY K.Wells. DATE 22-6-72 SCALE 1: 6000
DORA-HUXLEY AREA E.L. 10/69 HUXLEY GRID MAGNETIC INTENSITY CONTOURS		006 MAP 6



KEY
 - - - 10 MESH
 - - - 20 MESH
 - - - 35 MESH
 - - - 100 MESH
 - - - 200 MESH
 - - - 325 MESH



KEY
 SCREE AND PLEISTOCENE MORAINES
 ORDOVICIAN OWEN CONGLOMERATE
 CAMBRIAN - ACID LAVA (AGGLOMERATES?)
 TUFFS
 SHALES
 BRECCIAS AND IGNIMBRITES



SOIL SAMPLE DEPTHS CHART

KEY
 A HORIZON
 B HORIZON
 C HORIZON

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THE MOUNT LYELL M. & R. COY. LTD.
 EXPLORATION DEPARTMENT
 DORA - HUXLEY AREA
 EL 10/69 007
 GEOCHEMICAL SOIL SAMPLING LINE 48S

DRAWN: K. WELLS
 TRACED: R. WILSON
 CHECKED: K. WELLS
 DATE: JUNE '72
 SCALE: 1" = 200'

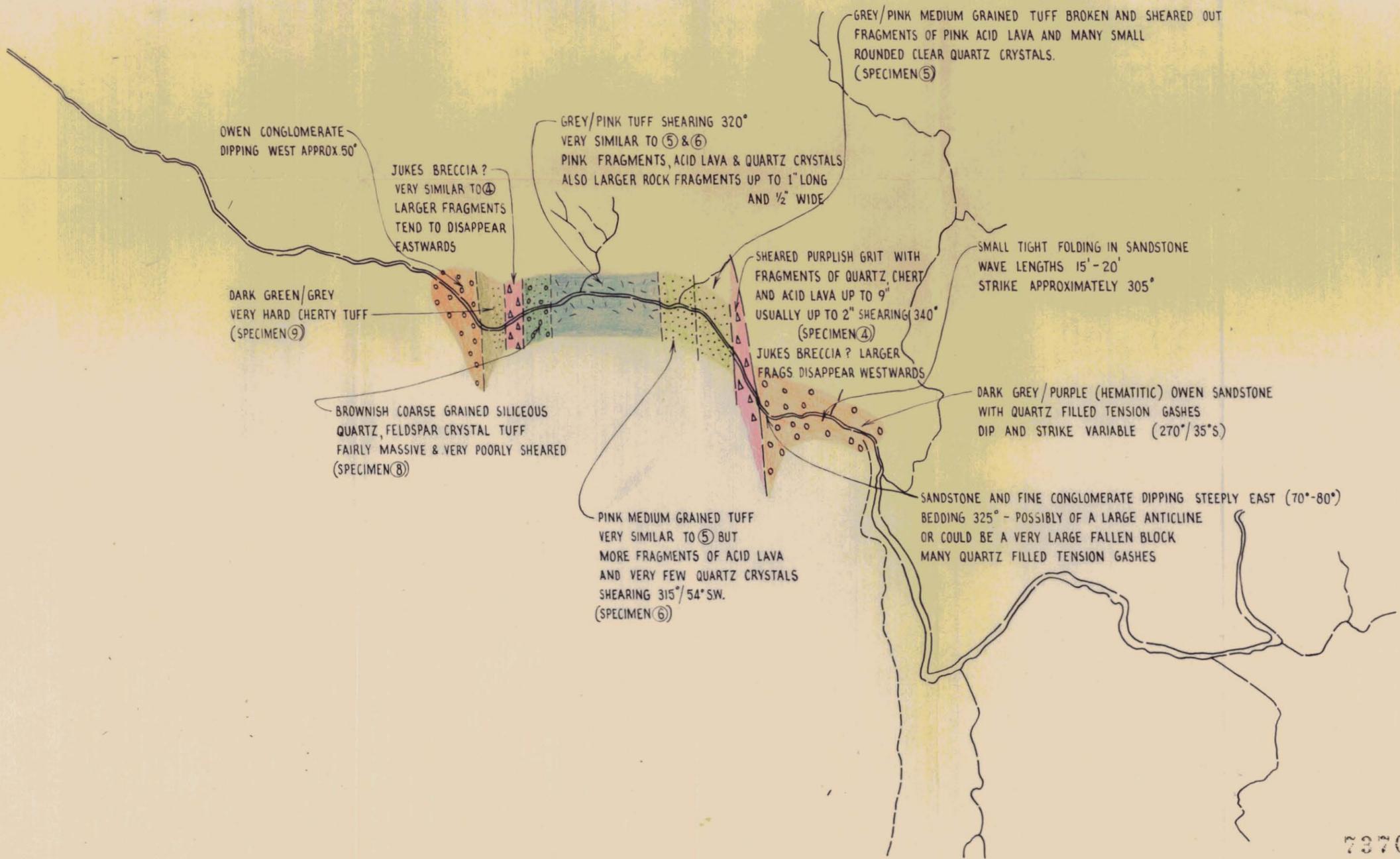
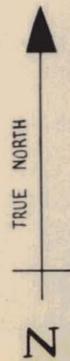
MAP 7

5 cm

MAPPING IN THE KING RIVER GORGE

BY K.W. & J.C. 9-2-72
SCALE: APPROX. 4":1MILE

CAMBRIAN SECTION POSSIBLY THE CORE OF AN ANTICLINE:
OWEN CONGLOMERATE DIPS AWAY ON FLANKS,
JUKES BRECCIA ? IS REPEATED ON BOTH SIDES,
BOTH COARSENING TOWARDS THE CONGLOMERATE.
OWEN CONGLOMERATE HAS NUMEROUS SMALL TIGHT FOLDS.
MANY QUARTZ FILLED TENSION GASHES.
CAMBRIAN TUFFS HAVE NUMEROUS SMALL FAULTS.



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MAP 8 : 008

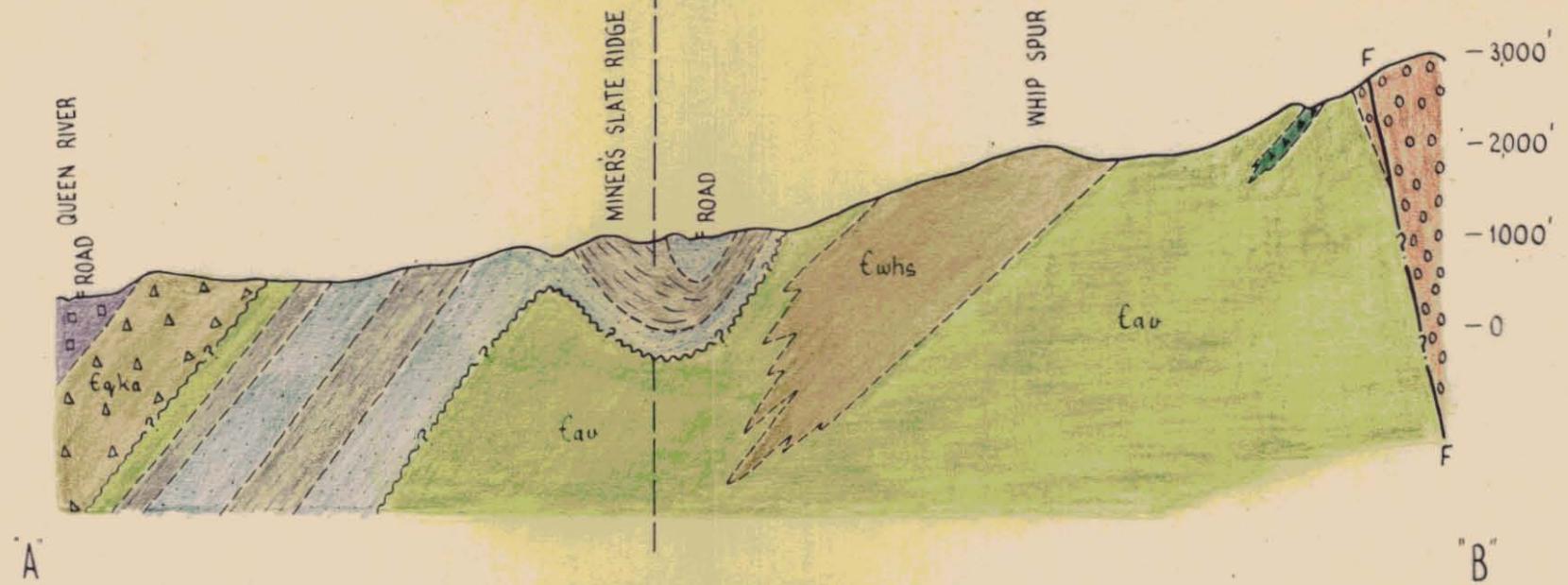
DRAWN: R.G. WILSON 7th AUGUST 1972

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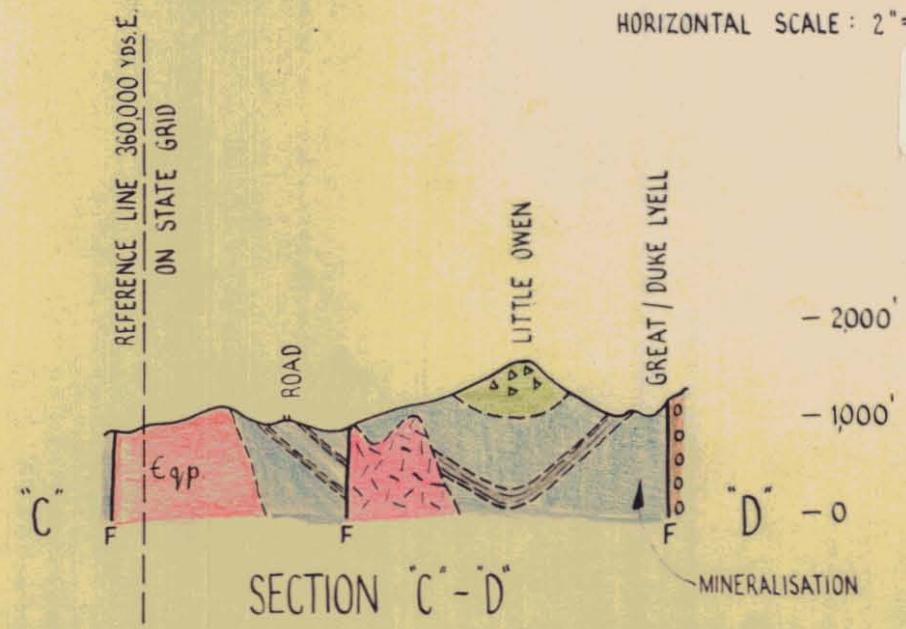
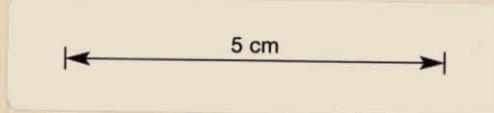
WEST

EAST



SECTION "A" - "B"

HORIZONTAL SCALE: 2" = 1 MILE



SECTION "C" - "D"

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DRAWN AUGUST '72 R.G.W.