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ANNUAL REPORT

E.L. 10/69

(DORA - HUXLEY)

1975-76

BY : P. Brophy
Mt. Lyell Mining & Railway Co. Ltd.

DRAUGHTING : R.G. Wilson

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AMG REFERENCE POINTS ADDED

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1. INTRODUCTION

During the 1975-76 field season, three major mapping projects were completed :

(i) Lake Spicer - Walford Peak area.

(ii) Mt. Sedgwick - Lake Beatrice area.

(iii) Roaring Meg Creek - Miners Slate Ridge area.

In addition rock chip sampling of E.I.P. anomalies A2 and A3 on the Little Owen grid has been carried out and further dump grab sampling of the Great Lyell adits and shaft. Diamond drilling undertaken by Mt. Lyell in 1961 at Great Lyell was re-logged and interpreted with respect to recent surface mapping in the area.

In the Mt. Huxley area the Mt. Ellen Gold Mine was relocated and briefly sampled and further sampling was undertaken of a trench, containing pyrite, on a north western spur of Mt. Huxley.

In all 25 stream sediment samples were collected during the mapping programmes, mainly in the areas south of Mt. Sedgwick and east of the Queen River.

Expenditure on E.L. 10/69 during 1975-76, up to 19th May, 1976, has been $13,191, bringing the total expenditure since 1969 to $100,431.

2. WORK COMPLETED

2.1 LAKE SPICER - WALFORD PEAK (Map 3, Fig. 1)

2.1.1 Introduction

Geological mapping of the area between Lake Spicer and Walford Peak was undertaken during late January and early February, 1976. The E.L. 10/69 - E.L. 9/66 boundary runs east-west through the central part of Lake Dora and so this brief description pertains to both annual reports. Previous exploration in this area has been summarized by K. Wells (1975). Further use was made of twenty thin sections, described by W. Fander, following detailed mapping of the northern section by N. Williams in 1971.

2.1.2 Pre-Cambrian

To the east of Lake Spicer the Pre-Cambrian outcrops as a sequence of quartz-rich sediments and quartz-mica schists which have been strongly deformed and are characterised by numerous small scale kink folds. In places these sediments have been severely brecciated with the development of minor

haematite. The Pre-Cambrian rocks form the ridge to the west of the North Eldon River and have been traced northwards along the Sticht Range into the Anthony Creek area.

2.1.3 Cambrian Volcanics and Sediments

The Cambrian rocks in the Lake Dora - Lake Spicer area outcrop in a north-west trending belt, approximately 2 kilometres wide and have a consistent westerly dip of 45^{o} - 75^{o}. A sequence of sediments which overlie the Pre-Cambrian are in turn overlain by acid volcanics and conglomerates that rapidly thicken northwards from Lake Spicer.

The sediment sequence is thought to lie disconformably on the Pre-Cambrian basement. No direct evidence was visible within the area mapped. However, there is a distinct difference in deformation styles between the two sequences. The sediments consist of shales and siltstones which are partially silicified and bedded quartzites. The base is characterised by a unit of quartz pebble conglomerate, approximately 5 - 10 metres thick. The upper part of the sediment sequence shows some intense intraformational, convolute folding and slumping with minor, small scale faulting.

The total true thickness of the sediments varies from approximately 1 000 metres at Lake Spicer to approximately 700 metres at Walford Peak.

The contact between the sediments and the overlying volcanics and conglomerates is strictly conformable. Passage beds containing dominantly sediments with thin horizons of volcanics grade up into dominantly acid volcanics with deformed and contorted blocks of sediment over a thickness of 10 - 20 metres. Nowhere was a contact between the sediments and conglomerates seen within the area mapped.

The volcanic rocks are dominantly tuffaceous although extensive chloritisation prevented accurate field identification in some areas. In general the tuffs are coarse grained, lithic and crystal tuffs with minor lapilli tuffs. East of Walford Peak a unit described in thin section as a tuff-lava is suggested as having been extruded either as a porphyritic dacite or a hot ashy tuff

into which quartz and felspar xenoliths and rock fragments were deposited. Further to the east and at the northern end of Lake Dora, isolated minor acid, porphyritic lavas occur within the tuffs and these contain quartz phenocrysts in an altered sericitic-chloritic groundmass. The occurrence of these quartz xenoliths/xenocrysts in pyroclastics and quartz phenocrysts in extrusives is a distinctive field characteristic throughout the area and gives the volcanics a fragmental appearance even though up to 15% of the volcanics contain no quartz inclusions at all. Care is therefore needed in their interpretation.

In the southern part of the area, a distinctive conglomerate unit (previously known as the Dora Conglomerate) is considered to be a lateral equivalent of the volcanics. The conglomerate is at its thickest north-west of Lake Spicer (400 metres) but thins rapidly northwards into two distinct lenses. Interfingering contacts with volcanics can be traced in several areas. The conglomerate contains sub-rounded fragments of quartz-felspar porphyry, sericitised acid volcanics and small rounded quartz and quartzite pebbles. Minor bands, up to 1 metre thick, of medium grained tuffaceous material, occur within the conglomerate and show two separate strike directions, of 320° and 020° (magnetic), which suggests minor folding in this sequence. Clasts within the conglomerate range in size from boulders to pebbles a few centimetres in diameter. In general the fragments are poorly sorted and the density of fragments shows an increase from east to west.

Overlying the Dora Conglomerate, probably unconformably, is 30 - 40 metres of Jukes Conglomerate. The two sequences can be distinguished in most areas since the latter is more haematitic, contains smaller and more numerous quartzite pebbles and has a finer grained matrix. On the western side of Lake Spicer the Jukes Conglomerate thickens and unconformably overlies both the volcanics and the sediments, however the lithology appears to vary southward and there is doubt as to whether these particular conglomerates are Dora or Jukes.

2.1.4 Post Cambrian

Overlying the Jukes Conglomerate and still dipping west is the Ordovician Owen Conglomerate. Since no mapping was carried out west of the Owen/Jukes contact the reader is referred to Annual Report E.L. 10/69, 1970-71 for a description of this area. In brief the Owen Conglomerate is folded into a north west trending syncline with Gordon Limestone in the core of the fold.

2.1.5 Intrusives

A small acid intrusive body occurs south of Walford Peak and is intruded into both the volcanics and the Dora Conglomerate, although the western contact is covered by moraine. The intrusive is a quartz-felspar-hornblende porphyry which, in the past, has been called a porphyritic dacite. Quartz phenocrysts remain relatively unaltered while felspar (plagioclase) has been altered to sericite and hornblende to biotite and chlorite.

To the east of the body, narrow sills up to 2 metres thick of quartz-felspar-hornblende porphyry are seen intruding both the volcanics and the Dora Conglomerate. These intrusives are compositionally similar to the tuff-lavas and porphyritic acid lavas (Section 2.1.3) suggesting that both the volcanic and the intrusive rocks in the Lake Dora area have a common source.

2.1.6 Structure

The complete sequence within the Lake Spicer - Walford Peak area dips west and strikes north to north-west, and there is no evidence for any large scale folding. Faulting is minimal with the only major break trending north-west across the northern end of Lake Dora. This fault has a significant horizontal component and results in the northern sequence being displaced to the west. Minor east north-east and east south-east faulting occurs between Lake Dora and Lake Spicer.

A strong foliation is seen throughout the area striking 320° (magnetic) and dipping steeply to the west. The foliation is visible in the volcanics and is reflected by the orientation of fragments within the Dora Conglomerate.

2.1.7 Mineralisation and Alteration

Old copper workings occur between Walford Peak and the area west of Lake Dora. Detailed analysis of trenches and adits was not undertaken, although sufficient mapping was completed to outline the geological setting and environment of the mineralisation.

The mineralisation occurs within a series of north west trending linear belts, west of Lake Dora, mainly within the tuffaceous unit of the volcanics. The main sulphides are pyrite and minor chalcopyrite with traces of galena and sphalerite, more common to the north. The sulphides occur as smears along foliation surfaces, as steeply dipping veins, or as disseminations throughout the altered tuffs. Minor magnetite and haematite also occurs and is particularly abundant in the workings immediately south of Walford Peak. Sampling of the workings in 1938 gave values ranging from 0.2 - 1.8% Cu with an approximate average over all mineralised workings of 0.35% Cu.

The majority of the main mineralised workings appear to be located within 30 metres of the quartz-felspar-hornblende sills. Further detailed work is required to determine the exact relationship between the mineralisation and the intrusives.

Alteration of the volcanics is fairly extensive throughout the area. Quartz, chlorite $\pm$ sericite alterations occurs within the tuffs containing mineralisation, with chloritisation increasing together with an increase in sulphide content. Sericitisation and chloritisation of the acid intrusives has been mentioned previously.

During 1958 Rio Tinto covered the area with a geological and geophysical exploration programme. A major E.M. anomaly was located south of Walford Peak, close to the pyrite-magnetite-haematite mineralisation and the contact of the major acid intrusive body. The area is covered with glacial moraine and the anomaly still remains untested. It is an obvious target from which to commence detailed exploration over the area.

2.2 MT. SEDGWICK - LAKE BEATRICE (Map 4, Fig. 2)

2.2.1 Introduction

Apart from some reconnaissance coverage during 1973-74 on the south west slope of Mt. Sedgwick, no previous detailed geological mapping has been undertaken in this area.

During December, 1975 and January, 1976 mapping was extended eastward along the flank of Mt. Sedgwick to the south of Lake Beatrice. The area contains dominantly acid lavas with minor pyroclastics overlain unconformably by conglomerates, equivalent to those described in the Lake Dora area (Section 2.1). Further east Pre-Cambrian and Cambrain sediments outcrop between Lake Beatrice and the King River.

2.2.2 Cambrian Volcanics

Acid lavas along the southern flank of Mt. Sedgwick can be separated into three different sequences :

(i) a westerly sequence of quartz porphyry and quartz-felspar porphyry lavas which are fawn-grey in colour, well jointed and show a general increase in quartz phenocrysts northwards;

(ii) a central sequence of fine grained altered acid lavas with pyroclastics and minor sediment horizons;

(iii) occurring within the central sequence, a stock or pipe-like body of fine grained, siliceous and highly brecciated acid lava with extensive haematite-magnetite veining. These lavas are interpreted as being "Darwin-type rhyolite" and similar to those at Whip Spur, Red Hills and Mt. Darwin.

The western sequence of porphyry lavas are fault bounded to the east and south. Extensive chloritisation and brecciation of the sequence has occurred close to the contact of these two faults and there is some evidence of sulphide leaching within the zone of brecciation.

The central sequence of lavas and pyroclastics is a mixed sequence containing fine grained, mostly non-porphyritic, partly haematitic acid lavas with medium grained lithic tuffs, lapilli tuffs and minor agglomerate units. Thin shale horizons outcrop in two areas and are associated with pyroclastic sequences. The lavas show flow banding and autobrecciation textures and become more extensively altered, mainly silicified, approaching the "Darwin-type

rhyolite". In the south east of this area a few isolated outcrops of quartz-felspar prophyry occur, suggesting the western sequence of porphyry lavas could be older than the central sequence.

The "Darwin-type rhyolite", south of Mt. Sedgwick is an altered, pink-red acid lava. It occurs as a pipe-like body which is sub-circular in shape and with distinctive alteration along the contacts. The massive lava is blocky, well jointed and, in places, intensely brecciated with haematite-magnetite occurring either as veins up to 1 metre thick, or as infilling of a breccia matrix. It can be interpreted as a volcanic vent or plug with typical characteristics of brecciation and silicification ± chloritisation of the surrounding lavas.

The complete central sequence of lavas has been altered to some degree and the exact contact of the two sequences is often difficult to distinguish in the field.

Previous work by M. Solomon (1964) showed that the "Darwin-type" lavas were partly porphyritic with minor K-felspar, albite and quartz phenocrysts in fine grained quartz-albite groundmass. Iron oxides were largely haematite which showed relics after an earlier magnetite, although existing magnetite showed an erratic distribution. Analyses were given in Solomon's thesis for a representative sample of the different textural types. (Table I).

TABLE I Mt. Sedgwick "Darwin-type Rhyolite" Analyses

(After Solomon, 1964)

SiO_2	70.42
TiO_2	0.36
Al_2O_3	12.31
Fe_2O_3	2.79
FeO	3.27
MgO	1.06
CaO	0.44
Na_2O	0.39
K_2O	7.69
H_2O^+	1.43
H_2O^-	Nil
MnO	0.05
P_2O_5	0.11
CO_2	Trace
Fe_2S	0.08

2.2.3 Cambrian Sediments

Arenaceous sediments outcrop to the south of Lake Beatrice which are lithologically similar to those seen east of Lake Spicer. These sediments still dip west but strike north east rather than north west. Overlying the sediments are a sequence of conglomerates which again are lithologically similar to those in the Lake Spicer area, although the contact between the two sequences is obscurred by moraine.

To the south and south east of Mt. Sedgwick the conglomerates strike north west and dip to the east. They clearly can be seen to unconformably overlie the three different lava sequences, although the western sequence contact is partly complicated by an acid intrusive. If the mineralisation at Lake Dora is the time equivalent of these conglomerates then all the lavas south of Mt. Sedgwick and associated mineralisation must be older than the Lake Dora mineralisation.

Overlying this Dora Conglomerate is a thin horizon of Jukes Conglomerate which gradually thickens to the west of Mt. Sedgwick. The relationship between these two conglomerate units is not clear, as was the case at Lake Dora. West of Mt. Sedgwick the two conglomerates appear unconformable, although no detailed mapping was carried out. East of Mt. Sedgwick, the two units appear conformable.

2.2.4 Post Cambrian

Conformably overlying the Jukes Conglomerate is the Ordovician Owen Conglomerate and Gordon Limestone. To the south, along the floor of the Comstock Valley, an isolated outcrop of Owen Conglomerate occurs within the glacial deposits. This has been interpreted as a faulted block, although no definite contacts or zones of shearing have been recognised.

The youngest rocks in the area, apart from moraine, are a Permian tillite overlain by Jurassic dolerite on the summit of Mt. Sedgwick.

2.2.5 Intrusives

Only one significant acid intrusive body has been mapped in the Mt. Sedgwick area. It is a quartz-felspar porphyry containing euhedral phenocrysts of felspar, frequently clustered, and clear quartz in a fine grained grey siliceous matrix. The body outcrops just to the south of Mt. Sedgwick

and strikes east-west.

The relationship of this intrusive body with the surrounding Cambrian rocks is problematical. It could either be (i) intruded as a sill into the base of the Dora Conglomerate sequence, or (ii) intruded as a dyke into the central and western volcanic sequences and unconformably overlain by conglomerate. The probable unconformable relationship with the overlying conglomerates at the eastern end of the intrusion suggests that the second alternative is most likely.

2.2.6 Structure

Dips and strikes within the area are variable mainly due to the presence of two major fold structures. The eastern half is dominated by a north west plunging syncline and the western half by a north west plunging anticline. The fold axis of the anticline runs west of Mt. Sedgwick and accounts for the rapid thickening of the Jukes Conglomerate in that area. The fold axis of the syncline lies approximately 1.5 kilometres west of Lake Beatrice and has a major north east trending fault on the eastern limb of the structure. Considerable lateral movement has occurred along this fault bringing the Dora Conglomerate in contact with the volcanics to the south. This north east trend is a major fault direction for the area, although the other faults are less significant. In addition there is some minor west to west north-west faulting, particularly along the Owen Conglomerate contact.

If the isolated outcrop of Owen Conglomerate, south of Mt. Sedgwick, is faulted against the volcanics then considerable movement along this fault must have occurred and this contact could be an important exploration target.

There is insufficient data to determine the relationship between the syncline west of Lake Beatrice and a similar fold structure west of Lake Spicer. Originally the two were considered to be a part of the same structure but mapping now has clearly defined the strike of the fold axis and it is considered that there is either a small anticlinal fold between the two or that the Lake Spicer structure is only a small subsidiary basin on the eastern limb of a major syncline to the west.

2.2.7 Mineralisation and Alteration

Mineralisation is patchy within the area, particularly within the sequence of altered acid lavas. The most significant mineralisation occurs within a thin shale horizon south west of Lake Beatrice where fine grained galena was visible within a general sequence of chloritised, pyritic volcanics. The shale horizon was approximately 3 metres thick, although outcrop was severely restricted. A random grab sample of the shale gave assays 375 ppm Cu, 1 300 ppm Pb and 3 000 ppm Zn, although isolated areas contained up to 5 - 10% galena.

To the west an agglomerate unit within the pyroclastics showed leaching and extensive weathering of altered acid volcanics. Rock chip assays gave 270 ppm Cu, 2 200 ppm Pb, 145 ppm Zn and 1 225 ppm Cu, 190 ppm Pb, 170 ppm Zn. Both pyrite and haematite were recorded fairly extensively in this agglomerate unit and also further north within the pyroclastic rocks close to the fault contact with quartz porphyry lavas.

Minor sulphide traces were recorded in a brecciated zone of quartz-felspar lavas and tuffs near the faulted Owen Conglomerate contact 3 kilometres south of Mt. Sedgwick. Details of all rock chip assays with exact locations are given in Appendix II.

2.3 ROARING MEG CREEK - MINERS SLATE RIDGE (Map 5, Fig. 3)

2.3.1 Introduction

Geological mapping during November and December, 1975 was centered on the pyroclastic sequence to the south of Queenstown and west of Whip Spur. In addition some reconnaissance mapping of the same sequence was undertaken as far west as the contact with the Ordovician-Silurian sediments outside the existing E.L. 10/69 boundary.

In general the sequence contains fine to medium grained tuffs, interbedded shales and siltstones with frequent quartz porphyry intrusives and isolated basic lava flows.

2.3.2 Pyroclastic - Sediment Sequence

The dominant pyroclastic rocks are fine to medium grained, lithic, crystal-lithic and crystal tuffs which contain restricted welded units. The sediments are essentially blue-grey laminated shales and siltstones with one isolated unit, 30 - 50 metres thick, of quartz-rich sandstone which

outcrops along the crest of Miners Slate Ridge. The proportion of sediments within the pyroclastic sequence varies throughout the area, although there is in general an increase of sediments to the north and west. The sediments occur either within specific units where they comprise at least 80% of the rock type or as blocks and lenses within a dominantly tuffaceous sequence.

Within the pyroclastics a distinct unit of coarser grained lapilli tuff is traceable to the west of Miners Slate Ridge. This unit contains elongate felspar/pumice fragments within a fine grained chloritic matrix and shows some evidence of welding.

In the south west of the area individual rock units are less well defined due to restricted mapping coverage. The general area of lithic tuffs and interbedded shales is essentially undifferentiated apart from a distinctive breccia unit containing angular blocks of acid lava, up to 25 centimetres in length, within a blue-grey brecciated tuff. West of this unit appears to be dominantly blue-grey shales with a further fine to coarse grained crystal tuff unit faulted against the Lower Palaeozoic sediments west of the Queen River.

The quartz-rich sandstone or grit at Miners Slate Ridge has been traced for 3 kilometres from just north of the King River to north of Lynch Creek where thick vegetation restricted detailed mapping. To the north it is not exposed in Roaring Meg Creek and so has presumably either thinned out or been faulted out. The rock contains abundant, sub-rounded quartz grains with small angular fragments of a dark, extremely soft mineral which has yet to be identified.

2.3.3 Acid Intrusives

A number of quartz porphyry and quartz-felspar porphyry bodies outcrop east of Miners Slate Ridge, close to the acid lava-pyroclastic contact. In places the matrix has been extensively weathered leaving a brown/fawn clay with the characteristic rounded, clear quartz phenocrysts. If these phenocrysts are small and less abundant then field identification often becomes difficult.

It is uncertain whether these bodies are shallow intrusive sills or lava flows and there is no definite evidence to

confirm either mode of emplacement. Flow banding and possible autobrecciation in the major quartz porphyry body immediately east of Miners Slate Ridge suggest that, at least in part, they are extrusive. In Roaring Meg Creek, however, the quartz porphyry incorporates blocks and 'slabs' of laminated shales close to the contact indicating an intrusive origin. Conformity with the surrounding volcanics is evident throughout the area and it is reasonable to assume that these bodies could be both partly intrusive and extrusive.

The distribution of the acid porphyries in Map 5 relates to the areas that have been mapped in detail and it is likely that these bodies are continuous or semi-continuous throughout the area, as is the case to the north of Queenstown.

The possible significance of the position of the bodies close to acid lava-pyroclastic contact over large strike distances (up to 15 kilometres) is not yet fully understood.

2.3.4 Basic Lava Flows

Rocks of basic/intermediate composition are exposed as two major bodies in the Lynch Creek - Specimen Creek area and west of Miners Slate Ridge. The former has textural and compositional characteristics which suggest it may be a flow or shallow intrusive body. However, the latter shows obvious features of extensive brecciation and can be interpreted as a fragmented, autobrecciated flow.

In general these flows have a hyalopilitic texture, containing sericitised felspars, chlorite and epidote replacing pyroxene and accessory magnetite and pyrite. The groundmass contains up to 15% dark, iron-rich glassy material with chlorite-epidote-tremolite-quartz-sericite as alteration products.

These rocks have been previously described as either andesites or as autoclastic spilitic flows (Solomon, 1964). Analyses of three of these basic flows from the Lynch Creek area are given in Table II.

STRATIGRAPHICAL THICKNESS AND CORRELATIONS FROM AREAS MAPPED 1975 - 76

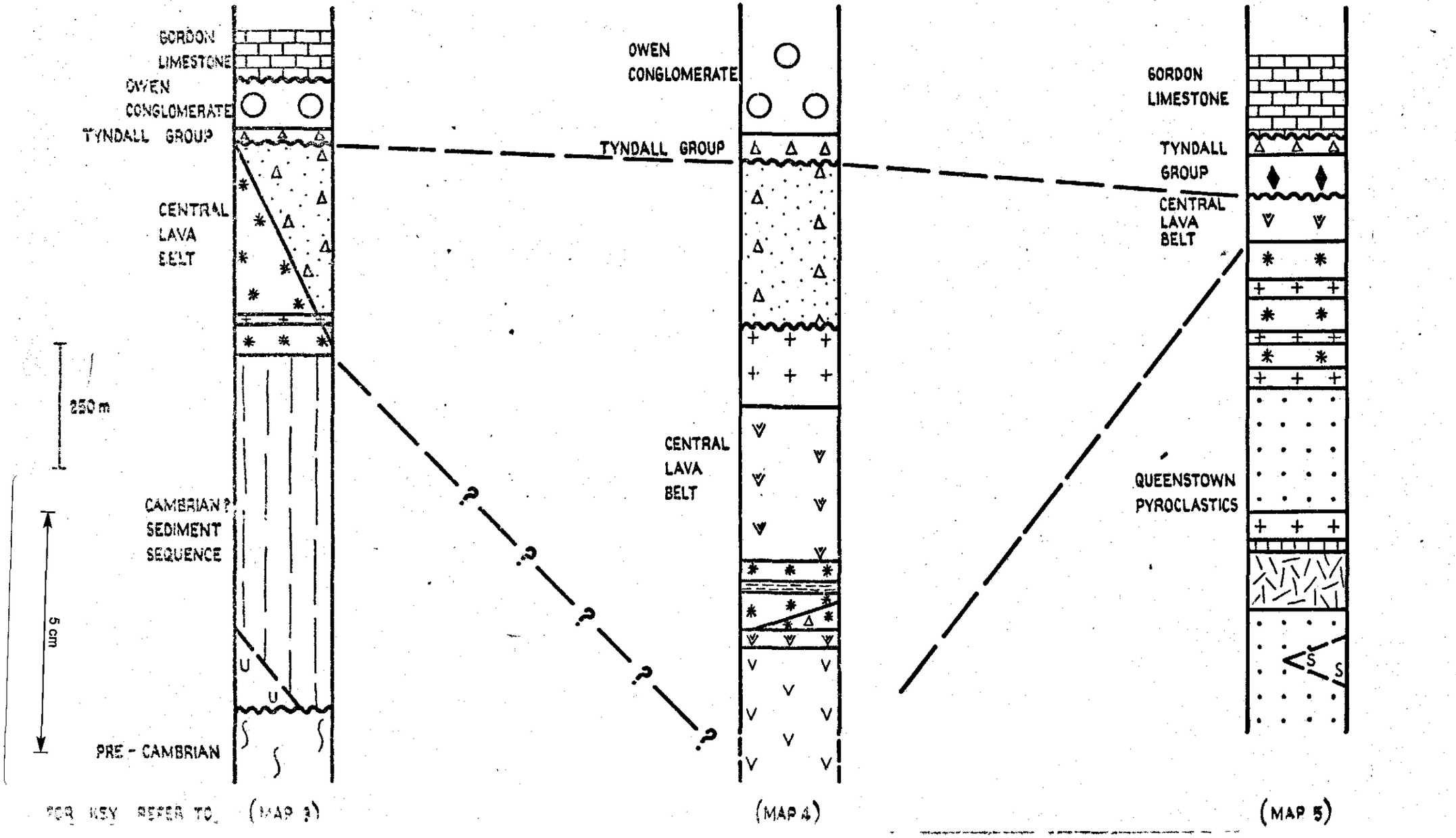

FIG. 4

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TABLE II Spilites (Basic Flows) - Lynch Creek
(After Solomon, 1964)

SiO_2	46.72	47.6	50.6
TiO_2	0.48	-	0.5
Al_2O_3	18.25	17.7	20.3
Fe_2O_3	2.38	13.7	10.7
FeO	7.73		
MgO	7.81	6.55	4.4
CaO	7.86	8.2	6.6
Na_2O	2.64	2.0	2.3
K_2O	1.32	1.3	1.8
H_2O^-	0.11	1.5	1.9
H_2O^+	4.43		
MnO	0.07	-	-
P_2O_5	-	-	-
CO_2	-	0.6	0.4
Total	99.8	100.25	100.5

The most intense brecciation occurs within the eastern flow approximately 200 metres north of the summit of Miners Slate Ridge. Here the flow has become almost an agglomerate with large sub-rounded fragments of sediment and tuffaceous material, up to 30 centimetres in diameter, in a grey-green silicified groundmass. Similar textures are seen 300 metres south of Lynchford within the western flow.

Elsewhere throughout these bodies fragmentation is a result of autobrecciation and contains only basic material in a haematite-epidote altered groundmass.

2.3.5 Structure

The pyroclastic rocks in the eastern half of the area dip consistently and steeply to the east underneath the acid lavas. A major anticlinal structure close to the boundary of E.L. 10/69 occurs with its fold axis 300 metres west of Miners Slate Ridge and striking north-south.

The rocks in the western half of the area, along the Queen River, dip more gently eastwards at approximately 60°. A minor synclinal fold, parallel to the major anticline and to its west, is inferred by these easterly dips.

Faulting in the area consists of a series of north west trending faults that step the sequence progressively further east and which are down-thrown to the south. Because these faults are at an acute angle to the regional strike they result in repetition of the sequence which, in the past, has been used for evidence of folding.

2.3.6 Mineralisation and Alteration

No mineralisation of any significance was located during the mapping programme. Gold is known in the Lynch Creek area and has been mined from the King River Gold Mine workings. A brief description of gold mineralisation in this area is given in the Annual Report - New Area Evaluation, 1974-75 (K. Wells).

Alteration within the pyroclastic sequence is variable within each unit. Sericitisation has been recorded within the fine grained tuffs in the north of the area and chlorite and haematite occurs frequently within the lapilli tuff unit west of Miners Slate Ridge. The occurrence of abundant white mica and restricted pyrite was recorded particularly within the sediments at Lynch Creek.

Alteration of the basic flows was discussed in Section 2.3.4.

2.4 ROCK CHIP SAMPLING

2.4.1 Introduction

During the year four rock chip sampling programmes were carried out south of Queenstown :

(i) Little Owen grid - anomalies A2 and A3.
(ii) Great Lyell adits and shafts - grab sampling of dumps.
(iii) Mt. Ellen Gold Mine - workings and dump sampling.
(iv) Mt. Huxley - chip sampling of a trench.

2.4.2 Little Owen Grid

To supplement soil sampling data on the Little Owen grid, anomalies A2 and A3 were rock chip sampled at 15 metre (50 feet) spacings. Originally only anomalies A4 and A5 were soil sampled due to lack of soil cover. Anomaly A1 has not been geochemical tested due to extensive conglomerate scree in that area.

Results of the rock chip sampling are shown on Map 6. The original soil sampling data is shown and for comparison, the southern part of anomaly A3 has been both chip sampled and soil sampled.

In general Cu, Pb and Zn values were high and extremely erratic. Ranges were Cu 50 - 810 ppm, Pb 10 - 888 ppm and Zn 10 - 680 ppm. Consequently it is reasonable to suggest that neither rock chip sampling or soil sampling is a valid discriminator for geophysical anomalies in this area.

2.4.3 Great Lyell Adits and Shafts

During the re-mapping of the Great Lyell area the shaft and adit dumps on both the east and west side of Conglomerate Creek were grab sampled. The purpose was to gain further knowledge on the structures within the mineralisation and to increase the existing assay data on these workings. Detailed analysis of the mineralisation is at present being undertaken and the assay data is shown in Appendix I.

2.4.4 Mt. Ellen Gold Mine

During December, 1975 the Mt. Ellen Gold Mine was re-located, in fairly dense vegetation, north west of Mt. Huxley. Brief chip sampling of the workings was undertaken but the gold appears to have been contained within quartz veins in an unaltered sequence of felspar porphyry lavas. Detailed report on the mine are given by Twelvetrees (1901-04) and Batchelor (1904-07).

Map 7 shows plans of the workings and sample locations. Results showed very low gold values except for one sample in the open cut which assayed 4.6 ppm Au and one from beneath the old battery stamp which assayed 6.2 ppm Au. Average for the 12 samples were 1.1 ppm Au, 209 ppm Cu, 44 ppm Pb, 43 ppm Zn and no detectable silver.

2.4.5 Mt. Huxley

A 5 metre trench in a northerly spur of Mt. Huxley, 300 metres north of line 8000S, 3000W, exposes semi-massive pyrite and quartz within a sheared silicified siltstone. This sediment lens occurs within a sequence of altered, haematitic, felspar porphyry lavas and the pyrite zone, 2 metres in width, lies along the contact of these two rock types.

Chip sampling was carried out over the complete zone of alteration with the pyrite zone itself averaging 329 ppm Cu, 75 ppm Pb, 37 ppm Zn and 8.6% S.

Complete assay data and geology is shown in Fig. 5.

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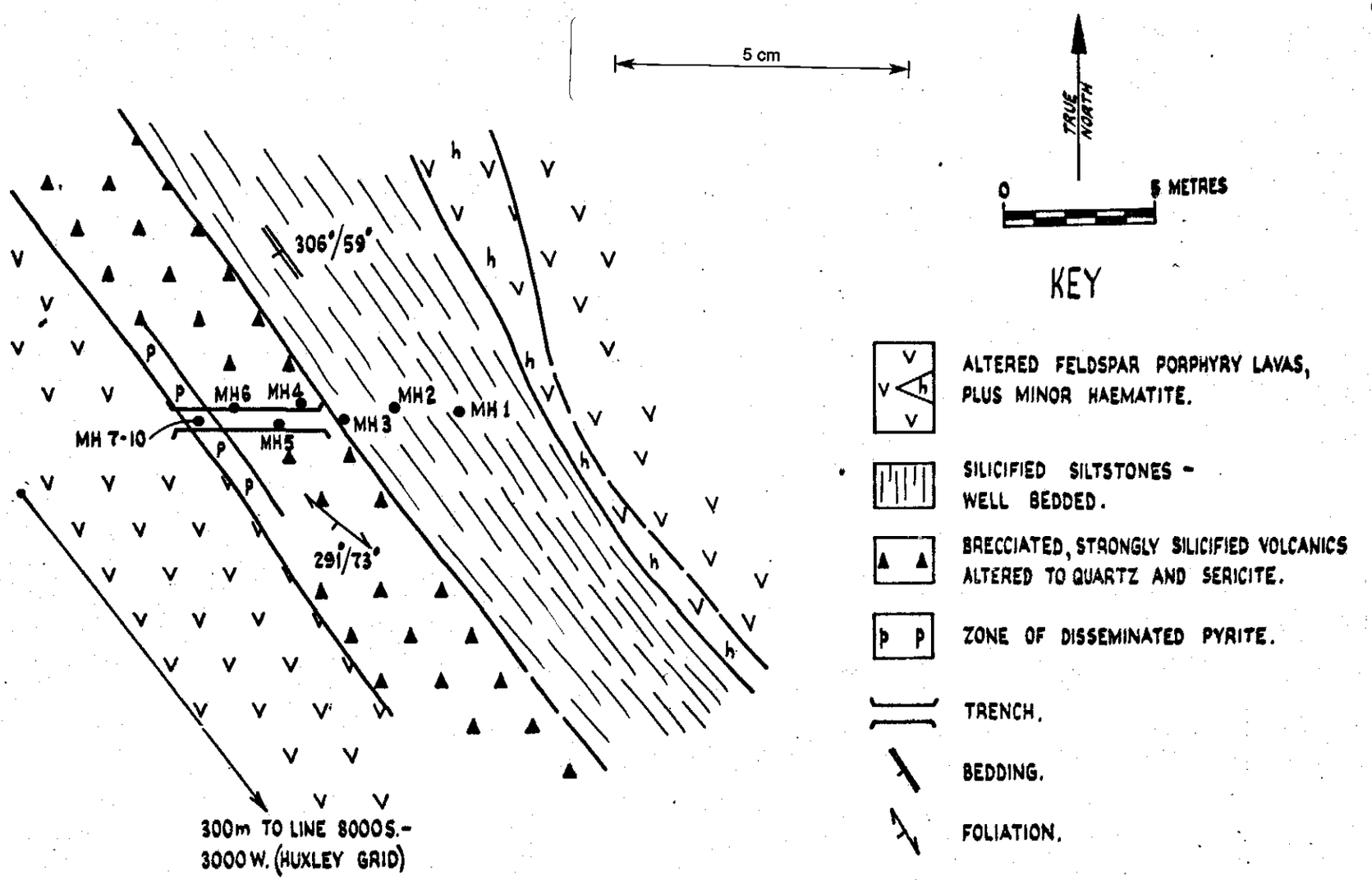
FIG. 5



ASSAY DATA

	Cu	Pb	Zn (p.p.m.)	S %
MH1	88	39	25	0·10
MH2	305	63	31	1·50
MH3	165	28	67	0·30
MH4	100	840	270	0·40
MH5	155	34	46	0·80
MH6	220	42	24	3·20
MH7	315	75	28	7·50
MH8	300	46	34	9·40
MH9	535	120	72	13·40
MH10	165	58	13	4·20

TRENCH 1 Km NORTH OF MT. HUXLEY

4520020

REFERENCES

BATCHELOR, T.	1904-1907	Extract : The Mt. Lyell Mining and Railway Co. Ltd. Letter Book No. 2
SOLOMON, M.	1964	Spilites, Keratophyres and the Mt. Lyell Rosebery Ores Unpubl. Ph. D. Thesis Univ. of Tas.
TWELVETREES, H.	1901-1904	Extract : Report of the Secretary of Mines
WELLS, K.	1975	A Review of the Area East of the Tyndall Range Unpubl. Mt. Lyell Report

2.5 STREAM SEDIMENT SAMPLING

During 1975-76 field season 25 stream sediment samples were collected, 5 from the creeks draining into the Queen River south of Queenstown and 20 from the Mt. Sedgwick area. Some significant Pb and Zn values were detected at Mt. Sedgwick with highest values being 1 110 ppm Pb and 1 130 ppm Zn from a creek which runs close to the faulted contact of the two acid lava sequences. A further 6 values were above 200 ppm Pb and 3 values above 100 ppm Zn. In general Cu values were low although higher Pb-Zn values reflected the higher Cu values.

Background values have not been calculated since, at present, there is insufficient data for accurate analysis.

Sample locations are given on Map 8, covering all stream sediment sampling carried out on E.L. 10/69 since 1974. Assay data has been tabulated in Appendix III.

3. PROPOSED EXPLORATION PROGRAMME 1976-77

Proposed exploration for 1976-77 involves establishing a grid over the area south of Mt. Sedgwick and west of Lake Beatrice. This grid will comprise of 13 lines, 600 ft. apart, with a total footage of 160,000 ft. In addition an access track from the end of the existing Comstock track will be constructed which will give access to the southern part of the grid.

Early in Period 7 the grid will be covered with a gradient array E.I.P. survey and followed by detailed mapping and geochemical sampling of anomalous zones.

APPENDIX I

GREAT LYELL ADIT AND SHAFT DUMP SAMPLING

Location	Cu ppm	Pb ppm	Zn ppm	S %	Total Fe %
Great Lyell Shaft					
GLS 1	17 700	40	70	13.2	49.7
GLS 2	440	14	75	24.7	48.0
GLS 3	1 470	10	35	18.3	35.3
GLS 4	7 200	18	55	16.9	18.4
GLS 5	325	50	45	0.3	2.5
GLS 6	8 000	8	60	20.5	32.2
GLS 7	30 500	28	55	16.5	36.4
GLS 8	490	26	30	38.4	55.2
GLS 9	12 000	36	25	13.0	35.6
GLS 10	10 800	24	50	6.3	10.2
Main No. 1 Adit					
GLA 1	6 450	210	100	1.4	7.9
GLA 2	10 800	104	85	2.0	7.1
Lower No. 1 Adit					
GLLA 1	240	101	235	3.0	7.8
GLLA 2	125	86	30	2.7	3.4
GLLA 3	190	128	35	1.4	2.5
Upper No. 2 Adit					
GLUA 1	255	66	260	2.9	9.9
GLUA 2	125	70	85	4.7	6.2
GLUA 3	165	88	435	4.3	15.1
GLUA 4	2 650	48	420	0.5	10.9
GLUA 5	400	154	310	5.1	13.9

APPENDIX II

ROCK CHIP ASSAYS FOR E.L. 10/69 - 1974-76

Sample No.	Cu ppm	Pb ppm	Zn ppm	Au ppm	Ag ppm	FeS_2 %	Location/ Co-ordinates		Field No.	Rock Type
						1974-75				
DH 1	3 300	130	180			0.1	817640	361720		Altered haematitic acid lavas.
DH 2	3 100	70	55			0.1	817640	361720		Sample from old shaft dump.
DH 3	125	30	40			0.1	817710	361730		As above but from adit dump.
DH 4	600	60	45			11.8	817710	361730		Minor barite mineralisation noted.
DH 5	10 700	20	295	0.1	3.0	6.3	819230	361840	119	Quartz-chlorite-chalcopyrite vein in adit.
DH 6	635	10	90	0.8	6.4	83.2	819230	361840	119	Minor vein of massive pyrite.
DH 7	530	10	110	0.3	1.2	7.7	818610	361720	61	Altered, haematitic acid volcanic + pyrite.
DH 8	100	10	95	0.1	0.2	3.2	Huxley Grid L9600S 500W			Pyrite-haematite in sheared acid tuffs?
DH 9	55	10	20	0.1	0.1	0.2	Huxley Grid L3200S 800W			Quartz-haematite veining in altered volcanics.
DH 10	85	10	35	0.1	2.0	24.1	812970	362030	H55	Pyrite associated with thin shale horizon.
DH 11	65	10	15	0.1	0.3	0.1	812710	361410	H59	Possibly sulphide leaching in felspar porphyry lavas.

.../2

Sample No.	Cu ppm	Pb ppm	Zn ppm	Au ppm	Ag ppm	FeS_2 %	Location/ Co-ordinates		Field No.	Rock Type
						1975-76				
DH 12	210	10	90				815040	361160	313	Micaceous sediment with calcite inclusions.
DH 13	290	10	50				814880	359650	323	Acid tuff + quartz.
DH 14	260	1 300	220				825860	364700	MS 4	Weathered, brecciated, chloritic volcanic.
DH 15	520	900	170				825720	364440	MS 5	Acid porphyry lava + strong leaching.
DH 16	200	60	380				825970	364410	MS 25	Quartz-felspar porphyry lava.
DH 17	280	105	380				825770	367840	MS 32	Silicified acid lava/tuff + chlorite + pyrite.
DH 18	375	1 300	3 000				825740	367830	MS 33	Fine grained sediment + haematite + galena.
DH 19	650	120	315				825640	367130	MS 38	Altered, chloritic acid lava.
DH 20	270	2 200	145				826550	365210	MS 44	Brecciated, altered acid lava + haematite.
DH 21	140	510	720				827000	365490	MS 48	Altered acid lava + haematite.
DH 22	160	100	510				827160	365560	MS 49	Flow banded acid lava + pyrite.
DH 23	220	170	105				827200	365590	MS 50	Tuffaceous shale.
DH 24	230	145	290		5		825710	366870	MS 55	Brecciated limonitic material in altered tuff.
DH 25	465	60	235		5		825800	366830	MS 58	Gossan material in weathered lapilli tuff.
DH 26	1 225	190	170		5		826130	365340	MS 68	Minor sulphides in brecciated altered tuff.

026

APPENDIX III

STREAM SEDIMENT ASSAYS FOR E.L. 10/69 - 1974-76

Sample No.	Cu ppm	Pb ppm	Zn ppm	Co-ordinates N	E	metric E	metric N
1974-75							
215 SS 1	30	50	20	814110	363040	393487	5335846
214 SS 2	30	30	20	813970	362960		
211 SS 3	35	25	20	813790	362780		
210 SS 4	30	25	25	813800	362730		
9 SS 5	35	30	15	813850	362730		
208 SS 6	90	20	55	813910	362690		
207 SS 7	30	30	25	814000	362690		
206 SS 8	20	20	10	814090	362650		
205 SS 9	40	30	20	814180	362610		
212 SS 12	35	50	15	813680	362740		
213 SS 13	60	50	25	813440	362540		
216 SS 14	35	30	10	812910	361980		
217 SS 15	40	30	15	812780	361760		
1975-76							
221 SS 20	48	29	40	810740 (2432220)	357250 (1171750)	378231	5332704
220 SS 21	26	17	43	811280	357190	378170	5333197
219 SS 22	25	14	52	811330	357180	378160	5333243
218 SS 23	47	40	70	811670	357020	378010	5333552
203 SS 24	20	19	16	812330	357080	378058	5334156
200 SS 25	83	390	122	825840	365900	385977	5346599
99 SS 26	55	414	52	825660	365870		
94 SS 27	42	275	60	825280	366010		
90 SS 29	35	47	48	824710	367290		
86 SS 30	48	88	39	825840	367850		
96 SS 31	72	260	129	825520	366910		
95 SS 32	26	47	45	825400	367000		
91 SS 33	42	40	43	825090	367090		
97 SS 34	44	38	62	825800	366570		
98 SS 35	41	54	37	825770	366360		
93 SS 36	25	42	22	825420	366340		
92 SS 37	17	20	14	824720	366750		
89 SS 38	60	230	53	824970	367560		
33185 SS 39	16	53	21	825650	368350		
204 SS 41	55	52	38	825010	365510		
33184 SS 42	42	197	44	826150	365410	385526	5346877
201 SS 43	145	1 110	1 130	826730	365100	385296	5347404
202 SS 44	185	906	780	825740	364390		
87 SS 46	28	56	22	825995	367820		
88 SS 47	43	340	40	825440	367880		

WEST.

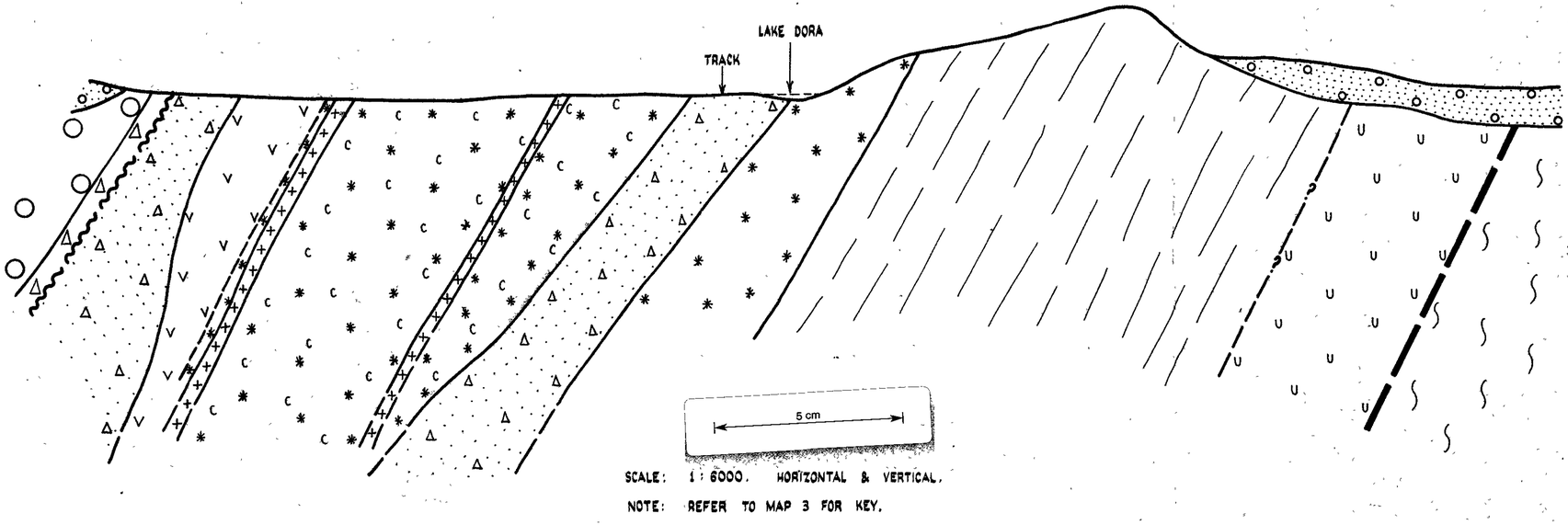
SECTION THROUGH LAKE DORA

(MAP 3 'A-A')

FIG. 1

452027

EAST.



SCALE: 1 : 6000. HORIZONTAL & VERTICAL.

NOTE: REFER TO MAP 3 FOR KEY.

1975

WEST.

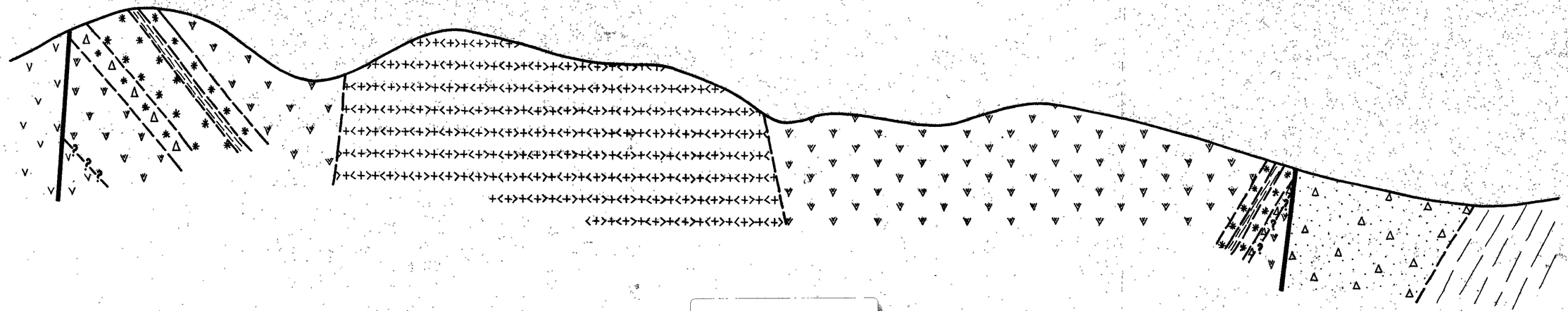
SECTION THROUGH SOUTH MT. SEDGWICK

(MAP 4 'B-B')

FIG. 2

452028

EAST.



SCALE: 1:6000. HORIZONTAL & VERTICAL.

NOTE: REFER TO MAP 4 FOR KEY.

1876

WEST.

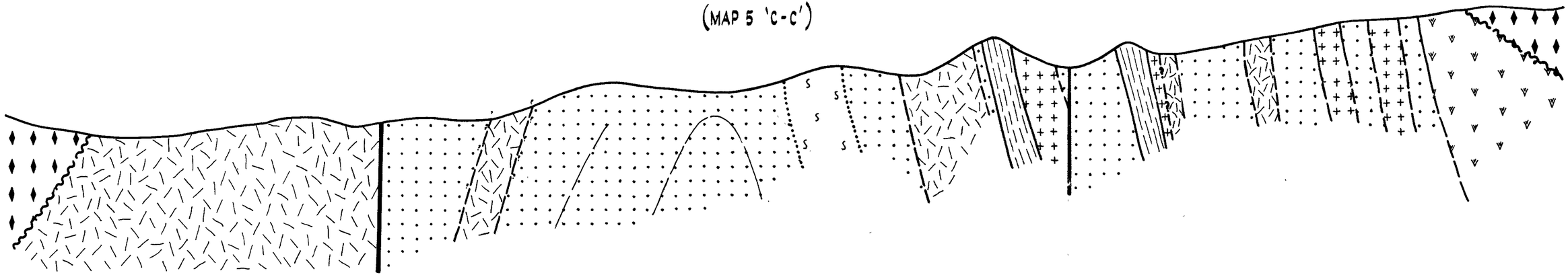
SECTION THROUGH ROARING MEG CREEK - MINER'S SLATE RIDGE.

FIG. 3

452029

EAST.

(MAP 5 'C-C')



5 cm

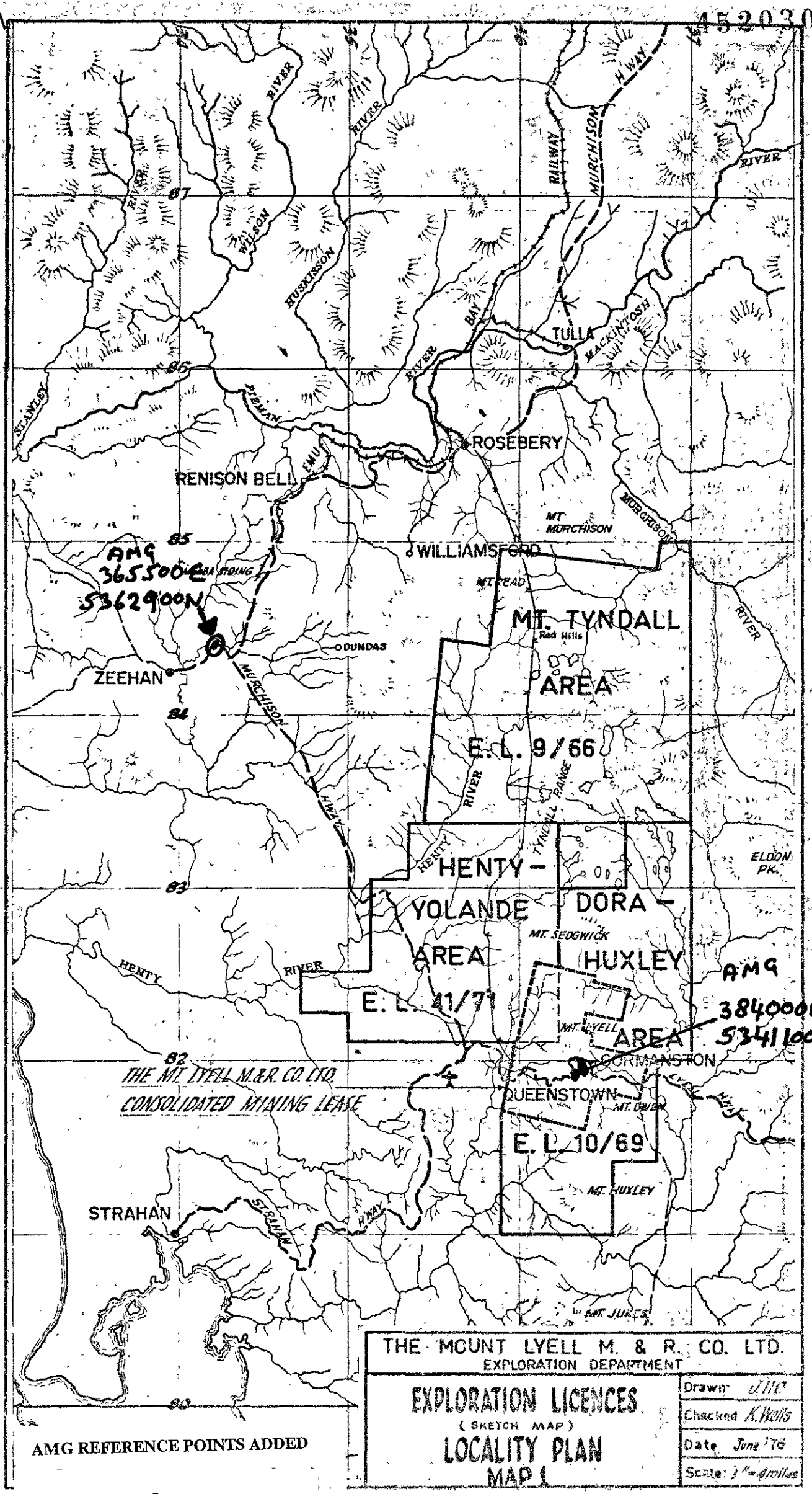
SCALE: 1:6000. HORIZONTAL & VERTICAL.

NOTE: REFER TO MAP 5 FOR KEY.

1977

027

45203O



AMG REFERENCE POINTS ADDED

5 cm

THE MOUNT LYELL M. & R. CO. LTD.	
EXPLORATION DEPARTMENT	
EXPLORATION LICENCES (SKETCH MAP) LOCALITY PLAN MAP 1	Drawn J.H.C.
	Checked K. Wells
	Date June '76
	Scale: 2 Inches = 1 Mile

76-1172

1978

357,000 YDS.E.
360,000 YDS.E.
365,000 YDS.E.
370,000
834,000 YDS.N.
830,000 YDS.N.
825,000 YDS.N.
820,000 YDS.N.
815,000 YDS.N.
810,000 YDS.N.

Henty River
Basin Lake
Mt Gelkie
Lake Dora
Lake Spicer
Lake Margaret
Mt. Sedgwick
Lake Beatrice
Comstock Creek
Comstock Open Cut
Zeehan Highway
Cape Horn
Queen River
West Lyell Open Cut
Mt Lyell
Lyell Highway
King River
Strahan Highway
AERODROME
QUEENSTOWN
GORMANSTON
Great Lyell
Whip Spur
Lynch Creek
Miners Slate Ridge
Mt Huxley
Toft River

GRADED UNIT COARSE BRECCIAS TO FINE GRAINED SEDIMENTS
UNDIFFERENTIATED VOLCANICS
GREAT LYELL FAULT
NORTH LYELL FAULT
SILURIAN
TUFFS AND SEDIMENTS
GREYWACKES
PYROCLASTIC SEQUENCE
UNDIFFERENTIATED CAMBRIAN VOLCANICS
UNDIFFERENTIATED PYROCLASTICS
UNDIFFERENTIATED POST CAMBRIAN LOWER PALAEOZOIC SEDIMENTS
WHIPSPUR TUFFS REPEATED GRADED UNITS (10 - 15?)

QUATERNARY
- ALLUVIUM / MORAINE.

JURASSIC
- DOLERITE.

PERMIAN
- TILLITE.

SILURO - DEVONIAN
- UNDIFFERENTIATED SEDIMENTS - ELDON GROUP.

ORDOVICIAN
- GORDON LIMESTONE.
- PIONEER BEDS.
- OWEN CONGLOMERATE.
- } JUNEE GROUP.

CAMBRIAN
- JUKES CONGLOMERATE.
- COMSTOCK TUFF.
- } TYNDALL GROUP.
- DORA CONGLOMERATE.
- INTERMEDIATE VOLCANICS.
- ACID LAVAS AND PYROCLASTICS.
- ACID PYROCLASTICS.
- MASSIVE ACID LAVAS GREY GREEN QUARTZ AND/OR FELDSPAR PORPHYRY LAVAS. DARWIN TYPE RHYOLITE.
- } CENTRAL LAVA SEQUENCE.
- ACID TUFFS WITH MINOR SEDIMENTS. DOMINANTLY BEDDED SHALES AND SILTSTONES WITH MINOR PYROCLASTICS. QUARTS RICH SANDSTONE.
- UNDIFFERENTIATED PYROCLASTICS.
- } QUEENSTOWN PYROCLASTICS
- SEDIMENTARY SEQUENCE - LAKE DORA AREA.
- UNDIFFERENTIATED CAMBRIAN VOLCANICS

PRECAMBRIAN
- QUARTZITE AND METAMORPHOSED SEDIMENTS.

INTRUSIVES
- QUARTZ PORPHYRY INTRUSIVES.
- INTERMEDIATE INTRUSIVES AND FLOWS.
- STRIKE AND DIP OF BEDDING.
- STRIKE OF SCHISTOSITY AND DIP.
- SYNCLINE
- ANTICLINE
- FAULT
- FAULT - INFERRED

452031

5 cm

76-11TR

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

DORA – HUXLEY AREA
E.L. 10/69
1978

GEOLOGICAL MAP

DRAWN: P. BROPHY
TRACED: R.G.WILSON
CHECKED:
DATE: JUNE 1976
SCALE: 1:15840

MAP 2

1979

LAKE DORA

LAKE SPICER

LEGEND

5 cm

QUATERNARY

- GLACIAL MORAINE.

ORDOVICIAN

- LIMESTONE - GORDON LIMESTONE.
- HAEMATITIC CONGLOMERATE - OWEN CONGLOMERATE.

CAMBRIAN

- HAEMATITIC FINER GRAINED QUARTZ CONGLOMERATE WITH MINOR SEDIMENTS. (JUKES CONGLOMERATE) } TYNDALL GROUP
- CONGLOMERATE WITH QUARTZITE AND VOLCANIC FRAGMENTS. (DORA CONGLOMERATE)

CENTRAL LAVA BELT

- LAPILLI TUFF CONTAINING FRAGMENTS OF QUARTZ FELDSPAR PORPHYRY.
- "TUFF LAVA" - PORPHYRITIC ACID LAVA WITH QUARTZ/FELDSPAR XENOLITHS AND MINOR ROCK FRAGMENTS.
- QUARTZ - FELDSPAR PORPHYRITIC LAVA OR EQUIVALENT MEDIUM GRAINED INTRUSIVE, STRONG CHLORITE - SERICITE ALTERATION.
- FINE TO COARSE GRAINED LITHIC TUFF WITH FREQUENT CONSPICUOUS XENOCRYSTS OF QUARTZ.
- SIMILAR TUFFACEOUS SEQUENCE BUT EXTENSIVE CHLORITE - HAEMATITE - SERICITE ALTERATION AND MINOR DISSEMINATED SULPHIDES.
- UNDIFFERENTIATED VOLCANICS.

- QUARTZITES, SHALES AND MINOR SILTSTONES WITH THIN QUARTZ PEBBLE CONGLOMERATE AT BASE.

PRECAMBRIAN

- DEFORMED, METAMORPHOSED QUARTZITES - QUARTZ MICA SCHISTS.
- QUARTZ - FELDSPAR - HORNBLENDE PORPHYRY.

- 300/60 TRUE STRIKE AND DIP OF BEDDING.
- STRIKE AND DIP OF FOLIATION.
- GEOLOGICAL BOUNDARY.
- INFERRED GEOLOGICAL BOUNDARY.
- -?- POSTULATED GEOLOGICAL BOUNDARY.
- FAULT.
- INFERRED FAULT.
- SYNCLINE.
- UNCONFORMITY.
- OLD WORKINGS.

TRUE NORTH

452032

THE MOUNT LYELL M. & R. COY. LTD. GEOLOGICAL DEPARTMENT	DRAWN P. BROPHY.
	TRACED. R.G.WILSON.
	CHECKED.
DORA – HUXLEY AREA E.L. 10/69 78-117	DATE. JUNE 1976
	SCALE. 1" = 500' 1:6000
LAKE DORA GEOLOGICAL MAP 1979	MAP 3

LAKE BEATRICE

LEGEND

QUATERNARY

- GLACIAL MORAINE AND SCREE.

JURASSIC

- DOLERITE.

PERMIAN

- TILLITE.

ORDOVICIAN

- BORDON LIMESTONE.
- HAEMATITIC CONGLOMERATE (OWEN CONGLOMERATE)

CAMBRIAN

- HAEMATITIC CONGLOMERATE WITH DOMINANTLY QUARTZITE FRAGMENTS (JUKES CONGLOMERATE) } TYNDALL GROUP
  MINOR ACID LAVAS.
- CONGLOMERATE CONTAINING SUBROUNDED FRAGMENTS OF QUARTZ PORPHYRY, QUARTZITE AND SERICITIC ACID VOLCANICS.
- PYROCLASTIC SEQUENCE CONTAINING MEDIUM GRAINED TO LAPILLI TUFFS (ASH FALL) PARTLY HAEMATITIC WITH ISOLATED AGGLOMERATE LENSES, MINOR SHALE HORIZONS PLUS RESTRICTED LEAD - ZINC MINERALISATION.
- ALTERED FINE GRAINED ACID LAVAS WITH MINOR HAEMATITE PLUS CHLORITE SILICIFICATION AND MINOR SULPHIDES.
- MASSIVE - SEMIMASSIVE QUARTZ PORPHYRY LAVAS WITH MINOR QUARTZ - FELDSPAR PORPHYRY LAVAS.
- BRECCIATED QUARTZ PORPHYRY LAVAS STRONGLY WEATHERED WITH MINOR WEATHERED CHLORITIC TUFFS CONTAINING LAVA FRAGMENTS, MINOR WEATHERED SULPHIDES.
- SEDIMENT SEQUENCE OF MICACEOUS QUARTZITES AND LAMINATED SILTSTONES WITH MINOR QUARTZ PEBBLE CONGLOMERATES.
- STRONGLY BRECCIATED AND ALTERED ACID LAVAS WITH EXTENSIVE DEVELOPEMENT OF HAEMATITE AND MINOR MAGNETITE AS VEINS AND BRECCIA MATRIX.

PRECAMBRIAN

- CONTORTED AND DEFORMED QUARTZITES PLUS SILICEOUS SEDIMENTS.

INTRUSIVES

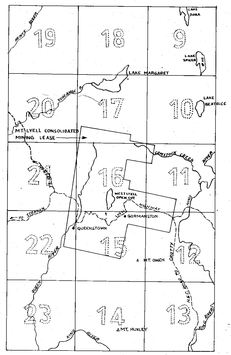
- QUARTZ - FELDSPAR PORPHYRY INTRUSIVE.

- CONTACT.
- INFERRED CONTACT.
- FAULT.
- INFERRED FAULT.
- SYNCLINE.
- ANTICLINE.
- UNCONFORMABLE CONTACT.
- APPROXIMATE STRIKE AND DIP.
- MEASURED STRIKE AND DIP.
- STRIKE AND DIP OF SCHISTOSITY.

T M

N

LOCATION



5 cm

452033

76-1172

THE MOUNT LYELL M. & R. COY. LTD. GEOLOGICAL DEPARTMENT	DRAWN. P. SROPHY.
	TRACED. R.G. WILSON.
	CHECKED.
DORA — HUXLEY AREA E.L. 10/69	DATE. APRIL 1976
	SCALE. 1" = 2000' 1:24000
MT. SEDGWICK - LAKE BEATRICE AREA GEOLOGICAL MAP 1980	MAP 4

LEGEND

1981

QUATERNARY

- MORAINE AND/OR SCREE.

SILURO - DEVONIAN

- POST ORDOVICIAN SEDIMENTS.

ORDOVICIAN

- GORDON LIMESTONE.

5 cm

CAMBRIAN

TYNDALL GROUP
- JUKES CONGLOMERATE.
- INTERBEDDED TUFFS AND SEDIMENTS.
- WEATHERED ACID LITHIC TUFFS.
- LAMINATED BLUE - GREY SHALES. COARSE GRAINED CHLORITIC CRYSTAL TUFF - COMSTOCK TUFF.

CENTRAL LAVA BELT — LITTLE OWEN PYROCLASTIC SEQUENCE
- WELDED TUFFS WITH MINOR LITHIC TUFF HORIZONS. MEDIUM - COARSE GRAINED INTERMEDIATE PYROCLASTICS. THINLY BEDDED GREY SHALES.
- ACID TUFFS MAINLY CRYSTAL LITHIC.
- FINE GRAINED ACID LAVAS.

QUEENSTOWN PYROCLASTICS
- QUARTZITE - RICH SANDSTONE / GRIT.
- FINE TO COARSE GRAINED CRYSTAL AND CRYSTAL LITHIC TUFFS WITH ISOLATED BLOCKS OF BLUE SHALE - DOMINANTLY PYROCLASTICS. LAPILLI TUFF WITH CHLORITIC MATRIX CONTAINING MINOR WELDED UNITS. TUFF BRECCIA WITH LARGE BLOCKS OF ACID LAVA UP TO 25 CM IN DIAMETER. FINE TO MEDIUM GRAINED LITHIC AND CRYSTAL LITHIC TUFFS WITH FREQUENT LAMINATED SHALE HORIZONS - DOMINANTLY SEDIMENTS. FINE TO COARSE GRAINED ACID CRYSTAL TUFF.
- UNDIFFERENTIATED PYROCLASTICS.

- UNDIFFERENTIATED CAMBRIAN VOLCANICS.
- QUARTZ - FELDSPAR PORPHYRY INTRUSIVES / EXTRUSIVES.
- BASIC, STRONGLY BRECCIATED FLOWS.
- INTERMEDIATE INTRUSIVES - PYROXENE FELDSPAR PORPHYRY.

- FAULT.
- POSSIBLE FAULT.
- GEOLOGICAL BOUNDARY.
- POSSIBLE GEOLOGICAL BOUNDARY.
- BEDDING AND FACING.
- FOLIATIONS.
- UNCONFORMITY.
- SYNCLINE AXIS.
- ANTICLINE AXIS.

UNDIFFERENTIATED POST - ORDOVICIAN LOWER PALAEOZOIC SEDIMENTS

UNDIFFERENTIATED POST ORDOVICIAN LOWER PALAEOZOIC SEDIMENTS

SECTION 10

SECTION 12

GOLF LINKS

UNDIFFERENTIATED CAMBRIAN VOLCANICS

SEDIMENTS POST ORDOVICIAN

TRUE NORTH

452034

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

DORA — HUXLEY AREA
E.L. 10/69 76-1172
ROARING MEG CREEK - MINER'S SLATE RIDGE
GEOLOGICAL MAP 1981

DRAWN.	P. BROPHY.
TRACED.	R.G.WILSON
CHECKED.	
DATE.	4:6:'76
SCALE.	1" = 500' 1:6000

MAP 5

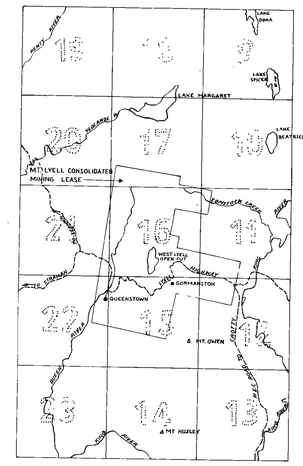
1982

KEY

Cu Pb Zn

10 + 20, 30

LOCATION



5 cm

452035

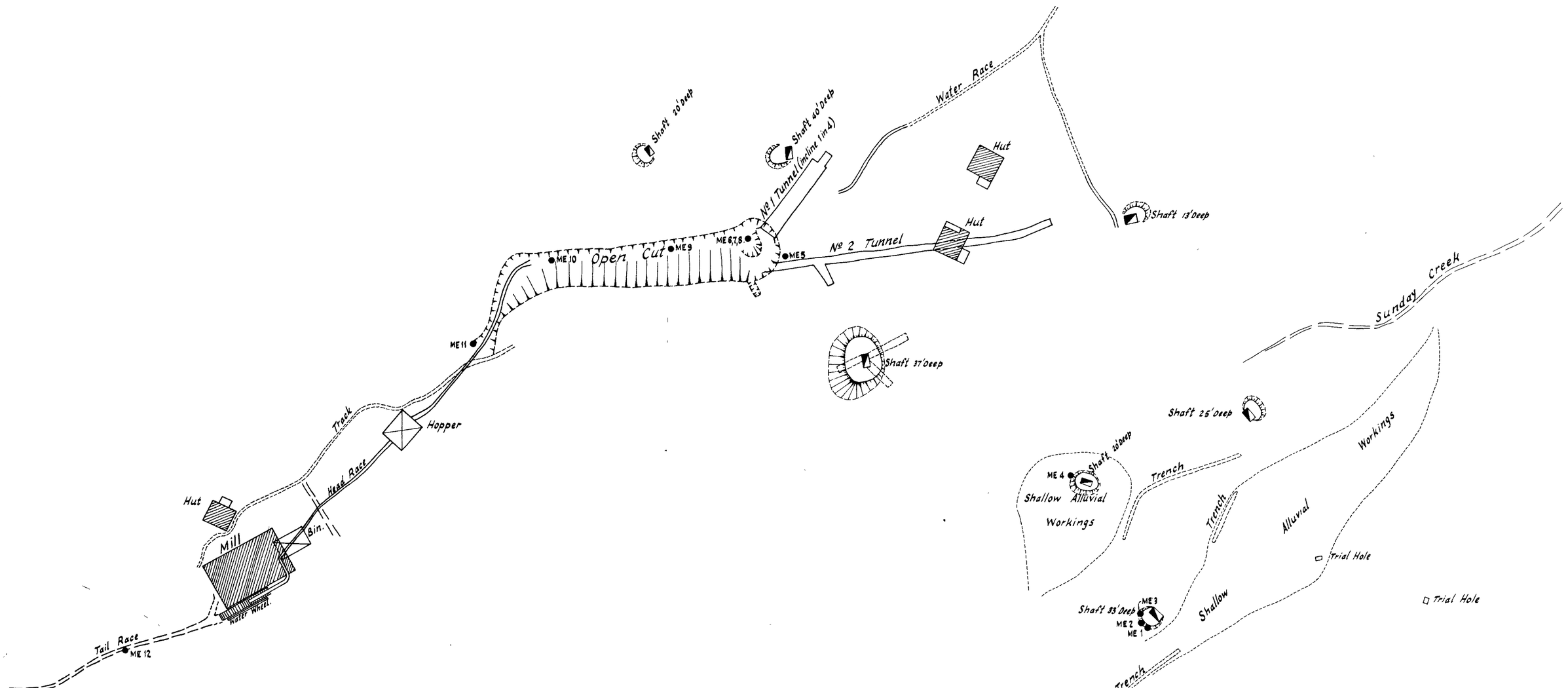
THE MOUNT LYELL M. & R. COY. LTD.
GEOLOGICAL DEPARTMENT

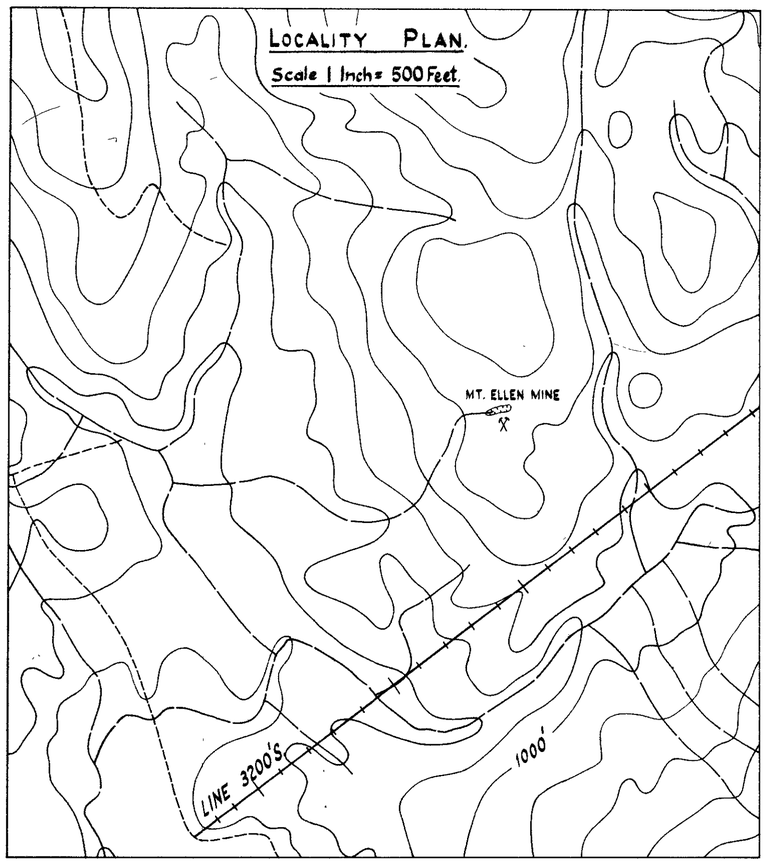
DORA – HUXLEY AREA
E.L. 10/69
76-1172

LITTLE OWEN AREA
GEOCHEMICAL DATA 1982

DRAWN	P BROPHY
TRACED	R.G WILSON
CHECKED	
DATE	30 : 10 : '75
SCALE	1" = 500' 1 : 6000

MAP 6





ASSAY DATA 1976

	Cu	Pb	Zn	Au	Ag (p.p.m.)
ME 1	156	21	57	0·05	N.D.
ME 2	197	6	10	0·01	"
ME 3	323	15	61	<0·01	"
ME 4	255	22	17	0·50	"
ME 5	141	8	15	0·04	"
ME 6	133	6	23	0·07	"
ME 7	165	3	31	0·02	"
ME 8	157	32	138	4·60	"
ME 9	541	7	21	0·33	"
ME 10	231	20	29	0·03	"
ME 11	87	11	14	0·25	"
ME 12	119	373	36	6·20	"
AVERAGE OF 12 SAMPLES.	209	44	43	1·10	

5 cm

452036 MAP 7 76-1172

THE MT. LYELL M. & R. CO. LTD.	
DORA-HUXLEY AREA MT. ELLEN GOLD MINE	DRAWN. P.B. CHECKED. DATE. April 1976 SCALE. 1"=30'

1983

Lake Dora

Lake Spicer

Lake Margaret

Lake Beatrice

Eldon Peak

Eldon River North

Eldon River South

Henty River

Basin Lake

Mt Geikie

Mt. Sedgwick

Mt. Lyell

Mt. Owen

Mt. Huxley

King River

Comstock Creek

Queenstown

Gormanston

Strahan

Murchison Highway

Lyell Highway

Aerodrome

To Hobart

To Zeehan

DH 22 23
DH 21
DH 20
DH 19
DH 14
DH 15
DH 16
DH 25
DH 24
DH 9
DH 17 18
DH 5 6
DH 7
DH 3 4
DH 1 2
DH 8
DH 10
DH 11

SS 13
SS 25
SS 26
SS 34
SS 35
SS 44
SS 45
SS 31
SS 32
SS 36
SS 27
SS 33
SS 41
SS 37
SS 28
SS 38
SS 46
SS 47
SS 30
SS 39
SS 40
SS 14
SS 15

355,000yE
360,000yE
365,000yE
370,000yE
830,000yN
825,000yN
820,000yN
815,000yN
810,000yN

5 cm

TRUE NORTH
MAGNETIC NORTH

SS - STREAM SEDIMENT SAMPLE.
DH - ROCK CHIP SAMPLE.

MAP 8

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

DORA - HUXLEY (E.L. 10/69)
ROCK CHIP & STREAM SEDIMENT SAMPLES
LOCALITY PLAN 1974-75, 1975-76.

Drawn: P. BROPHY
Checked:
Date: JUNE '76
Scale: 2" = 1 mile

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

Co-ordinates on State Grid.

452037 76-1172

1984