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E.L.32/90 MONTAGU PLAINS

E.L.33/90 BRITTONS SWAMP

ANNUAL REPORT TO THE DEPT. OF MINES

MINERAL HOLDINGS AUSTRALIA PTY LTD

by

Vic Threader

92-3348.

April 1992

Vic Threader and Associates Pty. Ltd.
Kingston Beach

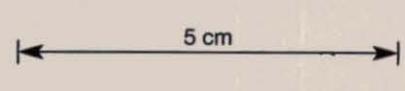
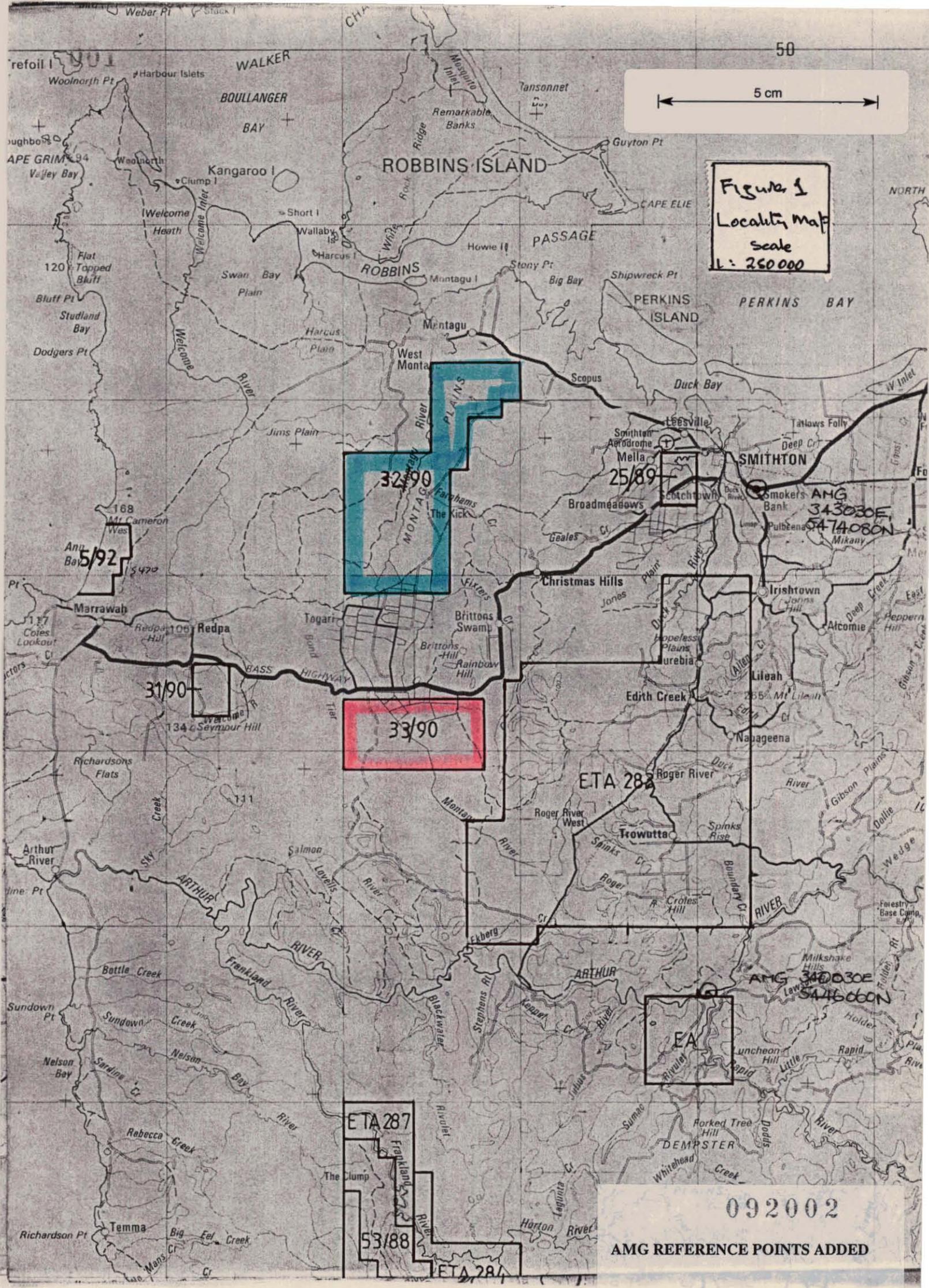


Figure 1
Locality map
Scale
1:250000



092002

AMG REFERENCE POINTS ADDED

C O N T E N T S

Introduction

Location and Access

Geology

Cave Reserve

Exploration 1991-92

Exploration 1992-93

Figures:

1. Locality map (1:250 000)
2. E.L.32/90 (1 : 100 000)
3. E.L.33/90 (1:100 000) – with Sample T1 – T11
Locations
4. E.L.32/90 (1:25 000) – showing Cave Reserve
(see Appendix)
5. E.L.33/90 (1:1 000) – Sketch map of sampling
in Cave Reserve
6. Portion of Woolnorth Map Sheet (1:175000) –
showing outcrop areas of Smithton Dolomite

Appendix

Chemical Analyses

Cave Reserve

Letter from A.P.P.M. on status of Reserve

Reprint of Pleistocene Vertebrate Remains
from a Cave near Montagu

Murray P. and Goede A. (1976) 47th A.N.Z.A.A.S.
Congr.

Introduction

The two exploration licences are separated by the farming settlement of Togari and are reported conjointly because they constitute one exploration programme for the purpose of investigating the resources of Smithton Dolomite which underlies most of the area in these two tenements.

Location and Access

Togari lies 30 km S.W. of Smithton via the Bass Highway with E.L.33/90 lying South of the highway and E.L.32/90 lying North of it and extending to within 2 km of Montagu.

Much of the terrain is low lying and parts of it are only accessible during the drier seasons.

Geology

The licence area lies in the recently completed Woolnorth geological sheet and acknowledgement is made to Dr. D. Seymour of the Regional Mapping Section of the Division of Mines for geological information and helpful discussions.

Essentially the bedrock structure is a folded sequence of Eocambrian and Precambrian sediments which brings the Smithton Dolomite in the Redpa area and in the Montagu River area to the surfaces. The low lying nature of the terrain is a consequence of the solution erosion of the Smithton Dolomite throughout the licence area.

Exploration 1991-2

Exploration to date has been confined to searching for outcrops, aided by D. Seymour's mapping, for surface sampling. Montagu Plains was particularly difficult in this regard as most of the outcrop occurred on the banks of Montagu River. The only significant outcrops of dolomite away from the river have been declared a Cave Reserve by the owners (A.P.P.M. fig.4).

The Cave Reserve. A significant collection of megafaunal remains has been found west of the Montagu River in shallow caves in an area of about 1ha of scattered outcropping dolomite (Appendix). A.P.P.M. has made this into a Cave Reserve but have declared an area of 150ha around it, on the advice of A. Geode (a geographer who is consulting for A.P.P.M.).

The increased area contains no outcrops but relates to a water catchment and presumably aims to preserve a potential caving area.

By arrangement with A.P.P.M., a limited sampling of the outcropping dolomite in the Reserve was carried out to determine its chemistry. It was considered that, if justified by results of this work, a hammer drilling programme would be conducted in the vicinity but outside the reserve.

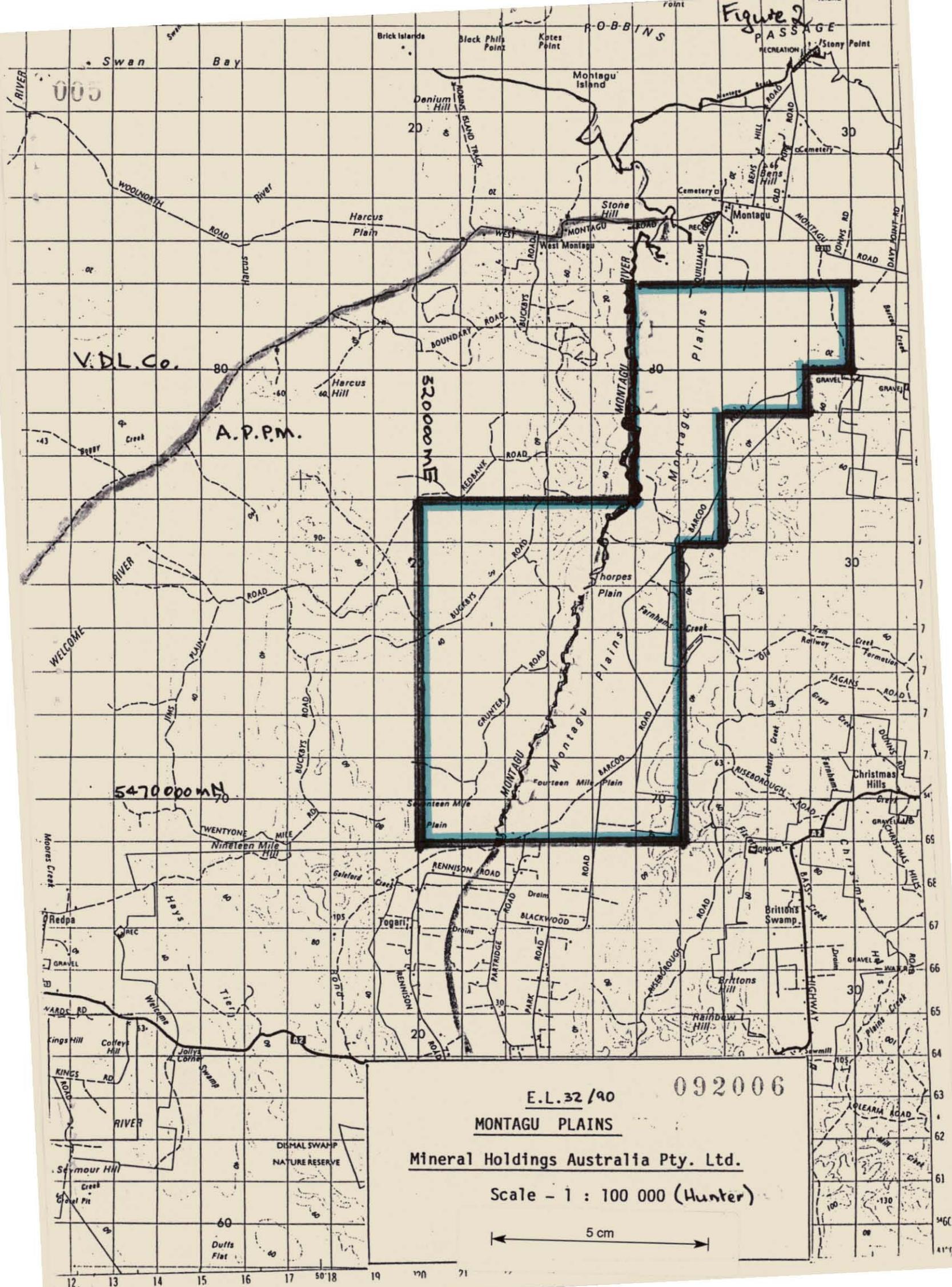
Although this Reserve has no official status there can be no doubt that a mining proposal for this area would not gain the required approvals. This has downgraded the prospectivity of Montagu Plains in its entirety and although the analytical results of the surface sampling are encouraging, the prospects of a successful mining application are not.

In the Brittons Swamp licence area a surface sample (T11) was taken from a low (2m high) mound - possibly a spring mound on the southern licence boundary. This sample was analysed for Au, Ag, Pt, Cr, Fe, Th, W, Ca and Ti. No significant levels were found. The analysis is recorded with the dolomite results.

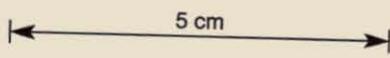
Exploration 1992-93

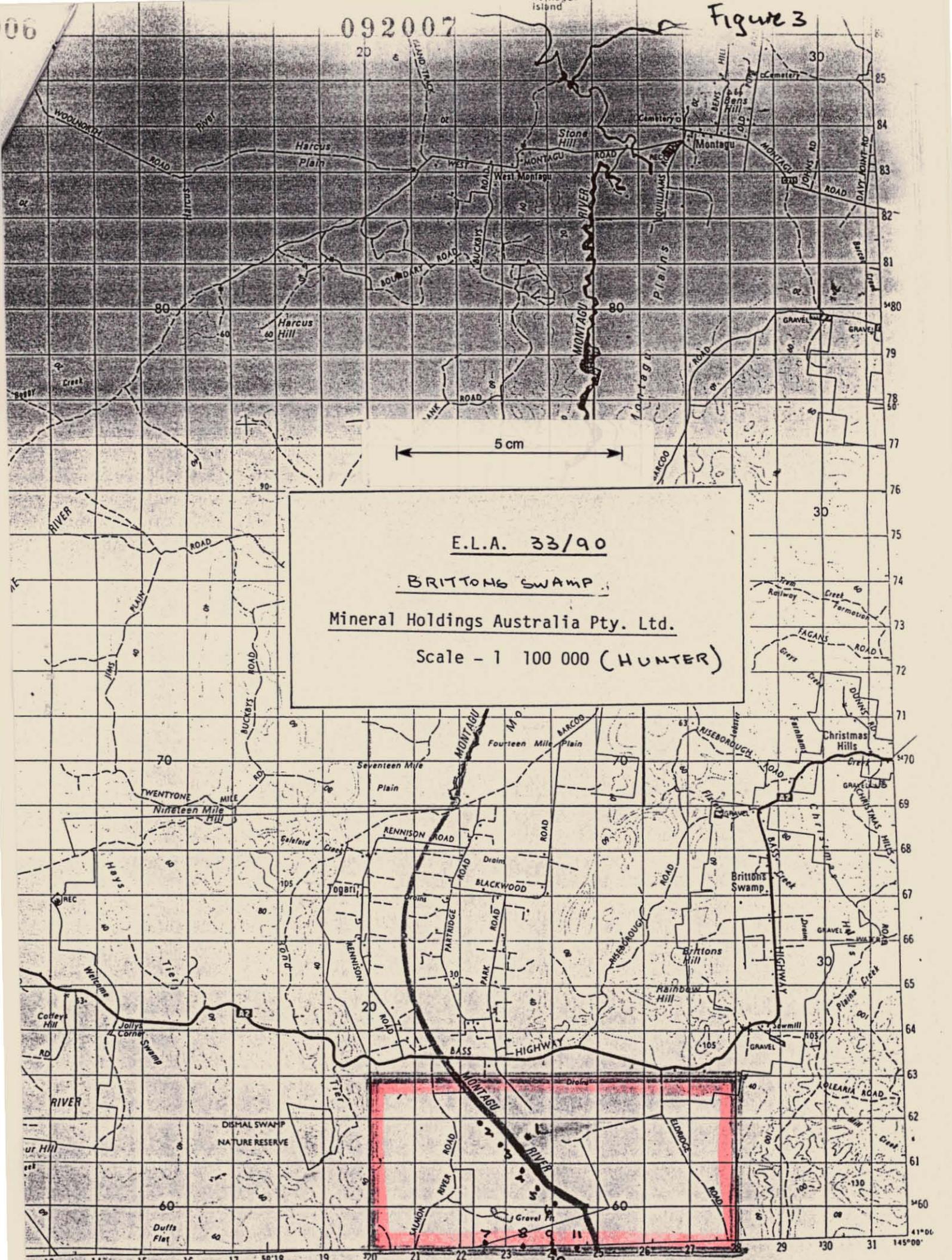
A limited hammer drilling programme is proposed to test non-outcropping areas outside the A.P.P.M. reserve to determine overburden thickness and dolomite continuity and quality. The southern area (EL 33/90) will be drilled in outcrop as well as in non-outcrop areas.

Figure 2



E.L. 32/90 092006
MONTAGU PLAINS
 Mineral Holdings Australia Pty. Ltd.
 Scale - 1 : 100 000 (Hunter)





• : Location of Samples Toqavi 1 to 11

Figure 4

092008

WN19b

CIRCULAR HEAD 44

Ward boundaries for Circular Head Municipality have been omitted pending reclamation



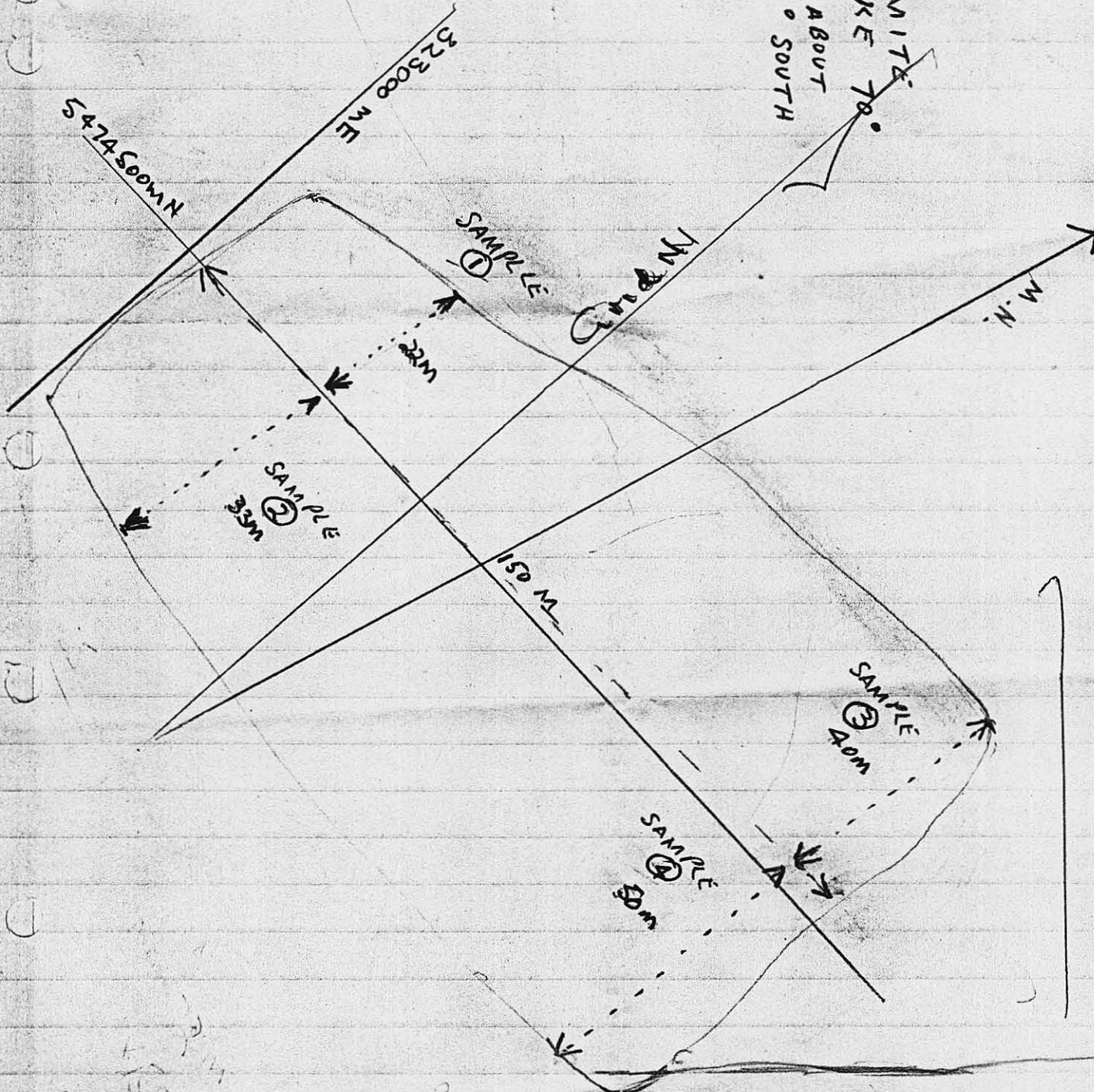
MONTAGU CAVES RESERVE AREA

KNOWN CAVES

MAP SHEET : MELLA 1:25000

Fourteen Mile Plain

DOLOMITE
STRIKE 70°
DIP ABOUT
60° SOUTH

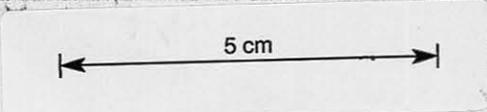


Dolomite outcrop area on Grunter Road
Montagu Plain

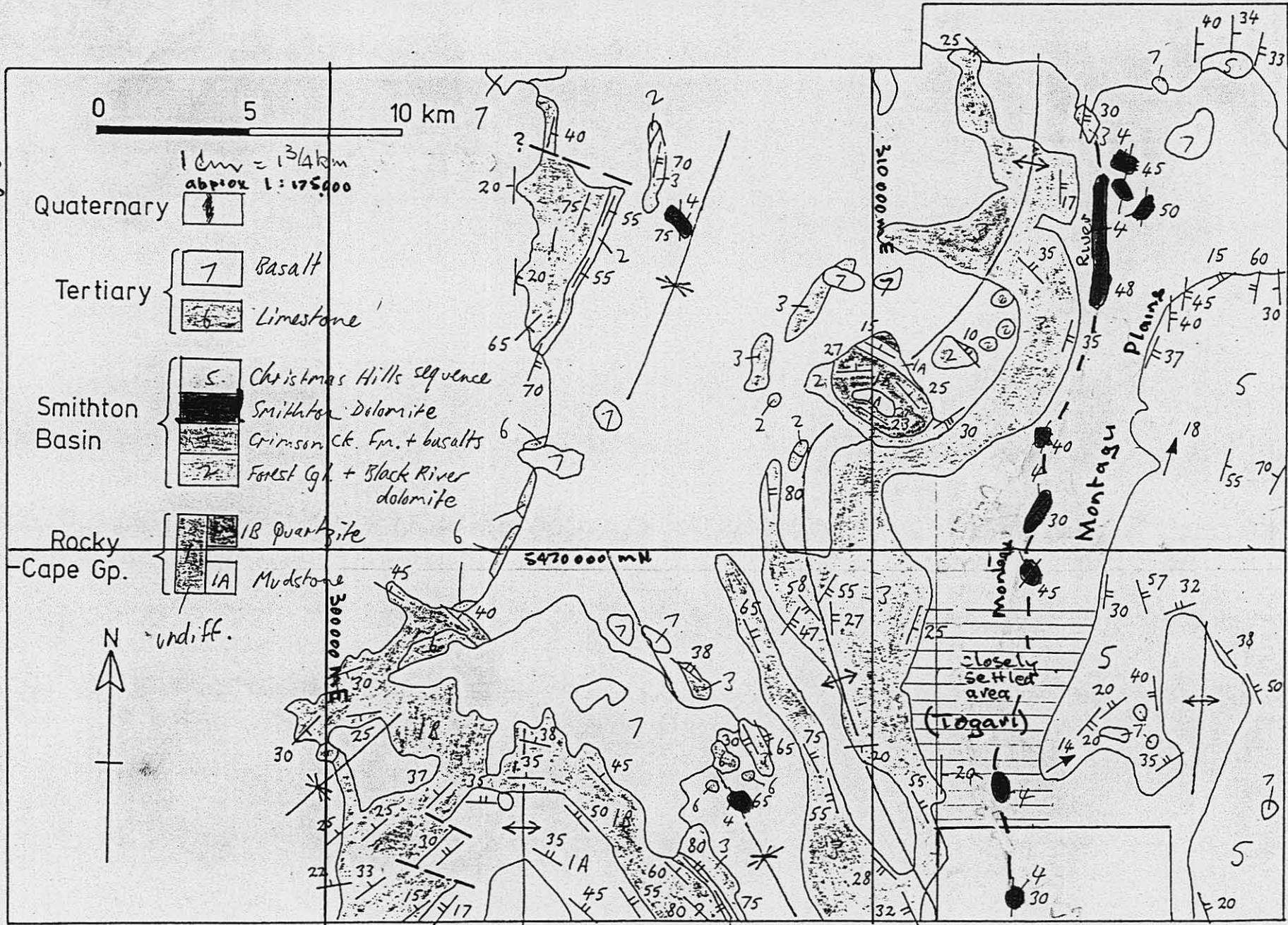
Showing sample locations and approximate
AMG lines.

Sketch map by K Pinner

Scale 1:1000



CAVE AREA
OUTCROP



Ref. Seymour D.B. & Baillie P.W. (in press) Geological Atlas

1:50000 series
Sheet 7816s Woolnorth.

5 cm



009

092010

Figure 0

A P P E N D I X

Chemical Analyses

Cave Reserve: (maps, correspondence and Reprint)

Chemical Analyses of Surface Samples

<u>Sample No.</u>	<u>SiO2</u>	<u>TiO2</u>	<u>Al2O3</u>	<u>Fe2O3</u>	<u>MnO</u>	<u>MgO</u>	<u>CaO</u>	<u>Na2O</u>	<u>K2O</u>	<u>P2O5</u>	<u>SO3</u>	<u>LoI</u>
T1	0.05	<0.01	0.05	0.08	0.01	22.09	31.59	<0.01	0.05	0.007	0.05	46.78
T2	0.41	<0.01	0.04	0.12	0.03	19.36	33.43	0.16	0.02	0.025	0.05	46.75
T3	0.15	<0.01	0.05	0.15	0.01	20.50	32.57	0.32	0.04	0.016	0.06	46.53
T4	0.03	<0.01	0.06	0.30	0.01	20.35	32.67	0.32	0.03	0.012	0.05	46.66
T5	<0.01	<0.01	0.02	0.46	0.01	19.36	32.05	0.09	<0.01	0.006	0.03	46.32
T6	<0.01	<0.01	<0.01	0.57	0.01	19.55	32.52	0.05	<0.01	0.006	0.03	46.71
T7	0.19	<0.01	0.07	0.05	0.01	19.75	32.43	0.16	<0.01	0.018	0.23	46.60
T8	0.17	0.01	0.08	0.09	0.01	20.90	31.98	0.21	0.02	0.018	0.38	46.79
T9	0.21	<0.01	0.09	0.13	0.01	20.79	33.10	<0.01	<0.01	0.005	0.08	46.33
T10	0.04	<0.01	0.09	0.10	0.01	20.22	32.10	<0.01	<0.01	0.003	0.08	46.79
M1	0.26	0.01	0.16	0.45	0.01	20.90	31.03	-	0.01	-	-	46.76
M2	0.21	0.01	0.13	0.49	0.01	21.34	31.17	-	0.01	-	-	46.96
M3	0.41	0.01	0.01	0.33	0.01	20.05	32.29	-	0.01	-	-	46.73
M4	0.14	0.01	0.01	0.45	0.01	20.29	31.28	-	0.01	-	-	46.68
Theoretical dolomite composition						21.7	30.4					47.9
T11	Au <0.02 ppm	Ag <12	Pt <0.01	Cr 240	Fe2O3 abundant	Th tr	W03 } CaO } Minor TiO2 }					

T1 - T10 (Togari) Brittons Swamp (Figure 2)³

M1 - M4 Montagu Plains (Figure 3)

T11 Surface sample shallow mound of ironstone



IN REPLY PLEASE QUOTE:

CAM:Gen-140

11 December 1991

Mr. Vic Threader,
43 Kingston Heights Rd.,
KINGSTON BEACH 7050

Dear Mr. Threader,

Enclosed is a map outlining the Montagu Caves Reserve Area on our Woolnorth property.

APPM Forests has initiated a series of reserves to protect unique non-wood values on our property. Any activity that will have a permanent impact on these values, such as logging or mining, is prohibited.

The Montagu Caves Reserve Area is extensive relative to the location of the known caves. This has been done deliberately to minimise activity in the region until we have a better understanding of the local geomorphology. Until such time the boundary as shown will remain unchanged.

I hope this clarifies the situation in this area. If you have any further queries please contact Mr. Andy Warner, Forest Management Superintendent, on (004) 30 7530.

Yours faithfully,
APPM FORESTS - BURNIE

R.J. Hills,
MANAGER

Encl.

Unpublished Manuscript

Paper presented at the 47th ANZAAS Congress, Hobart, Tasmania, May 1976.

PLEISTOCENE VERTEBRATE REMAINS FROM A CAVE NEAR
MONTAGU, N.W. TASMANIA

by

Peter Murray*

and

Albert Goede*

ABSTRACT

The results are presented of a study of vertebrate remains and associated sediments found in a small, recently discovered dolomite cave (MU-206) in north-western Tasmania. A list of species identified to date is presented and the geochronological and palaeoecological significance of the fossils is indicated.

A description is given of the evolutionary history of the cave and the character of the cave deposits is examined. This is supplemented by an assessment of the condition, completeness and relative position of the fossil material from the site.

PHYSICAL SETTING

Tasmania is a mountainous island with numerous small areas of karst, located predominantly in the high rainfall zone of the western half of the state.

* Department of Anatomy, University of Tasmania

* Department of Geography, University of Tasmania

The Montagu karst consists of two small Upper Precambrian dolomite hills rising to a maximum height of six metres above a marshy plain near the Montagu River (figure 1). It is located in the centre of an extensive coastal plain with the land sloping gently northwards towards Bass Strait. Local drainage also trends in this direction.

The area has an extensive veneer of Pleistocene and Holocene sediments ranging from shallow marine and estuarine deposits to aeolian, alluvial and paludal sediments. The Pleistocene cover is interrupted by ridges and isolated outcrops of basement rocks which are predominantly Upper Precambrian and Cambrian in age. A description of the regional geology is given by Gulline (1959). The Precambrian outcrops consist of quartzites, conglomerates and dolomites (Smithton Dolomite) and are widespread. Cambrian rocks include siltstones, tuffs, greywackes, breccias and conglomerates as well as some basic volcanic rocks.

Marine and freshwater Tertiary sediments, including limestones, are of limited extent. They are generally flat-lying in contrast to the strongly folded Precambrian and Cambrian rocks. Outcrop of Tertiary basalts occur locally but are extensive only in the south-east corner of the area shown in figure 1.

Pleistocene high sealevels are indicated by the presence of raised shorelines associated with shallow marine deposits and relict coastal dunes. Further east, three raised shorelines described by Chick (1971) are suggested to be of Last Interglacial age. The highest stands at approximately 20 metres above higher high water mark. Regression of the Pleistocene sea from maximum levels is indicated by extensive series of beach ridges. Some of the older series have been almost completely buried by subsequent peat accumulation.

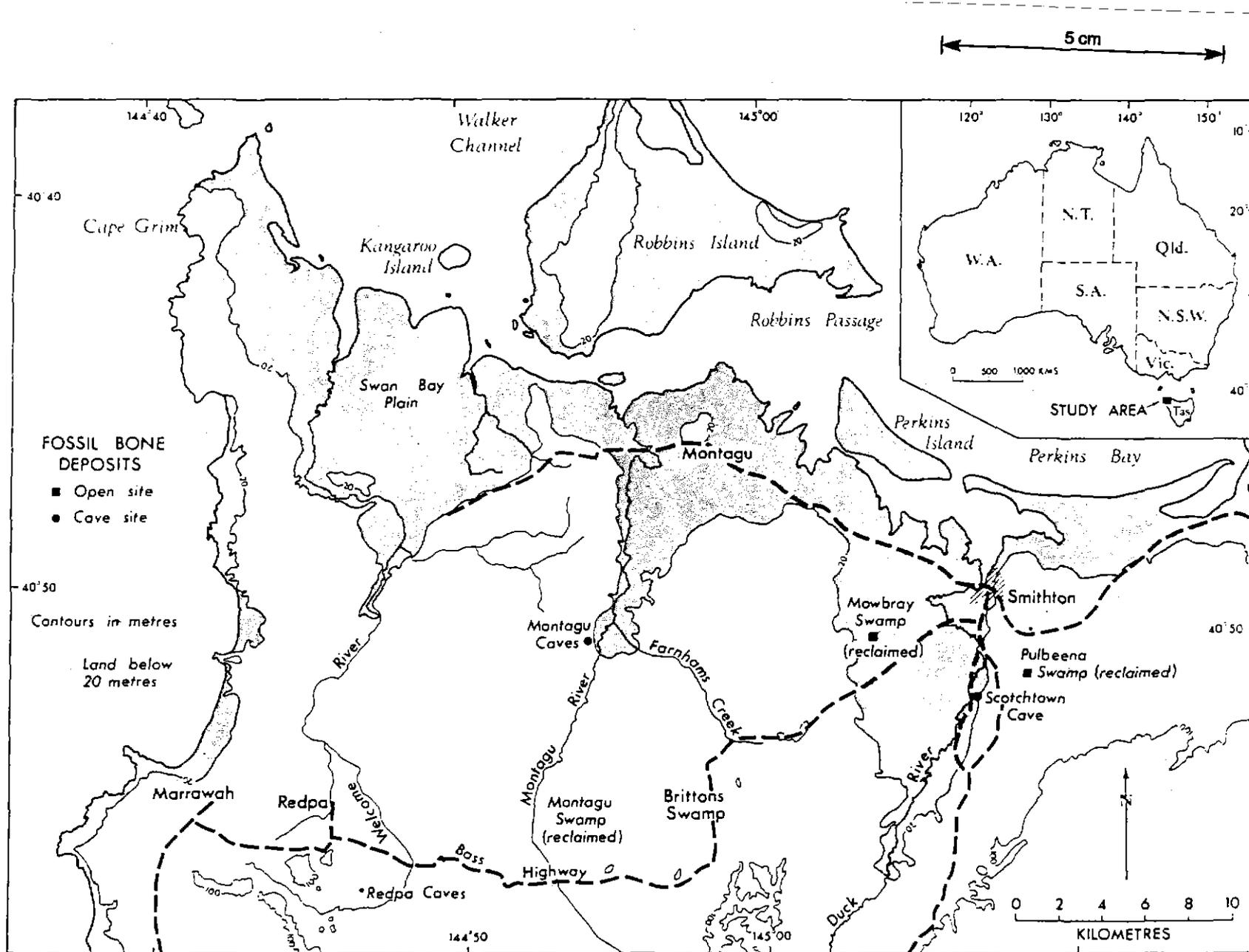


Figure 1 Location map of northwestern Tasmania

U10
Artesian springs occur locally in association with deposits of peat and freshwater algal marl. Those near Mella (Mowbray Swamp) are associated with well developed spring mounds. Both the Mowbray and Pulbeena springs are characterized by a very high carbonate content (400 p.p.m. at Mella and 750 p.p.m. at Pulbeena) indicating the presence of dolomite below the Pleistocene sediment cover. Pleistocene vertebrate remains have been recovered from both sites (Gill and Banks, 1956; Hope, 1973). Remains have also been recorded from a small dolomite cave (Scotchtown Cave) discovered near Smithton during mining operations in 1942.

The Montagu area is located approximately 41° South and 140° East. It is characterized by a mean annual temperature of approximately 13°C . The mean temperature of the warmest month (February) is close to 17°C while the mean temperature of the coldest month (July) is just above 9°C . The mean annual precipitation is 115 cm with a winter maximum. Not less than 35% of the annual precipitation falls in the three winter months (June-August) but only 15% during the three summer months (January-March).

The Montagu karst is within a wet sclerophyll forest giving way to swamp associations in poorly-drained portions of the surrounding plain. Three caves are known in the area. All contain deposits which include vertebrate remains. Main Cave (MU-201) and Pleisto Scene Cave (MU-206) are located on the western side of the Grunter Road, while the third, an unnamed cave (MU-203) is found in a dolomite outcrop on the opposite side of the road. The direction of dip of the dolomite is SW with the angle of dip varying from 35° to 58° . All the known cave entrances are located on the anti-dip side of the hills where they rise steeply from the surrounding country to form low cliff faces up to 5 metres high. The opposite south-east facing slopes merge gradually into the plain.

PLEISTO SCENE CAVE (MU-206)

Surveyed by: A. Goede, P. Murray
and D. Charlesworth

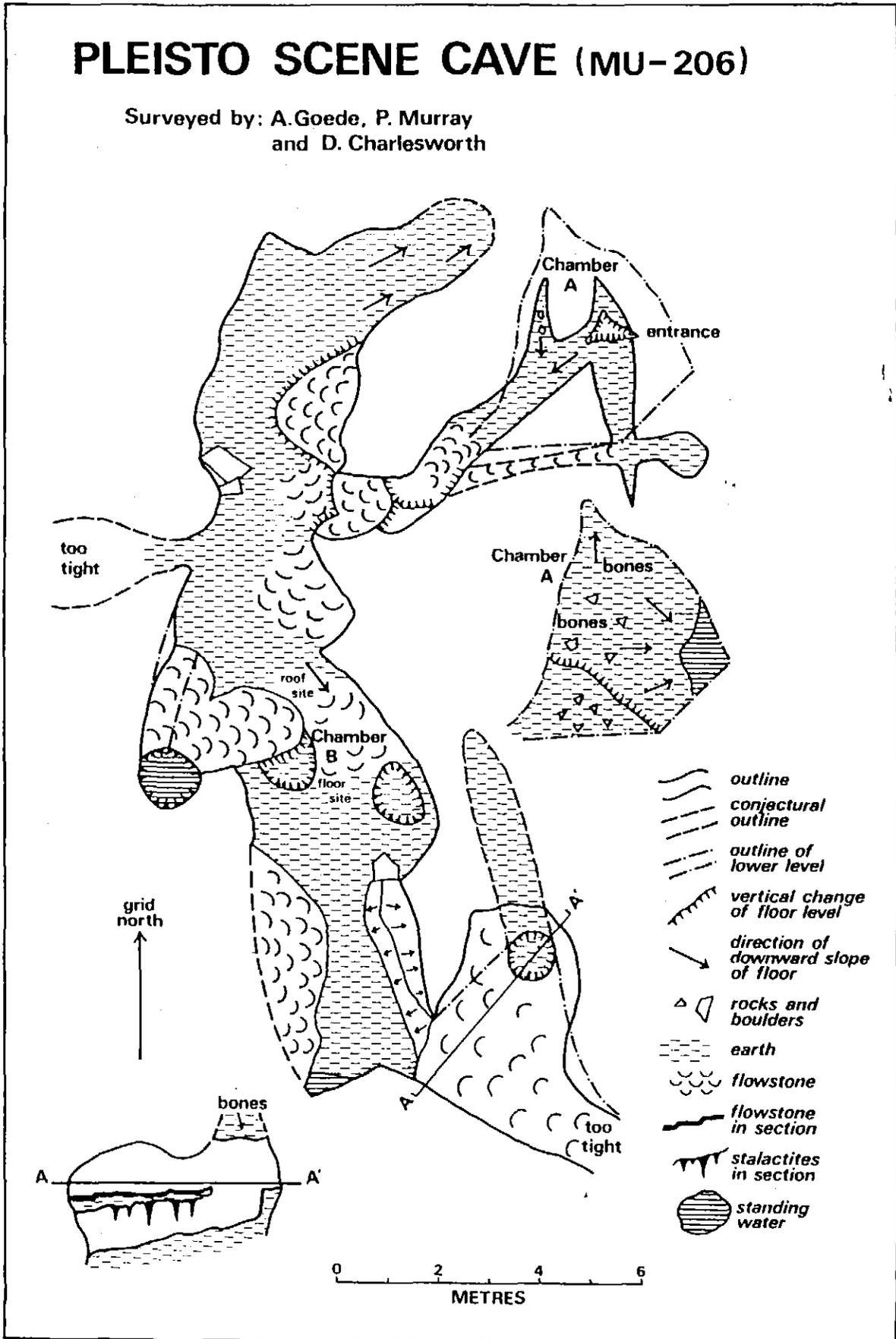


Figure 2 Survey of Pleisto Scene Cave, Montagu

5 cm

Fig. 10

Sketch of the Montagu area
and its inhabitants during
the period of time
represented by Bed 3B.
Note fallen animal, and
rodents, onlooking
scavengers near the entrance
of the shaft.



092019