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FINAL REPORT E.L. 2A/79

MARRAWAH - RED PIT AREA, TAS.

By R. POLTOCK.

COMM. ALUM. CORP.

FEB 1980

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FINAL REPORT ON EXPLORATION LICENCE 24/79

MARRAWAH - REDPA AREA, TASMANIA.

BY R. POLTOCK

COMM. ALUM. COOP.

Introduction (By P.W. Stainton):

Natural zeolites occur in Tasmania, particularly in Tertiary basaltic tuffs and agglomerates close to volcanic vents. The zeolite mineral of economic significance is Na-nil chabayile which had been described (Sutherland and Corbett, Pap. Roy Soc. Tas. p.p. 71-90, 1967) occurring in the Redpa area.

chabazite?

Natural zeolites are an industrial mineral commodity used as a filler for paper, in pozzolanic cements and concrete, as lightweight aggregate, in fertilizer and soil conditioners, as ion exchangers in waste-water treatment, as dietary supplement in animal husbandry in the separation of N₂ and O₂ from air, as reforming petroleum catalysts and absorbents in gas drying and purification.

The Exploration licence was therefore applied for in August 1979 in the Marrawah-Redpa area and subsequently granted commencing January 15th 1980.

However, due to company re-organisations, circumstance, E.L. 24/79 was surrendered on the 15th July 1980.

As such, only a reconnaissance geological report was conducted by R. Poltock which is herewith reproduced:

Reconnaissance Geology E.L. 24/79

by R. Poltock (Feb. 1980)

The Marrawah - Redpa area lies about 45km by road sw of Smithton in NW Tasmania, the lease of 105km is readily accessible. farmlands have been developed on the basaltic soils.

Basaltic breccias and pillow breccias are dominant rock types, the Marrawah Volcanics of Sutherland and Corbett, 1967. These rocks form a plateau rising 100m A.S.L. with Seymour Hill the highest point at 134m A.S.L. Outcrop is generally poor, the breccia weathering deeply, exposures restricted to road cuttings and road metal quarries. A total of 23 samples taken, six of these bulk samples form the freshest zeolitised basalt, see Table 1. The freshest exposure occurs in Linnans Road quarry on the Bass Highway.

The coastal plain, representing the "Henty Surface" surrounds the plateau and is underlain by Tertiary limestones, Pre-Cambrian Quartzites, dolomites and limestones and the Cambrian Dundas Group mudstones, Sutherland & Corbett, 1967. This lowland and the beaches have been recently prospected for tin.

TERTIARY BASALTS

The basalt plateau is 25km² in area and elongate SE-NW, this reflects trends in the Pre-cambrian - Cambrian sediments and a major fracture extending NNW from the vicinity of Balfour. Extrusion of the basalts may have occurred along this fracture.

Estimates on thickness of the basaltic unit is dependent on whether the Tertiary limestones in the area are considered to be older or younger than the basalts.

1. Sutherland & Corbett, 1967. "The volcanics overlie "Younger" PreCambrian rocks and are disconformably overlain by Miocene limestones. The thickness of the volcanics is unknown but is at least several hundred feet" see Fig.1. Evidence for this see Sutherland & Corbett, 1967, p.83.

2. Alternatively if the limestones underlie the basalts an approximate lower limit can be set. Evidence for this - Limestone outcrops are restricted to the edges of the basalt plateau where they dip shallowly towards the basalt. - Limestone beds at Green Point extend north to Mt. Cameron where the contact is exposed with the overlying basalts.

If 2, is correct then the upper limit of the limestone lies at about 40-50m A.S.L. and the average height of the basalt plateau is 90m A.S.L. Therefore the thickness would be about 40-50 metres.

Although the basaltic unit is comprised primarily of breccias variations do occur, the extent of these are unknown, most outcrops being small and separated by at least 500 metres.

a. MARRAWAH - GREENS POINT

Scattered outcrops of highly irregularly jointed fine grained basalts. These are probably composed entirely of pillows. These more massive rocks resist weathering and contain very little zeolite.

b. Junction of Bass Highway - Arthur River Road to

500m east of Chequers Road. Vesicular basalts with some zeolite fillings and fine pillow units outcrop. These are weathered, contain minor zeolite. (SEE LOCATIONS 12-14, MAP I)

c. Bowood Hill - Seymore Hill

These basaltic hills are separated from the main plateau by the Welcome River valley. Rocks here are very fine fragmentals or breccias containing scattered larger fragments up to 2cm. This basalt is massive, poorly jointed, resists weathering and contains little zeolite.

The most prospective zone in the basalts for zeolite mineralization appears to be the area NE from Green Point Road to A. Green's property on the Old Montague Road. This view may be biased by the fresher outcrops in this area, the zeolite being difficult to recognise in weathered rocks. The Linnanes Quarry area may be separated from this breccia basalt by more massive pillow and vesicular basalts which may extend NE from Chequers Road area to Station Hill.

The owners of property in the areas where zeolitised rocks are exposed (ARE SHOWN ON MAP 2)

In addition to zeolite the Marrawah area may be prospective for tin, previous work has been carried out sampling recent sands along Anne Bay to the north of E.L.24/79. This area is underlain by Tertiary limestones which do not appear to contain any gravel horizons, suggesting that the tin has been transported, being deposited either by along shore drift from further south on the west coast or by a pre-basaltic stream. The latter may have had a source to the SE in the Balfour area.

E.L. 24/79MARRAWAHROCK SAMPLES

NO.	CO-ORDS	DESCRIPTION
1	5467500N/305500E	Breccia with pillows, weathered
2	5467300N/305300E	Fine grained, highly jointed, fresh, pillows
3	5467350N/305100E	Quartzite
4	546700N/304950E	Breccia weathered
5	5467550600N/305500600E	<u>BULK</u> Breccia including pillow lavas
6	5467550N/305700E	Breccia weathered
7	5468550N/306800E	<u>BULK</u> Breccia with pillows
8	5468900N/307300E	<u>BULK</u> Breccia, fine usually, some blocks 2m
9	5465850N/304800E	<u>BULK</u> Breccia, minor pillows
10	5467450N/304700E	A. Fine grained pillows, fresh B. Breccia thin layer over A. fragments of Tertiary limestone over B.
11	5466100N/305250E	Breccia weathered
12	5465850N/305900E	Pillows
13	5465350N/306550E	Vesicular basalt, vesicles filled with zeolite
14	5465200N/306700E	Massive, fine highly jointed
15	5464850N/309150E	<u>BULK</u> Breccia some massive. Fresh
16	5461800N/311800E	Breccia fine
17	5461850N/311550E	Breccia fine
18	5460950N/311700E	Breccia fine
19	5461100N/311000E	Breccia fine
20	5466450N/310700E	<u>BULK</u> Breccia, weathered
21	5467200N/308300E	Massive, very jointed and breccias
22	5467250N/307600E	Massive, very jointed, weathered
23	546540N/311900E	Breccia with pillows, weathered

Note: Analyses were NOT carried out on these samples



EXPL. LICENCE N° 24/79

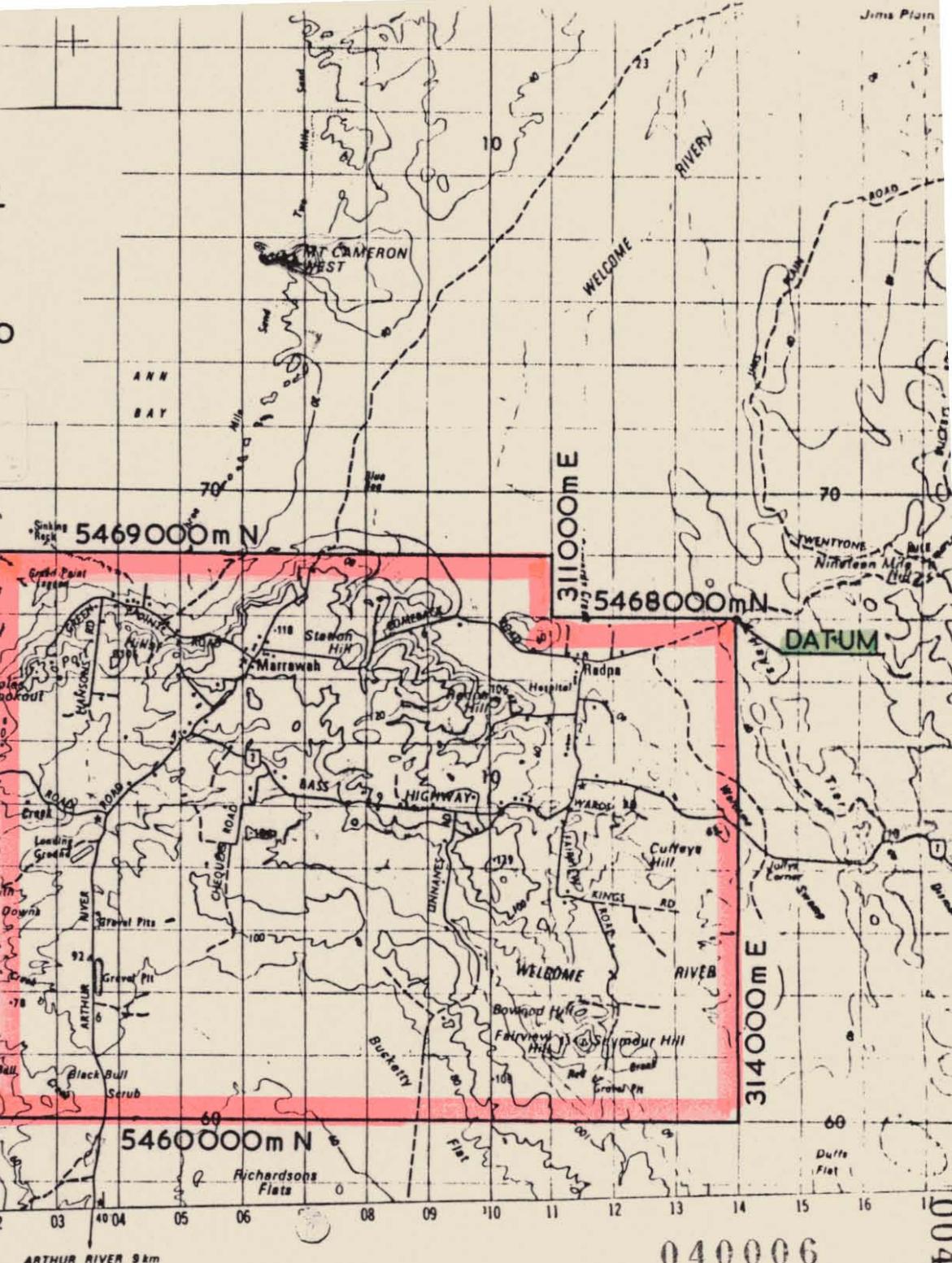
MARRAWAH Area

Part of "Welcome" 1 : 100,000 topographic sheet

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BAY

E.L.24/79 - MARRAWAH

GEOLOGY, Scale: 1:50,000

KEY: MAP 1

RECENT - Sands

TERTIARY - Basalt breccia

Massive

Limestone

CAMBRIAN - Mudstones

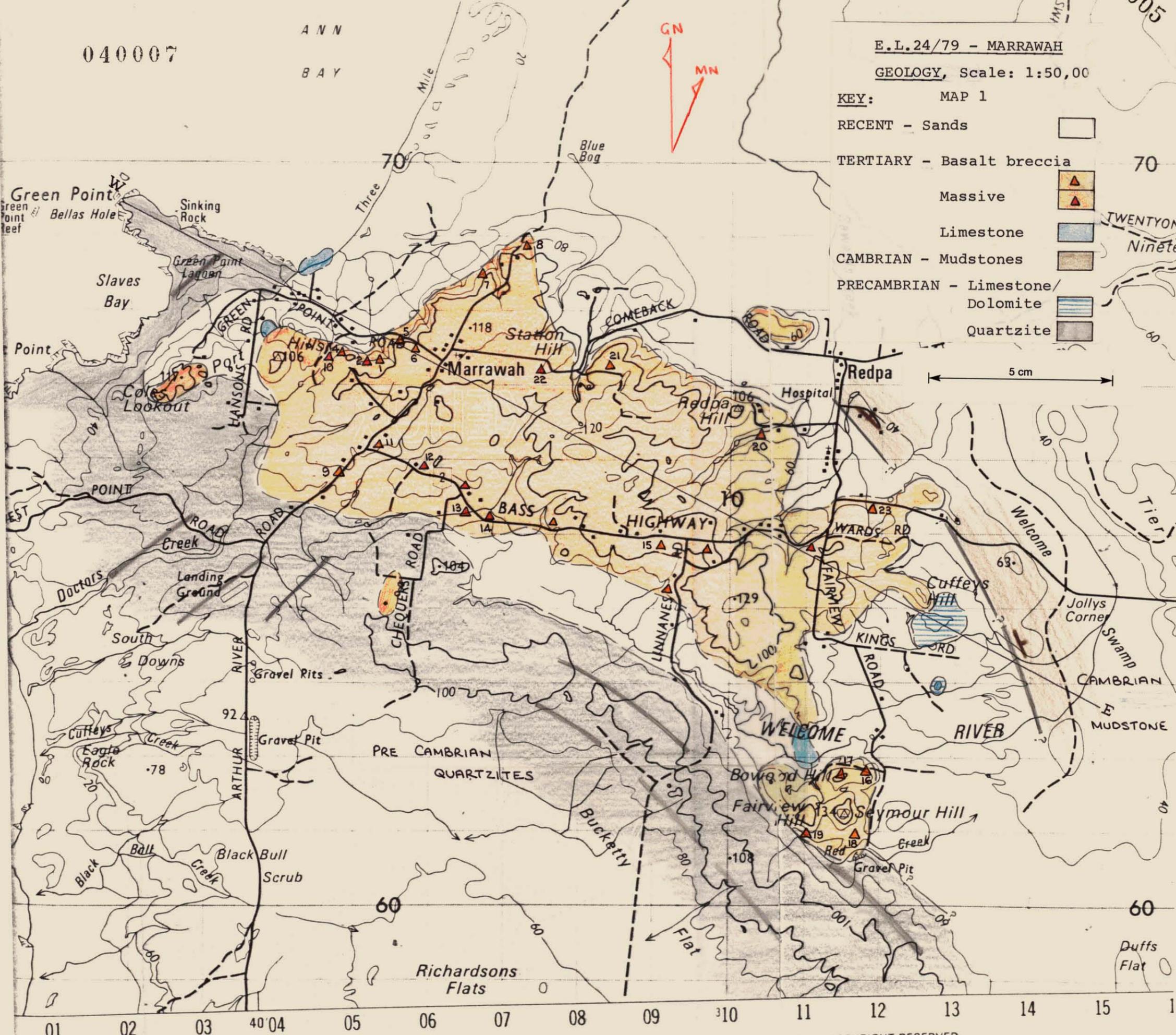
PRECAMBRIAN - Limestone/ Dolomite

Quartzite



TWENTYON
Ninete

5 cm



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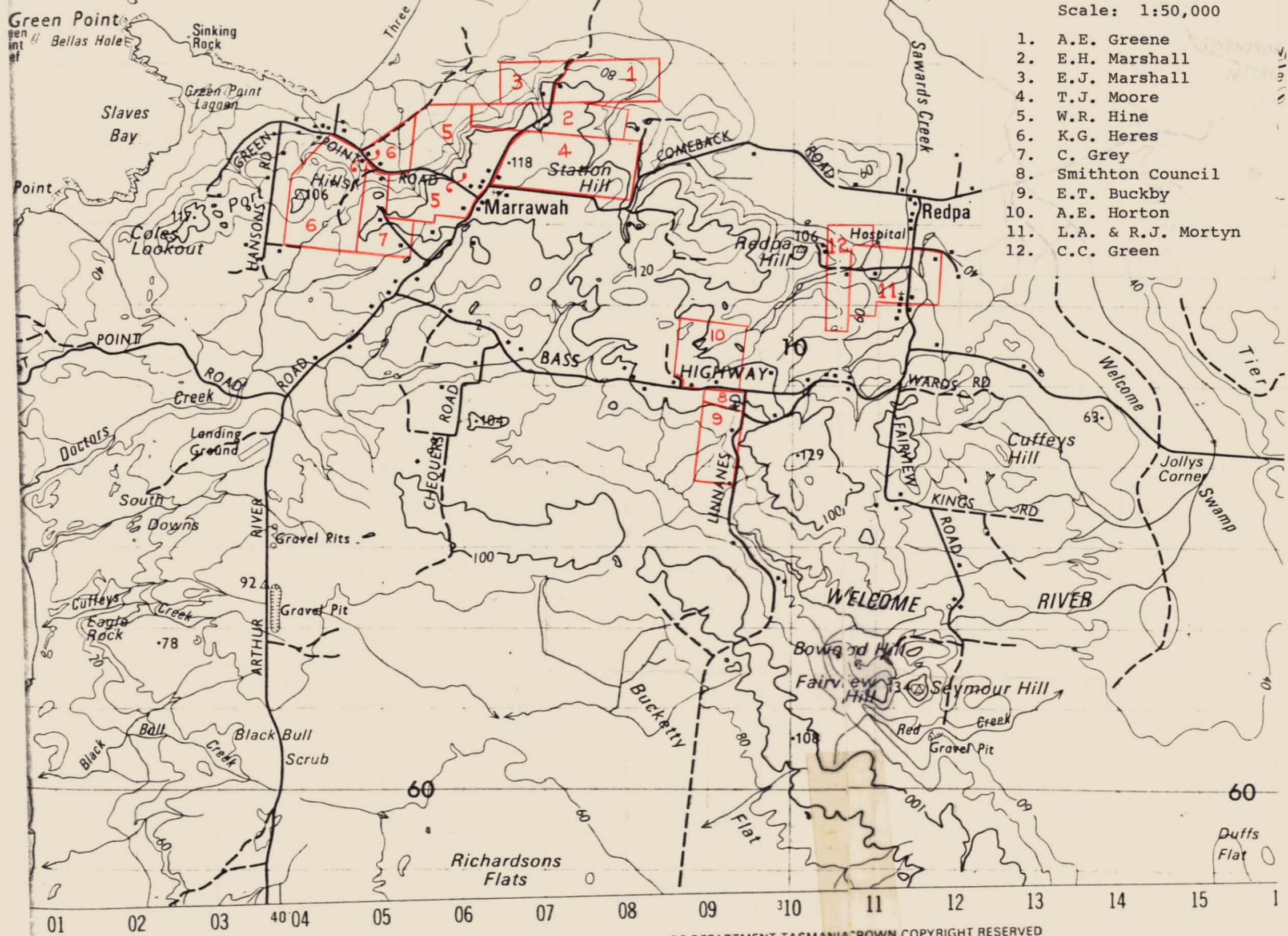
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E.L.24 '79 - MARRAWAH

LAND HOLDERS - MAP 2

Scale: 1:50,000

- 1. A.E. Greene
- 2. E.H. Marshall
- 3. E.J. Marshall
- 4. T.J. Moore
- 5. W.R. Hine
- 6. K.G. Heres
- 7. C. Grey
- 8. Smithton Council
- 9. E.T. Buckby
- 10. A.E. Horton
- 11. L.A. & R.J. Mortyn
- 12. C.C. Green



20 METRES