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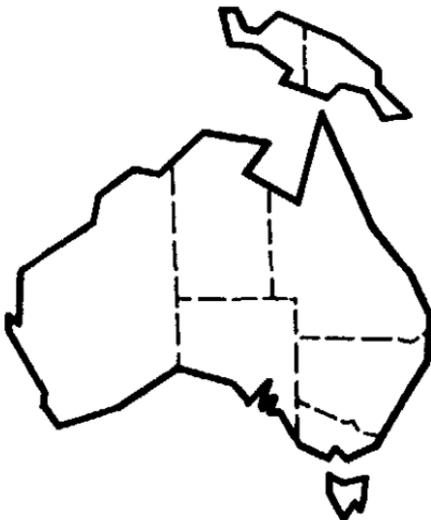
Exploration Department

EXPLORATION LICENCE 30/80

SOUTH-EAST TASMANIA

REPORT FOR THE SIX MONTHS ENDED

15TH APRIL, 1982



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EXPLORATION LICENCE 30/80

SOUTH-EAST TASMANIA

REPORT FOR THE SIX MONTHS ENDED 15 APRIL, 1982

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APPENDIX 1 : PETROGRAPHIC DESCRIPTIONS

FIGURE 1. EL 30/80 South East Tasmania
Locality Map

A4-2261

145°

146°

147°

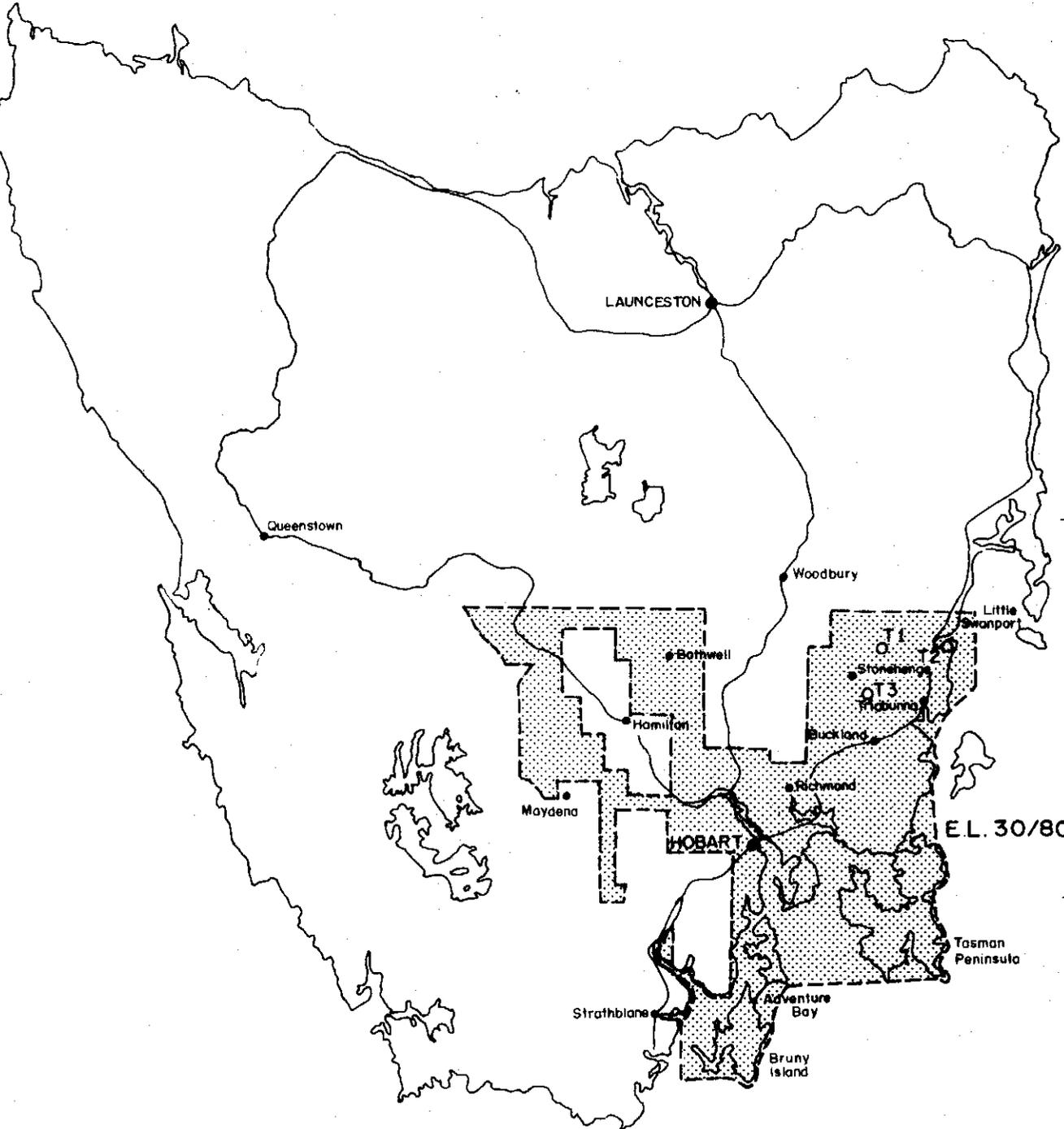
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148°

41°

42°

43°



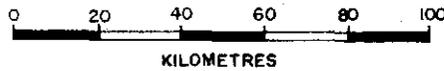
E.L. 30/80



E.L. 30/80

OT2 Diamond drill hole.

5 cm



Centre
Melbourne

Date
OCT 1981

THE BROKEN HILL PROPRIETARY CO. LTD.
E.L. 30/80
SOUTHEAST TASMANIA
LOCALITY MAP

Project No.
C350-2
Drawing No.
A4-2261

EXPLORATION LICENCE 30/80SOUTH-EAST TASMANIAREPORT FOR THE SIX MONTHS ENDED 15 APRIL, 19821. Title

The BHP Company Limited was granted Exploration Licence 30/80, covering 12,900 square kilometres in South-East Tasmania (Figure 1) on 15 April, 1982, for six months. The licence was renewed for twelve months to 15 October, 1982.

2. Exploration Philosophy

Minerals south are coal, oil and oil shale. Small quantities of coal have been known in Triassic sedimentary rocks throughout EL 30/80 for over one hundred years. Sporadic exploration has been carried out over this period. Small mines have operated in the past, but these deposits are uneconomic by modern standards.

Since all known coal occurrences in the licence area had previously been indicated to have sub-economic reserves, it was decided to drill three wildcat holes. The programme, which was carried out in August, 1981, was designed to test Upper Triassic rocks in the north-east of EL 30/80. No coal was found.

The current programme is intended to eliminate a large proportion of the licence area from further exploration, and to define possible targets for Triassic coal measures in the area retained.

3. Summary of Previous Work

- i) Literature survey and review of available data.
- ii) Drilling of three scout diamond drill holes, T1, T2 and T3 (of 52.0, 83.0 and 98.3m respectively) in the Buckland-Little Swanport area.
- iii) Sampling and analysis of selected intervals of drill core from drill hole T3 (three samples for a range of base metals and precious metals) and T2 (one sample for coal analysis).

- 2 -

4. Work During the Six Months Ended 15 April, 1982

Seven core samples from drill hole T3 were submitted for petrographic examination. Five of the samples are glauconitic sandstone, and two are dolerite. No significant mineralisation was noted. Descriptions are presented in Appendix 1.

Re-assessment of the potential of the Permo-Triassic sequence in EL 30/80 for coal began during the six months. Discussions were held with personnel of the Department of Mines. Literature research continued. All available maps and aerial photographs were obtained.

5. Conclusions

In the report for the previous six months to 15 October, 1981, it was concluded that the sediments intersected belong to the Middle or Lower Upper Triassic. Drill holes had been sited as high up in the sequence as it was believed possible. Consequently there did not seem to be much potential for the location of extensive coal seams from the uppermost Triassic.

However, coal measures of the Upper Triassic may have been preserved in downthrown fault blocks. Further exploration will concentrate on the detection of such blocks.

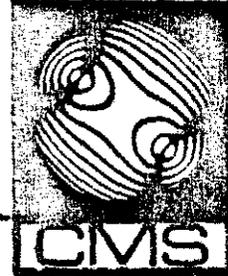
6. Summary of Proposed Work

- i) Air-photogeology and Landsat interpretation to define fault lines, grabens, fold structures and the boundary of the dolerite. If possible, the sedimentary sequence will be subdivided.
- ii) Examination of old bore hole records.
- iii) Gravity surveys in selected parts of EL 30/80 to help define downfault blocks.
- iv) Aerial or ground magnetic surveys to help define dolerite sheets.
- v) Field reconnaissance and localised mapping.
- vi) Drilling of selected targets if warranted.
- vii) Considerable reduction in the size of EL 30/80.

APPENDIX 1

PETROGRAPHIC DESCRIPTIONS

Central Mineralogical Services



39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Dr. R. Hine
Exploration Department
The Broken Hill Proprietary Co. Ltd.
G.P.O. Box 1140L
HOBART / TAS. 7001

14th December, 1981

REPORT CMS 81/11/14

YOUR REFERENCE:	Letter dated 9.11.1981 File No. PM 9
DATE RECEIVED:	11th November, 1981
SAMPLE NOS.:	MRL 13,424 - MRL 13,430
SUBMITTED BY:	D.J. Gilbert
WORK REQUESTED:	Petrology

Copy & Invoice to:
Mr. D.J. Gilbert
Petrologist
The Broken Hill Proprietary Co. Ltd.
P.O. Box 264
CLAYTON / VIC. 3168

H.W. Fander
H.W. Fander, M. Sc.

REPORT CMS 81/11/14Samples MRL 13,424 - MRL 13,430 (DDH T3)

Seven samples were received for petrological examination; during thin-section preparation it was noted that most rocks contained no metallic opaque minerals, and only one polished section was required; the two igneous rocks contained the usual primary accessory oxide opaques (most probably magnetite).

Summary

The intersections between 30 m and 61.5 m are indurated glauconitic sandstones with varying amounts of feldspars and graphite flakes; several contain distinctive heavy minerals, notably garnet. They are well cemented with quartz, generally weakly stressed and perhaps incipiently metamorphosed. The glauconite (a broad term including chemically and structurally related minerals) is degraded, partly oxidised and also redistributed. The intersection at 61.5 m carries layers and lenses of phosphatic material which could also be present in other intersections in smaller amounts which are not easily identified; certainly the lithology would be in keeping with a phosphatic environment. The graphite is a detrital mineral, not formed within the rock.

The only sulphide detected was massive pyrite which occurs on joints or small faults at 61.5 m.

The dolerite (91 m, 94.1 m) is a conventional, featureless rock regarded as a minor intrusive; there seems little reason for carrying out any particular assays on any of the intersections.

H.W. Fander, M. Sc.

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Central Mineralogical Services Comments
T3 30.8 m MRL 13,424	<u>Glauconitic, Feldspathic Sandstone.</u> Framework of closely packed, subrounded quartz grains, feldspar fragments, degraded "glauconite" grains; quartz cement.	Average grainsize = 0.1 mm. Very uniform, well-indurated, faintly banded.	Detrital apatite, zircon, tourmaline, muscovite. Diagenetic siderite. A few graphite flakes.	"Glauconite" (broadly) is partly syngenetic, partly diagenetic. Rock is thoroughly lithified. Graphite flakes are detrital.
T3 38 m MRL 13,425	<u>Indurated Glauconitic Sandstone.</u> Subrounded/rounded quartz grains, many irregular aggregates, interstitial patches and intergranular films of glauconite-chlorite.	Distinctly bedded, moderately-sorted/sized, well-indurated. Fine-grained.	Clastic feldspar, mica. A few graphite flakes. Detrital garnet, zircon, tourmaline.	Very similar to 30.8 m, but incipiently stressed, with limited recrystallization/redistribution of "glauconite".
T3 54 m MRL 13,426	<u>Glauconitic, Feldspathic Sandstone.</u> Framework of rounded quartz grains, feldspar fragments (about 10 %), many patches of brown, degraded glauconite; quartz cement.	Uniform, well-sorted/sized. Average grain-size = 0.15 mm. Parallel silty lenses.	Detrital garnet, zircon, rare graphite flakes. Shaly streaks (?phosphatic).	Lithology clearly related to 30.8 m, 38 m; glauconite is oxidised. Well-indurated, with quartz cement as overgrowths.
T3 60.5 m MRL 13,427	<u>Glauconitic Sandstone.</u> Rounded quartz grains with quartz overgrowths, aggregates and intergranular films of degraded, oxidised "glauconite".	Uniform, well-sorted/sized. Quartz grains weakly stressed.	Small feldspar fragments, detrital garnet, zircon, leucoxene. Rare graphite. Saponite veins. Siderite.	Closely resembles the other rocks; stressed, with some re-organisation of "glauconite", subsequent oxidation.
T3 61.5 m MRL 13,428	<u>Phosphatic, Glauconitic Sandstone.</u> Framework of rounded quartz grains with quartz overgrowths, degraded glauconite aggregates; layers of dense, semi-isotropic fine phosphate (collophane).	Subrounded grains, moderately sorted/sized, average size = 0.2 mm.	Detrital feldspar, graphite flakes. Massive pyrite on joints, with intergrown marcasite.	Phosphatic layers contain fine detritus, and are sedimentary. Pyrite as encrusting, zoned crystals of unusual habit.
T3 91 m MRL 13,429	<u>Uralitised Dolerite.</u> Small random laths of fresh andesine, abundant interstitial, extensively chloritised augite; fine oxide opaques throughout.	Even-grained doleritic fabric, verging on fine-grained (basaltic).	Conspicuous calcite-zeolite (?stilbite-epistilbite) veins.	Probably a minor intrusive, but could be from interior of flow. Selective chloritisation instead of more usual uralitisation.
T3 94.1 m MRL 13,430	<u>Dolerite.</u> Fresh random laths of labradorite, granular to prismatic pigeonitic augite, interstitial patches of fine quartz-K-feldspar.	Typical doleritic fabric, coarser than at 91 m.	Veins of banded chalcedony. Primary oxide opaques.	Clearly related to 91 m and representing fresh, coarser interior of sill/dyke (or flow).
	T.S. 40053 - T.S. 40059			

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