

000

274001

MICROFILMED

Form	A.O.	C.G.	E.O.	D.S.M.
				Registrar
NOV 1984				E & IL
DEPT. OF MINES				
Lic. No. 11,625/84				

EXPLORATION LICENCE 30/80

SOUTH EAST TASMANIA

FINAL REPORT

OCTOBER, 1984

CONTENTS

SUMMARY

- 1. INTRODUCTION
- 2. EXPLORATION PROGRAMME: PHASE 1
- 3. EXPLORATION PROGRAMME: PHASE 2
- 4. EXPLORATION PROGRAMME: PHASE 3
- 5. CONCLUSIONS

APPENDICES

- 1. Drillsite rehabilitation and core storage
- 2. Drawings submitted as transparencies

TABLES

- 1. Drill Hole Coordinates
- 2. Analysis Results (air dried basis)
- 2A. Analysis Results (dry basis)
- 3. Summary of Coal Seams
- 4. Float/Sink Tests

FIGURES

- 1. Southeast Tasmania locality map A4 - 2261 .
- 2. Location of drill holes A3 - 1491 .
- 3. Graphic logs T1, T3 A4 - 2263 .
- 4. Graphic and geophysical log T2 A3 - 1537 .
- 5. Drill hole T4 graphic and geophysical logs A3 - 1619/8 .

FIGURES CONT'D

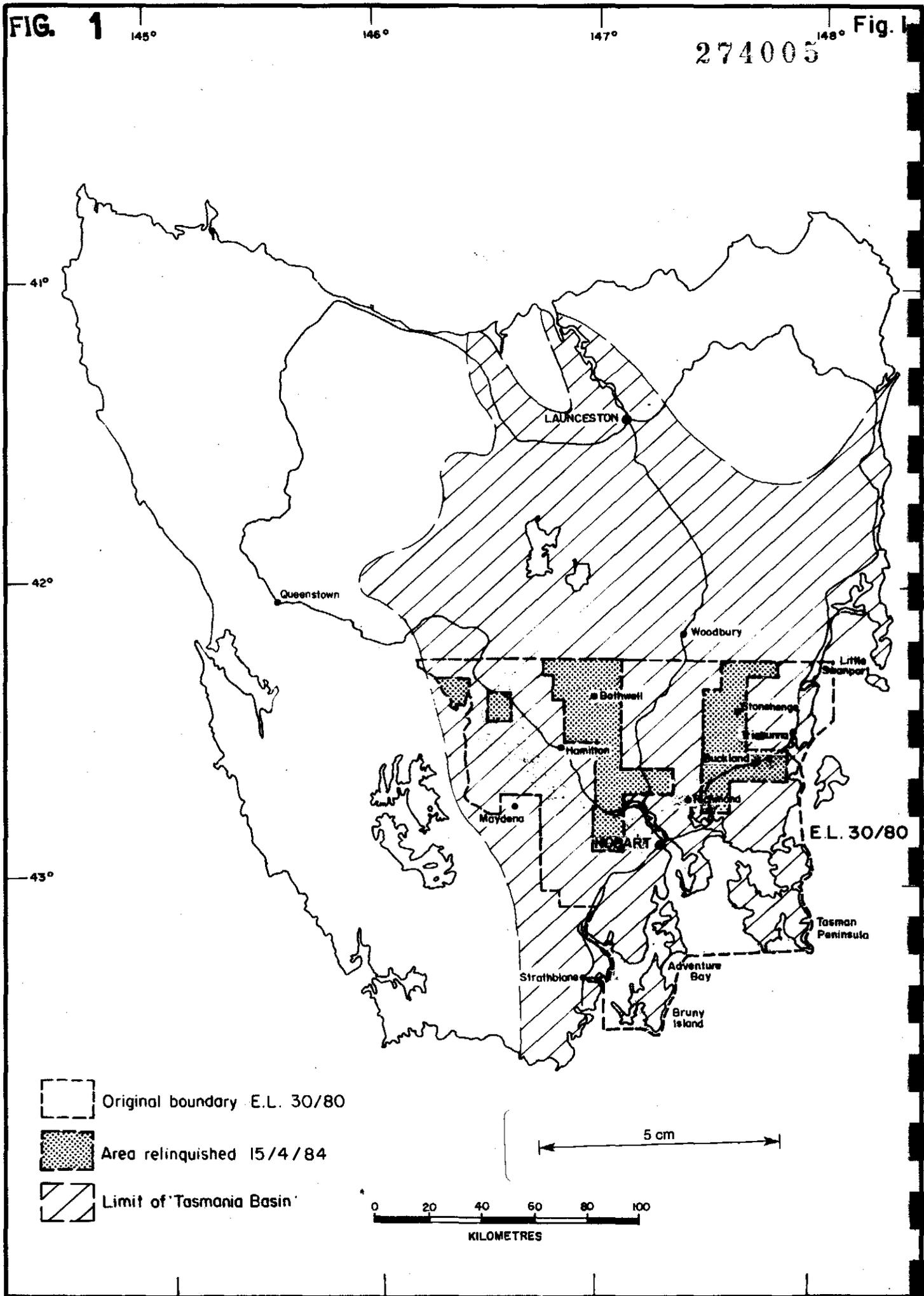
6.	Drill hole T5 graphic and geophysical logs	A3 - 1619/9 .
7.	Drill hole T6 graphic log	A4 - 2407/1 .
8.	Drill hole T7, T7A graphic and geophysical logs	A3 - 1619/4 .
9.	Drill hole T8 graphic and geophysical logs	A3 - 1619/5 .
10.	Drill hole T9 graphic and geophysical logs	A3 - 1619/6 .
11.	Drill hole T10, T10A graphic and geophysical logs	A3 - 1619/2 .
12.	Drill hole T11 graphic and geophysical logs	A3 - 1619/1 .
13.	Drill hole T12 graphic and geophysical logs	A3 - 1619/3 .
14.	Drill hole T13 graphic and geophysical logs	A3 - 1619/7 .
15.	Drill hole T14 graphic and geophysical logs	A3 - 1619/11 .
16.	Drill hole T15 graphic and geophysical logs	A3 - 1619/10 .
17.	Drill hole T16 graphic log	A4 - 2407/2 .
18.	MPT1 Dungrove	1.6033.2.86 .
19.	MPT2 Lachlan	1.6033.2.82 .
20.	MPT3 Dromedary	1.6033.2.85 .
21.	MPT4 Meadsfield	1.6033.2.84 .
22.	MPT5 Pelham	1.6033.2.83 .

SUMMARY

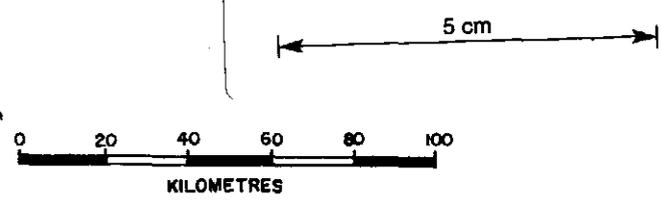
Exploration Licence 30/80 was originally granted to B.H.P. On 15/4/81 for coal, oil and oil shale. Tenure was extended to 15/4/84 with two reductions in area from its original 12900 sq. km. down to a final 2480 sq. km.

Exploration efforts were confined to the search for coal. Three phases of work were carried out, involving literature search, data compilation, field reconnaissance, mapping of selected areas and ground magnetics over drill sites. In the first phase, three cored holes (233.3m) were drilled in the north-east of the E.L. to test for Upper Triassic coal measures. Only Mid Triassic strata were intersected. The second phase consisted of open hole drilling with some coring (15 holes totalling 1183.3m) over a broader region in the northern part of the E.L. The target was again Upper Triassic coal measures. Coal was found at four locations. Eighteen plies were intersected, varying from 0.3 to 2.5m thick. Limited quality data indicated the coal was no better than other Tasmanian Triassic coals. Potential size and depth were considered unsatisfactory. It was decided not to continue exploration for Triassic coal.

Mobil Energy Minerals Australia Inc. carried out the third phase of work. Exploration was aimed at studying the environment of deposition of Permian strata within the E.L. Five stratigraphic holes, mostly cored, were drilled (totalling 987.8m). The Mid Permian Mersey equivalents were found to be marine. The Upper Permian Cygnet equivalents were found to be discontinuous and dominantly braided river sands. The Permian was deemed not sufficiently encouraging to warrant further work.



-  Original boundary E.L. 30/80
-  Area relinquished 15/4/84
-  Limit of 'Tasmania Basin'



Centre
Melbourne

Date
Oct-81
Jan-84 Aug 84

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

Project No.
C390-2

Drawing No.
A4-2261

1. INTRODUCTION

Exploration Licence 30/80 was granted to The Broken Hill Proprietary Company Limited for six months from 15th April, 1981. The licence covered 12,900 sq. km. and was held for three minerals - coal, oil and oil shale.

E.L. 30/80 was renewed for twelve months to 15th October, 1982. A further renewal was made for six months to 15th April, 1983 with a reduction in size to 3273 sq. km. comprising two parts. The licence was subsequently renewed for another 12 months with a further reduction in area to 2480 sq. km. in four separate parts (Fig. 1). Renewal of E.L. 30/80 was not sought beyond 15th April, 1984.

Although E.L. 30/80 had been granted in respect of coal, oil and oil shale, it was realised from the outset that B.H.P. had no continuing interest in pursuing the latter two commodities within the E.L. Accordingly, all work was related to the search for coal alone.

An important factor which governed exploration policy arose from the fact that significant portions of the original E.L. were subject to prior coal tenements. Thus although the original licence was valid in its entirety for oil and oil shale, some of the more prospective parts of the E.L. were unavailable for coal (Fig. 2).

Over the three years of tenure, exploration philosophy and objectives were modified, and three distinct programmes of exploration were carried out. This report summarizes each of these phases with respect to its philosophy, objectives, programme and results. For details of the geological setting, methods, results, ground magnetics, geological maps, drill logs, laboratory tests and lists of references, the relevant periodic reports to the Department of Mines should be consulted. The location of work done is shown on Fig. 2.

2. EXPLORATION PROGRAMME: PHASE 1

Following a literature review of stratigraphy of the Permo-Triassic Permian Supergroup of the Tasmania Basin, it was considered that all known occurrences of coal within the licence area had previously been indicated as having sub-economic reserves. Small quantities of coal have been known in Upper Triassic sediments throughout the area for over a century. Sporadic exploration has been carried out by government and private agencies and small mines operated at Buckland and Triabunna.

Accordingly it was decided to drill three fully cored stratigraphic holes in previously untested areas. Available information indicated that the only such areas remaining were in the Buckland-Stonehenge-Little Swanport region, in the north-east of the original licence. These areas are shown on the 1:250,000 OATLANDS Geological Sheet (1976) as "undifferentiated" Triassic. It was expected that there was a regional dip to the east, which implied that Upper Triassic coal measures potentially would be restricted to the eastern side of the untested area. Holes were sited on topographic highs in order to intersect uppermost Triassic.

Summary of Work Completed

- i) Literature survey and review of available data.
- ii) Drilling of three scout diamond drill holes (T1, T2, T3) totalling 233.3m on Triassic targets (Table 1). Geophysical logging of one hole with an SIE T450 logger.
- iii) Sampling, analysis and petrographic work on selected intervals of drill core.

No coal was intersected in any of the holes. Carbonaceous beds occurred in T2 and T3 but lithic arenite was absent. Most likely the rocks intersected belonged to the Middle or lowermost Upper Triassic.

Details of the Phase 1 programme are provided in the Report for the Six Months ended 15th October, 1981 and some supplementary petrographic work is included in the Report for the Six Months ended 15th April, 1982.

3. EXPLORATION PROGRAMME: PHASE 2

In anticipation of a major reduction in the size of E.L. 30/80, Phase 2 was initially designed to eliminate a large portion of the area as being unprospective. Subsequently it aimed to define targets for Upper Triassic coal exploration in the area remaining.

Phase 1 had reinforced the idea that large areas of potentially coal-bearing Upper Triassic lithic sandstones have been removed by erosion and that the best chance of such rocks being preserved would be in down-faulted blocks (as at Woodbury) or where protected by dolerite or basalt cover.

Exploration was focussed on three situations:

- i) recognition of graben structures within the Triassic sequence, wherein Upper Triassic coal measures could have been preserved,
- ii) investigation of Upper Triassic strata shown on the Geological Survey maps, and
- iii) discovery of lithic sandstones by field reconnaissance.

Summary of Work Completed

- i) Reassessment of the potential of the Permo - Triassic sequence in E.L. 30/80 for coal. Consultation with officers of the Department of Mines and field reconnaissance.
- ii) Photo-interpretation of three portions of the northern half of the original E.L.
- iii) Field checking of the photo-interpretation and of possible drilling targets.
- iv) Plotting of ground water bore and other drilling data including coal intersections.
- v) Reduction in size of E.L. 30/80 from 12,900 to 3273 sq. km. comprising two parts.
- vi) Continuing acquisition and compilation of data and plotting of H.E.C. bore hole information.
- vii) Field inspection of selected areas to delineate drilling targets.
- viii) Ground magnetics over proposed drill sites.
- ix) Drilling of 15 holes (T4 to T16 and T7A, T10A) totalling 1183.3m on Triassic targets using rotary/percussion and diamond core methods (Table 1).
- x) Intersection of 18 coal plies in four of these drill holes ranging from 0.3 to 2.5m in thickness down to 102m depth (Table 3).
- xi) Geophysical logging of most of these drill holes with an SIE T450 logger.
- xii) Analysis of five samples of drill core; four of coal and one of carbonaceous shale (Tables 2, 2A).

- 009
- xiii) Reduction in size of E.L. 30/80 from 3273 to 2480 sq. km. comprising four parts.
 - xiv) Float/sink testing of three samples of coal (Table 4).
 - xv) Petrographic examination of nine samples of coal and two samples of lithic sandstone.
 - xvi) Reconnaissance of an area around Platform Peak, New Norfolk. This was limited to investigating access and land holding

Eight targets had been selected and coal was found in four of these, but not by all holes into any one particular target. Coal seams were intersected in drill holes T7, T10, T13 and T15. In all four cases, further exploration would have had to proceed underground to define the extent of the seams below open cut mining depths and beneath dolerite cover. The coal is classified as medium to high volatile bituminous, high in ash (27.3 to 38.3%) with sulphur 0.34 to 0.50% and gross specific energy 20.26 to 22.76 MJ/Kg (all on dry basis).

Details of the Phase 2 programme are provided in the Reports for the Six Months ended 15th October, 1982 and 15th April, 1983 and the Report for the Twelve Months ended 15th April, 1984.

4. EXPLORATION PROGRAMME: PHASE 3

This phase was carried out by Mobil Energy Minerals Australia Inc. under a joint venture arrangement with The B.H.P. Co. Ltd. The timing of Phase 3 overlapped the latter part of Phase 2.

Permian coal is known from two relatively thin non-marine horizons within a predominantly glacio-marine sequence.

The middle Permian Mersey Coal Measures yielded coals of better quality than the Triassic except for undesirable sulphur contents.

010

Known occurrences were restricted to the north and central north-west parts of the Permo-Triassic basin. South of Hobart marine conditions prevailed, and marine incursions were made northwards during the same time interval.

The Upper Permian Cygnet Coal Measures represent the end of the glacio-marine conditions and the beginning of the terrestrial conditions which extended right through the Triassic. Coal is restricted in the main, to the south of Hobart, but thin seams are found in the midlands.

Literature studies revealed that a great deal was still unknown regarding the Permian coal potential over much of the central Tasmania Basin. Although known Permian coal deposits are thin and subject to lensing out over short distances, it was considered that there may have been scope for thicker, more extensive deposits elsewhere in the basin. The central part of the basin, which includes the northern half of the original E.L. 30/80 was shown to be poorly explored, due in part to a lack of fully-cored stratigraphic bores and to the presence of extensive, thick dolerites.

Moreover in view of the generally accepted equivalence of the Permian sequence in the Tasmania Basin with those of the Sydney and Bowen Basins, and because to the better quality apart from sulphur, of the Tasmanian Permian coals compared with those of the Triassic, it was considered that a programme of investigations could be pursued profitably.

The first objective of the M.E.M.A. programme was, by field mapping of selected areas, to enable a ready identification of Permian strata and to define sites for a number of fully cored stratigraphic drill holes. Following completion of this work, a study of the environment of deposition was made with view to coal forming areas, with the ultimate aim of providing drill targets for coal exploration.

Summary of Work Completed

- i) Extensive literature research.
- ii) Field mapping Northwest Bothwell area (Dungrove).
- iii) Field mapping Southwest Bothwell area (Meadsfield).
- iv) Field mapping Whitefoord-Stonehenge area.
- v) Field checking Pawleena area.
- vi) Reconnaissance inspection of other areas.
- vii) Delineation and correlation of the stratigraphic successions over the region.
- viii) Ground magnetics over prospective drill sites.
- ix) Drilling of five stratigraphic holes, totalling 987.8m, most by continuous diamond core (Table 1). Three (MPT 3, MPT4, MPT5) were targetted in the Upper Permian Cygnet Coal Measures while two (MPT 1, MPT 2) were aimed at the Middle Permian Mersey Coal Measures/Faulkner Group equivalents.
- x) Depositional environmental study, employing a consultant specialising in this field. Work involved inspection and relogging of Dept. Mines and M.E.M.A. cores and of field occurrences, and the assignment of various rock types to facies type.
- xi) Helicopter-supported reconnaissance of the Counsel River area in the northwest of the E.L. No potential for significantly thick deposits of Cygnet equivalents was observed.

No coal was intersected by drilling. Details of the Phase 3 programme are provided in the two volume report entitled Final Report on E.L. 30/80 Mobil Energy Minerals Australia Inc. (March, 1984).

5. CONCLUSIONS

The Upper Triassic coal seams intersected do not lend themselves to open cut extraction methods and do not attain workable thicknesses for underground operations. Limited quality data suggested that this coal is no better than Triassic coal known and mined elsewhere in the state. All coal has apparently been affected by heat of intrusion to some degree.

The E.L. has not been conclusively tested by drilling but there is no reason to expect that discovery of coal of a far superior quality would be likely. The depositional environment of the Upper Triassic is reasonably uniform regionally.

The MEMA programme showed that the Mersey Coal measures equivalents within E.L. 30/80 are dominantly marine and no coal forming lithologies were found.

The Cygnet Coal Measure equivalents were shown to be discontinuous and predominantly of sandy braided river environment, not conducive to large scale coal swamp formation. No holes intersected coal. Away from known outcrops of Cygnet, Triassic quartz sandstone was shown to directly overlie Ferntree Group which indicates the lack of potential for extensive floodplain deposits of Cygnet equivalents.

Any further exploration in E.L. 30/80 for coal of either Permian or Triassic age would still be at "grass roots" level. On current evidence and considering the statutory expenditure commitments, any such programme to discover

013

coal meeting the quality, tonnage and workability requirements of a viable operation, would not be an attractive proposition.

Accordingly it was recommended that E.L. 30/80 should not be renewed.

014

274015

TABLE 1.
DRILL HOLE COORDINATES
(Australian Map Grid)

	COORDINATES	COLLAR R.L. (m)	TOTAL DEPTH (m)
T1	EP 633105	280	52.0
T2	EP 811121	5	83.0
T3	EN 587990	305	98.3
T4	EN 365709	25	89.4
T5	EN 368672	5	100.0
T6	EP 052016	555	82.6
T7	EN 053972	495	88.0
T7A	EN 053972	495	22.1
T8	EN 023971	435	88.0
T9	DN 989935	425	84.0
T10	DP 666047	300	90.0
T10A	DP 666047	300	21.3
T11	DP 650136	535	70.0
T12	DP 665014	200	90.0
T13	EN 061823	130	108.0
T14	EN 634805	60	50.0
T15	EP 606185	335	100.0
T16	EN 088819	130	100.0
MPT1	DP 946150	450	344.8
MPT2	EN 027581	150	122.7
MPT3	EN 073665	445	169.8
MPT4	DP 941051	370	159.5
MPT5	EN 000863	425	191.0

Note: Co-ordinates and R.L. estimated from 1:100,000 topographic map series.

TABLE 2.
ANALYSIS RESULTS

(Air Dried Basis)

SAMPLE NUMBER:	BL5011	5012	5013	5015	5014
DRILL HOLE:	T 7A	T 7A	T 7A	T 10A	T 10A
DEPTH:	1.93-2.82m	6.30-6.88m	17.04-17.63m	18.20-18.48m	15.52-16.74m
THICKNESS:	0.89m	0.58m	0.59m	0.28m	1.22m
	Coal	Coal	Coal	Coal	Carb-shale
Total Moisture (as received) %:	11.6	4.9	3.4	5.6	53.8
Moisture (ad) %:	7.3	4.2	2.5	5.1	6.0
Specific Energy (ad) MJ/Kg:	18.78	21.06	20.30	21.60	1.60
Total Sulphur (ad) %:	0.33	0.45	0.33	0.47	0.13
Total Diss. Solids (ad) %:	0.21	0.27	0.34	0.27	0.26
<u>Proximate Analysis</u>					
Moisture (ad) %:	10.3	4.3	2.2	1.4	1.4
Ash (ad) %:	24.5	33.6	37.5	29.8	88.0
Volatile Matt. (ad) %:	18.9	13.9	12.7	24.9	7.1
Fixed C. (ad.) %:	46.3	48.2	47.6	43.9	3.5

TABLE 2A
ANALYSIS RESULTS

(Dry Basis)

SAMPLE NUMBER:	BL5011	5012	5013	5015	5014
DRILL HOLE:	T 7A	T 7A	T 7A	T 10A	T 10A
DEPTH:	1.93-2.82m	6.30-6.88m	17.04-17.63m	18.20-18.48m	15.52-16.74m
THICKNESS:	0.89m	0.58m	0.59m	0.28m	1.22m
	Coal	Coal	Coal	Coal	Carb-shale
Specific Energy (d) MJ/Kg:	20.26	21.98	20.82	22.76	1.70
Total Sulphur (d) %:	0.36	0.47	0.34	0.50	0.14
Total Diss. Solids (d) %:	0.23	0.28	0.35	0.28	0.28
<u>Proximate Analysis</u>					
Ash (d) %:	27.3	35.1	38.3	30.2	89.2
Volatile Matt. (d) %:	21.1	14.5	13.0	25.3	7.2
Fixed C. (d.) %:	51.6	50.4	48.7	44.5	3.6

017

274018

TABLE 3.SUMMARY OF COAL SEAMS

<u>Drill Hole</u>	<u>Top of Seam</u>	<u>Estimated Thickness</u>
T7	1.9 m	0.9 m
	6.3 m	0.6 m
	17.0 m	0.6 m
	39.9 m	1.0 m
	51.1 m	0.4 m
	58.2 m	0.8 m
T10	17.2 m	0.3 m
	52.8 m	0.7 m
T13	55.4 m	0.7 m
	56.9 m	0.6 m
	89.6 m	0.7 m
	90.8 m	0.4 m
	92.4 m	0.7 m
	99.8 m	1.0 m
	101.4 m	0.6 m
T15	9.2 m	0.6 m
	32.6 m	1.4 m
	67.6 m	2.5 m

TABLE 4
FLOAT/SINK TESTS

DRILL HOLE:	T 7A		T 7A		T 10A	
SAMPLE NO.	BL 5012		BL 5013		BL 5015	
Fraction	Ash*	*Cum Ash	Ash	Cum Ash	Ash	Cum Ash
S 1.30/F 1.45	17.0	17.0	18.2	18.2	18.9	18.9
S 1.45/F 1.60	25.8	22.2	24.5	23.9	29.0	25.3
S 1.60	61.1	34.3	62.0	40.1	52.8	28.2
Proximate analysis Ash*		35.1		38.3		30.2

* (all results on dry basis %)

APPENDIX 1DRILLSITE REHABILITATION AND CORE STORAGE

All drill sites were accessible by vehicle and there was no need for construction of access tracks or for the clearing of sites. All drill holes and associated circulation pits were filled in with earth and drill cuttings on completion of work.

Drill core has been delivered to the Department of Mines in Hobart. Representative cuttings from non-cored intervals from drill holes T4 to T16 are in temporary storage at the Titan Manufacturing Company's yard, Moonah.

020

274021

APPENDIX 2

DRAWINGS SUBMITTED AS TRANSPARENCIES

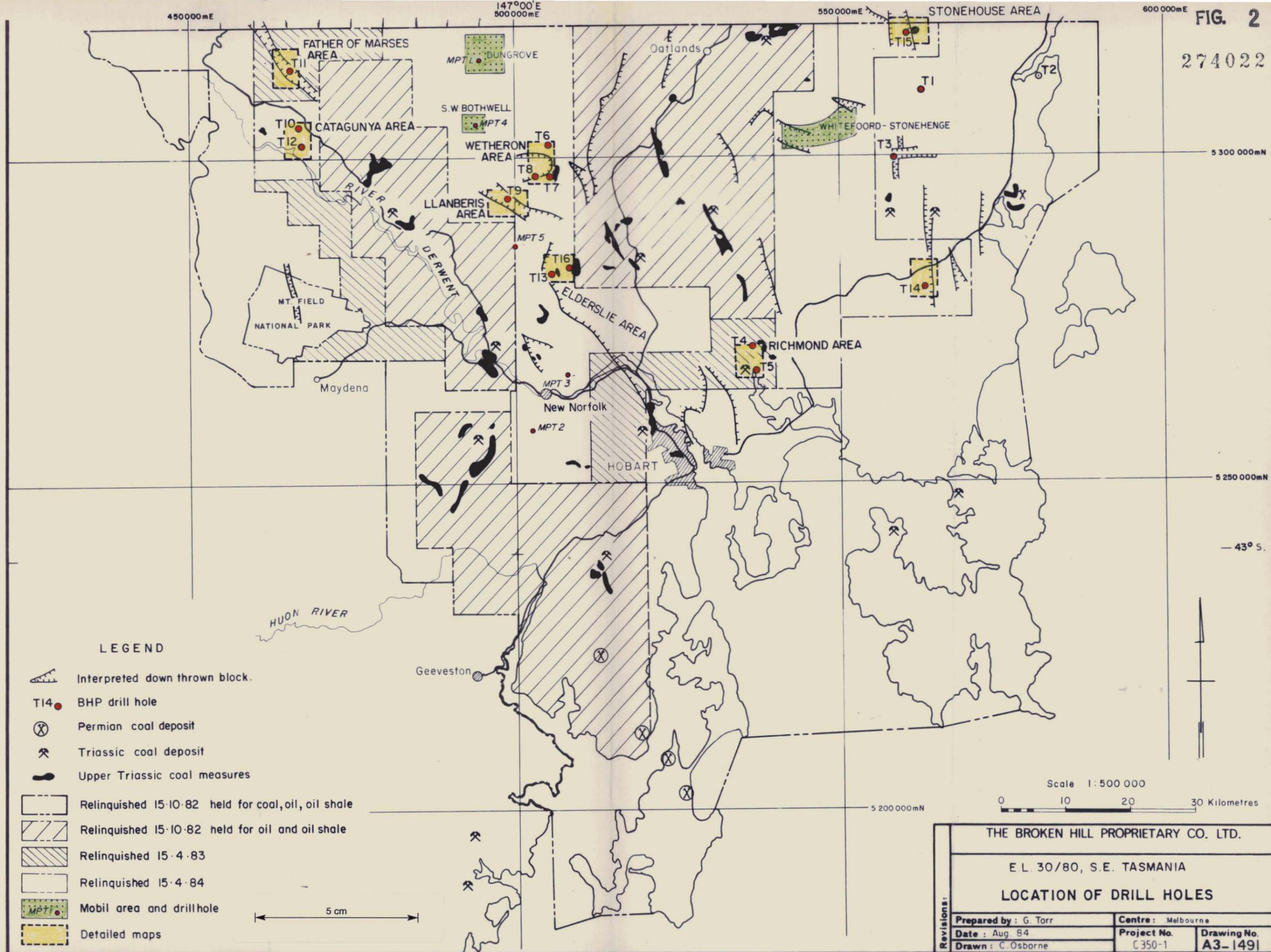
Transparent sepia copies of the large format drawings listed hereunder; which have been included in previous periodic reports, are being submitted to the Department of Mines under separate cover.

<u>BHP</u>	- Catagunya area ground magnetic profiles and geology	A2-1490/1
	- Llanberis area ground magnetic profiles and geology	A2-1490/2
	- Richmond area ground magnetic profiles and geology	A2-1490/3
<u>MEMA</u>	- Whitefoord-Stonehenge solid geology	1.6033.2.42
	- Dungrove geology	1.6033.2.87
	- Regional cross sections	1.6033.2.55
	- Stratigraphic sections - Section 1	1.6033.2.44
	- Stratigraphic sections - Section 2	1.6033.2.46
	- Stratigraphic sections - Section 3	1.6033.2.45
	- Dungrove base line	1.6033.2.67

Transparencies held.

021

274022



LEGEND

- Interpreted down thrown block.
- T14. BHP drill hole
- Permian coal deposit
- Triassic coal deposit
- Upper Triassic coal measures
- Relinquished 15-10-82 held for coal, oil, oil shale
- Relinquished 15-10-82 held for oil and oil shale
- Relinquished 15-4-83
- Relinquished 15-4-84
- Mobil area and drillhole
- Detailed maps

5 cm

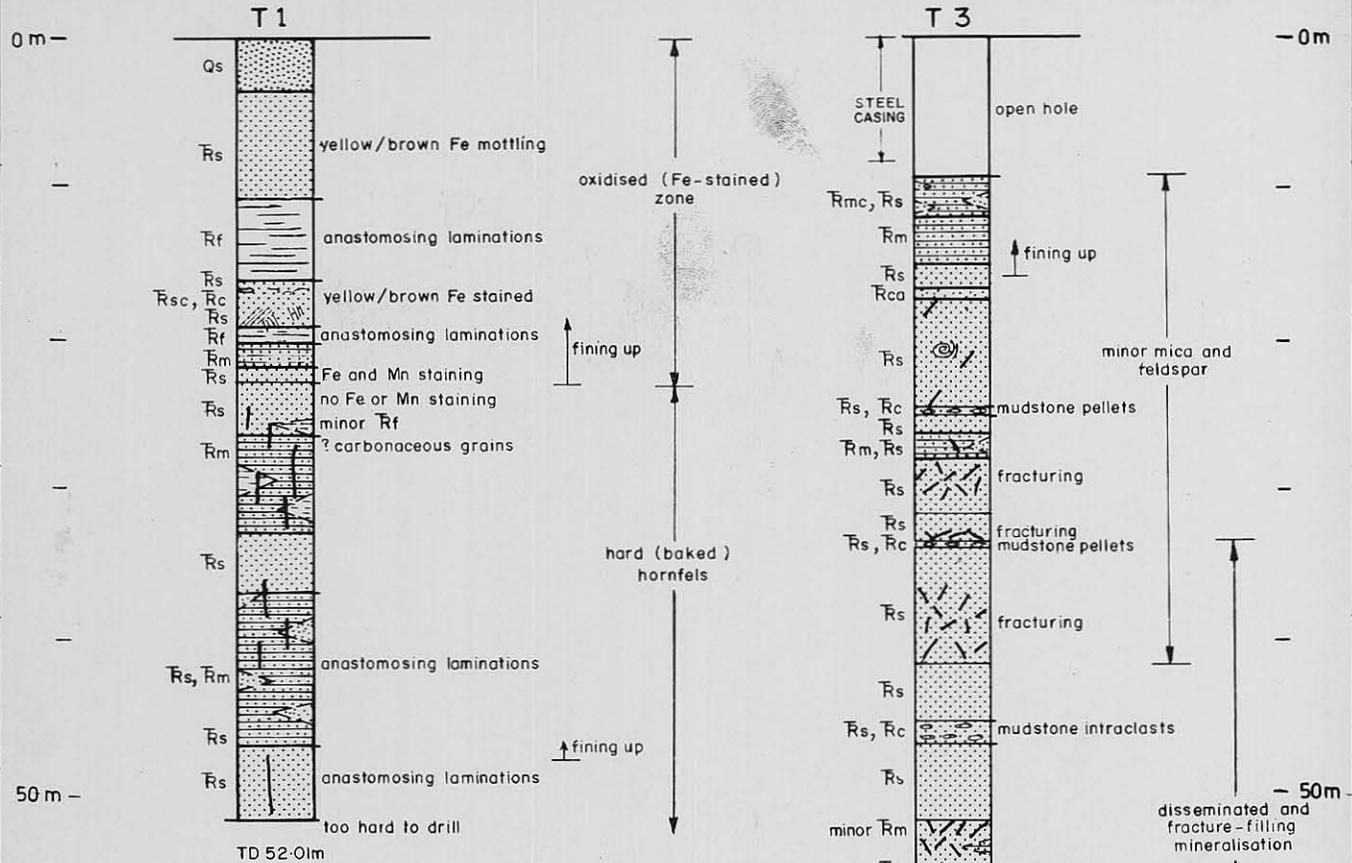
Scale 1:500 000
0 10 20 30 Kilometres

THE BROKEN HILL PROPRIETARY CO. LTD.			
E.L. 30/80, S.E. TASMANIA			
LOCATION OF DRILL HOLES			
Revisions:	Prepared by : G. Torr	Centre : Melbourne	
	Date : Aug 84.	Project No.	Drawing No.
	Drawn : C. Osborne	C350-1	A3-1491

022

274023

FIG. 3



LEGEND

- | | | | |
|------------|-----------------|--|---------------------------------------|
| QUATERNARY | Qs | | Sand and soil |
| JURASSIC | Jdl | | Dolerite |
| | R _{sc} | | Coarse poorly sorted sandstone. |
| | R _s | | Fine/medium grained quartz sandstone. |
| | R _{ca} | | Carbonaceous sandstone. |
| TRIASSIC | R _m | | Mudstone. |
| | R _{mc} | | Carbonaceous mudstone |
| | R _f | | Siltstone |
| | R _c | | Clay pellet conglomerate |

5 cm

- | | |
|--|----------------------------|
| | Fracturing |
| | Cross-bedding |
| | Disrupted/deformed bedding |

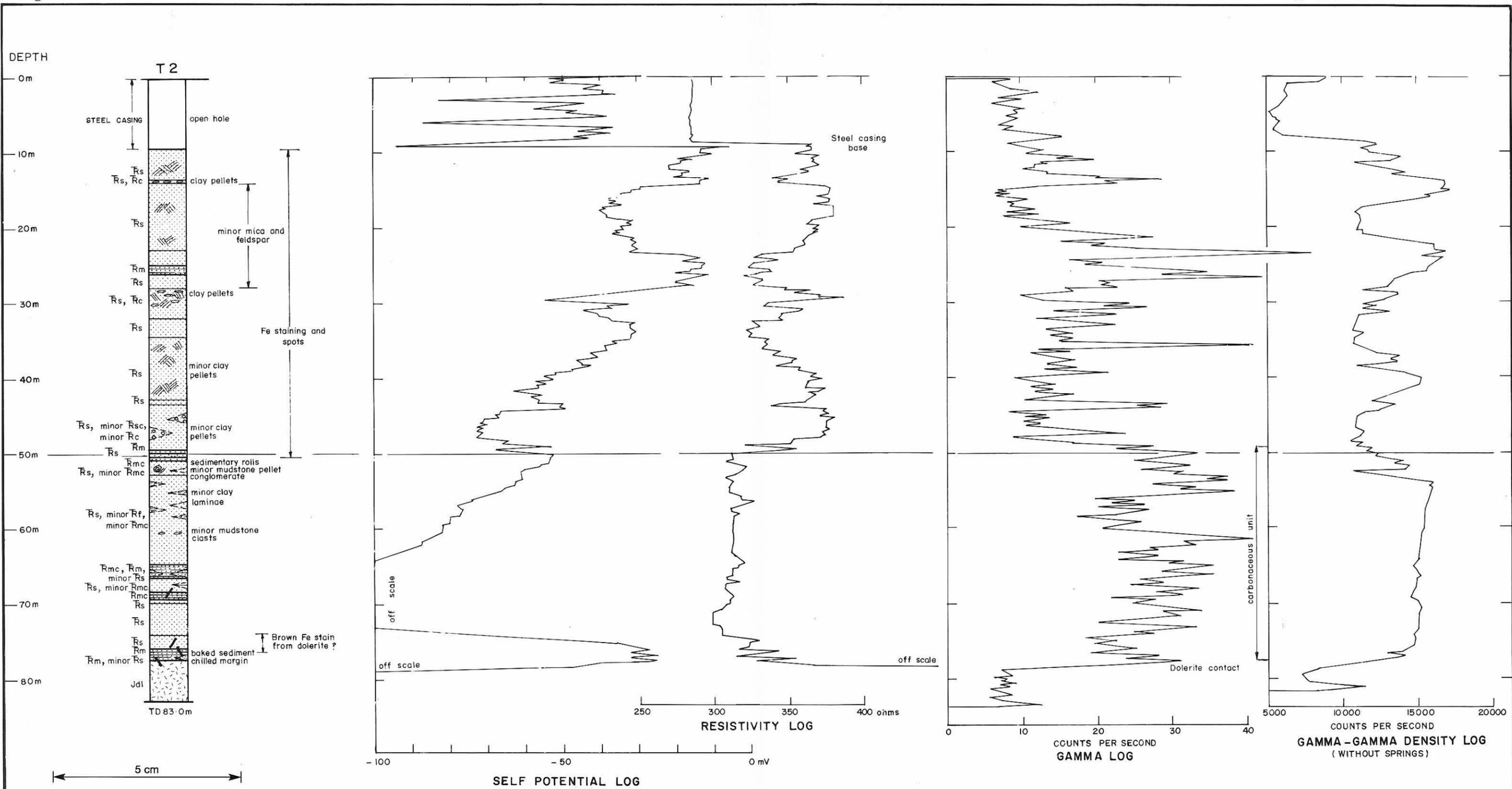
Centre
Melbourne

Date
OCT 1981

THE BROKEN HILL PROPRIETARY CO. LTD.
E.L. 30/80
SOUTHEAST TASMANIA
GRAPHIC LOGS T1, T3

Project No.
C350-4

Drawing No.
A4-2263



LEGEND

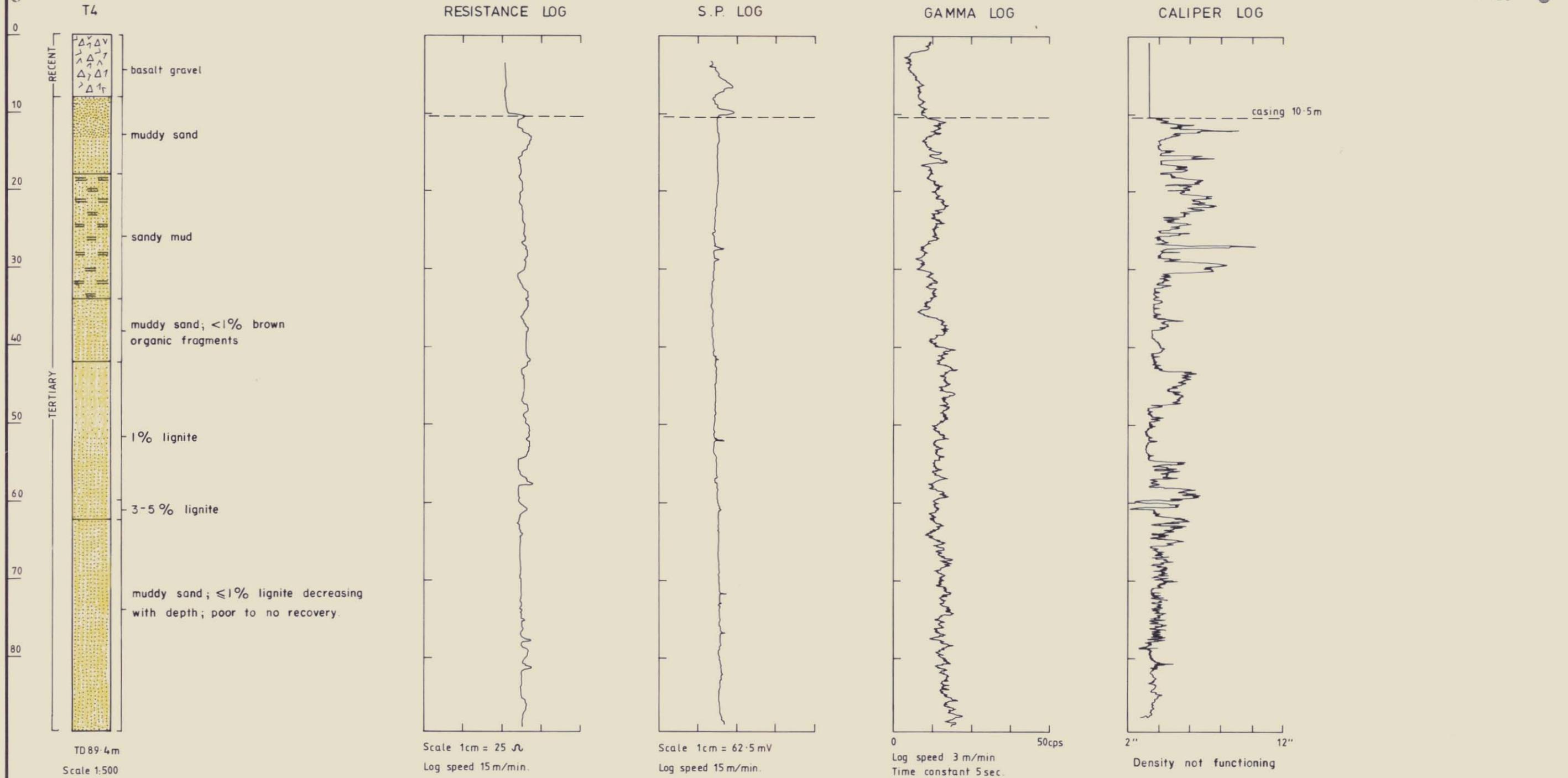
- | | | | | | | | | |
|------------|-----|--|---------------------------------------|-----|--|--------------------------|--|----------------------------|
| QUATERNARY | Qs | | Sand and soil | Rm | | Mudstone. | | Fracturing |
| JURASSIC | Jdl | | Dolerite | Rmc | | Carbonaceous mudstone | | Cross-bedding |
| TRIASSIC | Rsc | | Coarse poorly sorted sandstone. | Rf | | Siltstone | | Disrupted/deformed bedding |
| | Rs | | Fine/medium grained quartz sandstone. | Rc | | Clay pellet conglomerate | | |
| | Rca | | Carbonaceous sandstone. | | | | | |

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
E.L. 30/80 SOUTHEAST TASMANIA		
GRAPHIC AND GEOPHYSICAL LOG - T 2		
Prepared by: C.S.	Centre: PERTH	
Date: OCT 1981	Drawing No. A3-1537	Project No. C350-5
Drawn:		

02A

274025

FIG. 5

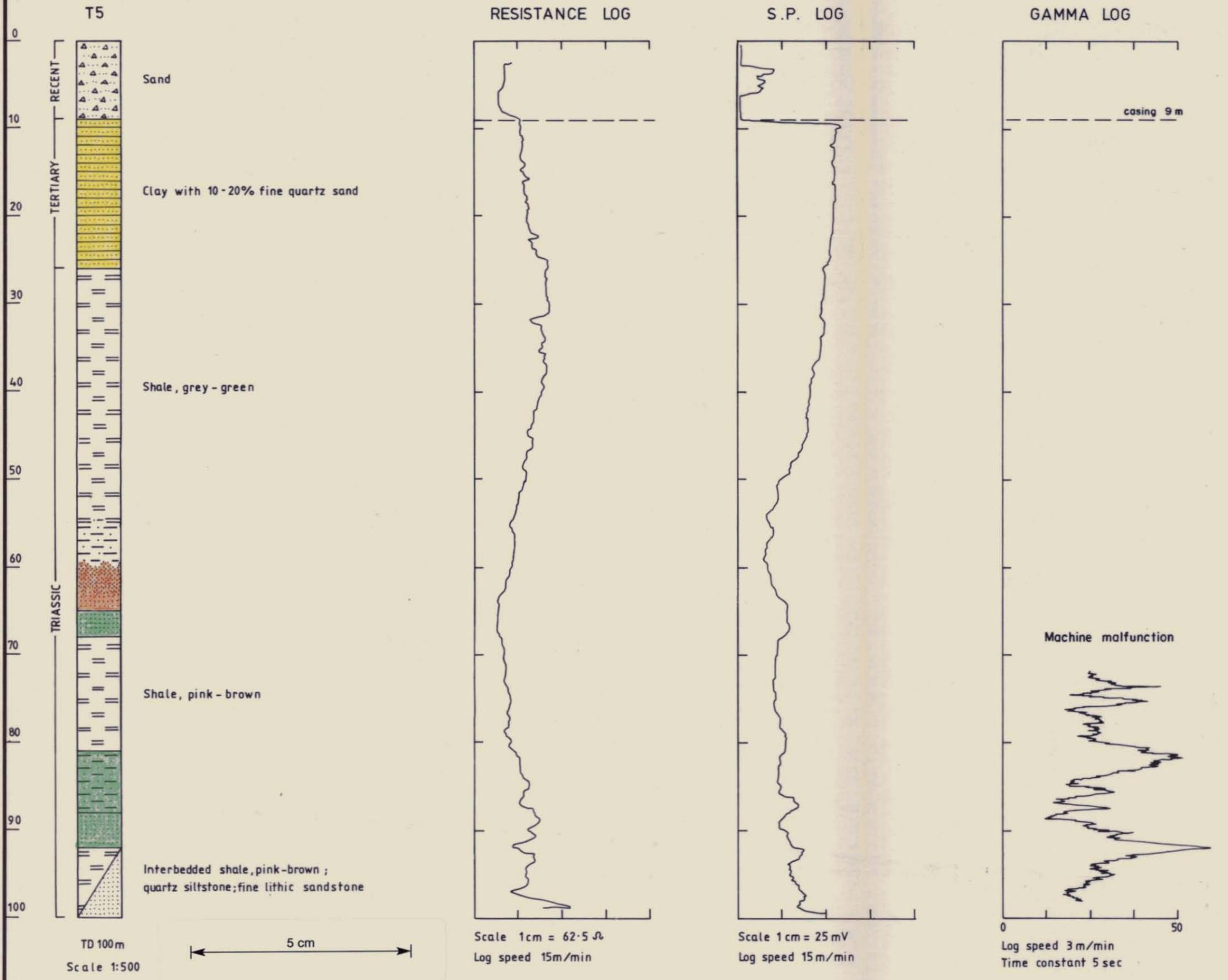


LOGGED 22/2/83

- basalt gravel
- mudstone
- tertiary deposits (undifferentiated)
- very fine sandstone
- fine sandstone
- medium sandstone

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T4 GRAPHIC AND GEOPHYSICAL LOGS		
Prepared by: G. TORR	Centre: Melb.	
Date: 2/6/83	Project No	Drawing No
Drawn: A. HANSEN	C35-15	A3-1619/8

025



TD 100m
Scale 1:500

5 cm

Scale 1cm = 62.5 Ω
Log speed 15m/min

Scale 1cm = 25 mV
Log speed 15m/min

Log speed 3m/min
Time constant 5 sec

LOGGED 24/2/83

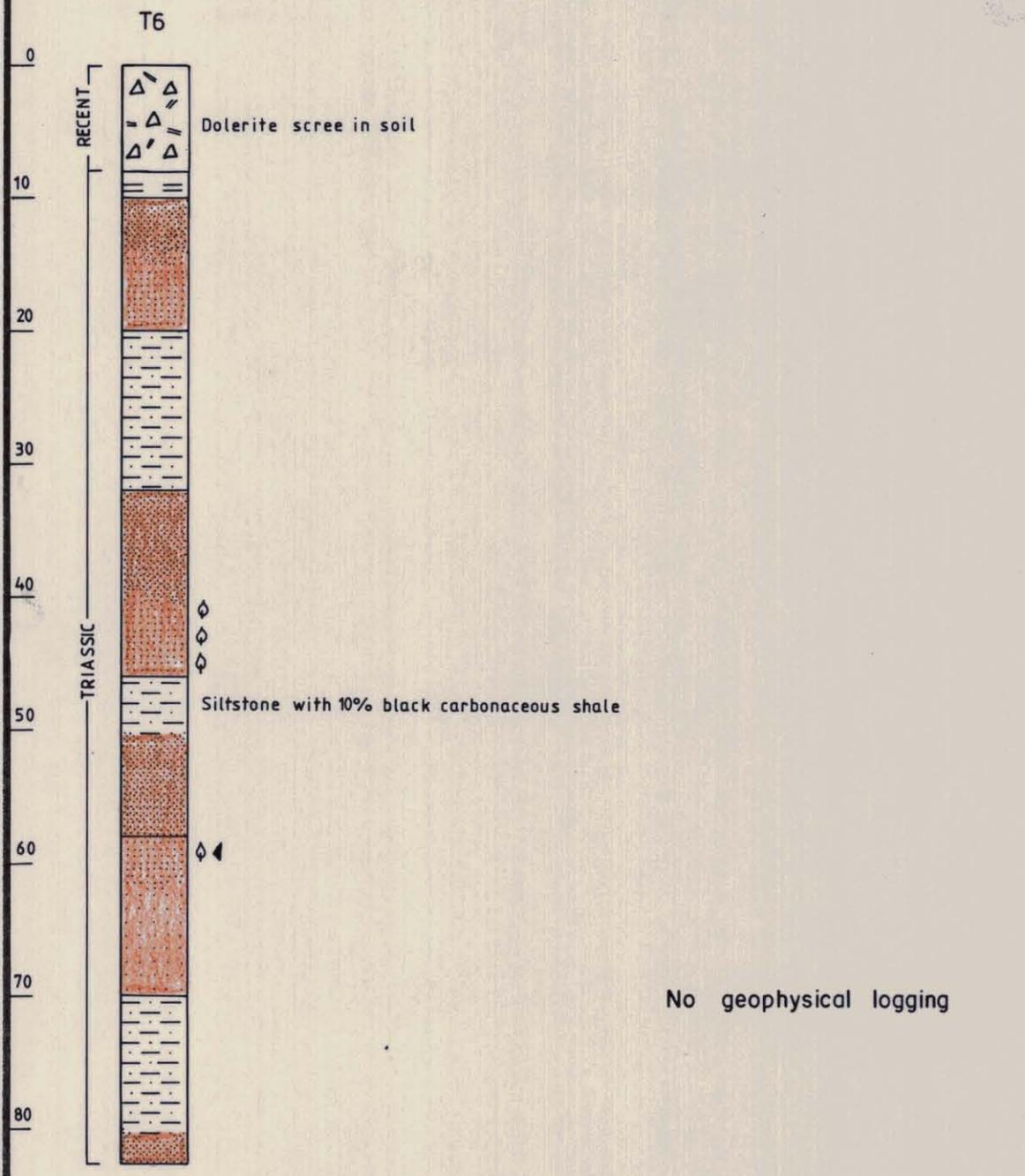
- Sand
- Siltstone
- Tertiary deposits (undifferentiated)
- Clay with sand
- Very fine sandstone
- Lithic suite
- Mudstone
- Fine sandstone
- Quartz suite

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T5 GRAPHIC AND GEOPHYSICAL LOGS		
Prepared by: G. TORR	Centre: Melb.	
Date: 3/6/83	Project No	Drawing No
Drawn: A. HANSEN	C35-16	A3-1619/9

026

274027

FIG. 7



- | | | | | | |
|--|----------------|--|---------------------|--|----------------|
| | Dolerite scree | | Very fine sandstone | | Lithic suite |
| | Mudstone | | Fine sandstone | | Coal fragments |
| | Siltstone | | Medium sandstone | | Plant fossils |

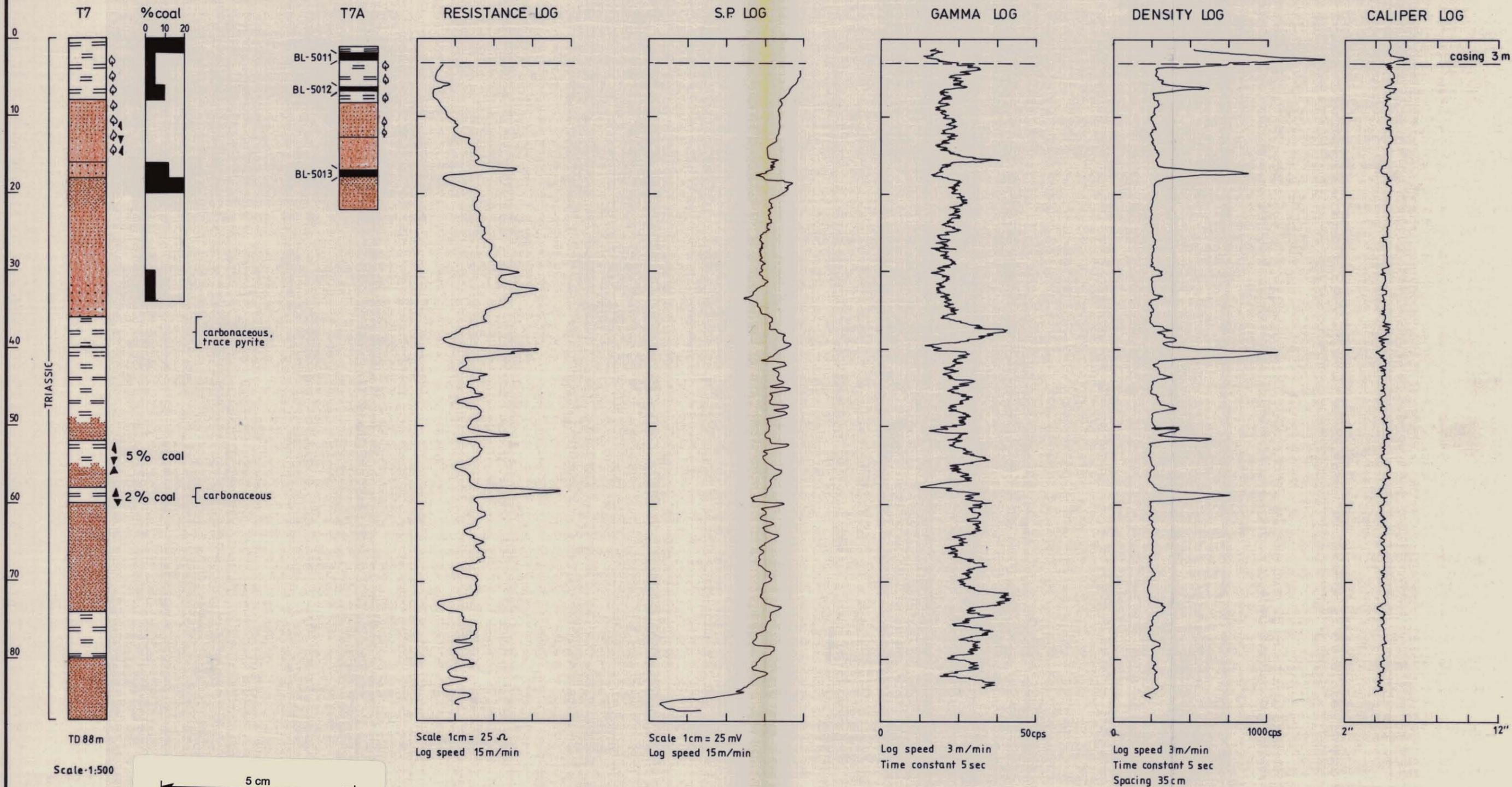
Centre
Melb.

Date
3/6/83

THE BROKEN HILL PROPRIETARY CO. LTD.
EL 30/80 TASMANIA
DRILL HOLE T6 - GRAPHIC LOG

Project No.
C35-27

Drawing No.
A4-2407/1



- Mudstone
- Very fine sandstone
- Fine sandstone
- Medium sandstone
- Coarse sandstone
- Coal seam
- Lithic suite
- Quartz suite
- Plant fossils
- Coal fragments

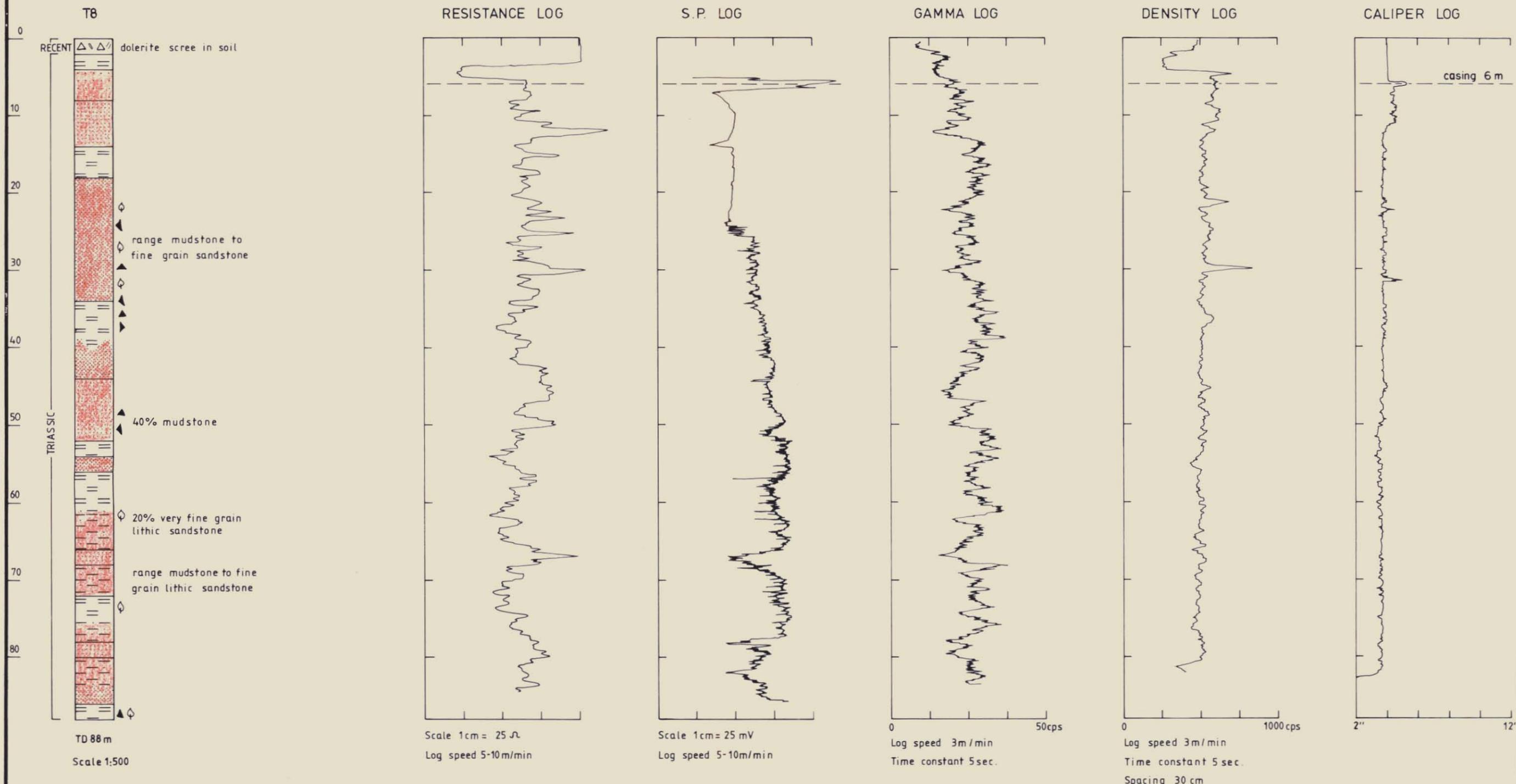
LOGGED 1/3/83

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT			
EL 30/80 TASMANIA DRILL HOLES T7, T7A GRAPHIC AND GEOPHYSICAL LOGS			
Revisions:	Prepared by: G. TORR	Centre: Melb.	
	Date: 30/5/83	Project No	Drawing No
	Drawn: A. HANSEN	C35-11	A3-1619/4

028

274029

FIG. 9



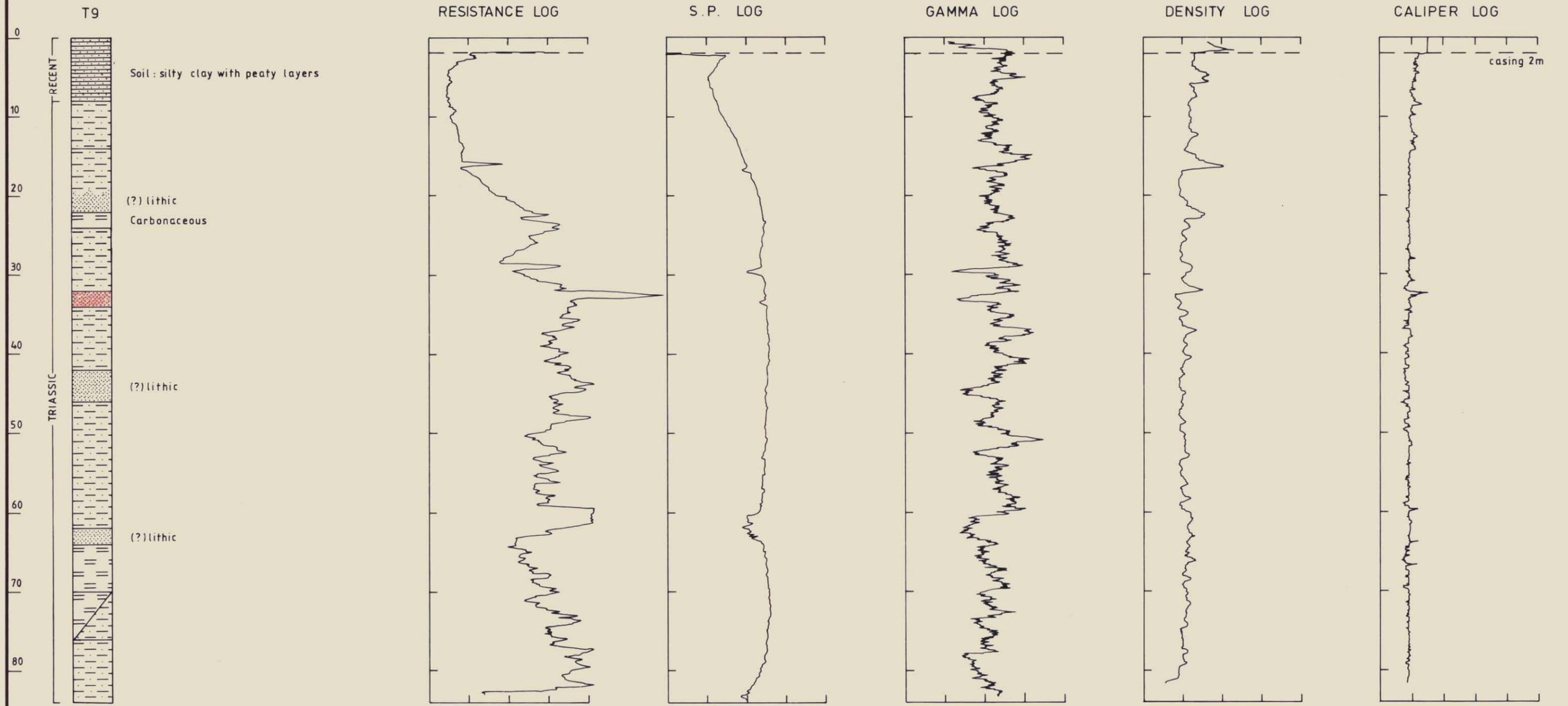
LOGGED 8/3/83

5 cm

- dolerite scree in soil
- very fine grain sandstone
- lithic suite
- mudstone
- fine grain sandstone
- coal fragments
- siltstone
- medium sandstone
- plant fossils

THE BROKEN HILL PROPRIETARY CO. LTD.			
EXPLORATION DEPARTMENT			
EL 30/80 TASMANIA			
DRILL HOLE T8			
GRAPHIC AND GEOPHYSICAL LOGS			
Revisions:	Prepared by : G. TORR		Centre : Melb.
	Date : 7/6/83		Project No.
	Drawn : A. HANSEN		C 35 - 12
		Drawing No.	A3-1619/5

U29



T9
 TD84m
 Scale 1:500

Scale 1cm = 25 Ω
 Log speed 15m/min

Scale 1cm = 62.5 mV
 Log speed 15m/min

0 50cps
 Log speed 3 m/min
 Time constant 5 sec.

0 1000cps.
 Log speed 3 m/min
 Time constant 5 sec.
 Spacing 35 cm

2" 12"

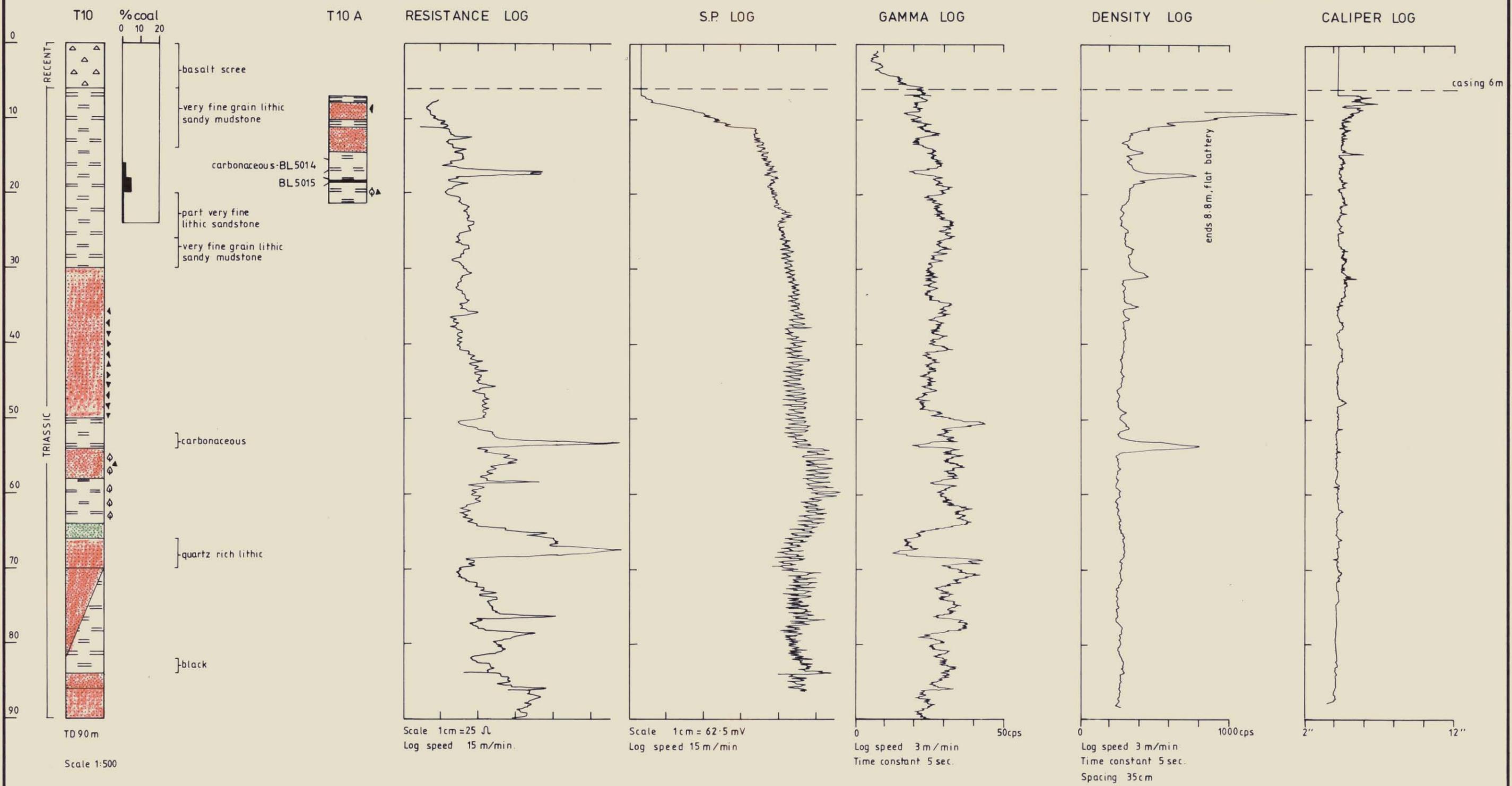
LOGGED 10/3/83

- soil
- mudstone
- lithic suite
- siltstone
- very fine sandstone

5 cm

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T9 GRAPHIC AND GEOPHYSICAL LOGS		
Revisions:	Prepared by: G. TORR Date: 15/6/83 Drawn: A. HANSEN	Centre: Melb. Project No: C35-13 Drawing No: A3-1619/6

030



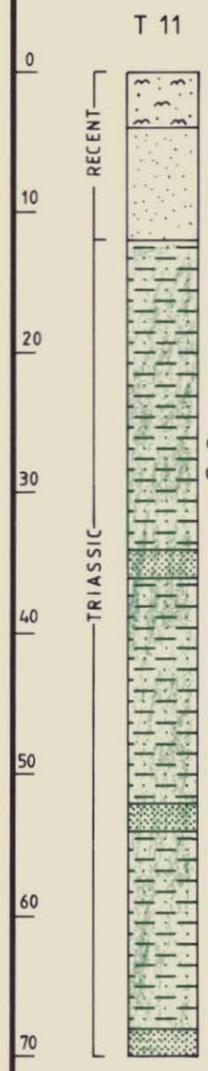
LOGGED 12,13/3/83

- Basalt scree
- Fine sandstone
- Lithic suite
- Plant fossils
- Mudstone
- Medium sandstone
- Quartz suite
- coal fragments
- Very fine sandstone
- Coal seam

5 cm

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLES T10, T10 A GRAPHIC AND GEOPHYSICAL LOGS		
Revisions:	Prepared by: G. TORR	Centre: Melb.
	Date: 23/5/83	Project No
	Drawn: A. HANSEN	C35-9
		Drawing No A3-1619/2

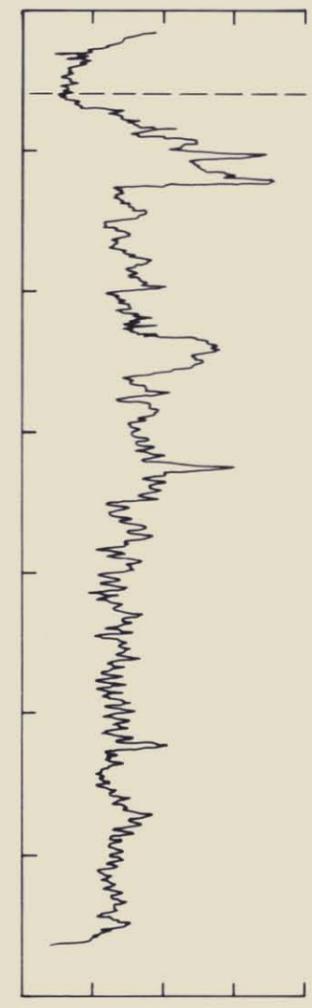
031



Peat
 Quartz sand, fine to coarse with depth.
 (sandy clay 6-8 m)

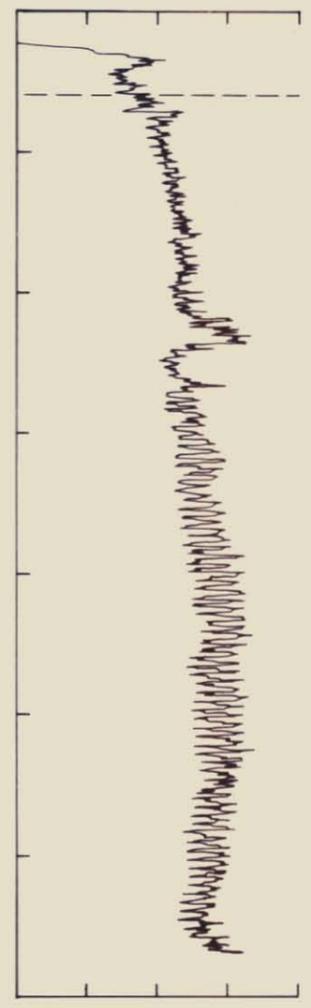
TD 70m
 Scale 1:500

RESISTANCE LOG



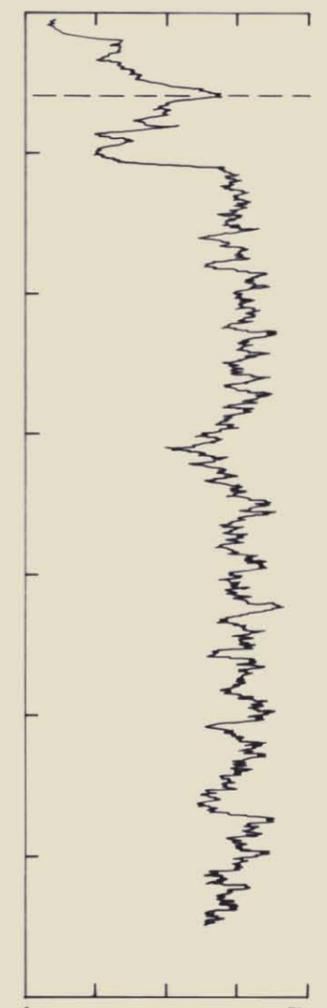
Scale 1cm = 62.5 Ω
 Log speed 15m/min

S.P. LOG



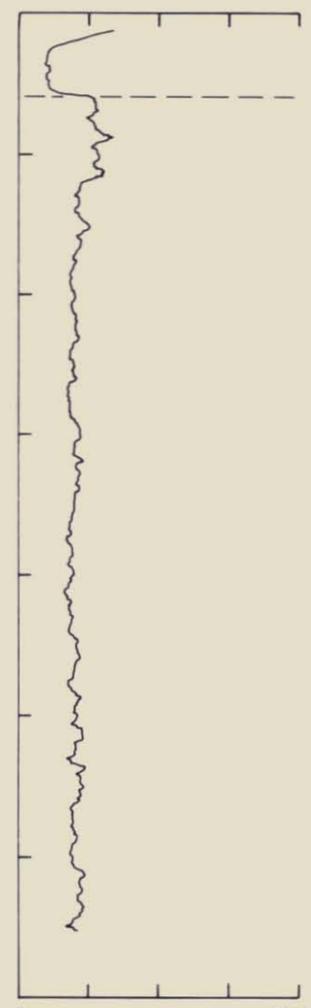
Scale 1cm = 250 mV
 Log speed 15m/min

GAMMA LOG



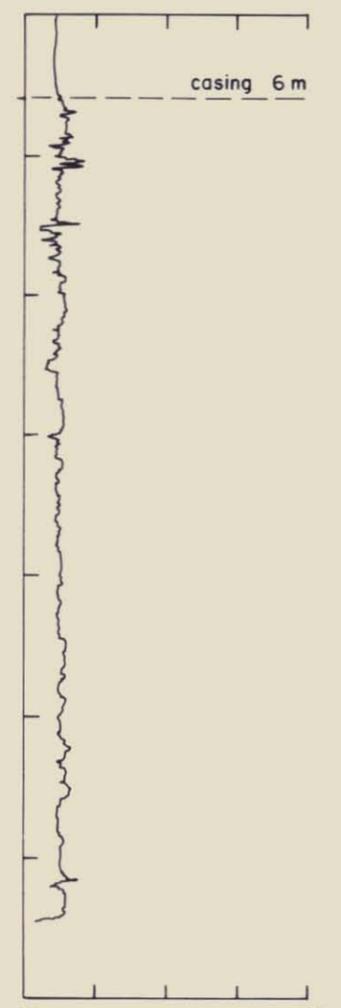
0 50cps
 Log speed 3m/min
 Time constant 5 sec.

DENSITY LOG



0 1000cps
 Log speed 3m/min
 Time constant 5 sec.
 Spacing 35 cm

CALIPER LOG

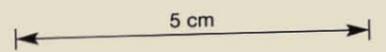


casing 6 m

LOGGED 14/3/83

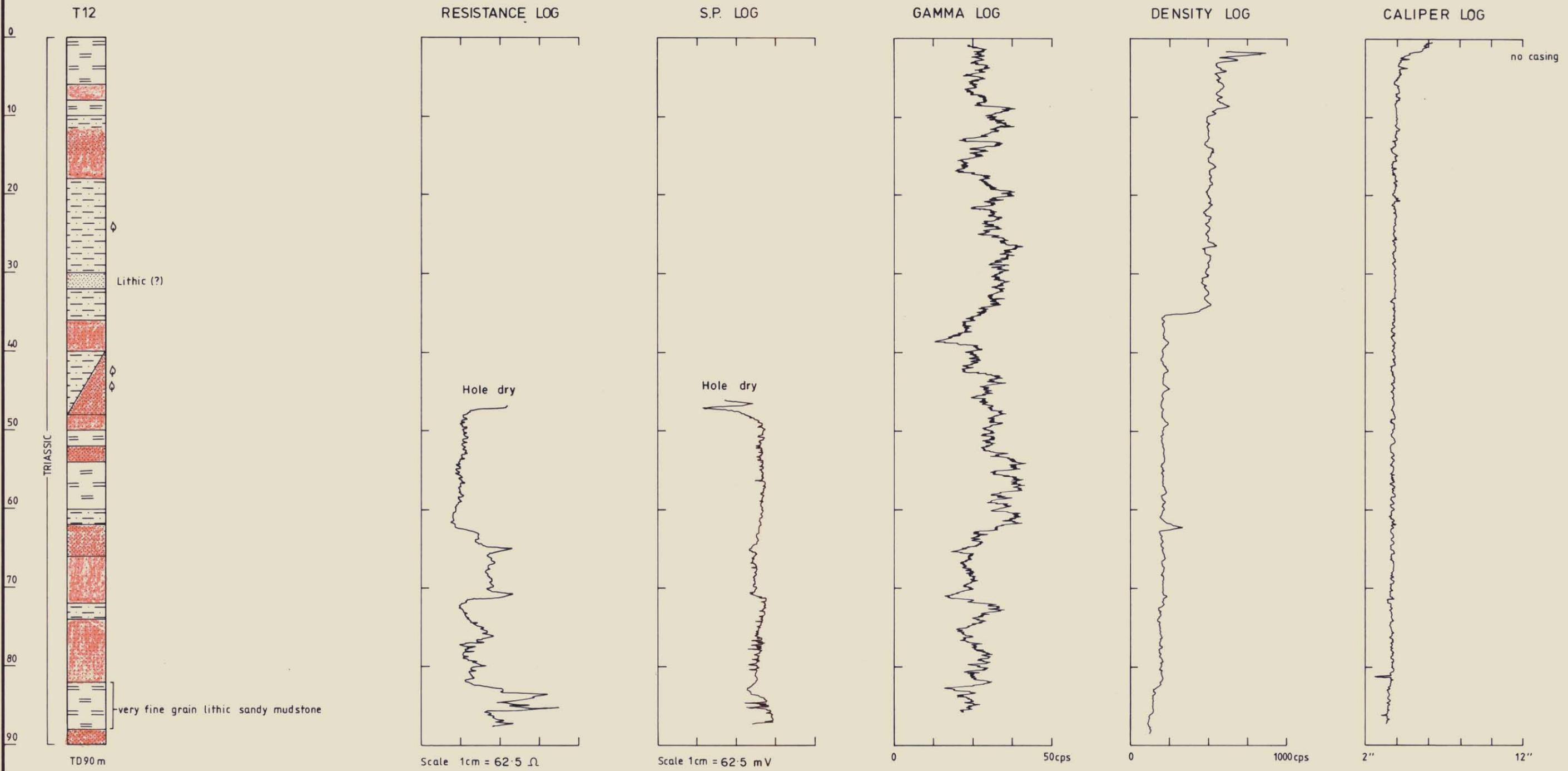
-  Peat
-  Quartz sand
-  Quartz suite
-  Siltstone
-  Very fine sandstone
-  Plant fossils

5 cm



THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T11 GRAPHIC AND GEOPHYSICAL LOGS		
Revisions:	Prepared by: G. TORR	Centre: <i>Melb.</i>
	Date: 16/6/83	Project No
	Drawn: A. HANSEN	C35-8
		Drawing No A3-1619/1

032



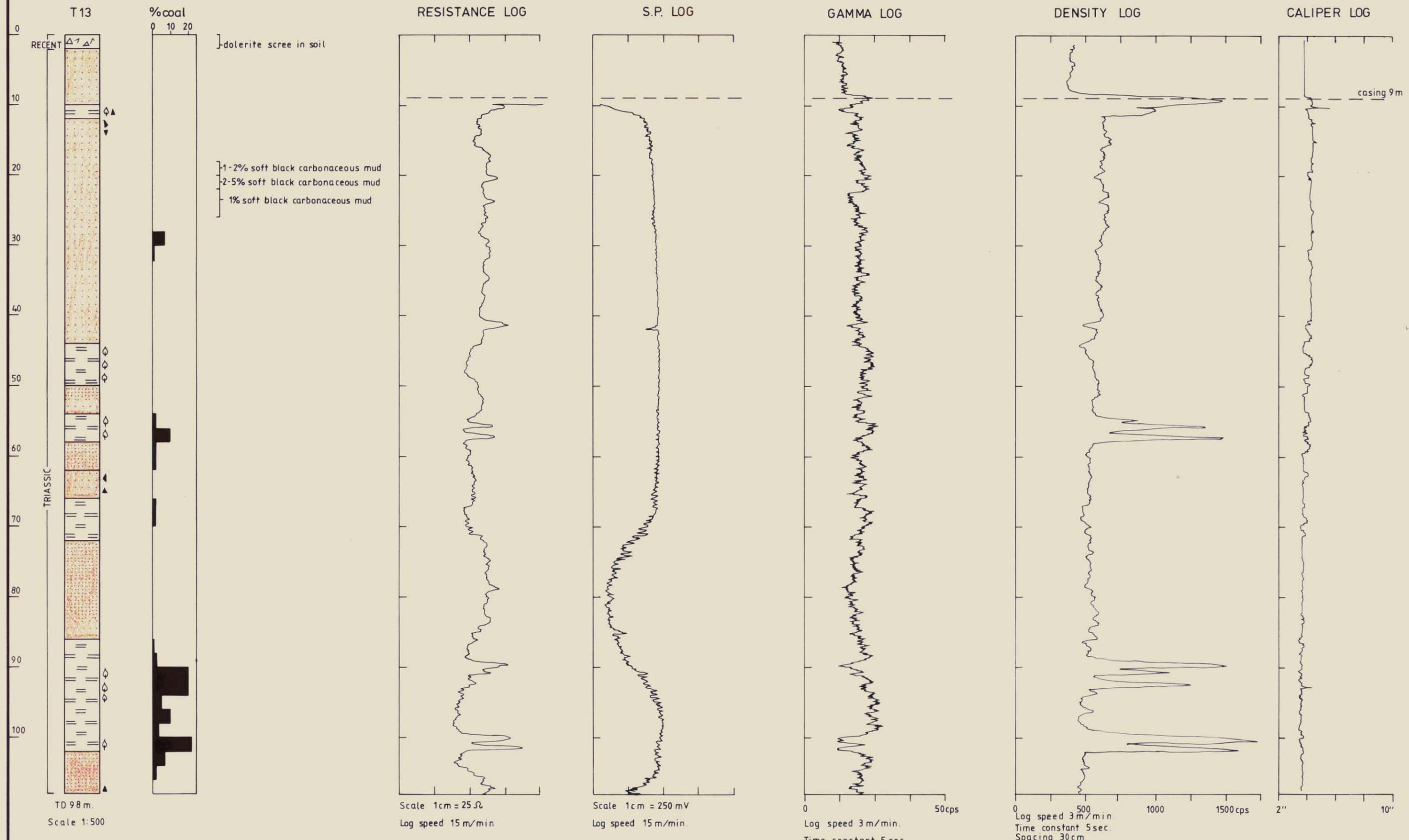
Scale 1:500

- Mudstone (horizontal lines)
- Fine sandstone (dotted)
- Lithic suite (red)
- Siltstone (vertical lines)
- Medium sandstone (cross-hatched)
- Quartz suite (white)
- Very fine sandstone (fine dotted)
- Plant fossils (diamond symbol)

LOGGED 14/3/83

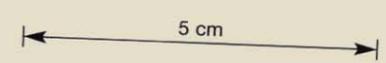
THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T12 GRAPHIC AND GEOPHYSICAL LOGS		
Prepared by: G. TORR	Centre: Melb.	
Date: 1/6/83	Project No	Drawing No
Drawn: A. HANSEN	C 35-10	A3-1619/3

U33



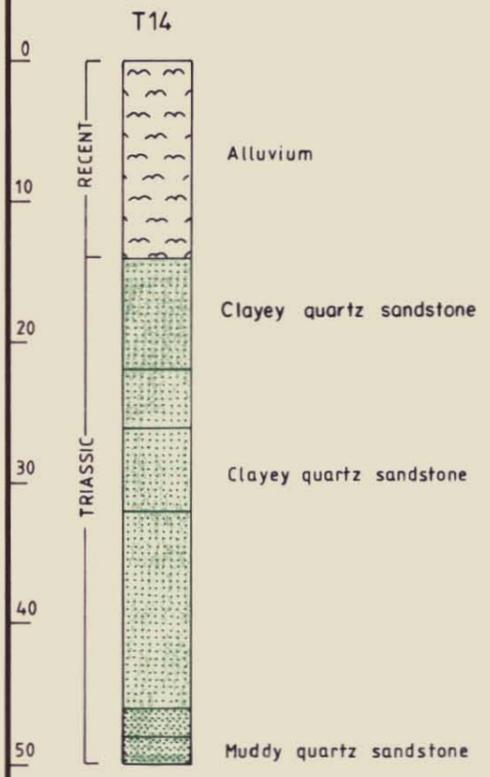
- Dolerite scree in soil
- Mudstone
- Fine sandstone
- Medium sandstone
- Lithic suite
- Quartz suite
- Coal seam
- Plant fossils
- Coal fragments

LOGGED 18/3/83



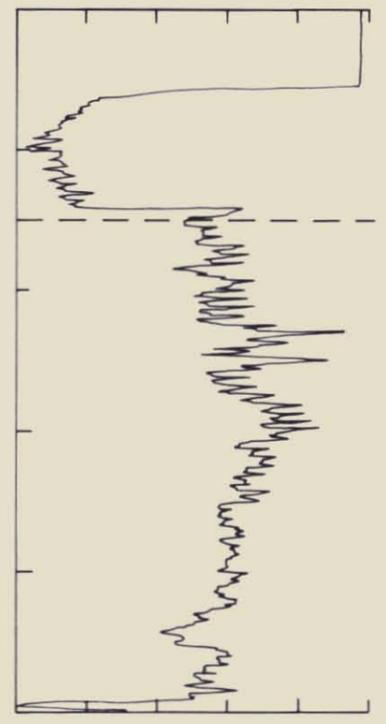
THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T13 GRAPHIC AND GEOPHYSICAL LOGS		
Prepared by: G. TORR	Centre: Me lb.	
Date: 30/5/83	Project No	Drawing No
Drawn: A. HANSEN	C35-14	A3-1619/7

0.3A



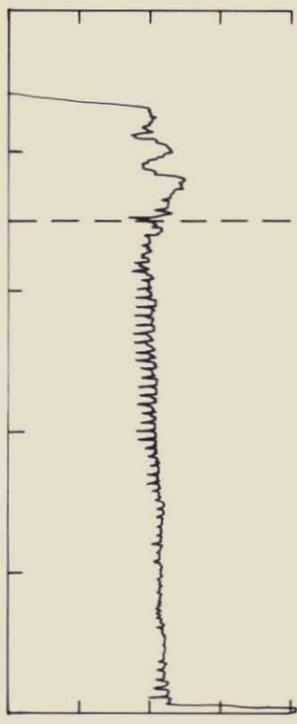
TD50m
Scale 1:500

RESISTANCE LOG



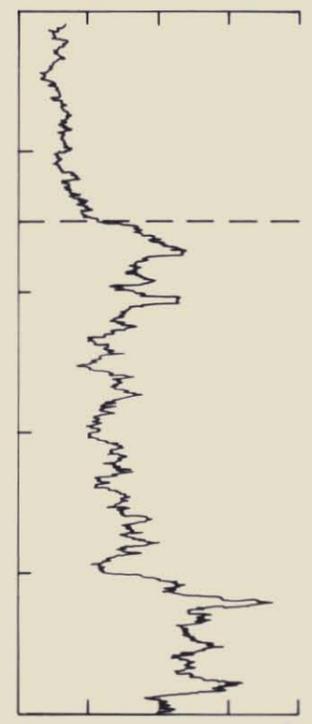
Scale 1cm = 25 Ω
Log speed 15m/min

S.P. LOG



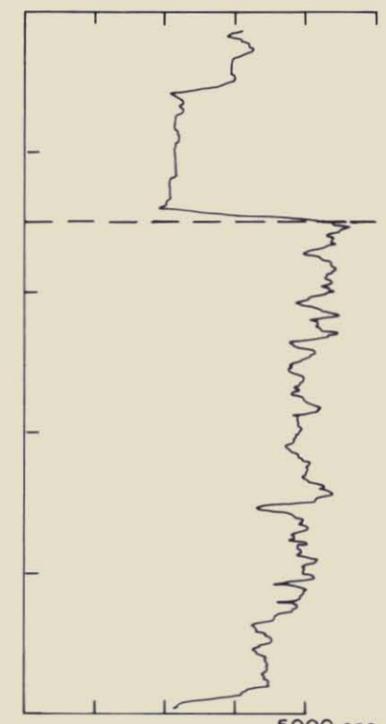
Scale 1cm = 125 mV
Log speed 15m/min

GAMMA LOG



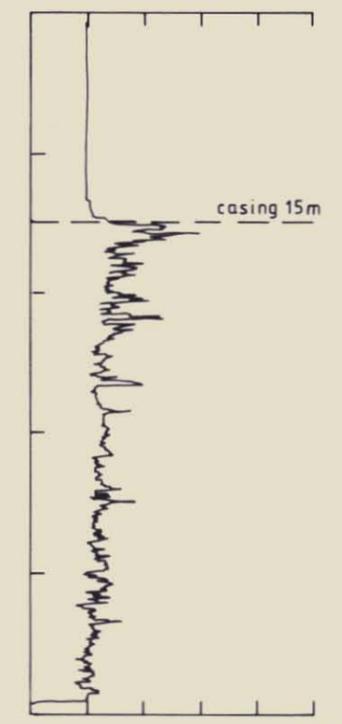
0 50cps
Log speed 3 m/min
Time constant 5 sec.

DENSITY LOG



0 5000 cps
Log speed 3 m/min
Time constant 5 sec.
Spacing 20 cm

CALIPER LOG

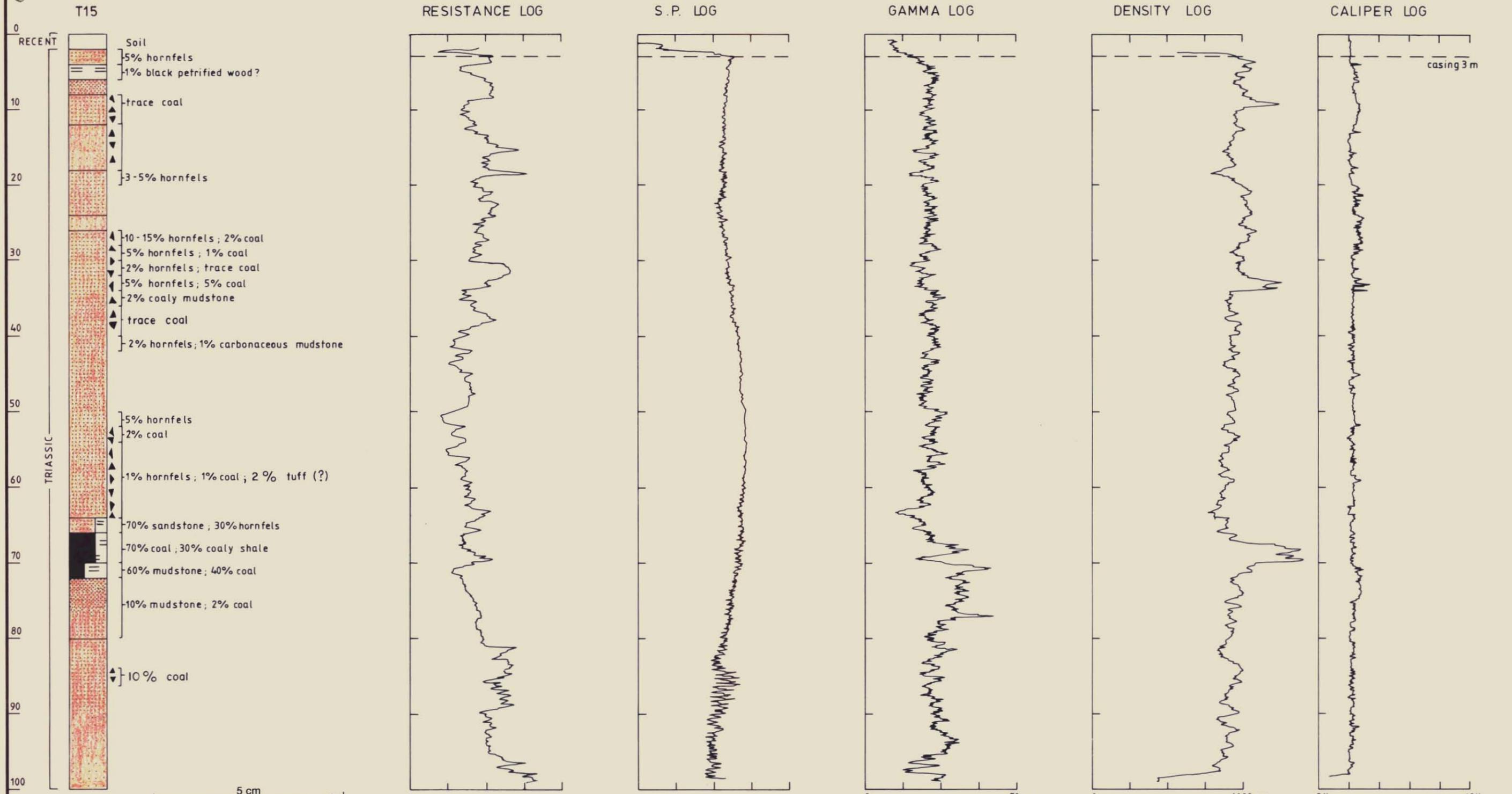


LOGGED 24/3/83

5 cm

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T14 GRAPHIC AND GEOPHYSICAL LOGS		
Prepared by: G. TORR	Centre: Melb.	
Date: 16/6/83	Project No	Drawing No
Drawn: A. HANSEN	C35-18	A3-1619/11

035



- soil
- very fine sandstone
- coal
- mudstone
- fine sandstone
- coal fragments
- siltstone
- medium sandstone
- lithic suite

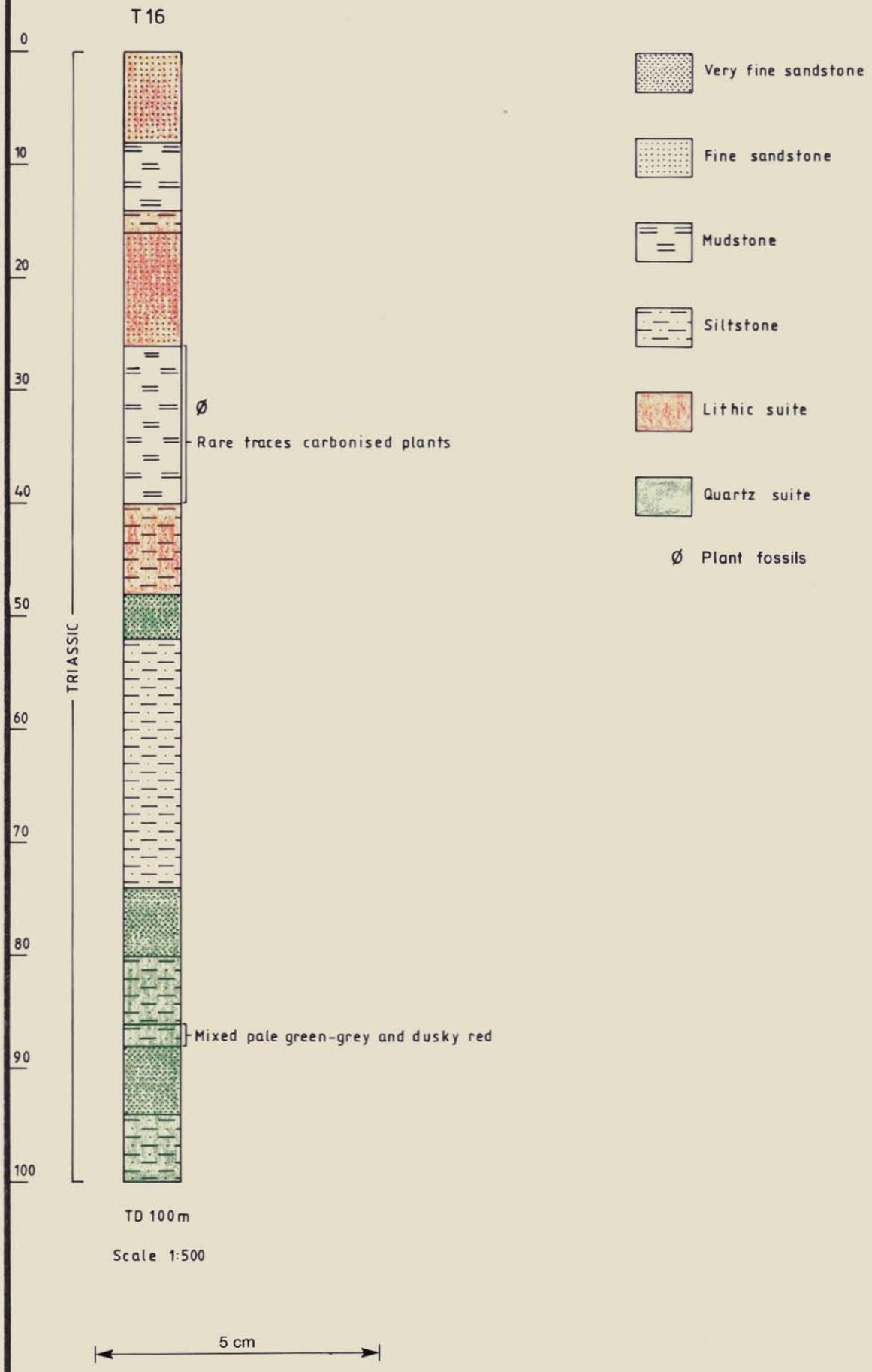
Date logged 27/3/83

THE BROKEN HILL PROPRIETARY CO. LTD. EXPLORATION DEPARTMENT		
EL 30/80 TASMANIA DRILL HOLE T15 GEOPHYSICAL AND GRAPHIC LOGS		
Revisions:	Prepared by: G. TORR	Centre: Meib.
	Date: 1/7/83	Project No: C35-17
	Drawn: A. HANSEN	Drawing No: A3-1619/10

036

274037

Fig. 17



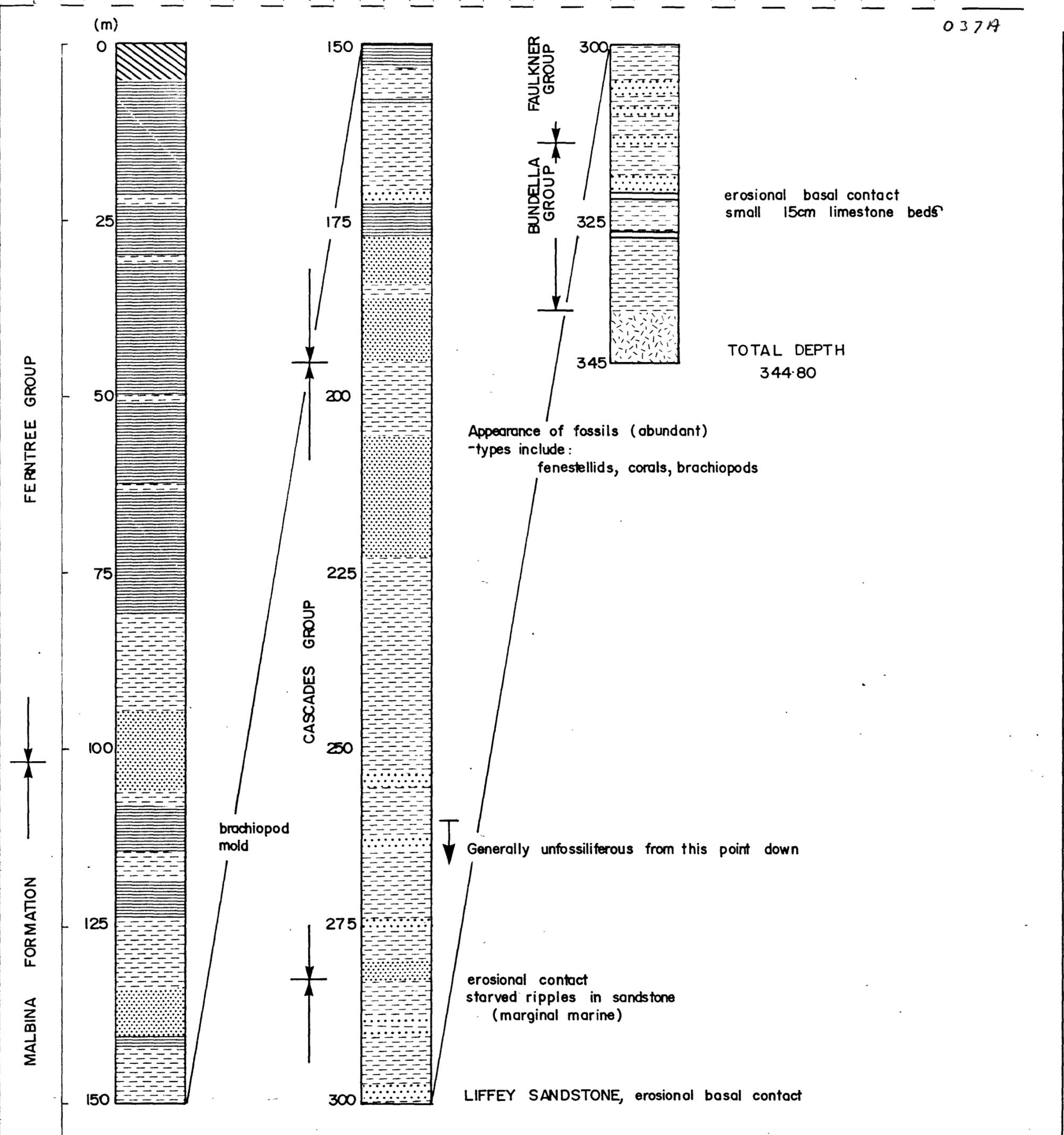
Centre
Melb.

Date
1/7/83

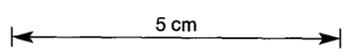
THE BROKEN HILL PROPRIETARY CO. LTD.
EL 30/80 TASMANIA
DRILL HOLE T16 GRAPHIC LOG

Project No.
C35-28

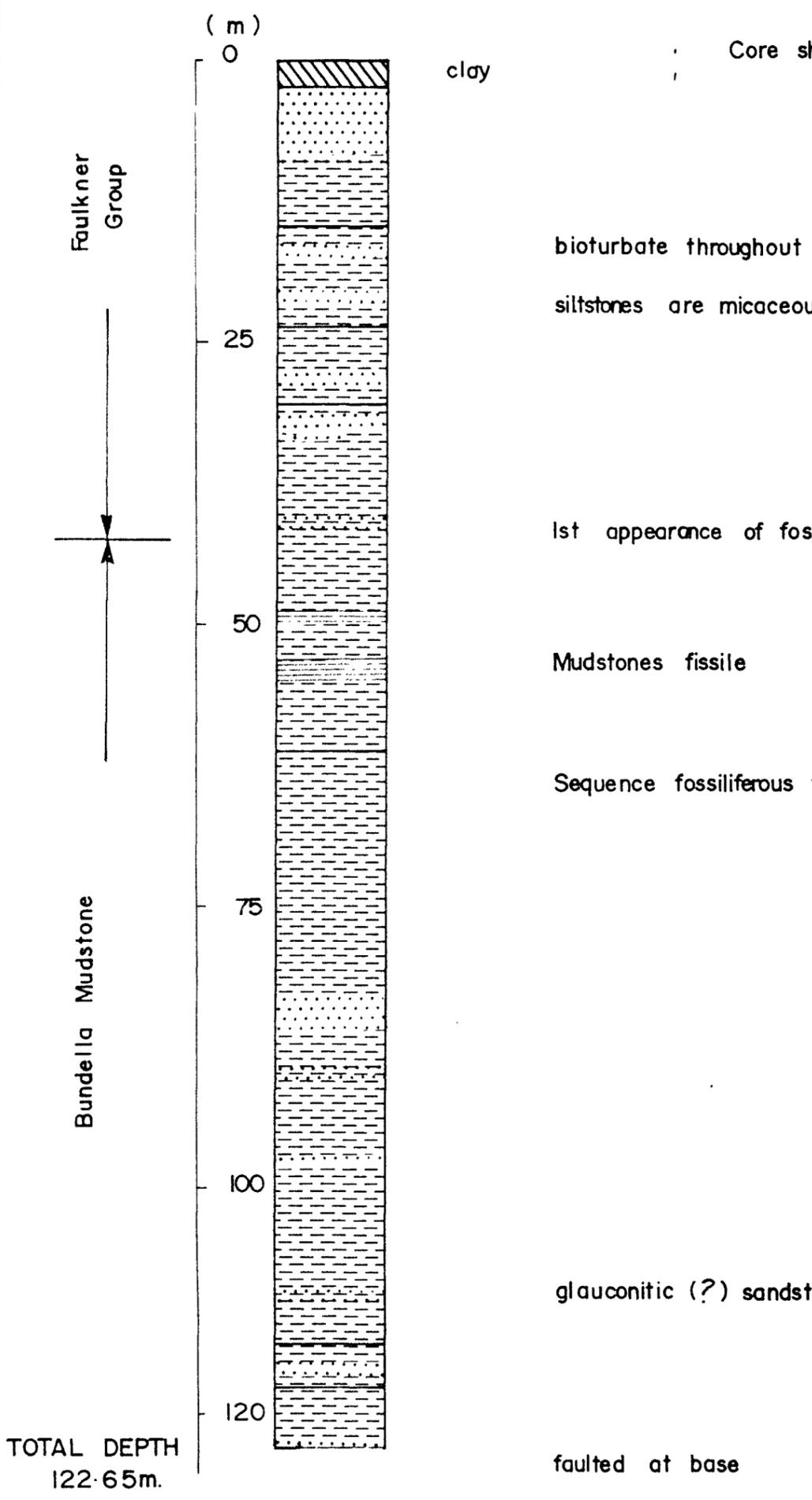
Drawing No.
A4/2407/2



TOPOGRAPHIC SHEET 1:100,000
SHANNON



MOBIL ENERGY MINERALS AUSTRALIA					
PROJECT TASMANIAN BASIN EL 30/80					
MPT 1 DUNGROVE					
5315000 N, 494550E					
037B					
COMPILED	DATE	BY	ADDNS	DATE	BY
DRAWN	1·84	AJW			
SCALE	1:500	HS	DWG No	1·6033·2·86	

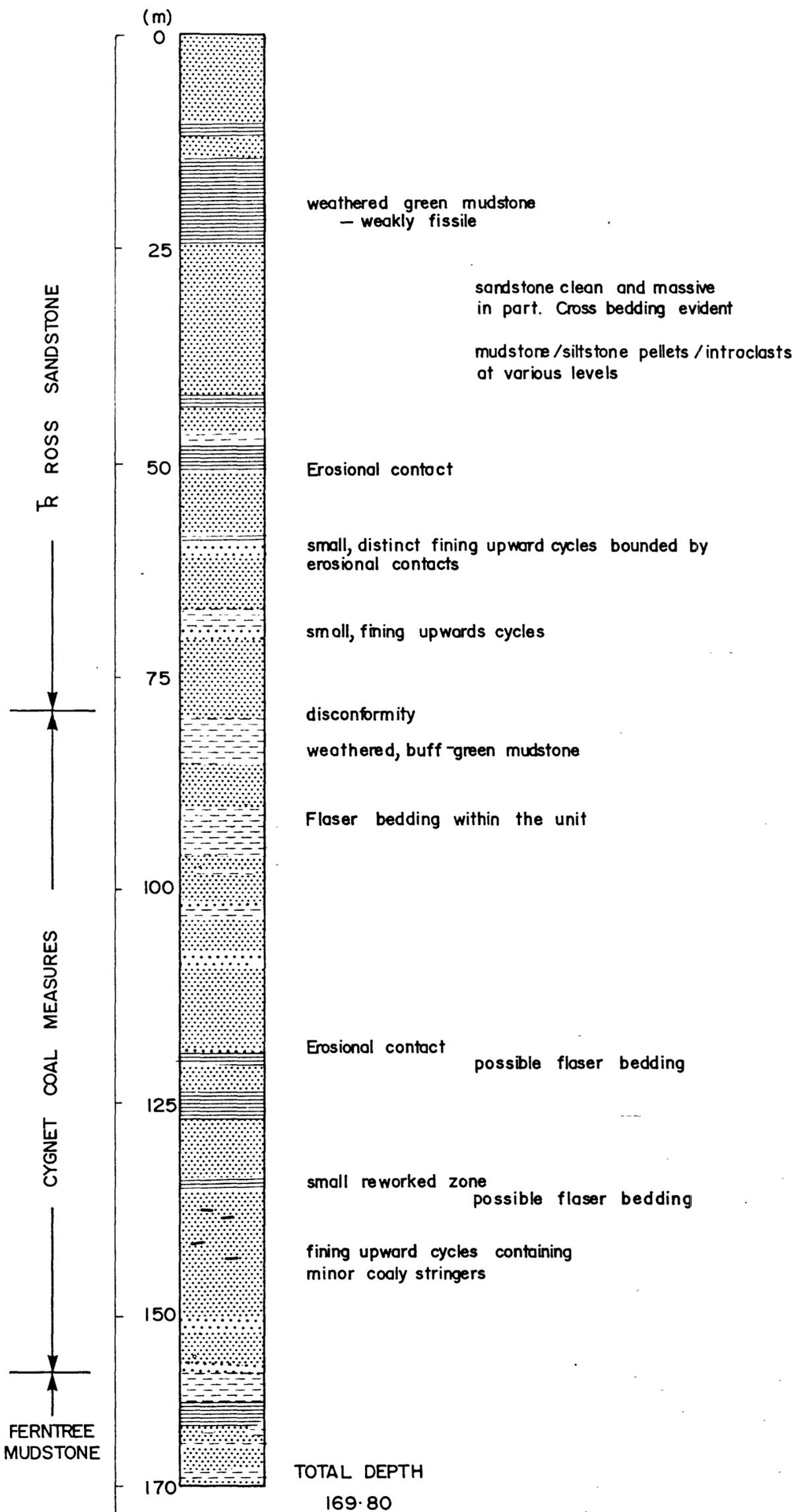


TOPOGRAPHIC SHEET 1:100,000
DERWENT

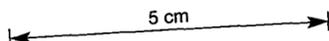
MOBIL ENERGY MINERALS AUSTRALIA					
PROJECT TASMANIAN BASIN EL 30/80					
MPT 2		LACHLAN		038	
5258100 N, 502650 E.					
COMPILED	DATE	BY	ADDNS	DATE	BY
	1.84	AJW			
DRAWN	1.84	HS			
SCALE	1:500		DWG No	1.6033.2.82	

274039

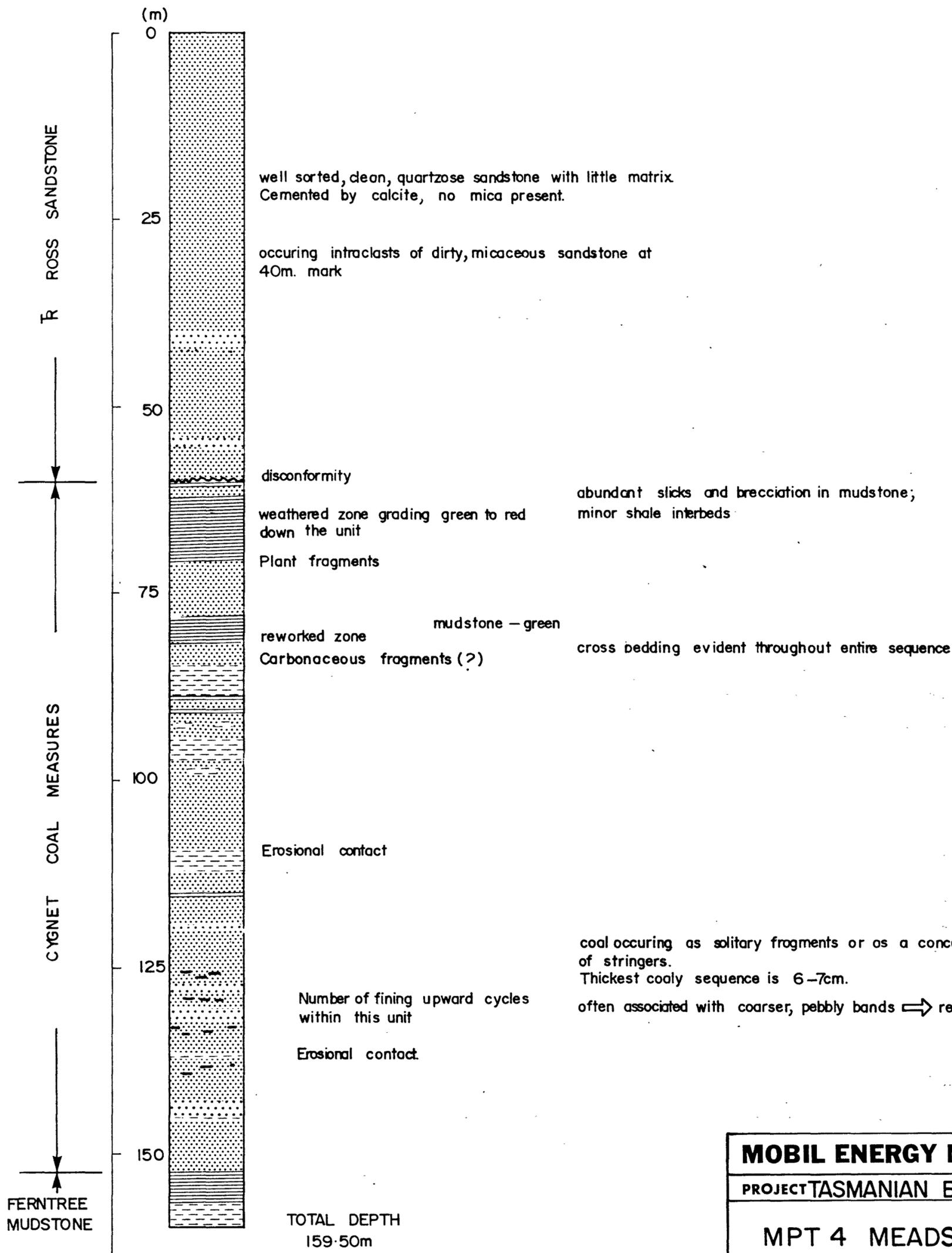
FIG. 19



TOPOGRAPHIC SHEET 1:100,000
DERWENT



MOBIL ENERGY MINERALS AUSTRALIA					
PROJECT TASMANIAN BASIN EL 30/80					
MPT 3 DROMEDARY					
507280 E, 5266450 N				039 B	
COMPILED	DATE	BY	ADDNS	DATE	BY
	1.84	AJW			
DRAWN	1.84	HS			
SCALE	1:500		DWG No	1.6033.2.85	

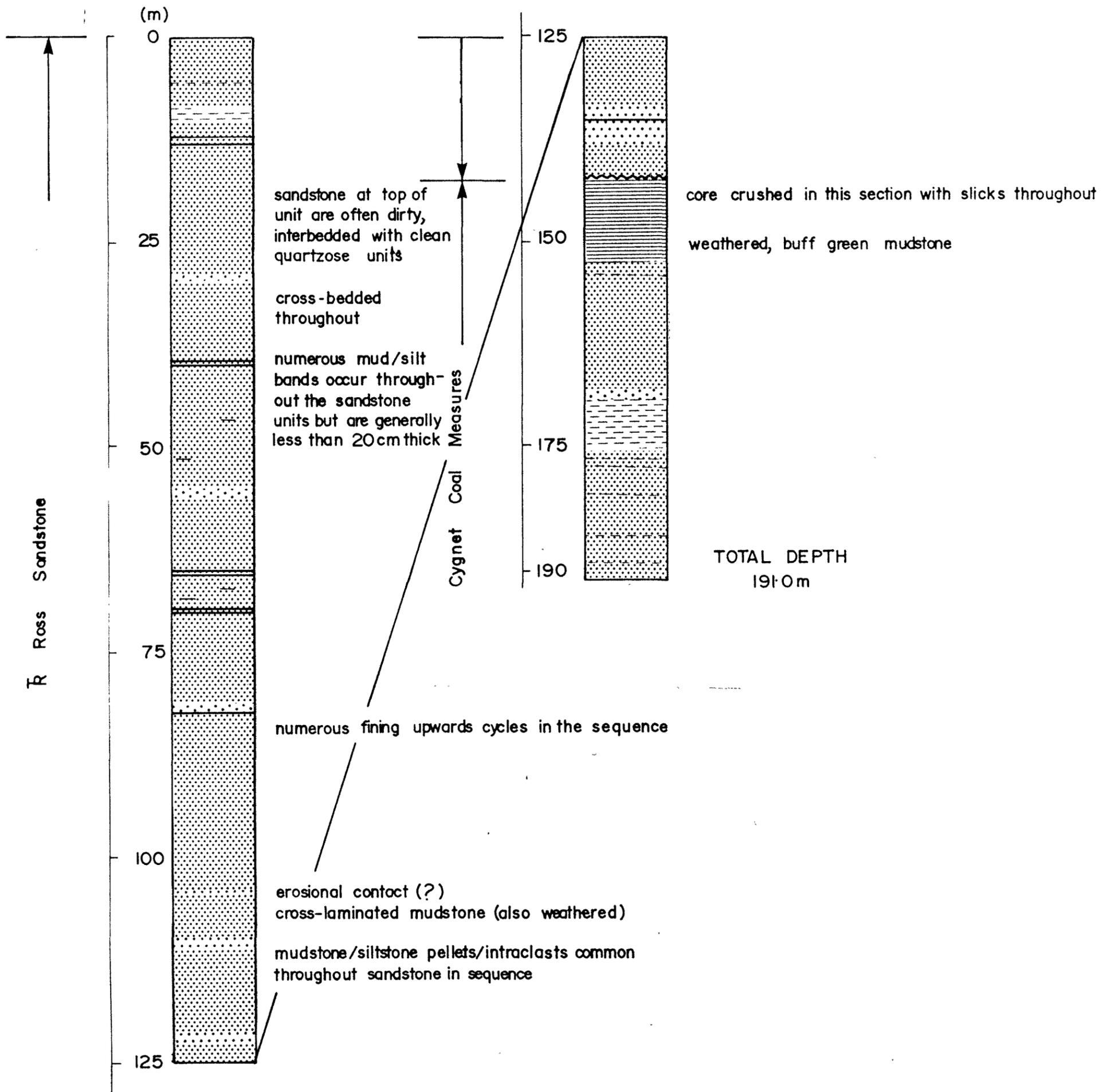


TOPOGRAPHIC SHEET 1:100,000
SHANNON

5 cm

MOBIL ENERGY MINERALS AUSTRALIA					
PROJECT TASMANIAN BASIN EL 30/80					
MPT 4 MEADSFIELD					
5205100N, 494150E					
040 B					
COMPILED	DATE	BY	ADDNS	DATE	BY
	1.84	AJW			
DRAWN	1.84	HS			
SCALE	1:500		DWG No	1.6033.2.84	

274041



TOPOGRAPHIC SHEET 1:100,000
DERWENT

MOBIL ENERGY MINERALS AUSTRALIA

PROJECT TASMANIAN BASIN EL 30/80

MPT 5 PELHAM

500000E, 5286300N

041

COMPILED	DATE	BY	ADDNS	DATE	BY
	1.84	AJW			
DRAWN	1.84	HS			
SCALE	1:500		DWG No	1.6033.2.83	

274042

FIG. 22