

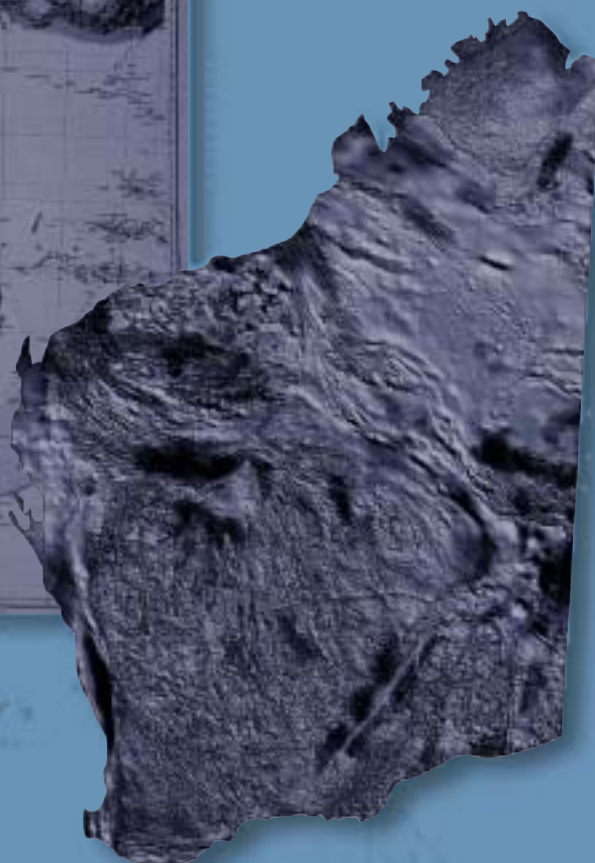
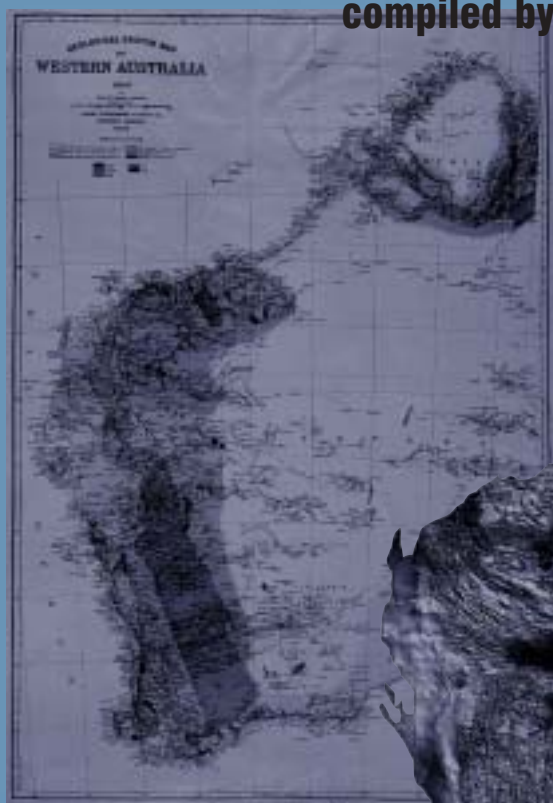


Department of
Mineral and Petroleum Resources

**RECORD
2002/8**

**GSWA EDAGGEE 1
WELL COMPLETION REPORT (BASIC DATA)
GASCOYNE PLATFORM
SOUTHERN CARNARVON BASIN
WESTERN AUSTRALIA**

compiled by A. J. Mory and M. Dixon



Geological Survey of Western Australia



GEOLOGICAL SURVEY OF WESTERN AUSTRALIA

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**compiled by
A. J. Mory and M. Dixon¹**

**with contributions from
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Perth 2002

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GSWA Edaggee 1 well completion report (basic data), Gascoyne Platform, Southern Carnarvon Basin, Western Australia

compiled by
A. J. Mory and M. Dixon¹

with contributions from
J. Backhouse² and D. W. Haig¹

Abstract

GSWA Edaggee 1 is a stratigraphic well drilled in 2001 at latitude 25°21'27.0"S and longitude 114°14'04.9"E on the Gascoyne Platform in the Southern Carnarvon Basin to a depth of 351 m. The interval from 216.9 to 351 m was continuously cored by diamond drilling with a recovery of 98%. It penetrated the following Cretaceous units below Quaternary alluvium: Toolonga Calcilutite, Gearle Siltstone, Windalia Radiolarite, Muderong Shale and Birdrong Sandstone, before being terminated near the base of the Early–Middle Devonian Sweeney Mia Formation.

KEYWORDS: Cretaceous, Devonian, stratigraphy, diamond drilling.

Introduction

The Geological Survey of Western Australia (GSWA) Edaggee 1 is a stratigraphic well drilled on Edaggee Station 78 km southeast of Carnarvon. The well is located 500 m due east of the homestead, which lies 19 km east of the North West Coastal Highway (Fig. 1). The nearest wells are Yaringa East 1, 62 km to the south-southeast, and Mooka 1, 70 km northeast. To the north and west the closest wells are Quobba 1, 138 km north-northwest, and Dirk Hartog 17B, 129 km west-southwest (Fig. 2). Edaggee 1 was located after examining wireline logs and cuttings from Water and Rivers Commission (WRC) bores drilled as part of their artesian bore refurbishment program (WRC website). The structure in the vicinity of the hole is uncertain as the nearest seismic section (W65S-001B) lies 13 km to the north. No hydrocarbons were encountered in the well.

The primary objective of Edaggee 1 was to continuously core the Winning Group and underlying Palaeozoic strata. Coring of the upper part of the well was undertaken in conjunction with the University of Western Australia,

as part of an Australian Research Council project on the Cretaceous succession, whereas the underlying Palaeozoic section was cored to evaluate the petroleum prospectivity of the Gascoyne Platform. The joint project also involved two other wells, Booloogooro 1 and Yinni 1, 120 km to the north-northwest and 94 km to the south-southeast respectively (Mory and Dixon, 2002a,b). Edaggee 1 was terminated within the Sweeney Mia Formation to avoid the strong artesian flow from the underlying Kopke Sandstone. At abandonment the well was plugged in the Windalia Radiolarite to contain a minor artesian flow from the Birdrong Sandstone. The hole was not geophysically logged because of logistic difficulties with the logging company — the logs from the artesian bore 420 m to the west, logged during the WRC bore refurbishment program, were used instead. Information on the Kopke Sandstone in that water bore, below the cored interval in Edaggee 1, has been incorporated into the present report.

This Record provides the basic data for Edaggee 1 including the operations report (Appendix 1), core photographs (Appendix 2), a provisional well index sheet (Appendix 3), and a provisional composite well log (Plate 1). Additional analyses including petroleum and mineral geochemistry, and palynology, foraminifera, and nannofossil biostratigraphy will be supplied in an

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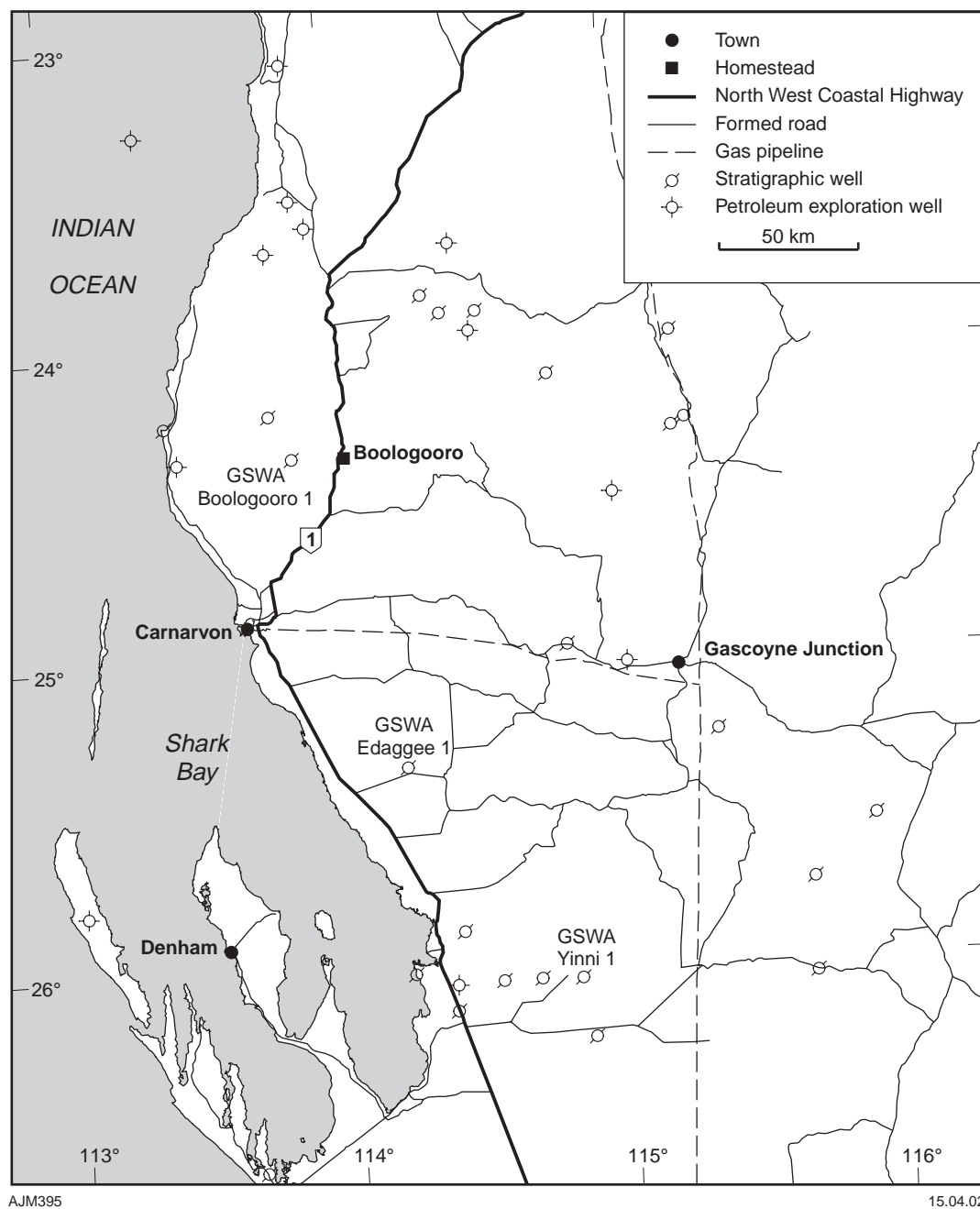


Figure 1. Location of petroleum wells and stratigraphic drillholes in the central part of the Gascoyne Platform

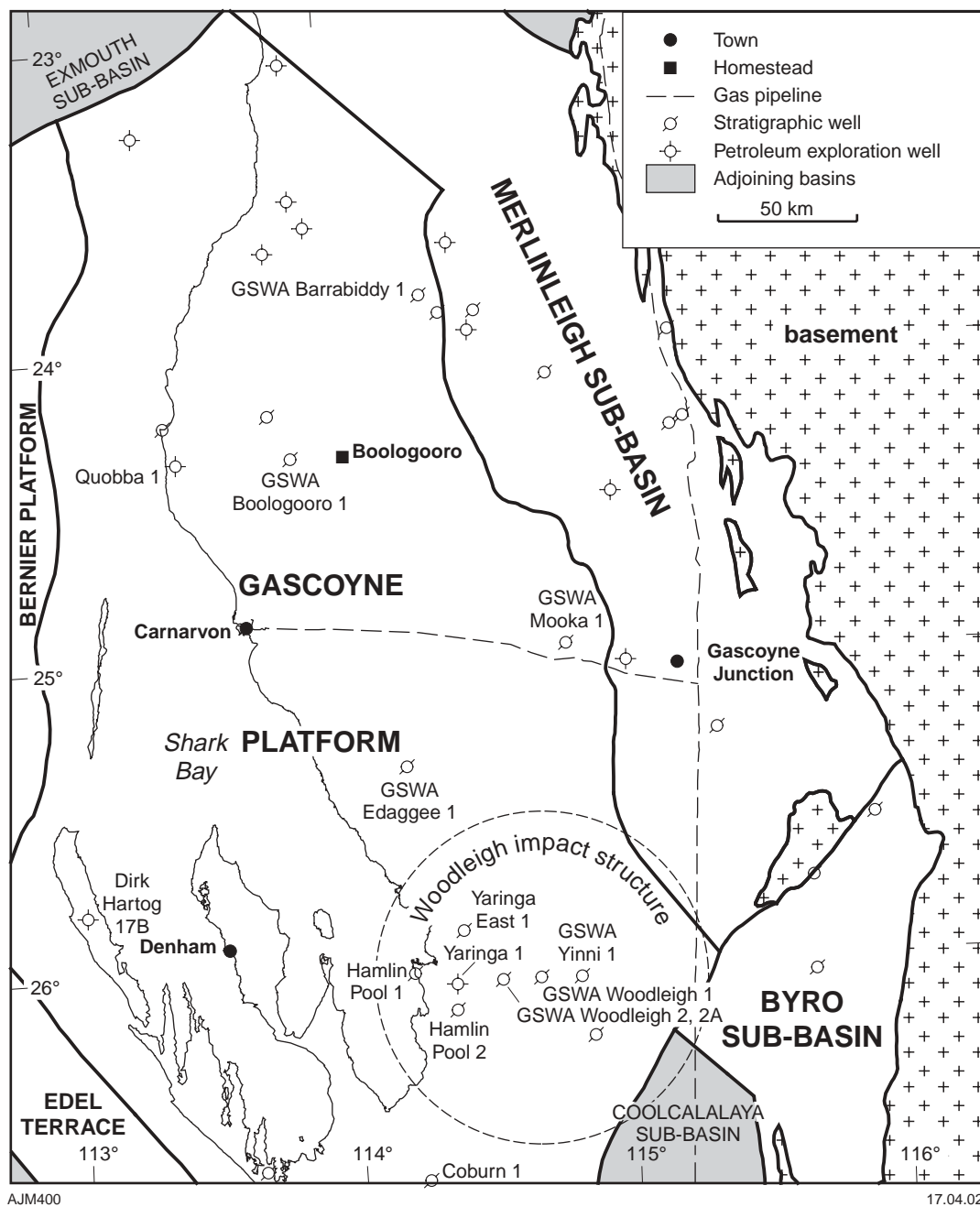


Figure 2. Tectonic elements map showing location of wells

interpretive well completion report at a future date. Detailed images of the area are available on the University of Western Australia's Department of Geology and Geophysics website (see biostratigraphy group).

Well history

General data

Permit:	Vacant
Location:	Latitude 25°21'27.0"S, Longitude 114°14'04.9"E (GDA94) Northing 7192590, Easting 221700 (MGA Zone 50), determined from Global Positioning System (GPS)
Derivation of name:	Edaggee Station
Total depth (TD):	351.0 m (driller)
Date spudded:	9 May 2001
Reached TD:	16 May 2001
Logging:	No geophysical logs were run
Date completed:	17 May 2001
Elevation:	35 m Australian Height Datum (AHD), estimated from height of the homestead water bore and using the Edaggee (1747) 1:100 000 topographic map
Drill floor:	Ground level
Status:	Plugged and abandoned

Drilling data

Drilling contractor:	Mt Magnet Drilling, 33 Paramount Drive, Wangara, W.A. 6065
Rig:	Hydco SD 1000
Rig datum:	Ground level
Hole size:	0–1 m 280 mm with PVC casing 1–13 m 200 mm with PW casing cemented into place 13–69 m 175 mm with PW casing cemented into place 69–216.9 m 114 mm with HWT casing (removed after drilling) 216.9–351.0 m 96 mm open hole
Mud:	Mixture of KCl and polymer-based muds
Core recovery:	216.9–351 m HQ3 (63.5 mm diameter) recovered 129.43 m (98%)
Hole deviation:	Not measured
Plug:	A HQ van Ruth plug at 272 m, capped by about 50 m of cement

Logging

The geophysical logs from the water bore 420 m to the east are incorporated into this report.

Regional structural setting

Edaggee 1 was drilled in the southwestern part of the Gascoyne Platform of the Southern Carnarvon Basin (Hocking et al., 1994). The Gascoyne Platform is a structurally high area containing up to 5000 m of faulted and folded Ordovician–Devonian strata (Iasky and Mory, 1999, fig. 4). It lies west of a major middle Carboniferous – Permian depocentre (incorporating the Merlinleigh, Byro and Coolcalalaya Sub-basins), east of the Bernier Platform and Edel Terrace (Fig. 2; Iasky and Mory, 1999; Hocking et al., 1987), and is covered by flat-lying Cretaceous and, locally, Lower Jurassic strata. The Wandagee and Ajana Ridges mark the raised eastern rim of the Gascoyne Platform.

The local structural position of the well is uncertain as it was located primarily on the basis of data from artesian bores, and seismic control in the region is sparse and of poor quality. Dips in the well are generally less than 2° in the Cretaceous and 3–4° in the underlying section (Table 1), consistent with the nearest seismic section (W65S-001B, 13 km to the north), which shows low dips to the west in the Palaeozoic section and virtually none in the Cretaceous.

Stratigraphy

The southern Gascoyne Platform contains mostly Ordovician – Middle Devonian and Cretaceous units; within this sub-basin younger Palaeozoic units are restricted to the northern part (Fig. 3). The well was spudded into Quaternary sand below which the Cretaceous Toolonga Calcilutite and underlying Winning Group overlie gently dipping dolomite and shale of the Sweeney Mia Formation (Fig. 4, Table 1). Further south the Cretaceous overlies the Jurassic Woodleigh Formation, but that unit is restricted to the Woodleigh impact structure.

Quaternary sediments

The uppermost section of Edaggee 1 (0 – 39.5 m) comprises red to brown, medium-grained, loose sand and clay.

Toolonga Calcilutite

The Upper Cretaceous Toolonga Calcilutite is present over the interval 39.5 – 239.5 m and consists of fossiliferous, green to white calcilutite and minor clay. Planktonic foraminifera and *Inoceramus* prisms are evident in the calcareous samples. The lower contact with the Gearle Siltstone (Winning Group) is a regional disconformity. Foraminifera and dinoflagellates indicate a Coniacian – middle Campanian age (Tables 2 and 3). Deposition was in an open-marine carbonate-dominated environment with foraminifera indicating a fluctuating mid- to outer-neritic (water depths of 50–150 m) environment (Table 2).

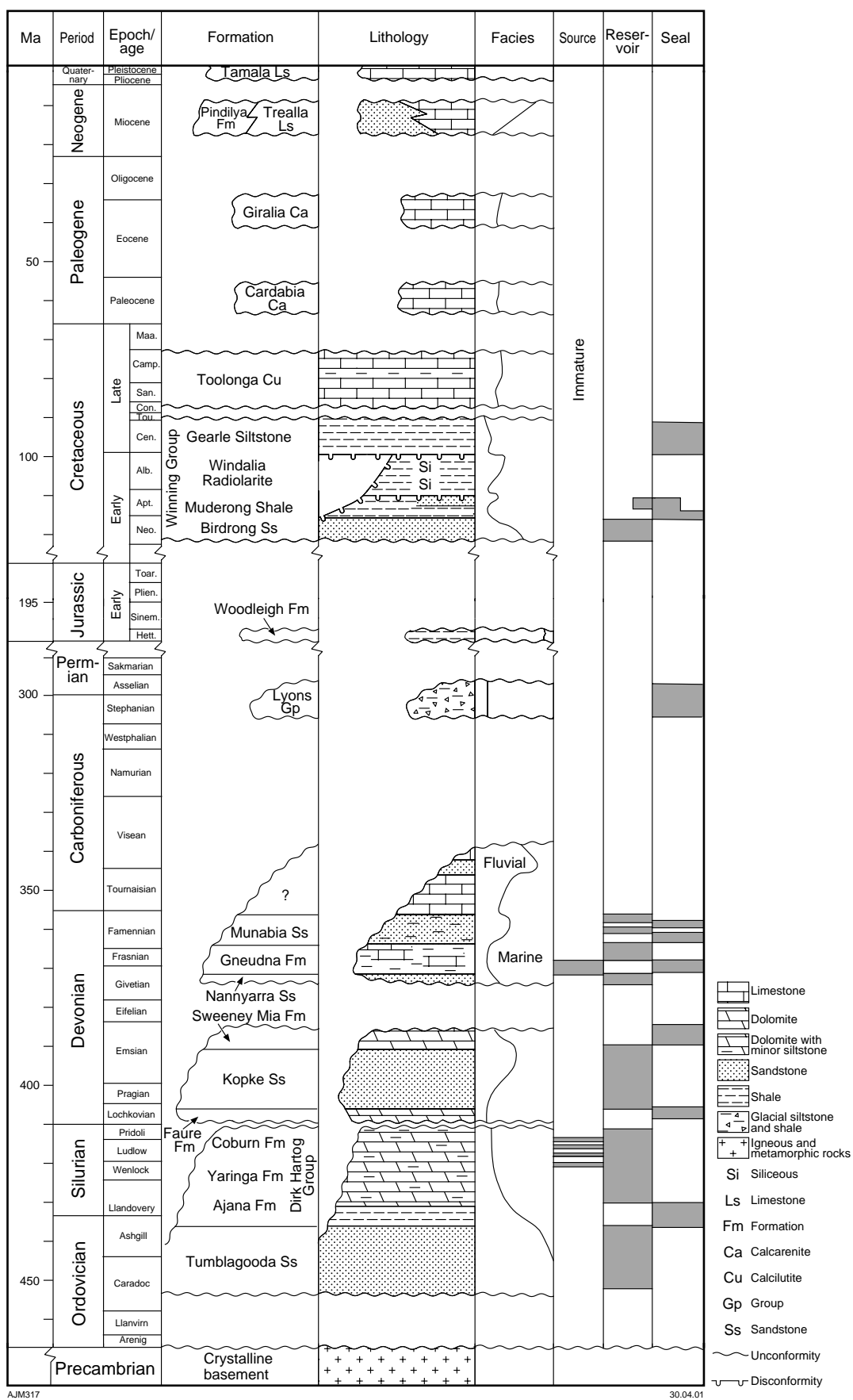
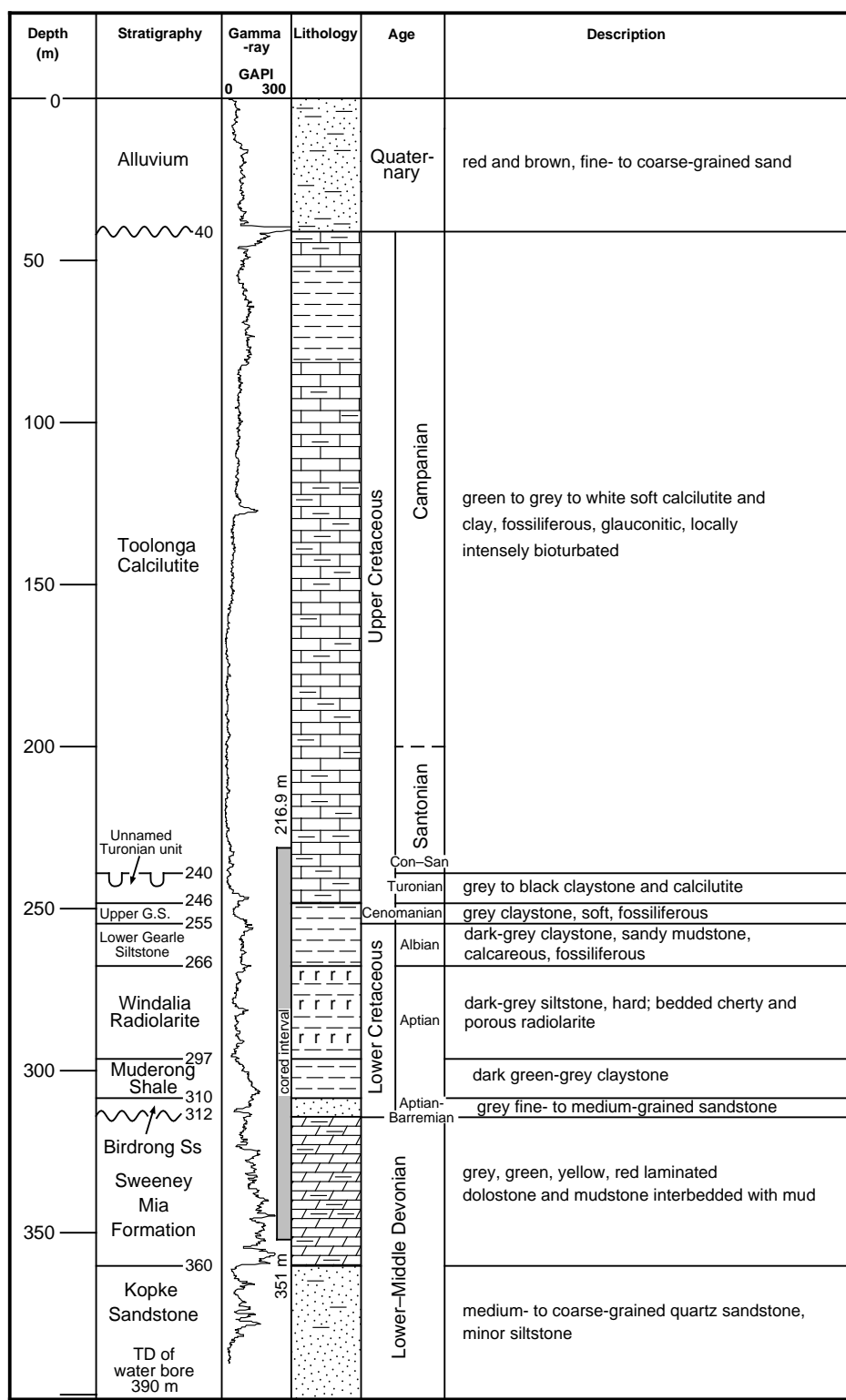


Figure 3. Regional stratigraphy of the Gascoyne Platform (after Iasky and Mory, 1999)



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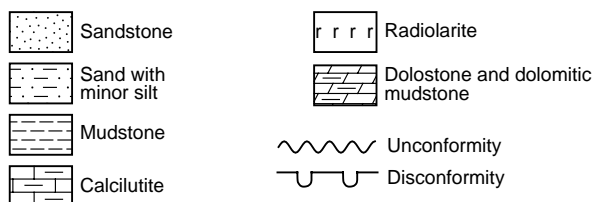


Figure 4. Edaggee 1 stratigraphy

Table 1. Bedding dips in Edaggee 1

Depth (m)	Apparent dips	Unit
242–301	0–2°	Gearle Siltstone to Muderong Shale ^(a)
308	23°	Muderong Shale
309.4	0–1°	Muderong Shale
314.0	3°	Sweeney Mia Formation
319.6	3°	Sweeney Mia Formation
322.0	4°	Sweeney Mia Formation
327	3°	Sweeney Mia Formation

NOTE: (a) irregular bedding in Windalia Radiolarite with dips up to 5°, probably due to compaction around silica-rich beds

Unnamed Turonian unit

An unnamed unit of Turonian age (based on foraminifera, Table 2) present over the interval 239.5 – 245.8 m consists of laminated carbonaceous claystone with pyritic nodules at the base overlain by interbedded calcilutite and minor carbonaceous mudstone with abundant small-scale burrows. The upper contact with the Toolonga Calcilutite is placed at a sharp break between interbedded mudstone and calcilutite below and calcilutite above, although there appears to be little change in the carbonate facies across this boundary. Deposition was in a quiet marine environment at outer-neritic water depths (100–200 m).

Winning Group

All units of the Winning Group are present in Edaggee 1 over the interval 239.5 – 311.9 m (Gearle Siltstone, Windalia Radiolarite, Muderong Shale, and Birdrong Sandstone), excluding the Windalia Sandstone Member of the Muderong Shale. These units are separated by minor breaks that are well documented in Barrabiddy 1 and 1A (Mory and Yasin, 1999) and Coburn 1 (Yasin and Mory, 1999a).

Gearle Siltstone

The Gearle Siltstone was encountered in the interval 245.8 – 266.0 m and consists of dark grey-green to light grey,

pyritic claystone and sandy mudstone with belemnites and rare bivalves. On the basis of foraminiferal ages (Table 2) the unit contains a significant break between the Cenomanian and Albian, and on that basis is divided into an upper unit of Cenomanian age (245.8 – 255.0 m) and a lower unit of early to mid-Albian age (255.0 – 266.0 m). Dinoflagellates from 252.9 m suggest a late Albian age (*E. ludbrookiae* Zone; Table 3), but it is expected that nannofossils will be able to clarify this apparent difference.

Windalia Radiolarite

The Windalia Radiolarite (266.0 – 296.7 m) is characterized by distinctly siliceous radiolarian-rich dark grey siltstone. The unit contains Aptian foraminifera and radiolarians (Table 2) and dinoflagellates of the *D. davidii* Zone (Table 3). Previous wells in the region that intersected the unit, and in which the *D. davidii* dinoflagellate zone has been identified, include Barra-biddy 1 and 1A (Mory and Yasin, 1999), Mooka 1 (Mory and Yasin, 1998), and Yaringa East 1 (Yasin and Mory, 1999b). The foraminifera indicate deposition at mid-neritic water depths (~50 m).

Muderong Shale

The Muderong Shale (296.7 – 309.5 m) consists of a dark green-grey mudstone, possibly grading up to a sandy siltstone. Palynomorphs from this unit belong to the early Aptian *O. operculata* Zone and the late Barremian – early Aptian upper *M. australis* Zone (Table 3). Foraminifera similarly indicate an early Aptian age (Table 2). The unit was deposited in a low-energy, shallow marine environment.

Birdrong Sandstone

The Birdrong Sandstone (309.5 – 311.9 m) consists of grey, fine- to medium-grained sandstone with interbedded dark grey-green clay and friable pebbly sandstone. The unit unconformably overlies the Sweeney Mia Formation.

The unit contains palynomorphs of the upper *M. australis* Zone, indicating an late Barremian – early

Table 2. Summary of foraminiferal and radiolarian ages (by D. W. Haig)

Depth (m)	Sample type	Foraminiferal yield	Radiolarian yield	Age	Water depth
40–200	cuttings	high	–	early to mid-Campanian	mid- to outer neritic
217–220	core	high	–	late Santonian	mid- to outer neritic
230–239	core	high	–	Santonian or late Coniacian	mid- to outer neritic
240–245	core	high	–	Turonian	outer neritic
246–247	core	high	–	mid- or late Cenomanian	mid- to outer neritic
248–249	core	high	–	mid-Cenomanian	outer neritic
250–253	core	high	–	probably Cenomanian	mid- to outer neritic
254–266	core	high	variable	early to mid-Albian	mid-neritic
267–296	core	low	high	late Aptian	mid-neritic
297–310	core	high	–	early Aptian	innermost neritic

Table 3. Summary of dinoflagellate zones (by J. Backhouse)

Depth (m)	Sample type	GSWA no.	Microfossil yield	Preservation	Zone	Sub-zone	Age
69.00	cuttings	176805	–	–	<i>N. aceras?</i>	–	late Santonian – early Campanian?
216.90	core	177623	barren	–	–	–	–
238.05	core	177644	–	–	<i>C. striatoconus</i>	–	Coniacian
246.05	core	177652	–	–	<i>E. ludbrookiae?</i>	–	late Albian?
252.90	core	177659	–	–	<i>E. ludbrookiae</i>	–	late Albian
260.10	core	177666	–	–	<i>C. denticulata</i>	–	mid-Albian
280.80	core	177686	–	–	<i>D. davidii</i>	–	late Aptian
289.90	core	177694	low	poor	<i>O. operculata</i> – <i>D. davidii?</i>	–	Aptian
290.60	core	177695	–	–	<i>O. operculata?</i>	upper?	early Aptian
301.15	core	177708	high	good	<i>O. operculata</i>	lower	early Aptian
308.80	core	177716	high	good	<i>M. australis</i>	upper	late Barremian – early Aptian
309.65	core	177718	high	good	<i>M. australis</i>	upper	late Barremian – early Aptian
321.85	core	176802	barren	–	–	–	–
331.05	core	176801	barren	–	–	–	–
345.80	core	176803	–	–	algal bodies	–	uncertain

Aptian age. The zone extends into the overlying Muderong Shale, implying that if this contact represents a break in deposition, it was short. Most of the unit was deposited in a high-energy, shallow, nearshore-marine environment.

Sweeney Mia Formation

The Sweeney Mia Formation is present in the interval 311.9 m to TD. In the nearby water bore, it extends to a depth of 360.0 m where it conformably overlies the Kopke Sandstone. The unit consists of grey, green, yellow and red dolomitic mudstone, dolostone, and mudstone, which are generally thinly bedded with planar and wavy laminations, erosional surfaces, rip-up clasts and contorted bedding.

The formation has been identified unambiguously from only four other wells: Hamelin Pool 1 and 2, Yaringa 1, and Yaringa East 1 (Fig. 2; Mory et al., 1998). The only direct evidence for the age of the unit is from Yaringa East 1, which yielded a sparse palynoflora of probable Late Silurian or Early Devonian age and worn fish scales likely to be Middle–Late Devonian in age (Yasin and Mory, 1999b, appendices 2, 3). These samples lie 426 m above an Early Devonian conodont fauna in this well, so an Early–Middle Devonian age is likely for this unit.

Kopke Sandstone

Although not intersected in Edaggee 1, the Kopke Sandstone is present between 360 and 390 m (TD) in the nearby water bore, the wireline logs of which are utilized in this report. Cuttings samples from this interval consist of medium- to coarse-grained sandstone. The unit is likely to be an Early–Middle Devonian age based on a Lochkovian (Early Devonian) conodont fauna from low in the unit in Yaringa East 1 (Yasin and Mory, 1999b, appendix 4).

Acknowledgements

We thank Matt and Alex Mallock of Edaggee Station for their assistance during the drilling, and the Water and Rivers Commission, in particular Wayne Astill, for providing ready access to bore data including wireline logs and cuttings samples from artesian bores in the region.

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Appendix 1

Operations report

Introduction

GSWA Edaggee 1 is a vertical stratigraphic corehole located 500 m east of the Edaggee Homestead utilizing cuttings and wireline log data from artesian bores, in an area of poor seismic control within the Gascoyne Platform, Southern Carnarvon Basin. The well lies about 78 km south-southeast of Carnarvon, at latitude 25°21'27.0"S, longitude 114°14'04.9"E, and an elevation of about 35 m AHD. The operational objective was to continuously core the lower part of the Cretaceous Winning Group and underlying Palaeozoic strata.

The drilling contractor, Mt Magnet Drilling, drilled Edaggee 1 from 9 to 16 May 2001 using a Hydco SD1000 rig mounted on a 8 × 4 Man diesel prime mover. The well was completed on 17 May 2001 after the casing below 69 m was retrieved and the hole plugged to prevent the artesian flow from Birdrong Sandstone. A summary of the stratigraphy, casing used, and cores cut for the well is given on the well index sheet (Appendix 3).

Well history

Edaggee 1 was spudded at 0800 hours on 9 May 2001 with a 200 mm HW roller bit to 13 m. Drilling continued to 69 m with a 150 mm HW blade because of the presence of clays, where HW casing was set and cemented into place in a Cretaceous claystone to prevent problems with caving from the sandy alluvium and to contain artesian flows deeper in the section within the well. The hole was deepened to 215.5 m with a HWT clore bit, after which HWT casing was set at a depth of 216 m. After the casing dropped in the soft strata, HQ3 coring commenced at 216.9 m at 1400 hours on 12 May and drilling was terminated at a total depth of 351 m at 1530 hours on 16 May. The well was completed on 17 May after the free casings were retrieved and the artesian flow from the Birdrong Sandstone was contained using a van Ruth Plug capped by about 50 m of cement.

Operations

Water supply

Water was provided from an artesian bore 420 m to the west next to Edaggee Homestead. A moderate artesian supply flowed from the Birdrong Sandstone after which the pipe from the homestead was shut off.

Drilling fluids

A mixture of KCl and various polymer muds were used based on tests conducted prior to drilling by Baroid

Industrial Drilling Products (2001) on cuttings from the Booloogooro water bore provided by the Waters and Rivers Commission.

Drilling operations

The drilling operations were carried out in single 12-hour shifts commencing at about 0530 hours and finishing around 1730 hours. One driller and two offsidiers operated the rig.

Edaggee 1 was drilled using a HW roller bit to 9 m, followed by a HW blade to 69 m, HWT clore to 216 m and, after reaming the hole, HQ3 continuous wireline coring from 216.9 to 353 m.

Two plastic tanks were used for mixing mud. Two interconnected mud pits were used for storing and recycling the returning mud from the annulus of the hole.

Drilling operations are outlined in chronological order in Table 1.1.

Sample collection and handling

Cuttings samples were collected to 215 m from the returning mud at the wellhead using a bucket and amalgamated to make a 3 m composite sample. Unwashed cuttings (up to 0.6 kg) were collected in cloth bags and dried.

Core length was measured using a steel tape and the percentage recovery was calculated for each run (Table 1.2).

A 1:100 graphic sedimentological core log was recorded at the well site and has been placed on S-series file S20734 at the Geological Survey of Western Australia.

Casing

The casing strings used in Edaggee 1 are shown in Table 1.3 and in Figure 1.1. The casing below 69 m was only seated temporarily so that it could be removed before abandonment because hydrocarbons were not expected in this well based on the nearby artesian bores.

Orientation surveys

No orientation surveys were run.

Geophysical logging

No geophysical logging was undertaken.

Table 1.1. Chronological summary of drilling operations

<i>Date</i>	<i>Start</i>	<i>Finish</i>	<i>Activity</i>
7 May 2001	—	—	Mobilize rig from Perth to Geraldton
8 May 2001	—	—	Mobilize rig from Geraldton to Edaggee
	1300	1800	Set up rig
9 May 2001	0500	0800	Set up rig
	0800	1000	Spud with HW roller bit and set 200 mm surface casing at 1 m
	1000	1500	Recommence drilling with 175 mm HW roller bit. At 13 m clay band clogs up bit. Change to blade and continue to 69 m
	1500	1900	Flush hole and run PW casing to 24 m
10 May 2001	0530	0800	Ream PW casing from 24 to 69 m
	0800	0900	Flush hole and setup for grouting
	1000	1030	Grout hole and leave cement to set
	1030	1800	Waiting for cement to dry
11 May 2001	0600	0900	Waiting for cement to dry
	0900	1000	Run drillstring with HWT core bit to bottom of PW casing
	1000	1800	Drill to 215.5 m, flushing hole for 5 minutes each 6 m to clear clay from hole
	1800	1830	Commence pulling out HWT rods
12 May 2001	0600	0630	Remove remainder of HWT rods
	0630	0830	Run HWT casing in and ream to bottom
	0830	0930	Flush with casing pack. Weld HWT to PW casing as ground is very soft (casing drops to 216.9 m)
	0930	1000	Fit new winch cable
	1000	1200	Lower HQ barrel with HQ3 coring bit
	1200	1300	Mixing muds
	1300	1800	Core from 216.9 to 231.0 m
13 May 2001	0620	1730	HQ3 coring from 231.0 to 270.0 m
14 May 2001	0600	1730	HQ3 coring from 270.0 to 306.0 m
15 May 2001	0530	0900	HQ3 coring from 306.0 to 311.9 m
	0900	1200	Attempt to clear sand in barrel by pulling back and reaming through sand
	1200	1320	Condition hole with mud
	1320	1600	HQ3 coring from 311.9 to 326.7 m
	1600	1700	Flush hole
	1700	1730	Pulling rods (120 m) above Birdrong Sandstone
16 May 2001	0600	0630	Run HQ casing back into hole
	0630	1015	Ream out 12 m caved sand and flush hole
	1015	1530	HQ3 coring from 326.7 to 351.0 m (TD)
	1530	1700	Pulling rods
17 May 2001	0530	1400	Pulling rods and fit van Ruth plug
	1400	1600	Pack up
	1600	1800	Mobilize rig from Edaggee to Carnarvon

Table 1.2. Core recovery from Edaggee 1

<i>From (m)</i>	<i>To (m)</i>	<i>Metres drilled</i>	<i>Metres recovered</i>	<i>Recovery rate (%)</i>	<i>Remarks</i>
216.9	219.0	2.1	2.10	100	
219.0	221.5	2.5	2.49	100	
221.5	225.1	3.6	3.57	99	
225.1	227.8	2.7	2.67	99	
227.8	229.0	1.2	1.08	90	
229.0	230.0	1.1	1.00	91	
230.0	231.0	1.0	1.27	127	
231.0	231.8	0.8	0.80	100	
231.8	234.0	2.2	2.05	93	
234.0	234.7	0.7	0.62	89	
234.7	235.7	1.0	1.10	110	
235.7	236.5	0.8	0.82	103	
236.5	236.8	0.3	0.26	87	
236.8	239.7	2.9	2.80	97	
239.7	242.7	3.0	3.10	103	
242.7	245.3	2.6	2.42	93	
245.3	246.4	1.1	0.68	62	
246.4	248.4	2.0	2.45	120	
248.4	250.0	1.6	1.03	64	0.57 m core loss
250.0	252.0	2.0	2.00	100	
252.0	255.0	3.0	3.01	100	
255.0	258.0	3.0	3.05	102	
258.0	261.0	3.0	3.00	100	
261.0	264.0	3.0	3.00	100	
264.0	267.0	3.0	3.00	100	
267.0	270.0	3.0	2.82	94	
270.0	270.9	0.9	1.16	129	
270.9	273.0	2.1	2.09	100	
273.0	276.0	3.0	2.81	94	
276.0	278.0	2.0	2.27	114	
278.0	281.0	3.0	3.05	102	
281.0	282.9	1.9	1.85	97	
282.9	285.0	2.1	2.08	99	
285.0	288.0	3.0	3.00	100	
288.0	291.0	3.0	3.05	102	
291.0	294.0	3.0	3.10	103	
294.0	297.0	3.0	3.00	100	core broken and difficult to measure
297.0	300.0	3.0	3.00	100	
300.0	300.5	0.5	0.47	94	
300.5	303.0	2.5	2.52	101	
303.0	306.0	3.0	3.05	102	
306.0	309.0	3.0	3.03	101	0.57 m core loss
309.0	310.1	1.1	0.83	75	
309.0	311.9	2.9	1.77	61	1.13 m core loss
311.9	313.1	1.2	0.95	79	
313.1	314.1	1.0	0.80	80	
314.1	315.0	0.9	0.87	97	
315.0	318.0	3.0	2.98	99	
318.0	321.0	3.0	3.02	101	
321.0	324.0	3.0	2.85	95	
324.0	326.7	2.7	2.84	105	
326.7	328.5	1.7	1.59	94	
328.5	330.0	1.5	1.58	105	
330.0	332.7	2.7	2.40	89	
332.7	335.9	3.2	3.05	95	
335.9	339.0	3.1	3.10	100	
342.0	345.0	3.0	3.03	101	
345.0	348.0	3.0	3.05	102	
348.0	351.0	3.0	3.00	100	
Totals		132.2	129.43	98	

Table 1.3. Casing strings used in Edaggee 1

Casing	Outer diameter (mm)	Inner diameter (mm)	Depth interval (m)
PVC	280	245	0–1
PW			0–69 (cemented into place)
HWT	114.3	101.6	0–216.9 (retrieved)

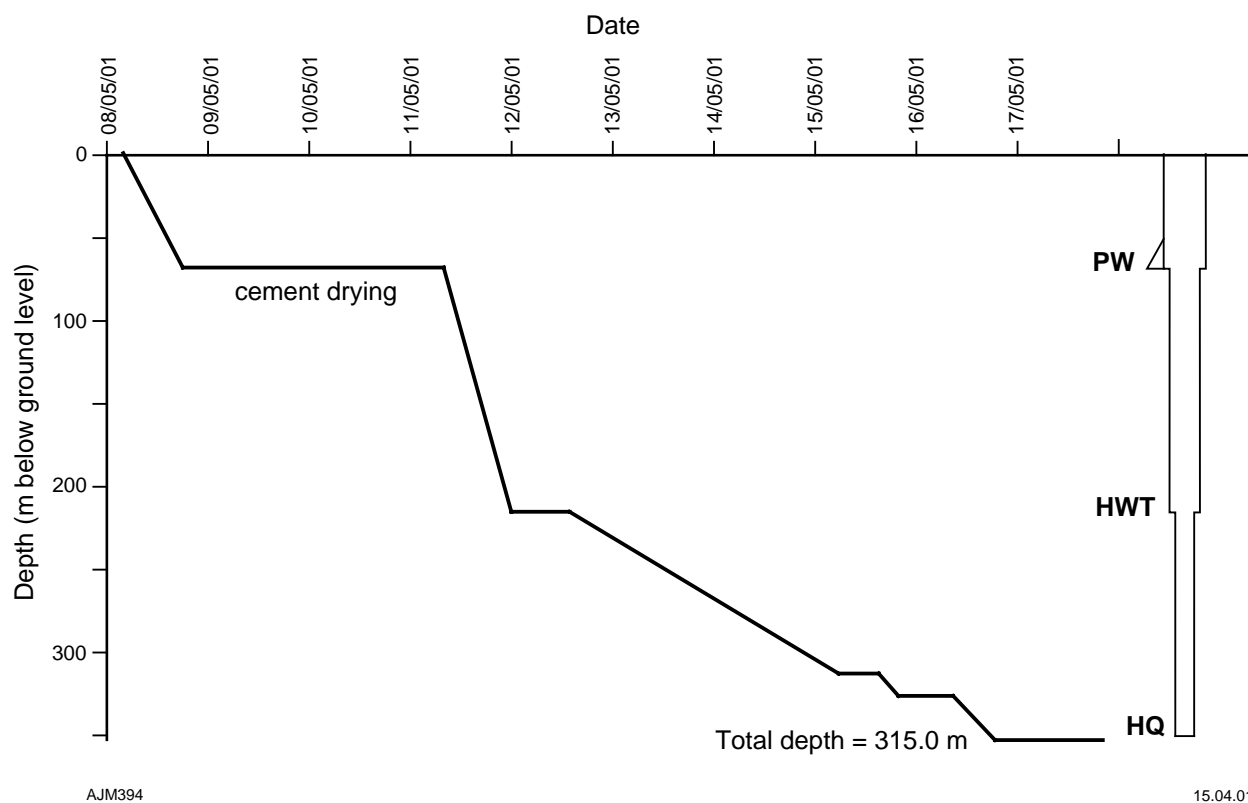


Figure 1.1. Time versus depth curve for Edaggee 1

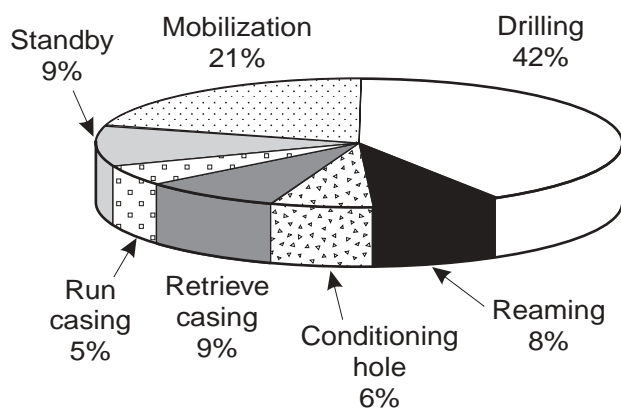


Figure 1.2. Breakdown of operation time for Edaggee 1

Operation time analysis

The relative duration of the operational activities for Edaggee 1 is shown in Figure 1.2.

Well completion

Edaggee 1 was completed on 17 May 2001 with all free casing and drill strings pulled out. The well was plugged using a HQ van Ruth plug in the Windalia Radiolarite (the most indurated unit within the Cretaceous) at 272 m and capped by about 50 m of cement. Drilling was terminated within the Sweeney Mia Formation so there is no possibility of mixing of the waters between the two aquifers (Birdrong and Kopke Sandstones). A capped steel pipe, on which the well name and the total depth is recorded, was rammed into the PVC surface casing.

Reference

BAROID INDUSTRIAL DRILLING PRODUCTS, 2001, Drilling fluids proposal for Mt Magnet Drilling, Carnarvon Basin: Western Australia Geological Survey, Statutory petroleum exploration report, S20734 V2 A1 (unpublished).

Appendix 2

Core photographs

(see Core photo library on this disk)

Appendix 3

Preliminary well index sheet

ORGANIZATION: Geological Survey of Western Australia and University of Western Australia WELL: GSWA Edaggee 1 SPUDDED: 9 May 2001 COMPLETED: 17 May 2001 TD: 351.0 m STATUS: Plugged and abandoned			Statutory Petroleum Exploration Report No.: S20734 V1 TYPE: Stratigraphic		
			BASIN: Carnarvon Basin SUB-BASIN: Gascoyne Platform ELEVATION (GL): ~35 m AHD LATITUDE: 25°21'27.0"S; LONGITUDE: 114°14'04.9"E (GDA 94) NORTHING: 7192590 EASTING: 221700 (MGA Zone 50)		
FORMATION	TOPS (m)		LITHOLOGICAL SUMMARY		
	DRILL	SUBSEA			
Alluvium Toolonga Calcilutite	Surface 39.1	+35 4.1	Light-brown, medium-grained sand; minor silty clay Green to grey to white soft calcilutite and clay, fossiliferous, glauconitic, locally intensely bioturbated		
Unnamed Turonian unit	238.1	203.1	Grey to black claystone, soft, minor calcilutite		
Upper Gearle Siltstone	245.8	210.8	Grey claystone, soft, fossiliferous		
Lower Gearle Siltstone	255.0	220.0	Dark-grey claystone, pyritic, soft, fossiliferous		
Winalia Radiolarite	266.0	231.0	Dark-grey siltstone, hard; bedded cherty and porous radiolarite		
Muderong Shale	297.7	262.7	Dark green-grey claystone, minor very fine-grained sandstone		
Birdrong Sandstone	309.5	274.5	Medium-grey, fine- to coarse-grained sandstone, minor glauconite, carbonaceous siltstone		
Sweeney Mia Formation	311.9	276.9	Laminated dolostone and mudstone interbedded with fine-grained silty sandstone		
Kopke Sandstone ^(a)	360.0	325.0	Medium- to coarse-grained quartz sandstone, minor siltstone		
CORE	Continuously cored:		NQ: 216.9–351 m (91.2% recovery)		
LOGS	Gamma-caliper ^(a)		2–612 m		
CASING	PW (OD 140 mm, ID 127 mm): HWT (OD 114 mm, ID 102 mm):		0–69 m cemented into place 0–216.9 m retrieved before abandonment		

NOTE: (a) data from water bore 420 m to west



Department of
Mineral and Petroleum Resources

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MINISTER FOR STATE DEVELOPMENT

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DIRECTOR GENERAL



Geological Survey of
Western Australia

TIM GRIFFIN
DIRECTOR

GSWA Edaggee 1

Composite Well Log

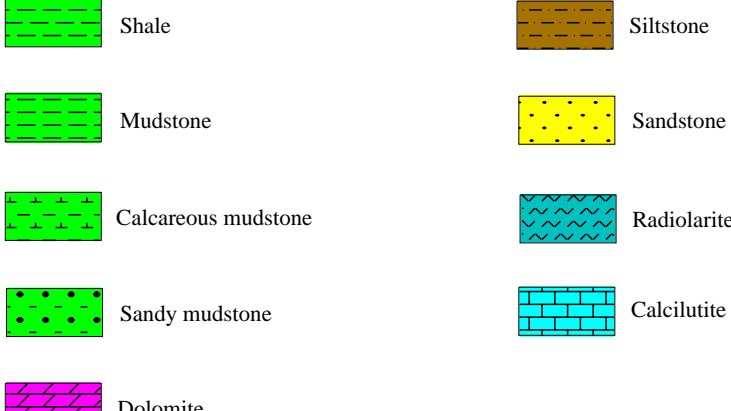
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County or Rig name
Latitude
Longitude
Permanent Datum
Elevation of DP
Elevation Log Zero
Log measured from
Drill measured from
Well class
Basin
Sub-Basin
Tenement/Concession
Geographic datum
On-Shore Flag
Date spudded
Date completed

Geological Survey of WA
GSWA Edaggee 1
Hydco SD1000
25 21 27.0 S
114 14 04.9 E
MSL
35.00 M
35.00 M
DF
DF
Stratigraphic
Southern Carnarvon
Gascoyne Platform
vacant
GDA 94
yes
9 May 2001
17 May 2001

CROCKER
DATA PROCESSING

PETROLOG SOFTWARE Revision 8.00

LITHOLOGIES



SYMBOL LEGEND

