

New and revised palynological data for the Otway Basin

GEOSCIENCE AUSTRALIA
RECORD 2004/22

by

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Australian Government
Geoscience Australia

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Geoscience Australia Website: www.ga.gov.au

ISSN 1448-2117

ISBN 1 920871 16 0

<p>Bibliographic reference: Monteil, E., Kelman, A and Krassay, A.A., 2004. New and revised palynological data for the Otway Basin. Geoscience Australia, Record 2004/22, CD-ROM.</p>
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Data 2.	Morgan, R. 2004c. New raw data (100, 250, 500 counts) for Triton-1, offshore Otway Basin, Victoria, Australia. No report produced, csv file only.

1. EXECUTIVE SUMMARY

As part of Geoscience Australia's 2002-2004 work program, the Petroleum and Marine Division initiated a collaborative study of the Otway Basin (Figure 1) with Primary Industries and Resources SA (PIRSA) and the Department of Primary Industries (DPI), Victoria. The aim of the project was to enhance the petroleum prospectivity of the basin through an improved understanding of depositional systems, integrated petroleum systems analysis and enhanced access to basic datasets critical to the exploration industry. Major project work components included seismic- and well-interpretation to construct a new regional chronostratigraphic framework for the basin (Figure 2), geochemistry and geohistory modelling to document regional petroleum systems elements (Boreham *et al.*, 2004), and biostratigraphy to refine age-control, biozonations and correlations within the basin (Krassay *et al.*, 2004).

Biostratigraphic work for the Otway Basin Project involved a major program of new sampling, processing and palynological analysis combined with a thorough review of existing biostratigraphic reports and data. Collection, processing and preparation of new samples were conducted in-house by Geoscience Australia staff. New palynological analyses were carried out by Morgan Palaeo Associates on a commercial contract basis.

This Record (CD-ROM) contains consultants palynological reports (Microsoft Word) and digital data files as originally submitted (wmf and dex formats) and as updated and standardised (csv format) for over 200 new samples collected from 14 selected Otway Basin wells (Table 1). This Record also contains revised palynological data files (csv format) for 18 Otway Basin wells (Table 2). Revision and updating of palynological data from existing reports and new consultants reports involved initial quality-assurance and quality-control of the data followed by updating of synonyms and systematics to comply with a standardised taxonomy. Revised data files contained in this Record adhere to a standardised taxonomy in current use at Geoscience Australia. Revised data files are presented in a csv format (Excel spreadsheets).



Figure 1. Location map showing Otway Basin wells for which new or revised palynological data is contained in this Record.

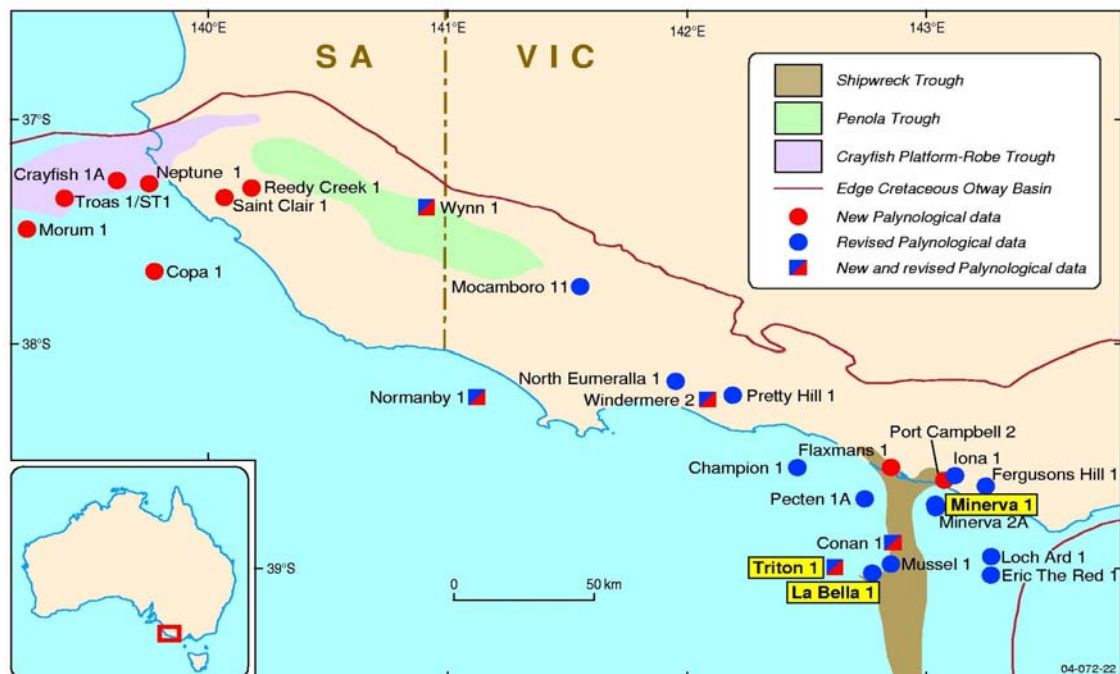


Figure 2. Otway Basin Stratigraphy and Basin Event chart after Krassay *et al.* (2004). Lithostratigraphy is from Geary & Reid (1998). Geoscience Australia timescale modified from Young & Laurie (1996) and Partridge (2001).

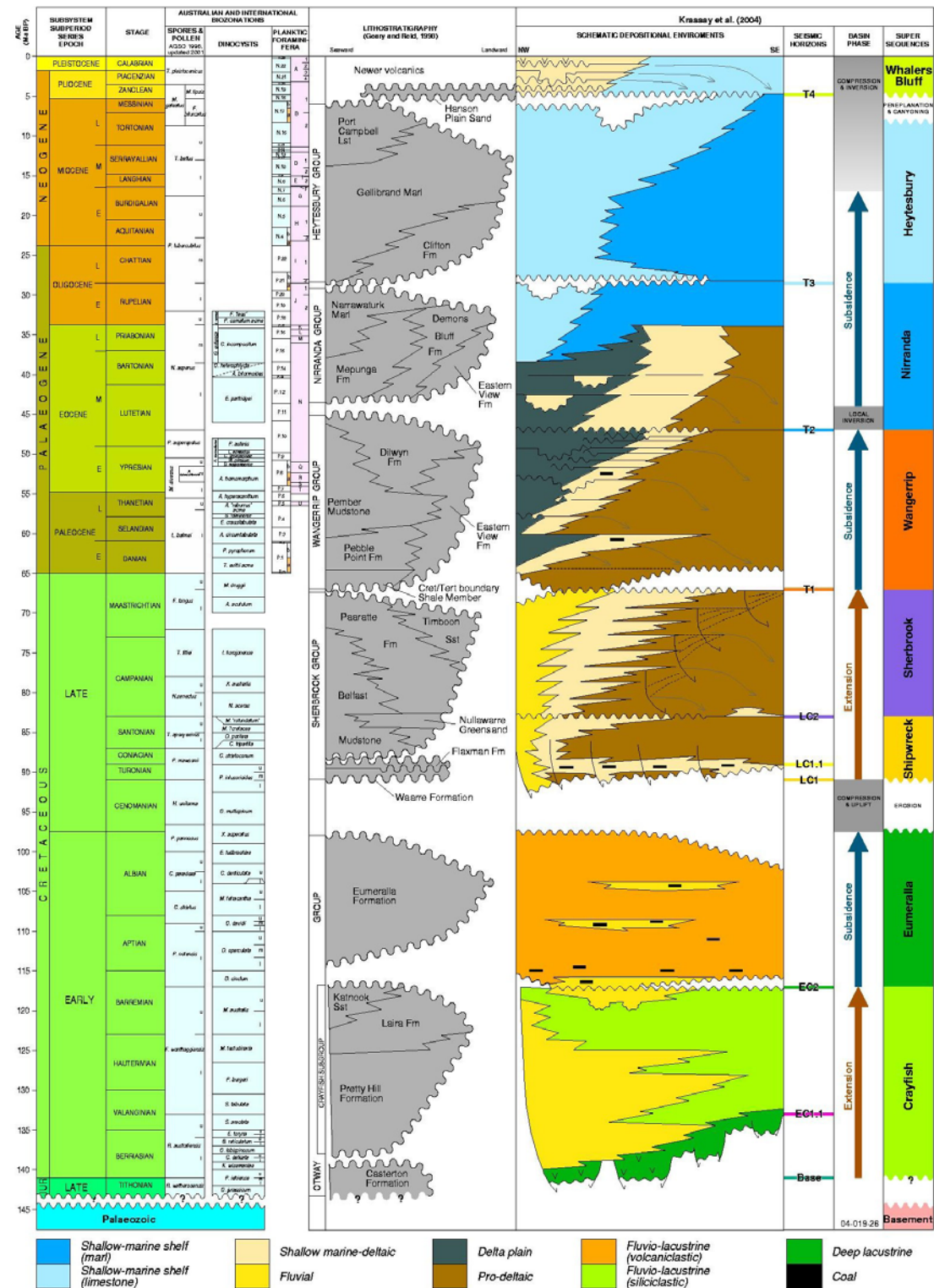


Table 1. New palynological data reports or data only(*) contained in this Record listed by well name. *The UNO is a unique number given to well reports and related materials that are lodged with the Petroleum Data Repository, Geoscience Australia.

Well Name And Year Drilled	Operator	UNO*	New Palynology Report
Conan-1 1995	BHP Petroleum	W3950025	Morgan, 2003a Morgan, 2004b*
Copa-1 1989	Cultus Petroleum (Australia)	W5890055	Morgan, 2003b
Crayfish-1A 1967	Esso Standard Oil	W5670009	Morgan, 2003c
Flaxmans-1 1961	Frome Broken Hill Co P/L	W3610001	Morgan, 2003d
Morum-1 1975	Esso Exploration & Production Australia Ltd	W5750002	Morgan, 2003e Morgan, 2003f
Neptune-1 1973	Esso Exploration & Production Australia Ltd	W5730013	Morgan, 2003g
Normanby-1 1986	BP Petroleum Development Australia	W3860008	Morgan, 2003h
Port Campbell-2 1960	Frome Broken Hill Co P/L	W3600002	Morgan, 2003i
Reedy Creek-1 1992	Gas and Fuel Exploration NL	W5920005	Morgan, 2003j Morgan, 2003k Morgan, 2003l
Saint Clair-1 1993	Gas and Fuel Exploration NL	W5930003	Morgan, 2004a
Triton-1 1982	Esso Australia Ltd	W3820002	Morgan, 2003m Morgan, 2004c*
Troas-1/ST1 1992	BHP Petroleum	W5920044	Morgan, 2003n
Windermere-2 1989	Minora Resources	W3890007	Morgan, 2003o Morgan, 2003p
Wynn-1 1994	SAGASCO Resources	W5940001	Morgan, 2003q

* No report produced, csv file only.



Table 2. Wells for which existing palynological data reports were reviewed and for which revised data tables (contained in this Record) were created. *The UNO is a unique number given to well reports and related materials that are lodged with the Petroleum Data Repository, Geoscience Australia.

Well Name And Year Drilled	Operator	UNO*	Existing Palynology Report for which data were revised
Champion-1 1995	BHP Petroleum	W3950028	Morgan, 1995a
Conan-1 1995	BHP Petroleum	W3950025	Morgan, 1995b
Eric the Red-1 1993	BHP Petroleum	W3930002	Morgan & Hooker, 1993a Morgan, 1994a
Fergusons Hill-1 1964	Frome Broken Hill Co P/L	W3630007	Morgan, 1992a
Iona-1 1988	Beach Petroleum NL	W3880004	Morgan, 1988a
La Bella-1 1993	BHP Petroleum	W3930001	Morgan & Hooker, 1993b
Loch Ard-1 1993	BHP Petroleum	W3930014	Morgan, 1994b
Minerva-1 1993	BHP Petroleum	W3930004	Morgan, 1993 Morgan, 1994c
Minerva-2A 1993	BHP Petroleum	W3930017	Morgan, 1994d
Mocamboro-11 1990	Geological Survey of Victoria	W3900023	Morgan, 1991
Mussel-1 1969	Esso Exploration & Production Australia Ltd	W3690002	Morgan, 1992b
Normanby-1 1986	BP Petroleum Development Australia	W3860008	Morgan, 1985
North Eumeralla-1 1974	Shell Development (Aust) P/L	W3730004	Morgan, 1988b
Pecten-1A 1967	Shell Development (Aust) P/L	W3670001	Morgan, 1992c
Pretty Hill-1 1962	Frome Broken Hill Co P/L	W3620002	Morgan, 1988c
Triton-1 1982	Esso Australia Ltd	W3820002	Morgan, 1992d



Windermere-2 1989	Minora Resources	W3890007	Morgan, 1992e
Wynn-1 1994	SAGASCO Resources	W5940001	Morgan, 1994e

2. INSTRUCTIONS FOR USE OF THIS PRODUCT

This Record (CD-ROM) contains a series of palynological reports and data files in the following formats and accessible through the file manager software on your computer:

- Summary in Adobe pdf format (free Adobe Acrobat Reader software included)
- New Palynological Data in csv, dex, wmf and MS Word format
- Revised Palynological Data from existing sample reports in csv format
- Appendix, which includes data, files in csv format for which no reports have been produced.

File naming convention for this Record: File prefixes include well name, author/date of associated report as contained in the reference list, number of counts if specified and type of palynomorph if specified. File names containing 'revised' refer to data that originate from revision of data tables included in pre-existing reports as referenced.

The new palynological reports and data (Microsoft Word, dex and wmf formats) supplied with this Record are reproductions of documents submitted to Geoscience Australia by Morgan Palaeo Associates over the period 2003/2004. The new palynological reports need to be accessed through Microsoft Word or equivalent programs that support Microsoft Word text files. The wmf files can be accessed through many Windows based programs, e.g. inserted as a picture into Microsoft Word, or directly opened with PaintShop Pro, Adobe Photoshop or CorelDraw. The dex format data files can be accessed by programs that support text files, but are best used with specialist biostratigraphic software such as STRATABUGS™. Data files in csv format can be accessed by programs such as Microsoft Excel, or Quattro plus when number of columns exceeds 256.

For further information about this or any product in this series, please contact:



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3. SAMPLE PROCESSING METHODS

Palynology preparation was performed as per Geoscience Australia's draft Standard Operating Procedure. Samples were digested with HCl, HF and hot HCl. No flotation was performed to minimise any loss of palynomorphs. Warm nitric acid was used to oxidise all samples. Four slides were produced for each productive sample; a kerogen slide, a +5 micron sieved kerogen slide and two oxidised +5 micron slides.

4. DATA STANDARDISATION

For the purposes of this study it was necessary to transcribe original palynological data stored in existing PDF reports to an Excel spreadsheet format. This process was carried out at Geoscience Australia and then all transcribed files were then checked for errors. Taxonomy in these reports was then reviewed and updated to reflect contemporary usage and is contained in this Record as a series of revised data files in csv format. As part of this process a common taxonomic dictionary was developed for the Late Cretaceous to Tertiary Otway Basin section for spore, pollen and dinocyst taxa included in the existing reports.

Palynological data for new samples was received in digital formats (Microsoft Word format reports; dex format data files; wmf format range charts) in 2003/04 from the consultant palynologist (Roger Morgan). These data were reviewed, entered into STRATABUGS™ and then updated as per the taxonomic dictionary developed in this study. The final standardised data files contained in this Record were exported from STRATABUGS™ in a csv format and contain new, existing and updated palynological data.

5. PRODUCTS LIST

Please contact: Geoscience Australia, Sales Centre, GPO Box 378, Canberra ACT 2601, Australia

NEW PALYNOLOGY OF THE CASTERTON FORMATION, SAWPIT-1, OTWAY BASIN, AUSTRALIA

An Output of the Timescale and Otway Basin Projects
Geoscience Australia Record 2004/03
Authors: Sinclair, N. and Monteil, E.

AN AUDIT OF SELECTED OFFSHORE PETROLEUM EXPLORATION WELLS IN THE OTWAY BASIN, SOUTHEASTERN AUSTRALIA

An Output of the Otway Basin Project
Geoscience Australia Record 2003/21
Authors: Smith, M.A., Cathro, D.L., Earl, K.L., Boreham, C.J. and Krassay, A.A.



6. ACKNOWLEDGEMENTS

Geoscience Australia acknowledges Primary Industries and Resources SA (PIRSA) and the Department of Primary Industries (DPI), Victoria for their support of the sampling program that formed the basis for this study.

The authors would like to thank Roger Morgan, Richard Brown and Christian Thun, as well as David Rowland's group for technical contributions to this Record.

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7. REFERENCES

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Morgan, R., 2003f. New palynology of one core from the Sherbrook Group, Morum-1, offshore Otway Basin, South Australia. Unpublished report for Geoscience Australia.

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Data only (Appendix)

Data 1. Morgan, R. 2004b. New raw data (100, 250, 500 counts) for Conan-1, offshore Otway Basin, Victoria, Australia. No report produced, csv file only.

Data2. Morgan, R. 2004c. New raw data (100, 250, 500 counts) for Triton-1, offshore Otway Basin, Victoria, Australia. No report produced, csv file only.

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