

APPENDICES

Appendix 1 DATA AVAILABILITY

Definition of basic data from onshore South Australia tenements

Under the terms of the Petroleum Regulations 1989, basic exploration data relating to petroleum search activities in onshore tenements becomes open file and available for public purchase upon:

- The surrender or expiry of those tenements.
- Where an exploration licence (PEL) is in force, basic well data may be made available to the public after the expiration of two years from the rig release date and, for geophysical surveys, two years after the completion of field acquisition.
- Where a production licence (PPL) is in force, basic well data may be made available to the public after the expiration of five years from the rig release date and for geophysical surveys, five years after the completion of field acquisition.
- While a production licence is in force, production data from each completion may be made available to the public after the expiration of three months from the end of the relevant six month period (i.e. ending 30 June and 31 December each year).

Basic data include*:

Gravity and magnetic surveys

All data other than potential field qualitative and quantitative interpretation maps and reports.

Seismic surveys

All data other than:

- seismic picks, correlations and stratigraphic units on sections
- time and depth contour maps
- interpretation reports

Vertical seismic profiling and well check shot data

All data other than qualitative or quantitative maps and reports using proprietary techniques.

Lithological data and formation tops

All data other than core analysis studies carried out by oil company research units utilising proprietary techniques.

Palaeontological data

All data other than conclusions drawn from the species lists and range charts.

Source rock data

All laboratory and contractor data.

Special core analyses

All data other than relative permeability data, capillary pressure test data and water flood test results derived by oil company research units utilising proprietary techniques. All contractor derived data and results are defined as basic data.

Regional geological data

All data other than:

- regional basin-wide geological and palaeoenvironment maps
- regional formation structure and isopach maps

Reservoir engineering data

All contractor derived data and results are defined as basic data.

Reserve data

Company derived estimates are not considered basic data.

Basic well drilling data

All data from this source are defined as basic data.

Wireline log data

All data other than oil company log interpretations utilising proprietary techniques.

Fluid analyses

All laboratory and contractor data.

Samples

Core and cuttings are defined as basic data.

Well completion reports

Regardless of the above, all data supplied in well completion reports is regarded as basic data.

Data available from MESA

PEPS-SA[®]

MESA have developed PEPS-SA (Petroleum Exploration and Production System-South Australia), a comprehensive database of South Australian petroleum exploration and production data. PEPS-SA is being continually developed and is now available for purchase. PEPS-SA is available in a variety of formats including PC-based data packages or hardcopy.

PEPS-SA comprises eight key data sets — wells, geophysics, geology, engineering, production, statistics, tenements and addresses — each of which is subdivided into modules:

Wells: Well and petrophysical log data. Basic well data for all wells is included.

Geology: Cores and cuttings, core photographs, formation tops, palynology and source rock analyses. Results from analyses post-dating the well completion report and recent revisions to stratigraphy are included.

Geophysics: Seismic survey and seismic line data.

Engineering: Abandonment, casing and perforation details and drill stem, liquid evaluation and well tests.

Production is separated into gas, oil and CO₂ recorded on a monthly basis for each completion.

*These provisions are currently under review.

Statistics provides a quick reference to annual statistics on petroleum exploration and production (expenditure, sales, annual LPG and condensate production per field etc.).

Tenements: exploration, production and pipeline licence summaries.

Customers may purchase the entire data set or only modules of interest. Data may be selected for specific areas or for all of South Australia. Purchase includes quarterly updates for a full year. A brochure and demonstration disk on PEPS-SA is available free of charge.

Contact: Alan Sansome (08) 274 7672[†].

Seismic database

A comprehensive index of all seismic lines recorded in the State has been prepared on a survey by survey basis. This index is stored in PEPS-SA and a manual system. It includes survey summary data, shot point ranges and line lengths.

Contact: Rob Langley (08) 274 7683[†].

A digital seismic shot point database covering South Australia and adjacent waters to 40°S latitude has been compiled and data is available in various formats on 9-track tape or diskette. Hardcopy maps can be prepared for any area at any scale.

Contact: Dave Cockshell (08) 274 7671[†].

Aeromagnetic database

A digital database of aeromagnetic survey boundaries has been compiled and gives the location of all airborne surveys over South Australia and adjacent waters.

Contact: Nick Dunstan (08) 274 7637[†].

Petroleum tenements

An A4 size petroleum tenement map, including a listing of tenement, holder(s) and interests, expiry date and area, is prepared quarterly and is free on request. A 1:2 000 000 scale tenement map is available quarterly.

Contact: Mario Collela (08) 274 7552[†].

All tenements granted, surrendered or cancelled are published in the South Australian Government Gazette issued weekly from the State Information Centre, 25 Grenfell St, Adelaide. These notices are also widely publicised in the business, investment and resources sectors of the local and international press, as well as by circulation to listed exploration companies, stockbrokers, etc.

Consolidated data sets

A program has now commenced to consolidate open file basic and interpreted data into coherent data sets. A range of attribute databases have been prepared (e.g. wireline log data, basic well information, seismic survey data, formation tops etc.). Geographical databases have been created such as the seismic shot point and seismic horizon interpretation databases. Image processing has also been used to enhance seismic horizon databases.

Data sets are available for the Bight and Duntroon Basins (1991), Eromanga Basin (1992) and in progress for the Cooper, Warburton, Simpson, Pedirka and Otway Basins.

The enormous quantities of data generated during exploration and development of the Cooper Basin is another important priority for database preparation. In early 1999 the licences involved (PELs 5 and 6) will expire, and the area will be available for licence applications. Work has already commenced on ensuring as much of these data as practical are available in digital form by this time.

Contact: Dave Cockshell (08) 274 7671[†].

Digital geological maps of South Australia

SA Geology provides an accurate, detailed and up-to-date overview of the State's geology. Covering the entire State, the data set portrays outcrop geology, derived from 1:250 000 mapping, but generalised into over 80 individual units.

Contact: Tony Belperio (08) 274 7615[†] or mobile 041 982 8498[†].

Accessing data

MESA holds the largest collection of South Australian geoscientific literature, mining and exploration data, dating from the 1850s. The data comprises open file company exploration reports (including well completion and seismic survey reports), MESA open file report books, geophysical data including seismic sections, magnetic tapes and petrophysical logs, Government publications, geoscientific maps, plans, publications and more.

Most publications may be borrowed by means of inter-library loan. Unpublished data which has been microfilmed are also available on inter-library loan (in microfiche only). Data may be viewed at the Department. Unpublished data are held on microfiche, however viewing of hardcopy can be organised by prior arrangement.

Contact: Peter Dunne, telephone (08) 274 7549[†] or mobile 015 972248[†], facsimile (08) 272 7597[†].

Useful reference: MESA, 1996. List of publications and maps. *South Australia. Department of Mines and Energy. Information Sheet, G1.*

Purchasing data

MESA Customer Services is responsible for storing and copying all unpublished material. Copies may be ordered in paper, microfiche, transparency or digital media. The centre strives to complete standard orders within two days.

Contact: Peter Dunne, telephone (08) 274 7549[†] or mobile 015 972248[†], facsimile (08) 272 7597[†].

Core library

Confidential and open file drillhole samples obtained from Departmental and company petroleum, stratigraphic and mineral exploration are stored at the MESA Core Library. Over 3 million metres of core and cuttings from 24 000 drillholes are currently stored. The Core Library is located 2 km from head office at 23 Conyngham St, Glenside. Viewing facilities are fully enclosed. All open file samples are available for inspection and sampling is permitted. Forty-eight hours notice is required to reserve sample space and allow time for layout of sample trays.

Contact: Brian Logan, telephone (08) 379 9574[†], facsimile (08) 338 1925[†].

[†]From August 1996 telephone and facsimile numbers will gain a number 8 at the beginning of the number, e.g. 8274 5000.

Appendix 2 ABBREVIATIONS

COMPANY AND ORGANISATION NAMES

AGSO	Australian Geological Survey Organisation
APPEA	Australian Petroleum Production and Exploration Ltd
BMR	Bureau of Mineral Resources (now AGSO)
CGG	Compagnie General de Geophysique
NCPGG	National Centre for Petroleum Geology and Geophysics
SAOG	South Australian Oil and Gas Corporation
SAPEG	South Australian Petroleum Exploration Group
WMC	Western Mining Corporation

GENERAL

AFTA	Apatite Fission Track Analysis
ASRS	Australian Southern Rift System
'C' horizon	defines the top of the Cadna-owie Formation
DST	drillstem test
GAB	Great Artesian Basin
GMI Ridge	Gidgealpa–Merrimelia–Innamincka Ridge
JALBU	Alwyn, Biala, Calamia, Jena, Limestone Creek and Ulandi Fields
LPG	liquefied petroleum gas
NaCl	sodium chloride
OEL	Oil Exploration Licence
OOIP	original oil initially in-place
OPL	Oil Production Licence
PEL	Petroleum Exploration Licence
PPL	Petroleum Production Licence
Sm–Nd	Samarium–Neodymium
TD	total depth
μs/ft	microseconds per foot

MEASUREMENT

Most units of measurement used in this volume are those of the International System of Units (SI) and are not included in this glossary. Units outside the SI which have been authorised for use within Australia's metric system, and units having general application are given.

°C	degree Celsius (the Celsius temperature)
ha	hectare (area; = 10 ⁴ m ²)
kL	kilolitre (volume; = 1 m ³)
kPa	kilopascal (pressure; Pa = 1 kg /m.s ²)
L	litre (volume; = 10 ⁻³ m ³)
Ma	million years
m/my	metres per million years
msec	milliseconds
ppm	parts per million
t	tonne (mass; = 10 ³ kg)

Conversions

1 cubic metre (m ³)	=	1 kilolitre (kL)
1 cubic metre (m ³)	=	5.6154 cubic feet*
1 kilolitre (kL)	=	6.29 barrels
1 kilopascal (kPa)	=	0.1450 pound-force per square inch (psi)

SOURCE ROCK, MATURITY AND RESERVOIR CHARACTERISTIC PARAMETERS

BNH	bisnorhopane
DOM	dispersed organic matter
HI	hydrogen index
mD	millidarcies (permeability)
MPI	methylphenanthrene index
R _c	calculated vitrinite reflectance
R _o	measured vitrinite reflectance
S ₁ + S ₂	kg of hydrocarbons per tonne of rock
T _{max}	temperature of maximum generation of S ₂ hydrocarbons
TNH	trisorhopane
TOC	total organic carbon

*Standard conditions are assumed for conversions of gas. These are 15°C and 101.325 kPa.