

# Crucial petroleum data saved

*Old data support rapid increase in exploration*



Access to exploration data at the ‘cost of transfer’ is a valuable link in most petroleum companies’ exploration programs. Large companies now carry out work programs in Australia because Geoscience Australia provides data that can be used both for interpretation and for reprocessing.

## Geoscience Australia’s repository

The Geoscience Australia Data Repository is Australia’s biggest collection of petroleum geoscientific data, and one of the world’s largest. It includes over 750 terabytes of seismic exploration data, as well as a vast collection of cores, cuttings and reports, and provides valuable information to the petroleum industry and research organisations (figure 1).

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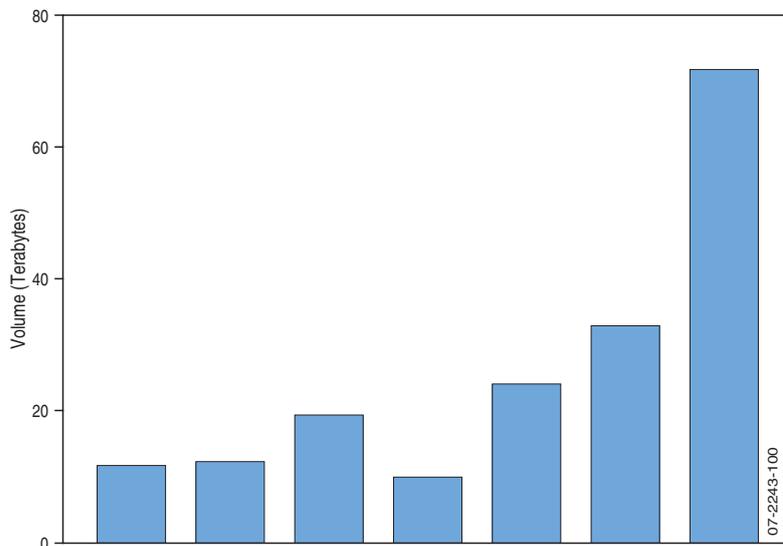


Figure 1. Borrowings of precompetitive data from Geoscience Australia since 2001. Note that the figure for 2007 covers only the six months to June 2007.

By far the major part was lodged to meet the requirements of the *Petroleum Search Subsidy Act 1959* or the later *Petroleum (Submerged Lands) Act 1967*. These Acts require only the submission of offshore data, as all onshore data are handled by state or territory agencies. The state resources departments carry out the day-to-day administration of the Petroleum (Submerged Lands) Act, and all submissions and requests for data must be made through them.

All the data collected by petroleum companies during their offshore exploration and drilling phases must be submitted. This includes:

- exploration seismic data—raw field data, navigation, final processed data, and various acquisition, processing and interpretive reports
- well data—cores and cuttings, fluids and gases (where present), and well completion reports.

The basic data can normally be accessed by other companies after two years; interpretive data can normally be accessed after five years. In an average month, Geoscience Australia’s national repository provides exploration data to 15 to 20 petroleum companies.

## Remastering project

As part of the Australian Government's New Petroleum Program (part of the Big New Oil initiative) the 2003 federal Budget provided funding of \$10 million over four years for the transcription to high density media (3590B cartridges) of older seismic survey and well data on 9 and 21 track tapes and 3480 cartridges (figure 2). Hardcopy support data was also digitised.

The successful tenderers for the work were Spectrum Data and Guardian Data Seismic (transcription) and GeoCom (quality control).

The original target was to transcribe more than 500 000 tapes and as many 3480 cartridges as possible. The number actually transcribed has reached 645 000. This includes:

- 9 track tapes (355 000)—12% were classified as in 'bad' condition and 30% as 'marginal', but 99% of these data were recovered
- 21 track tapes (30 000)—only a few of which posed problems
- 3480 cartridges (260 000)—which rarely posed problems.



Figure 2. Some of the field tapes stored at Geoscience Australia's national repository of seismic data, before remastering.

All original tape media were disposed of after quality control processes to determine that the transcription was correct and complete. Two copies were made of each remastered dataset.

At the start of the remastering project, the older media held 20 per cent of the total collection. Additional funding has since been provided to concatenate the digital data from 3590B (10 gigabyte) to 3592 (500 gigabyte) tapes. This will further reduce access time and the cost of using the data.

## Data use

More data became available to petroleum explorers as the collection was sorted and recatalogued during remastering. Data from more than 150 remastered surveys has since been accessed, with field data from one pre 1980 survey having been accessed five times.

Borrowings of precompetitive data by explorers trebled between 2004 and 2006, and borrowings in the first half of 2007 are more than double those of 2006 (figure 1).

### For more information

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