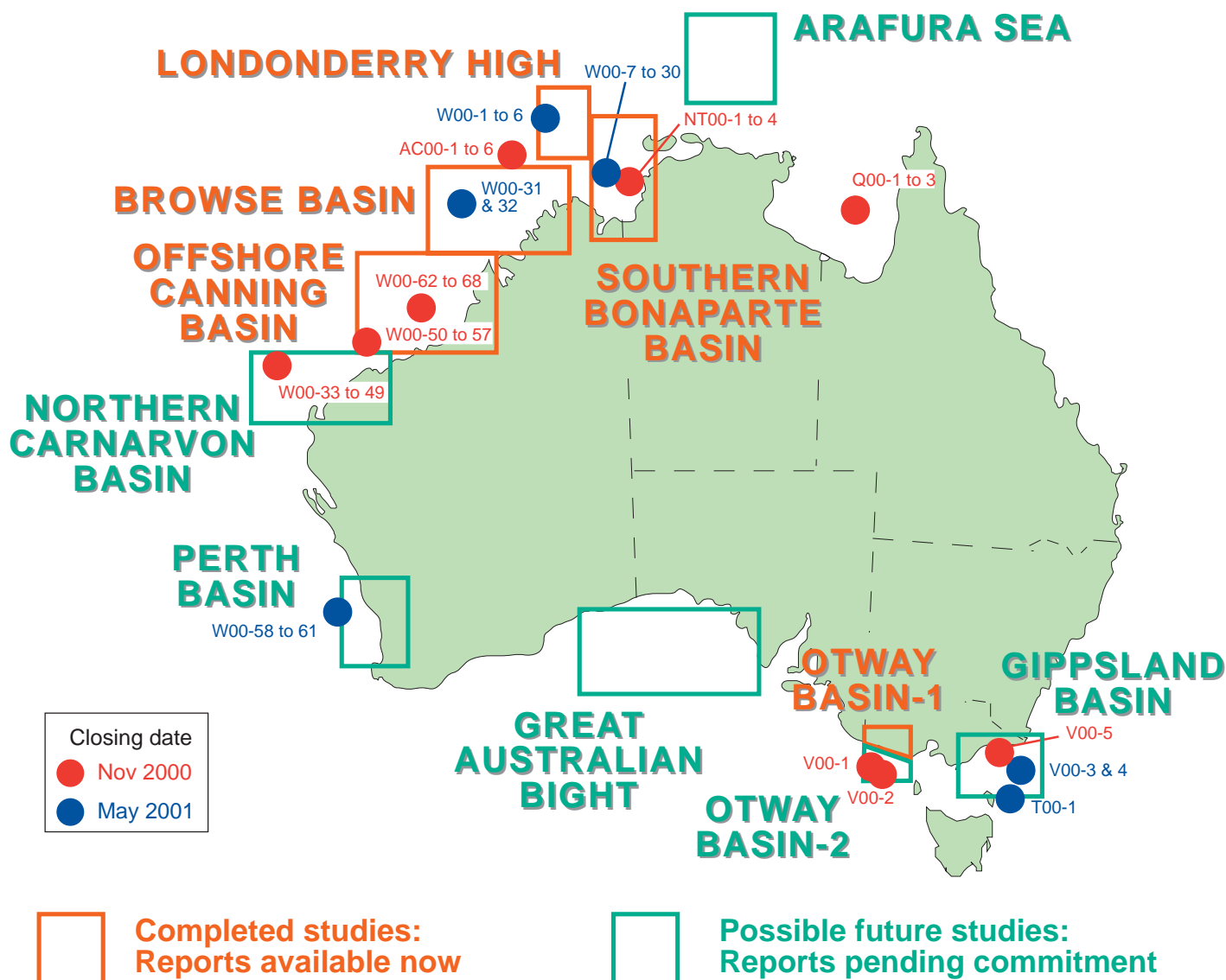


# AUSTRALIA 2000 OFFSHORE PETROLEUM EXPLORATION ACREAGE RELEASE



*Geotrack Thermal History Reconstruction studies:*



## *Reducing exploration risk:*

Many areas of Australia's offshore shelf have been affected by paleo-thermal episodes, due to e.g. deeper burial, elevated heat flow or hot fluid circulation. As a result, hydrocarbon source rocks reached maximum maturities at different times, often within a single basin. Since hydrocarbons will only be trapped if viable structures are already in place, thermal history can exert a critical control on hydrocarbon prospectivity.

Geotrack's Thermal History Reconstruction (THR) reports can significantly reduce exploration risk by providing direct assessment of the timing of hydrocarbon generation, allowing reliable definition of areas where generation took place after formation of structures. Particularly in areas affected by multiple paleo-thermal episodes, the information provided from THR may not be available from any other technique.

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# AUSTRALIA 2000 OFFSHORE PETROLEUM EXPLORATION ACREAGE RELEASE

## *Geotrack non-exclusive thermal history studies using AFTA® and VR*

### **Timing: a vital element of the petroleum system**

Timing of hydrocarbon generation with respect to trap formation is a vital element of a viable petroleum system, and can exert critical control on prospectivity. In regions where peak generation occurred prior to formation of structures, hydrocarbon accumulations are usually lacking. Exploration in basins affected by paleo-thermal episodes (related e.g. to deeper burial, increased heat flow, hot fluid movements, igneous activity, or combinations thereof) demands accurate assessment of the timing of hydrocarbon generation.

### **Reducing exploration risk**

Thermal History Reconstruction (THR) using Apatite Fission Track Analysis (AFTA®) and vitrinite reflectance (VR) can be used to *identify, quantify and characterise* the major paleo-thermal episodes which have affected a sedimentary basin. This information then allows definition of more prospective areas, where generation post-dated formation of structures. THR provides a reconstructed maturation history firmly constrained by measured data. In particular, the time at which hydrocarbon generation ceased can be rigorously defined, and regional variation revealed. In basins where maximum maturity levels were reached some time in the past, this vital information may not be available from other methods. Application of THR reduces exploration risk and allows more efficient exploration, by focussing on the most viable areas of a basin, where events occurred in the most advantageous time sequence.

### **Completed reports**

The following reports are currently available on Australian sedimentary basins:

OFFSHORE CANNING BASIN: Geotrack Report #717 (2 volumes). A\$42,250

BROWSE BASIN: Geotrack Report #662 (2 volumes). A\$ 25,600

SOUTHERN BONAPARTE BASIN: Geotrack Report #664A (2 volumes). A\$ 25,000

LONDONDERRY HIGH (W. BONAPARTE BASIN): Geotrack Report #678 (2 volumes). A\$ 29,000

ONSHORE OTWAY BASIN Areas Vic 099/(01) and (02): Geotrack Report #745 (3 volumes). A\$ 28,000

These studies are designed to assess the timing and magnitude of paleo-thermal effects in specific basins and their effect on timing of maturity development.

## *Discounts available on multiple purchases*

### **Report contents**

The comprehensive reports typically consist of two volumes. Volume 1 provides full details of the thermal history interpretation of AFTA and VR data from each well, discussion of these results within the context of the tectonic evolution of the region and implications for hydrocarbon prospectivity. All AFTA and VR data plus supporting geological information and full analytical details are presented in Volume 2. An Executive Summary and accompanying summary Figures and Tables provides a convenient synopsis.

### **Future studies (pending commitment)**

A number of areas have been targetted for future studies (see map). We currently hold samples in-house pending commitment to these studies:

OTWAY BASIN Stage 2: Offshore Victoria

GIPPSLAND BASIN

GREAT AUSTRALIAN BIGHT

PERTH BASIN

CARNARVON BASIN

ARAFURA SEA

## *Prices available on request Group discounts available*

Alternatively we would be happy to discuss proprietary studies in these (or other) areas, tailored to the needs of individual companies or operating groups.

**For further information, including comprehensive technical details on AFTA, THR and other Geotrack services, see our website: [www.geotrack.com.au](http://www.geotrack.com.au)**

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