WESTERN TASMANIA REGIONAL SEISMIC DATA, SELECTED REPROCESSED LINES FROM SEismic SURVEYS T69A AND T70A

Including SEG Y, navigation and velocity data

An Output of the Western Tasmanian Regional Minerals Program

Anne Fleming and Jane E. Blevin

GEOSCIENCE AUSTRALIA
Southern Australia Regional Project

CANBERRA AUSTRALIA 2003
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1. EXECUTIVE SUMMARY

As part of the Commonwealth-funded Western Tasmanian Regional Minerals Program (WTRMP), Mineral Resources Tasmania (MRT) initiated a collaborative study of the offshore northern and western Tasmania (Figure 1), in partnership with Geoscience Australia (GA) and the National Centre for Petroleum Geology and Geophysics (NCPGG). Commercial inputs into the project were sought from Biostrata Pty Ltd, SRK Consulting, Fugro MCS and CSIRO. The aim of this work was to enhance the petroleum prospectivity of the northern and western regions of offshore Tasmania through an improved understanding of basin geology, an integrated petroleum systems analysis, and enhanced access to basic datasets critical to the exploration industry.

One issue raised during the scoping phase of the WTRMP projects was the limited availability of low-cost seismic data along the frontier margin of offshore western Tasmania. While a broad regional grid of vintage industry data existed, most of the data was not accessible in a digital format due to the condition of seismic field tapes and reports. This data was viewed as valuable in assessing prospectivity and play concepts in this frontier area. A module of the WTRMP was aimed at addressing this shortfall in information.

This Record (CD-ROM) contains SEG Y files of reprocessed seismic data for 12 lines from industry surveys T69A (1969) and T70A (1970) across the Sorell Basin, offshore western Tasmania (Figure 2). The data includes seven lines from Survey T69A and five lines from Survey T70A, for a total of 511.98 line kilometers of data (Table 1). The reprocessing job was commissioned by Mineral Resources Tasmania and coordinated by Geoscience Australia during 2001-02. The work undertaken by Geoscience Australia included access to seismic field tapes lodged in the Petroleum Data Repository under the Petroleum Submerged Lands Act (PSLA) 1967, management of contracts and QC/acceptance of the final dataset. Fugro Multi-Client Services (formerly Seismic Australia) and Robertson Research Australia Pty Ltd carried out the reprocessing as part of a commercial contract (Robertson Research Australia, 2002). Digital files of navigation (ASCII format), velocity data (WESTERN format) and a reprocessing report (PDF format) have been included with this Record. A simplified digital basemap is also included in JPG format.

Some of this data falls within the area being gazetted as part of the 2003 Offshore Acreage Release program (Figure 3). Figure 4 is a representative cross-section showing the geology of the southern Sorell Basin (Strahan Sub-basin).
Figure 1. Location map of the Sorell and Bass basins, including a sediment thickness map of western Tasmania modified from Lodwick et al. (1999). The location of current petroleum exploration permits and the 2002 and 2003 (red) Acreage Release areas are also shown. The yellow line shows the location of the representative cross-section shown in Figure 4.
Figure 2. Location map of reprocessed seismic lines from offshore western Tasmania.
Figure 3. Location map of reprocessed seismic lines from offshore western Tasmania, including the outline of 2003 Release Area T03-4 in the Strahan Sub-basin.
Figure 4. Representative cross-section across the Strahan Sub-basin, western offshore Tasmania.
Table 1. List of reprocessed seismic lines from surveys T69A and T70A, offshore western Tasmania.

<table>
<thead>
<tr>
<th>Seismic Survey And Line No.</th>
<th>Year</th>
<th>First Shotpoint</th>
<th>Last Shotpoint</th>
<th>Line Kms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>West Tasmania T69A Survey, Esso Standard Oil</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line T69A-02</td>
<td>1969</td>
<td>2867</td>
<td>3171</td>
<td>42.56</td>
</tr>
<tr>
<td>Line T69A-06</td>
<td>1969</td>
<td>2279</td>
<td>2612</td>
<td>46.62</td>
</tr>
<tr>
<td>Line T69A-08</td>
<td>1969</td>
<td>1925</td>
<td>2253</td>
<td>45.92</td>
</tr>
<tr>
<td>Line T69A-10</td>
<td>1969</td>
<td>1641</td>
<td>1924</td>
<td>39.62</td>
</tr>
<tr>
<td>Line T69A-12</td>
<td>1969</td>
<td>1245</td>
<td>1629</td>
<td>53.76</td>
</tr>
<tr>
<td>Line T69A-14</td>
<td>1969</td>
<td>877</td>
<td>1244</td>
<td>51.38</td>
</tr>
<tr>
<td>Line T69A-20</td>
<td>1969</td>
<td>1</td>
<td>260</td>
<td>36.26</td>
</tr>
<tr>
<td><strong>T70A Marine Seismic and Magnetic Survey, Esso Standard Oil</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line T70A-03</td>
<td>1970</td>
<td>2822</td>
<td>2942</td>
<td>16.80</td>
</tr>
<tr>
<td>Line T70A-05</td>
<td>1970</td>
<td>2704</td>
<td>2820</td>
<td>16.24</td>
</tr>
<tr>
<td>Line T70A-09</td>
<td>1970</td>
<td>2943</td>
<td>3385</td>
<td>61.88</td>
</tr>
<tr>
<td>Line T70A-15</td>
<td>1970</td>
<td>3942</td>
<td>4382</td>
<td>61.60</td>
</tr>
<tr>
<td>Line T70A-24</td>
<td>1970</td>
<td>2323</td>
<td>2604</td>
<td>39.34</td>
</tr>
<tr>
<td><strong>Total Line Kilometers Reprocessed:</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>511.98</strong></td>
</tr>
</tbody>
</table>
2. INSTRUCTIONS FOR USE OF THIS PRODUCT

This Record (CD-ROM) contains information in a variety of formats, including SEG Y, ASCII, WESTERN, JPG and PDF file formats. A directory of this data is accessible through the file manager software on your computer.

The reprocessed seismic data is in SEG Y format and needs to be accessed through specialist geophysical software. Seismic navigation data is in ASCII format and the velocity data is in WESTERN format. Both can be accessed through programs that support text files. The line location map image (also shown as Figure 2) is in JPG format and can be viewed through most image viewer software.

The seismic reprocessing report supplied with this Record is a reproduction of the document submitted to Geoscience Australia by Robertson Research Australia Pty Ltd (2002). This report is in a PDF format and requires an Adobe Acrobat Reader, version 4 or later, for operation. If you are using WIN95 (or later), NT or XP and do not have Acrobat on your computer, please access the CD-ROM through the file manager. Go to the ACROBAT directory and double-click on ar405eng.exe to install the Acrobat Reader. Other platform readers are available from the ACROBAT directory or via Adobe’s website (www.adobe.com/acrobat).

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

Carol Bacon  
Managing Geologist  
Mineral Resources Tasmania  
Industrial Minerals and Land Management  
(03) 6233-8326  
cbacon@mrt.tas.gov.au

Jane Blevin,  
Project Leader  
Southern Australia Regional Project  
Geoscience Australia  
(02) 6249-9818  
jane.blevin@ga.gov.au
3. PRODUCTS LIST

PLEASE CONTACT:    GEOSCIENCE AUSTRALIA, SALES CENTRE, GPO BOX 378, CANBERRA ACT 2601

PETROLEUM GEOLOGY OF THE BASS BASIN – INTERPRETATION REPORT
An Output of the Western Tasmanian Regional Minerals Program
Geoscience Australia Record, CD-ROM
Compiler: Blevin, J.E.

BASS BASIN GIS PROJECT
An Output of the Western Tasmanian Regional Minerals Program
Geoscience Australia Record, CD-ROM

REVIEW AND COMPILATION OF OPEN FILE MICROPALAEONTOLOGY AND PALYNOLOGY DATA FROM OFFSHORE TASMANIA
An Output of the Western Tasmanian Regional Minerals Program
Geoscience Australia Record, CD-ROM
Authors: Partridge, A.P., Trigg, K.R., Montgomerie, N.R. & Blevin, J.E.

BASS BASIN, BASIC DATA COMPILATION (including bathymetry, gravity, and magnetic images; biostratigraphy, porosity, permeability, geochemistry, checkshot, deviation, and seismic navigation data),
An Output of the Western Tasmanian Regional Minerals Program
Geoscience Australia Record, CD-ROM
Authors: Blevin, J.E., Montgomerie, N.R. & Nicholson, C.J.

AN AUDIT OF PETROLEUM EXPLORATION WELLS IN THE BASS BASIN, 1965-1999
An Output of the Western Tasmanian Regional Minerals Program
Geoscience Australia Record, CD-ROM
Authors: Trigg, K.R., Blevin, J.E. & Boreham, C.J.

REGIONAL POTENTIAL FIELD INTERPRETATION REPORT, BASS BASIN
Bass Basin SEEBASE™ Project, SRK Consulting Report AG701, Commissioned by Geoscience Australia
An Output of the Western Tasmanian Regional Minerals Program
Geoscience Australia Record, CD-ROM
Authors: Teasdale, J.R., L. Pryer, Etheridge, M., Stuart-Smith, P., Loutit, T., Shi, Z., Vizy, J. & Henley, P.

WESTERN TASMANIA REGIONAL SEISMIC DATA, SELECTED REPROCESSED LINES FROM SEISMIC SURVEYS T69A AND T70A (including SEG Y, navigation and velocity data)
An Output of the Western Tasmanian Regional Minerals Program
Geoscience Australia Record, CD-ROM
Compilers: Fleming, A. & Blevin, J.E.
4. REFERENCES


Note: The original field data and reports for Surveys T69A ad T70A are available through the Petroleum Data Repository, Geoscience Australia (www.ga.gov.au).