

181001

ANNUAL REPORT
YEAR 4
PERMIT T/18P

AMOCO AUSTRALIA PETROLEUM COMPANY

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ATTACHMENT

1. Bass Basin, T/14P, Geological Work Program

1. INTRODUCTION

This report relates to exploratory work carried out by Amoco Australia Petroleum Company as operator for the consortium holding title to permit T/18P, during the period July 23, 1983 to July 22, 1984.

Prior to March 23, 1984, the permit was operated by Bass Strait Oil and Gas N.L. on behalf of a consortium of companies. Amoco Australia Petroleum Company (Amoco) and South Australian Oil and Gas Corporation (SAOG) farmed in to permit T/18P on March 23, 1984, with a commitment to drill one well during the remainder of the term of the permit.

Amoco acquired a 50 percent interest and took over the operatorship, while SAOG acquired a 25 percent interest; the original permit holders retained 25 percent.

On April 10, 1984, a Variation of Conditions was granted. Condition 1 was deleted and replaced by the condition that the permittees expend A\$11,315,000 to include the drilling of at least one well during the term of the permit.

2. PREVIOUS REPORTS

The following reports have been submitted during Year 4:

First quarter report, Year 4, T/18P; dated December 5, 1983, by
Petrecon Australia Pty Ltd..

Second quarter report, Year 4, T/18P; dated October 9, 1984, by
Petrecon Australia Pty Ltd..

Third quarterly report, Year 4, T/18P; dated October 31, 1984, by
Amoco Australia Petroleum Company.

3. FINANCIAL EXPENDITURES

Yearly expenditure obligations and actual expenditures for permit T/18P are as follows:

<u>Year</u>	<u>Expenditure Obligation</u>	<u>Actual Expenditure</u>
1	A\$ 205,000	A\$678,450
2	A\$ 410,000	A\$250,716
3	A\$ 2,000,000	A\$ 68,187
4		A\$ 66,979
5	A\$10,317,647 to include	
6	one well	

Expenditures for years 1, 2 and 3 are quoted from the third annual report. The expenditure obligation for years 4, 5 and 6 is calculated by subtracting the prior years' expenditures from the obligation given in the Variation of Conditions dated April 10, 1984.

The breakdown of expenditures for Year 4 is as follows:

1. July 23, 1983 to June 30, 1984

During this period expenses were incurred by the previous operator, Bass Strait Oil and Gas N.L.

Lease rental	A\$ 1,770.00
Petrecon consultancy fees	A\$46,446.70
Administrative costs	A\$13,000.00
Tape storage costs	A\$ 2,812.44
Dan Kirisits-consultancy fees	<u>A\$ 1,969.10</u>
TOTAL	A\$65,998.24

2. March 23, 1984 to July 22, 1984

Amoco Australia Petroleum Company operated the permit during this period and incurred the following expenses:

Data acquisition	A\$ 284.31
Administrative costs	<u>A\$ 696.90</u>
TOTAL	A\$ 981.21

4. GEOLOGICAL WORK

Bass Strait Oil and Gas continued their evaluation of the Turrah prospect, southeast of Cormorant 1 well, as discussed in the first and second quarterly reports for Year 4, which were submitted by Petrecon (see Section 2).

Prior to farming in Amoco conducted an evaluation of the Bass basin which concluded that the Tertiary section in the basin is immature for oil generation. The underlying Cretaceous section should contain good potential source rocks and will be at a peak-oil to past-peak oil stage of organic maturity. Amoco also anticipates that there will be structures at the Cretaceous level related to the initial rifting stage of basin development which are not manifested in the Tertiary section.

Since farming in, Amoco's geological work has concentrated on the following:

1. Data Acquisition

Well logs, completion reports, analytical data and other well data have been obtained from previous operators. SAOG were instrumental in obtaining these data on behalf of Amoco.

2. Log Digitizing

Amoco has digitized well logs as they became available, and entered them into a computer system. These digital data will be used for computer log analysis, geological mapping, synthetic seismograms, and geological cross-sections.

Many of the prints of well logs that were originally available were of very poor quality and therefore unsuitable for digitizing. SAOG has been working on Amoco's behalf to obtain legible, reproducible copies of all the well logs.

3. Organic Geochemistry

Using a proprietary, computerized, mathematical model Amoco has simulated the burial and organic maturation history of the Aroo 1, Bass 3, Cormorant 1, Tarook 1 and Toolka 1 wells. The results of the simulations have been compared with vitrinite reflectance data obtained from published literature and from well reports.

In general, the data agree with the predictions. Cormorant 1 is a notable exception, with much higher maturity levels than are predicted from current well temperatures. The mathematical models are being refined to incorporate the burial and paleogeothermal history of the basin more rigorously so as to improve the match

with the vitrinite reflectance data. If this work does not reconcile the high maturity levels present in Cormorant 1, apatite fission-track analysis may be used to age-date the thermal event that has caused the high degree of maturity.

At present, the mathematical models confirm that the Tertiary section is undermature in most of the wells.

4. Geological Sampling

Plans were formulated to sample the cores and cuttings from the five wells in the permit. Amoco plans to take selected samples to resolve specific problems in the following areas:

1. Palynology - palynological analyses will be conducted to resolve questionable well correlations and misties between the well tops and the seismic data. The age of the T. Longus zone will also be re-evaluated. The zone is generally considered to be Cretaceous, but Amoco's work has shown that Tertiary dinoflagellates are present. Finally, a few samples will be sent to Amoco's research center in Tulsa, Oklahoma, for processing using proprietary techniques to see whether additional taxa are revealed.
2. Vitrinite reflectance - selected samples will be taken for checking vitrinite reflectance, where data are lacking or where there are conflicts in the current data.

3. Reservoir characteristics - selected core plugs will be cut for measurement of porosity and permeability, where data are currently lacking or are unreliable, or where there are conflicts in the current data. Additional analyses, such as X-ray diffraction analysis, petrographic and SEM studies, water sensitivity, and capillary pressure will be conducted as needed.

5. GEOPHYSICAL WORK

Most of the geophysical effort during the year, since Amoco took over as operator, has been concentrated on optimizing data for the deeper targets which are now considered the prime objective in the Bass basin. Reprocessing of existing data and acquisition of new seismic lines are designed for deeper data enhancement.

1. Seismic Reprocessing

With the exception of the 1982 BMR regional survey most of the existing seismic data in the Bass basin have been acquired and processed for exploration targets within the Tertiary Eastern View Coal Measures. It was not known whether any substantial improvement in deep data quality was feasible, and consequently before embarking on the major reprocessing endeavor a pilot reprocessing study was initiated to determine which of the surveys were suitable for deep-data enhancement. Although this pilot study is still incomplete it is apparent that only seismic surveys acquired with powerful source arrays and long receiver cables can be reasonably improved. The full reprocessing project will consequently concentrate on these surveys.

2. Seismic Acquisition

Geophysical mapping is being carried out with a view to planning a seismic program which will result in the identification of a

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drilling location for Cretaceous prospects. With a summer 1985 spud date for the first well on permit T/18P it is not feasible to carry-out both a reconnaissance and a detail survey, and the 1000 kilometer survey currently planned has been designed to fulfill both functions. Moreover it was not considered practical to acquire, process and interpret more than 1000 kilometers of new data before a drill site was selected. Data acquisition is anticipated at the beginning of the "weather window" in November 1984.

6. FUTURE WORK

Amoco is planning to conduct the following work in T/18P during Year 5, July 23, 1984 to July 22, 1985.

1. Reprocess 1483 kilometers of seismic data.
2. Acquire 1000 kilometers of new seismic data.
3. Sample available cores and cuttings during the period October 19 to November 10, 1984, and conduct geological analyses as described in Section 4.
4. Continue with detailed geological evaluation of the basin.
5. Make new seismic structure maps on selected horizons in the Tertiary and Cretaceous.
6. Drill one well, spudding mid-year 1985. Total depth of the well will depend on the anticipated stratigraphic section at the well location. However, the well will be planned to test adequately the Upper Cretaceous section.

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BASS BASIN GEOLOGICAL WORK PROGRAM

1984				1985												1986								
SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER

DRILLING SCHEDULE

LEGISLATIVE OBLIGATIONS

APPROVALS

GEOPHYSICAL SCHEDULE

PERSONNEL SCHEDULES

- H. Kiewit
- W. Ebel
- Robinson

SAMPLING AND LABORATORY WORK

STRATIGRAPHY AND CORRELATIONS

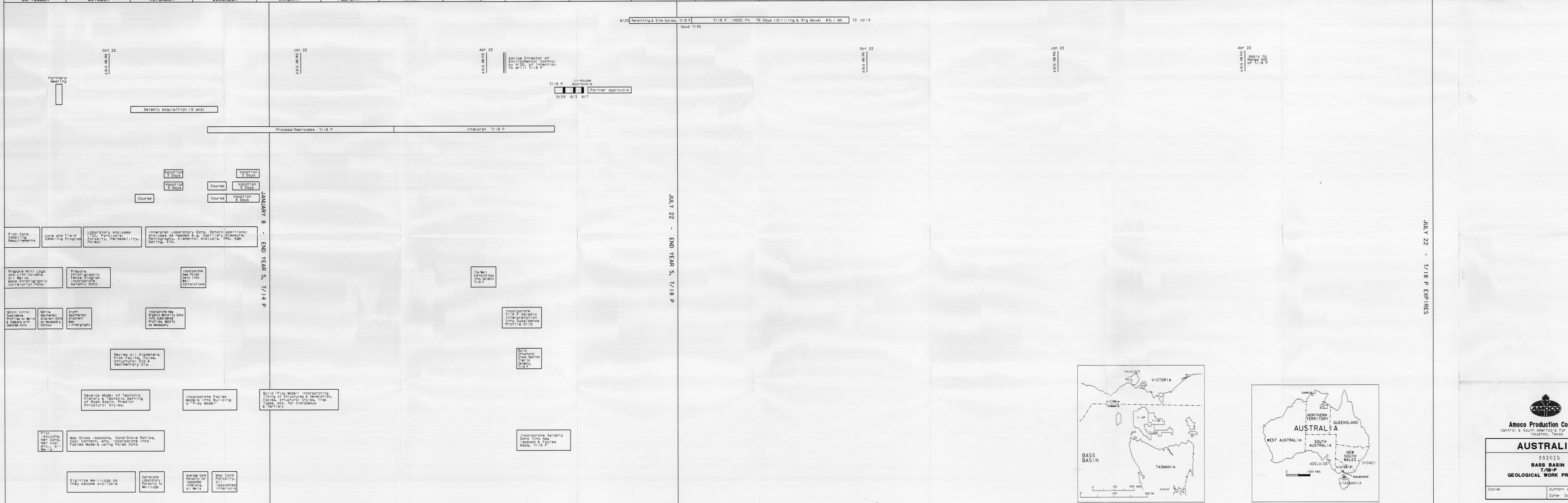
ORGANIC GEOCHEMISTRY

STRUCTURE

TECTONICS

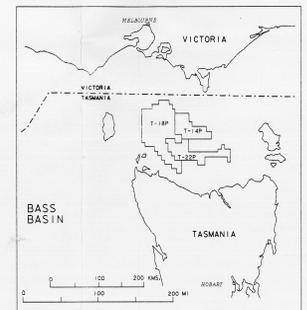
PALEOENVIRONMENTS

RESERVOIR PROPERTIES



JULY 22 - END YEAR 5, 7/18 P

JULY 22 - 7/18 P EXPIRES



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AUSTRALIA
151015
BASS BASIN
7/18-P
GEOLOGICAL WORK PROGRAM

Scale: _____ Authority: A. E. Robinson
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