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Amoco Australia Petroleum Company

**KOORKAH-1 PROGNOSIS
EXPLORATION PERMIT T/18P
OFFSHORE TASMANIA**

JULY 1985

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**Amoco Australia Petroleum Company**

(Inc. in Delaware, U.S.A., with Limited Liability - Registered
as a Foreign Company in Tasmania)

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July 30, 1985

Mr. Hugh Murchie,
The Director of Mines,
Tasmanian Department of Mines,
P.O. Box 56,
Rosny Park. Tas. 7018

Dear Sir,

Permit T/18P Application for Permission
to Drill Well Prognosis
MISC-AUP-258-L-400-GMK/SCB/WLW

Amoco Australia Petroleum Company, as Operator of the Exploration Permit T/18P in the Bass Basin, hereby applies for permission to drill the well Koorkah -1 to a total depth of 3200 metres to test sandstone objectives in the Eastern View Coal Measures (Late Cretaceous to Eocene) and the Otway Group (Early Cretaceous).

The well would be located at:

Latitude 39 degrees 37 minutes 57.11 seconds SOUTH

Longitude 145 degrees 9 minutes 6.83 seconds EAST
on seismic line TP05-7 at Shotpoint 290 in a water depth of 67 metres
(Attachment 1).

The enclosed Prognosis illustrates the structural position of the well, location, predicted lithology and the planned evaluation program.

Yours faithfully,

Steven C. Bane
Exploration Manager

Enclosures

GMK/lrc

WELL PROGNOSIS

The Koorkah -1 well will test marginal marine and non-marine sandstones with intraformational shales acting as seals within the Eastern View Coal Measures of Late Cretaceous to Eocene age.

The Koorkah structure is a northwest trending anticline situated over a major pre-Tertiary normal fault which became rejuvenated in the Early Eocene producing a structural trap with a four-way dip closure from the Lower Eocene to the base of the Eastern View Coal Measures. The predicted stratigraphic sequence to be penetrated in the well was developed using biostratigraphic and seismic correlations with Bass -3, Aroo -1 and Cormorant -1. Significant hydrocarbon shows were found by Cormorant -1 (oil recovery on a formation interval test in an Eocene sandstone) and Bass -3 (gas/condensate recovery on a formation interval test in a sandstone at the top of the Paleocene).

The Lower Eocene is the first stratigraphic level that will be penetrated under structural closure in the Koorkah -1 well. The Lower Paleocene through Upper Cretaceous section to the base of the Eastern View Coal Measures will be drilled in a crestal structural position. The probable top of the Otway Group, will be encountered beneath an angular unconformity expected at 3011 m.

EVALUATION PROGRAM

The evaluation program has been developed based on the following casing points measured below the rotary table:

<u>Casing Size</u>	<u>Shoe</u>	<u>Formation</u>
30"	185M	Torquay Group
20"	394M	Torquay Group
13 3/8"	1638M	Demons Bluff
9 5/8"	as required.	

The 9 5/8" casing may be set earlier than total depth should any of the following situations arise - the need to protect potentially prospective zones up-hole, the hole deteriorates or overpressuring is anticipated.

Sampling Program

- Drill cuttings would be taken from the 30" shoe (185 metres) to Total Depth as follows:

<u>Sample Type</u>	<u>Interval</u>
Washed and Dried (6 sets)	5M samples from 185-1638m 3M samples from 1638-3200m Samples will be collected in paper or plastic bags

Sampling Program (cont'd)

- | | |
|------------------------------------|---|
| Wet (Paleo-Palynology)
(2 sets) | 10m wet composites from
185-1638m
9m wet composites from
1638-3200m
Samples collected in cloth bags |
| Wet (Geochemistry)
(1 set) | 9m wet composites from
1638-3200m
Samples collected in 1 litre
cans |
- Conventional cores to more thoroughly investigate shows and potential reservoir rocks would be cut upon the recommendation of the wellsite geologist with concurrence of Amoco's Sydney Office.
 - Sidewall cores would only be taken below the 13 3/8" shoe, to complement any conventional cores cut, and would be programmed to obtain detailed palynological, geochemical and lithological data. Extra sidewall cores would be located around suspected unconformities and within zones of hydrocarbon shows.
 - Drilling fluid samples in 1 litre cans would be taken of drilling mud in and out every 250m. These samples would be used as a check on mud filtrate properties for logging and testing programs.

Analytical Program

- Core Analysis

Core Laboratories Inc. in Adelaide would do routine or special core analysis as the case may dictate.

- Paleontological and Palynological Analysis

All paleontological and palynological analysis would be conducted by Analabs.

The paleontological analysis would be restricted to that portion of the hole above the Eastern View Coal Measures and would consist of an analysis every 100 metres from the 10 metre composite samples.

Roger Morgan would conduct the palynologic work. During drilling wet composites would be analysed routinely every 100 meters from the top Eastern View Coal Measures to total depth. Later, as considered necessary samples would be analysed on a maximum interval spacing of 25 meters. The sample material would be comprised of conventional core, sidewall core and cuttings obtained during the drilling of the well.

Analytical Program (cont'd)

- Geochemistry

With the exception of vitrinite reflectance determinations all geochemical analyses would be conducted by Analabs. The geochemical program would initially consist of headspace analyses of composite canned samples from the top Eastern View Coal Measures to total depth. This would be followed by more screening analyses in the form of TOC and subsequent Rockeval pyrolysis. More detailed hydrocarbon and bitumen evaluations would be conducted if the analyses confirmed potential source rocks and if free hydrocarbons were obtained from the well.

Vitrinite reflectance determinations would be conducted concurrently during the drilling of the well by Brian Watson of Amdel. The analyses would be done every 200 meters from the top of the Eastern View Coal Measures to total depth.

Wireline Logging Program

The following wireline logging program is planned (Schlumberger terminology):

<u>Interval</u>	<u>Log Suite</u>
20" to 13 3/8" Casing 185 to 1638 metres	ISF-BHC-GR-SP-CAL (GR to Seabed)
13 3/8" to Total Depth 1638 to 3200 metres	ISF-BHC-GR-SP-(MSFL/CAL) LDT-CNT-GR HDT VSP CST

Testing Program

The decision to test the hole would be based on encouragement from mud log shows and wireline log analysis. The rig would be equipped to conduct both RFT's and conventional DST's through casing.

5 cm

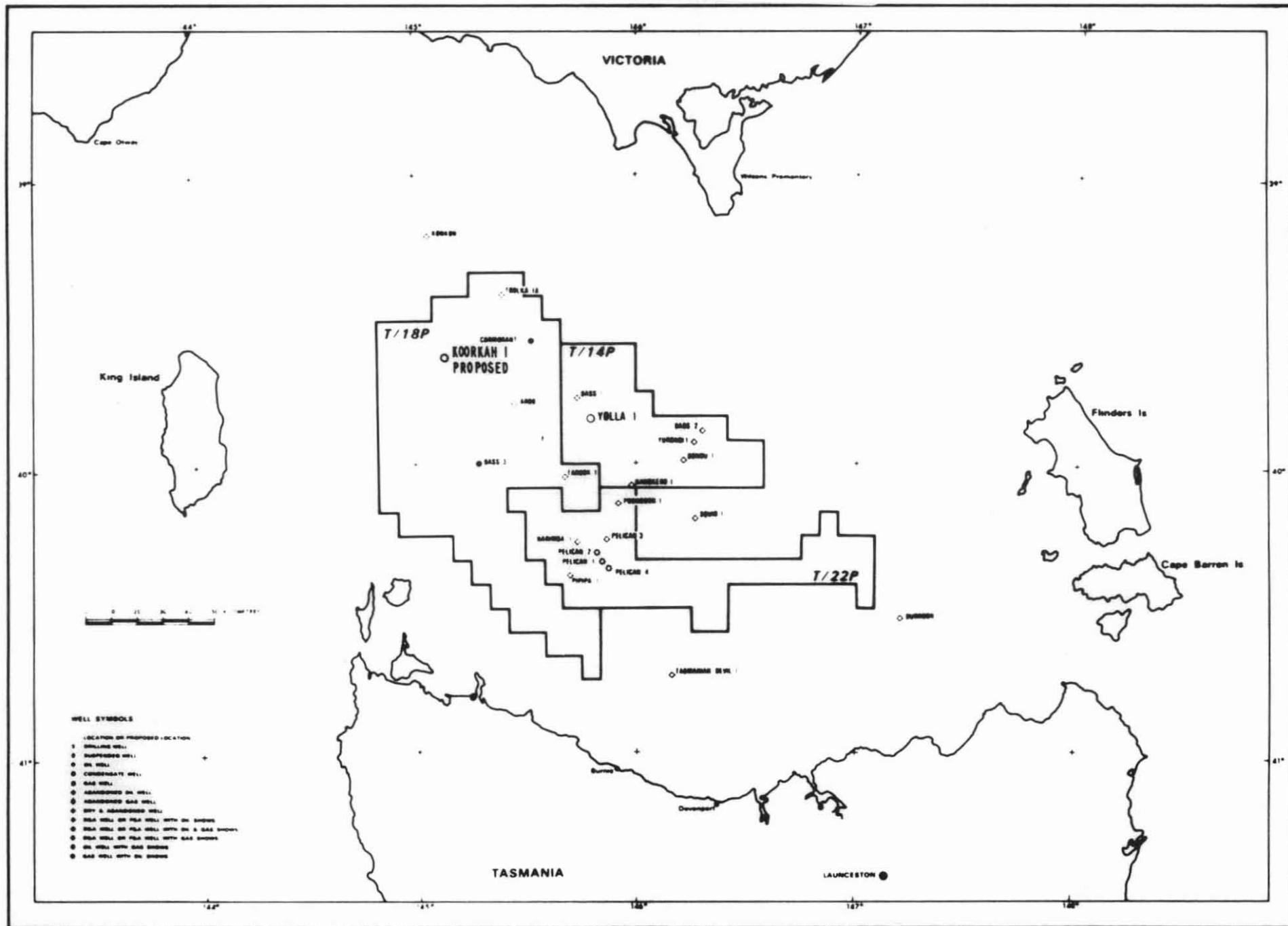
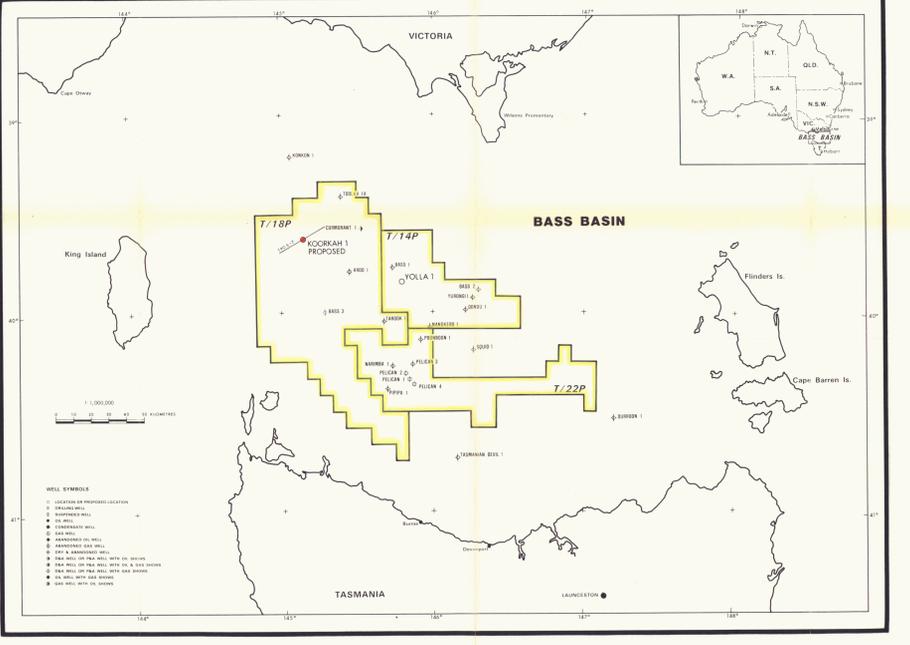
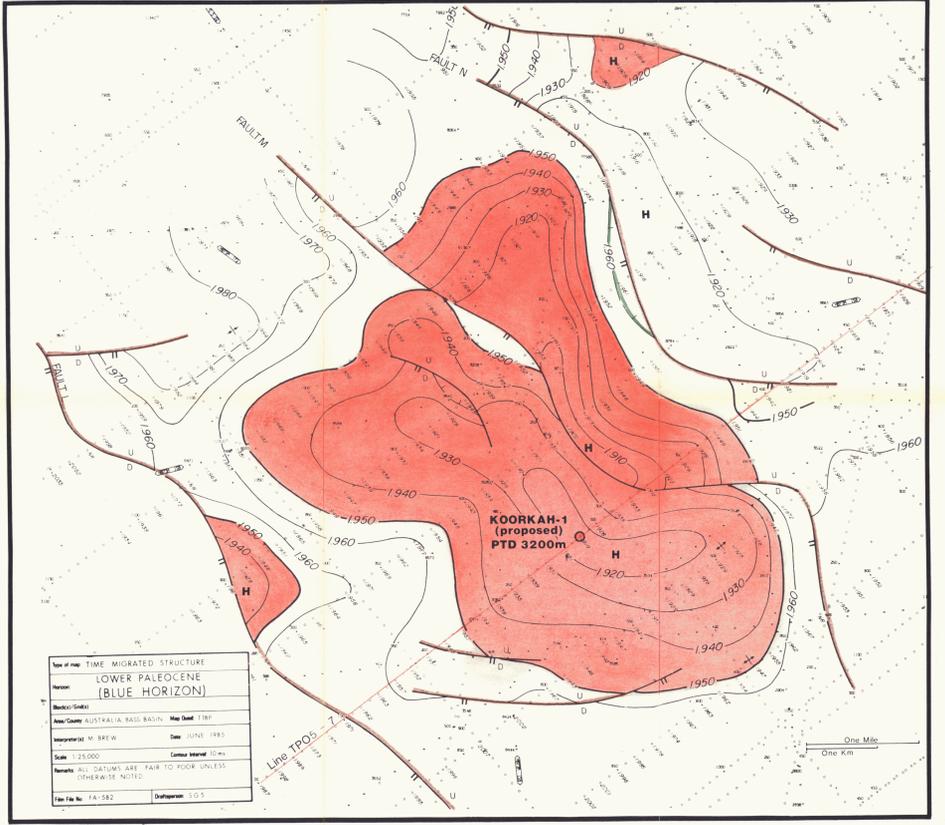
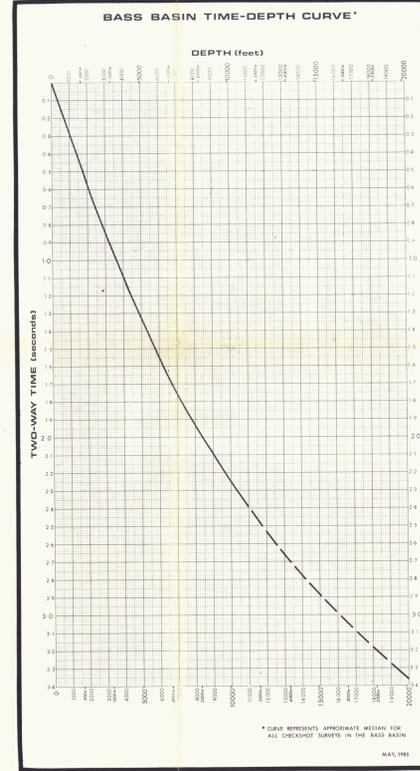
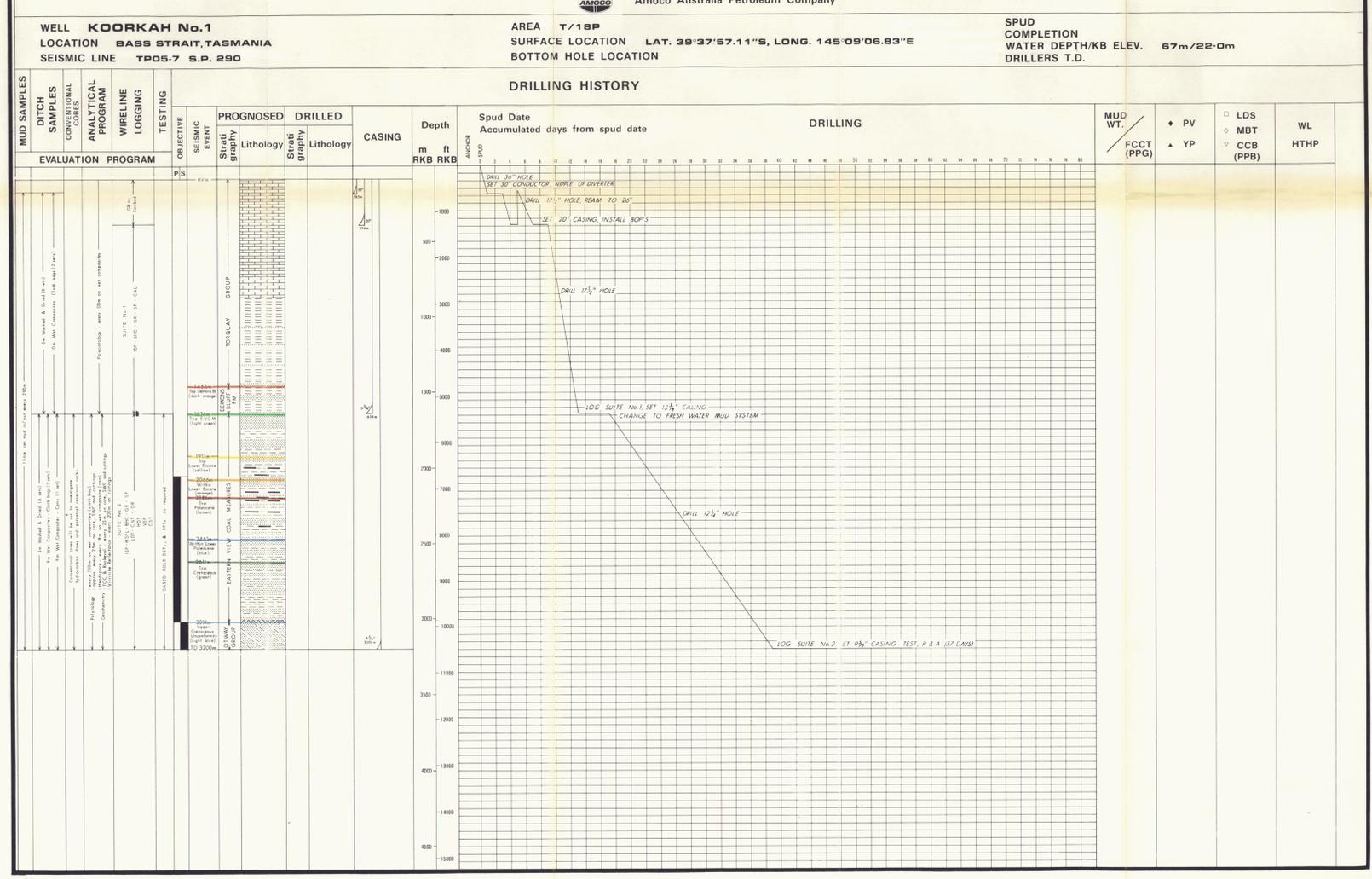
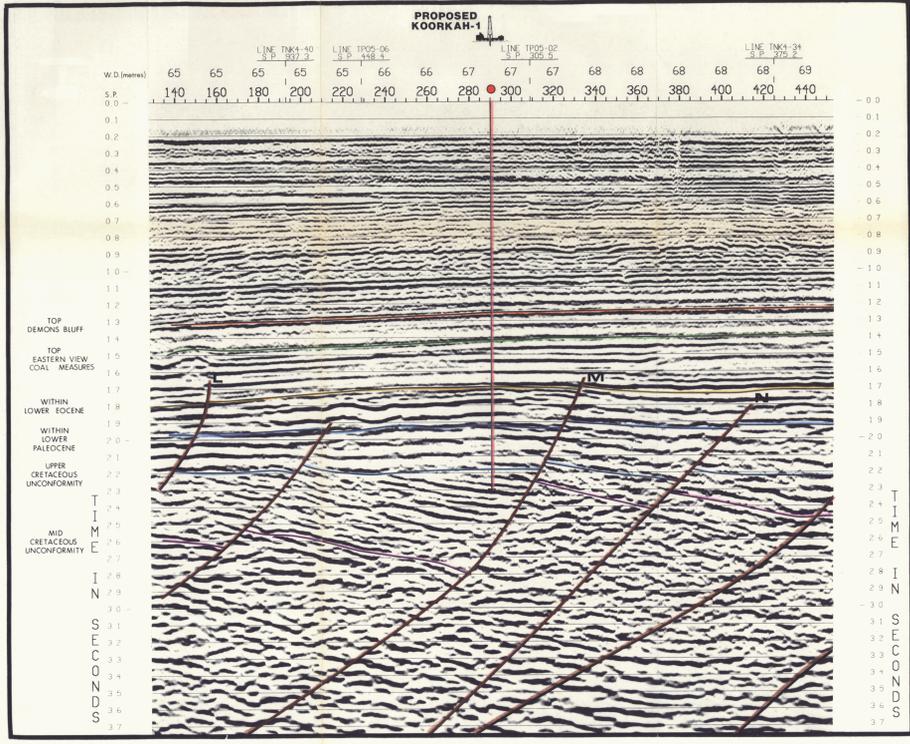


FIG. 1

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AMOCO
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Exploration Permit T/18P

1 km

KOORKAH-1 Well Prognosis

Report No. 1 Enclosure No. 1 Author: WJW / JBB / GMM
Date: JULY, 1985 Scale: 1:25,000 Drawn: LM Drawn No. 1

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