SECOND QUARTER REPORT

YEAR 4
T18P

BASS STRAIT OIL & GAS N.L.

Contents

TPR
OR-0172

180002

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BA0180

BASS STRAIT OIL & GAS N.L.

9th October, 1984.

The Director,
Department of Mines,
P.O. Box 56,
ROSNY PARK .. TAS .. 7018.

R.G.R.

Copy Sent to BMR 16/10/84 JJ

Dear Sir,

RE: SECOND QUARTER REPORT, YEAR 4, T18P.

This report relates to work carried out by Bass Strait Oil & Gas N.L. Operator for the consortium which holds title to T18P, for the period October 23, 1983 to January 22, 1984.

PERMIT STATUS

As you are aware, Amoco Australia Petroleum Company and South Australian Oil & Gas Corporation farmed into the permit on March 22, 1984. During the change in Operator from BSOG to Amoco the submittal of the second quarterly for Year 4 was unfortunately neglected. We apologise for any inconvenience and advise that BSOG are submitting this report and that Amoco will commence reporting for the third quarter, January 23 to April 22, 1984.

GEOLOGICAL

Geological work associated with the definition of the Turrah Prospect southeast of the Cormorant -1 oil show continued.

Turrah is updip from Cormorant and forms a south, south easterly trending horst, against which the thick grabenal deposits which comprise Cormorant were compressed in the Late Eocene to Early Oligocene, but principally in the Mid Miocene to Recent.

The oil recovered at Cormorant -1 was a low gravity (21° API) crude from a thin sand at 4922' beneath a very poorly developed shale seal. This has many puzzling aspects which the development of the Turrah Prospect was aimed at solving.

Firstly, the oil must have been sourced from the post M. diversus unconformity section because the section beneath the unconformity yielded gas in two FIT's of a very thick, low nett to gross section.

Secondly, the source section was thought to be immature because of the low API Gravity of the crude. This was supported by the BMR's analysis of the source rock beneath the oil show which, although having a high T.O.C., was immature (Ro = 0.4%); see Dwg. 83/53. The oil may have been sourced from this shale. Even if it did, it still begged the third question as to the regional sealing ability of the overlying silty shale. It was thought, and our mapping has shown, that the sand was immediately below a regional Lower N. asperus unconformity (Green

T/18P Part 11

T/18P Part 11

seismic event of Dwg. 83/53).

GEOPHYSICAL

Five seismic horizons were mapped which can be referred to on the correlation section between Cormorant -1 and Bass -1 (Dwg. 83/53).

Dwg. 83/52 is the time structure map at the Top Eastern View. The event is easily interpreted on the 1 to 1½ km. grid shot by Hematite in 1977. Cormorant -1 was located well down dip on a major Top Eastern View closure, the highest part being on the south, south easterly trending horst known as the Turrah Prospect. The horst has been modified by compression and clear evidence of wrenching is apparent at the 1200 msec. crestal area.

In the uppermost Eastern View a prominent prograding beach sequence has been identified. The most easily mapped event was the Intra N. asperus ("pink"). It can be seen on Dwg. 83/51 that the structure has much greater amplitude at this depth than at the Top Eastern View. Westerly to west northwesterly prograding units beneath the pink event have been shown on the map. As this map is on the top of the oil sand at Cormorant, in the event any of the prograding wedges have sealing potential, there is the possibility that hydrocarbons could be present over an area represented by the 1340 msec. contour. This is high risk as there is not a lot of evidence for sealing shales around the pink event between Cormorant -1 and Bass -1.

The Intra N. asperus ("green") seismic event is clearly an erosional unconformity. Mapping reveals that there is minimal closure at this level both at Cormorant on the Turrah horst. However, the shale on the unconformity is seen to improve towards Bass -1 (see Dwg. 83/53), so that the accumulation at Cormorant -1 is best represented by this map.

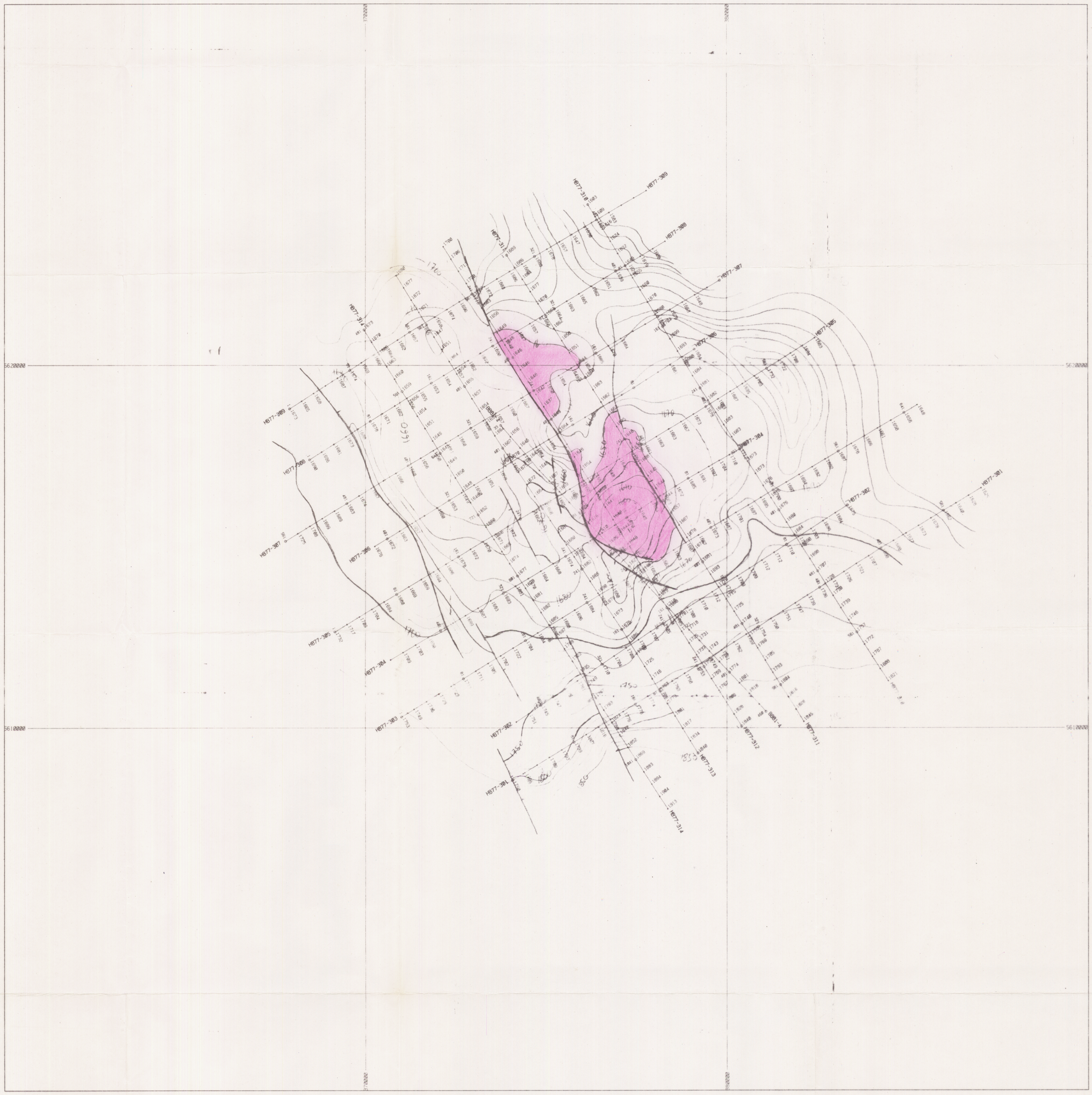
The Intra P. asperopolus map (Dwg. 83/50) shows the Cormorant structure to be almost absent with migration of hydrocarbons likely to the more updip Turrah location (then up the fault to the Top Eastern View at Turrah).

The deepest map, the M. diversus unconformity map shows the Cormorant structure to be almost non-existant, suggesting the deeper gas at Cormorant is probably stratigraphically trapped. The Turrah feature however, becomes more prominent at depth because of its horst genesis.

We consider Turrah is a prospect similar to Yolla. Yolla has a better chance of generating oil within the post M. diversus section because it is buried about 200 msec. deeper than Turrah. However, success at Yolla would cause encouragement on the two nearest horst blocks, viz., Tilana and Turrah.

Yours faithfully,

J. K. DAVIDSON,
for E. G. ALBERS,
CHAIRMAN.



TIME STRUCTURE MAP
TOP M. DIVERSUS U/C

PETRECON	
A. Jones & Assoc.	83/46
D HORIZON TIME	
SCALE : 50,000	
DATE: 06-10-83U4	10 milliseconds
PLOTTED BY NIMCOM	

5 cm

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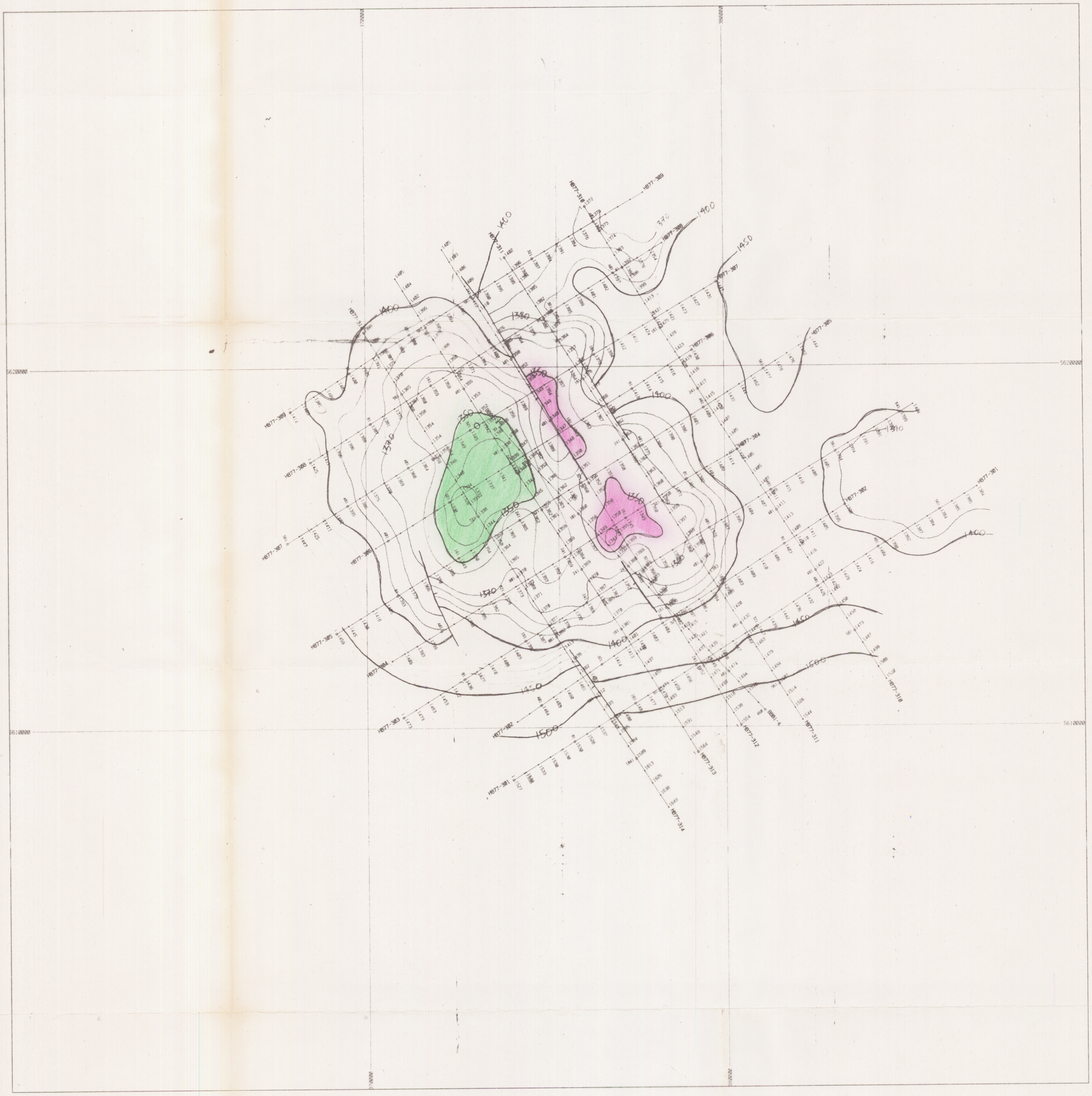
180004

T/I&P Part II

①



TIME STRUCTURE MAP

INTRA N. asperus EVENT
(GREEN SEISMIC EVENT)

5 cm

PETRECON

A. Jones & Assoc. 83/47

C HORIZON TIME

SCALE : 50,000

DATE: 06-10-83U4 | C.I. 10 MILLISECONDS

PLOTTED BY RINCON

OR-0172

Map Part II

180005

(2)

39°30'S

145°40'E

HB77A313 HB77A310 HB77A309 BBS81-5 HB77A311 HB77A308 HB77A307 HB77A306 HB77A305 HB77A304 HB77A303 HB77A302 HB77A301 HB77A300

1580 1600 1620 1640

CORMORANT NO.1

39°40'S

145°30'E

VICTORIA

CORMORANT

KING ISLAND

TASMANIA

5 cm

PETRECON AUSTRALIA PTY. LTD.

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83/50

T18P – TURRAH PROSPECT
TIME STRUCTURE MAP
INTRA P. asperopolus HORIZON

COMPILED	GJB, JKD
DRAWN	JP
DATE	18.11.83
SCALE	1:50 000
C.I.	10 ms

180006 OR-0172 T/18P Part 1

(3)

39°30'S

145°40'E

HB77A313 HB77A311 HB77A310 HB77A309 HB77A308 HB77A307 HB77A306 HB77A305 HB77A304 HB77A303 HB77A302 HB77A301 HB77A300 HB77A314 HB77A315 HB77A312

BBS81-5

CORMORANT NO. 1

BBS81-4

39°40'S

145°30'E

VICTORIA

• CORMORANT

KING ISLAND

TASMANIA

— — Prograding wedge termination

PETRECON AUSTRALIA PTY. LTD. 180007

BASS STRAIT OIL & GAS N.L.	83/51
T18P - TURRAH PROSPECT TIME STRUCTURE MAP INTRA N.asperus (PINK SEISMIC EVENT)	COMPILED: GJB, JKD DRAWN: JP - DATE: 18.11.83 SCALE: 1:50 000 C.I.: 10 ms

5 cm

OR-0172 T/18P Part 1)

(4)

39°30'S

145°40'E

HB77A309 HB77A310 HB77A311 HB77A313 HB77A308 HB77A307 HB77A306 HB77A305 HB77A304 HB77A303 HB77A302 HB77A301 HB77A300 HB77A312 HB77A311 HB77A314 HB77A315

BBS81-5 BBS81-4

CORMORANT NO.1

1220 1240 1260 1280 1300

39°40'S

145°30'E

VICTORIA

CORMORANT

KING ISLAND

TASMANIA

PETRECON AUSTRALIA PTY. LTD. 180008

BASS STRAIT OIL & GAS N.L.	83/52
T18P - TURRAH PROSPECT TIME STRUCTURE MAP TOP EASTERN VIEW GROUP	COMPILED AWJ DRAWN JP DATE 18.11.83 SCALE 1:50 000 C.I. 10 ms

5 cm

T18P Part II OR-0172 (5)

CORMORANT - 1
S.P.

BASS - 1
S.P.

N.asperus

4280′ TOP EASTERN VIEW 6100′

L.N.asperus

SEISMIC

0
100
200
300 FEET
SCALE

PINK EVENT

BLUE EVENT

GREEN SEISMIC EVENT

T.O.C. 10%

N.asperus

L.N.asperus

P.asperpolus

SEISMIC

P.asperopolus

SEISMIC

P.asperopolus

INTRA. P.asperopolus
SEISMIC EVENT

U.M.diversus

TOP M.diversus

U.M.diversus

NEARSHORE

NEARSHORE

LOWER DELTA PLAIN - MARGINAL MARINE

CYCLIC BEACH INTERVAL

E — O — C — E — N — E

180009

5 cm

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	83/53
CORMORANT - 1 . BASS - 1 S.P. AND SEISMIC CORRELATION	COMPILED K M
	DRAWN D F
	DATE 28-11-83
	SCALE 1 1200
	FIGURE

OR-0172. T1988 Part 1,

(6)