268001

RESTUDY OF THE YOLLA PROSPECT LICENCE T/14P, BASS BASIN, AUSTRALIA

September 1990

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Amoco Australia Petroleum Company

OR_280

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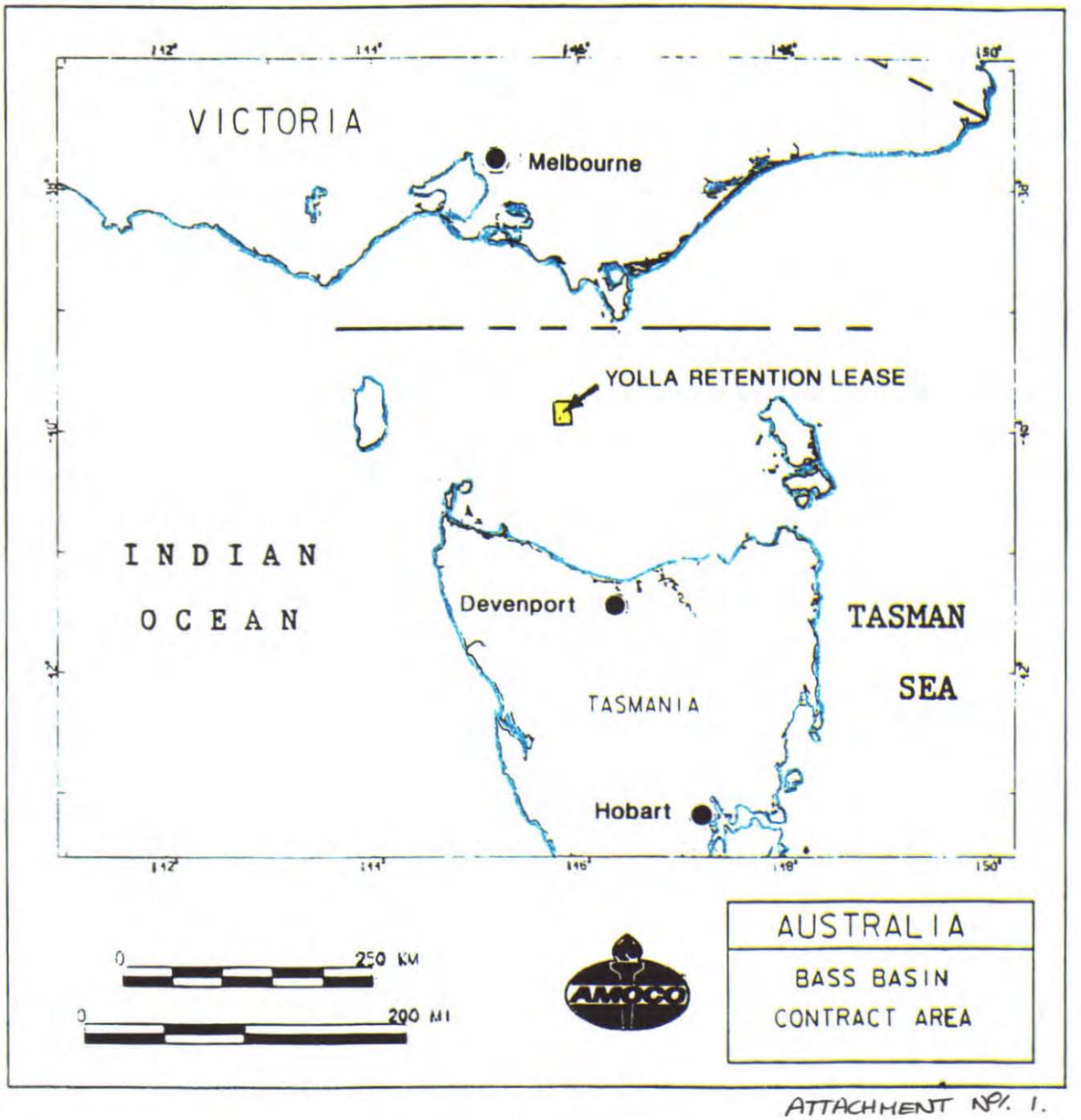
INTRODUCTION

In 1985, Amoco as operator and 50% WI partner drilled the Yolla #1 gas discovery within the T/14P licence of the Bass Basin. Because of a lack of market for gas, the well was subsequently shut-in. However, interest in the gas discovery well was rejuventated due to the possible development of a gas market within Tasmania. Simultaneous with negotiating a gas contract, Amoco as operator of the licence has been pursuing approval of a retention lease application through both state and federal governments within Australia. Approval of such a retention lease would theoretically allow Amoco to retain acreage around the discovery well for 15 years, i.e. time enough to allow a potential economic discovery to develop a market. The state government of Tasmania has given its approval of the retention lease application. However, in the summer of 1990, the Australian federal government (Department of Primary Industries and Energy, DPIE) questioned the appropriateness of awarding the retention lease based upon their concerns of proved and potential reserves. For the above reasons, Amoco undertook a thorough restudy of estimated most likely reserves.

There were two pay zones encountered in the well. The top of the upper pay is at a depth of 1812 meters and is at the top of the Eastern View Coal Measures (ECVM) Formation. A condensate/water contact was encountered in the well at this horizon and its pay is bright spot

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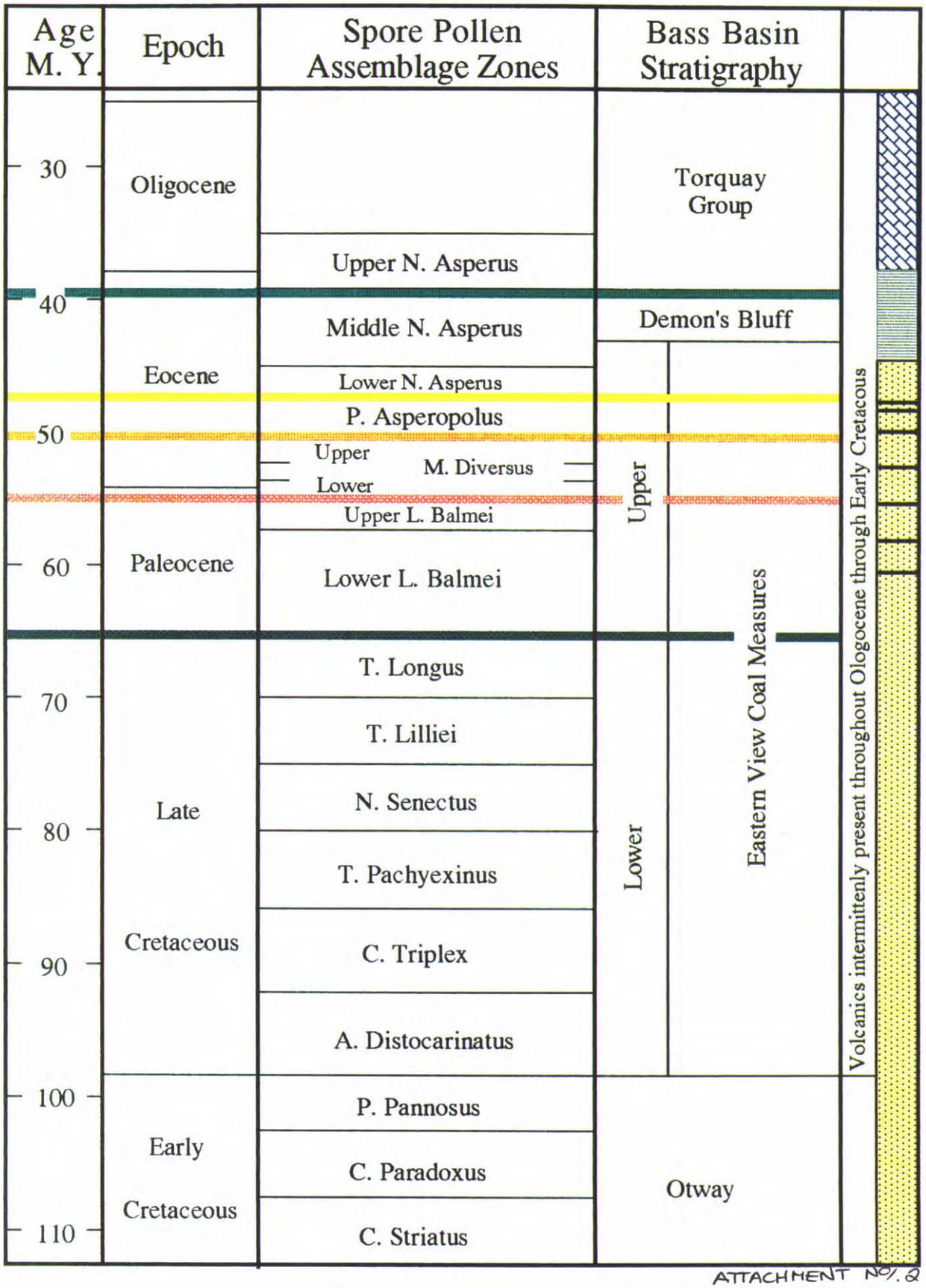
YOLLA RETENTION LEASE BASS BASIN, AUSTRALIA



ATTACHMENT NO. 1.

5 cm

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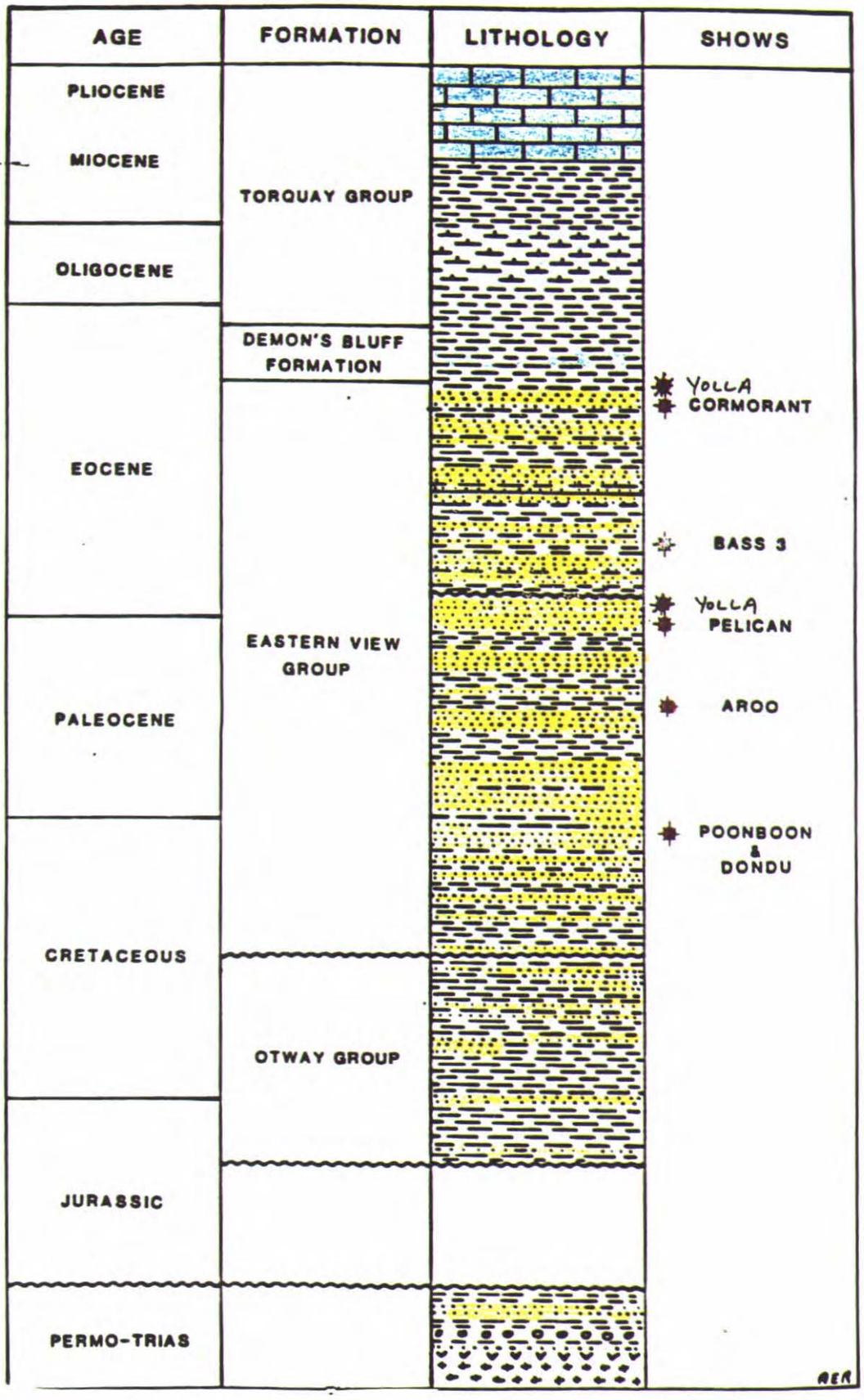
ATTACHMENT NO. 2

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268607

BASS BASIN
GENERALIZED STRATIGRAPHY

5 cm



ATTACHMENT No. 3.

related. Therefore, estimating the extent of the upper pay can be done with a high degree of certainty, and is estimated to be 10 BCF. The lower zone's top is at a depth of 2749 meters sub-sea and is within the Paleocene portion of the EVCM Formation at the lower L. Balmei level. This report focuses on estimating the pay count of the lower zone because 282.2 BCF is estimated to be situated there and it is more difficult to estimate than the upper pay. Since the lower zone did not encounter any gas/water contacts and the pay is not bright spot related at this level, we discuss column height estimations and structure mapping at length in this report.

On August 14, 1990, the results contained within this report were presented to the Australian government (DPIE) in Canberra. At that meeting, the technical results were well received and we currently believe that DPIE officials are in overall agreement with the contents of this report. We also believe that the retention lease will be approved with the condition that the joint venture partnership will commence delineation drilling within the first five years of the lease if and only if a gas contract is negotiated.

CONCLUSIONS

1. Total estimated most likely reserves for the Yolla prospect are 293 BCF. 283 BCF is assigned to the Lower Balmei Pay Zone in the lower Eastern View Coal Measures Formation (EVCM) while the remaining 10 BCF is assigned to the Top EVCM Pay.

2. The Lower Balmei Pay Zone is interpreted to have three seperate pay column heights, based on pressure and fluid analysis data.

3. The Lower Balmei Pay Zone is drilled upthrown to a northwest - southeast trending fault which likely dies out rapidly to the northwest. Therefore, it is very likely that multiple, thin pay sands in the Lower Balmei interval are in communication with the north half of the structure.

4. An additional anticline may exist at the Lower Balmei Pay Zone to the south of the Yolla anticline. This new lead, which needs additional seismic data, is within the nine block retention lease.

5. Although shallow volcanics affect the quality of seismic data over the prospect, the time structure map of the Top Lower Balmei Pay is not appreciably affected (pulled up or pushed down) within the acreage under closure.

COLUMN HEIGHT CALCULATIONS

There are two pay intervals in the Yolla-1 well. The upper interval lies at the top of the Eastern View Coal Measures Formation, in the middle N. Aspersus paleo zone at a depth of 1812 meters. A a condensate/water contact is estimated from log data at 1846 meters. Based on DST fluid samples and pressure data, there may also be a thin oil leg below this contact. Because of the known water contact in the well, and the seismic bright spot relationship of this upper section to pay, only 10 BCF of the total estimated reserves are assigned to this section.

The vast majority of the pay (282.2 BCF) lies in the Paleocene portion of the EVCM Formation at the lower L. Balmei level. Evaluation of this zone is extremely difficult primarily due to to multiple thin pay sands interbedded with highly variable volcanics, shale and siltstone, drapped over the structure with fluid contacts existing some distance away from the wellbore and hence not discerned by logging tools (Enclosure 1).

Because fluid contacts were not detected, initial interpretters believed the entire lower L. Balmei section to have one gas column. Hence the section was interpreted to contain a singular, ultimate seal. However, re-evaluation of pressure data from seven valid RFT points (only one of five RFT runs had valid data) and two DST pressure bombs indicate that there are actually three seperate pay

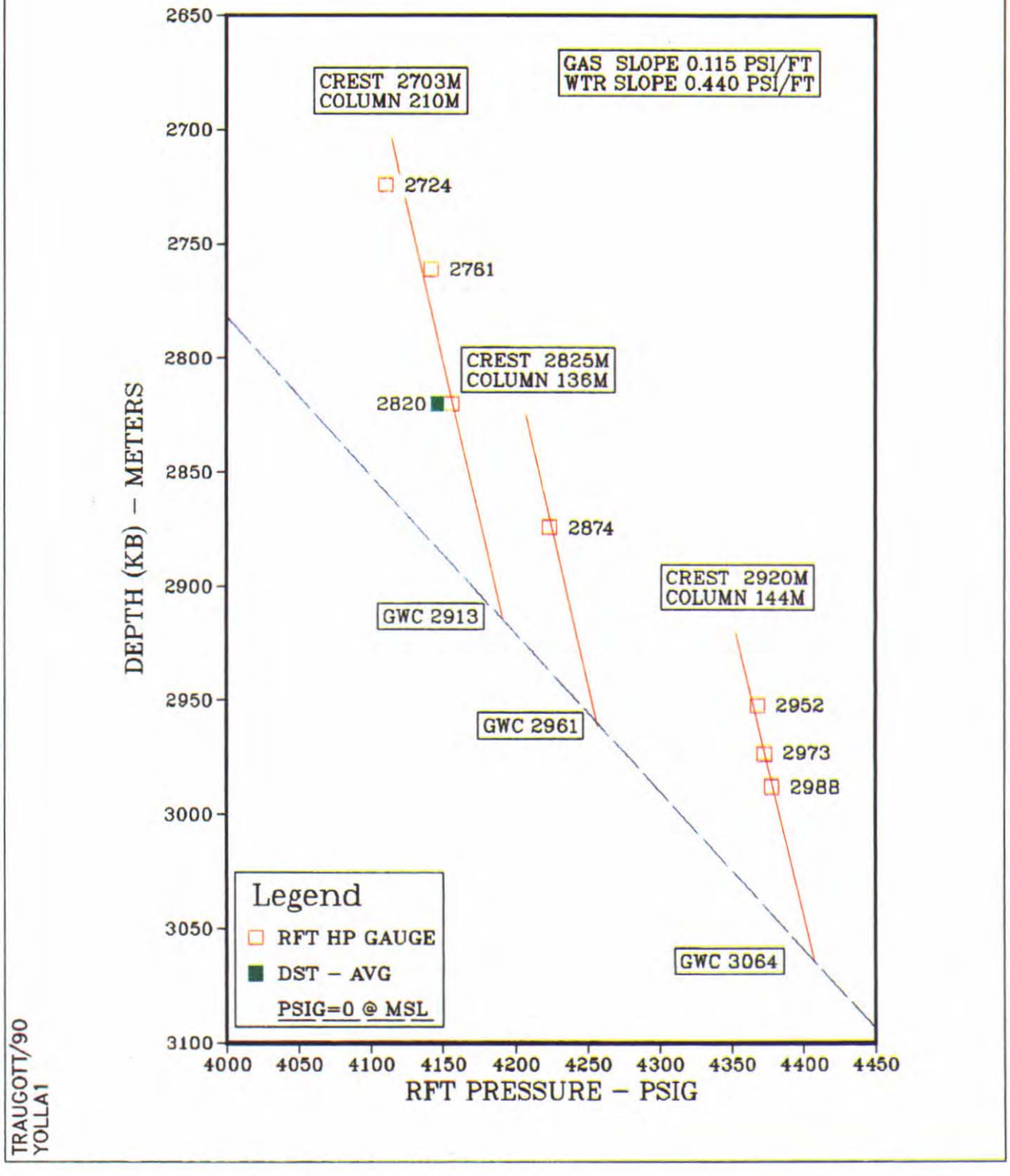
zones in the lower L. Balmei interval (Figures 1, 2, and 3).

This interpretation done in cooperation with M. Traugott of the Formation Evalaution Group, was confimed by other methods as well. Molecular weights of gases recovered were used to back-calculate fluid gradients. Additionally, mud weight information was incorporated in Traugott's plot of hydrostatic gradients (Fig. 3). (The methodology and assumptions used in the evaluation of the pressure data is outlined in Appendix 1).

Additionally, comparing density and delta T responses from Yolla-1 indicates that there are several intervals with sealing capability, further supporting a multi-pay column interpretation.

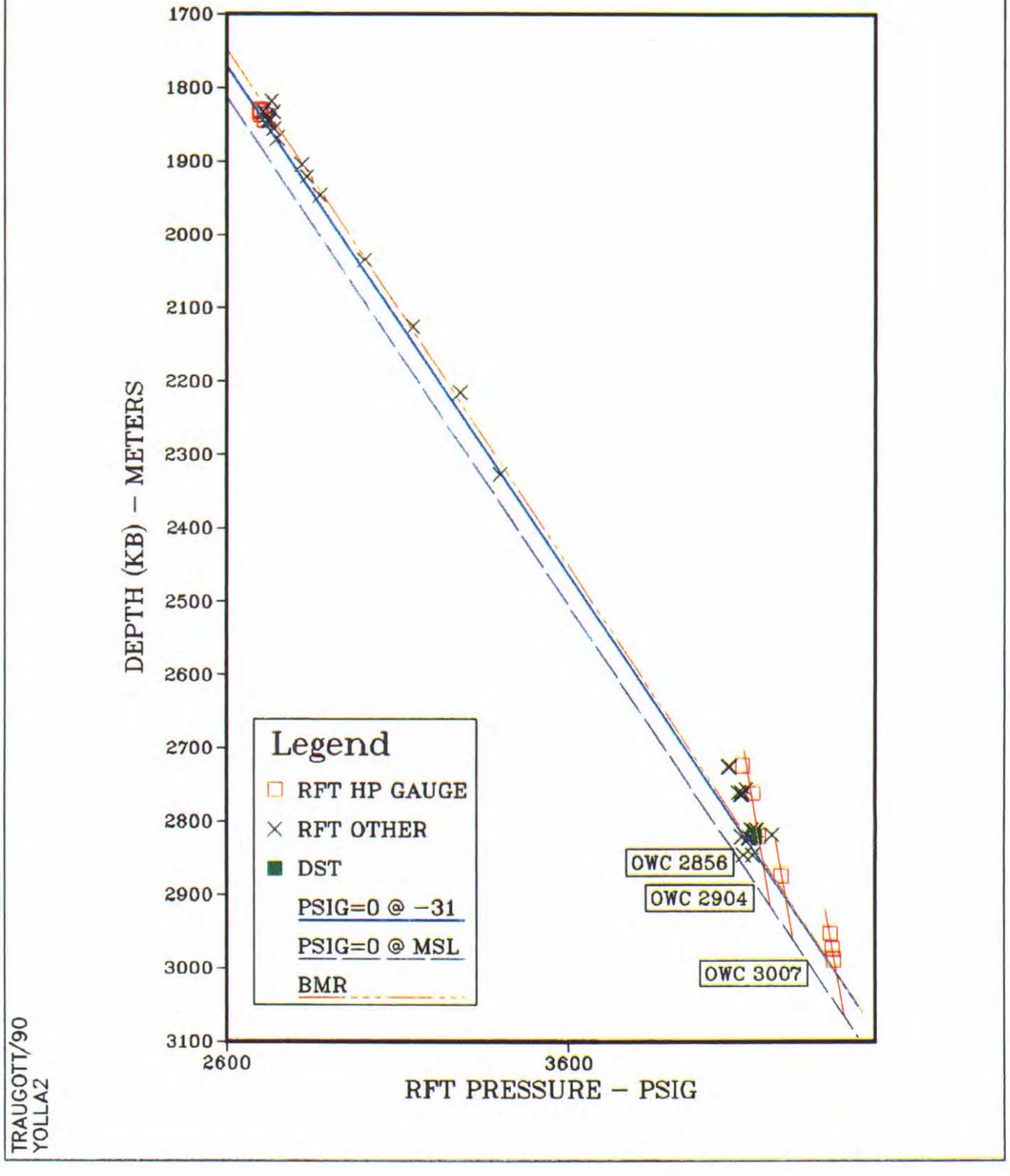
The revised work is generally in agreement with the Australian Bureau of Mineral Resource's Report 1989/14 which denotes four pay zones in the lower L. Balmei interval. However, the interpretation of a surface intercept point for the hydrostatic gradient differs. The BMR makes the case that the surface intercept is 82.5 meters above sea level, some 5 meters above the KB of the rig. Amoco has made the case and obtained general concurrment from the BMR that a more likely surface intercept is sea level itself, hence lowering the cross over of the gas and water gradients by 82.5 meters. A surface intercept of zero (0) elevation makes intuitive sense since no doubt the mud column in the casing fell somewhat during RFT runs and could not be above the kelly bushing during testing. Additionally, in view of the region's geological setting, these fluvial/parallic sands are most likely restricted to the center of the basin. It is highly unlikely that these lower L. Balmei sands crop out above sea level on the periphery of the basin and hence the hydrostatic surface intercept

FIG 1 – RFT DATA, YOLLA #1, BASS STRAIT, AUSTRALIA



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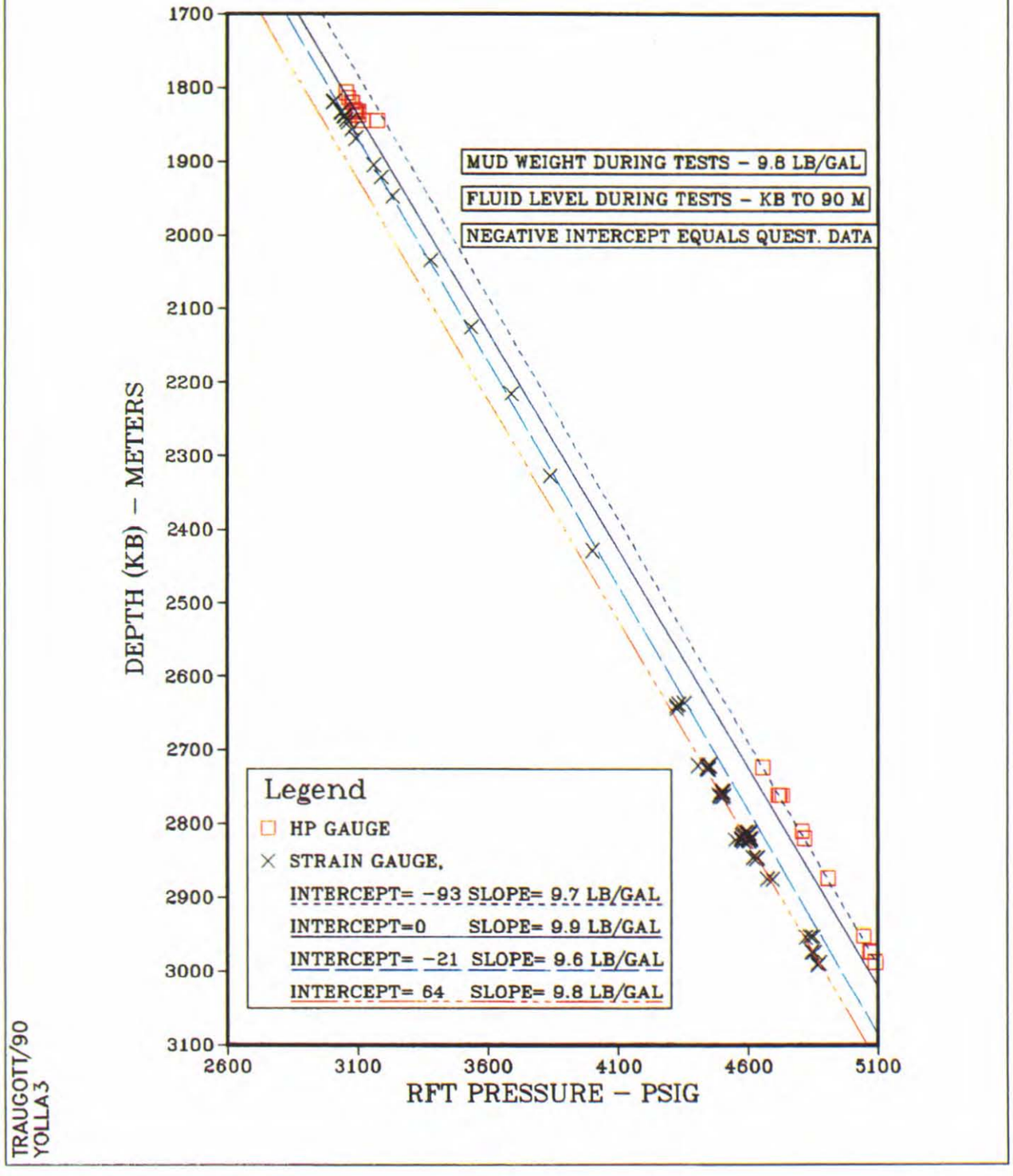
FIG 2 – YOLLA #1, ALTERNATE INTERPRETATION



5 cm

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FIG 3 – RFT HYDROSTATIC CHECK, YOLLA #1



5 cm

must be at or below sea level.

In summary, there are three pay zones in the lower L. Balmei interval with GWC's calculated at 2913m, 2961m, and 3064m (Figure 2). These three zones contain 20m (four sands), 2m (one sand), and 12m (two sands) of pay. The pay count itself was based on a sensitivity study of log parameters.

DISCUSSION OF TOP LOWER BALMEI STRUCTURE

The seismic time structure map of the top of the Lower Balmei Pay (Enclosure 2) demonstrates the Yolla anticline. The outline of the nine block retention lease is highlighted in thin pink tape on the map. The mapped horizon was tied into the seismic data utilizing a velocity corrected (utilizing VSP velocities), 180 degree, 10-30 HZ synthetic. The VSP corridor stack and display of upgoing waves does not tie the data as well as the synthetic due to the higher frequency content of the VSP. Seismic line TQH5-41 is a dip line which images directly over the Yolla #1 well and was used to tie the synthetic. The top of the Lower Balmei Pay (2749 subsea meters at the wellbore) is the red horizon on all the enclosed data. Note that the amplitude strength of the mapped horizon is relatively weak on both the surface seismic and the synthetic. Therefore, the overall accuracy of the map is limited by the quality of the mapped reflector and the overall fair/poor quality of the seismic data.

Two additional dip lines TNK4-47 and TQH5-203 along with strike lines TQH5-208 and TQH5-213 provide additional key support for the structure as mapped.

The column heights which were discussed in the previous section have been placed onto the appropriate contours of the structure map for the purpose of calculating acreage under closure. The upper 20

meters of pay (Zone 1) has its 210 meter column posted in red tape. The middle and lower pays (Zones 2 and 3) have column heights of 136 and 144 meters respectively. Since the magnitude of these column heights is so similar, the column heights are demonstrated on the structure map with a single contour in green tape. Utilizing a digitized map area program, the acreage under closure is as follows: Zone 1 = 6000 acres, Zone 2 = 3300 acres, and Zone 3 = 3630 acres. Note that if the column height calculations and structure map are both correct, then Fault "B" must act as part of the trap.

The interpretation that Fault "A" dies out to the northwest is is important because this allows the pay sands to be in communication over the entire structure. On a 1989 interpretation submitted to the Australian government), Fault "A" bisected the entire structure. As a result, the DPIE felt that the only proved reserves were upthrown to the fault (which would be uneconomic). During the retention lease application process, the DPIE strongly encouraged Amoco to drill a well downthrown to prove economic reserves prior to awarding a retention lease. As a result of our August 14, 1990 meeting with the DPIE, we no longer believe that this issue will prevent assignment of the retention lease.

There are two reasons why we believe Fault "A" dies out. First, Fault "A" does not seem to exist on seismic line TNK4-47. Therefore, the fault likely dies out to the southeast of the seismic line. Second, a fault plane map of Fault "A" shows that the shallow cuts of the fault gradually die out to the northwest. This is a likely indicator that the fault is losing magnitude in a northwest direction.

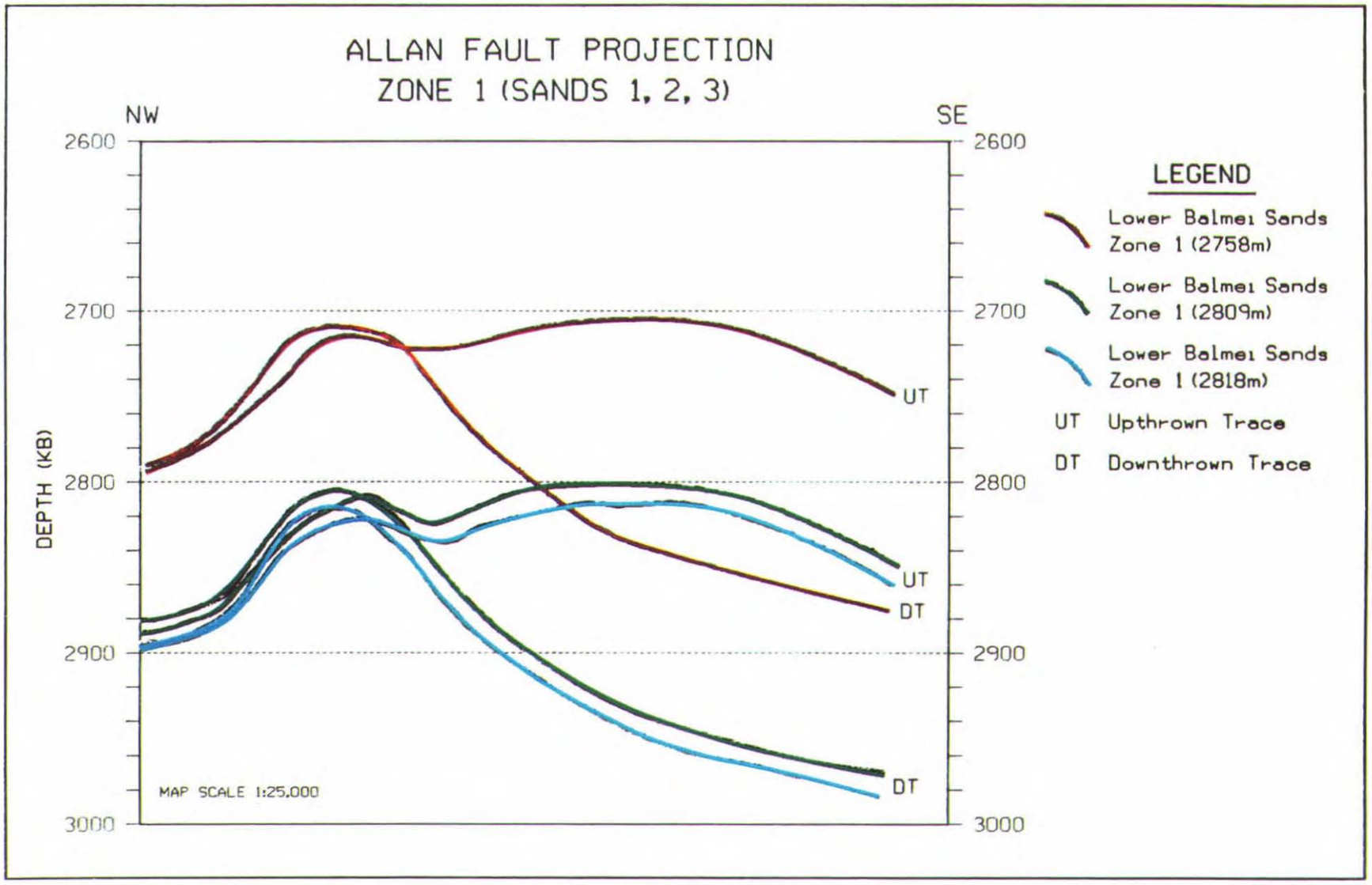
Moreover, preparation of an Allan Fault Plane Projection across Fault "A" illustrates the overlap and communication of the sands in the uppermost lower L. Balmei interval (sands 1, 2 and 3) along the western third of the fault. These sands on the upthrown and downthrown side of fault also communicate across stratigraphic order as the downthrown limb of sand 1 communicates with the upthrown side of sands 2 and 3 (Figure 4).

Impact of Shallow Volcanics

At a burial depth ranging from 3000-4000,' there is a layer of volcanic rock which has a variable thickness. This volcanic interval was encountered by both the Yolla #1 well and the Bass #1 well which is located 10 km. to the northwest of Yolla. The velocity of the volcanic is 10,000'/sec. at Yolla and 9525'/sec. at the Bass well. The existence of this volcanic layer does affect the accuracy of any time structure map below the volcanic interval in areas where its thickness deviates from a uniform "pancake" thickness.

Above the acreage under closure at Yolla, the shallow volcanic thickness does not appear to deviate any significant amount. Therefore, the acreage under closure on the Lower Balmei Time Structure Map (Enclosure 2) is interpreted to be unaffected by the volcanics. The volcanics have affected the Top Lower Balmei Pay Time Structure Map in the areas of seismic line TQH5-203 at shotpoint 130, and seismic line TNK-51 at shotpoint 390. EVMIG depth modelling of seismic line TQH5-203 indicates that a small residual-type structure exists under the velocity pullup. This result indicates that some component of the structure seen on line 203 is due to structuring induced by a volcanic neck pushing vertically

FIGURE 4



CVMS
90-00570138-016

5 cm

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through the rock column.

The Bass #1 well drilled a velocity pullup feature. Seismic line TQH5-81 demonstrates large local buildup of shallow volcanics where the well was drilled. EVMIG depth modelling of this seismic line demonstrates that the depth structure is simply ramp dip to the southwest.

Lead Area South of Yolla

Approximately 10 km. south of the Yolla anticline, there may exist an additional anticline at the Top of the Lower Balmei Pay Zone (Enclosure 2). The lead is best seen at the intersection of seismic lines TQH5-210 and TNK-55. The entire structure is dashed in on the structure map due to a lack of seismic data. Additional seismic shooting will be required to fully assess this lead area.

SUMMARY OF RESERVE CALCULATIONS- LOWER BALMEI PAY

Assumptions for Estimating Lower Balmei Pay Count

1). Three zones, each having seperate column heights.

-Zone 1: 20 meters thick, 6000 acres closed, 210 meter column, Sw = 33%

-Zone 2: 2 meters thick, 3300 acres closed, 136 meter column, Sw = 50%

-Zone 3: 12 meters thick, 3630 acres closed, 144 meter column, Sw = 31%

2). For all three zones, the following assumptions were made:

-porosity = 17%

-gas volume factor = 212

-wedge factor = .7

-amount of CO2 = .19

-recovery factor = .85

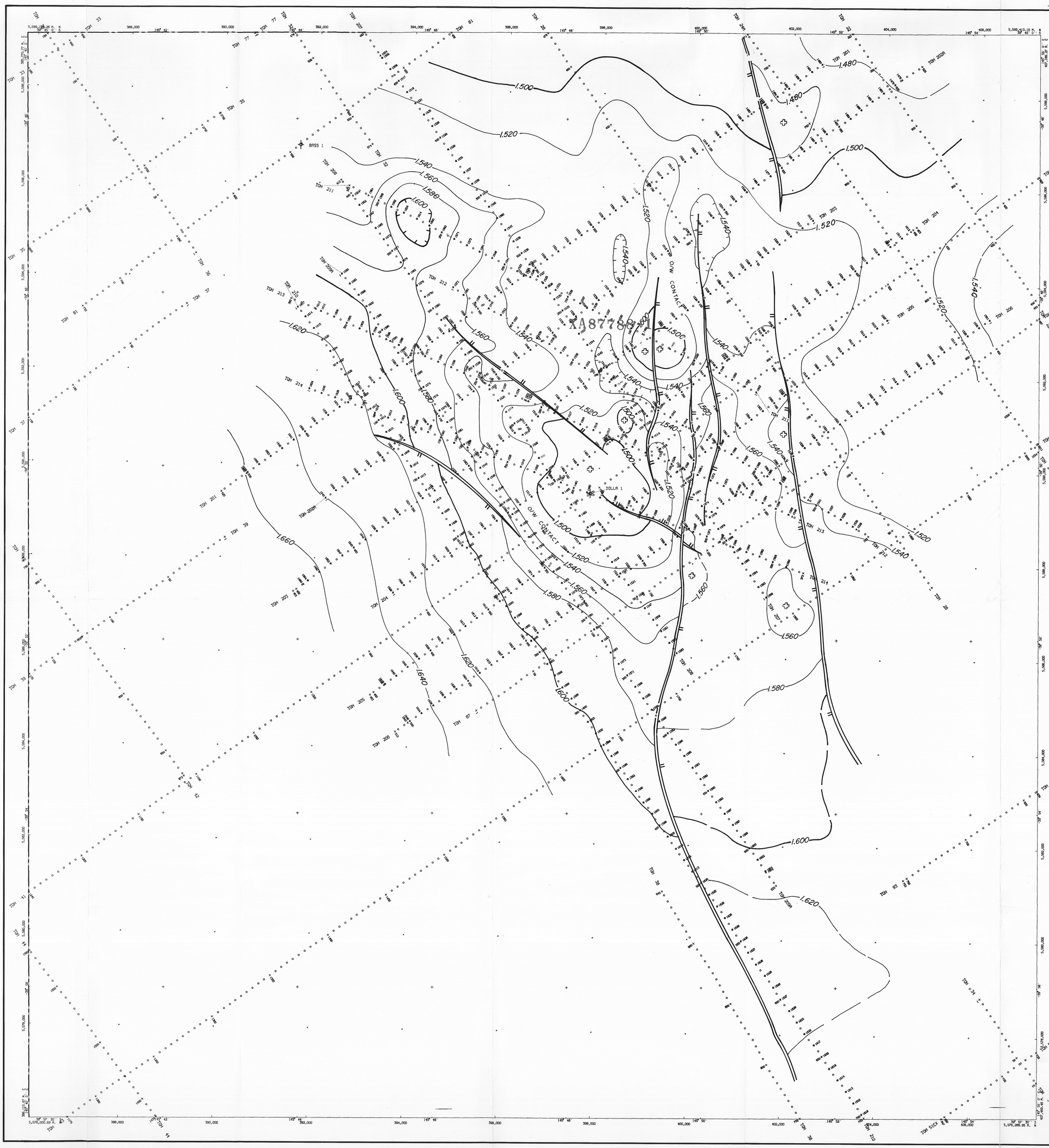
3). The equation used to calculate the pay count in each zone was:

43560 x acres x pay thickness x porosity x (1-Sw) x 212 x .7 wedge factor x .81 CO2 removal x .85 recovery factor

Results for Lower Balmei Pay Estimate

Zone 1 = 200 BCF, Zone 2 = 8.2 BCF, Zone 3 = 74.6 BCF

TOTAL = 282.8 BCF



DESCRIPTION OF SEISMIC COVERAGE

MAP HISTORY

SYMBOLS

- LOCATION
- DRILLING
- DRY HOLE
- GAS WELL
- OIL WELL
- GAS/OIL WELL
- GAS/CONDENSATE
- GAS SHOW
- OIL SHOW
- VELOCITY SURVEY
- VSP SURVEY
- WELL PENETRATED HORIZON
- PRODUCTION AT OR DEEPER THAN MAPPED HORIZON

CONTOURS-FAULTS

- RELIABLE (CF)
- RELIABLE (F)
- UNRELIABLE (VF, F)
- GEOLOGICAL
- NORMAL FAULT, TRACE LENGTH DEPENDENT ON THRUST FAULT, LOCATION RELIABILITY

QUALIFICATION OF CONTOURED DIP MAGNITUDE-FAULT EVIDENCE

RELIABILITY DEGREE	POSSIBLE ERROR RANGE
RELIABLE (RL)?	0 TO +50%
RELIABLE (F)?	+70% TO +100%
UNRELIABLE (VF), (F)	>100%

ISEISMIC = SEISMIC VE + WASTE]
SEISMIC TOO DEEP >+% SEISMIC TOO SHALLOW <-%

MAP NO.
NOTE: THIS MAP REPLACES MAP NO.
WHICH IS TO BE DESTROYED, PLACED IN INACTIVE FILE.
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DISTRIBUTION:
W.S.TITLE:
FILE NO.:
DATED:
OTHER AVAILABLE ACTIVE MAPS:

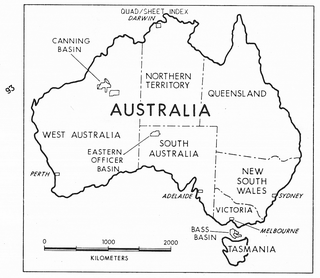
SCHEMATIC REGIONAL GEOLOGY

DEPTH CONVERSION METHOD

MAP PROJECTION

SOURCE CODE

QUAD/SHEET INDEX



GRAPHIC SCALE

0 0.5 1.0 1.5 2.0 2.5 KILOMETERS
0 0.5 1.0 1.5 MILES

5 cm

XA87788-1

Amoco Australia Petroleum Company
Europe, Latin America & Far East Region
Houston, Texas

Type of map: TIME STRUCTURE MAP	
Horizon: TOP EASTERNVIEW COALMEASURES	
Block(s)/Grid(s):	
Area/Country: BASS BASIN	Map Quads:
Interpreter(s): E.NEWMAN, M.MAGEE	Date: AUGUST, 1987
Scale: 1:25,000	Contour Intervals: 20ms.
Remarks: DATUMS ARE GOOD TO FAIR RELIABILITY EXCEPT WHERE OTHERWISE NOTED.	Attachment No. 4
Film File No.: FA-1951	S.M.H.

HBL823

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3261

3262

3263

3333

3334

3335

BASS 1

TOLLA 1

XA89772-1

XA89772-1

XA89772-1

DESCRIPTION OF SEISMIC COVERAGE

MAP HISTORY

SYMBOLS

- LOCATION
- DRILLING
- DRY HOLE
- GAS WELL
- OIL WELL
- GAS/OIL WELL
- GAS/CONDENSATE
- GAS SHOW
- OIL SHOW
- VELOCITY SURVEY
- VSP SURVEY
- WELL PENETRATED HORIZON
- PRODUCTION AT OR DEEPER THAN MAPPED HORIZON

CONTOURS/FAULTS

- RELIABLE (CF)
- RELIABLE (P)
- UNRELIABLE (HP, I)
- REGIONAL
- NORMAL FAULT: TRACE LENGTH DEPENDENT ON THROW
- THRUST FAULT: LOCATION RELIABILITY

QUALIFICATION OF CONTOURED DIP MAGNITUDE/FAULT EVIDENCE

RELIABILITY DEGREE	PSEUDO-C FROM/to Range
RELIABLE (CF)_____	0 TO 4000
RELIABLE (P)_____	4000 TO 14000
UNRELIABLE (HP, I)_____	14000

GEOLOGICAL I=SEISMIC HI & WHITE I
SEISMIC TOO DEEP I=SEISMIC TOO SHALLOW I=?

MAP NO.
NOTE: THIS MAP REPLACES MAP NO.
WHICH IS TO BE DESTROYED, PLACED IN INACTIVE FILE
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DISTRIBUTION:
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FILE NO.
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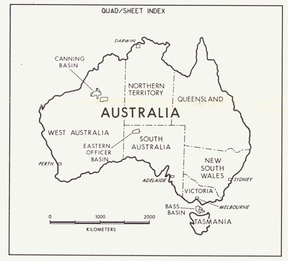
SCHEMATIC REGIONAL GEOLOGY

DEPTH CONVERSION METHOD

MAP PROJECTION

SOURCE CODE

QUAD/SHEET INDEX



GRAPHIC SCALE

0 1 2 Km.

0 1 2 Mi.

XA89772-1

Amoco Australia Petroleum Company
Europe, Latin America & Far East Region
Houston, Texas

Type of map: TIME STRUCTURE	
Horizon: LOWER L. BALMEI	
Block(s)/Grid(s):	
Area/Country: BASS BASIN, AUSTRALIA	
Interpreter(s): E. NEWMAN, M. MAGEE	Date: 8/5/87
Scale: 1:25,000	Contour Interval: 20 MS.
Remarks: DATUMS ARE OF FAIR TO POOR RELIABILITY EXCEPT WHERE OTHERWISE NOTED.	Attachment No. 5
File File No.: FA-1955	E. Lopez

HBL825

5 cm

268023

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OR-280

XA89850-1

BASS 1
TD-7717

YOLLA 1

Depth Structure Map
Unreliable In This Area
Due To Time Structure
Anomaly Caused By
Miocene Volcanics

-1900m
-1850m
-1950m
-2000m
(1.541)
(1.510)
(1.572)
(1.634)

OWC (projected)

93,361.88 M. N
39° 45' 0" S

93,431.75 M. N
39° 45' 0" S

337,271.54 M. E
39° 57' 30" S
70,230.68 M. N

350,000

145° 45

145° 50

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TRANSVERSE MERCATOR MPC ATM7
SPHEROID = 3
CENTRAL MERIDIAN = 146° 0' 0" E LON SCALE FACTOR = 1.00000000

1000 M 0 M 1000 M 2000 M 3000 M
5000 FT 0 FT 5000 FT 10000 FT
1 MI 0 MI 1 MI

XA89850-1

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Amoco Australia Petroleum Company
Europe, Latin America & Far East Region
Houston, Texas

Type of map: DEPTH STRUCTURE MAP	
Horizon: TOP EASTERNVIEW COALMEASURES	
Blocks(s)/Grid(s): YOLLA	
Area/Country: BASS BASIN	Map Quad:
Interpreter(s): D. REGAN AFTER: E. NEWMAN, FILE FA-1951, AUG., 1987	Date: AUGUST, 1989
Scale: 1: 25,000	Contour Intervals: 50 m
Remarks: DATUMS ARE GOOD TO FAIR RELIABILITY—POSTED ON TIME STRUCTURE MAP BY E. NEWMAN. DIRECT CONVERSION FROM 2-WAY TIME TO DEPTH USING YOLLA VSP.	
Film File No.: FA-5184	R.D.C. Attachment No. 6

5 cm

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XA89854-1

Closing Contour Estimated From Dip Rates On South East End Of Structure

Depth Structure Map Unreliable In This Area Due To Time Structure Anomaly Caused By Miocene Volcanics

BASS 1 TD-7717

YOLLA 1

-3300m -3250m -3200m -3150m -3100m -3050m -3000m -3300m(2,310) -3250m -3200m(2,256) -3150m(2,232) -3100(2,208) -3050m(2,183)

CLASS 1

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XA89854-1

Amoco Australia Petroleum Company

Europe, Latin America & Far East Region
Houston, Texas

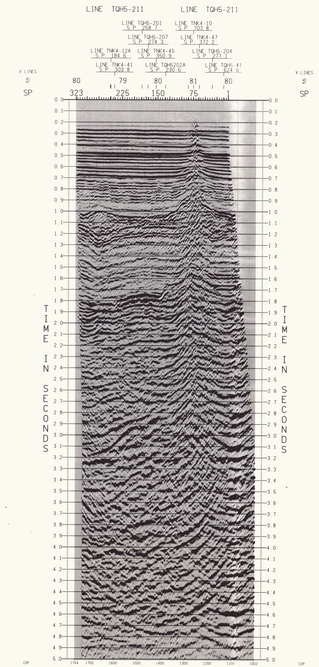
Type of map: DEPTH STRUCTURE	
Horizon: REFLECTOR WITHIN LOWER L. BALMEI	
Blocks(s)/Grid(s): YOLLA	
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Interpreter(s): D. REGAN AFTER: E. NEWMAN, FILE FA-1955, AUG, 1987.	Date: 08/25/89
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Remarks: DATUMS ARE FAIR TO POOR RELIABILITY—POSTED ON TIME STRUCTURE MAP BY E. NEWMAN. DIRECT CONVERSION FROM 2-WAY TIME TO DEPTH USING YOLLA VSP.	
Film File No.: FA-5185	Attachment No. 7

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TRANSVERSE MERCATOR MPC 47M7
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PLOT: 17-AUG-89 10:25 R.RAB, 1989 /usr2/GEOGRAPH_1/BASS/ 01598.PLT 10.0

OR_280



LINE TQH5-211

S.P. 1 TO 323

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

117 DEGREES — DIRECTION SHOT

MIGRATED STACK

FIELD DATA

DATE SHOT BY	G. S. PARTY 2551 W. V. EUGENE MCDERMOTT II
RECORDING INSTRUMENTS	TRACE SEQUENTIAL RECORDER
RECORDING FILTERS	LOW-CUT FILTER AND SLOPE 3 HZ @ 18 DB/OCTAVE A POSITIVE PRESSURE AT THE HYDROPHONE PRODUCES A
RECORDING POLARITY	SEG POLARITY NUMBER ON TAPE IS REVERSED POLARITY.
DIGITAL TAPE FORMAT	SEG D 9 TRK 6PI 1600BPI 1TM1600
RECORDING LENGTH / SAMPLE RATE	6 SECS / 4 MSEC 3 SECS / 2 MSEC SAMPLE RATE
SHOT SOURCE	AUTO FI. 36 AIRGUN ARRAY OPERATING AT 1800 PSI
SOURCE DEPTH	6 METRES
SOURCE TO ANTENNA DISTANCE	50 METRES AVERAGE
HYDROPHONE SPACING	12.5 METRES 1 POP PER SHOTPOINT
HYDROPHONE ANNOTATION	SHOTPOINTS ANNOTATED AT CDP POSITION
STREAMER DEPTH	8 METRES AVERAGE 8 METRES FROM METRE GROUP INTERVAL
STREAMER TYPE	G. S. I. MULTIPHASE STREAMER
NUMBER OF HYDROPHONES	96 PER GROUP 48 PER GROUP
FOLD/RACE	48 FOLD 240 TRACE
PRIMARY NAVIGATION SYSTEM	SYLEDIS
BACKUP NAVIGATION SYSTEM	SYLEDIS

SPREAD DIAGRAM



DIGITAL PROCESSING

POLARITY CONVENTION	THE POLARITY OF THE FIELD RECORDING WAS MAINTAINED THROUGHOUT THE PROCESSING AND DISPLAY
PROCESSING RECORD LENGTH	6.0 SECONDS
SAMPLE RATE	4 MSEC RESAMPLE FROM 2 TO 4 MSEC
PROCESSING SAMPLE PERIOD	4 MILLISECONDS 2 MSEC
NOMINAL FOLD/RACE	120 FOLD 240 TRACE 120 FOLD 240 TRACE
ADJACENT TRACE SUM	ADJACENT FIELD TRACES SUMMED - ON
AMPLITUDE RECOVERY (AR)	SPHERICAL DIVERGENCE CORRECTIONS APPLIED EXPONENTIAL GAIN CORRECTIONS APPLIED
PRE DECONVOLUTION MUTE	RAMP LENGTH - 96 MSEC START TIME(MSEC) 450 400 900 3976 END TIME(MSEC) 800 1000 2800 5000
VELOCITY FILTERING (VF)	START TIME(MSEC) 0 450 900 3976 END TIME(MSEC) 450 1000 2800 5000 WITH 3DFI DIPLINE PARAMETERS
DESIGNATURE (DES)	DESIGNATURE OPERATOR APPLIED - FMAX=125 HZ
VELOCITY ANALYSIS	AT 1KM SPACING INTERVAL VELOCITY ANALYSES LOCATED EVERY 2 KM VELOCITY FIELD - VELOCITY IN NEGATIVE F-K
DEMULTIPLE	HORIZONTAL SUM OF VELOCITY IN NEGATIVE F-K GUNDARY RIDGE METHOD/TECOMA
VELOCITY ANALYSIS	GUNDARY RIDGE METHOD/TECOMA ANALYSES LOCATED EVERY 2 KM
NORMAL MOVEOUT CORRECTION	VELOCITY FIELD FROM VELOCITY ANALYSES
DSO CORRECTIONS	SHOT STREAMER STATIC CORRECTIONS - 12 MSEC
FIRST BREAK SUPPRESSION	RAMP LENGTH - 96 MSEC START TIME(MSEC) 450 400 900 3976 END TIME(MSEC) 0 0 180 400 3200
INSIDE-TRACE MUTING	APPLIED(METRES) 400 500 1200 3000 START TIME(MSEC) 0 0 180 400 3200 END TIME(MSEC) 800 1000 2800 5000
COMMON DEPTH POINT STACK	60 FOLD (OF 120)
MIGRATION (MIG)	FINITE DIFFERENCE F-K DOMAIN - DIP LIMIT - 90 DEGREES
VERSION 7.2	ANNOTATED VELOCITIES AND MIGRATED VELOCITIES
TIME VARIANT FILTERING	FREQUENCY (HZ) TIME (MSEC) NOTES: TVFM FREQUENCY (HZ) TIME (MSEC) 0 - 10 0 0 - 40 1000 0 - 35 2000 0 - 30 3000 0 - 25 4000 0 - 20 5000
TIME VARIANT SCALING	DIGITAL GAIN CONTROL SCALING 1000 MSEC GATE

DISPLAY

HORIZONTAL SCALE	60.000000 TRACES/IN
VERTICAL SCALE	3.750000 IN / SEC
TRACE TYPE	WIGG - WIGGLE TRACE
DATUM	SEA LEVEL
DISPLAY UNIT	0.677520 CM

TRANS DISPLAY GAIN

1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0

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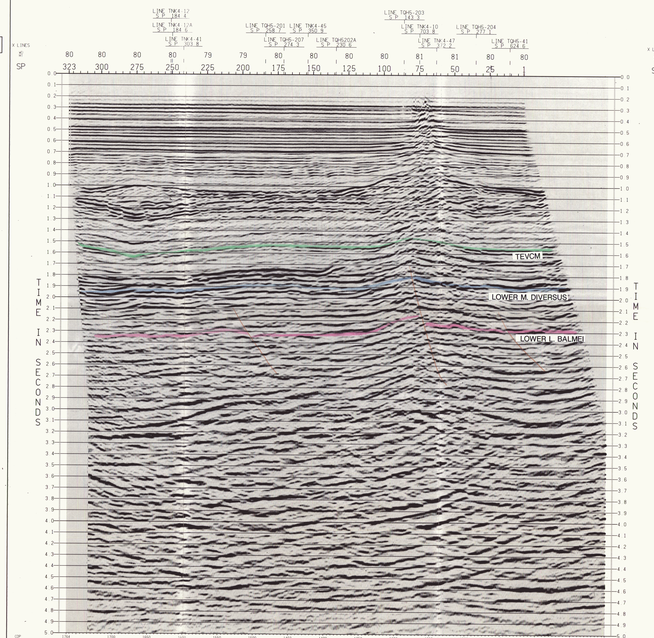
PARTY 6860

GEOPHYSICAL SERVICE INC

A SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED

PROCESSING CHECKED BY





LINE TQH5-211

S.P. 1 TO 323

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

117 DEGREES — DIRECTION SHOT

MIGRATED STACK

FIELD DATA

DATE SHOT BY	G. S. PARTY 2551 W. V. EUGENE MCDERMOTT II
RECORDING INSTRUMENTS	TRACE SEQUENTIAL RECORDER
RECORDING FILTERS	LOW-CUT FILTER AND SLOPE 3 HZ @ 18 DB/OCTAVE
RECORDING POLARITY	LOW-CUT FILTER AND SLOPE 3 HZ @ 18 DB/OCTAVE A POSITIVE PRESSURE AT THE HYDROPHONE PRODUCES A SEG POLARITY NUMBER ON TAPE IS REVERSED POLARITY.
DIGITAL TAPE FORMAT	SEG D 9 TRK 6PI 1600BPI 1TM1600
RECORDING LENGTH / SAMPLE RATE	6 SECS / 4 MSEC 3 SECS / 2 MSEC SAMPLE RATE
SHOT SOURCE	AUTO FI. 36 AIRGUN ARRAY OPERATING AT 1800 PSI
SOURCE DEPTH	6 METRES
SOURCE TO ANTENNA DISTANCE	50 METRES AVERAGE
HYDROPHONE SPACING	12.5 METRES 1 POP PER SHOTPOINT
HYDROPHONE ANNOTATION	SHOTPOINTS ANNOTATED AT CDP POSITION
STREAMER DEPTH	8 METRES AVERAGE 8 METRES FROM METRE GROUP INTERVAL
STREAMER TYPE	G. S. I. MULTIPHASE STREAMER
NUMBER OF HYDROPHONES	96 PER GROUP 48 PER GROUP
FOLD/RACE	48 FOLD 240 TRACE
PRIMARY NAVIGATION SYSTEM	SYLEDIS
BACKUP NAVIGATION SYSTEM	SYLEDIS

SPREAD DIAGRAM



DIGITAL PROCESSING

POLARITY CONVENTION	THE POLARITY OF THE FIELD RECORDING WAS MAINTAINED THROUGHOUT THE PROCESSING AND DISPLAY
PROCESSING RECORD LENGTH	6.0 SECONDS
SAMPLE RATE	MINIMUM PHASE RESAMPLE FROM 2 TO 4 MSEC
PROCESSING SAMPLE PERIOD	4 MILLISECONDS 2 MSEC
NOMINAL FOLD/RACE	120 FOLD 240 TRACE 120 FOLD 240 TRACE
ADJACENT TRACE SUM	ADJACENT FIELD TRACES SUMMED - ON
AMPLITUDE RECOVERY (AR)	SPHERICAL DIVERGENCE CORRECTIONS APPLIED EXPONENTIAL GAIN CORRECTIONS APPLIED
PRE DECONVOLUTION MUTE	RAMP LENGTH - 96 MSEC START TIME(MSEC) 450 400 900 3976 END TIME(MSEC) 800 1000 2800 5000
VELOCITY FILTERING (VF)	START TIME(MSEC) 0 450 900 3976 END TIME(MSEC) 450 1000 2800 5000 WITH 3DFI DIPLINE PARAMETERS
DESIGNATURE (DES)	DESIGNATURE OPERATOR APPLIED - FMAX=125 HZ
VELOCITY ANALYSIS	AT 1KM SPACING INTERVAL VELOCITY ANALYSES LOCATED EVERY 2 KM VELOCITY FIELD - VELOCITY IN NEGATIVE F-K
DEMULTIPLE	HORIZONTAL SUM OF VELOCITY IN NEGATIVE F-K GUNDARY RIDGE METHOD/TECOMA
VELOCITY ANALYSIS	GUNDARY RIDGE METHOD/TECOMA ANALYSES LOCATED EVERY 2 KM
NORMAL MOVEOUT CORRECTION	VELOCITY FIELD FROM VELOCITY ANALYSES
DSO CORRECTIONS	SHOT STREAMER STATIC CORRECTIONS - 12 MSEC
FIRST BREAK SUPPRESSION	RAMP LENGTH - 96 MSEC START TIME(MSEC) 450 400 900 3976 END TIME(MSEC) 0 0 180 400 3200
INSIDE-TRACE MUTING	APPLIED(METRES) 400 500 1200 3000 START TIME(MSEC) 0 0 180 400 3200 END TIME(MSEC) 800 1000 2800 5000
COMMON DEPTH POINT STACK	60 FOLD (OF 120)
MIGRATION (MIG)	FINITE DIFFERENCE F-K DOMAIN - DIP LIMIT - 90 DEGREES
VERSION 7.2	ANNOTATED VELOCITIES AND MIGRATED VELOCITIES
TIME VARIANT FILTERING	FREQUENCY (HZ) TIME (MSEC) NOTES: TVFM FREQUENCY (HZ) TIME (MSEC) 0 - 10 0 0 - 40 1000 0 - 35 2000 0 - 30 3000 0 - 25 4000 0 - 20 5000
TIME VARIANT SCALING	DIGITAL GAIN CONTROL SCALING 1000 MSEC GATE

DISPLAY

HORIZONTAL SCALE	60.000000 TRACES/IN
VERTICAL SCALE	3.750000 IN / SEC
TRACE TYPE	WIGG - WIGGLE TRACE
DATUM	SEA LEVEL
DISPLAY UNIT	0.677520 CM

TRANS DISPLAY GAIN

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2	0.0
3	0.0
4	0.0
5	0.0
6	0.0

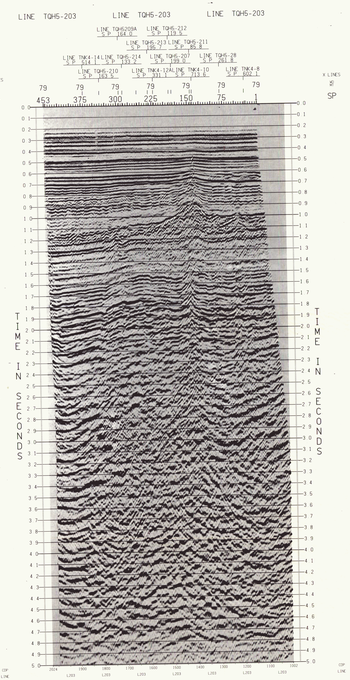
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PARTY 6860

GEOPHYSICAL SERVICE INC

A SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED

PROCESSING CHECKED BY



LINE TQH5-203
S.P. 1 TO 453

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

54 DEGREES — DIRECTION SHOT

MIGRATED STACK

FIELD DATA

DATA SHOT BY	G.S.I. PARTY 2931 — M.V. EUGENE MCDERMOTT II
RECORDING INSTRUMENTS	TRACE DIGITATION AND SLOPE - 118 HZ 6 POLE/OCTAVE
RECORDING FILTERS	LOW CUT FILTER AND SLOPE - 8 HZ 4 DB/OCTAVE
	HIGH CUT FILTER AND SLOPE - 125 HZ 4 DB/OCTAVE
RECORDING POLARITY	SEISMIC NUMBER ON TAPE (SEG) RECEIVED POLARITY
	SEG B (SEG REF TRACE) RECORD SAMPLE RATE
DIGITAL TAPE FORMAT	SEG B (SEG REF TRACE) RECORD SAMPLE RATE
RECORD LENGTH / SAMPLE RATE	6.0 SECS / 4 MSEC — RECORD LENGTH 6 SECS
ENERGY SOURCE	AIRGUN ARRAY OPERATING AT 1800 PSI
GUN DEPTH	6.0 METRES
SHOT INTERVAL	50 METRES AVERAGE
SOURCE - ANTENNA DISTANCE	50 METRES
SHOTPOINT ANNOTATION	SHOTPOINTS ANNOTATED AT TOP POSITION
SHOTPOINT INTERVAL	SHOTPOINTS ANNOTATED AT EVERY SHOT POINT
CHANNELS	240 — 60 METRES GROUP INTERVAL
FOLD	60 — 30 METRES GROUP INTERVAL
STREAMER DEPTH	6.0 METRES
HYDROPHONES	60 PER GROUP
RECORD LENGTH	6 SECS / 2MS TRACE
PRIMARY NAVIGATION SYSTEM	SYLEDIS -
BACKUP NAVIGATION SYSTEM	SYLEDIS -

SPREAD DIAGRAM



DIGITAL PROCESSING

POLARITY CONVENTION	THE POLARITY OF THE FIELD RECORDING WAS MAINTAINED THROUGHOUT THE PROCESSING AND DISPLAY
PROCESSING RECORD LENGTH	6 SECONDS
MINIMUM PHASE RESAMPLE FROM 2 TO 4 MSEC	
PROCESSING SAMPLE PERIOD	4 MILLISECONDS
ACOUSTIC TRACE LENGTH	4.1 SECONDS — 1024 SAMPLES (PWR 2)
AMPLITUDE RECOVERY/DAR/-	SPHERICAL DIVERGENCE CORRECTIONS APPLIED
	SPHERICAL DIVERGENCE CORRECTIONS APPLIED
PRE DECONVOLUTION MUTE	0.0 SECONDS — 0.0 MSEC
	0.0 SECONDS — 0.0 MSEC
VELOCITY FILTERING (VF)	4 SECONDS — 0.0 TO 4.1 SECONDS
	4 SECONDS — 4.1 SECONDS
VELOCITY FILTERING (VF)	4 SECONDS — 4.1 SECONDS
	START TIME/MSEC/1 — 4100 — 800 — 3925
	START TIME/MSEC/2 — 4100 — 800 — 3925
	4 SECONDS — 4.1 SECONDS
	START TIME/MSEC/1 — 4100 — 800 — 3925
	START TIME/MSEC/2 — 4100 — 800 — 3925
VELOCITY FILTERING (VF)

LINE TQH5-81
S.P. 1 TO 733

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

53 DEGREES — DIRECTION SHOT

MIGRATED STACK

FIELD DATA

DATA SHOT BY	G.S.I. PARTY 2931 W.V. EUGENE MCDERMOTT II
DATE SHOT	OCTOBER 1985
RECORDING INSTRUMENTS	TRACE SEQUENTIAL RECORDER
RECORDING FORMAT	SEGD REV 1 DEMULTIPLEXED 1/16 MS X 12 OBJECTIVE
	1/4MS/1/2 FOLD AND 1/2MS/1 FOLD X 6 SECONDS
RECORDING POLARITY	POSITIVE PRESSURE OR THE HORIZONTAL COMPONENT
	POSITIVE NUMBER ON TAPE (SEG) REVERSE POLARITY.
DIGITAL TAPE FORMAT	SEGD REV 1 DEMULTIPLEXED
RECORD LENGTH / SAMPLE RATE	6.0 SECONDS AT 2 MILLISECONDS SAMPLE RATE
GUN DETAILS	3 X 80 CU. INCH AIRGUN ARRAY OPERATING AT 1800 PSI
GUN DEPTH	5.0 METRES
SOURCE TO ANTENNA DISTANCE	22.00 METRES HORIZ
SHOTPOINT INTERVAL	25.00 METRES - 1 POP PER SHOTPOINT
SHOTPOINT LOCATION	SHOT AT EVERY SHOTPOINT - RECEIVER LOCATION
STREAMER LENGTH	3000 METRES, 240 GROUPS - 12.5 METRE GROUP INTERVAL
STREAMER DEPTH	7.00 METRES AVERAGE STREAMER
CABLE DEPTH	7.00 METRES AVERAGE
COVERAGE	60 FOLD 240 TRACE
PRIMARY NAVIGATION SYSTEM	ARGO
BACKUP NAVIGATION SYSTEM	SYLEDIS

SPREAD DIAGRAM



DIGITAL PROCESSING

POLARITY CONVENTION	THE POLARITY OF THE FIELD RECORDING WAS
	MAINTAINED THROUGHOUT THE PROCESSING AND DISPLAY
PROCESSING RECORD LENGTH	6.0 SECONDS
RESAMPLE	MINIMUM PHASE RESAMPLE FROM 2 TO 4 MSEC
PROCESSING SAMPLE PERIOD	4 MILLISECONDS
STATIC CORRECTIONS	MISSION DELAY - 500 MSEC
AMPLITUDE RECOVERY(AR)	AR=(TIME**2)*(VELOCITY**2) SCALED X 10E-10
	X 0.08 PER SECOND FROM 1.0 X 4.0 SECONDS.
PRE DECONVOLUTION MUTE	RAMP LENGTH - 88 MSECS MUTE CORRECTIONS - 1000 MSEC
	(AFTER)(METRES): 410 480 860 3870
VELOCITY FILTERING (VEL)	STACK TIME(MSECS): 000 500 1200 1500
	USING OFFSET DEPENDENT WAVELET, FMAX=125 HZ
DESIGNATURE (VEL)	USING OFFSET DEPENDENT WAVELET, FMAX=125 HZ
VELOCITY ANALYSIS	USING 2 DEPTH POINT VELOCITY ANALYSES
	HORIZONTAL CUT-OFF VELOCITY IN NEGATIVE F-K
DEMULTIPLE	USING 2 DEPTH POINT VELOCITY ANALYSES
VELOCITY ANALYSIS	USING 2 DEPTH POINT VELOCITY ANALYSES
	HORIZONTAL CUT-OFF VELOCITY IN NEGATIVE F-K
NORMAL MOVEOUT CORRECTION	USING ANNOTATED VELOCITIES
FIELD BREAK SUPPRESSION	USING 2 DEPTH POINT VELOCITY ANALYSES - 12 MSEC
	RAMP LENGTH - 88 MSECS MUTE
INSIDE-TRACE MUTING	(AFTER)(METRES): 390 480 860 3870
	START TIME(MSECS): 000 500 1200 1500
COMMON DEPTH POINT STACK	60 FOLD 240 TRACE
W-K(F-K)DIP MIGRATION	KIRCHHOFF F-K DOMAIN, DIP LIMIT: 90 DEGREES
VELOCITY	USING 2 DEPTH POINT VELOCITY ANALYSES
TIME VARIANT FILTERING	FREQUENCY (HZ) TIME (MSEC)
	5 - 10 0
	8 - 15 1000
	8 - 45 2000
	8 - 45 3000
	8 - 45 4000
	8 - 45 5000
	8 - 45 6000
TIME VARIANT SCALING	DIGITAL GAIN CONTROL SCALING - 1000 MSEC GATE

DISPLAY

HORIZONTAL SCALE	63.359986 TR/IN 33.333328 TR/CM
POLARITY	NORMAL
VERTICAL SCALE TYPE: 8145 - WIGGLE	6.0 PERCENT
DISPLAY UNIT	0.677353 CM

DISPLAY GAIN

SEC	MSEC
0.0	0.0
6.0	6000

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PARTY 6860

GEOPHYSICAL SERVICE INC
A SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED

PROCESSING CHECKED BY - Craig Blanchard

LINE TQH5-81
S.P. 1 TO 733

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

53 DEGREES — DIRECTION SHOT

MIGRATED STACK

FIELD DATA

SPREAD DIAGRAM

DIGITAL PROCESSING

DISPLAY

07 DEC 1985
20 49 08

PARTY 6860

GEOPHYSICAL SERVICE INC
A SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED

PROCESSING CHECKED BY -

LINE TQH5-204
S.P. 1 TO 453

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

55 DEGREES → DIRECTION SHOT

MIGRATED STACK

FIELD DATA

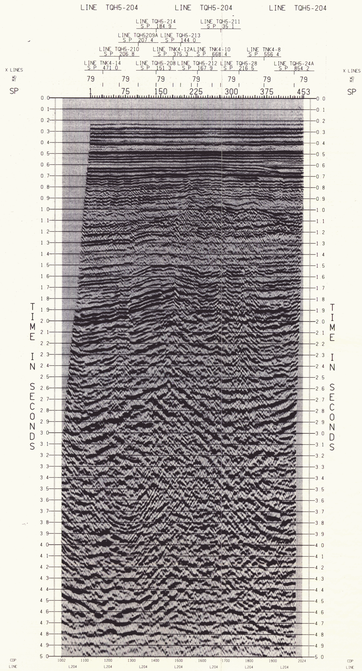
SPREAD DIAGRAM

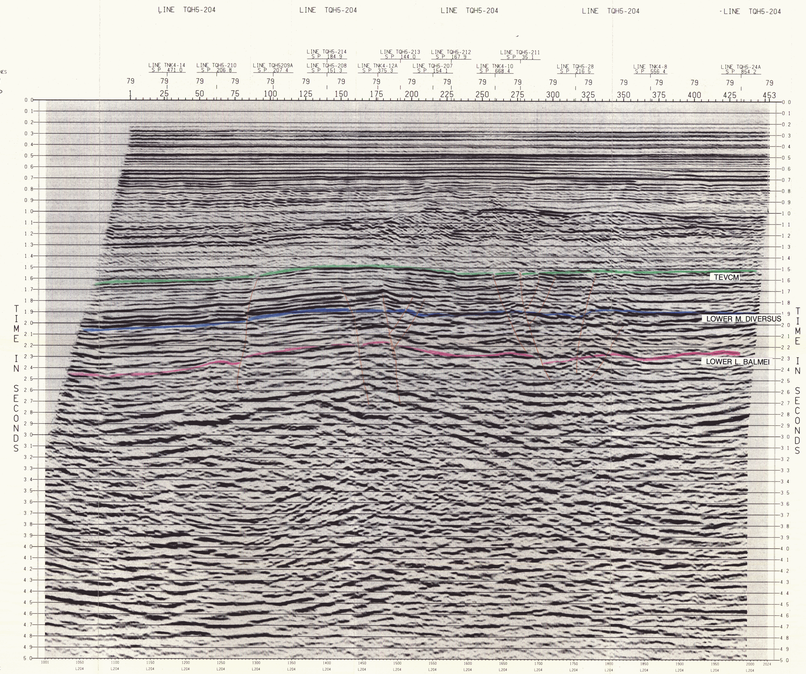
DIGITAL PROCESSING

DISPLAY

GEOPHYSICAL SERVICE INC
A SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED

PROCESSING CHECKED BY





LINE TQH5-204
S.P. 1 TO 453

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

55 DEGREES → DIRECTION SHOT

MIGRATED STACK

FIELD DATA

SPREAD DIAGRAM

DIGITAL PROCESSING

DISPLAY

GEOPHYSICAL SERVICE INC
A SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED

PROCESSING CHECKED BY

LINE TQH5-208
S.P. 1 TO 412

AMOCO AUSTRALIA PETROLEUM COMPANY
PERMIT T-14-P
1985B AMOCO BASS BASIN SURVEY

145 DEGREES — DIRECTION SHOT

MIGRATED STACK

FIELD DATA

SPREAD DIAGRAM

DIGITAL PROCESSING

DISPLAY

PROCESSING CHECKED BY

GEOPHYSICAL SERVICE INC
A SUBSIDIARY OF TEXAS INSTRUMENTS INCORPORATED

