

**GLOBEX** Far East

TPR  
OR-453 B.

**T/27P**

**BARRAMUNDI-1**

**PROPOSAL TO DRILL  
AND DRILLING PROGRAMME**

**August , 1999**

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for GLOBEX Far East**

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## 1. SUMMARY

T/27-P is located in Bass Strait (Fig. 1).

Globex Far East is the Operator of the permit.

Interests in T/27-P are as follows:

Globex Far East 100.00% (Operator)

The permit covers an area of approximately 1,800,000 acres.

The mandatory work programme are set out below:

**TABLE 1**  
**T/27-P WORK PROGRAMME**

Permit Year	Work Obligation	Actual Work	Notes
1 Effective date 15 September 1994 to 15/9/1995	data review, seismic reprocessing, mapping and interpretation	satisfied	
2 to 15/9/1996	a) Seismic Survey (1000 km) b) 100 sq km 3-D seismic survey.	a) satisfied	4 Sep 1996 2 <sup>nd</sup> year 100 sq km seismic survey obligation moved to the 3 <sup>rd</sup> year.
3 to 15/9/1997	Two Exploration Wells		15 Jly 1997 completion of 3 <sup>rd</sup> year obligations extended by six months to 14 March 1998 and Term extended to 15 March 2001
4 to 15/9/1998	Review of data, seismic processing, mapping and interpretation		13 Jly 1998 completion of 3 <sup>rd</sup> year obligations extended by twelve months to 14 March 1999 and Term extended to 15 March 2002
5 to 15/9/1999	100 sq km seismic survey		
6 to 9/2/2000	one well		

Barramundi 1 will test the hydrocarbon potential of the Eastern View Group, 38-83 Ma, from 1,332 m RT to TD at 1777.4 m RT.

The anticipated reserve size is 368 Mmbbl as calculated by Exploration Partners for GLOBEX.

The Barramundi 1 well will be drilled out of the 340 mm (13<sup>3</sup>/<sub>8</sub>"") casing shoe set at approximately 865m RT with a 311 mm (12<sup>1</sup>/<sub>4</sub>"") bit. Drilling will be controlled from just above the Eastern View Group at 1,280 m RT. to approximately 1,340 m RT. The reservoir will either be drilled ahead or cored depending on hydrocarbon/reservoir indications.

The well will be drilled to a TD of approximately 1777.4 m RT and then logged. While drilling ahead, all sandstones of Eastern View Group will be carefully analysed for hydrocarbon presence.

The Barramundi-1 well progress, drilling time/depth plot is shown in Figure 7.

## 2. WELL DATA: PROPOSED BARRAMUNDI 1

### 2.1 WELL SUMMARY SHEET

<b>Well Name</b>	: Barramundi 1
<b>Designation</b>	: Exploration
<b>Permit</b>	: T/27P
<b>Basin</b>	: Bass
<b>Operator</b>	: GLOBEX Far East
<b>Permittees</b>	: GLOBEX Far East
<b>Location</b> (provisional)	: Latitude .....39 deg 39' 42.01 South Longitude .....145 deg 44' 02.87" East Easting .....X = 391,412 Northing .....Y = 5,609,012 AMG Zone .....55 South
<b>Seismic Reference</b>	: Line BB96-50 SP 1940
<b>Water Depth</b>	: 70 m
<b>Elevations</b>	: Rotary Table ("RT") to Mean Sea Level ("MSL") - 27.4 m
<b>Spud Date</b>	: October, 1999
<b>Estimated Drilling Time</b>	: 15 days (dry hole)
<b>Drilling Contractor</b>	: Schlumberger - Sedco Forex
<b>Rig</b>	: "Sedco 702"
<b>Rig Type</b>	: Semi-submersible
<b>Primary Objective</b>	: Eastern View Group Sandstone
<b>Depth to Primary Objective</b>	: 1527.4 m RT (1,500 m subsea ("SS"))
<b>Estimated Total Depth ("TD")</b>	: 1777.4 m RT (1750 m SS)

### 3. GEOLOGY

#### 3.1 GEOLOGICAL PROGNOSIS OF THE AREA

The location of the Bass Basin, wells and tenements and the location of the Barramundi feature is shown in Figure 1. The Bass Basin is located directly north of Tasmania and south of Victoria. The basin was formed as a result of rifting between Australia and Antarctica (95-80 MA). Subsequent compression in the Oligocene-Miocene (38-12.5 MA) led to modification of pre existing traps and formation of new ones. The structural history of the Basin has been described by Etheridge et al (1984, 1985 and 1987) and more recently using aeromagnetic data by Gunn et al (1996a, b and 1997) Figure 2 shows the generalised tectonic elements of Bass Strait.

The two major depocentres are the Pelican Trough and the Cormorant Trough (Fig 2). The Pelican Trough appears to be producing predominantly gas while the Cormorant Trough produced gas saturated oil and wet gas. Yolla-1 located to the south of the Cormorant Trough as well as Cormorant-1 and King-1, located on a structural inversion near the centre of the Trough, all recovered oil and gas from sands near the top of the Eastern View Group. Deeper reservoir of wet gas were located in Yolla-1 from 2,800 m -2850 in a number of sands. Cormorant-1 encountered good hydrocarbon shows from four intervals in the range 2000 m to 2,500 m RT. King-1 well located about 2 km from Cormorant-1 was only drilled to 2223 m RT and did not encounter similar shows to Cormorant-1. The recently completed White Ibis-1 well located on the western flank of the trough produced gas from four intervals from 2001,5 to 2140 m.). The Barramundi structure is located on the north eastern flank of the Cormorant Trough.

##### 3.1.1 Geochemistry

Geochemical work on hydrocarbons from Cormorant-1 (Oterdoom 1981) concludes *that the Eastern View Coal Measures contain excellent source rocks for gas.*

Summons (1996) studying oils from Yolla-1 and Cormorant-1 with state-of -the-art-techniques concluded that:

1. Hydrocarbons from both wells had a common source.
2. The Bass Basin oils have a geochemical signature consistent with a predominant input from vascular plants. The plant biomarkers for the Gippsland and Bass Basins are very similar as can be seen in comparisons with Tuna-1 and Snapper-4 and -5 oils.
3. It is likely that the Bass Basin oils have their **source in the Paleocene and Eocene section** (upper L. balmei to middle N. asperus) of the Eastern view Coal Measures. These rocks have a high potential to generate petroleum. AGSO's work on coal-sourced oils (eg Boreham and Powell. 1994) from the Cooper, Eromanga and Bowen basins shows petroleum can be produced from coal as well as carbonaceous sediments.

##### 3.1.2 Stratigraphy

The pre-Eocene (Upper L. balmei) stratigraphy of the Basin has been described by

Williamson et al 1985. The overall stratigraphy is as shown in Figure 3. It was provided by Palynologist and Explorationist Alan Partridge and embodies the most recent data available. The predicted stratigraphy with predicted depths in Barramundi-1 are shown on the well schematic, Figure 4 and listed below:

**TABLE 2**  
**BARRAMUNDI 1 PROGNOSSED FORMATION TOPS**

Formation	Age (Ma)	Depth Time	Depth (m RT) RT = 27.40 m	Depth (m SS)	Thickness (m)
Undiff. Pliocene and Torquay Group	35-Recent		97.4	-70.0	1220.0
Top Volcanoclastics	~ 25	0.75 sec	911.4	-884	
base prominent limestones	~ 29	0.91 sec	1002.4	-975	
Addiscott Sandstone:	36-35	1.07 sec	1,127.4	- 1,100	5
Demons Bluff Formation	40-36.5	1.07 sec	1,132.4	-1,105	205
Eastern View Group	85-39	1.23 sec	1,337.4	- 1,310	
Konkon Formation	40 - 39	1.23 sec	1,337.4	- 1,310	190
Anomaly Horizon	41 - 40	1.335 sec	1,527.4	-1,500	?150
Easter View Coal Measures	85 - 41		1,677.4	- 1,650	? 100 +
Total Depth			1777.4	-1750	

### 3.1.2.1 Torquay Group.

This group can be subdivided into several formations as shown on Figure 3. Following the unnamed soft unconsolidated Pliocene and middle to late Miocene mud and calcareous silt sequence is the **Puebla Formation**, which consists predominantly of soft bioclastic limestones and clayey marls. Below this is the **Jan Juk Marl** that is predominantly marls and calcareous mudstones with scattered thin (~2-4 m.) high velocity limestone streaks. The underlying **Angahook Formation** is much the same as the **Jan Juk Marl** and is unlikely to be recognised in the well from cuttings. Below the Jan Juk Marl/Angahook Formation is a thin (5 m.) glauconitic marine sandstone the **Addiscot Formation**. This important basin wide and rather anomalous sand is readily recognisable in Cormorant-1 and King-1 where it produces a distinct gamma ray low typical of a sandstone. It is recognisable in almost every well in the basin except Yolla-1 where it is far harder to recognise, possibly because of erosion or non deposition from on Yolla high. Thickness of the Torquay Group varies from about 450 m. at the margins of the basin to over 1,000 m. in the Cormorant-1.- King-1 area. It is prognosed to be about 1,300 M. at Barramundi-1. **Igneous rocks** are common throughout the Basin in this sequence and occur in two stratigraphic positions, (1) in the mid Miocene and (2) near the Oligocene-Miocene boundary. They occur most commonly as tuffaceous extrusives which can be mapped over considerable distances with confidence on the seismic but can be difficult to recognise in the cuttings. The top of this interval is expected to be at about 875 m SS. They are almost inevitably soft and clayey but can be recognised in the cuttings by fine sand sized dark brown-grey and black minerals. Alternatively the igneous rocks are intrusives. These are difficult to identify with confidence on the seismic as they may appear as a prominent short strong black, or

quite weak and almost insignificant. While the intrusives may be hard and slow drilling, in most cases they are highly altered and breakup readily when intersected in drilling. They may be recognisable in the cuttings as chips of igneous rock rather than the grains which characterise the tuffs and volcanoclastics. No interval of probable intrusives in the Torquay Group, at the proposed well location, has been recognised.

### **3.1.2.2 Demons Bluff.**

This formation immediately underlies the thin but prominent and consistent Addiscot Sandstone. The Demons Bluff is a sequence of fine grained distal pro delta marine mudstone and siltstone highly organic and extensively burrowed. It was probably deposited in water depths of 100 m. or so. It forms the seal for hydrocarbons of the Eastern View Group and its lateral equivalent in the Gippsland Basin, the Lakes Entrance Formation provides the seal to the major Oil and Gas fields of that basin. The Lakes Entrance Formation was however deposited as a marine ooze in deeper distinctly marine conditions. The thickness is 178 m. in Cormorant-1, 196 m. in King-1 and 145 m. in Yolla-1. From these figures plus the regional thickness variation suggested from the seismic the thickness will probably be about 150 m. in Barramundi-1.

### **3.1.2.3 Eastern View Group.**

#### **3.1.2.3.1 Konkon Sandstone/Boonah Sandstone.**

At the top of the Eastern View Group is an upper and lower shoreface - beach sand, well developed in Konkon -1 and regarded as an offshore equivalent of the onshore Boonah Sandstone. It is commonly referred to as the Konkon Sandstone offshore. It is commonly glauconitic at the top but grades downwards to clean quartz sandstone with excellent reservoir characteristics. There may be several sands with intervening shales which are non carbonaceous. The Konkon /Boonah sand interval contains the oil of Yolla-1, Cormorant-1 and residual column of King-1. The unit is rather loosely and ambiguously defined but does not include the coal seams or carbonaceous siltstones of the underlying Eastern View Coal Measures. Thickness is variable but rarely exceeds 100 m. Environmentally it constitutes beach, upper and lower shoreface environments seaward of the terrestrial coaly sequence of the Eastern View Coal Measures. The Demons Bluff is the pro delta sequence seaward of the Konkon Sandstone.

#### **3.1.2.3.2 Eastern View Coal Measures.**

This sequence consists of sandstones, shales, siltstones, commonly carbonaceous and coals. These were deposited in fluvial, deltaic and lacustrine environments with minor local marine incursions. As progradation was into an essentially land locked basin the marine incursions were rare and short lived. However there was sufficient fetch within the basin to develop beaches and winnow the detritus to form clean beaches.

This group is thickest in the centre of the Pelican and Cormorant Troughs (Fig 2). The greatest thickness penetrated is 2,500 m in Pelican 5 but even there the Otway Group was not reached and the section was condensed as compared to other wells in the basin. Maximum thickness is probably in the order of 5,000 m. While the primary target is near the top of this Group at the Anomaly Horizon, adjacent wells Cormorant-1 and Yolla-1 intersected wet gas in several deeper intervals. Each was beneath continuous shale sections of 15-25 m. Several such potential seals were present in both of these wells. Similar potential seals will almost certainly be present in Barramundi-1 and each

will have the potential to retain significant hydrocarbon columns.

Cormorant-1 at 3,000 m. was in basal *M. diversus* rocks and Yolla-1 at TD was in Upper *L. balmei* rocks (Fig 3). There is no possibility of Barramundi-1 drilling rocks older than earliest *L. balmei*, such as the Late Cretaceous/early Paleocene "Lower" Eastern View Group, sometimes informally referred to as the Furneaux Group, or the even older Lower Cretaceous Otway Group. Consequently there will be no discussion of these section as it has no bearing on Barramundi-1.

### 3.1.3 Regional variation as evident from seismic

Enclosure 1 is a composite of four seismic lines from Cormorant-1 eastwards to the Barramundi -1 location then south to Yolla-1. The interpreted horizons are :

Blue	Top of volcanics.
Brown	Base prominent seismic reflector believed to be carbonate.
Yellow	Addiscott Sandstone/Top Demons Bluff.
Green	Top Eastern View Group.
Red	Amplitude Anomaly Horizon (over Barramundi only).
Pink	"Middle Eastern View" - about base <i>P. asperopolus</i> /top <i>M. diversus</i> age.
Orange	"Deep Eastern View Group". Not shown on all sections.

The top volcanics horizon (blue) is notably rough as it traces around and between various volcanic centres. The brown horizon is easily mapped as it is both prominent and persistent and exhibits none of the roughness of the blue horizon. The interval blue to brown though very variable thins toward the Cormorant high and the Yolla area.

The reflector at the top of the Demons Bluff (yellow) is almost certainly created by the contrast caused by the basin wide Addiscott Sandstone. The Demons Bluff-(yellow) - G horizon ( brown) thins from the Cormorant High to Barramundi but is relatively constant to beyond Yolla, except on the Yolla high where it is noticeably thinner.

The Eastern View Group (green) to Addiscott/top Demons Bluff (yellow) has it's greatest time thickness on the Cormorant High, thins a little to Barramundi then continues to thin to the end of line BB96-50 after which it is relatively constant to Yolla-1.

Within the Eastern View there is just one reflector shown, the base *P. asperopolus*/top *M. diversus*. The section thins noticeably from Barramundi to the eastern end of line BB96-50 but thickens a little to just prior to Yolla-1 where it thins markedly onto the Yolla High.

### 3.1.4 Structure

The generalised tectonics are shown in Figure 1. Enclosure 2 shows the time structure at the top of the Eastern View Group over the Barramundi structure. Enclosure 3 shows the depth structure at the Amplitude Anomaly Horizon over the same structure. These Enclosures show the complex fault closure and it's various compartments. No maps were made of horizons below the Anomaly Horizon following the BB96 seismic survey and reprocessing of older lines despite their greater resolution at depth of the new and reprocessed lines.

### 3.2 OBJECTIVES OF THE WELL

To test a large fault bounded structure north of Yolla-1 and east of Cormorant-1 and King-1.

Enclosure 4 of seismic line BB96-50 is a seismic line through the wellsite, Enclosure 5 is of line BB96-8 a dip line 250m south east of the proposed well site and Enclosure 6 is of seismic line BB96-9, a strike line 500 m. north east of the well site.

The primary target is the Anomaly Horizon at about 1,400 m. SS. This is anticipated to be a clean sand with excellent reservoir characteristics and holding oil, probably gas saturated, possibly with a minor gas cap.

#### 3.2.1 Estimated hydrocarbons-in-place.

The estimated hydrocarbons-in-place for the anomaly horizon were produced by Exploration Consultants, Dallas in April 1997 for Globex Far East and are quoted below. Figure 5 (Isochron) and Figure 6 (Time Structure) show the Barramundi structure at the Anomaly Horizon and the six interpreted trap compartments of the structure. These are defined by the limits of the identified anomaly and are shown on Enclosure 7. Note that all measurements are in imperial units.

##### Barramundi Prospect Reserve Estimate.

Area under closure:	14,300 acres
Structural relief:	300 feet
Pay Thickness:	100 feet
Avg. Porosity:	128%
Recovery Factor:	250 bbls/ac-ft

$$14,300 \text{ ac.} \times 100 \text{ ft} \times 250 \text{ bbls/ac-ft} = 368 \text{ million bbls}$$

No maps were made of any horizons below the Anomaly Horizon so no estimates of reserves below the Anomaly Horizon were made.

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## **4. DRILLING PROGRAMME**

### **4.1 REFERENCE MANUALS**

- GLOBEX - Drilling Emergency Response Plan
- GLOBEX - Oil Spill Contingency Plan
- GLOBEX - Safety Management System
- Sedco - Safety Manual
- Sedco - Well Control Manual
- Sedco- Well Operations Procedures Manual
- Petroleum Submerged Lands Act ("PSLA") - Schedule, Specific Requirements as to Offshore Petroleum Exploration and Production -1997
- GLOBEX Bridging Document

#### **Reference Wells**

- Cormorant-1 - located 20 km to the west of Barramundi-1.
- Yolla-1 (Amoco, 1985) - located 30 km to the south of Barramundi-1
- Yolla-2 (Premier, 1998).

Refer **Section 9 (Table 11)** for offset well data/correlation.

### **4.2 POSSIBLE DRILLING HAZARDS**

#### **4.2.1 Mooring**

Water depth is approximately 70 m.

A site survey has been conducted and indicates seafloor sediments consisting of muddy sand overlaying firm clay. No mooring problems are anticipated. Currents are expected to be less than 2 knots. Rig heading will be contingent on the weather pattern for the period from the actual date of arrival on location.

#### **4.2.2 Shallow Gas**

No shallow gas was evident from the shallow seismic survey (up to 60m) and there are no other surface hazards. Racal advise in their report that some shallow gas has been encountered in Bass Strait however there is no evidence of shallow gas in offset wells.

#### **4.2.3 Lost Circulation**

Lost circulation is not anticipated based on offset well data. However sufficient quantities of LCM will be kept on board the rig as a contingency.

#### **4.2.4 Abnormal Pressure**

Pore pressures are expected to exhibit a normal gradient.

Actual mud weight required will be dictated by hole conditions and drilling pressure indicators.

#### **4.2.5 Hole Deviation**

Offset well data indicates that excessive hole deviation is unlikely. Adequate tools will be on hand to enable corrective assemblies to be run to control angle build-up should it be necessary.

#### **4.2.6 Differential Sticking**

Hydrostatic overbalance through the lower sandstone sections may increase the possibility of differential sticking. Mud weight should be kept as low as possible. Wiper trips will be made more frequently through hole sections with long sandstone sections.

#### **4.2.7 Dangerous Gases**

No dangerous gases, including hydrogen sulphide and carbon dioxide, have been encountered in offset wells, however continuous monitoring will be performed through the mud logging systems and corrosion coupons in the drill string to detect any H<sub>2</sub>S or CO<sub>2</sub> levels in the mud.

### **4.3 HOLE AND CASING SIZES/DEPTHS**

Refer **Tables 4, 5 and 6** for specific drilling details in regard to pressure testing, cementing and drilling fluids.

#### **4.3.1 Structural Pipe**

A 914 mm (36") hole will be drilled to ± 145 m RT for setting of 762 mm (30") structural pipe. The actual depth will be determined by pipe measurements.

#### **4.3.2 Conductor Pipe**

508 mm (20") conductor pipe will not be run.

#### **4.3.3 Surface**

445 mm (17½") surface hole will be drilled to +/- 875 m RT for setting of 340 mm (13<sup>3</sup>/<sub>8</sub>") surface casing - approximately 35m above the interpreted volcanoclastics seismic horizon.

#### **4.3.4 Production**

311 mm (12¼") hole will be drilled to TD at 1777.4 m RT. 244 mm (9<sup>5</sup>/<sub>8</sub>") casing will be run if required for production testing.

4.4 CASING DESIGN

TABLE 3  
WELL CASING DESIGN

Hole Size mm (ins)	Casing Size mm (ins)	Setting Depth m RT	Joint	Specifications	Design Loads				
					Est BHP (psi)	Burst (psi)	Collapse (psi)	Tension (lbs)	Safety Factor
914 (36)	762 (30)	142	Housing Cross-over Jt Intermediate Shoe Joint	Dril-Quip 30" Type SS-10 with 1.5" wall extension with 30" HD 90 Box Down 30" x 1" wall, Grade X52, Dril-Quip HD90 pin x SF-60 Box. 30" x 1" wall, Grade X52, Dril-Quip SF-60 pin x Box 30" x 1" wall, Grade X52, Dril-Quip SF-60 pin Up x 20" Float Shoe	na	na	na	na	na
445 (17½)	340 (13 <sup>3</sup> / <sub>8</sub> )	865	Housing Cross-over All pipe	Dril-Quip 18¾" Type SS-10 with 0.625" wall extension with 20" HD 90 Box Down. HD 90 Pin x 340mm (13 3/8") 68 ppf, L80, BTC Pin 68 lb/ft, K55, BTC, Range 3	1290	1682	842	406,850	2.93 2.32 2.36
				B = 3450 psi:    C = 1950 psi    T = 1,069,000lb					
311 (12¼)	244 (9 <sup>5</sup> / <sub>8</sub> )	As required	All pipe	47 lb/ft, L80, LTC, Range 3	4475	3917	na	618,751	1.75 1.76
				B = 6870 psi:    C = 4750 psi    T = 1,086,000lb					

Design Parameters

Condition	Design SF
Estimated Bottomhole Pressure ("BHP") Estimated BHP in hole section based on maximum anticipated mud weight.	
Burst Pressure (i) - 340 mm casing - gas column from est. BHP in next hole section in equilibrium with fracture pressure at shoe. Sea water in annulus.	1.10
Burst Pressure (ii) - 244 mm casing - well shut in with gas column from est. BHP in next hole section. Sea water in annulus.	1.10
Collapse - Partial evacuation of the casing due to a 1.0 sg loss zone at TD of next hole section. Drilling fluid in annulus, or Hydrostatic of cement in annulus ( sea water on inside of casing whichever is higher	1.00
Tension - String weight plus plug bumping pressure.	1.60

For design purposes the fracture pressure at the 13 3/8" casing shoe has been assumed as 1.6 sg MWE

## 4.5 FORMATION PRESSURE CONTROL

### 4.5.1 Wellhead

Dril-Quip SS 10 Marine Wellhead System consisting of a 762 mm (30") conductor housing and a 476 mm (18<sup>3</sup>/<sub>4</sub>") 68,950 kpa (10,000 psi) high pressure housing.

### 4.5.2 Blow Out Prevention Equipment

A 476 mm (18<sup>3</sup>/<sub>4</sub>") 68,950 kpa (10,000 psi) blow out preventer ("BOP") will be run after landing the high pressure housing.

BOP equipment details are provided in the Well Control Procedures Manual.

### 4.5.3 Pressure Testing

Refer to **Table 4** for test pressures. BOP test procedures are provided in the Well Operations Procedures Manual (Sedco).

### 4.5.4 Formation Leak-off Tests

Formation leak-off tests ("LOT") will be carried out after drilling out the 340 mm (13<sup>3</sup>/<sub>8</sub>") surface casing and 244 mm (9<sup>5</sup>/<sub>8</sub>") intermediate casing (if run).

The procedure is set out in the Offshore Drilling Operations Manual. The tests will be taken to leak-off point.

## 4.6 DETAILED DRILLING PROGRAMME

Operational procedures and practices are detailed in the Well Operations Manuals.

### 4.6.1 Drilling Chronology

1. Position rig on location and run anchors.
2. Make up 36" x 26" BHA.
3. Drill 914 mm (36") hole to 145 m.
4. Run and cement 762 mm (30") conductor at 142 m with PGB.
5. Drill 445 mm (17<sup>1</sup>/<sub>2</sub>") hole to 875m RT
6. Run and cement 340 mm (13<sup>3</sup>/<sub>8</sub>") casing at 865m RT. Casing will be run with the high pressure housing.
7. Run and test BOP.
8. Drill out casing. LOT.
9. Drill 311 mm (12<sup>1</sup>/<sub>4</sub>") hole to 1777.4 m RT.
10. Run wireline logs.
11. Run production test or plug and abandon as required.
12. Pull anchors.

## 4.6.2 Pressure Testing

**TABLE 4  
WELL PRESSURE TESTING SUMMARY**

Function	TEST PRESSURE kpa (psi)						
	Casing/ Pack-off	Pipe Rams	Shear Rams	Annulars	Mud Manifold/ Standpipe	Choke Manifold, Inside BOPs	Choke/ Kill Lines
BOP on test stump	-	68,950 (10,000)	68,950 (10,000)	24,000 (3,500)	34,500 (5,000)	34,500 (5,000)	-
508 mm x 340 mm (20" x 13 3/8") Casing Set	13,800 (2,000)						
(i) Plug bump							
(ii) Running BOP							34,500 (5,000)
(iii) BOP installed		34,500 (5,000)	34,500 (5,000)	24,000 (3,500)	34,500 (5,000)	34,500 (5,000)	34,500 (5,000)
(iv) Interim test		24,000 (3,500)	13,800 (2,000)	24,000 (3,500)	24,000 (3,500)	24,000 (3,500)	24,000 (3,500)
244 mm (9 5/8") Casing Set*	20,500 (3,000) 36,200 (5,250)						
(i) Plug bump							
(ii) Pack-off							
(iii) Drill-out		34,500 (5,000)	34,500 (5,000)	24,000 (3,500)	34,500 (5,000)	34,500 (5,000)	34,500 (5,000)
(iv) Interim test		34,500 (5,000)	-	24,000 (3,500)	34,500 (5,000)	34,500 (5,000)	34,500 (5,000)

**Notes:****\* If Run**

Pressure tests shall be preceded by a low pressure test of 2100 kpa (300 psi).

Pressure tests shall be held for 5 minutes (low pressure) and 15 minutes (high pressure).

The Interim BOP test shall not exceed 14 days between tests. The BOP shall also be pressure tested to the above values prior to any production testing or following any repair where the BOP is disconnected from the wellhead.

#### 4.7 CEMENTING PROGRAMME

**TABLE 5  
WELL CEMENTING PROGRAMME**

CEMENTING DETAILS									
Hole Size mm (ins)	Casing Size mm (ins)	Setting Depth m RT	Type	Weight SG	Water Reqt. cum/t (gps)	Yield cum/t(cuft/sx)	Additives *	Cement Volume	Comments
914 (36)	762 (30)	142	Class G	1.90	0.443 (5.0)	0.762 (1.15)	1.0% CaCl <sub>2</sub>  (BWOC)	Cement to seabed.  200% excess Approx. (600 sx)	Displace through drill pipe stinger to leave 5 m cement inside casing.
445 (17½)	340 (13 <sup>3</sup> / <sub>8</sub> )	865	Class G	1.54 - Lead	0.97 (10.97)	1.29 (1.96)	2.5% PHG (BWOW)	Cement to seabed 20% excess Approx. (1000 sx)	Run float collar two joints above float shoe. Thread-lock shoe track.
			Class G	1.90 - Tail	0.433 (5.0)	0.762 (1.15)	TBA	TOC 150 m above shoe 20% excess Approx. (600 sx)	Centralisers - tba Two plug SSR (PDC drillable).
311 (12¼)	244 (9 <sup>7</sup> / <sub>8</sub> )	As required	Class G	1.90	0.433 (5.0)	0.762 (1.15)	TBA		As above

\* Cement formulations and additives, including thickening times, will be advised from laboratory tests.

**Note:**

Cement volumes are estimates and will be re-calculated on site.

## 4.8 DRILLING FLUIDS PROGRAMME

**TABLE 6  
DRILLING FLUIDS PROGRAMME**

Hole Size mm (ins)	Depth m	Mud Weight SG	Viscosity sec/qt	PV/YP cp/lb/100 sqft	Fluid Loss cc	Mud Type	Comments
914 (36)	145	1.03 - 1.05	100	-/60 to 90	-	Sea water/50 bbl high viscosity sweeps every 5-10 m	Use pre-hydrated bentonite flocculated with lime for sweeps - viscosity 100 sec/qt. Displace hole to high viscosity un-flocculated mud prior to running casing.
445 (17½)	875	1.08	44 - 52	-/60 to 90	-	Seawater with high viscosity sweeps	Displace hole to high viscosity un-flocculated mud prior to running casing.
311 (12¼)	1777.4	1.08	46 - 54	20/23	8.0	KCL/PHPA	6% KCL, 1.5 ppb PHPA Drill out with 1.08 sg and maintain to section TD

**Notes:**

The above parameters are provided as a guide. Refer to the mud company's Drilling Fluids Programme for full details. A Mud Engineer will be on site to run the mud systems and provide technical advice.

A Corrosion Control Programme should be run in accordance with the Drilling Fluids Programme.

Run solids control equipment to restrict solids build-up to less than 5% in the 311 mm hole.

## 4.9 DEVIATION CONTROL

### 4.9.1 Objectives

Maximum rate of change of angle to be less than  $1\frac{1}{2}^{\circ}$  per 30 m.  
A maximum deviation of  $5^{\circ}$  for the well.

### 4.9.2 Surveys

914 mm (36") hole: Run Totco at TD. Bulls-eye angle on guide base should not exceed  $1^{\circ}$  before cementing.

445 mm (17½") hole: Single shot surveys every 300 m maximum or bit trip.

311 mm (12¼") hole: Single shot surveys every 300 m maximum or bit trip.

Survey intervals may be amended depending on hole conditions.

A Magnetic Multi-shot or Gyro Survey may be run at casing points if a dipmeter is not run in the logging suite.

BHAs will be discussed and agreed between the GLOBEX Drilling Supervisor and the KDC Drilling Manager.

## 4.10 TEST/SUSPENSION/ABANDONMENT PROGRAMME

If significant hydrocarbon shows are encountered and a decision to test or suspend the well made, an appropriate programme will be issued.

If testing is not warranted, a plug and abandonment programme will be advised after final logs have been examined.

The plug and abandonment programme will be in accordance with the requirements of the PSLA Schedule, Specific Requirements as to Offshore Petroleum Exploration and Production, ( 1997 ).

## 4.11 REPORTING

### 4.11.1 General

The well is a tight hole, and communications to joint venture participants will only take place through GLOBEX's office.

### 4.11.2 Reporting Requirements

#### Drilling Reports

The following reports will be forwarded from the rig to:

**Kelly Down Consultants Pty Ltd, Sydney: Attention - Project Manager**

(1) Daily Reports - by email by 0615 hours EST:

- daily drilling report;
  - daily mud properties consumption report (mud contractor);
  - bulk report. **cc: Materials and Logistics Supervisor**
- (2) Other Daily Reports - by email:
- drilling status report at 1600 hours EST;
  - register of personnel - each day after the last helicopter flight.  
**cc: Materials and Logistics Supervisor**
- (3) Specific Reports - shortly after the event by fax:
- rig positioning;
  - accident or lost time;
  - casing and cementing;
  - LOTs;
  - coring and testing;
  - rig inspection report.
- (4) Other Reports - weekly by mail:
- tour sheets;
  - materials movements and consumption;
  - copies of field tickets/memos/faxes.
- (5) At the completion of the well:
- completed drilling forms (e.g. bit records etc.);
  - final inventories and movements;
  - adequate notes and reports on any event, problem or operation specific to the well.

### **Geological Reports**

The following reports will be forwarded from the rig to:

**GLOBEX: Attention -**

- daily report - by email by 0700 hours EST;
- daily geological report;
- mud logging report;

**cc: Kelly Down Consultants Pty Ltd, Sydney: Attention - Project Manager**

## **5. FORMATION EVALUATION**

### **5.1 WELLSITE GEOLOGIST RESPONSIBILITIES**

The Wellsite Geologist is responsible for geological supervision at the wellsite and for formation evaluation. He will supervise the mud logging unit, the mud loggers, the electric logging (including velocity survey) and will select coring and testing intervals as per this programme. All service tickets for these contractors require his approval, in addition to the approval of the GLOBEX Drilling Supervisor. The Wellsite Geologist reports to the GLOBEX Senior Operations Geologist. Prior to drilling, the Wellsite Geologist will be briefed by the GLOBEX Senior Operations Geologist on all aspects of this Drilling Programme.

All sample collection is the responsibility of the Wellsite Geologist who will ensure that the contracted mud logging company correctly gathers, labels and ships the samples as per instructions.

Cuttings gas, mud gas and salinity will be closely monitored over zones of interest. Additional samples may be collected at any time at the discretion of the Wellsite Geologist. All shows will be fully evaluated whilst drilling.

Whilst drilling, the Wellsite Geologist will monitor the mud logging and drilling operations in order to compile the daily geological report. A daily morning report will be sent to GLOBEX's office by 0730 (EST) via email and will summarise geological progress and parameters listed below for the previous 24 hours to 0600 (EST). This report will be made by the Wellsite Geologist and will include:

- lithologic description;
- drilling rate;
- gas detector readings and show report;
- formation and/or lithological boundaries;
- correlation points;
- any other pertinent information; and
- up-to-date mud logging sheets (faxed).

Depths should be reported in metric units. Pipe size, mud weights and other operations parameters will be reported in (conventional) imperial units.

### **5.2 MUD LOGGING**

The mud loggers will be under the supervision of the Wellsite Geologist.

A computerised mud logging unit will be on board with video displays on the rig floor, in the GLOBEX Drilling Supervisor's office and Wellsite Geologist's office. Mud loggers will provide drilling assistance and geological samples and analysis services as required.

Mud logging services will provide continuous 24 hour surveillance of drilling operations including:

- **Gas Monitoring:**
  - total gas;
  - cuttings gas; and
  - chromatographic analysis.
- **Mechanical indicators:**
  - depth;
  - pump stroke rate, pressure;
  - mud pit level;
  - ROP; and
  - drilling parameters (RPM, WOB, torque, etc).

It is anticipated that mud logging services will commence at the 508 mm (20") conductor shoe (at 300 m) and continue until TD.

Four sets (2 for Government, 1 for Globex, 1 for destructive analysis (eg palynology, geochemistry and vitrinite reflectance) of washed, dried and bagged samples (minimum 200 gms in accordance with Government regulations) to be collected at 10 m. intervals to 50m above the predicted top of the Demons Bluff (1050 m SS, 1077.4 m RT)

From 1077.4 m. RT to TD samples to be collected at 5 m intervals.

Additionally "bulk " samples of 500 g composited over each 10 m., "lightly" washed to remove only the excess mud, air dried and bagged in synthetic cloth bags. **No cotton bags** to be used as they rot and disintegrate; **No polypropylene bags** as they disintegrate in sunlight (UV). These are for geochemistry, micropaleontology, fission track analysis etc as may be needed.

A comprehensive 1:500 scale mud log will be maintained at all times from commencement of drilling to TD. All instrument charts, annotated for depth in metres, are to be submitted prior to release of the mud logging unit.

Gas detectors and chromatographs are to be calibrated with standard check gas blends once per day. Total gas detectors are to be calibrated so that 1% methane in air will produce a chart deflection of 50 units (1 unit is equivalent to 200 parts per million ("ppm") methane equivalents in air). Total gas readings are to be recorded and annotated on the mud log in total gas units and the chromatograph gas readings annotated in parts per million. Calcium carbide lag checks will be run once per shift or every 100 m, whichever occurs first (or at the discretion of the Wellsite Geologist), and total gas units and lag (actual and calculated) are to be recorded on the mud log.

Drill rate will be recorded in minutes/metre on a non-linear scale to best show significant changes in rate and to minimise scale changes. The logger is responsible for resolving any discrepancies in measured depth.

Leak-off tests, pit losses/gains, tight-hole and other geologically significant data will be

recorded on the mud log.

Mud and mud filtrate salinity will be measured from any significant hydrocarbon show. As a reference, salinity checks should be made as soon after a significant drilling break as possible (i.e. **before** the sample from the break is at surface).

The mud loggers will be responsible for the collection, logging and description of drill cuttings samples. A copy of the updated mud log will be available every morning in time for the morning report. A copy may be required for the afternoon report while drilling in zones of interest.

Routine microscopic and fluoroscopic examination of ditch cuttings for hydrocarbon shows will be undertaken.

Digital data are to be backed up on a regular basis such that, in the event of a system failure, a minimum of data would have to be re-entered. Each morning the computer based files will be updated and a copy handed to the Wellsite Geologist for transmission to GLOBEX's office.

At the conclusion of the well, a complete set of edited data is to be written to 3½" floppy disks using an agreed format and handed to the Wellsite Geologist.

### 5.3 CORING AND CORE ANALYSIS

**Note: Pipe is to be strapped and pipe measurements checked against mud loggers' tally prior to coring, testing or logging operations.**

Coring is programmed but will depend upon suitable hydrocarbon shows. In the event coring takes place and if shows are encountered and they persist to the bottom of the first core, then additional cores may be necessary.

Due to the generally unconsolidated nature of some of the sands and the possibility of poor recovery and deep fluid invasion, special coring and handling procedures will be implemented to ensure good recovery for future analysis.

A core barrel with fibreglass inner barrels will be available on site and a low invasion face-discharge core-head will be utilised for any coring operations.

If a core is cut, the following handling procedures should be followed:

After cutting and retrieval, the fibreglass sleeve should be laid on the catwalk, measured, oriented (using standard procedures, i.e. red line on the right and white line on the left pointing downwards) and cut into 1 m length pieces. Depths should be annotated at the top and bottom of each 1 m length piece as well as the 1 m marks along the core. Core chips can be cut at the core ends and tested for fluorescence and cut immediately. A core description should be prepared using the core chips. Without delay, caps should be placed on the open ends and further sealed with tape. Waxing of caps is not recommended. Experience has shown that cracks usually develop after the wax has cooled down.

The core should be delivered for analysis as soon as possible. If the core is unconsolidated, special analytical techniques might be required to ensure adequate and meaningful results.

#### 5.4 WIRELINE LOGGING

The following logging programme will be conducted upon reaching TD.

**TABLE 7  
LOGGING PROGRAMME**

Suit No.	Hole Size (mm)	Depth Interval (m RT)	Run No.	Logging Suite
1	445 (17½")	875 - 145 m	0	No riser, no logs
2	311 (12¼")	TD - 875	1 2 3 4 5 6	DLL-MSFL- GR-SP-PE-LDL-CNL-NGT SHDT-G -BHC (with full wave form sonic) BHC-GR continued to surface inside casing VELOCITY SHOOT RFT - GR CST-GR (1 Gun 52 shot preferable) (2nd Gun Optional)

It should be noted that the programme as outlined above is flexible, and modifications may be made dependent upon well bore conditions, engineering constraints, geological aspects and changes in the objectives of the well.

#### Presentation

- All log data to be presented at 1:200 and 1:500 vertical scales according to GLOBEX's standard electric logging presentation format as per Table 7.

#### Log Data Transmission

- Facsimile**  
All log data should be faxed to GLOBEX's office as soon as possible. who will, in turn, re-fax the log data to joint venturers if required.
- Modem**  
If modem is operational at time of logging, log data should be transmitted to:
  - GLOBEX's office and
  - wireline logging contractor's office.

GLOBEX's office will re-transmit the log data to joint venturers on request, and the wireline logging contractor's office will supply prints as soon as practicable to GLOBEX's office for distribution to joint venturers.

#### 5.4.1 Standard Electric Logging Presentation Format

The following log presentation style will be adopted for the final presentation of all logs unless otherwise agreed.

**TABLE 8**  
**SUMMARY OF LOG PRESENTATION**

Curve	Scale	Track	Back-ups	Coding
Gamma-Ray	0 : 150 API	T1	Wrap	Light Line
Laterolog - Deep	0.2 : 2,000 Log	T23	None	Light Dash
LLD-Backup	2,000 : 20,000 Log	T2	None	Heavy Dash
Laterolog - Shallow	0.2 : 2,000 Log	T23	None	Light Spot
LLS-Backup	2,000 : 20,000 Log	T2	None	Heavy Spot
Micro-SFL	0.2 : 2,000 Log	T23	None	Light Line
Micro-Normal	10 : 0	T1	None	Light Spot
Micro-inverse	10 : 0	T1	None	Light Dash
Deviation	0 : 5 deg	T1	Shift	Light Spot
Relative bearing	-0.40 : 360 deg	T1	Wrap	Light Dash
Azimuth	-0.40 : 360 deg	T1	Wrap	Light Line
ILD	0.2 : 2,000 Log	T23	None	Light Dash
ILD-Backup	2,000 : 20,000 Log	T23	None	Heavy Dash
SFLU	0.2 : 2,000 Log	T23	None	Light Spot
SFLU-Backup	2,000 : 20,000 Log	T23	None	Heavy Dash
SP	-0.50 : 50 mv	T1	Wrap	Light Spot
Caliper	6 : 16 in	T1	Shift	Light Dash
Bit Size	6 : 16 in	T1	None	Heavy Line
Density	1.85 : 2.85	T23	Shift	Light Line
Density Correction	-0.25 : 0.25	T3	None	Light Spot
PE	0 : 10	T23	None	Heavy Gap
Neutron	0.45 : -0.15	T23	Shift	Light Dash
Delta T	140 : 40 msec/ft	T23	Shift	Light Line
Delta T (long)	140 : 40 msec/ft	T23	None	Light Dash
CBL	0 : 10 mv	T2	None	Light Line
CBL-Backup	0 : 10 mv	T2	None	Light Dash
Tension	0 : 4,000 lb	Depth Track	None	Light Spot

#### 5.4.2 Sidewall Cores

Sidewall cores ("SWC") will be taken over selected intervals for the following reasons:

- palaeontological analysis; (~35 shots)
- show evaluation; or
- visual assessment of reservoir/seal quality. (~17 shots)

One 52 shot run to be made. 17 shots for sampling hydrocarbon show sands etc; 35 for palynology located in shales or finest grained intervals at about 50 m spacing throughout the Eastern View Section. Coals to be avoided as they separate easily from cuttings with little ambiguity.

The cores will be described by the Wellsite Geologist directly after the samples have been acquired. SWC should be placed in SWC jars with foil-lined caps; direct contact with wax-coated cap liners should be avoided. SWCs of hydrocarbon-bearing reservoir units should be kept sealed and in a cool location prior to transport.

The sidewall coring equipment should be on location prior to logging, and all explosives will be kept in a designated safe container. Minimum required personnel should be on the catwalk/rig floor when armed core guns are run or pulled. All radio transmitters and electric welding units are to be de-energised while arming or disarming core guns and while the core gun is within the top 60 m of the hole.

#### 5.4.3 Wireline Formation Tests

RFTs will be run if hydrocarbons are suspected in any of the reservoir sandstone intervals, and if hole conditions permit. The purpose of these tests is to measure formation pressure, establish hydrocarbon and water gradients, and obtain a preliminary indication of permeability and formation fluids. An RFT may be used to evaluate zones too thin for production tests.

A range of chamber sizes should be available (1-6 gal), the combination to be used dependent upon the zone to be tested and available should segregated samples be taken.

Fluids recovered from the upper chamber should be analysed on site, while fluids from the lower chamber should be kept sealed and delivered for analysis as soon as possible.

The Wellsite Geologist will recommend RFT intervals to the GLOBEX Senior Operations Geologist for approval.

#### 5.4.4 Velocity Survey

As anticipated, the 17 1/2" hole will only be to about 870 m. RT. Section would thus be all be in the Torquay Group. Consequently no checkshot survey is required in this section. For the 12 1/4" hole section to TD logging run, the geophone for shots should be located at:

- (1) About 500 m.
- (2) 1,000 m just below limestone reflector if it can be identified.
- (3) Top Demons Bluff.
- (4) Top Eastern View C. M.
- (5) Top of Anomaly Horizon.
- (6) At velocity breaks picked from the sonic or other logs such as continuous thick coals (over 25 m, but not anticipated); alternatively shots should be located at not more than 400 m intervals approximately evenly spaced.
- (7) At TD.

### 5.5 TESTING

No firm tests are programmed for the well. Tests will be run depending on evaluation of shows encountered while drilling, coring and subsequent log analysis and RFT results. after consultation with GLOBEX's Senior Operations Geologist. Test tools will be available on short notice should they be required. A separate programme will be issued should cased hole testing operations be required.

## 6. SAMPLING

### 6.1 CUTTINGS

Table 9 sets out the cuttings sampling programme for the well.

**TABLE 9  
CUTTINGS SAMPLING**

Type	Weight	Interval Spacing (m)	Interval (m)	No. of Sets
Washed and dried (lithology)	200 g bags	10	860-950	4*
		5	950-TD	4*
Lightly washed (almost unwashed), air-dried (biostratigraphy and geochemistry).	500 g bags	10	860-950	1
		10	950-TD	1

- \* 1 set for Mineral Resources, Tasmania.
- 1 set for Australian Geological Survey Organisation ("AGSO").
- 1 set for GLOBEX.
- 1 set for destructive analysis as required.

### 6.2 FLUIDS

The packaging of samples is to be in suitably sized cardboard cartons clearly marked identifying the boxes contents. The samples shall be packed in such a way as to not damage both the contents and the labelling on the boxes.

#### 6.2.1 Crude Oil

Recovered crude oil samples will be collected in 3 x 5 litre cans and prepared for analysis off site. Preliminary determination of the API gravity and pour point of the oil will be made at the wellsite.

The samples should be labelled with the well name, date, drill stem test ("DST") number, DST interval, formation, sampling point and surface temperature, time and at what stage of the DST the sample was collected. A note should also be made about the flow as to slugging or stability etc.

#### 6.2.2 Gas

Between 500 and 1000 ml of gas are required for analysis. A minimum of two samples per test should be collected under pressure in an evacuated steel cylinder at stabilised flowing conditions.

The cylinder should be labelled with well name, date, DST number, DST interval, formation, the pressure and location at which the sample was collected, the time and at what stage of the DST procedure the sample was taken, and surface temperature.

A note should also be made about the flow as to slugging or stability etc. A sample of any gas to surface will be analysed at the wellsite using the chromatograph in the mud logging unit. Avoid saturating the detector by diluting with air.

### 6.2.3 Water

Formation water samples are to be collected in one litre plastic bottles.

Other water samples such as well completion fluids, cementing fluids, well stimulation back-flow fluids and production test fluids all require a one litre plastic bottle sample for optimum laboratory results.

### 6.2.4 Mud

500 ml mud samples will be taken every 3 m whilst hydrocarbon shows within the reservoir section are being recorded either on the chromatograph or in cuttings fluorescence. Additional mud sampling at other times is at the discretion of the Wellsite Geologist.

RMF should be recorded on any mud sample while drilling in shows.

**Store samples in a cool place and ship as soon as possible for analysis.**

## 7. SAMPLE SHIPMENT

All cores and cutting samples, once properly labelled and packed, should be dispatched from the rig as soon as possible.

All samples requiring urgent analysis should be dispatched immediately to the company that will perform such analysis via work boat. All other samples should be dispatched as soon as possible in a shipping container via work boat.

All shipments must be properly addressed, documented, and manifested with the materials coordinator on board the rig. Shipments which do not require urgent analysis should be delivered to GLOBEX's office from which point final delivery to laboratory or joint venturers will be made.

Washed and dried samples will be retained at the wellsite until the end of the well when the Samplex tray set and one set of 100g washed and dried samples will be despatched to GLOBEX's office.

The second and third sets of the washed and dried samples shall be shipped to:

Mineral Resources Tasmania  
Core and Cutting Library  
30 Gordons Hill Road,  
Rosny Park, Tasmania, 7018.  
Telephone: (03) 6233 8326 Attention: Ms Carol Bacon/Mr Tony Brown.

All other material will be labelled and shipped to:

GLOBEX Far East  
Memorial Plaza II, 820 Gessner, Suite 1680, Houston, Texas, 77024  
Telephone: 713 463 7710, Fax: 713 463 7722, Email: xxxxxxxxxx@xxx.xxx  
Attention: Mr Tom Burgett, Exploration Manager

## 8. DATA DISTRIBUTION

Originals of all logs and magnetic tapes will be retained by GLOBEX. Log tapes and films

are to be hand carried to GLOBEX's office by the Wellsite Geologist. Originals of mud log data sheets, charts and floppy disks will be given to the Wellsite Geologist for delivery to GLOBEX's office.

**TABLE 10  
DATA DISTRIBUTION LIST**

REPORT/DATA	MEDIUM TYPE	R I G	G L O B E X			M R T
<b>REPORTS</b>						
Well Proposal	PAPER	4	5	3	3	3
Daily Reports	PAPER	1	1	1	1	1
Weekly Reports	PAPER	1	1	1	1	1
Mud logging Final Report	PAPER		2	1	1	2
Well Completion Report	PAPER		2	1	2	2
<b>LOGS (* UPON REQUEST)</b>						
Data Transmission	MODEM		1	*	*	*
Field E-Log (each run main scale)	FAX	2	1	1	1#	1
Final E-Log (each run all scales)	PAPER		2	2	1	2
Final E-Log (each run all scales)	SEPIA		1	1	1	1
Final Edited E-log Data (LAS OR LIS)	Exabyte () 9 Track () 3½" Disk ()		() () (*)	() () (*)	() () 1	() () (*)
<b>SAMPLES Amt (g) Interval</b>						
Cuttings 100	5m/3 m		1			1
Samplex trays			1			
Paleo (unwashed) 100	x 5m/3 m		1			
Oil	5 litre cans		2			
Water	1 litre plastic bottle		2			
Mud	500 ml plastic bottle		2			
Core			$\frac{2}{3}$			$\frac{1}{3}$

**Note:** Representative cuttings, cores, sidewall cores and fluid samples will be delivered for analysis to the designated service companies as soon as possible; their addresses are found in **Appendix A**.

9. OFFSET WELL DATA/CORRELATION

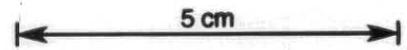


TABLE 11

OFFSET WELL/DATA CORRELATION

Depth	Fm	Cormorant-1 ← 20 km →			Barramundi-1			← 30 km → Yolla-1		
		Li.	Casing	Mud Wt.	Li.	Casing	Mud Wt.	Li.	Casing	Mud Wt.
500 m			wd 73 m SS			wd 72 m SS			wd 79m SS	
			20" 250 m RT			36" 145m RT			30" 189m RT	
1000 m									20" 399m RT	
			13 <sup>3</sup> / <sub>8</sub> 865m RT			13 <sup>3</sup> / <sub>8</sub> 865m RT				
1500 m						primary				
						TD - 1777.4m			13 <sup>3</sup> / <sub>9</sub> 1752 RT	
2000 m			c&g sands							
			c&g sands							
2500 m			c&g sands							
			c&g sands							
3000 m									gabbro	
									c&g sands	
									c&g sands	

10. OIL SPILL CONTINGENCY PLAN

The GLOBEX Oil Spill Contingency Plan ("OSCP") provides guidelines for use by field and office personnel to:

- notify the relevant authorities and groups of an oil spill;
- contain and manage the spill; and
- clean up the oil spill if necessary.

The OSCP shall be kept on board the rig for reference by all personnel.

**FIGURES**

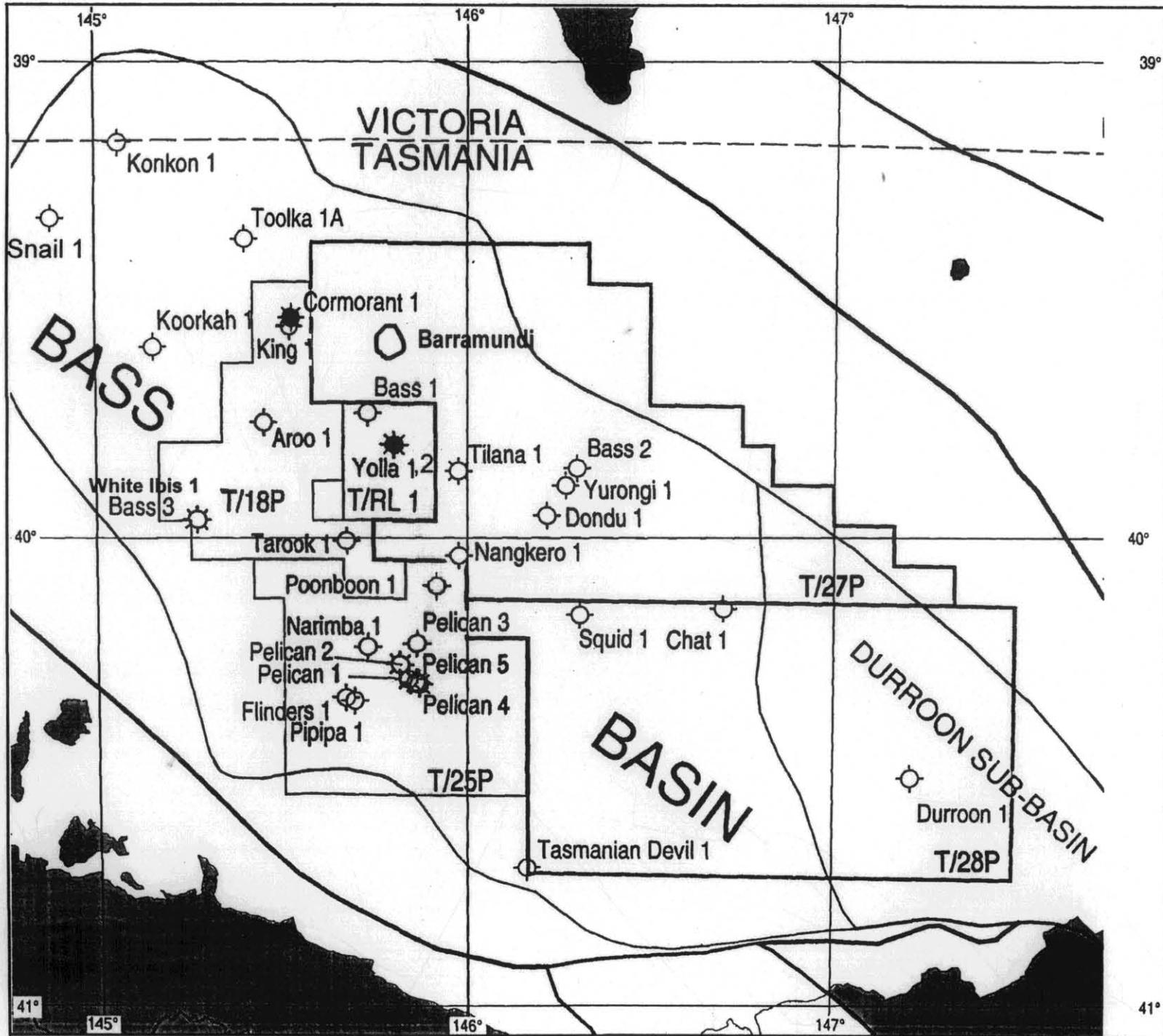
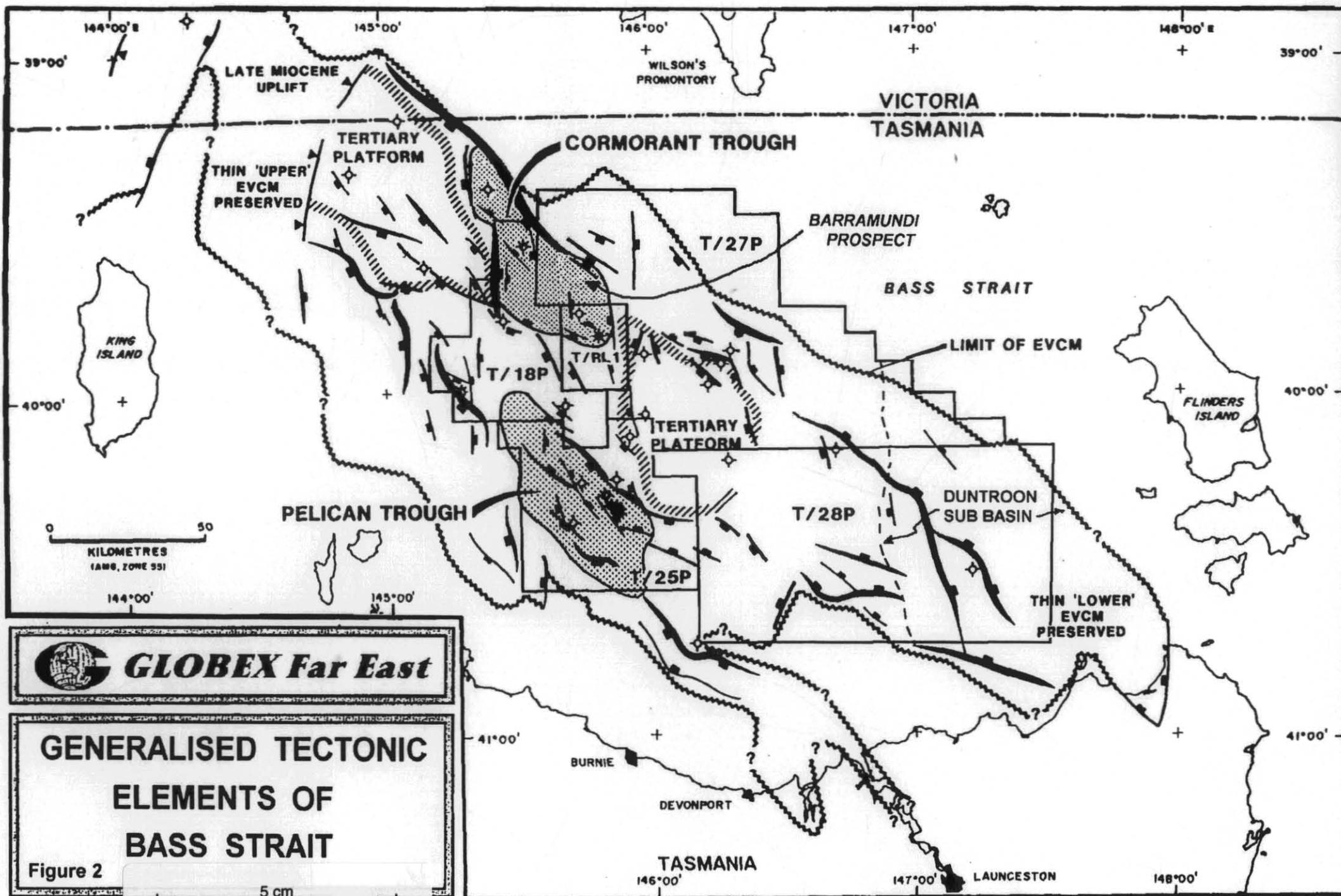


Figure 1 Locality map of Bass Strait showing leases and Proposed Barramundi -1 Location

545035

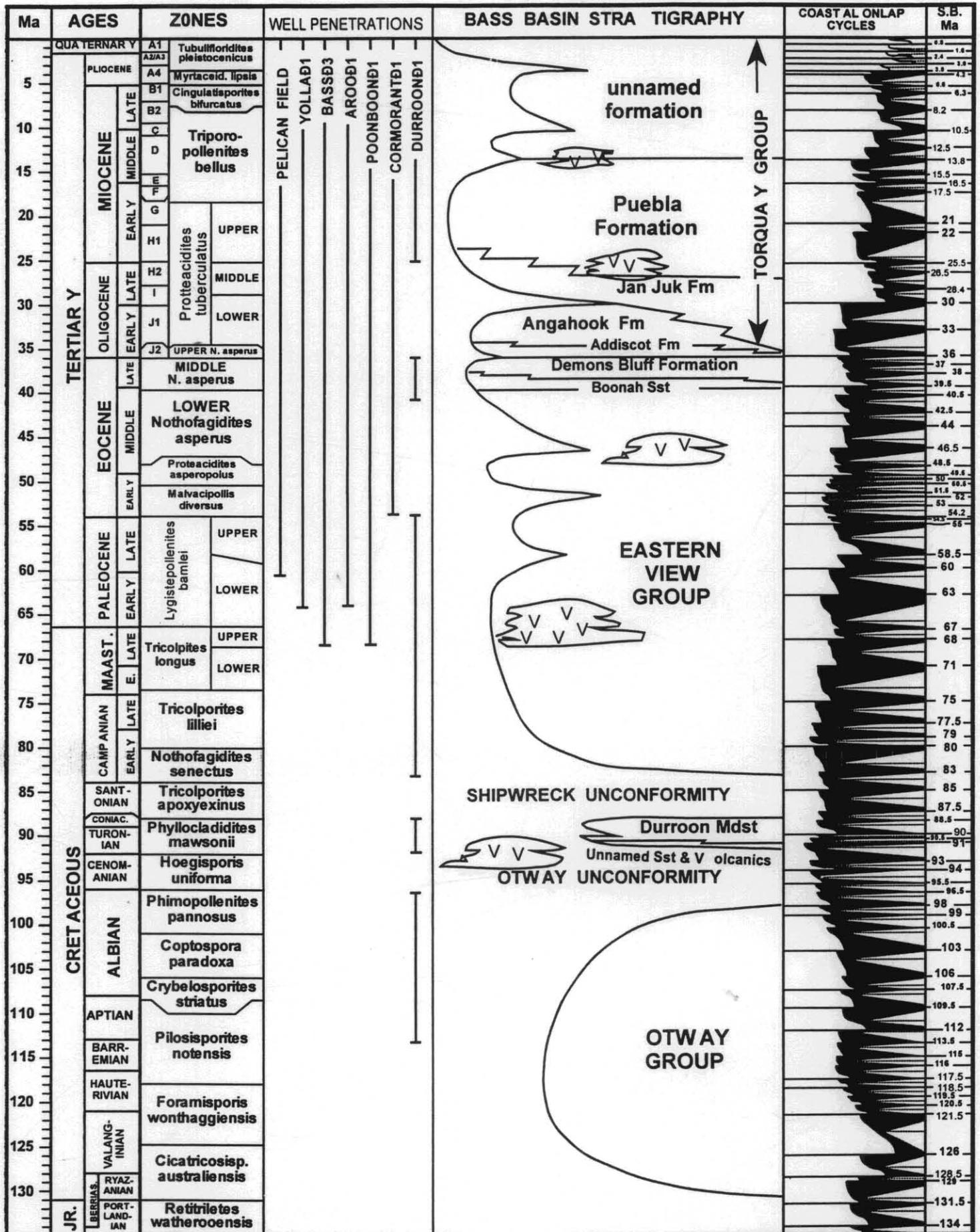


**GLOBEX Far East**

**GENERALISED TECTONIC ELEMENTS OF BASS STRAIT**

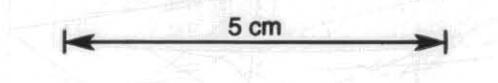
Figure 2

5 cm



A. D. Partridge Nov 1998

Figure 3. Stratigraphy of the Bass Basin.



# BARRAMUNDI-1

Latitude: 39.66167 degrees South  
 Longitude: 145.73412 degrees East  
 UTM Zone 55 South X = 391,412 Y = 5,609,012  
 RT = 27.4m

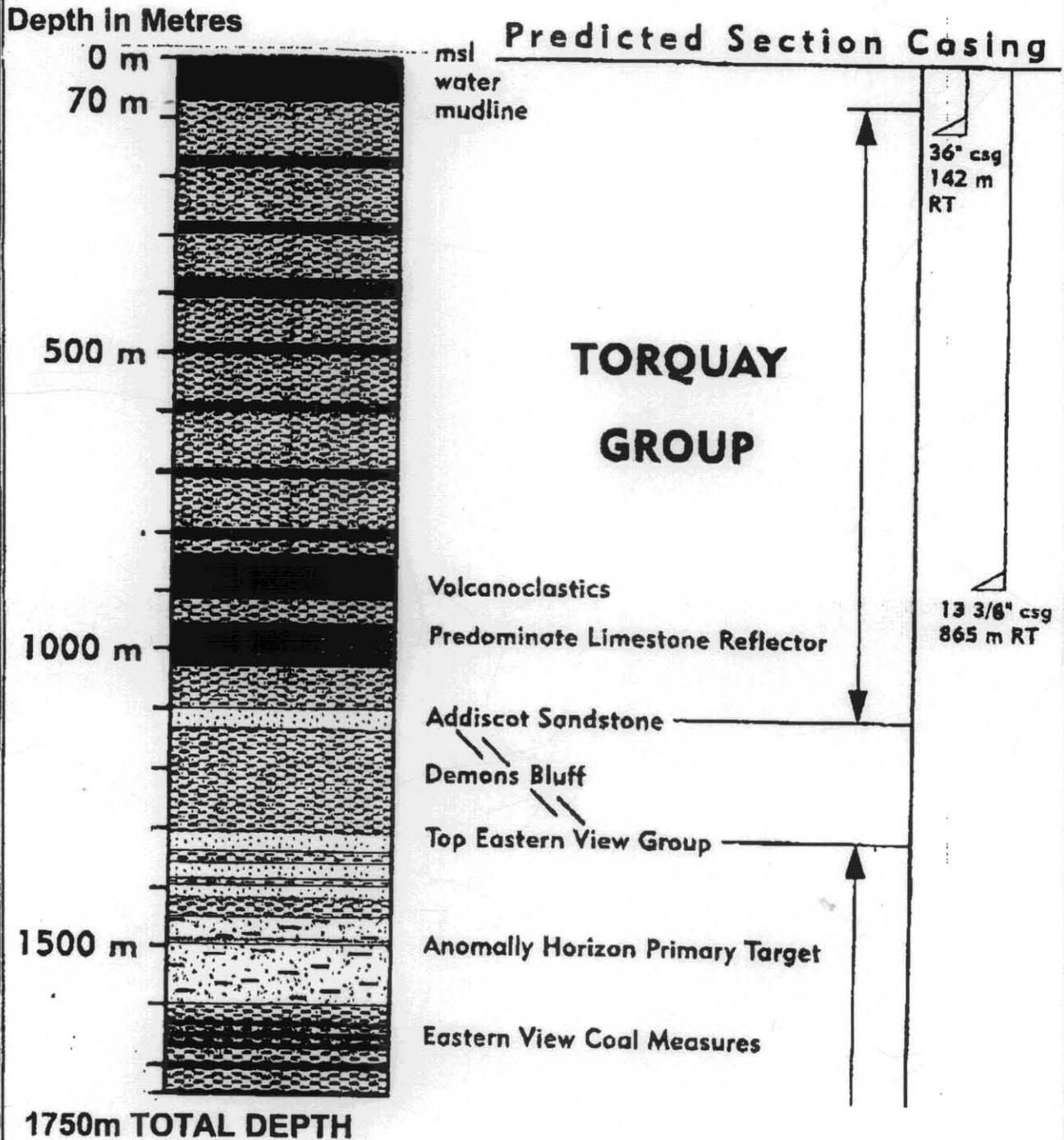
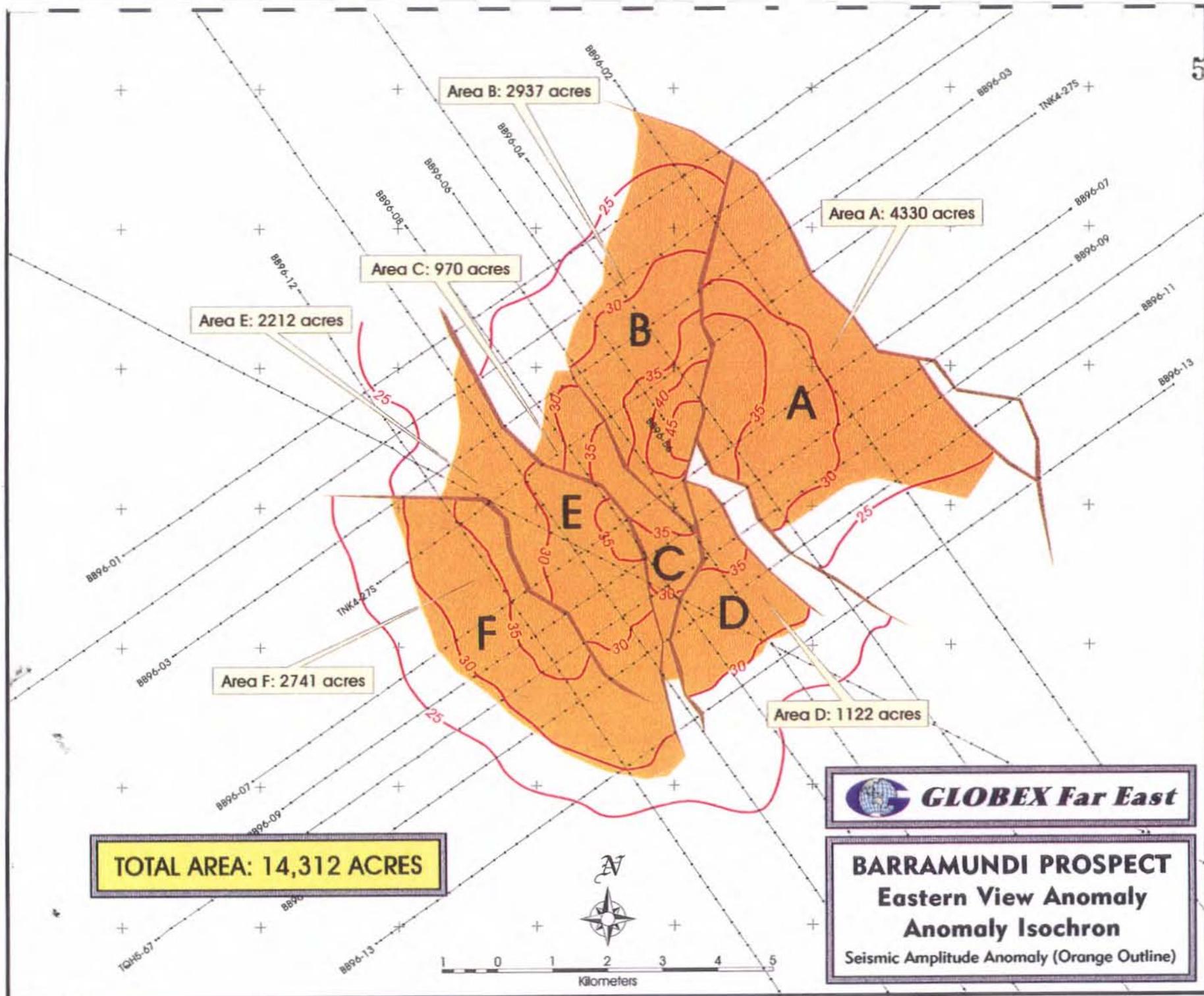


Figure 4: Well Schematic Barramundi-1

5 cm

Figure 5 Barramundi Prospect Eastern View Anomaly Isochron showing compartments of structure.

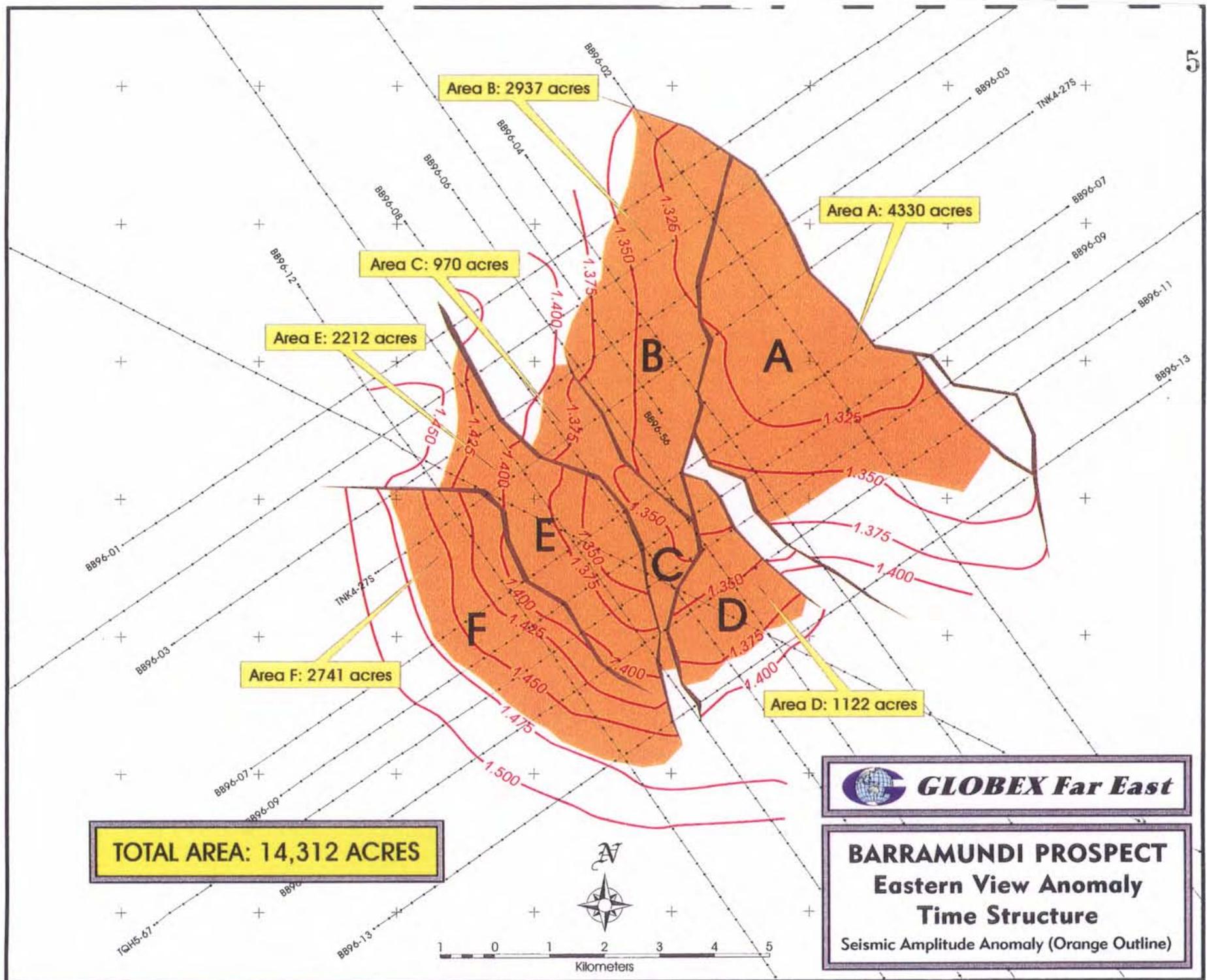
5 cm



**GLOBEX Far East**

**BARRAMUNDI PROSPECT**  
**Eastern View Anomaly**  
**Anomaly Isochron**  
Seismic Amplitude Anomaly (Orange Outline)

Figure 6 Barramundi Prospect Eastern View Anomaly Time Structure showing compartments of structure.



5 cm

TOTAL AREA: 14,312 ACRES

GLOBEX Far East

BARRAMUNDI PROSPECT Eastern View Anomaly Time Structure Seismic Amplitude Anomaly (Orange Outline)

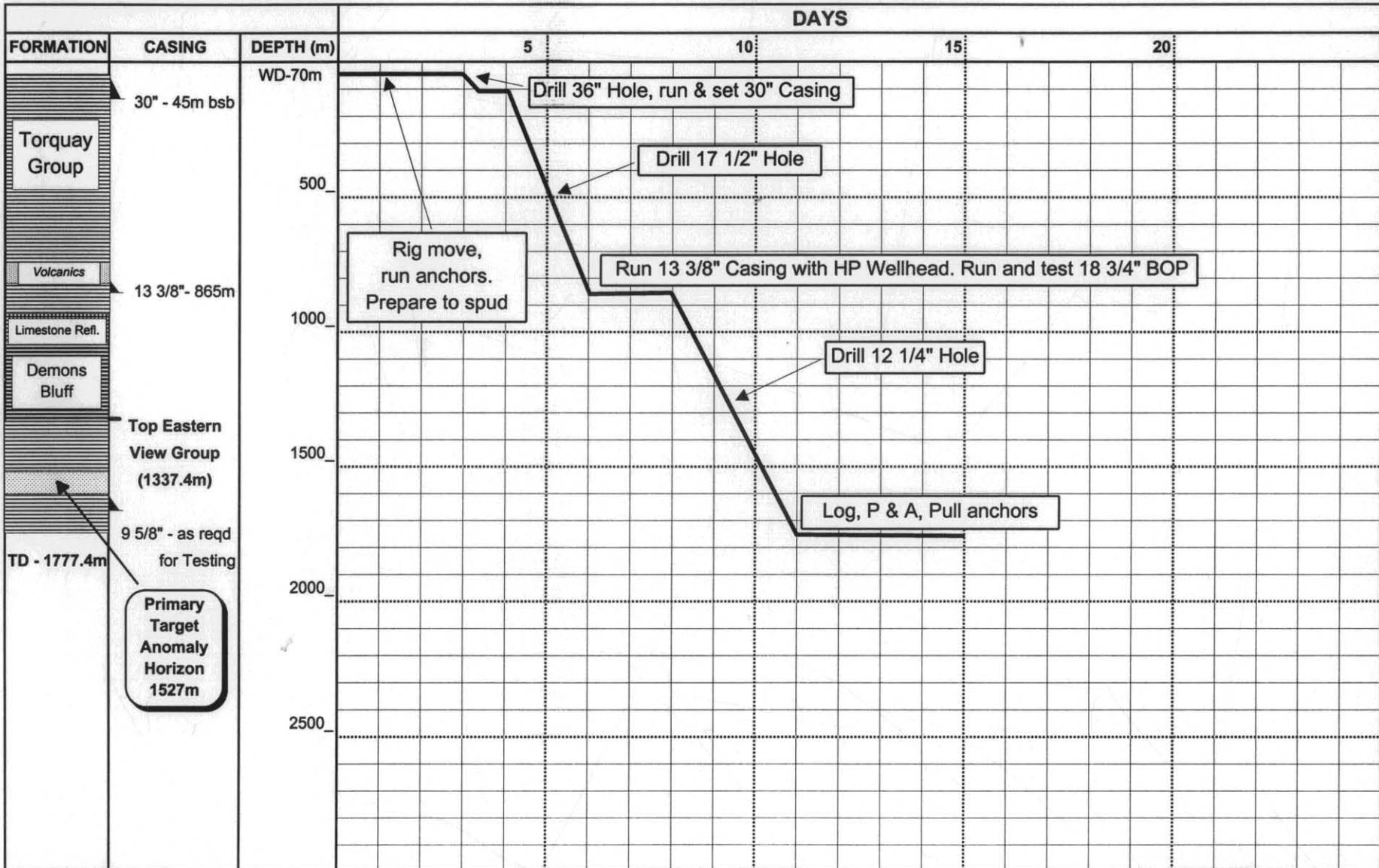
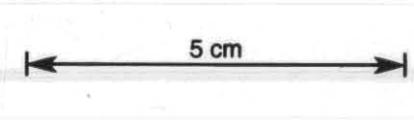
0 1 2 3 4 5 Kilometers

# GLOBEX Far East

## BARRAMUNDI-1 (T-27-P)

### TIME/DEPTH CURVE

Fig.7



545040

**APPENDICES**

## APPENDIX A

## OPERATOR/PROJECT MANAGER CONTACTS

Company/Address/Contact	Office Tel.	Office Fax.	Home Tel.	Mobile
<b>GLOBEX Far East</b> <b>Memorial City Plaza 11</b> <b>820 Gessner</b> <b>Houston, Texas 77024</b> <b>Contacts:</b> Richard P. Crist - Vice President - Exploration Thomas L. Burgett - Exploration Manager	1-713 463 7710	1-713 463 7722	1-409 321 1475	
<b>Kelly Down Consultants Pty Ltd</b> Level 4, 621 Pacific Highway St Leonards NSW 2065 <b>Contacts:</b> Jim Slater - Drilling Manager  Geoff Rowlands - Project Manager Colin Stuart - Senior Drilling Engineer	02 9901 3422	02 9901 3635	02 9452 2780 02 9906 4725 02 9948 0670	0412 446 440 0417 682 839 0419 493 598
<b>GLOBEX Supply Base</b> c/- Toll Energy, 654, Footscray Road West Melbourne <b>Contacts:</b> Chris Johnson - Materials & Logistics Supv.				0418 951 189

## APPENDIX B

## JOINT VENTURE CONTACTS

Company/Address/Contact	Office Tel.	Office Fax.	Home Tel.	Mobile

APPENDIX B (cont'd)  
GOVERNMENT CONTACTS

Address/Contact	Office Tel.	Office Fax.	Home Tel.	Mobile
<b>Mineral Resources Tasmania</b>	03 6233 8333	03 6233 8338		
30 Gordons Hill Road, Rosny Park, Tasmania, 7018 PO Box 56, Rosny Park, Tasmania, 7018				
<b>Contact:</b> Ms. Carol Bacon - <i>Managing Geologist</i>	03 6233 8326		03 6239 1409	
<b>Alternate</b> Mr Anthony Brown - <i>Director of Mines</i>	03 6233 8343			

## APPENDIX C

## SERVICE COMPANIES

Service/Company/Address/Contact	Office Tel.	Office Fax.	Home Tel.	Mobile
<b>Drilling Rig</b> Schlumberger Australia Pty Ltd (Sedco Forex) Level 5, Capitol Centre, 256 St. Georges Terrace, Perth, WA 6000 - District Manager Dave Wright - Rig Manager "Sedco 702" - Marisat GLOBEX - Rig	08 9420 4800	08 9322 3110		
	03 9697 1210	03 9690 0309		
<b>Rig Positioning</b> Fugro Survey 18 Prowse Street, West Perth WA 6872 Peter Malcolm Derek Evans-Consultant - "Bird-dog"	08 9322 4955	08 9322 1775		
			08 9384 6956 08 9384 6956	
<b>Supply Vessels:</b> Swire Pacific Offshore Pty Ltd Queensgate Centre Cnr. William and Newman Streets Fremantle WA 6160 Sam Pullan - General Manager	08 9430 5434	08 9430 7849		
<b>Helicopters:</b> Lloyd Helicopters Pty Ltd 45 Greenhill Road Wayville SA 5034 Ian McBeath - Marketing Director Melbourne Base - Base Manager - Deputy Base Manager	08 8372 7700	08 8373 3366		
<b>Cementing:</b> Halliburton Australia Pty Ltd 90, Talinga Road, Cheltenham, Victoria, 3192 Mike Vennes - Base Manager	03 9583 7522	07 9583 7588		
<b>Drilling Fluids:</b> Baroid Australia Pty Ltd No 5 Pitino Court, Osborne Park WA 6017 Peter McNaughton - Area Engineer Ed Schleifer - District Manager	08 9 446 6666	08 9446 1197		
	03 9621 3311	03 9621 3367		

**APPENDIX C (cont'd)  
SERVICE COMPANIES**

<b>Service/Company/Address/Contact</b>	<b>Office Tel.</b>	<b>Office Fax.</b>	<b>Home Tel.</b>	<b>Mobile</b>
<b>ROV:</b> Sonsub International pth Floor, Rohas Perkasa No 8 Jalan Perak, 50450, Kuala Lumpur, Malaysia Mike Kally - General Manager	603 264 2466	603 262 5657		
<b>Electric Logging:</b> Schlumberger Oilfield Australia Pty Ltd Level 5, Capital Building, 256 St Georges Terrace, Perth, WA 6000 Alain Michel - Operations Manager	08 9420 4800	08 93223080		
<b>Mud Logging:</b> Geoservices Overseas S.A. Unit 8, Farrall Road Midvale WA 6056 David Angus - Country Manager	08 9250 2010	08 9250 2715		
<b>Coring:</b> Baker Hughes INTEQ Suite 4, 5 Stoneham Street, Belmont, WA 6104 John Ryan - Area Manager	08 9478 0500	08 9478 6155		
<b>Weather Forecasting:</b> Weathernews Pty Ltd 31 Bishop Street Jolimont WA 6014 David Duncalf - Senior Meteorologist	08 9387 7955	08 9387 6686		08 9385 8384
<b>Drilling Tools:</b> Tasman Oil Tools 36 McCoy Street, Myaree, WA 6154 Bob Jones	08 9330 6155	08 9330 1502		
<b>Directional Drilling:</b> Schlumberger Oilfield Australia Pty Ltd 314 Raglan Street Sale, Victoria, 3850 John Robertson	03 51 432242	03 51 432 450		
<b>Casing Running:</b> Weatherford Australia 17 Truganina Road, Malaga WA 6052 Tom McGowan - Regional Sales	08 9249 7900	08 9249 8188		
<b>Well Testing:</b> Schlumberger Oilfield Australia Pty Ltd Level 5, Capital Building, 256 St Georges Terrace, Perth, WA 6000 Willie Rithie - Testing Manager	08 9321 5477	08 9322 3080		

**APPENDIX C (cont'd)  
SERVICE COMPANIES**

<b>Service/Company/Address/Contact</b>	<b>Office Tel.</b>	<b>Office Fax.</b>	<b>Home Tel.</b>	<b>Mobile</b>
<b>Wellheads:</b> Dril-Quip 132, Sheffield Road, Welshpool, WA 6106 Keith Petley - Projects-Sales	08 9458 5700	08 9458 5595		0412 913 025
<b>Casing (30")</b> DQ Holdings Pty Ltd 134 Sheffield Road Welshpool WA 6106 Keith Petley - Projects-Sales	08 9458 5700	08 9458 5595		0412 913 025
<b>Fuel:</b>				
<b>Supply Base:</b> Toll Energy 654 Footscray Road West Melbourne, Vic, 3003 Phil Dent - Manager	03 9688 8325	03 9688 8340		0418 359 526

Schlumberger

Sedco Forex

**SEDCO 702****Semi-Submersible Drilling Unit**

<b>Vessel</b>	<b>Design</b>	MODU (CSDU) Earl & Wright SEDCO 700
<b>Specifications</b>	<b>Service Date</b>	April 1973 - Major enhancement/refit 1992
	<b>Classification</b>	ABS Class - +A1 (E) (M) CSDU +PAS
	<b>Registry/Flag</b>	Liberia
	<b>Length</b>	295 ft
	<b>Width</b>	245 ft
	<b>Main Deck Height</b>	130 ft from keel to top of main deck
	<b>Transit Draft</b>	19 ft
	<b>Operating Draft</b>	85 ft
	<b>Variable Load</b>	
	<b>Transit</b>	1,500 st at 21 ft Draft
	<b>Operating</b>	3,325 st at 80 ft Draft
	<b>Transit Speed</b>	7 knots at transit draft
	<b>Crew Quarters</b>	104 certified berths available along with hospital facilities for 4 persons
	<b>Rated Drilling Depth</b>	25,000 ft
	<b>Operating Water Depth</b>	Currently equipped for 1,500 ft

<b>Mooring System</b>	<b>Anchors</b>	8 - Stevpris, 12 mt Each anchor combined with 4,300 ft of 3 inch chain
	<b>Windlasses</b>	Baylor, 1,000 kips hold, 500 kips stall
	<b>Thrusters</b>	4 - Pleuger/Baylor, each rated 1600 horsepower
	<b>Environmental Capability</b>	Operating : Wind : 70 knots Waves : 70 ft at 11.7 seconds Current : 2.4 knots Survival Wind : 100 knots Waves : 110 ft at 18.8 seconds Current : 2.4 knots

<b>Storage Capacities</b>	<b>Sack Material</b>	3,000 sacks
	<b>Bulk Mud &amp; Cement</b>	15,400 cu.ft
	<b>Liquid Mud</b>	2,185 bbl
	<b>Drill Water</b>	8,700 bbl
	<b>Potable Water</b>	1,325 bbl
	<b>Fuel</b>	3,315 bbl
	<b>Base Oil</b>	3,315 bbl
	<b>Brine</b>	2,900 bbl

# SEDCO 702 Semi-Submersible Drilling Unit

<b>Rig Equipment</b>	<b>Drawworks</b>	Oilwell E-3000, input horsepower : 2,000
	<b>Derrick/Mast Capacity</b>	Lee C Moore 185 ft rated 1000 kips static hook load
	<b>Main Power</b>	3 - EMD 12-645E9; 2,875 hp each
	<b>Emergency Power</b>	1 - Detroit Diesel 16V-71, rated at 350 kW Generator : Delco, 480 V, 60 HZ, 437 kVA, 350 kW
	<b>Power Conversion</b>	SCR System : Baylor Rated at : 2,500 amps and 600 volts
	<b>Mud Pumps</b>	3 - Oilwell A1700-PT, input horsepower : 1,600 each
	<b>High Performance Shale Shakers</b>	3 - Thule VSM 100
	<b>Topdrive</b>	3 - Brandt scalping shakers
	<b>Heave Compensator</b>	Varco TDS 4S
	<b>Deck Cranes</b>	Rucker; 400 kips, 18 ft stroke 2 - National OS-435 Rated : 55 st at 30 ft and 13 st at 120 ft max radius
	<b>Rotary Table</b>	Oilwell; 49-1/2 inch with independent drive
	<b>Riser Tensioners</b>	8 - Rucker; Capacity : 80 kips each, 50 ft line travel
	<b>Cementing Unit</b>	Dowell Schlumberger; 15,000 psi with recirculating mixer
	<b>Burner Booms</b>	None
	<b>Subsea TV System</b>	Hydro Products WC-125 for 1,500 ft water depth
	<b>Communications</b>	Marisat 'A' 1 - VHF Sailor radios RT2047 Inmarsat terminal 1 - Fax machine, Canon FAX270S 2 - Sailor SSB radios; one 600 watts PCP and one 250 watts PCP

<b>Blowout Preventer Equipment</b>	<b>Diverter</b>	Hughes Regan KFDS-3, 47 inch, Pressure rating : 500 psi
	<b>Slip Joint</b>	Hughes Regan, size : 26 inch OD by 20 inch ID, Stroke : 55 ft
	<b>Riser</b>	Hughes Regan FD-8, integral riser Size : 21 inch, Length : 1,500 ft
	<b>Lower Marine Package</b>	Two, NL spherical Size : 18-3/4 inch, Pressure rating : 5,000 psi, H2S Trim LMRP Connector : Cameron Collet
	<b>Blowout Preventers</b>	Two, CIW Type U double Size : 18-3/4 inch, Pressure rating : 10,000 psi, H2S Trim Wellhead Connector : Cameron Collet
	<b>Choke Manifold</b>	Cameron 3 inch, 10,000 psi, H2S Trim
	<b>BOP Control System</b>	Koomey hydraulic Accumulator capacity : 1,500 gal.

**AIRCRAFT SPECIFICATIONS****AIRCRAFT DESCRIPTION**

Registration : VH-BZH  
 Model : Bell 412  
 Aircraft Serial Number : 33044  
 Engine Type/Serial Number : Engine 1 - 62109  
 : Engine 2 - 62540  
 Year of Manufacture : 1981

**RADIO/NAVIGATION EQUIPMENT**

No 1 VHF Comm. Installation : KING KTR-905  
 No 2 VHF Comm. Installation : KING KTR-905  
 No 1 VHF NAV Installation : KING KNR-630  
 No 2 VHF NAV Installation : KING KNR-630  
 No 1 ADF Installation : KING KDF-806  
 No 2 ADF Installation : KING KDF-806  
 2 x GLS/MB Installation : KMR-675  
 No 1 HF Radio Installation : Codan 2000  
 No 2 HF Radio Installation : Codan 2000  
 D.M.E International Installation : KING KDM-706  
 Transponder Installation : KING KXP-755  
 Audio Installation : 2 Pilot/2 Rear (Andrea A301)  
 ELT Installation : POINTER 3000-10 (TSO C91a)  
 Underwater Locator Beacon : DK-100  
 Radar Installation : BENDIX/KING RDR 1400  
 Global Positioning System : Trimble 2101 IFR not NPA

**OTHER AVIONICS EQUIPMENT**

Marine FM Installation : GME GX-558  
 Radio Altimeter Installation : RT-220  
 Autopilot : Standard Sperry/Honeywell 412  
 PA System : GM-1000  
 Rear ICS/Place : 2 Place TX  
 Homer : BECKER ZVG-2002  
 Searchlight : Standard Bell 412

**OTHER EQUIPMENT**

IFR Instrumentation : Fitted  
 Dual Controls : Fitted  
 Pop-out Floats : Standard Bell - Fitted  
 Cargo Hook : Standard Bell - Fitted  
 Mirror : Provided  
 Rescue Hoist : Provision Only  
 Seating/Aux Fuel Tanks : 13 Pax  
 : 11 Pax with 1 x 90 gall tank (if required)  
 : 9 Pax with 2 x 90 gall tank (if required)  
 5 Place Seat Tank : Provision  
 Nightsun : Provision only  
 Survival Equipment : 2 x T9 Rafts, 2 x Crew Jackets  
 Wire Strike Kit : Not fitted

## PAYLOADS

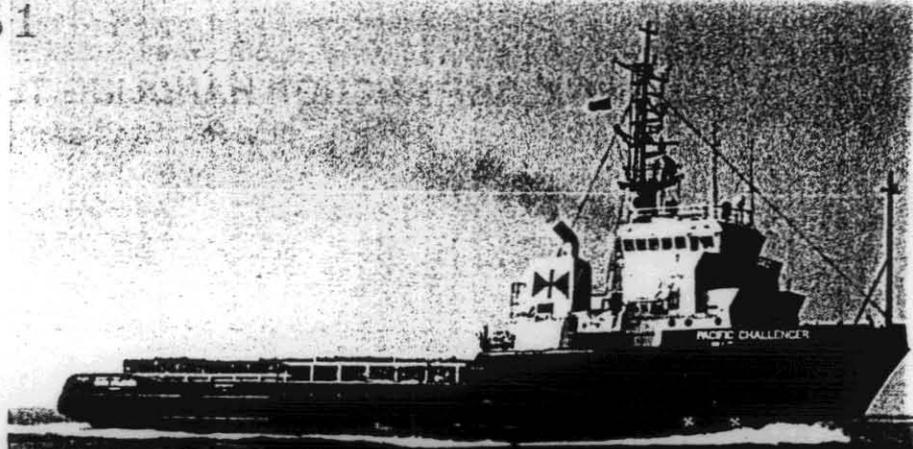
<b>LOCATION: Essendon Airport</b>			
<b>AIRCRAFT TYPE: Bell 412</b>	<b>VFR</b>	<b>IFR</b>	<b>Holding Tempo</b>
Fuel flow (kg/hr)	327	327	327
Groundspeed Rig (kts)	120	120	120
Groundspeed Alternate (kts)	120	120	120
Groundspeed Destination (kts)	120	120	120
<b>WEIGHTS:</b>			
Operating weight (kg)	3654	3654	3654
Runway weight (kg)	5397	5397	5397
Platform weight (kg)	5200	5200	5200
<b>DISTANCES:</b>			
To platform (NM)	107	107	107
To alternate (NM)	107	107	107
To desination (NM)	107	107	107
Total distance (NM) - platform + alernate	214	214	214
<b>OUTBOUND FUEL:</b>			
Flight time to position (minutes)	54	54	54
Flight time to alternate (minutes)	54	54	54
Flight fuel to position (kg)	292	292	292
Flight fuel to alternate (kg)	292	292	292
Variable reserve 10% (kg)	59	59	59
Fixed reserve (20 minutes VFR/30 minutes	109	164	282
Total fuel required (kg)	751	808	926
<b>OUTBOUND PAYLOAD:</b>			
Payload (kg)	992	935	817
Passengers (85kg + 10kg baggage)	10.4	9.8	8.6
<b>INBOUND FUEL:</b>			
Flight time (minutes)	54	54	54
Flight fuel (kg)	292	292	292
Variable reserve 10% (kg)	29	29	29
Fixed reserve (20 minutes VFR/30 minutes	109	164	282
Total fuel required (kg)	430	484	602
<b>INBOUND PAYLOAD:</b>			
Payload (kg)	1116	1062	944
Passengers (85kg + 10kg baggage)	11.8	11.2	9.9



545051

# SWIRE PACIFIC OFFSHORE

MARINE SERVICES TO  
THE OFFSHORE INDUSTRY



## M.V. "PACIFIC CHALLENGER 1"

9000 BHP Anchor Handling Tug Supply Vessel

### BUILT:

Kenbergs Varv Ab, Sweden, 1983  
Type VT704 Mk3

### FLAG:

Panama

### CLASSIFICATION:

DNV + 1A1 + mv Tug Supply (SF) EO

### DIMENSIONS:

Length, overall: 64.40 m  
Length, b.p.: 56.40 m  
Breadth mid: 13.80 m  
Depth mid: 6.90 m  
Draft (max. loaded draft): 5.80 m  
Freeboard: abt. 1.10 m  
GRT (tonnage): 1330 tons  
NRT: 399 tons

### MACHINERY:

Main Engines: 2 x 4500 BHP B & W ALPHA 16028 L-VO,  
Total 9000 BHP  
Bow Thruster: 2 x 500 BHP developing a total of  
11 tonnes thrust.  
Generators: Auxiliary:  
2 x 225 Kva  
Shaft:  
2 x 800 Kva  
440v, 3 phase, 60 hz  
Propellers: 2 x B & W ALPHA CPP  
2 x Ulstein stern thrust.  
Effect of approx. 10 tonnes lateral thrust by  
applying individually operated rudders &  
propellers. Electronically synchronized steering  
gears can be operated independently in both  
manual & joy-stick manoeuvring mode.  
Steering engines: 2 x TENFJORD

### SPEED AND CONSUMPTION:

Max. speed: 15.6 kts  
At trial sd: 30.5 mt/day  
At 12 kts: 12.5 mt/day  
At 10 kts: 10.1 mt/day  
In port: 0.7 mt/day

### TOWING AND ANCHOR HANDLING:

Bollard Pull: 110 tonnes  
Winch: Norwinch low pressure hydraulic, SWL 250  
tonnes two drums; anchor handling towing  
winches, powered by four hydraulic motors,  
with a brake load of 350 tons (1st layer), 222  
tons (mid layer), 157 tons (top layer). Slack  
rope speed on 1st layer 0.5m/min at 250 tons  
51.5 m/min, mid layer 0.7-6 m/min at 158 tons  
80.6 m/min, top layer 0-10.7 m/min at 112 tons  
13.3 m/min. Capacity 1 x 1200 m x 64 mm wire.  
Pennant Reel: 2 x 1000 m x 61 mm wire  
Space Towing Wire: 1 x 1000 m x 64 mm wire  
Shark Jaws: 1 x Ulstein, retractable  
Towing Pins: 1 x Ulstein, retractable  
Stern Rollers: 2.50 m x 3.60 m  
Chain Lockers: 2 x 60 m<sup>3</sup> lockers

### CAPACITIES:

Deck cargo: 700 tonnes  
Clear deck space: 11 m 38 m = 418 m<sup>2</sup>  
Deck loading: 5 tonnes/m<sup>2</sup>  
Cargo deadweight: 1860 tonnes (summer)  
Displacement: 3214 tonnes (summer)  
Fuel oil: 817m<sup>3</sup>  
Drilling water: 777.5m<sup>3</sup>  
Potable water: 250m<sup>3</sup>  
Oil based mud: 320m<sup>3</sup> (2012 bbls at 2.0)  
Brine: 235 m<sup>3</sup> (1478 bbls at 1.5)  
Dry bulk tanks: Smatco pneu tanks 170m<sup>3</sup> in 4 x 42.5 m<sup>3</sup>  
(6000 cu. ft.)

### DISCHARGE PUMPS:

(Manufacturers: Alweiler)  
Potable water: 1 x 100 m<sup>3</sup>/hr at 70m. head  
Drill water: 1 x 100 m<sup>3</sup>/hr at 70 m. head  
Fuel oil: 1 x 110 m<sup>3</sup>/hr at 70 m. head  
Oil based mud: 2 x 50 m<sup>3</sup>/hr at 21 bar  
5 Agitator pumps  
Brine: 1 x 50 m<sup>3</sup>/hr at 11 bar  
Bulk: Two compressors, type Ingersoll Rand, SSR 2000  
Model 15L, seawater cooled.  
Cap. each comp. 15 cbm - 5.6 bar.  
Oil spill combatant equipment for chemical dispersion is fitted.

### DECK EQUIPMENT:

Deck crane: 1 x Hydralift 3.5 t at 7 m  
Windlass: Cables 34 mm. diameter 650 m Port, 850 m Stbd.  
Anchors 2 x 1400 kg.  
Tugger winches: 2 x 10 tonnes  
Capstans: 2 x 6 tonnes - 1 each side aft.

### ACCOMMODATION:

- 7 single cabins  
- 3 double cabins  
- 1 passenger cabin - 6 berths  
- 1 large hospital

### ELECTRONICS:

Radars: 1 pc. LP FR - 85, 5 cm gyro stabilised  
1 pc. LP LP-1011, 3 cm unstabilised  
1 pc. Colour Radar Monitor  
1 pc. Colour Videoplotter GD 2000 c/w control unit  
1 pc. Anschutz  
1 pc. Anschutz  
1 pc. Furuno Furuno FE-881  
Poscon  
1 pc. Shipmate RS 5500 GPS satellite navigator  
1 pc. Shipmate RS 4000 Decca navigator  
1 pc. Furuno FD-521 VHF ADF direction finder  
1 pc. Furuno FAX-208/AN weather facsimile receiver  
1 pc. LO-KATA Navtex 2 navtex receiver  
1 pc. Sailor 400/800 W main station  
1 pc. Sailor C-401 VHF duplex with remote control  
1 pc. Sailor RT-143 semi-duplex with remote control  
1 pc. Sailor R-501 watch receiver  
1 pc. Capsat Inmarsat-C transceiver

CALL SIGN  
HP7670

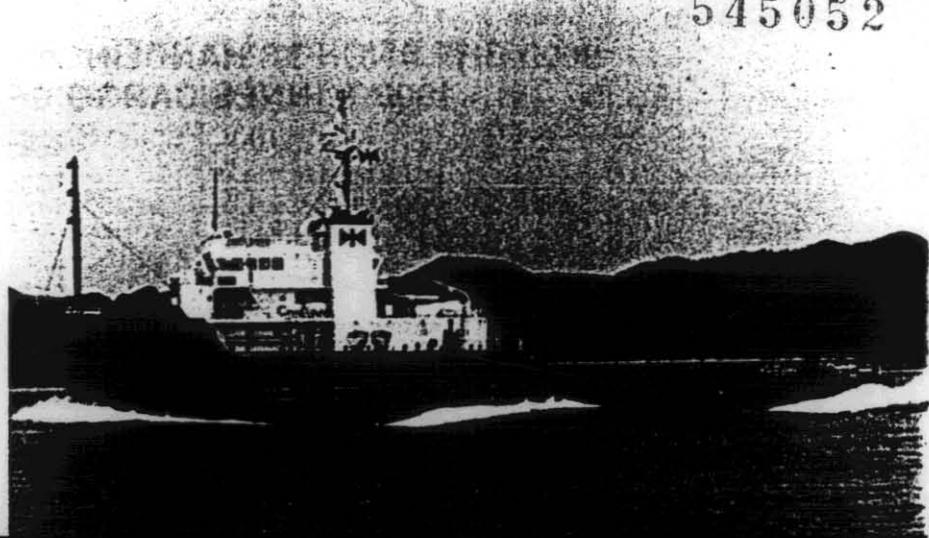
INMARSAT NO:  
435354510



545052

# SWIRE PACIFIC OFFSHORE

MARINE SERVICES TO  
THE OFFSHORE INDUSTRY



## M.V. "PACIFIC SHOGUN"

9000 BHP Anchor Handling Tug Supply Vessel 1800 Tonnes Cargo Deadweight

### BUILT:

Teraoka Shipyard Co Ltd., May 1982

### FLAG:

Panama

### CLASSIFICATION:

US - A1 (Tug Supply Vessel) (E) + AMS Ice Class "C"

### DIMENSIONS:

Length, overall: 64.00 m (210')      Breadth, moulded: 15.02 m (49' 3")  
Depth, moulded: 6.50 m (21' 4")      Draft (Summer): 5.50 m (18')  
GRT: 1797 tons      NRT: 539 tons

### MACHINERY:

Main engines: 4 x 2250 BHP Yanmar 8Z280 diesel engines, total 9000 BHP, driving 2 x controllable pitch propellers in fixed Kort Nozzles  
Bow thruster: Kamome controllable pitch driven by Yanmar 600 BHP diesel engine developing 7 tonnes thrust  
Electrical generators: 3 x 320 kw, 440V, 60 hz alternators driven by Yanmar S165UT diesel engines

### SPEED AND CONSUMPTION:

Speed at 100% MCR: 14.5 kts  
Speed at 85% MCR: 13.5 kts  
Con at max. output: Abt. 28 tonnes/day (4 engines)  
Abt. 14 tonnes/day (2 engines)  
Con at econ MCR: Abt 8.5 tonnes/day (2 engines)  
Endurance: 4 Engines 10,500 nm at 13.5 kts.  
2 Engines 17,000 nm at 12.5 kts.

### TOWING AND ANCHOR HANDLING:

Bollard Pull: 110 tonnes at 110% MCR 10,000 BHP  
Winch: Nitchitsu Three drum electro-hydraulic waterfall winch, enclosed.  
Pull Rating: Low Gear: 200/100/40 tonnes x 6/12/18 m/min  
High Gear: 32/16 tonnes x 30/60 m/min  
Brake Capacity: 300 tonnes  
Drum Capacity: 1 x 1250 m x 64 mm wire rope  
2 x 600 m x 72 mm wire rope  
Chain Gypsies: 4 x 3" Rig Chain rated at 100 tonnes  
Pneumatic controls at local station & wheelhouse.  
Remote quick release device for all drums at wheelhouse.  
Spare Tow Wire: 1 x 1200 x 64 mm wire powered storage reel.  
Pennant Wire: Drum capacity 1800 m x 64 mm wire rope  
Stern Roller: 4.00 m x 2.0 m dia. (13' 1" x 6' 7") 210 tonnes SWL  
Stern Gate: Fitted in transom bulwark in way of stern roller  
Rig chain locker: Four (4) rig chain lockers. (2 x 84 m<sup>3</sup>. 2 x 91 m<sup>3</sup>) capable of stowing abt. 1200 metre of 3" rig chain.  
Shark Jaw/Tow Pin: Ulstein AHT 013 SWL 125 tonnes

### EXTERNAL FIRE-FIGHTING:

Fitted with 480 m<sup>3</sup>/hr x 120 m head fire pump with two monitors (400 l/min x 2 sets) on wheelhouse top. Integral foam and pollution dispersant tanks each 9.7 m<sup>3</sup> (2650 USG). dispersant can be fed through monitors using percentage mixer or through 2 x 6 m booms with direct suction pump. 500 micron droplets.

### CAPACITIES:

Deck cargo:	700 tonnes	Fuel:	502 m <sup>3</sup>
Clear deck space:	30 m x 12 m = 360m <sup>2</sup>	Potable water:	373 m <sup>3</sup>
Deck loading:	5.0 t/m <sup>2</sup>		
Liquid mud:	332 m <sup>3</sup> (chain lockers x 4, 2000 bbls)		
Cargo deadweight:	1836 tonnes		
Drill/ballast water:	518 m <sup>3</sup>		
Optional fuel/drill/pot:	728 m <sup>3</sup>		
Cement/Bulk materials:	Smatco pneu-tanks 198 m <sup>3</sup> in 4 x 49.5 m <sup>3</sup> (7000 cu. ft. in 4 x 1750 cu. ft. tanks). Independently piped so that four different grades of bulk materials may be carried loaded or discharged simultaneously		
Refrigerated storage:	15.0 m <sup>3</sup> cooler/180.0 m <sup>3</sup> freezer		

### DISCHARGE PUMPS:

Fuel oil: 120 m<sup>3</sup>/hr at 60 m      Water: 120 m<sup>3</sup>/hr at 60 m  
Standby pump: 80 m<sup>3</sup>/hr at 60 m  
Bulk materials: Abt 40 tonnes/hr x 100 m distance x 30 m head (or 70 tonnes/hr total using combined compressors)  
Bulk compressors: 1 x 14 m<sup>3</sup>/min at 5.67 kg/cm<sup>2</sup> (500 cfm x 80 psi)  
1 standby 10 m<sup>3</sup>/min at 5.67 kg/cm<sup>2</sup> (350 cfm x 80psi)  
Liquid mud: 720 BBL/hr, continuous circulation by Mission Magnum pump

### DECK EQUIPMENT:

Windlass: 2 x 17 tonne x 15 m/min electro-hydraulic.  
Max rating 25 tonnes.  
Anchors: 2 x 1740 kg high holding power  
Cables: 2 x 605 m x 36 mm (22 shackles x 1.4") chain  
Deep water mooring: 2 x 1200 m x 38 mm wire  
17/8 tonne x 15/30 m/min  
Tugger Winch: 2 x 10 tonne x 15 m/min electro-hydraulic winches for handling deck cargo  
Capstans: 2 x 10 tonne x 15 m/min electric capstans at stern

### ACCOMMODATION:

Officers: 6 x 1 berth  
Charterers: 2 x 4 berth  
Crew: 5 x 2 berth  
Total: 24 berths  
All accommodation fully air-conditioned with duplicated machinery, for redundancy.

### ELECTRONICS:

Radar: 2 x Furuno (72/48 mile)  
Echo sounder: Simrad ED 162 with digital readout  
Auto Pilot: Tokyo Keiki with Sperry ES11 gyro compass  
SSB Radio: Sailor R1119/T1127/S1301, 800W. 240 channels, fully synthesised, telex compatible. Furuno FS-1500, 150w, fully synthesised, telex compatible. Simrad RW105 2182 watch receiver.  
VHF Radio: Sailor RT 144B x 2 units  
UHF Radio: Air band: Jotron TR-6102  
Anemometer: Wind direction and speed indicator. Transceiver 4DW  
Weather fax: Furuno Type-D fax  
Joystick: Kamome MACS 100, connecting M.E. + Thruster + Rudders  
Satnav: Navstar 2000  
Navtex: Lo-Kata Navtex Receiver  
P.A. system, T.V. & Video.

### CALL SIGN:

HO 6577

### Life Saving:

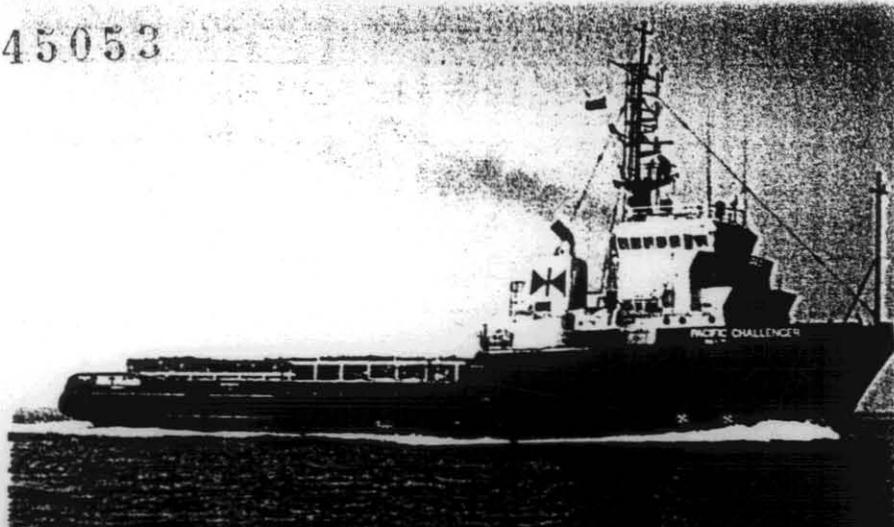
McCorkill R5 ridged hull rescue boat w/twin 60 HP Yamaha outboard motors; 7 persons (solas) speed light 35 knots laden 28 knots. Bennex rescue basket type BRB2500. Extra lifejackets (50) & lifebuoys (25) for standby duties.

### MISCELLANEOUS:

Wood sheathed main deck. Cargo control centre in wheelhouse, with Nitto Seiko liquid cargo flowmeters incorporating printout meters. Meters for ship's fuel consumption. Trailing flap rudders fitted for increased manoeuvrability. Sewage treatment unit for 40 persons. Zodiac inflatable workboat. The standby bulk compressor is modified for a primary role as deck air compressor delivering at 7.5 kg/cm<sup>2</sup> (105 psi). Gas detection system for H<sub>2</sub>S and combustible gas. Remote closing system for forced draft intakes.



545053



# SWIRE PACIFIC OFFSHORE

MARINE SERVICES TO  
THE OFFSHORE INDUSTRY

## M.V. "PACIFIC CHALLENGER 1"

9000 BHP Anchor Handling Tug Supply Vessel

**BUILT:**

Ikenbergs Varv Ab, Sweden, 1983  
Type VT704 Mk3

**FLAG:**

Panama

**CLASSIFICATION:**

DNV + 1A1 + mv Tug Supply (SF) EO

**DIMENSIONS:**

Length, overall: 64.40 m  
Length, b.p.: 56.40 m  
Breadth mid: 13.80 m  
Depth mid: 6.90 m  
Draft (max. loaded draft): 5.80 m  
Freeboard: abt. 1.10 m  
GRT (tonnage): 1330 tons  
NRT: 399 tons

**MACHINERY:**

Main Engines: 2 x 4500 BHP B & W ALPHA 16028 L-VO,  
Total 9000 BHP  
Bow Thruster: 2 x 500 BHP developing a total of  
11 tonnes thrust.  
Generators: Auxiliary:  
2 x 225 Kva  
Shaft:  
2 x 800 Kva  
440v, 3 phase, 60 hz  
2 x B & W ALPHA CPP  
Propellers: 2 x Ulstein stern thrust.  
Effect of approx. 10 tonnes lateral thrust by  
applying individually operated rudders &  
propellers. Electronically synchronized steering  
gears can be operated independently in both  
manual & joy-stick manoeuvring mode.  
Steering engines: 2 x TENFJORD

**SPEED AND CONSUMPTION:**

Max. speed: 15.6 kts  
At trial speed: 30.5 mt/day  
At 12 kts: 12.5 mt/day  
At 10 kts: 10.1 mt/day  
In port: 0.7 mt/day

**TOWING AND ANCHOR HANDLING:**

Bollard Pull: 110 tonnes  
Winch: Norwinch low pressure hydraulic, SWL 250  
tonnes two drums; anchor handling/towing  
winches, powered by four hydraulic motors,  
with a brake load of 350 tons (1st layer), 222  
tons (mid layer), 157 tons (top layer). Slack  
rope speed on 1st layer 0-5m/min at 250 tons  
51.5 m/min, mid layer 0.7-6 m/min at 158 tons  
80.6 m/min, top layer 0-10.7 m/min at 112 tons  
13.3 m/min. Capacity 1 x 1200 m x 64 mm wire.  
Pennant Reel: 2 x 1000 m x 61 mm wire  
Space Towing Wire: 1 x 1000 m x 64 mm wire  
Shark Jaws: 1 x Ulstein, retractable  
Towing Pins: 1 x Ulstein, retractable  
Stern Rollers: 2.50 m x 3.60 m  
Chain Lockers: 2 x 60 m<sup>2</sup> lockers

**CAPACITIES:**

Deck cargo: 700 tonnes  
Clear deck space: 11 m 38 m = 418 m<sup>2</sup>  
Deck loading: 5 tonnes/m<sup>2</sup>  
Cargo deadweight: 1860 tonnes (summer)  
Displacement: 3214 tonnes (summer)  
Fuel oil: 817m<sup>3</sup>  
Drilling water: 777.5m<sup>3</sup>  
Potable water: 250m<sup>3</sup>  
Oil based mud: 320m<sup>3</sup> (2012 bbls at 2.0)  
Brine: 235 m<sup>3</sup> (1478 bbls at 1.5)  
Dry bulk tanks: Smatco prn tanks 170m<sup>3</sup> in 4 x 42.5 m<sup>3</sup>  
(6000 cu. ft.)

**DISCHARGE PUMPS:**

(Manufacturers: Alweiler)  
Potable water: 1 x 100 m<sup>3</sup>/hr at 70m. head  
Drill water: 1 x 100 m<sup>3</sup>/hr at 70 m. head  
Fuel oil: 1 x 110 m<sup>3</sup>/hr at 70 m. head  
Oil based mud: 2 x 50 m<sup>3</sup>/hr at 21 bar  
5 Agitator pumps  
Brine: 1 x 50 m<sup>3</sup>/hr at 11 bar  
Bulk: Two compressors, type Ingersoll Rand, SSR 2000  
Model 15L, seawater cooled.  
Cap. each comp. 15 cbm - 5.6 bar.  
Oil spill combatant equipment for chemical dispersion is fitted.

**DECK EQUIPMENT:**

Deck crane: 1 x Hydraulift 3.5 t at 7 m  
Windlass: Cables 34 mm. diameter 650 m Port, 850 m Stbd.  
Anchors 2 x 1400 kg.  
Tugger winches: 2 x 10 tonnes  
Capstans: 2 x 6 tonnes - 1 each side aft.

**ACCOMMODATION:**

- 7 single cabins  
- 3 double cabins  
- 1 passenger cabin - 6 berths  
- 1 large hospital

**ELECTRONICS:**

Radars: 1 pc. LP FR - 85. 5 cm gyro stabilised  
1 pc. LP LP-1011, 3 cm unstabilised  
1 pc. Colour Radar Monitor  
1 pc. Colour Videoplotter GD 2000 c/w control unit  
Gyro: 1 pc. Anschutz  
Autopilot: 1 pc. Anschutz  
Echo Sounder: 1 pc. Furuno Furuno FE-881  
Joystick: Poscon  
Navigation: 1 pc. Shipmate RS 5500 GPS satellite navigator  
1 pc. Shipmate RS 4000 Decca navigator  
1 pc. Furuno FD-521 VHF ADF direction finder  
1 pc. Furuno FAX-208/AN weather facsimile receiver  
1 pc. LO-KATA Navtex 2 navtex receiver  
Radio Stations: 1 pc. Sailor 400/800 W main station  
1 pc. Sailor C-401 VHF duplex with remote control  
1 pc. Sailor RT-143 semi-duplex with remote control  
1 pc. Sailor R-501 watch receiver  
1 pc. Capsat Inmarsat-C transceiver

**CALL SIGN**

HP7670

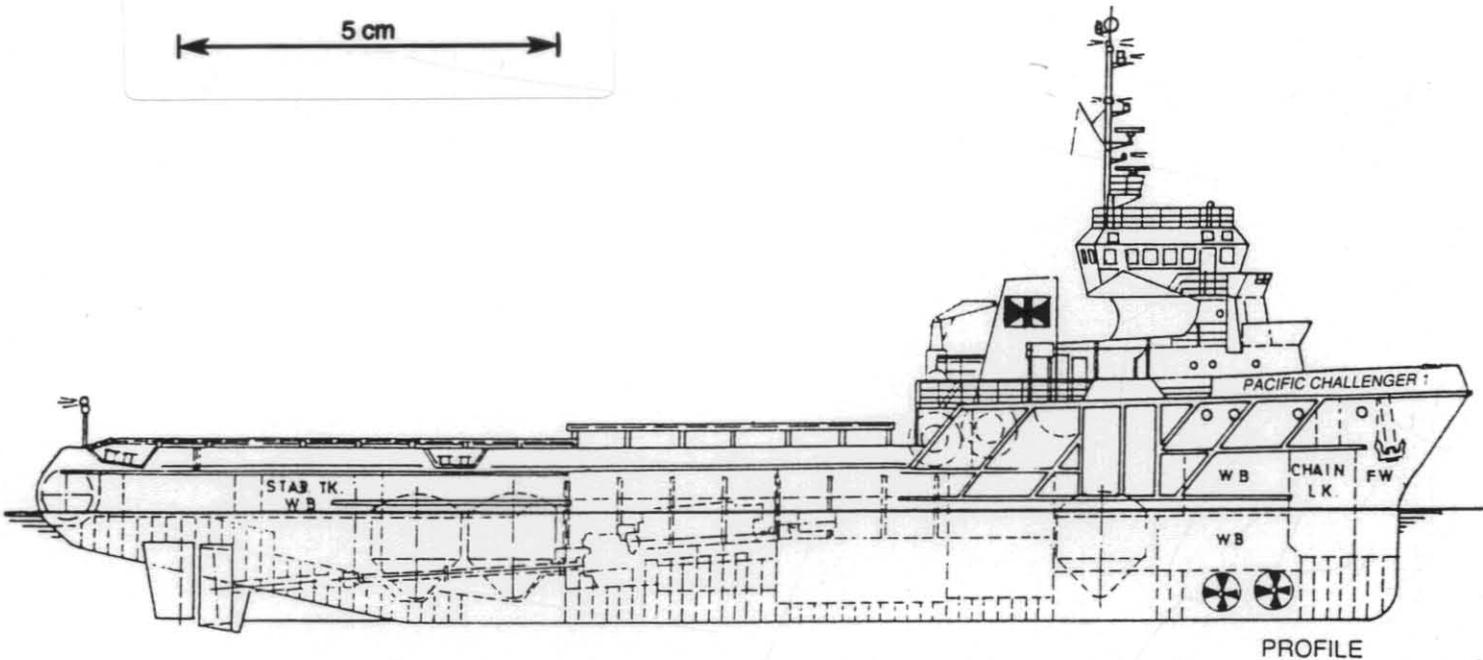
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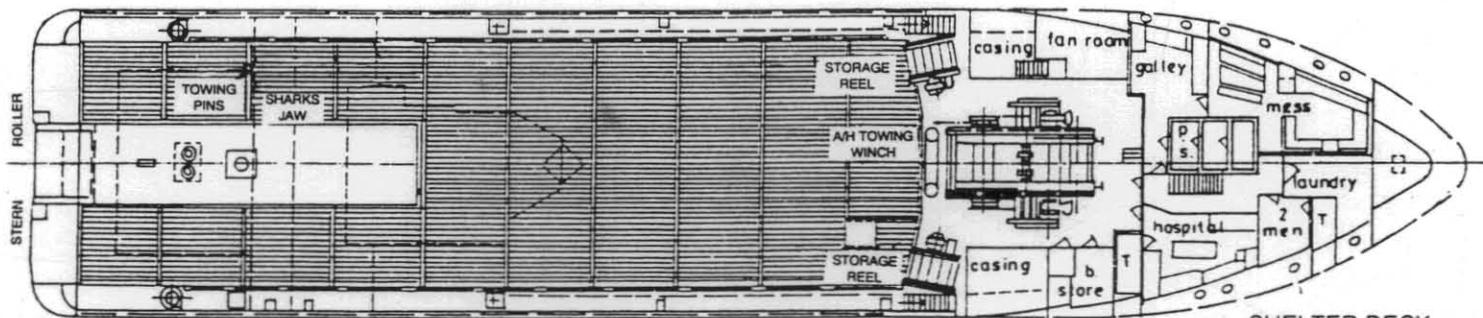
# 9000 BHP ANCHOR HANDLING TUG SUPPLY VESSEL

m.v. Pacific Challenger 1

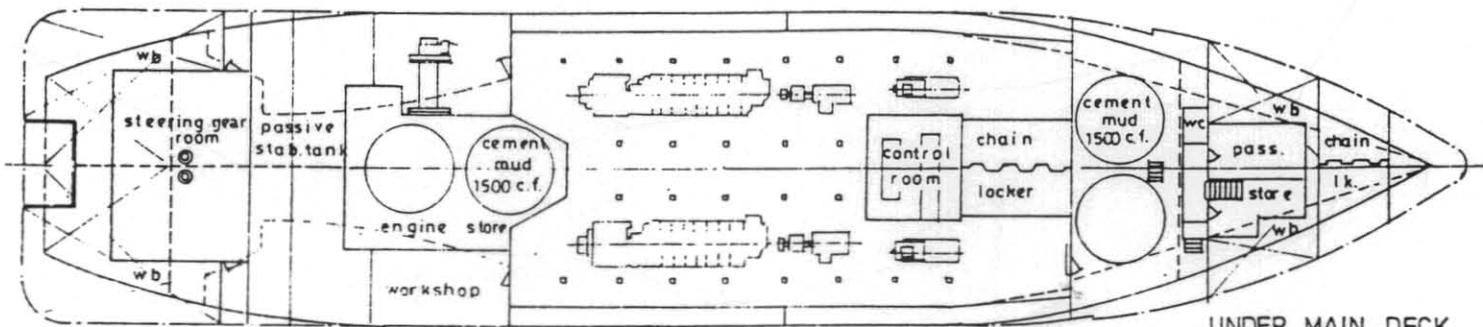
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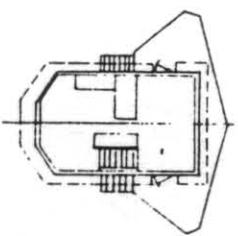
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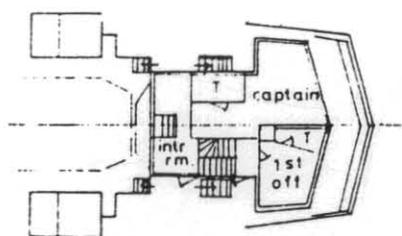
SHELTER DECK



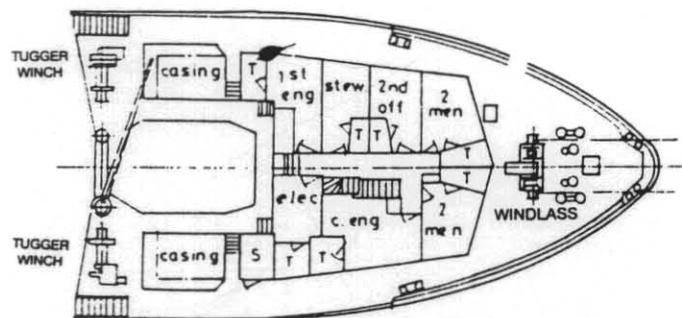
UNDER MAIN DECK



WHEEL HOUSE



BOAT DECK



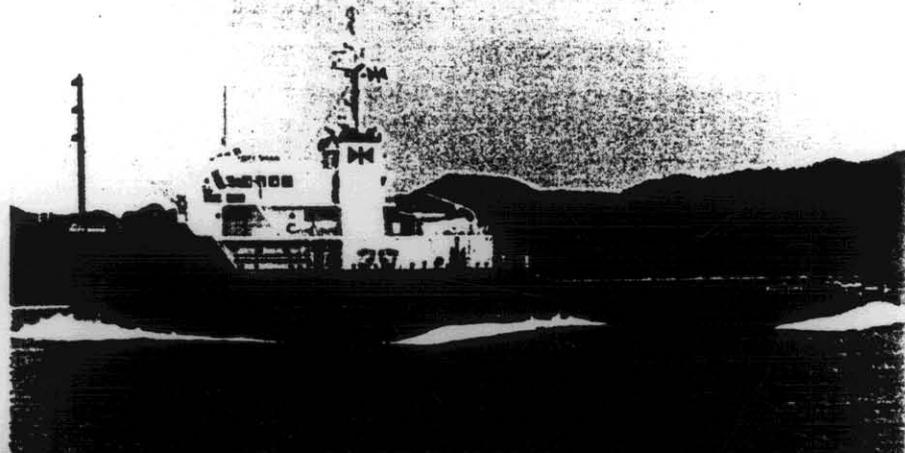
FORECASTLE DECK



545055

# SWIRE PACIFIC OFFSHORE

MARINE SERVICES TO  
THE OFFSHORE INDUSTRY



## M.V. "PACIFIC SHOGUN"

9000 BHP Anchor Handling Tug Supply Vessel 1800 Tonnes Cargo Deadweight

### BUILT:

Teraoka Shipyard Co Ltd., May 1982

### FLAG:

Panama

### CLASSIFICATION:

US + A1 (Tug Supply Vessel) (E) + AMS Ice Class "C"

### DIMENSIONS:

Length, overall: 64.00 m (210') Breadth, moulded: 15.02 m (49' 3")  
Depth, moulded: 6.50 m (21' 4") Draft (Summer): 5.50 m (18')  
GRT: 1797 tons NRT: 539 tons

### MACHINERY:

Main engines: 4 x 2250 BHP Yanmar 8Z280 diesel engines, total 9000 BHP, driving 2 x controllable pitch propellers in fixed Kort Nozzles  
Bow thruster: Kamome controllable pitch driven by Yanmar 600 BHP diesel engine developing 7 tonnes thrust  
Electrical generators: 3 x 320 kw, 440V, 60 hz alternators driven by Yanmar S165UT diesel engines

### SPEED AND CONSUMPTION:

Speed at 100% MCR: 14.5 kts  
Speed at 85% MCR: 13.5 kts  
Con at max. output: Abt. 28 tonnes/day (4 engines)  
Abt. 14 tonnes/day (2 engines)  
Con at econ MCR: Abt 8.5 tonnes/day (2 engines)  
Endurance: 4 Engines 10,500 nm at 13.5 kts.  
2 Engines 17,000 nm at 12.5 kts.

### TOWING AND ANCHOR HANDLING:

Bollard Pull: 110 tonnes at 110% MCR 10,000 BHP  
Winch: Nitchitsu Three drum electro-hydraulic waterfall winch, enclosed.  
Pull Rating: Low Gear: 200/100/40 tonnes x 6/12/18 m/min  
High Gear: 32/16 tonnes x 30/60 m/min  
300 tonnes  
Brake Capacity: 1 x 1250 m x 64 mm wire rope  
2 x 600 m x 72 mm wire rope  
Drum Capacity: 4 x 3" Rig Chain rated at 100 tonnes  
Chain Gypsies: Pneumatic controls at local station & wheelhouse.  
Remote quick release device for all drums at wheelhouse.  
Spare Tow Wire: 1 x 1200 x 64 mm wire powered storage reel.  
Pennant Wire: Drum capacity 1800 m x 64 mm wire rope  
Stern Roller: 4.00 m x 2.0 m dia. (13' 1" x 6' 7") 210 tonnes SWL  
Stern Gate: Fitted in transom bulwark in way of stern roller  
Rig chain locker: Four (4) rig chain lockers, (2 x 84 m<sup>3</sup>, 2 x 91 m<sup>3</sup>) capable of stowing abt. 1200 metre of 3" rig chain.  
Shark Jaw/Tow Pin: Ulstein AHT 013 SWL 125 tonnes

### EXTERNAL FIRE-FIGHTING:

Fitted with 480 m<sup>3</sup>/hr x 120 m head fire pump with two monitors (400 l/min x 2 sets) on wheelhouse top. Integral foam and pollution dispersant tanks each 9.7 m<sup>3</sup> (2650 USG), dispersant can be fed through monitors using percentage mixer or through 2 x 6 m booms with direct suction pump. 500 micron droplets.

### CAPACITIES:

Deck cargo: 700 tonnes Fuel: 502 m<sup>3</sup>  
Clear deck space: 30 m x 12 m = 360m<sup>2</sup> Potable water: 373 m<sup>3</sup>  
Deck loading: 5.0 t/m<sup>2</sup>  
Liquid mud: 332 m<sup>3</sup> (chain lockers x 4, 2000 bbls)  
Cargo deadweight: 1836 tonnes  
Drill/ballast water: 518 m<sup>3</sup>  
Optional fuel/drill/pot: 728 m<sup>3</sup>  
Cement/Bulk materials: Smatco prn-tanks 198 m<sup>3</sup> in 4 x 49.5 m<sup>3</sup> (7000 cu. ft. in 4 x 1750 cu. ft. tanks). Independently piped so that four different grades of bulk materials may be carried loaded or discharged simultaneously  
Refrigerated storage: 15.0 m<sup>3</sup> cooler/180.0 m<sup>3</sup> freezer

### DISCHARGE PUMPS:

Fuel oil: 120 m<sup>3</sup>/hr at 60 m Water: 120 m<sup>3</sup>/hr at 60 m  
Standby pump: 80 m<sup>3</sup>/hr at 60 m  
Bulk materials: Abt 40 tonnes/hr x 100 m distance x 30 m head (or 70 tonnes/hr total using combined compressors)  
Bulk compressors: 1 x 14 m<sup>3</sup>/min at 5.67 kg/cm<sup>2</sup> (500 cfm x 80 psi)  
1 standby 10 m<sup>3</sup>/min at 5.67 kg/cm<sup>2</sup> (350 cfm x 80psi)  
Liquid mud: 720 BBL/hr, continuous circulation by Mission Magnum pump

### DECK EQUIPMENT:

Windlass: 2 x 17 tonne x 15 m/min electro-hydraulic.  
Max rating 25 tonnes.  
Anchors: 2 x 1740 kg high holding power  
Cables: 2 x 605 m x 36 mm (22 shackles x 1.4") chain  
Deep water mooring: 2 x 1200 m x 38 mm wire  
17/8 tonne x 15/30 m/min  
Tugger Winch: 2 x 10 tonne x 15 m/min electro-hydraulic winches for handling deck cargo  
Capstans: 2 x 10 tonne x 15 m/min electric capstans at stern

### ACCOMMODATION:

Officers: 6 x 1 berth  
Charterers: 2 x 4 berth  
Crew: 5 x 2 berth  
Total: 24 berths  
All accommodation fully air-conditioned with duplicated machinery, for redundancy.

### ELECTRONICS:

Radar: 2 x Furuno (72/48 mile)  
Echo sounder: Simrad ED 162 with digital readout  
Auto Pilot: Tokyo Keiki with Sperry ES11 gyro compass  
SSB Radio: Sailor R1119/T1127/S1301, 800W, 240 channels, fully synthesised, telex compatible. Furuno FS-1500, 150w, fully synthesised, telex compatible. Simrad RW105 2182 watch receiver.  
VHF Radio: Sailor RT 144B x 2 units  
UHF Radio: Air band: Jotron TR-6102  
Anemometer: Wind direction and speed indicator. Transceiver 4DW  
Weather fax: Furuno Type-D fax  
Joystick: Kamome MACS 100, connecting M.E. + Thruster + Rudders  
Satnav: Navstar 2000  
Navtex: Lo-Kata Navtex Receiver  
P.A. system, T.V. & Video.

### CALL SIGN:

HO 6577

### Life Saving:

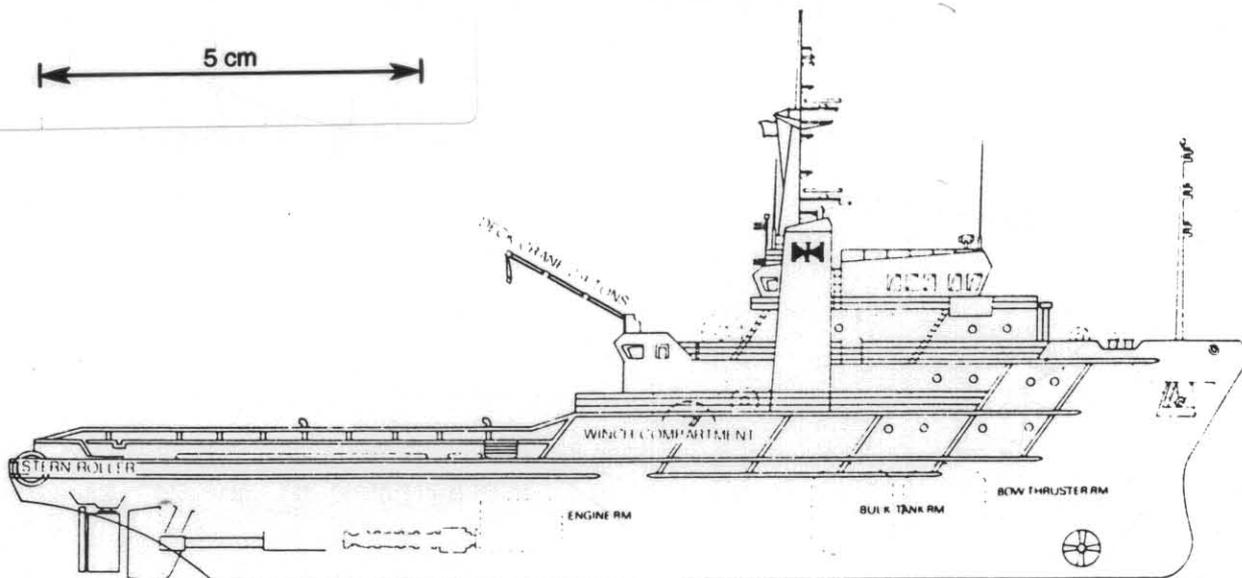
McCorkill R5 ridged hull rescue boat w/twin 60 HP Yamaha outboard motors: 7 persons (solas) speed light 35 knots laden 28 knots. Bennex rescue basket type BRB2500. Extra lifejackets (50) & lifebuoys (25) for standby duties.

### MISCELLANEOUS:

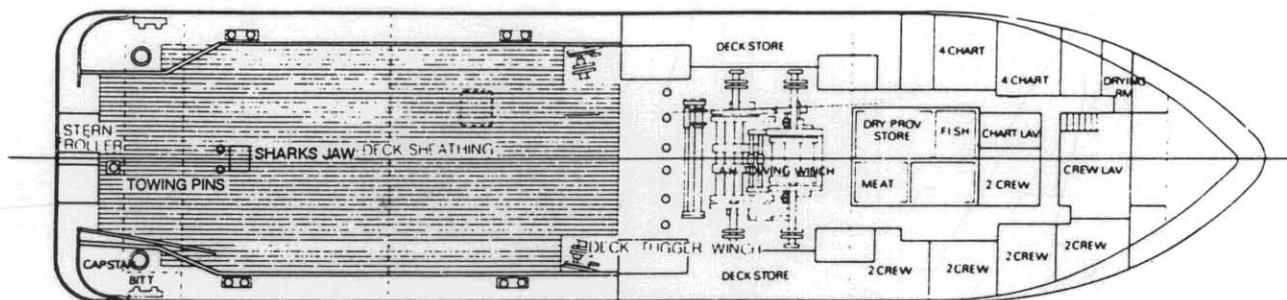
Wood sheathed main deck. Cargo control centre in wheelhouse, with Nitto Seiko liquid cargo flowmeters incorporating printout meters. Meters for ship's fuel consumption. Trailing flap rudders fitted for increased manoeuvrability. Sewage treatment unit for 40 persons. Zodiac inflatable workboat. The standby bulk compressor is modified for a primary role as deck air compressor delivering at 7.5 kg/cm<sup>2</sup> (105 psi). Gas detection system for H2S and combustible gas. Remote closing system for forced draft intakes.

**9000 BHP ANCHOR HANDLING TUG SUPPLY VESSEL**  
**1800 TONNES CARGO DEADWEIGHT**  
 m.v. Pacific Shogun

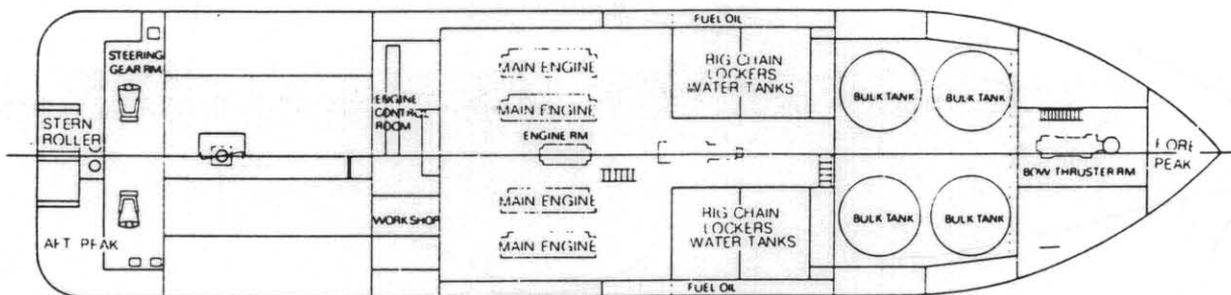
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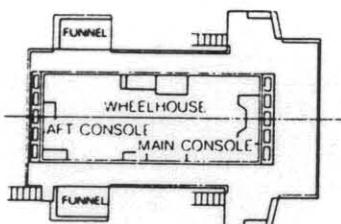
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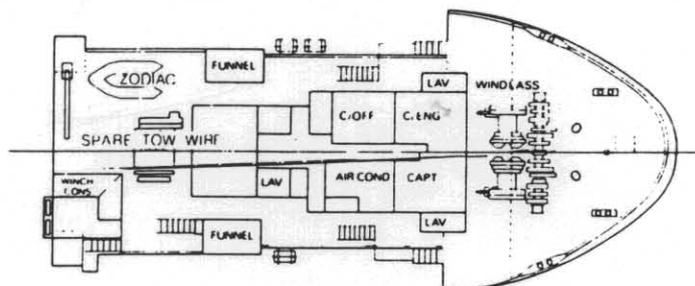
MAIN DECK PLAN



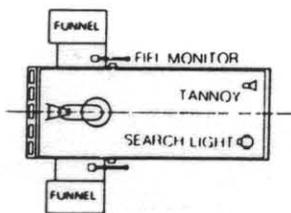
BOTTOM PLAN



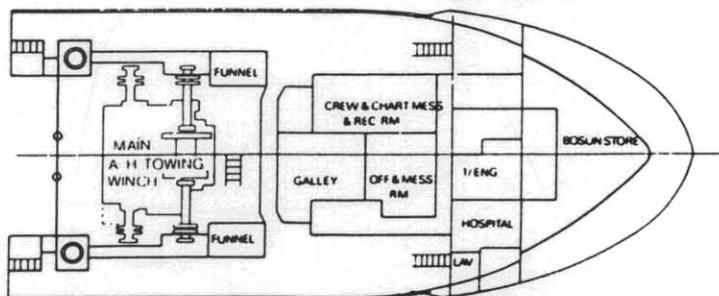
NAV. BRIDGE DECK



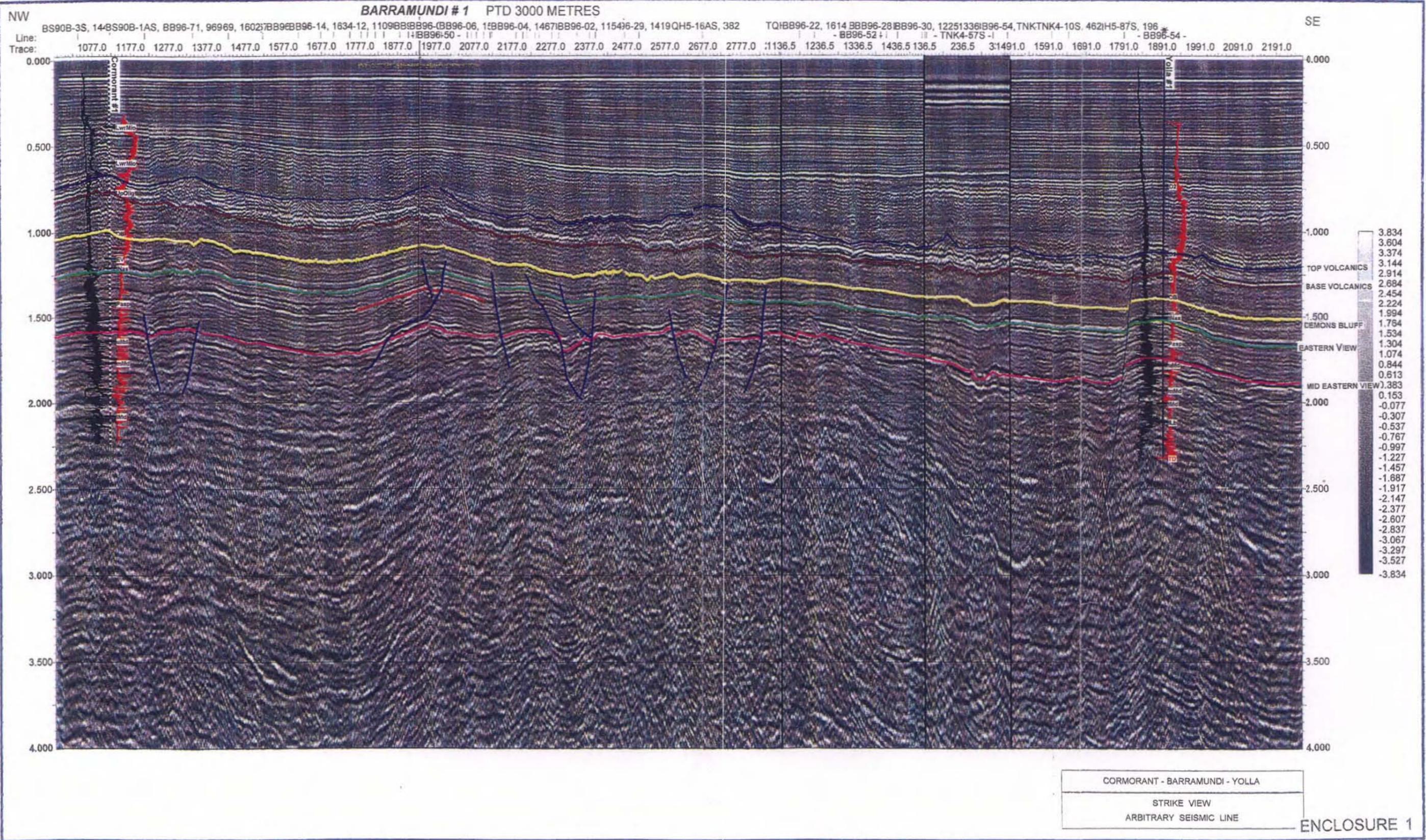
FO'C'SLE DECK



COMPASS DECK



QUARTER DECK

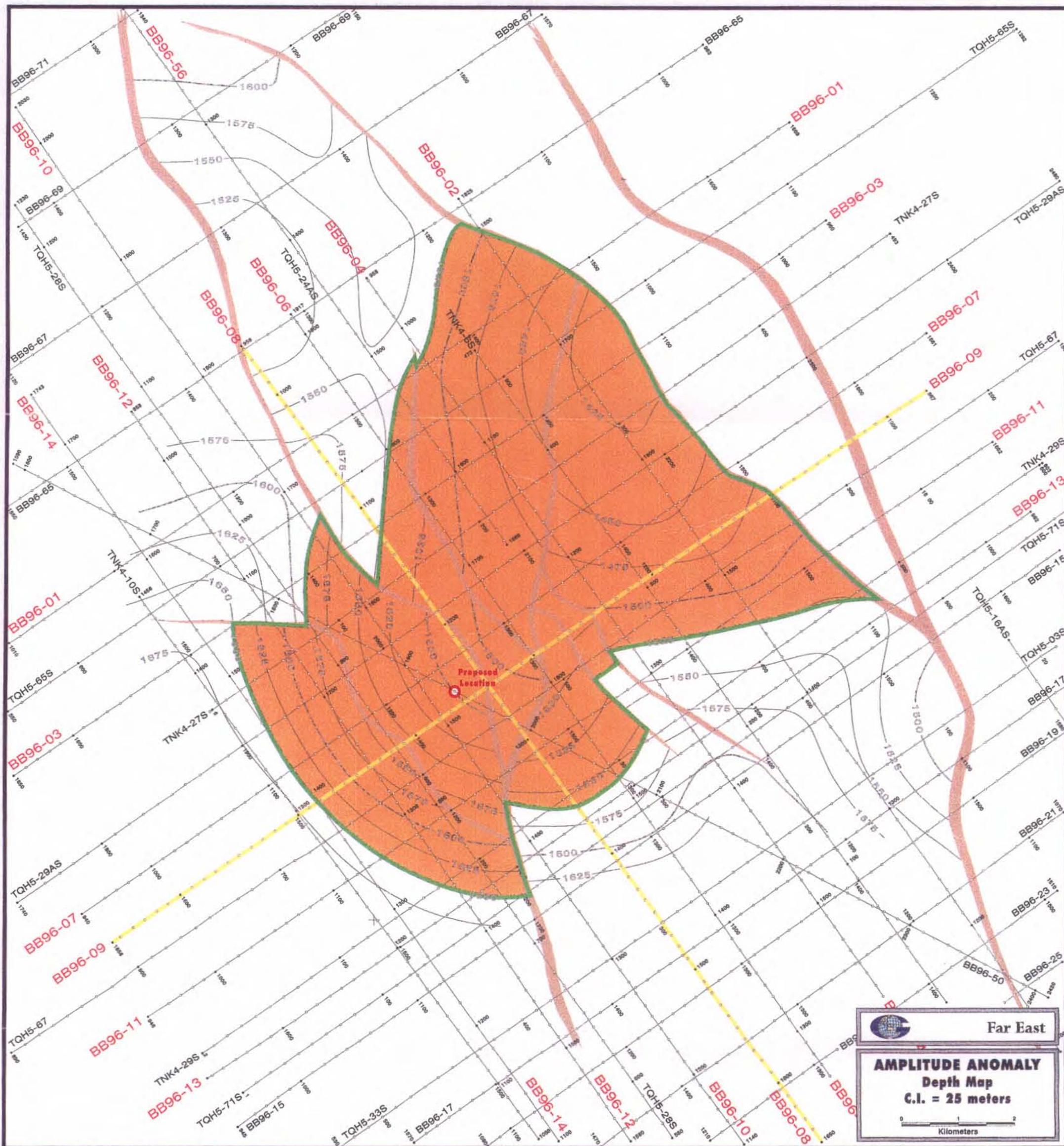


5 cm

OR-453B



5 cm



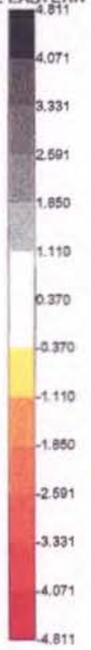
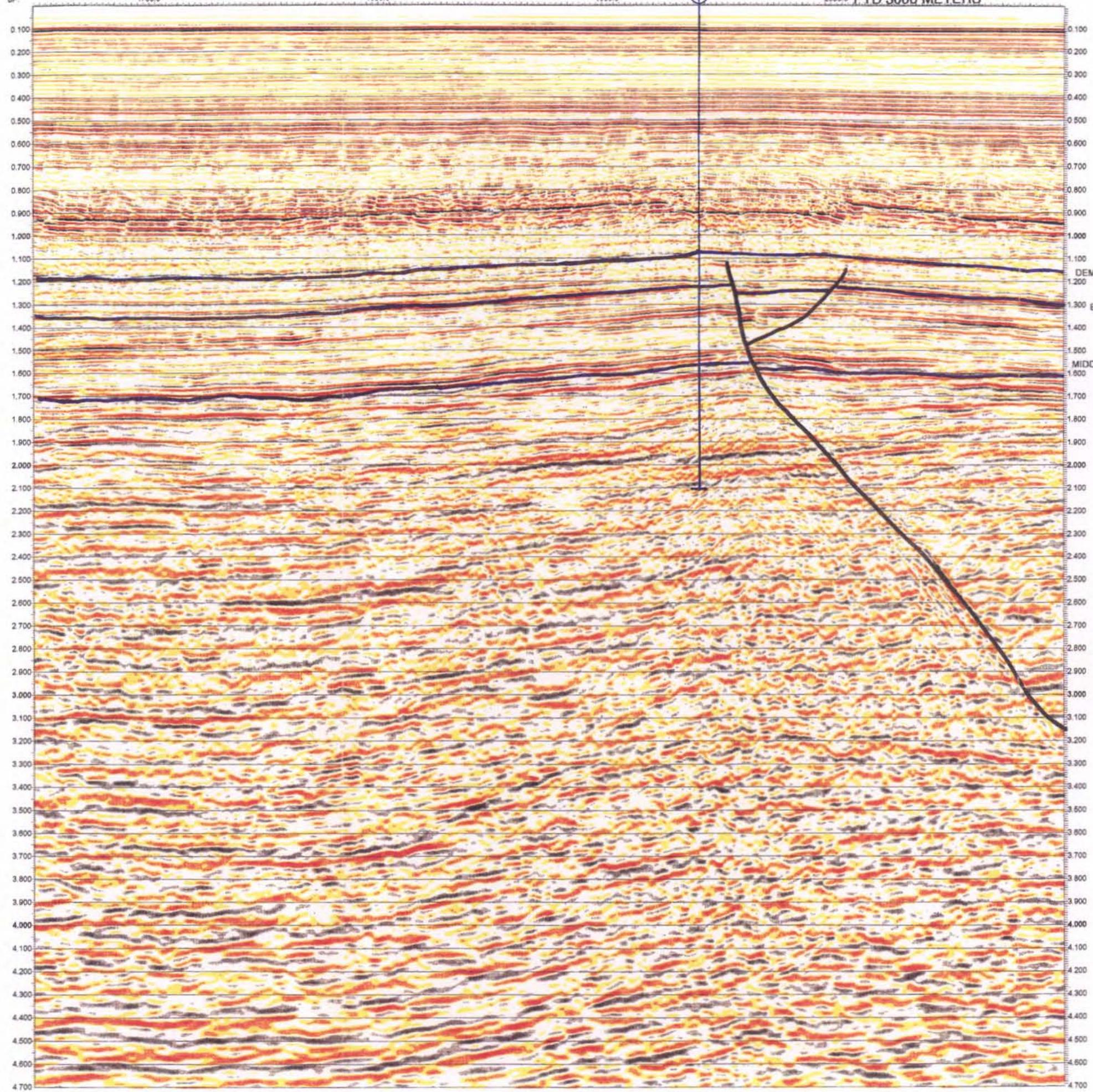
 Far East

**AMPLITUDE ANOMALY**  
Depth Map  
C.I. = 25 meters

0 1 2  
Kilometers

1940 BARRAMUNDI #1

NW BB96-14, 1636 BB96-01, 1140 TQH5-656, 699BB96-12, 11043BB96-03, 1429QH5-268, 939 TNK4-278, 94 TQH5-29AS, 19BB96-10, 15615-07, 1235 201 BB96-09, 1365 TQHBB96-08, 1285 BB96-11, 1268 TNK4BB96-06, 15215-13, 1299 SE



545060

5 cm

Line BB96-50, Amplitudes
11/02/88 10:38:26

OR-453B  
ENCLOSURE 4

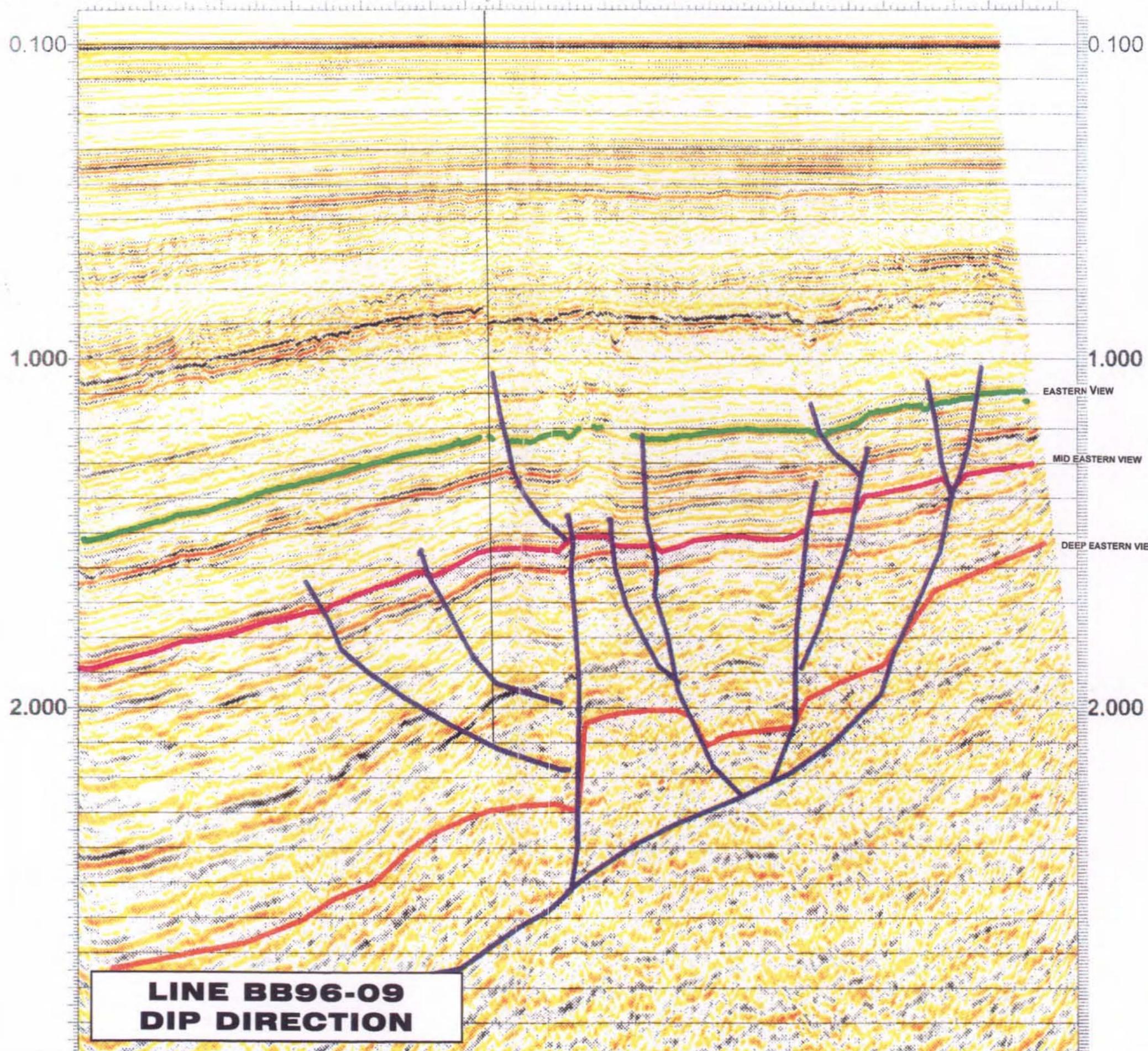
SW

BARRAMUNDI # 1  
PTD 3000 METRES

NE

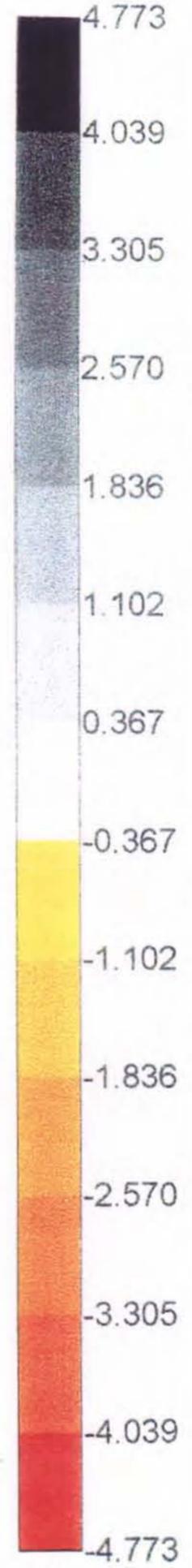
OR - 453β

SP: 1650.01600.01550.01500.01450.01400.01350.01300.01250.01200.01150.01100.01050.01000.0 950.0



**LINE BB96-09  
DIP DIRECTION**

5 cm



545061

ENCLOSURE 5

NW

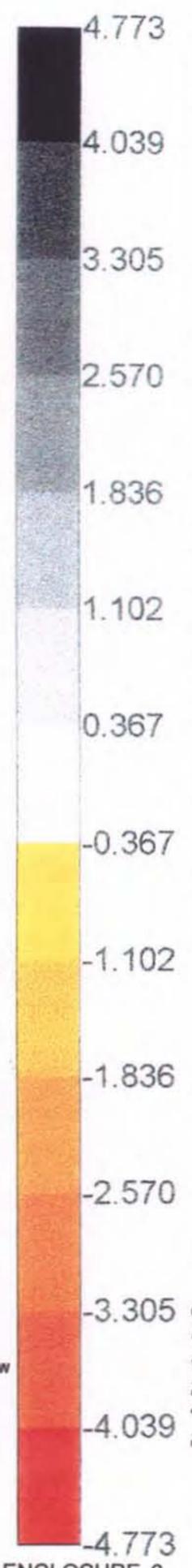
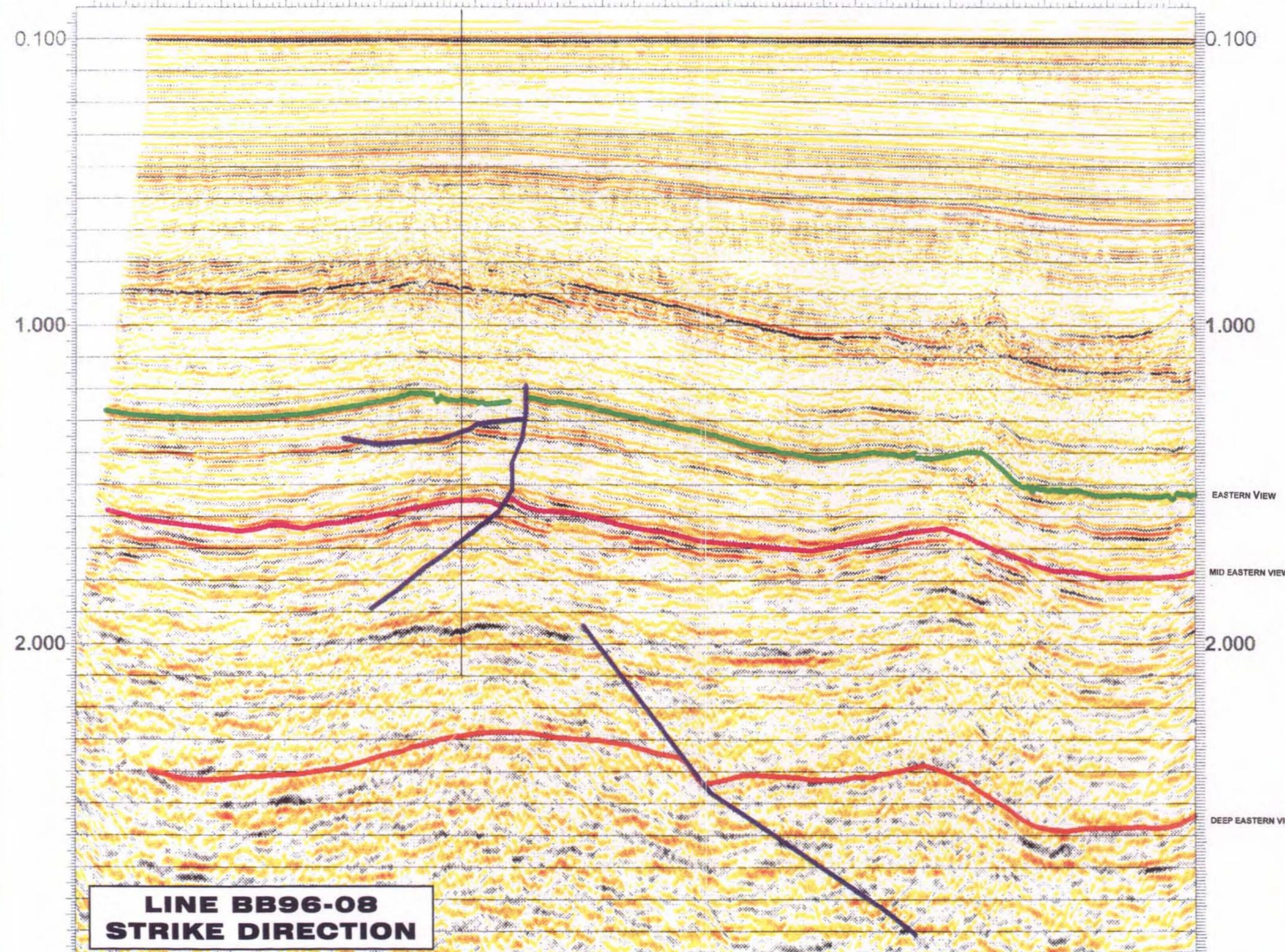
BARRAMUNDI # 1  
PTD 3000 METRES

5 cm

SE

OR-453B

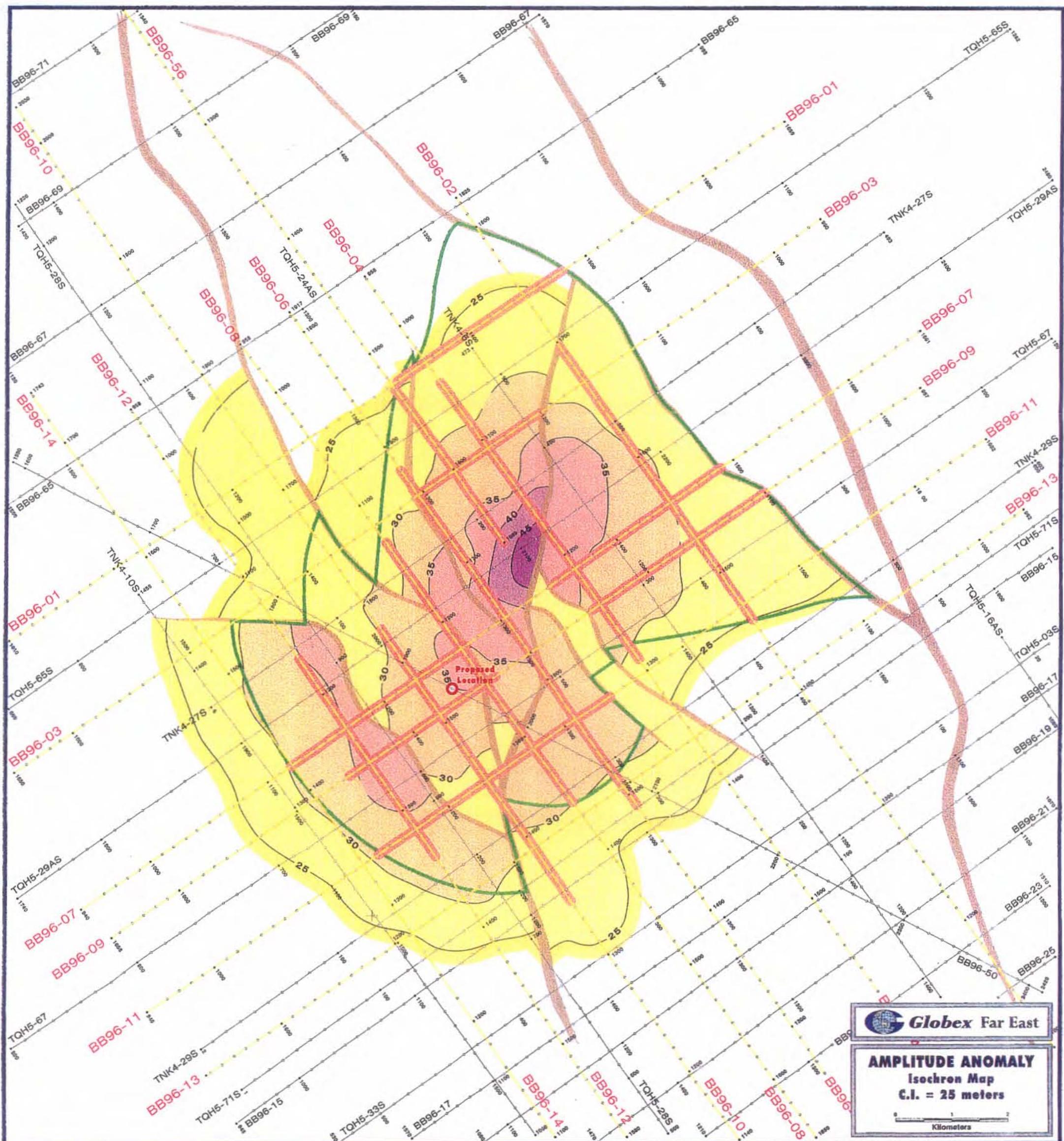
SP: 950.0 1000.0 1050.0 1100.0 1150.0 1200.0 1250.0 1300.0 1350.0 1400.0 1450.0 1500.0 1550.0 1600.0 1650.0 1700.0 1750.0 1800.0



**LINE BB96-08  
STRIKE DIRECTION**

545002

5 cm



 **Globex Far East**

**AMPLITUDE ANOMALY**  
Isochron Map  
C.I. = 25 meters

0 1 2  
Kilometers

545063

ENCLOSURE 7