

**COMMISSION OF INQUIRY
MONTARA WELL HEAD PLATFORM
UNCONTROLLED HYDROCARBON RELEASE**

PTTEPAA

TERM OF REFERENCE NO 8

“Consider and comment on the offshore petroleum industry’s response to the Uncontrolled Release”

A The meaning of offshore petroleum industry

1 In making this submission PTTEPAA has defined the “offshore petroleum industry” as meaning companies that are in the business of oil and gas exploration or production.

B What assistance from the petroleum industry was considered by PTTEPAA?

2 In planning the relief well operations, PTTEPAA considered what potential drilling rigs could be used for the planned operations and undertook discussions with the relevant rig owner/operator and the petroleum company any potential rig was contracted to. The table below sets out which rigs were considered, who they were contracted to and why ultimately they were not used:

Rig	Who contracted to	Where was it working	Explanation of Decision in relation to use
West Triton Jack-up	Not contracted	In Port in Batam	On 23 August 2009 PTTEPAA contracted to use the <i>West Triton</i> which was based in Batam not contracted to any other company. PTTEPAA nevertheless pursued the other rig options in parallel before 23 August 2009 and then after 23 August 2009 so as to continue to assess whether an alternative rig could be contracted on a forecast timeline that had it arriving Montara measurably earlier than the <i>West Triton</i> . This turned out not to be the case. The timeframe for any rig’s mobilisation is a forecast that is subject to variation for a number of normal operational reasons (e.g. difficulties encountered making wells secure, difficulties encountered during tows), and in this case each relevant rig’s forecast timeframe was comparable to that of the forecast time of arrival of the <i>West Triton</i> .
Ocean Shield Jack-up	ENI	Black Tip Field in the Joseph Bonaparte Gulf Timor Sea	ENI were on a tight programme to enable them to produce first gas and meet their contractual arrangements to the Northern Territory government. ENI asked for extensive indemnities to be provided by PTTEPAA for the use of the rig in

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			light of that contract. PTTEPAA asked for ENI to come back with a proposal in writing. When PTTEPAA followed up with ENI the Blacktip drilling programme had reached a stage where the rig was not able to be released for a number of days which would put its forecast timeframe for arrival at the Montara field beyond the forecast timeline for the <i>West Triton's</i> arrival at the Montara field
Enesco 104 Jack-up	Conoco Phillips	Bayu-Undan JDPA	Not able to be released at a time which would have resulted in its arrival at the Montara prior to the <i>West Triton</i> due to the stage in the drilling programme was at. In this regard, it was forecast to have taken longer to make the well safe and tow the rig to the Montara field that it would for the <i>West Triton</i> to be towed from Batam.
Songa Mecur Semi- submersible	Total or Woodside	On standby in Dampier but shortly due to commence a contract with Woodside for Pluto development drilling	It was a floating rig. It was considered that a Jack-up rig would be better for the task as a jack-up rig: <ul style="list-style-type: none"> • did not require anchor handlers to approach close to the WHP and Gas Plume. • would provide a more stable base from which to drill the relief well. • have more Mud holding capacity. A sufficient quantity of Mud was required to ensure the pressure due to the weight of the Mud was sufficient to stop the Uncontrolled Release.

3 The table below sets out a summary of what assistance PTTEPAA requested or was offered:

Date / Time (CST)	Assistance Offered /Requested /Provided
21 August 2009	PTTEPAA requested that AMSA take control of the oil spill response, which it agreed to do (PTTEPAA was responsible for all costs) and formally handed over

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	command of the oil spill response to AMSA. AMSOC mobilised aircraft and dispersant so as to be on site on 22 August 2009 to begin aerial spraying of the spill.
21 August 2009	PTTEPAA and Alert Disaster Control (Asia) Pte Ltd made a contract for services, including in relation to intersecting and killing the Montara ST1 H1 well.
21 August 2009	Halliburton Australasia offered assistance to PTTEPAA, being HWO and pumping capability and well killing expertise.
21 August 2009	PTTEPAA contacted Diamond Offshore (the operator of the <i>Ocean Shield</i>) and Songa Offshore (the operator of the <i>Songa Mecur</i>) to query the availability and capability of their rigs and any contractual requirements in relation to their use for relief well drilling (i.e. approvals of the rig's insurance underwriters). PTTEPAA provided information to Songa Offshore and examined Songa's document entitled " <i>Songa Mecur Semi-Submersible Rig and Equipment Overview</i> ", although ultimately chose to use the <i>West Triton</i> rig for matters including drilling the relief well - see below.
21 August 2009	PTTEPAA contacted Conoco Phillips to query the availability and capability of the <i>Ensco 104</i> .
22 August 2009	PTTEPAA engaged international gas and oil spill experts to work with its technical teams and help bring the leak under control.
22 August 2009	Roc Oil Company Limited offered technical assistance and available material/equipment to PTTEPAA. PTTEPAA asked Roc Oil to advise what equipment they had in relation to jackup wells, while PTTEPAA probably has sufficient equipment, it may need more.
22 August 2009	PTTEPAA requested information from Seadrill in relation to the capability and condition of the <i>West Triton</i> .
23 August 2009	Response from Seadrill in relation to the capability and condition of the <i>West Triton</i> .
23 August 2009	Roc Oil Company Limited responded that it had no surface wellheads, but had several Cameron STC-10 subsea wellhead systems and casing if needed, and said it would send its inventory summary for PTTEPAA's records.
23 August 2009	Wild Well Control Inc offered to assist PTTEPAA/ALERT Disaster Control.
23 August 2009	PTTEPAA accepted Seadrill's proposal of 21 August 2009 to provide the <i>West</i>

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	<i>Triton</i> rig for matters including drilling the relief well subject to certain conditions.
24 August 2009	RS Platou (Asia) Pte Ltd (a shipbroker) offered to assist PTTEPAA in sourcing a rig.
24 August 2009	Baker Hughes offered equipment/assistance in relation to drilling an intersection well.
24 August 2009	Total E&P Australia offered assistance to PTTEPAA and mentioned that the <i>Songa Mecur</i> was on standby.
24 August 2009	SPD Ltd offered assistance to PTTEPAA.
24 August 2009	Boots & Coots Singapore Pte Ltd offered well control services to PTTEPAA including topside intervention and/or drilling of a relief well.
24/25 August 2009	PTTEPAA requested assistance on 24 August 2009 from Stuart Petroleum, which responded on 25 August 2009 that it had spare casing from an exploration campaign which it could make available.
25 August 2009	PTTEPAA advised Boots & Coots Singapore Pte Ltd that it had ALERT there to assist and were mobilising equipment to address the situation.
26 August 2009	PTTEPAA met with ENI to discuss whether it was possible for ENI to release the <i>Ocean Shield</i> drilling rig from the Blacktip drilling programme.
1 September 2009	PTTEPAA requested information from Scientific Drilling in relation to the progress of the MagTraC software.
2 September 2009	Mermaid Offshore Services Ltd offered assistance, including providing personnel and equipment in relation to the carrying out of a geophysical site survey for the proposed relief well prior to arrival of the jack-up currently enroute to Montara Field.
2 September 2009	Scientific Drilling advised PTTEPAA in relation to the progress and recent use of the MagTraC software.
3 September 2009	Scientific Drilling provided PTTEPAA with the current run history for the MagTraC / MWD Ranging service.
3 September 2009	PTTEPAA contacted ConocoPhillips to ask if they had any workboats which may be available to support startup of the West Triton drilling rig.
4 September 2009	Scientific Drilling offered references to PTTEPAA in relation to the use of the MagTraC Software.

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Date / Time (CST)	Assistance Offered /Requested /Provided
4 September 2009	ENI agreed to release the anchor-handling vessel <i>Lady Audrey</i> for PTTEPAA to use in assisting the tow of the <i>West Triton</i> rig to the Montara field.
7 September 2009	Scientific Drilling offered assistance to PTTEPAA in relation to the MagTraC Software to target the well.
7 September 2009	PTTEPAA requested to obtain about 1700m of 13 3/8" casing and ancillary items from Nexus Energy.
7 September 2009	Nexus Energy agreed to provide its 13 3/8" casing to PTTEPAA.
7 September 2009	PTTEPAA advised Shell Development (Australia) Pty Ltd that they had managed to get some casing from another company in Darwin but thanked them for their willingness to assist.
7 September 2009	Shell Development (Australia) Pty Ltd advised PTTEPAA that they were not operating at that stage so did not have boats, helicopters or rigs but offered general help.
8 September 2009	Nexus Energy advised PTTEPAA in relation to ancillary items in their inventory.
15 September 2009	Baker Hughes advised PTTEPAA in relation to the CaCl ₂ that they had located in Northern Australia.
19 September 2009	Chevron offered PTTEPAA the services of Mark Thorp to provide assistance where required.
19 September 2009	PTTEPPAA advised Chevron that they would benefit from another person reviewing the relief well drilling program.
21 September 2009	Chevron provided advice to PTTEPAA in relation to directional planning and surveying, sidetracking, surface location, losses in the gas gap and casing and BOP test.
21 September 2009	Chevron provided advice in relation to combining surveys to get the best estimate of BHL.
21 September 2009	PTTEPAA provided Chevron's advice in relation to combining surveys to get the best estimate of BHL to Schlumberger.
21 September 2009	Schlumberger advised PTTEPAA that they were not aware of the information and would seek input outside of Australia.

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8 October 2009	PTTEPAA arranged to meet with the Drilling and Measurement Vice President for Middle East and Asia of Schlumberger Oilfield Services.
14 October 2009	INPEX Browse Ltd suggested that PTTEPAA considered asking Schlumberger to do some magnetic modelling.
14 October 2009	PTTEPAA advised INPEX Browse Ltd that Schlumberger could not do any modelling.
14 October 2009	INPEX Browse Ltd provided some advice to PTTEPAA in relation to magnetic modelling.
17 October 2009	Boots & Coots Singapore Pte Ltd advised that they would be interested in discussing with PTTEPAA a plan for carrying out a topside intervention on the well.
17 October 2009	PTTEPAA advised Boots & Coots Singapore Pte Ltd that it had Alert there to assist, that NOPSA would not allow deluge of the rig let alone a capping operation and that a relief well was being drilled and they were close to hitting the target.
20 October 2009	Baker Hughes advised PTTEPAA that the XPR GaugePro Tool was available.
26 October 2009	Peer review meeting in relation to relief well.
27 October 2009	INPEX Browse Ltd provided advice to PTTEPAA in relation to the analysis of magnetic data, the whipstock and using a perforating gun.
30 October 2009	PTTEPAA requested assistance from Woodside Energy Limited to provide a safety engineer to assist in addressing the option of a capping operation.
2 November 2009	Response from Woodside Energy Limited to PTTEPAA advising that they could provide assistance.
2 November 2009	PTTEPAA requested advice from Apache Energy Limited regarding what was under their control at Broome with respect to boats, barite and mud chemicals and whether they could provide assistance if required.
2 November 2009	Offer from Apache Energy Limited to PTTEPAA to assist in any area they were able to.
2 November 2009	Offer from Apache Energy Limited to PTTEPAA to contact them for clarification regarding their available resources.

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2 November 2009	PTTEPAA requested advice from Halliburton in relation to what pumping barge capability it had in the Asia Pacific and what land based cementing equipment it had in Australia.
3 November 2009	Response from Halliburton to PTTEPAA providing a list of Hydraulic Horsepower (HHP) available in Australia or Singapore or nearby.
5 November 2009	Offer of assistance from SVITZER Salvage Australasia to PTTEPAA.
12 November 2009	Meeting at PTTEPAA of “peers” to discuss methods of securing the well.
13 November 2009	General offer of advice / assistance from Apache North Sea Ltd to PTTEPAA.

C Peer review of relief well operation

- 4 On 26 October 2009 a peer review meeting was held with the following petroleum companies: Woodside, Inpex, Chevron, Apache, Total, AGR Drilling, Seadrill, SPD, Schlumberger, Vermilion Oil and Gas, Boot & Coots, PTTEPAA and PTTEP (by telephone).
- 5 At that meeting, PTTEPAA summarised the attempts to intercept the well to date and outlined the two options under consideration and the reasoning behind its selection of one of those options.
- 6 Consensus was reached at that meeting that the approach preferred by PTTEPAA with respect to the relief well was the most appropriate approach in the circumstances.

D Advice sought in relation to the relief well

- 7 PTTEPAA also sought advice in relation to aspects of the programme associated with the drilling of the relief well from the following companies:
- (a) Alert;
 - (b) Add Energy;

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- (c) Vector Magnetics;
- (d) Scientific Drilling;
- (e) Boot & Coots;
- (f) Cudd Well Control;
- (g) Wild Well Control;
- (h) PTTEP Bangkok;
- (i) Inpex
- (j) Chevron;
- (k) Woodside;
- (l) Santos;
- (m) Vermillion Energy;
- (n) Total Marine Services;
- (o) 5 Star Machinery;
- (p) Schlumberger;
- (q) SPD;
- (r) AGE Development;
- (s) Ocean Technix;
- (t) Uzma Berhad;
- (u) Air Charter Network;
- (v) Total;
- (w) AGR;

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(x) Halliburton; and

(y) GO Offshore.

8 Advice was also obtained from two independent petroleum drilling experts.

E Peer review of Cementing

9 On 12 November 2009 a peer review meeting was held with attendees from: Woodside, Inpex, Total, Oilex, AGR Drilling, Seadrill, Halliburton and PTTEPAA and PTTEP (via telephone).

10 At that meeting PTTEPAA explained what it was proposing to do in relation to the Cementing of the H1 ST1 well and the relief well and asked for comments. Consensus was not requested.

11 The personnel at the meeting believed that Cementing was the best option and that the program that had been proposed made sense. PTTEPAA then proceeded with the Cementing programme on 27 November 2009.

F Other assistance

12 Woodside provided PTTEPAA with a HSE engineer to review PTTEPAA approach to the preparation of the Revised Safety Case submission to NOPSA to enable the WHP boarding for H1 well plugging operations to proceed. The engineer essentially reviewed the Revised Safety Case submission prepared by PTTEPAA's engineers prior to it being submitted to NOPSA.

13 Chevron provided an engineer to review the relief well programme and provide advice to PTTEPAA in relation to directional planning and surveying, sidetracking, surface location, losses in the Gas Cap and Casing and BOP test.

G Offers of assistance

14 A summary of the main offers of assistance are set out in the table under B.

15 Where the assistance was relevant and required it was accepted.

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16 PTTEPAA conducted some work to assess the suitability of some products it was offered if it appeared that they might be of some use in either the relief well operations or environmental clean-up. However, many of the products offered, which while suitable for use in oil slicks in harbours etc, were not considered suitable for use in the Timor Sea.

17 PTTEPAA concentrated on managing the Uncontrolled Release and, as a result, did not always have a chance to respond to all offers of assistance from companies to use their products.

H Petroleum Industry Provision of Equipment?

18 The AMSA system comprises of a number of national responders who come from ports and harbours. They are only available for 7 to 10 days at a time. Due to the logistics in the Timor Sea in order to keep the whole program running, changing the personnel every 7 to 10 days logistically was a big imposition and reduced productivity. It would be beneficial to have national responders who are able to work longer rotations as this would be more efficient. Perhaps the development of a specialist oil and gas team of national responders needs to be considered.

19 The national plan is more about ships at sea and does not really deal with the offshore industry and the remoteness of the Uncontrolled Release. PTTEPAA supplied the following resources to AMSA:

- (a) helicopters;
- (b) fixed wing aircraft;
- (c) Hercules aerial spraying aircraft;
- (d) oil spill response equipment and personnel;
- (e) vessels; and
- (f) FPSO (Challis Venture) to unload recovered oil.

PTTEPAA was able to very quickly access and mobilise these resources out to the Montara location. This was possible because of the logistics system PTTEPAA has in place.