Montara Wellhead Platform Incident

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Maritime Emergency Response Commander
Australian Maritime Safety Authority
5.30am Western Australia Time Friday 21 August 2009.
Montara Wellhead Platform, West Atlas Drilling Rig, 140 miles NW Australian coast. Uncontrolled release of hydrocarbons from well. Initial estimates 64 tonnes per day. Owner PTTEP Australasia.
Divisions of responsibility ...

**Statutory Agency**
- Designated Authority

**Combat Agency**
- Operator

**Combat Agency Transfer**
- Agreed protocol
Initial response actions

Incident occurred 0730 EST 21 August
AMSA notified 1000 EST

Within two hours:
- AMOSC notified
- Modelling commenced (received 1130)
- Dispersant aircraft contract activated
- Surveillance aircraft tasked
Approx 1200 EST oil spill confirmed

PM 21 August:

- 50m³ dispersant moved from AMOSC
- 2 transport aircraft chartered
- Response team deployed to Darwin and Truscott
- C130 from OSR Singapore
- 1st dispersant aircraft arrives
- AMSA assume coordination
Initial response continued …

22 August 2010:

- Truscott operations base established
- Dispersant transferred to Truscott
- 2nd dispersant aircraft arrived approx midday
- C130 arrives in Darwin PM
- Additional surveillance flights

23 August 2010:

- Dispersant spraying commenced
Montara crude

Confusion - crude oil or condensate

Non-persistent oil defined by:

“Definition of non-persistent (US EPA):
At least 50% by volume distil at 340°C.
At least 95% by volume distil at 370°C”

Montara crude:

► “59% at 340°C
► 71.3% at 370°C”
► Group 3 Oil

Important to get right for:

► Modelling
► Weathering predictions
► Selection of strategies
► Selection of equipment
Initial modelling ...

Different models

Setting the response objective

Deciding on actions
Natural phenomena (coral spawn or algal blooms)
Montara Well Observed Oil Extent

This image does not represent the extent of any oil slick observed at any time during the oil spill. It is a graphic representation of the area within which isolated patches of oil and/or sheen were observed by surveillance aircraft, i.e., 100 separate flights between 21 August 2000 and 28 November 2000.

Natural phenomena such as algal blooms and coral spawn with an appearance very similar to oil were regularly reported throughout the area during the surveillance operations, and may have had some impact on the accuracy of this data.

Legend
- Yellow: Indonesian Definitive Line 1997
- Blue: Joint Petroleum Development Area
- Oil Observation Frequency
  - < 10%
  - 10% - 25%
  - > 25%

Oil observation frequency describes the number of times oil and/or sheen was observed on the four separate surveillance flights undertaken between 21 August 2000 and 28 November 2000.
Dispersants …

Critical issue

“Were Ashmore/Cartier Reef Marine Reserves and the Western Australian coastline the most important features”

Logistics

Control

Safety

Transition from aircraft to vessels

184,000 litres applied over 68 days
Hercules C130 from Oil Spill Response – Singapore
Sprayed 12,000 litres over 2 days
Montara well head platform – Dispersant summary

Notes:

Dispersants used to date are Slickgone NS, Slickgone LTSW, Ardrox 6120, Tergo R40, Corexit 9500 and Corexit 9527.

Only dispersants that pass a specified minimum level of effectiveness and a specified maximum level of acceptable toxicity to two temperate and two tropical test species are approved for use in Australian waters. For more information go to:

844,000 litres of oil/water collected.
Towable storage ineffective
Where to dispose?
Well Repair Plan
How the Montara Platform leak will be stopped

West Triton Rig (relief rig)

West Atlas Rig

Wireline plug inserted

2km

83m

77m

Ocean seabed

Ocean seabed

Oil & Gas Reservoir

The Solution
A new well will intersect with the original well and inject heavy mud to fill the well bore and stop the flow

Well Length 3.6km

2.6km

2.6km
Relief Well Drilling Operations

14 Sep  Drilling commenced with West Triton Rig (25 days since blowout)
06 Oct  First attempt (missed by 4.5 m)
13 Oct – 24 Oct 2\textsuperscript{nd}, 3\textsuperscript{rd} & 4\textsuperscript{th} attempt (missed by 0.7m, 0.53m, whipstock stuck)
01 Nov  H1 well intercepted, heavy mud pumped in (73 days since blowout)
01 Nov  Fire broke out on WHP
03 Nov  Flow of Hydrocarbons stopped after 3,400 barrels of kill weight mud
03 Nov  Fire extinguished at 0348
13 Jan  Operations to plug and secure H1 well complete

Salvage operation to refloat and tow West Atlas Rig
Termination Plan (3 December)

► ESC advice that there were no recoverable tar balls, slicks, or sheens threatening Ashmore Reef and Cartier Islet;

► Extensive eight day aerial surveillance program (21 November 2009 – 28 November 2009) confirmed no sighting of visible sheens or oil/wax patches threatening the reefs;

► No significant patches of floating oil sighted in the open water during this period;

► Surface vessels maintaining surveillance within the area of operations did not sight oil during this period;

► Shoreline cleanup on the cays was not required during the response; and

► Dispersant spraying operations were not required from 1 November.
In summary - the numbers

105 – days of response
300 – approx number of personnel directly involved
9 – number of aircraft involved
>130 – surveillance flights
51nm – closest oil observed to Indonesia (21 September)
19 – nm closest oil observed to Australian coastline (5 November)
161,800 – litres of dispersant used (43,900 from aircraft, 117,900 from vessels)
844,000 litres of product recovered (493,000 litres oil)
29 birds impacted (22 died)
0 oil detected in fish sampled
0 reports of impacted whales or dolphins
Many reports of oil actually natural phenomena
0 impact reported on coastline or offshore reefs
Post-incident ...

Independent Incident Analysis Team

- Eight recommendations
- AMSA response

Commission of Inquiry (Borthwick)

- Reported to Government
- Draft Government response
AMSA formed Incident Analysis Team (IAT) to assess adequacy of response and identify any lessons.

Debriefings and meetings in Canberra, Melbourne and Perth.

Questionnaire was circulated to all National Response Team (NRT) members and others who attended the response.

8 recommendations.
Incident Analysis

Recommendation 1:
AMSA to review its existing emergency response procedures.

Recommendation 2:
AMSA to consider how it will resource its combat agency role in the future.

Recommendation 3:
AMSA to prepare clear procedures for the provision of environmental advice, wildlife response and monitoring for a spill where AMSA is the lead agency.

Recommendation 4:
AMSA, with DRET, to develop cost recovery arrangements for the offshore Petroleum sector.
Recommendation 5:
AMSA should resolve any ambiguity with its governing legislation to respond to oil spills from sources other than ships.

Recommendation 6:
DRET should ensure that AMSA have formal involvement in the assessment of oil spill contingency plans.

Recommendation 7:
The National Plan Review should assess preparedness arrangements for north-western Australia.

Recommendation 8:
The offshore petroleum sector should be the first option for Combat Agency for spills from offshore installations.
On 5 November 2009, the Minister for Resources and Energy announced the establishment of an independent Commission of Inquiry into the Montara incident.

Mr David Borthwick AO PSM was appointed as the Commissioner.
Montara Commission of Inquiry

Report released 24 November 2010 100 findings and 105 recommendations

Concluded that the source of the blowout was the result of the primary well control barrier failing

Compounded by only 1 of the 2 planned secondary well control barriers being installed

Inquiry also examined the environmental response

7 findings and 13 recommendations on environmental issues
“It is apparent that the overall response objective of preventing oil from impacting on sensitive marine resources ...was largely achieved.”

“The Inquiry has concluded that the use of dispersants was appropriate...”

“The Inquiry considers that AMSA responded exceptionally well to an incident that was beyond its first hand experience and in a remote and difficult location. AMSA should be commended.”
The Department of Resources, Energy and Tourism (RET) will develop an incident management and coordination framework for dealing with incidents involving the offshore petroleum industry.

Broad review of Commonwealth legislation to address several identified “legislative gaps”

Equitable cost sharing arrangements between the offshore petroleum and shipping industries for both spill preparedness and response capability

Single National Regulator

Role of National Offshore Petroleum Safety Authority expansion
Comprehensive consultation on approval of oil spill contingency plans for offshore facilities

Assessing the risks associated with offshore oil and gas exploration

Recognising the importance of prompt implementation of scientific monitoring

Clarify responsibility for provision of scientific advice

Minimum Standards
The future ....

10 year review of the National Plan and NMERA arrangements taking specific account of:

► Pacific Adventurer
► Montara
► Deepwater Horizon

Risk assessment

Capability/Adequacy assessment

Completion before end 2011
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