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Montara Wellhead Platform Incident

Toby Stone - General Manager - Marine Environment Division

Maritime Emergency Response Commander

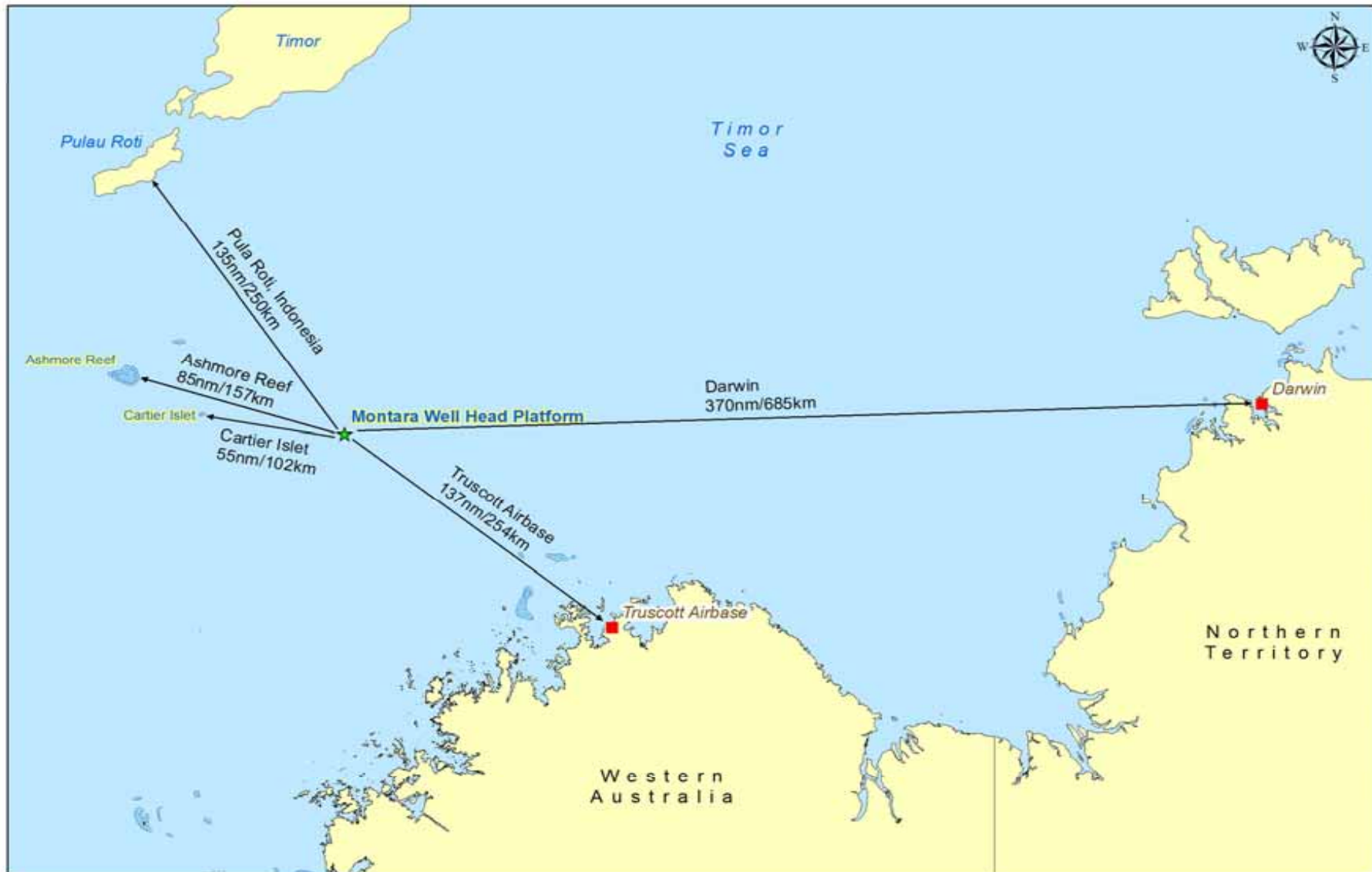
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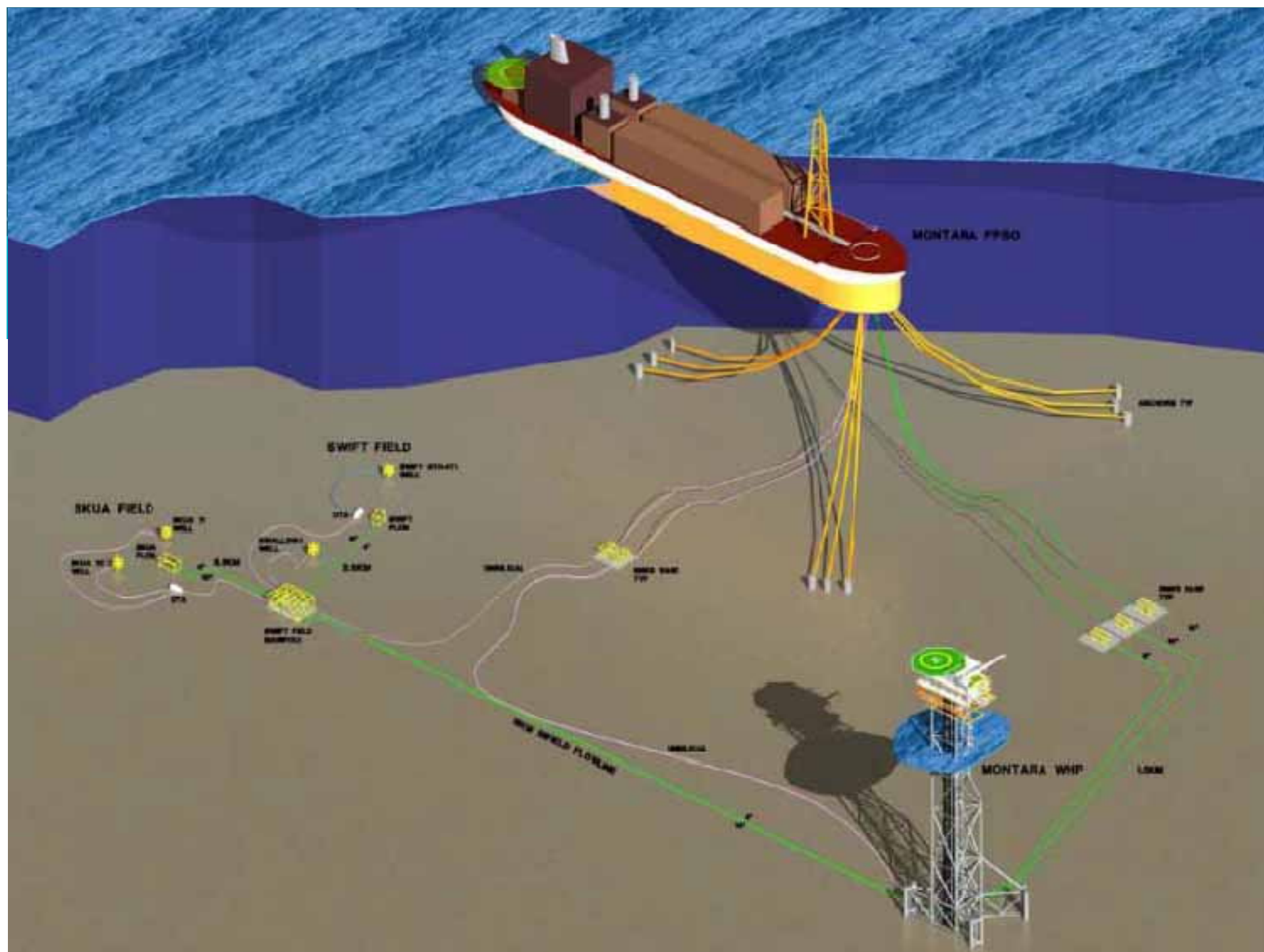
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- ▶ **Introduction**
- ▶ **The Incident**
- ▶ **Aerial Surveillance & Modelling**
- ▶ **Dispersant Spraying**
- ▶ **Mechanical Recovery & Disposal**
- ▶ **Enquiries & Reports**
- ▶ **The Future**



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.





Hibernia Reef
(AUSTRALIA)

Ashmore Reef

West Islet

Middle Islet

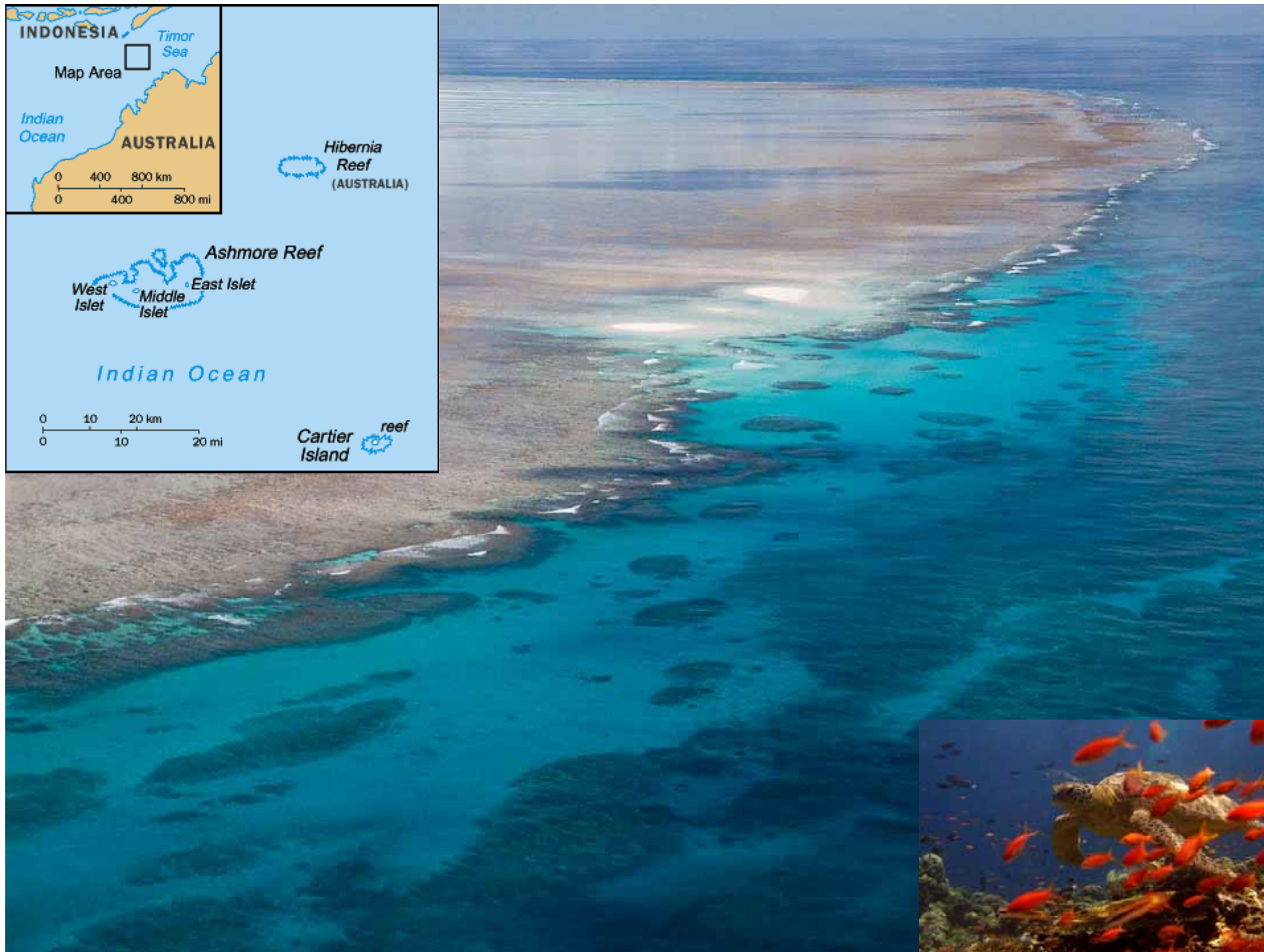
East Islet

Indian Ocean

0 10 20 km

0 10 20 mi

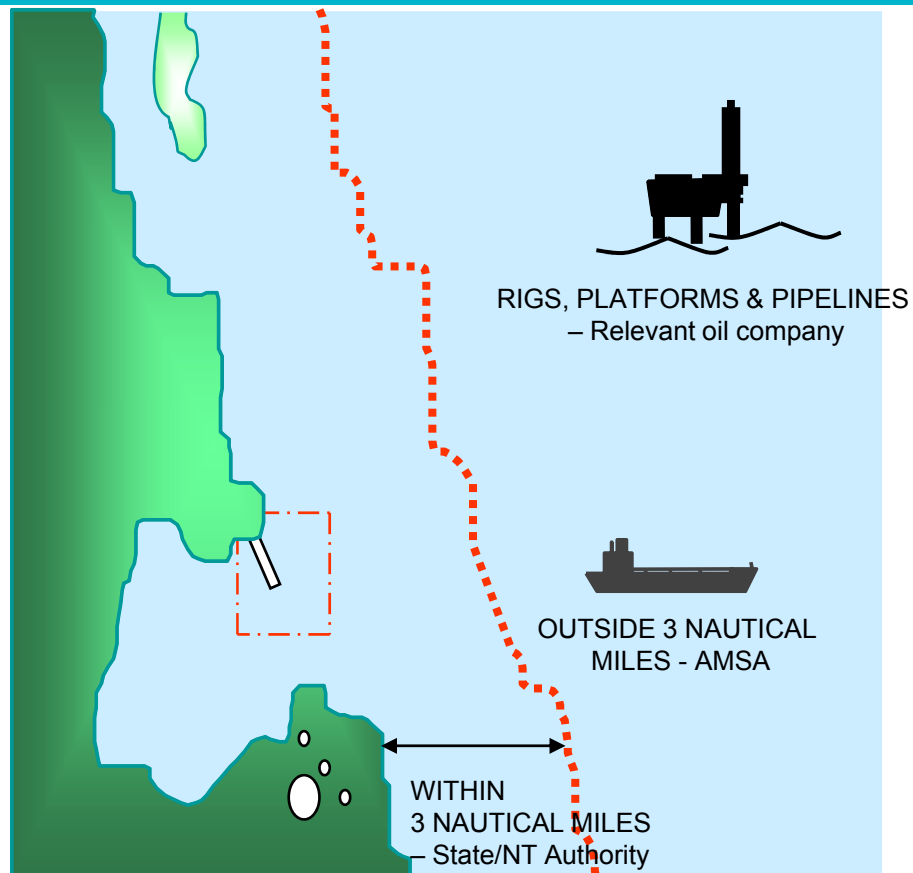
Cartier Island reef





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Divisions of responsibility ...



Statutory Agency

- ▶ Designated Authority

Combat Agency

- ▶ Operator

Combat Agency Transfer

- ▶ Agreed protocol



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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**



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Initial response continued ...



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**



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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**



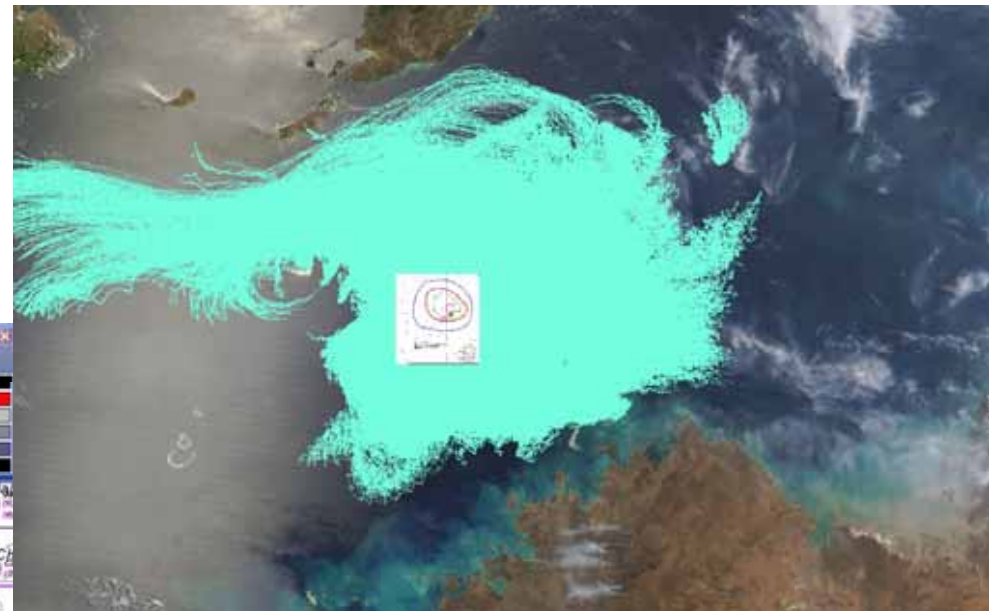
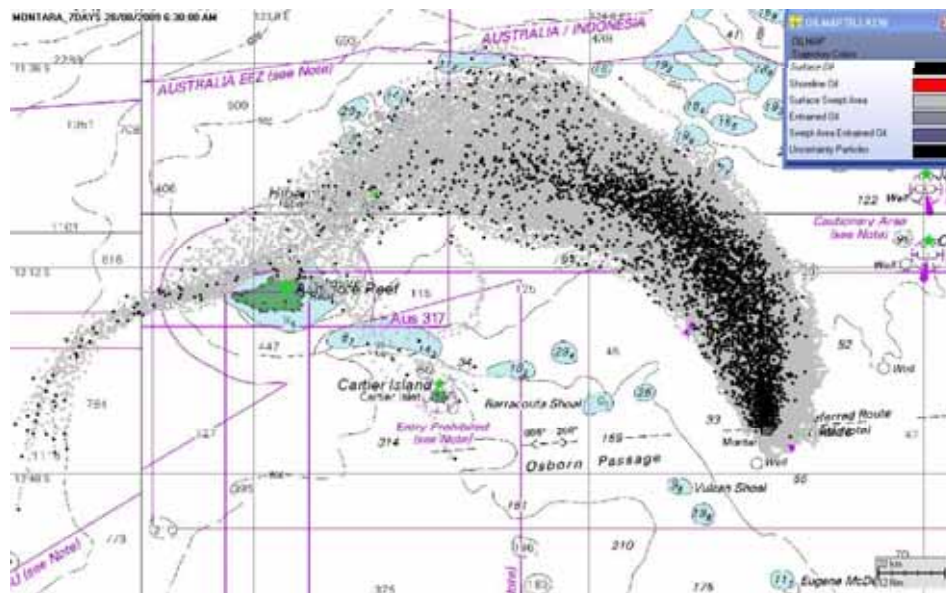
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Initial modelling ...

Different models

Setting the response objective

Deciding on actions

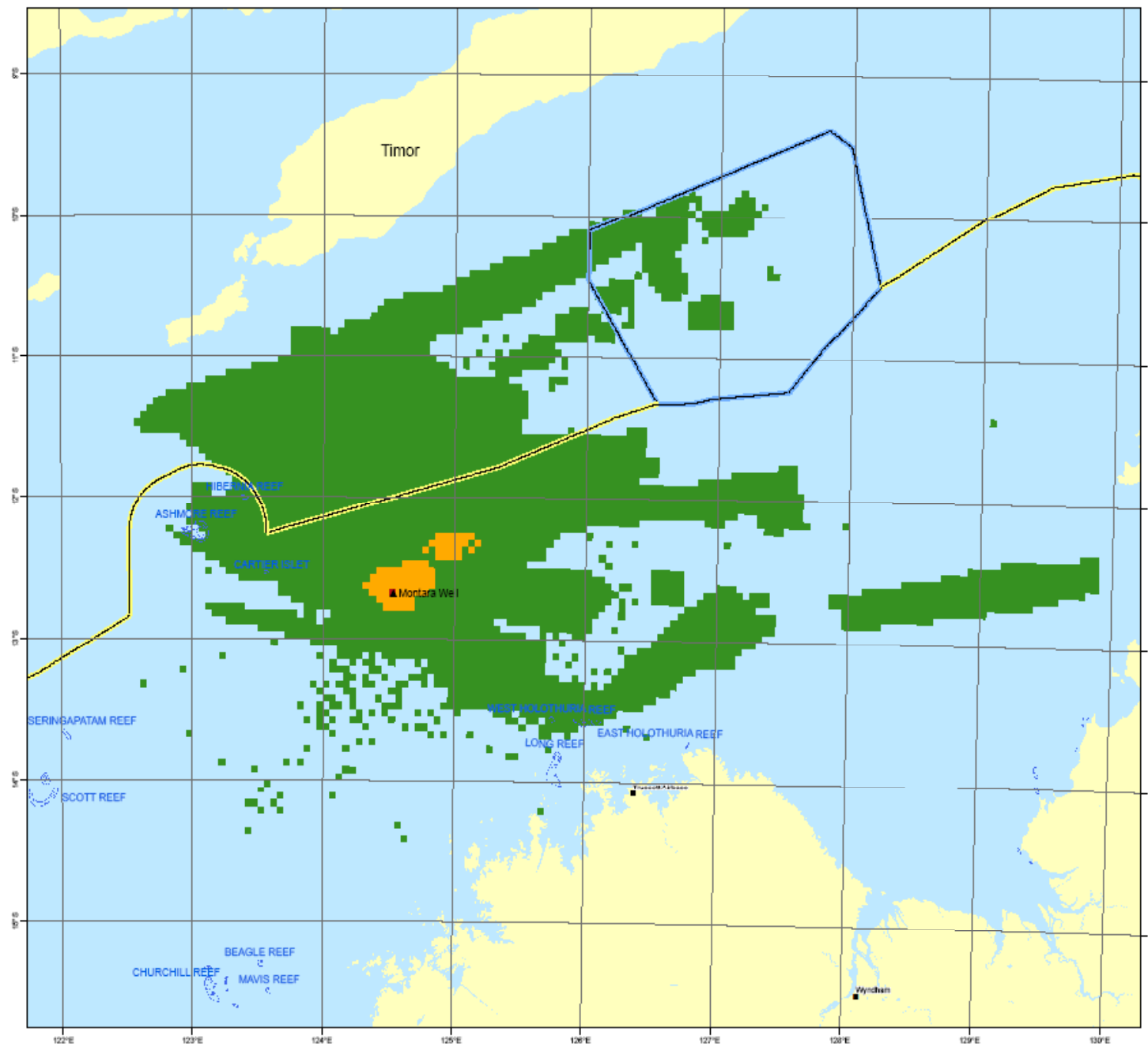


Natural phenomena (coral spawn or algal blooms)





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 on 130 separate flights between 21 August 2009 and 28 November 2009.

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.

Extent of Main Map



Legend

- Indonesian Delimitation Line 1997
- 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 130 separate surveillance flights undertaken between 21 August 2009 and 28 November 2009.

1:3,000,000

0 6 12 18 24

Nautical Miles

Kilometres

0 20 40 60 80

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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





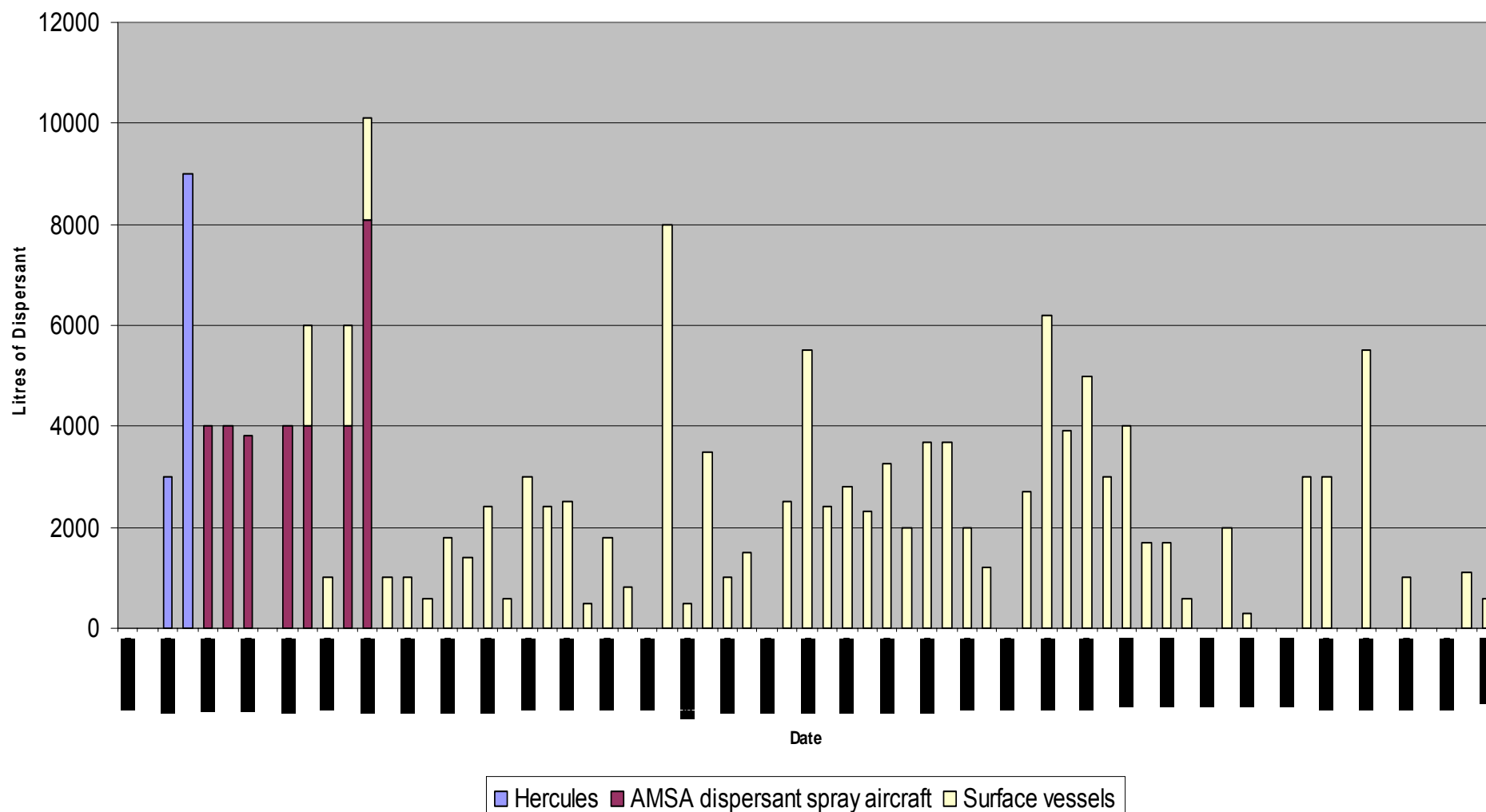
Montara well head platform – Dispersant summary

Notes:

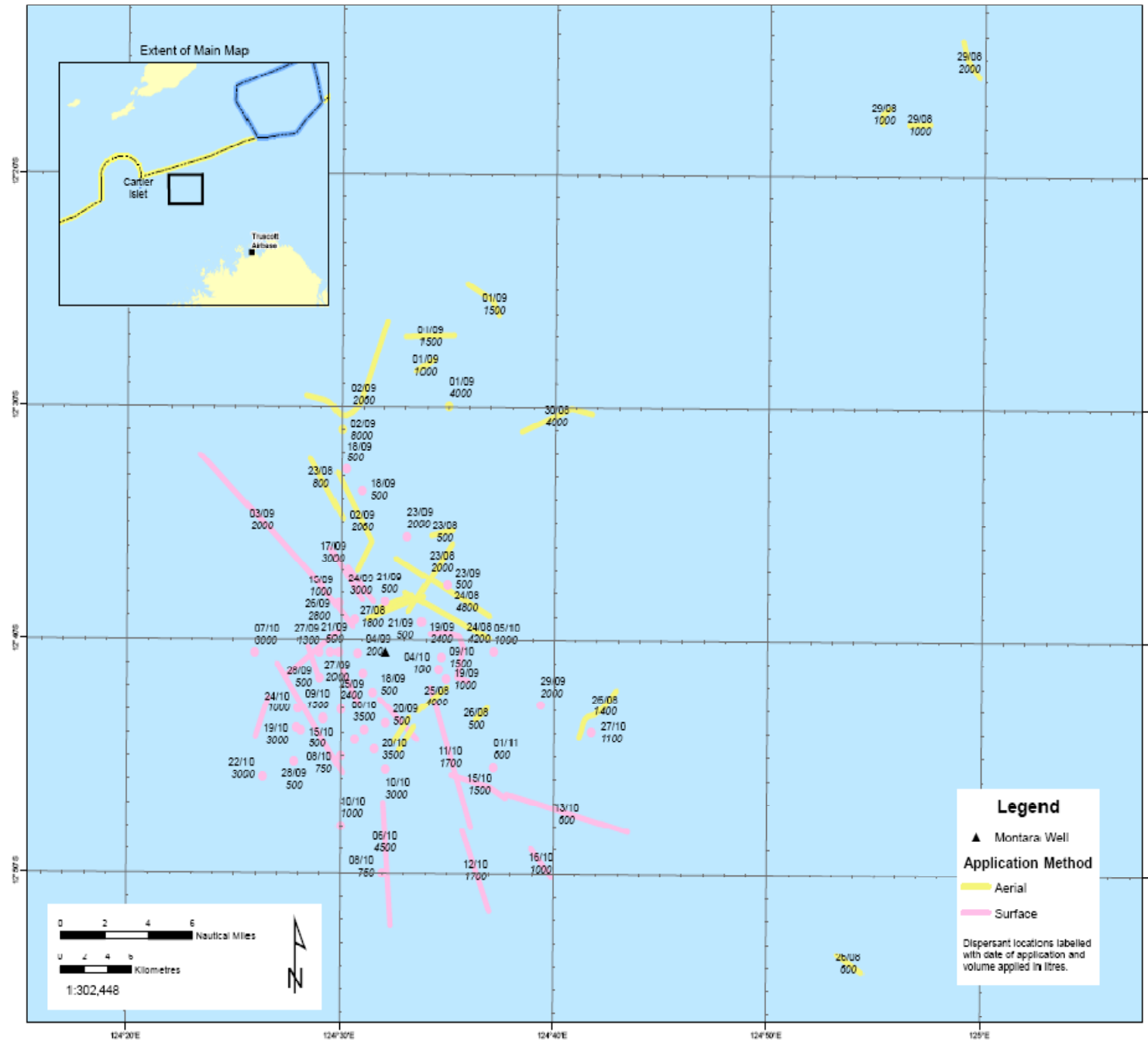
Dispersants used to date are Slickgone NS, Slickgone LTSW, Ardrox 6120, Tergo R40, Corexit 9500 and Corexit 9527.

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:

http://www.amsa.gov.au/Marine_Environment_Protection/National_Plan/General_Information/Dispersants_Information/index.asp



Montara Well Dispersant Application



Dispersant locations and volumes compiled from the daily situation reports issued by the Manager, Environment Protection, AMSA and also the daily reports provided by the Masters of the ships performing oil recovery and dispersal operations.

Date	Volume (L)
23/08/2009	3300
24/08/2009	8000
25/08/2009	4000
26/08/2009	4000
27/08/2009	3600
28/08/2009	0
29/08/2009	2000
30/08/2009	4000
31/08/2009	0
01/09/2009	8000
02/09/2009	12130
03/09/2009	3000
04/09/2009	500
05/09/2009	0
06/09/2009	0
07/09/2009	0
08/09/2009	0
09/09/2009	4000
10/09/2009	0
11/09/2009	2400
12/09/2009	2500
13/09/2009	500
14/09/2009	1500
15/09/2009	1000
16/09/2009	0
17/09/2009	8000
18/09/2009	1500
19/09/2009	3400
20/09/2009	4000
21/09/2009	1500
22/09/2009	0
23/09/2009	2500
24/09/2009	5500
25/09/2009	2400
26/09/2009	2800
27/09/2009	3300
28/09/2009	3250
29/09/2009	2000
30/09/2009	0
01/10/2009	7240
02/10/2009	0
03/10/2009	2000
04/10/2009	100
05/10/2009	1000
06/10/2009	4800
07/10/2009	3000
08/10/2009	5000
09/10/2009	3000
10/10/2009	4000
11/10/2009	1700
12/10/2009	1700
13/10/2009	500
14/10/2009	0
15/10/2009	2000
16/10/2009	1000
17/10/2009	0
18/10/2009	0
19/10/2009	3000
20/10/2009	3500
21/10/2009	0
22/10/2009	3000
23/10/2009	0
24/10/2009	1000
25/10/2009	0
26/10/2009	0
27/10/2009	1100
28/10/2009	0
29/10/2009	0
30/10/2009	0
31/10/2009	0
01/11/2009	500
Grand Total	149520









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Waste management ...

844,000 litres of oil/water
collected.

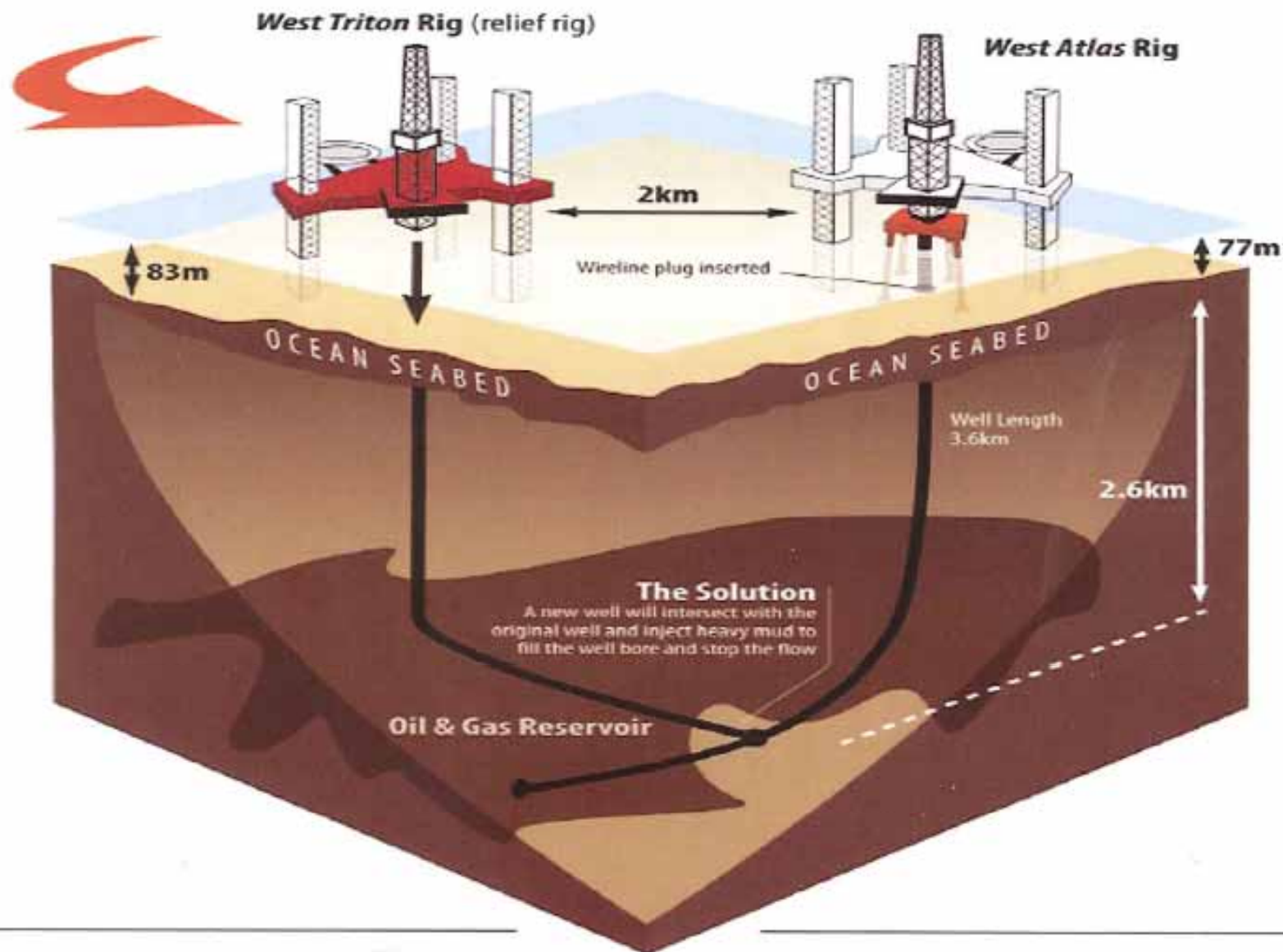
Towable storage ineffective

Where to dispose?



Well Repair Plan

How the Montara Platform leak will be stopped





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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** 2nd, 3rd & 4th 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



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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



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Post-incident ...



Independent Incident Analysis Team

- ▶ Eight recommendations
- ▶ AMSA response

Commission of Inquiry (Borthwick)

- ▶ Reported to Government
- ▶ Draft Government response



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Montara Wellhead Platform – Incident Analysis Team

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



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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.



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Incident Analysis continued ..

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.

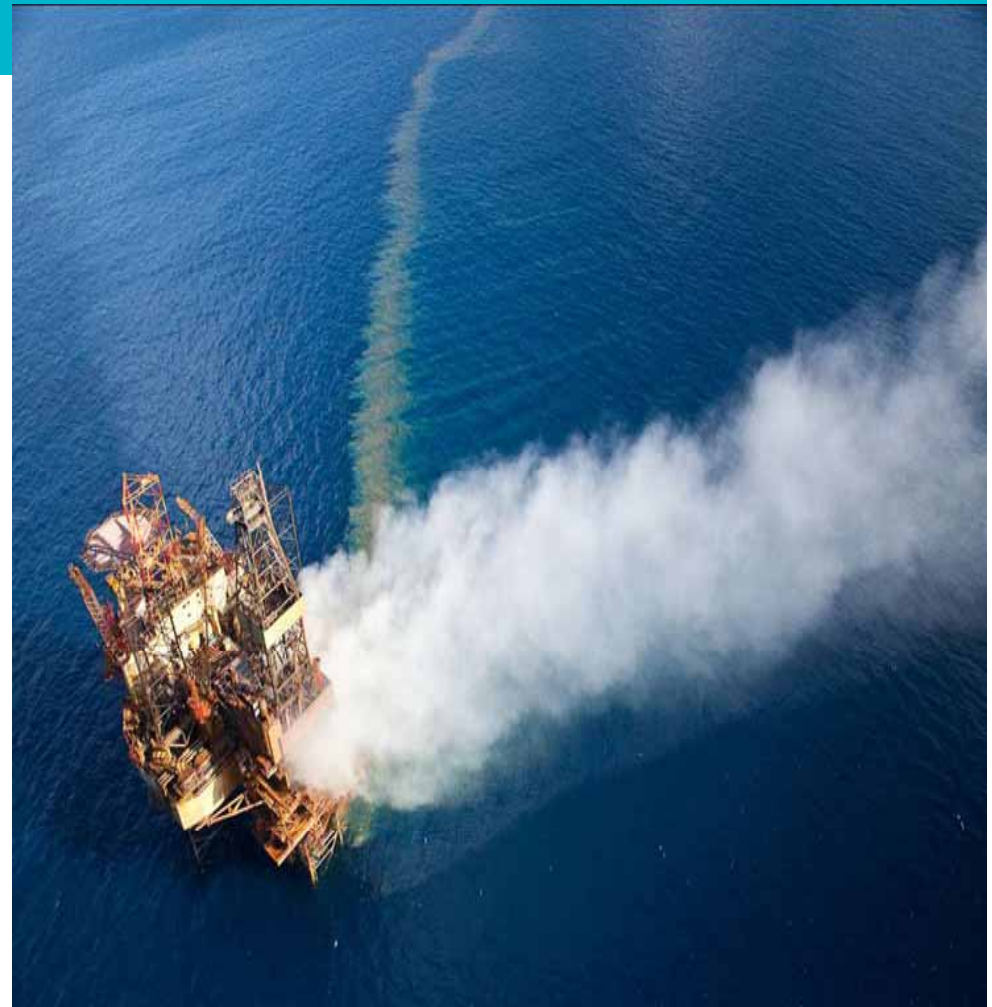


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Montara Commission of Inquiry

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.





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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



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Montara Commission of Inquiry

“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.”



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Montara Commission of Inquiry & Draft Government Response

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



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Montara Commission of Inquiry & Draft Government Response

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



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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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