

# **Proposed exploration drilling in EPs 341 and 364, offshore Onslow**

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**Command Petroleum Holdings NL**

**Report and recommendations  
of the Environmental Protection Authority**

**Environmental Protection Authority  
Perth, Western Australia  
Bulletin 654  
October 1992**

## THE PURPOSE OF THIS REPORT

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposals.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's report.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposals may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

## APPEALS

If you disagree with the assessment report or recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of \$10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

## ADDRESS

Hon Minister for the Environment  
18th Floor, Allendale Square  
77 St George's Terrace  
PERTH WA 6000

## CLOSING DATE

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 pm on 30 October, 1992

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## Summary and recommendations

Command Petroleum Holdings NL (Command) is proposing an offshore exploration drilling programme for petroleum within permit areas EP 341 and EP 364 which lie offshore and to the north east of the town of Onslow. This proposal seeks environmental approval for the drilling of an unspecified number of exploration wells within the permit areas (Figure 1). At this time two wells to test two targets have been outlined; near Lightfoot Reef, north of Large Island, and north of Passage Island.

The permits lie within a Special Protection Locality (SPL) as defined in Department of Conservation and Environment (now EPA) Bulletin 104. This area is regarded as being environmentally vulnerable to any oilspills. Proposals for drilling within a SPL are normally referred to the Environmental Protection Authority for formal assessment.

Because of the proximity of the permit areas to the coast and a number of islands with mangrove trees, sensitive beaches and fringing coral reefs, the proponent was required to provide data on the conservation values of these sensitive areas, which formed the basis for the Consultative Environmental Review (CER) for the proposal. The CER was released for a four week public comment period ending 7th September 1992 during which time six submissions were received.

A critical component of the CER is the Oilspill Contingency Plan which is designed to deal with an accidental spill from the drill rig. Statistics of oil spills indicate that, although small spills are reasonably common, they are relatively easy to control and unlikely to have a significant impact if the appropriate equipment is on hand. Larger spills are a more serious problem but are rare, and none is known to have occurred in the history of drilling offshore from Australia.

The proponent has researched the environmental sensitivities of the permit areas and studied the likely spread of spills of oil from the two locations which are the sites of the first two wells. The region is subject to strong winds and currents and lies within the cyclone-affected belt of Australia. The shallow waters and intertidal zones support a diverse range of biota which give the area its high conservation, recreational and commercial fishing values.

Concerns raised in submissions centre around the timing of the proposed drilling, the effects of domestic wastes and oil spills, and the impacts of each of these on the wildlife and resources of the area. The perceived need for an explorer to have an oilspill trial to test the contingency plan; for the company to be responsible for adequate compensation to affected parties in the event of a spill having an adverse effect on people's livelihood; and a desire to have the Authority carry out separate assessments for each well proposed after the first two, were other issues raised.

Routine discharges from the rig consist of domestic waste water and sewage, drill cuttings and drill muds. The proponent has committed to dealing with these wastes in a manner which recognises the environmental sensitivity of the area and manages the impacts in an acceptable way.

The Environmental Protection Authority wishes to emphasise the environmental significance of the area and advises that it should not be assumed that production facilities on any islands, which may be proposed as a result of a successful exploration programme, would be environmentally acceptable.

### Recommendation 1

**The Environmental Protection Authority concludes that the proposal to conduct an offshore exploration drilling programme, as described in the Consultative Environmental Review, is environmentally acceptable.**

**In reaching this conclusion, the Environmental Protection Authority identified the main factors requiring detailed consideration as the effects of routine, and accidental discharges arising from the drilling operations upon the environment, and the industries which are dependant on that environment.**

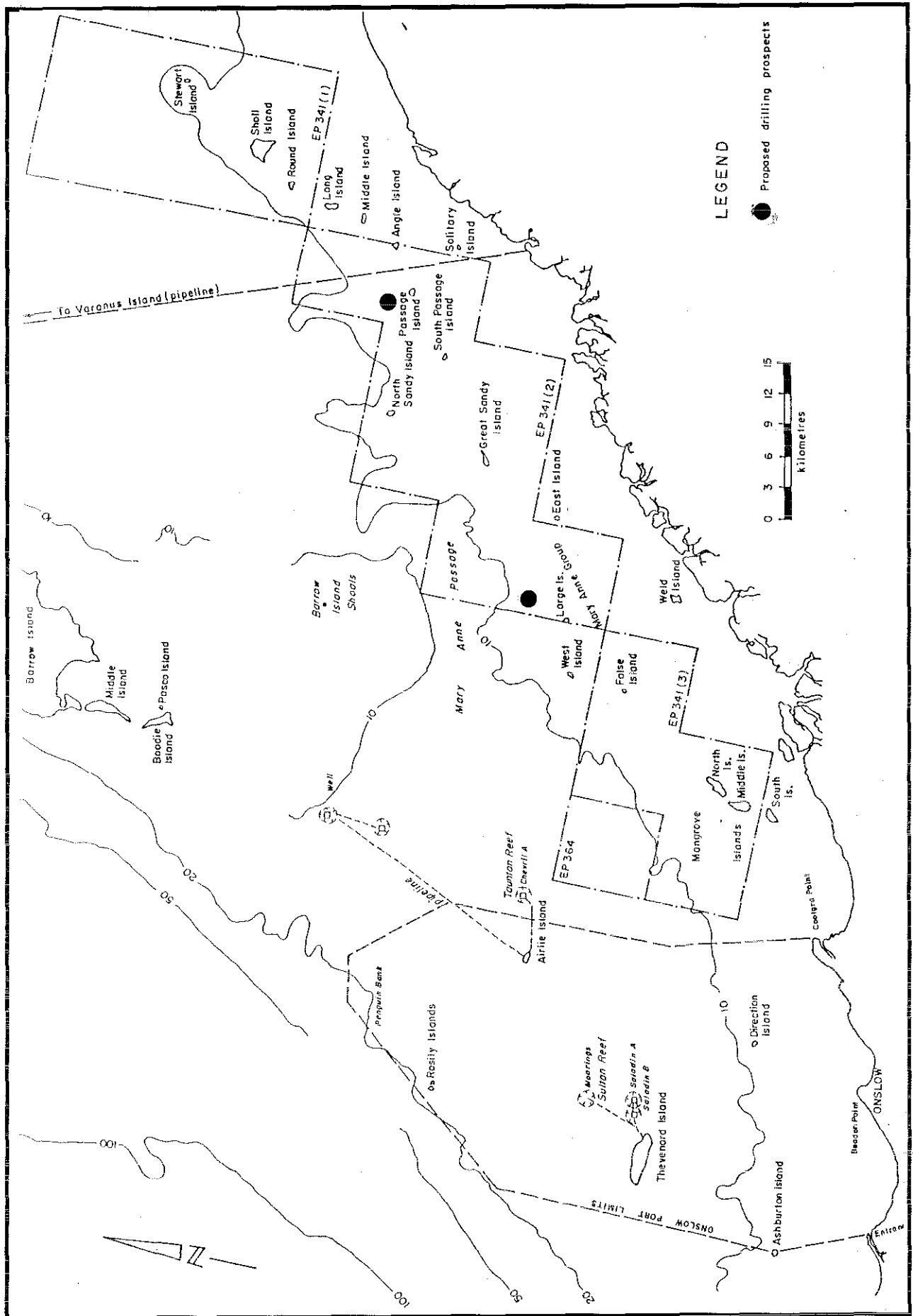


Figure 1: Location of permits and possible drilling sites

The Environmental Protection Authority considers that these and other issues have been addressed by either environmental management commitments given by the proponent or by the Environmental Protection Authority's recommendations in this report.

Accordingly the Environmental Protection Authority recommends that the proposal could proceed, subject to:

- the proponent's commitments; and
- the Environmental Protection Authority's recommendations in this report.

#### **Recommendation 2**

The Environmental Protection Authority recommends that, at least three weeks before the start of drilling, the proponent submits details of each exploration well proposal within this programme to the Environmental Protection Authority with additional details of the exact location and its environment, and subsequently implements any proposed site-specific modifications to environmental management provisions, to the requirements of the Environmental Protection Authority.

Command plans to use a jack-up drill rig for the current programme.

#### **Recommendation 3**

The Environmental Protection Authority recommends that the proponent forwards plans to use any type of drill rig other than a jack-up platform to the Environmental Protection Authority for further evaluation, and also recommends that the proponent refers details of future exploration drilling or development plans resulting from this exploration drilling proposal to the Environmental Protection Authority.

#### **Recommendation 4**

The Environmental Protection Authority commends the proponent's arrangements to accept responsibility for any adverse environmental impacts, which may occur as a consequence of the proposal proceeding, and recommends that the arrangements for meeting this condition should be to the requirements of the Minister for Environment after consultation with the Minister for Mines and the Minister for Fisheries.

The proponent has made a commitment (Appendix 1) to provide oilspill containment and recovery equipment onsite.

#### **Recommendation 5**

The Environmental Protection Authority endorses the proponent's commitment to provide on or adjacent to the rig the capability for containment of small oil spillages using a suitable boom and skimmer device, together with operators skilled in their deployment, prior to the commencement of drilling, to remain there permanently until demobilisation of the rig. The Environmental Protection Authority recommends that this approach should be adopted to the requirements of the Environmental Protection Authority, on advice from the Department of Minerals and Energy.

#### **Recommendation 6**

In order to maximise recovery of spilled oil where an environmentally sensitive location is close enough to the rig to be within its zone of influence from an oil spill, the Environmental Protection Authority recommends that refuelling of the rig should only take place during optimal weather conditions, to the requirements of the Environmental Protection Authority, on advice from the Department of Minerals and Energy.

#### **Recommendation 7**

The Environmental Protection Authority recommends that, prior to commencement of the first well, the proponent successfully trial runs a simulated oilspill exercise up to the point of deployment of resources, to ensure that the plan is workable to the requirements of the Environmental Protection Authority. The Environmental Protection Authority also recommends that further simulated Oilspill Contingency drills be run at least once a year, or for each change of drilling rig, whichever is sooner, to maintain a high level of preparedness among all involved personnel.

#### **Recommendation 8**

The Environmental Protection Authority recommends that the proponent be responsible for environmental aspects of decommissioning the rig and the well, and rehabilitating the site and its environs to the requirements of the Environmental Protection Authority, on advice from the Department of Minerals and Energy.

# 1. Introduction

Command Petroleum Holdings NL (Command) proposes to drill oil exploration wells in EPs 341 and 364, northeast and offshore from Onslow (see Figure 1). Command is the operator of a joint venture involving:

- Command Petroleum Holdings NL 20%
- Mount Isa Mines Ltd 20%
- LL and E Australia Ltd 20%
- Peedamullah Petroleum Pty Ltd 20%
- Ashland Exploration Australia Pty Ltd 20%

The permit areas lie entirely within an area defined in Department of Conservation and Environment (now EPA) Bulletin 104 as a Special Protection Locality. This zone represents environments where marine life is concentrated and highly susceptible to the effects of oil and is discussed more fully in Section 3-Existing Environment.

The Environmental Protection Authority has previously assessed a number of petroleum exploration proposals in the North West Shelf region. As a consequence, its general position on these sorts of proposal may be summarised as follows:

- land-based petroleum exploration proposals can usually be made to be environmentally acceptable;
- in environmentally sensitive areas, petroleum exploration proposals need to clearly demonstrate the capacity to cope with environmental impacts, especially possible oil spills in terms of credible events, their likely frequency and contingency planning; and
- outside environmentally sensitive areas exploration proposals normally could proceed, subject to standard environmental protection conditions.

Approval in principle is being sought for a programme which leaves open the number of wells which may be drilled during the tenure of the permits. The Environmental Protection Authority determined that formal assessment at the level of Consultative Environmental Review (CER) would be required for the proposal. In order to improve the efficiency of the formal assessment process and reduce repetition it was agreed that, rather than submitting proposals for one well at a time, it would be preferable for proponents to submit a proposal for a programme to address the entire permit area, provided that all the relevant issues are adequately addressed and that site-specific data would be submitted at a later stage, prior to drilling, for further evaluation by the Environmental Protection Authority.

Under these circumstances the Authority must be assured that appropriate environmental management provisions will be applied at each site. The Authority has recommended that an appropriate mechanism for activating this be put in place (Section 2).

Command was asked to define the environmental sensitivity of the areas likely to be within the zone of influence of the proposed drilling; to assess the likelihood and potential impacts of an oil spill; and to demonstrate that routine and credible accidental discharges from the offshore drilling platform could be properly managed at the proposed sites so as to ensure no significant impacts in environmentally sensitive areas.

The CER by Command was available for public review from 11th August to 7th September 1992. Subsequently the proponent was asked to address questions raised in submissions. These have been listed in Appendix 2 together with the company's responses. The Environmental Protection Authority considers that the proposal, subject to Command's commitments and the Environmental Protection Authority's recommendations in this report, could be implemented in an environmentally acceptable manner.



### **Recommendation 1**

**The Environmental Protection Authority concludes that the proposal to conduct an offshore exploration drilling programme, as described in the Consultative Environmental Review, is environmentally acceptable.**

**In reaching this conclusion, the Environmental Protection Authority identified the main factors requiring detailed consideration as the effects of routine, and accidental discharges arising from the drilling operations upon the environment, and the industries which are dependant on that environment.**

**The Environmental Protection Authority considers that these and other issues have been addressed by either environmental management commitments given by the proponent or by the Environmental Protection Authority's recommendations in this report.**

**Accordingly the Environmental Protection Authority recommends that the proposal could proceed, subject to:**

- **the proponent's commitments; and**
- **the Environmental Protection Authority's recommendations in this report.**

While this proposal concentrates on exploration, it could lead to a production proposal if economic petroleum reserves are discovered. Such a proposal would require further formal assessment by the Authority. It should be noted that some of the islands in the area have high floral and faunal conservation values and it should not be assumed that production facilities on them would be environmentally acceptable.

## **2. Project description**

Command's minimum drilling programme (which is a commitment made to the Department of Minerals and Energy) is to drill two wells. The two sites identified are (1) near Lightfoot Reef, north of Large Island; and (2) north of Passage Island, as shown in Figure 1. Any other wells which may be proposed will depend on results from the initial two wells. With all wells proposed the Authority requires specific details of well locations, the surrounding environment and any additional management arrangements. These must be submitted to the Authority for consideration and approval in good time prior to drilling.

### **Recommendation 2**

**The Environmental Protection Authority recommends that, at least three weeks before the start of drilling, the proponent submits details of each exploration well proposal within this programme to the Environmental Protection Authority with additional details of the exact location and its environment, and subsequently implements any proposed site-specific modifications to environmental management provisions, to the requirements of the Environmental Protection Authority.**

These details would be expected to include, but not necessarily be limited to, plans for:

- routinely washing the drill cuttings with sea water to recover mud prior to discharge of cuttings on the seabed;
- specifying those drilling locations which are near coral reefs, where best management for solids may be to retain them for transportation and disposal in a less sensitive location; or

- returning solids and excess mud via a pipeline to the sea floor to minimise turbidity, when wind and currents are moving the discharge plume away from the adjacent sensitive areas.

Command anticipates using a jack-up drill rig for the current programme. Two specialist supply boats would be used to service the rig and for accidental oilspill recovery at each location. A helicopter would be used for crew changes and supplementary provisioning of the rig. The Authority supports the use of a jack-up rig rather than other options. It believes that the routine environmental impacts associated with jack-up rigs are likely to be less significant than those from other options, such as a land-based unit sited on a conveniently located island, or a barge-mounted rig.

### **Recommendation 3**

**The Environmental Protection Authority recommends that the proponent forwards plans to use any type of drill rig other than a jack-up platform to the Environmental Protection Authority for further evaluation, and also recommends that the proponent refers details of future exploration drilling or development plans resulting from this exploration drilling proposal to the Environmental Protection Authority.**

## **3. Existing environment**

The permit areas parallel the coast to the northeast of Onslow. In these shallow waters the configurations of the islands, shoals and interspersed deeper channels play an important part in modifying the movement of surface waters, which are primarily driven by semi-diurnal tidal movements. Oilspills, being largely restricted to the top few centimetres of the water column, are subject to the same influences.

The mean spring tidal range is 1.8m at Onslow, resulting in tidal currents flowing generally parallel to the shore. Ebb tides move north easterly, while flood tides trend south westerly. Water temperatures are warm to moderate throughout the year.

The prevailing winds are westerly to south westerly at most times of the year. During June to August the dominant wind direction is easterly, while April-May and September-October are transitional months when the wind direction and strength can be variable. Summer diurnal effects act to raise wind speed in the afternoon to about 20 to 25 knots and to reduce it during the night and early morning. Winter winds from the mainland can also be strong. Analysis of the occurrence of cyclones shows that an average in excess of 1 cyclone each year occurs within 150km of the permit areas. These may be accompanied by strong tidal surges and winds from any direction. It is standard industry practice to close down drilling operations and plug and shut in wells during a cyclone Red Alert.

The coast adjacent to the permit areas typically consists of extensive salt flats with samphire communities and mangrove trees fringing creeks and the protected parts of inshore islands. There are also expanses of sandy beaches backed by dunes.

Many of the islands within the permit areas also support mangrove tree systems while the more exposed areas are characterised by sandy beaches (some used by nesting turtles), limestone intertidal platforms and subtidal coral patches.

The submission from the Department of Conservation and Land Management pointed out that the Passage Islands and Mary Anne Group from N.E. Regnard to Mary Anne Reef are part of 'B' class reserve No 33831 for the conservation of flora and fauna, while Little Rocky Islet is 'A' Class nature reserve No 34560.

Seagrass beds in the region are important sources of primary production and are important for prawns, turtles and dugong populations.

Apart from petroleum the main activities in the region concentrate on its marine resources. Recreational and commercial fisheries and tourism-based activities are centred at Onslow. The petroleum industry uses Onslow to support offshore bases and drilling activities.

## 4. Public submissions

Six submissions were received, all from government agencies. The absence of submissions from the public was unusual for this sort of proposal but may reflect the fact that several assessments of this type dealing with the same issues have been completed in this general area in the past three years.

The main concerns raised were:

- effects on the environment from oil spills, particularly with respect to the commercial prawn fishery;
- the need for adequate compensation for this industry in the event of a spill. The proponent has undertaken to accept this responsibility and has supplied details of its insurance cover in Appendix 2;
- the timing of proposed drilling and suggested order of drilling so as to avoid overlap with trawling activity. Command has noted this preference and will endeavour to plan its drilling operations to minimise any potential inconvenience to the trawling industry;
- the recognised need for an oilspill trial to test the contingency plan. This is a recommendation of the Environmental Protection Authority (see Section 5);
- concerns that the sanitary and liquid wastes from the rig could have a significant impact. This is discussed in Appendix 2 by the proponent;
- a preference for the proponent to submit a new CER for drilling proposals other than the two wells identified in this report. This issue has been discussed above in Section 1 and again in Appendix 2.

Comments were also made about inaccuracies in the CER regarding turtles, the critical timing of the combat response to an oilspill due to the closeness of sensitive habitats, and the priority which should be set for protection to specific localities in the event of an oilspill. A submission pointed out that the coastal mangroves required the greatest degree of protection.

The Environmental Protection Authority raised a number of similar points in greater detail with the proponent during the course of its assessment of the CER. These centred around the position of the two proposed well sites, which are in shallow water close to shore and in environmentally sensitive locations. Given the proximity of the well sites to these the Authority believes that there is insufficient information provided in the CER on which to base an appropriate level of protection for these sensitive resources, and requested the proponent to do further detailed studies in the area of the sites. An outline of the distribution, density, species diversity, depth below water, richness and conservation value of coral reefs most at risk in the vicinity was requested. Command was asked to provide these data and assign the reefs a rank so that it would be known which were the best and most important to protect in the event of a spill. Similar information is also required of stands of mangrove trees in the area.

Linked with the environmental inventory is the need for very high levels of protection and standards of response with oilspill equipment. As the rig refuelling operation is considered to be the activity from which a spill is most likely the proponent was requested to propose a management plan which addressed the risks.

In response Command has given an undertaking that the required studies will be done when the exact location of the wells is known, for submitting to the Authority at least four weeks prior to the proposed spud date of the first well. The proponent's verbatim responses to this and other questions raised are included in Appendix 2.

## 5. Management of environmental impacts

Impacts on the marine environment from drilling activities can arise either from routine or from accidental discharges. Depending on how near is the rig location to environmentally sensitive areas, and how activities are managed on the rig, there could be a range of effects varying from insignificant to potentially serious.

Offshore producing oilfields of the North West Shelf area typically contain light grade crude petroleum, (API gravity from 34 to 50 degrees) which evaporates and biodegrades quickly in the warm waters and high ambient temperatures common to the region leaving, in some cases, little sign of its passing after a few days. Accordingly it generally does not require the use of dispersants, in contrast with heavy and waxy crudes from other sources which can be transported over long distances by wind and tide action because they do not readily break up. Observations of spilt oil of this type from the North West Shelf area indicate that around 75% can evaporate within 24 hours.

Heavier grade crude oil (API gravity 29<sup>o</sup>-similar to diesel fuel at 27<sup>o</sup>) has been found in the Roller field to the west of Onslow. Its proximity to the areas under this investigation increases the likelihood of similar partly biodegraded crude oil being encountered during this programme. It is not expected to evaporate to the same degree as the lighter fractions.

The two sites where drilling has been proposed to date are close to shallow, environmentally sensitive areas where coral reefs are extensively developed. Studies by the proponent into oilspill trajectories at the two proposed drill sites have highlighted difficulties in using models to predict surface movements in shallow, constrained waters such as those within many parts of the permit areas. When compared with actual mat-tracking exercises during spring tides on site the results predicted by modelling were found to be a considerable underestimation of the actual tidal factors prevailing. Command recognised that the modelling studies were inadequate and proposed to run further on-site mat-tracking trials closer to the time when the wells would be drilled. This should give better data because expected winds will be closer to those likely at the proposed time of drilling.

The studies to date have shown that many reefs and some island beaches could be impacted within an hour after an oilspill. This gives very little time in which to deploy containment and recovery equipment, and use of dispersants would be inappropriate in these shallow waters.

The Authority considered that there needed to be a plan to protect those areas at significant risk of being fouled by a spill. As the most common type of spill is associated with refuelling of the rig and the most vulnerable time is at very low tides (when the maximum area of coral reef is exposed) the Authority believes that refuelling should not take place around the period of the lowest point of the tide. It would be preferable, if possible, to organise to have the rig fully fuelled in a less sensitive area before arriving at either of the two sites.

Command in its response to the Authority (in Appendix 2) has given an undertaking that the rig would be refuelled away from these environmentally sensitive areas prior to being set up on the well site. Given that each well is expected to take about a week to reach target depth it should not be necessary to refuel the rig again whilst on each site. If for some reason refuelling should be necessary, a containment boom would be placed around the refuelling operation for its duration. In addition, if logistically possible, the operation would be carried out during slack water at high tide so as to minimise the reef area at risk from a spill.

The risk and most likely magnitude of a spill during exploration drilling are considered to be sufficiently small to be environmentally acceptable provided adequate control and recovery equipment and personnel are on hand. There are a number of marine-based industries which are potentially at risk from uncontrolled spills. These include the prawn trawling, pearl oyster, recreational fishing and tourist industries. The concerns relating to these sectors have been addressed in the proponent's responses to submissions and are reflected in Command's commitments to manage the drilling operations closely and to be responsible for adverse environmental impacts as a consequence of the drilling programme.

#### **Recommendation 4**

**The Environmental Protection Authority commends the proponent's arrangements to accept responsibility for any adverse environmental impacts, which may occur as a consequence of the proposal proceeding, and recommends that the arrangements for meeting this condition should be to the requirements of the Minister for Environment after consultation with the Minister for Mines and the Minister for Fisheries.**

#### **5.1 Routine discharges**

These can be grouped into either domestic or drilling-associated wastes. Domestic wastes such as sewage, 'grey water' and galley wastes are pulverised and disinfected prior to discharge into the sea. No significant environmental impacts are expected, because of the biodegradability of the product, short period of drilling activities and large dilution factor, unless the rig were to be located in a basin with restricted natural circulation. This is not the case with the first two locations.

Drilling generates rock cuttings with residual amounts of drilling muds adhering to the chips. Depending on the local environment and the type of mud these wastes could have a significant impact and may need to be managed appropriately. Command and its consultant have recognised these requirements.

If wells are located close enough to sensitive environments that routine discharges could have an environmental impact, more detailed site assessment and management plans for the disposal of the drilling wastes may be required.

The provisions of Recommendation 2 are important to allow effective management of these issues.

#### **5.2 Accidental discharges**

Accidental oil spills can occur, in order of increasing size, from the rig refuelling operation, from a production test of the well, or as a result of a blowout of crude oil. Management of these scenarios is detailed in the oil spill contingency plan, a summary of which was included in the proponent's CER.

The most common type of spill is a minor spill of between 1m<sup>3</sup> and 20m<sup>3</sup> arising from refuelling or from a short term failure of the blowout preventers on the well. Refuelling of the rig usually occurs once every two weeks on average. Command has committed to refuel the rig away from sensitive areas prior to moving the rig onto the drill site, and to containing and collecting spills from a subsequent refuelling operation (if it should be necessary) with a boom and skimmer deployed for the entire fuelling operation. The Authority also notes and endorses Command's commitments to place the boom and skimmer at the drilling location, ready for immediate deployment at all times during drilling, and to conduct the refuelling at slack water on high tide if it becomes necessary whilst the rig is at the drill site.

#### **Recommendation 5**

**The Environmental Protection Authority endorses the proponent's commitment to provide on or adjacent to the rig the capability for containment of small oil spillages using a suitable boom and skimmer device, together with operators skilled in their deployment, prior to the commencement of drilling, to remain there permanently until demobilisation of the rig. The Environmental Protection Authority recommends that this approach should be adopted to the requirements of the Environmental Protection Authority, on advice from the Department of Minerals and Energy.**

However, for a reasonable chance of a successful recovery of spilt oil, weather conditions need to be near optimal. As waves and currents become progressively larger, increasing amounts of oil would be lost beneath the boom so that the attendant oil recovery unit would collect progressively less of the spill. A mitigating factor is that, under more severe weather conditions the oil evaporates far more quickly. The doubling of wind velocity, up to the onset of whitecapping causes the rate of evaporation to increase by a factor of 1.7 and with the onset of extensive whitecapping the rate increases by a factor of 5 to 10. Recognising that the boom and skimmer have limited application, the Environmental Protection Authority makes the following recommendation for refuelling in environmentally sensitive locations:

#### **Recommendation 6**

**In order to maximise recovery of spilled oil where an environmentally sensitive location is close enough to the rig to be within its zone of influence from an oil spill, the Environmental Protection Authority recommends that refuelling of the rig should only take place during optimal weather conditions, to the requirements of the Environmental Protection Authority, on advice from the Department of Minerals and Energy.**

Recognising that near-calm wind and tidal conditions are infrequent in this area, the Authority expects that all reasonable care and precautions are taken during refuelling.

Partially controlled or uncontrolled blowouts are less common but can result in much greater loss of oil. Little of this flow can be recovered in most cases and thus the impacts of such an accident are likely to be extensive, although not necessarily long-term. Whilst there has never been such a spill documented in Australia and there is a low risk of abnormally pressured reservoirs in the proponent's permit areas, it is clearly vital that the best policy to protect the environment from accidental discharges is minimisation of the risks and avoidance of the events leading to an oil spill, together with a well rehearsed Oilspill Contingency Plan.

#### **Recommendation 7**

**The Environmental Protection Authority recommends that, prior to commencement of the first well, the proponent successfully trial runs a simulated oilspill exercise up to the point of deployment of resources, to ensure that the plan is workable to the requirements of the Environmental Protection Authority. The Environmental Protection Authority also recommends that further simulated Oilspill Contingency drills be run at least once a year, or for each change of drilling rig, whichever is sooner, to maintain a high level of preparedness among all involved personnel.**

#### **Recommendation 8**

**The Environmental Protection Authority recommends that the proponent be responsible for environmental aspects of decommissioning the rig and the well, and rehabilitating the site and its environs to the requirements of the Environmental Protection Authority, on advice from the Department of Minerals and Energy.**

## **6. Conclusion**

This drilling proposal has raised concerns for the environment based on widely held perceptions about the damage that can arise from oil spills.

A distinction needs to be made between the behaviour of spilt light grade crude oils typical of the North West Shelf area and heavier grades from other parts of the world or bunker fuels

carried by shipping. The warm ambient conditions of the north west result in much spilt crude oil evaporating in the first few hours after a spill. The residual, biodegraded oil is much less toxic than the volatile lighter fractions, although it may physically coat sensitive environments or organisms.

It is also important to differentiate between the smaller volumes of oil most likely to be spilt from the drilling of an exploration well and those often released as a result of a shipping incident. The proponent's report has helped to dispel some commonly held misconceptions.

Adequate environmental management controls should be in place to contain and manage any potential impacts. The Authority had some initial concerns about the validity of the modelling studies used to predict the trajectory of a spill. The proponent has committed to further "realtime" mat tracking exercises closer to the time of drilling which will overcome the limitations of the earlier modelling. In combination with adherence to the Oilspill Contingency Plan, the proponent's other commitments and the recommendations of the Environmental Protection Authority in this report the Authority believes that the proposal to conduct oil exploration in the permit areas is environmentally acceptable.

No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent should take place until the Minister has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request of the Minister for the exercise of that power should be accompanied by an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in any Ministerial statement on this proposal.

The Authority notes that during the detailed implementation of proposals, it is often necessary or desirable to make minor and non-substantial changes to the design and specification which have been examined as part of the Authority's assessment. The Authority believes that subsequent statutory approvals for this proposal could make provision for such changes, where it can be shown that the changes are not likely to have a significant effect on the environment.

The Authority believes that any approval for the proposal based on this assessment should be limited to five years. Accordingly, if the proposal has not been substantially commenced within five years of the date of this report, then such approval should lapse. After that time, further consideration of the proposal should occur only following a new referral to the Authority.

# **Appendix 1**

## **Proponent's consolidated commitments**



## LIST OF COMMITMENTS

Command Petroleum Holdings NL undertakes to abide by all of the commitments made in the Consultative Environmental Review (CER) for the five year exploration drilling programme for permit areas EP 341 and EP 364, and in all cases will fulfil those commitments to the satisfaction of the appropriate statutory authority(s).

The major commitments given within the CER are listed below.

- (1) Command Petroleum will adopt the environmental management strategies outlined in this CER.
- (2) Well-specific details including the location, water depths, distance from sensitive resources and drilling programmes will be submitted the Department of Minerals and Energy and the EPA with each drilling application. Each application will be submitted at least three weeks prior to the proposed spud date for each well.
- (3) Before commencement of their duties, each worker or contractor (including workboat and supply vessel crews) will be given an induction including advice on the sensitive nature of the environment in which the drilling rig is located.
- (4) Regular crew transfers between the drilling rig and Onslow will use crew boats.
- (5) Masters of crew and supply vessels will be instructed not to allow crew to disturb islands or wreck sites, nor to anchor close to coral reefs.
- (6) Deck drainage and other oily wastes will be collected and transported to the mainland for disposal at a site approved by the Shire of Ashburton.
- (7) Command Petroleum will manage all oil spills using the approved Oil Spill Contingency Plan (OSCP) and will abide by all procedures detailed in the OSCP.
- (8) An oil spill recovery vessel fitted with oil spill combat equipment will be on dedicated standby at Dampier during drilling. A standby vessel will be in the vicinity of the drilling rig at all times to assist with oil spill combat responses in the event of an oil spill.
- (9) An oil spill containment boom and skimmer will be stored onboard the drilling rig for the duration of the drilling programme. In the event of an oil spill, this equipment will be loaded onto the support vessel for deployment.
- (10) In the event that the EPA grants pre-approval to Command Petroleum for dispersant use, the company will ensure that adequate stocks of an appropriate approved dispersant are stored on board the drilling rig, ready for immediate use under approved conditions.

## **Appendix 2**

**Proponent's response to issues raised in submissions**

# COMMAND PETROLEUM HOLDINGS NL

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38 Mounts Bay Road  
PERTH WA 6000

ENVIRONMENTAL PROTECTION AUTHORITY	
10 SEP 1992	
120/91	Initials OBE 6

EP341-PAD-3

Attention : Mr. D. Betts

Dear Sir

re: CER for Offshore Permit Wide Drilling Programme

Thank you for your letter of 28 August 1992 (your ref. 120/91) regarding the above document. The following are our responses to the points raised therein :-

i) **Pre-spud Inspections of the Well Sites and Adjacent Environs**

As stated in the CER, Command Petroleum Holdings N.L. ("Command") is committed to undertaking pre-spud inspections of the well sites and nearby environs, in accordance with the scope of work outlined in the above referenced correspondence, and the Guidelines issued for preparation of the CER.

Analysis and interpretation of seismic data for the prospects are still being undertaken and the final well site locations have not yet been selected. Therefore, at this stage, it is considered premature to conduct the site-specific field inspections. However, Command appreciates that this site-specific biological information is critical to ensuring that the drilling operations (and any oil spill responses) are managed in an environmentally responsible manner to the satisfaction of the Environmental Protection Authority ("EPA"). Command therefore undertakes to conduct the site-specific inspections and submit the associated report to the Department of Minerals and Energy, and the EPA, a minimum of four weeks before the proposed spud date for the first well.

Finalised resource protection priorities, based upon the site-specific field data, will also be incorporated into the Oil Spill Contingency Plan.

ii) **Surface Current Tracking Exercises**

It is understood that the EPA recognises the difficulty of accurately modelling surface current trajectories (and oil spills) in the vicinity of the proposed wells, and therefore does not advocate that additional modelling should be undertaken to attempt to better characterise current flow patterns during the proposed drilling



period. Instead, the EPA has suggested that additional surface current tracking exercises (mat tracking) should be undertaken at the proposed well sites, to further understanding of the flow patterns and hence improve predictions of likely oil spill trajectories in the event that oil or fuel are split during the drilling operations.

To optimise the applicability and usefulness of this information, Command proposes to conduct the mat tracking exercises at approximately the same time as the pre-spud well site inspections are conducted. In this way, the mat tracking exercises will be conducted for the finalised well site locations, and wind conditions will be representative of the seasonal wind patterns that will prevail during the drilling operations. The mat tracking exercises will be undertaken during a spring tide when current speeds are at a peak, so that "worst case" tidal current speeds are observed. The results of the mat tracking exercises will be submitted as part of the report on the pre-spud well site inspections, as described in paragraph i) above.

It is recognised that the precise mat trajectory observed during the tracking exercise(s) will be specific to the combination of tide and wind conditions that prevail during that day(s), and that the probability of the same precise combination of conditions recurring on the day of an actual oil spill is extremely low. Owing to the network of constricted channels that characterise the shallow marine environment of the permit areas, it is expected that tidal-driven currents will dominate flow patterns (oil spill trajectories) at all times. Current flow directions over a full tidal cycle are not expected to vary significantly from day to day, although flow velocities will vary according to the tidal phase.

For these reasons Command does not believe that the expense of undertaking repetitive tracking exercises at the well sites is warranted. One mat tracking exercise at each of the presently proposed well sites has been undertaken and reported to date. If the final well sites are located near the presently proposed well sites, then Command will undertake one further spring tide tracking exercise at each site. If the final well sites are in different locations, where Command considers that the results of the previous mat tracking exercises may not be applicable, then Command will undertake two spring tide tracking exercises at each of the new well sites.

In the event of any accidental oil or fuel spillage during the drilling operations, a tracking mat(s) will immediately be deployed and tracked to assist oil spill response planning operations.

### iii) Selection of Final Well Site Positions

As discussed above, final rig site locations will not be known until all of the seismic data have been processed and interpreted. It is proposed that vertical exploration holes will be drilled. In choosing the final well sites positions, Command will give



due consideration to the sensitive area in which it is operating and the proximity of high conservation value marine resources. Where feasible, Command will endeavour to locate the well sites as far as possible from these resources with a preference for moving into deeper water.

#### iv) Refuelling Operations

The drilling rig will be fuelled in offshore waters away from environmentally sensitive resources before being towed to the well sites. The duration of the drilling programmes at each well site is expected to be short (seven days/well), therefore it is not envisaged that the rig will require refuelling while on location at either well site. However, if for some reason the rig does require refuelling while on location, a containment boom will be deployed around the refuelling operations before refuelling operations commence.

Owing to the expected shallow water depths at the well sites, optimum refuelling times will be slack water on high tide, when maximum water depths are available to afford protection to nearby shallow marine resources from any accidental spillage, and there are maximum draft and low current speeds for ease of manoeuvring the refuelling vessel and the containment boom. Where logistically possible, any necessary refuelling operations will be undertaken at these times.

We trust that these initiatives are acceptable to the EPA and will assist with preparation of your assessment report for our proposal.

Yours faithfully

**COMMAND PETROLEUM HOLDINGS N.L.**

A.C.N. 001 695 398

Operator of the EP-341/-364 Joint Venture

  
**JOHN P. GRACEY**  
General Manager

# COMMAND PETROLEUM HOLDINGS NL

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17 September 1992

The Director  
Evaluation Department  
Environmental Protection Authority  
Westralia Square  
38 Mounts Bay Road  
PERTH WA 6000

ENVIRONMENTAL PROTECTION AUTHORITY	
18 SEP 1992	
File No. 120/91	Initials: ADE

EP341-PAD-3

Attention: Mr. D. Betts

Dear Sir

re: CER for EP-341/-364 Offshore Permit Wide Drilling Programme

Thank you for your letter dated 8 September 1992 (your ref. 120/91) providing a summary of the points raised in submissions to the Consultative Environmental Review.

Enclosed please find our responses to those submissions, in a form suitable for direct inclusion in the Environmental Protection Authority's Report and Recommendations document.

We trust that the enclosed meet your requirements. If you require further information or clarification of any of the responses, please do not hesitate to contact Mr. Barry Smith, Command's Exploration Supervision, or the undersigned.

Yours faithfully  
COMMAND PETROLEUM HOLDINGS N.L.  
A.C.N. 001 695 398

R.H. LaRue  
Technical Director

Encl.

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**Submission:** The Passage Islands site is within a preferred prawn trawling area and it would be preferable if it were drilled first so that any unexpected delays in drilling would not push the operation into the beginning of the trawling season.

**Response:** This preference is noted by Command Petroleum who will endeavour to plan the timing and location of their drilling operations to minimise any potential inconvenience to the prawn trawling industry.

**Submission:** We seek reassurance that the drilling of the wells will be accompanied by a commitment from the company that it will accept responsibility for any adverse environmental impacts, particularly damage to the prawn fishery from an oil spill, which may occur as a result of the drilling.

**Response:** Command Petroleum undertakes to accept responsibility for adverse environmental impacts which may occur as a consequence of the drilling programme and associated activities, in accordance with the laws of Western Australia. Command Petroleum has in place an Exploration Package Insurance policy arranged through the brokers Sedgwick James Ltd which covers among other things, the following :-

Seepage and Pollution/Clean Up and Containment Costs/-  
Blowout/Evacuation Expenses/Removal of Wreckage and  
Debris with a limit of A\$75 million; and

General Third Party Liability (legal and/or contractual)  
caused by an occurrence arising out of operations with a  
limit of A\$50 million.

**Submission:** There is a need to include a commitment to exercise the oil spill response action plan.

**Response:** Command Petroleum undertakes to test the oil spill response action plans defined in the oil spill contingency plan prior to spudding the first well, and thereafter with each change of drilling rig. If the tests identify any deficiencies in the oil spill contingency plan, it will be upgraded accordingly to rectify such deficiencies.



**Submission:** The agency responsible for the monitoring of the sanitary and liquid waste disposals (Section 5.2.2.) should be identified. Effluents should be transported away from the site for disposal rather than discharged at site.

**Response:** In general, the Pollution Control Division of the Environmental Protection Authority (EPA) is responsible for licensing and monitoring discharge of such wastes. The need to licence and monitor waste discharges is assessed on a case by case basis. The EPA has advised that they do not foresee a necessity to monitor sanitary and liquid wastes discharges from the drilling rig during Command Petroleum's proposed well drilling programme.

It is not considered necessary for liquid effluent to be transported away from the well sites, rather than being discharged at the sites, because :

- (i) the wastes will be treated (as described in Section 5.2.2. of the CER) before being released to the ocean;
- (ii) the proposed drilling programme at each well site is a relatively short interval (approximately seven days per well), therefore the volume of liquid wastes discharged during these periods will be minor relative to the volume of the receiving waters; and
- (iii) both proposed well sites are located in relatively shallow water where tidal currents are strong, promoting good flushing and rapid, effective dilution of the discharged effluent.

**Submission:** The permit should not be granted for more than the two drill holes specified in this CER. Another CER should be submitted when further drill locations are identified.

**Response:** The EPA, in discussions with the Department of Minerals and Energy and industry representatives, has identified the permit wide assessment process as a means of processing these types of proposals more efficiently, but with the same degree of environmental protection as for individual assessments. In addition to the preparation of the CER which discusses the worst case scenario, the EPA also requires that site-specific details including the location, water depth, distance from sensitive resources, and a description of the drilling programme be presented when exact drilling locations are finalised for each proposed well. Command Petroleum has undertaken (Commitment 2 in the CER) to provide this information to the EPA and the Department of Minerals and Energy with each drilling application.





**Submission:** Oil Spill Contingency Plan: Part B Section 3.4. I would like Command Petroleum to include the following amongst their protection priorities :

**Passage Islands - Pied Cormorant colony on North Sandy Island.**

**Mary Anne Group - Pied Cormorant colony on Mary Anne Reef.**

**Mangrove Islands - Pelican rookery on Little Rocky Inlet.**

**I believe the coastal mangroves require the greatest degree of protection.**

**Response:** These recommendations have been noted by Command Petroleum and the Oil Spill Contingency Plan has been amended accordingly to include these recommendations.

**Submission:** The Shire of Ashburton requests notification prior to the drilling of any new exploration wells, additional to those mentioned in the Consultative Environmental Review, in the Permit Area.

**Response:** Command Petroleum notes this request.

## THE PURPOSE OF THIS REPORT

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposal.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's recommendations.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposal may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

## APPEALS

If you disagree with any of the contents of the assessment report or recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of \$10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

## ADDRESS

Hon Minister for the Environment  
18th Floor, Allendale Square  
77 St George's Terrace  
PERTH WA 6000

## CLOSING DATE

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 pm on 6 November, 1992.