

Ichthys Gas Field Development

Environment Plan - Summary

Offshore Geophysical Survey Potential Pipeline Routes

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1 LOCATION AND BACKGROUND INFORMATION

Permit area WA-285-P is located in the Browse Basin approximately 440 km north of Broome and 800 km south-west of Darwin. Drilling Campaigns in 2000 and 2003 resulted in a significant hydrocarbon gas and condensate discovery known as the "Ichthys Field".

It is proposed to construct a facility on South Maret Island for further processing of the gas and condensate, complete with product off-loading facilities. Champagny Island is retained as an alternative site for onshore facilities. The field and the Island sites are shown on Map 1.

2 DESCRIPTION OF THE RECEIVING ENVIRONMENT

Climate and Oceanography

The Study Area is situated in the tropics and experiences a monsoonal climate with two predominant seasons: a summer Wet Season (October - April) and a winter Dry Season (May - September).

Marine Ecology

Continental shelf – Open waters

The Timor Sea supports a variety of shark and pelagic finfish species of commercial and recreational game-fishing importance (e.g. tunas, mackerels and swordfishes). The Timor Sea also supports five species of turtles and a variety of cetaceans.

Epibenthic flora and fauna

Epibenthic fauna are abundant and diverse. However, sea floor communities in deeper waters are generally depauperate. Species found in these areas include sponges, gorgonians (sea whips and sea fans), ascidians (sea squirts), echinoderms, crustaceans, bryozoans (lace corals), and soft corals.

Benthic infauna

Across the northern continental shelf, the predominant animals living within sea floor sediments are polychaetes (burrowing worms) and crustaceans (prawns, shrimp, crabs, etc.). Other species include echinoderms (sea stars, sea urchins, feather stars, etc.), molluscs (both gastropods and bivalves), nemerteans (ribbon worms), sponges and fish.

Sea mounts

Two small subtidal shoals or pinnacles occur near to the permit area. These are Heywood and Echuca Shoals. These shoals and subsea mounts rise out of approximately 150 m depth to peak at 10 to 15 m from the sea surface.

Reefs and islands

Browse Island, is within close proximity to the permit area. The study area is approximately 10 kilometres away from Browse Island at the closest point. Browse Island is believed to be an important turtle and bird nesting site, and is surrounded by extensive coral reefs.

The Marets and Champagny islands are part of the Bonaparte Archipelago. There are over 2,000 islands of all sizes and shapes along the Kimberley coast. Large tidal variations are often experienced along the coast and together with high summer discharges from inland rivers, significantly influence the coastal environment.

Seagrass and macroalgae

Macro-algae form the basis of many food webs in the marine environment and also contribute to reef structure and to sediment formation. Algal meadows grow on shallow limestone pavement while seagrass beds are generally located on sandy patches in the lagoons.

Corals

The offshore atolls have major assemblages of reef building corals. Coral reefs are ecologically important due to their high biological productivity and the high diversity and abundance of marine organisms that they support.

Dugongs and turtles

The offshore reefs are feeding grounds for dugong (Dugong dugon) and feeding grounds and/or beach nesting sites for green turtles (Chelonia mydas), loggerhead turtles (Caretta caretta) and hawksbill turtles (Eretmochelys imbricata). Turtles use seagrass and algal meadows as feeding areas and nest above the high water mark on sandy beaches.

Seabirds

Seabird feeding grounds, roosting and nesting areas are found on the offshore atolls. Migratory seabirds, a number of which are protected by international agreements (Bonn Convention, JAMBA and CAMBA) including a number of Albatross species, may pass through the study area.

Areas of Environmental Significance

There are no known areas of environmental significance in the immediate vicinity of the project area. No endangered or vulnerable species are known to reside permanently in the area although some may pass through on migratory routes.

Browse Island is the nearest island of significance, with the survey passing within five nautical miles. Browse Island is currently a Western Australian Class C Reserve (No. 22697) for the conservation of Flora and Fauna. A C Class Reserve (No. 41775) for the purposes of Conservation, Navigation, Communication, Meteorology and Survey is also current for Browse Island.

3 ACTIONS TO BE UNDERTAKEN

The geophysical survey campaign will include:

- Collection, processing and reporting of multi-beam bathymetry, side scan sonar and sub bottom profiler data; and
- Seabed drop core sampling including the collection of 3m gravity cores and / or grab samples to assist with the interpretation of side scan sonar data, sub bottom profiler data.

The objectives of this survey are to provide sufficient information to:

- Enable suitable pipeline routes to be identified from the Ichthys Field to South Maret and Champagny Islands;
- Facilitate the design of a submarine pipeline, including settlement, scour, lateral and longitudinal friction factors and shore approach engineering etc;
- Seabed soil classification; and
- Survey the proposed tanker channels and approaches to the LNG Jetty, MOF wharf location at South Maret and Champagny Islands.

4 IDENTIFICATION OF MAJOR ENVIRONMENTAL HAZARDS

ACTIVITY	LIKELIHOOD	CONSEQUENCE	MEASURE OF CONSEQUENCE	ENVIRONMENTAL RISK		
ROUTINE						
Physical presence and seabed disturbance	Will occur	Potential adverse effect on benthic marine organisms. Small area of impact.	Insignificant	Low		
Acoustic Disturbance	Could occur	Disturbance to Cetaceans due to frequency overlap of equipment and Cetacean communications.	Minor	Low		
Sewage and Putrescible Wastes	Could occur	Potential contamination and nutrient addition may impact on Marine Life	Insignificant	Low		
Deck Washdown	Will occur	Potential to contaminate local waters posing a threat to marine life.	Insignificant	Low		
ACCIDENTAL						
Vessel collision and diesel spill (< 290 T)	Unlikely	Potential to contaminate local waters posing a threat to marine life. Relatively minor quantities.	Minor	Moderate		

5 ENVIRONMENTAL CONTROLS/MANAGEMENT

Торіс		
Physical Presence	Location of vessels will be notified to AMSA and vessels will comply with Australian maritime law.	
Seabed disturbance	Anchoring of vessels during survey is highly unlikely and would only create a localised, temporary disturbance.	
	Gravity coring and grab samples will only create a minor, localised temporary disturbance.	
Acoustic Disturbance	Acoustic survey equipment to operate within identified parameters.	
	In event of sighting of Cetaceans, implement EPBC Cetacean Interaction Guidelines.	
Vessel collision (prevention)	Establish a 500 m exclusion zone around drilling vessel or close contact between masters of vessels operating in this survey	
	Inform AMSA of vessels' positions	
	Ensure lighting of vessels is maintained and "fit for purpose"	
	Use radar and radar reflectors, in addition to implementation of a 24 hour radio watch	
	Ensure crew is fully trained in emergency and OSCP procedures.	
Sewage and putrescible wastes	Sewage and food scraps will be discharged via direct overboard drain after being macerated and pulverised in accordance with P(SL)A regulations and MARPOL regulations.	
Solid wastes	All solid wastes will be stored on board the rig, in appropriate containers, for transport ashore where they will be disposed of in full accordance with local and State regulations.	
Deck wash down waste	Absorbents and containers will be available on the rig to clean up small accumulations of oil and grease around work areas and decks.	
	Accumulations of oil, grease and other contaminants will be collected and removed from the decks prior to any washdown. Washdown drainage will be directed to a settling tank to separate any oil from water prior to discharge of the water.	

6 CONSULTATION

Extensive consultations are planned for the Ichthys project. The development of the project has been referred to the Environmental Protection Authority and has been set at an Environmental Review and Management Plan level of assessment with a 12 week public consultation period. Referral to the WA Environmental Protection Authority is advertised for public comment as a requirement of the process.

Consultation with Government at the State and federal Level has commenced with briefings to key government departments. This will continue and regular updates will be undertaken as the project develops.

Discussions with Local Governments relevant to the project have been undertaken and will be continued. This has also included key community, agency and business representatives at the invitation of the Shire(s).

Consultations with community and non government organisations is planned to commence in the second half of 2006 through public forums and specific presentations/meetings where appropriate.

Traditional Owners are considered to be key component of the consultation program and Inpex has begun an extensive program of engagement with traditional owners and representative bodies. Consultations with the Kimberley Land Council (representing the Dambimangari and Uunguu native title claimants) have taken place in regard to gaining access to various offshore islands in the Kimberley region.

7 CONTACT DETAILS

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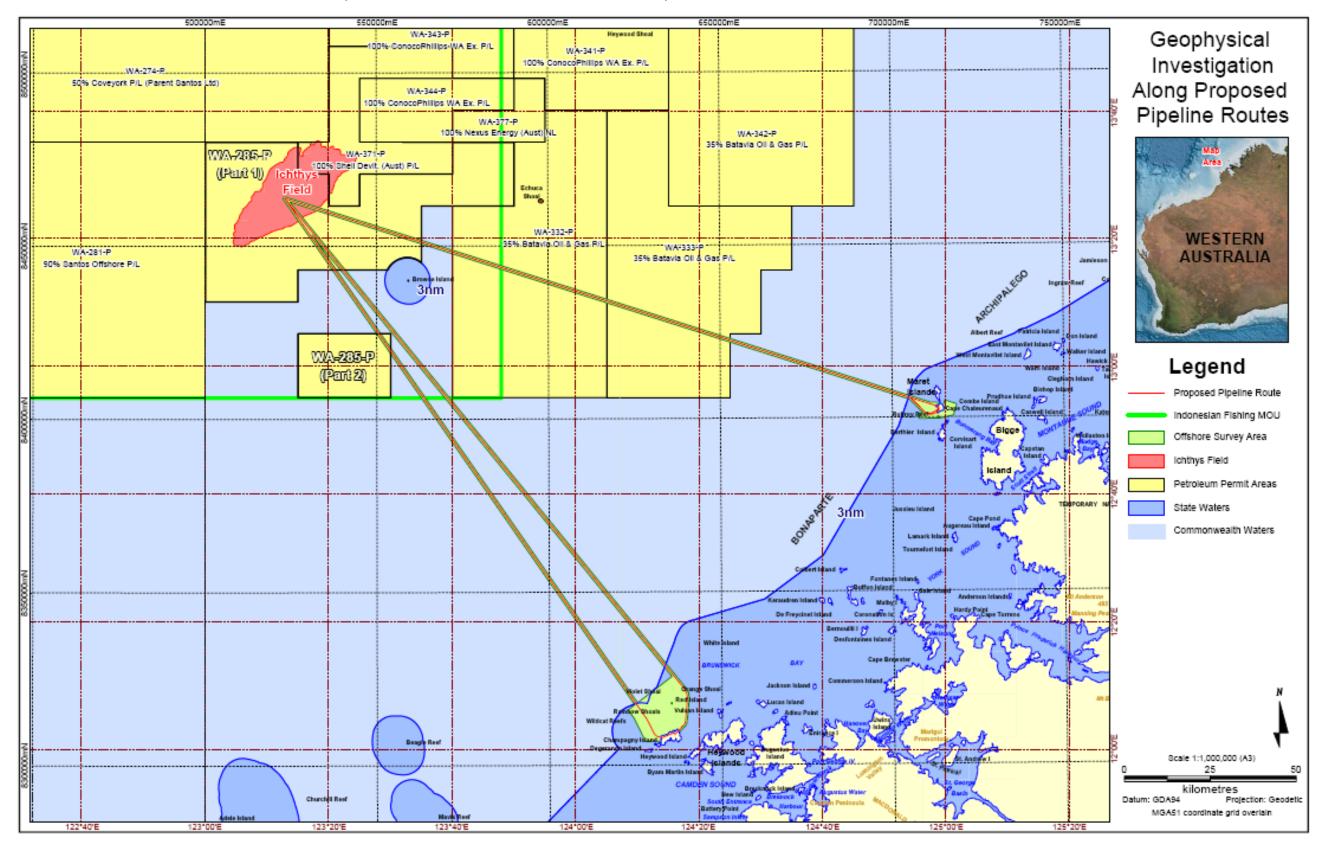
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8 MAP 1 : GAS EXPORT PIPELINE ROUTES (SOUTH MARET & CHAMPAGNY ISLANDS)



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