Origin is currently preparing an Environment Plan to support a proposed two dimensional (2D) marine seismic survey in the Joseph Bonaparte Gulf, in exploration permit NT/P84. The proposed survey is named “Gulpener 2D” and could potentially identify new gas reserves. This information sheet has been prepared to inform people and organisations whose functions, interests or activities may be affected by the survey and to start a consultation process.

The Bonaparte Basin is a large, predominantly offshore sedimentary basin that covers approximately 270,000 square kilometres of Australia’s northwest continental margin and is a proven petroleum province. Petroleum exploration of the Bonaparte Basin commenced in the late 1940s. The first well was drilled in 1963 and development has continued since then.

The purpose of this survey is to acquire data to assist in mapping the subsurface geology to determine the potential gas resources. The survey data will be interpreted to understand gas prospectivity and possible future drilling locations within the NT/P84 permit area.

The survey will be conducted in accordance with all applicable Acts and regulations including the requirements of the Offshore Petroleum and Greenhouse Gas Storage Act 2010 (“the Act”). The Act requires the lawful operation of, and regulates the interaction of, navigation, fishing conservation and petroleum exploration or construction activities within a shared geographical area.
This map shows the expected survey and operational area of the seismic vessel during normal operations, including expected turning areas.
PROJECT OVERVIEW

Location
The proposed survey will be conducted in the Joseph Bonaparte Basin, located in exploration permit NT/P84 which sits within Commonwealth waters. It is approximately 165 km (88 nautical miles) south west of Darwin and 20 km (11 nautical miles) north-north east of Port Keats (Wadeye) and 10 km (5.4 nautical miles) east of the Blacktip gas field.

Overview of the environment
The Environment Plan will include a comprehensive description and assessment of the environment and based on a risk management approach, will document identified potential risks and the performance standards that will be applied to manage those risks. The environment is characterised by:

- Joseph Bonaparte Gulf Commonwealth Marine Reserve which includes important foraging areas for threatened and migratory for marine turtles; the Legune Important Bird Area (south-east of Gulf); and the Ord River system.
- High tidal currents with tides up to 8 metres decreasing with distance from the shore, possible extreme waves during cyclones.
- A large sandy sill is present on the east side of the Gulf. Rivers and creeks empty into the Gulf along the south-east, including the Victoria and Fitzmaurice Rivers.
- The off-shore area includes shallow rocky reefs and shoals (such as Howland Shoals and Emu Reefs) and limited coral reef communities and seagrasses.
- Reef fish protection area at Emu Reefs designated by Northern Territory Department of Primary Industries and Fisheries to protect aggregations of certain depleted species.
- Local marine fauna includes a variety of dolphin species and dugongs which are in low numbers due to absence of large seagrass meadows, approximately 6 species of turtles expected at varying densities, estuarine crocodiles, sea snakes and sawfish.
- Northern Prawn fishery and other regional Commonwealth fisheries.
- Barramundi and threadfin salmon fished commercially and recreationally.
- Subsistence fishing along shore and creeks.
- Wadeye pipeline and offshore facilities.

Timing
The survey is scheduled to take place over approximately 2 to 3 weeks, during the period 1 March 2016 to 1 July 2017. Origin is aware of both designated and preferred fishing seasons for commercial and recreational fishing, and peak tourism activity. We will endeavour to plan the survey timing around these activities. However, this will depend on availability of suitable contractors and vessels, along with other environment and weather considerations, and regulatory approval.

Survey Method
Origin is proposing a typical 2D survey technique which is common in Australian waters. No unique or unusual equipment or operations are proposed. The survey method is a non-invasive technique commonly used for gas exploration to provide images of the sub surface geology. The survey will be conducted 24 hours a day except when sea conditions exceed operational parameters (4.5 m significant wave height).

Safety and environment
Origin recognises the important ecosystems, heritage, social and economic values in the communities in which we operate. Origin gas exploration surveys are conducted to industry best practice standards and are carried out in accordance with all relevant safety and environmental legislation and regulations. Origin has successfully and safely completed five marine seismic surveys over the last five years.

Offshore exploration activities, are governed by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). NOPSEMA is the Australian Commonwealth Government Statutory Agency responsible for regulating health and safety, structural integrity and environmental management of all offshore petroleum facilities and activities in Australian Commonwealth waters. In line with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations (2009), Origin is currently preparing an Environment Plan for the survey activity, which will be submitted to NOPSEMA for approval before proceeding with the survey.

The Environment Plan is a comprehensive document that describes the existing environment and identifies how we will conduct all of the activities to avoid, minimise and manage any environmental risks. In developing the Environment Plan, relevant up-to-date marine, environmental and technical studies will be taken into consideration, along with stakeholder feedback. A summary of the approved Environment Plan will be made publicly available on the NOPSEMA website.

Maritime safety procedures
The vessel and towed array of equipment will operate in accordance with Australian and International Maritime safety standards.

The guard vessel will actively monitor and enforce a buffer zone around the survey vessel. The survey vessel operator will issue a vessel positioning notification to the Australian Hydrographic Service (AHS) at least by 21 days prior to commencement of the operation, who will in turn publish the survey location in the Notice to Mariners (published fortnightly). A daily AUSCOAST warning of the survey vessel’s location will also be issued to all vessels by RCC Australia through the Global Maritime Distress Safety System (GMDSS) communication network. The warning will provide details of the safe distance to be maintained around the survey vessel and towed equipment.

Consultation
Preparation of the Environment Plan includes informing and consulting with “relevant persons”, defined in the Environment Regulations as organisations and people whose functions, interests and activities may be affected by the proposed survey. This information sheet has been prepared to inform relevant persons about the survey so they can assess any potential impact and advise Origin so that we can consult with them. If anyone requires additional information to assess potential impact, we encourage them to contact us and advise what specific information they require.

The purpose of consultation is to understand and confirm each relevant person’s connection or relationship to the proposed survey and seek their feedback based on relevant local knowledge. As the Environment Plan is being developed, Origin will consider all feedback, including any concerns, objections and claims. We will explore measures to reduce impacts and risks, and provide responses. All feedback will be considered alongside technical and environmental assessments as we prepare the Environment Plan.
FREQUENTLY ASKED QUESTIONS

Why are you carrying out a survey here?

The Bonaparte Basin is a large, predominantly offshore sedimentary basin that covers approximately 270,000 square kilometres of Australia’s northwest continental margin and is a proven petroleum province. This survey will supplement data and knowledge from previous surveys that will enable us to understand the geological structure of the rock formations beneath the survey area. The proposed survey could potentially identify new gas reserves.

When will work start and finish?

The proposed survey will be a relatively short duration of approximately 2 to 3 weeks. It will take place sometime during the period 1 March 2016 to 1 July 2017. This timing will be narrowed down after we have received regulatory approval and have engaged suitable contractors and vessels. We will notify potentially impacted stakeholders when we have finalised the timing and will communicate with them before, during and after survey completion.

Will the survey take place at day or night?

Both. Survey activity is a 24 hour operation.

Will there be exclusion zones for other vessels around the survey area?

Yes, the Australian Maritime Safety Authority will issue a 'Notice to Mariners' to all other vessels advising that they should avoid the survey area. Origin will maintain direct communications with professional fishers operating in the area before, during and upon conclusion of the survey. The guard vessel will communicate and liaise with water users about the operation, as required. During the survey, if other vessels are sighted, standard maritime protocols and precautions will be in place to provide adequate distance to avoid nets and lines and vessel collisions.

Will any equipment be left behind?

No equipment will be left behind. All equipment is deployed from and towed behind the seismic vessel. There is no equipment placed in contact with the seabed.

What happens if you discover gas?

If as a result of the survey there appears to be potential for commercial gas resources, additional regulatory approvals will be required before drilling could commence.

What is an Environment Plan and who assesses it?

The Environment Plan is a detailed document that describes the existing environment and any risks to the environment that the survey may pose, along with all of the measures that will be implemented to avoid or minimise any risk of environmental harm. The plan shows how Origin will meet all regulatory requirements and contains all of the information needed to show how the environment will be protected during the survey. The Environment Plan will be assessed by NOPSEMA. After NOPSEMA have approved the Environment Plan, a summary of the plan shall be published on the NOPSEMA website.

Have the potential impacts on marine life been considered?

Yes, for previous activities in the region we carried out an assessment of relevant studies and sought specialist and independent advice on marine species and the marine environment. We will continue to consult a range of stakeholders, including local fishermen, regulatory bodies and groups with knowledge and expertise in the marine environment in this region, in the development of the Environment Plan.

Have the potential impacts on dolphins and turtles been considered?

Yes. We have taken into consideration advice from marine biologists and operations will be conducted in accordance with strict environmental management guidelines established by the Australian government and international experts.

Are there whales in the area?

There are very few species of whales known to frequent the area. Survey work will be conducted under the supervision of experienced Marine Mammal Observer who will have Origin’s full authority to stop the survey should a whale present within proximity to an active survey.

CONTACT US

If you are seeking further information about this survey specific to your functions, interests or activities, or wish to provide feedback, please contact us. Origin invites consultation with stakeholders potentially affected by the survey, including those stakeholders with specific local knowledge or an interest in the environmental performance of this project. Feedback and consultation will inform the development of the Environment Plan. For further information please contact:

Linda French
Community Relations Specialist

Phone: 1800 797 011

Email community.team@originenergy.com.au

Please be advised that stakeholder feedback and records of consultation will be communicated to NOPSEMA as required by legislation.

ABOUT ORIGIN ENERGY

Energy (ASX: ORG) is the leading Australian integrated energy company with market leading positions in energy retailing (approximately 4.3 million customers), power generation (approximately 6,000 MW of capacity owned and contracted) and natural gas production (1,093 PJ of 2P reserves and annual production of 82 PJe). To match its leadership in the supply of green energy, Origin also aspires to be the number one renewables company in Australia.

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