

**BEFORE THE BOARD OF INQUIRY  
TAMARIND DEVELOPMENT DRILLING APPLICATIONS**

**EEZ100016**

**IN THE MATTER**

of the Exclusive Economic Zone and  
Continental Shelf (Environmental  
Effects) Act 2012

**AND**

**IN THE MATTER**

of a Board of Inquiry appointed under  
s52 of the Exclusive Economic Zone  
and Continental Shelf (Environmental  
Effects) Act 2012 to decide on  
Tamarind Taranaki Limited's marine  
consent and marine discharge consent  
applications

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**STATEMENT OF EVIDENCE OF JASON LEE PEACOCK  
FOR TAMARIND TARANAKI LIMITED**

**DATED:** 20 July 2018

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## **MAY IT PLEASE THE BOARD**

### **1. Executive Summary**

- 1.1 Tamarind is a privately held company that has its headquarters in Kuala Lumpur, Malaysia. The company was launched in 2014 and employs 150 staff and contractors. The company has two (2) significant shareholders. In early 2017 Tamarind acquired all the interest in the Tui Field and was granted operatorship by NZ Petroleum and Minerals in May 2017.
- 1.2 Tamarind has a strong focus and commitment to health, safety and the environment, with the wellbeing of its direct and indirect employees of utmost importance. Tamarind has a robust health and safety management system in place and ensures that there is a high level of reporting and response to any HSE issues.
- 1.3 Tamarind has an excellent record of regulatory compliance and its obligations to The Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012, the Maritime Transport Act 1994 and associated Marine Protection Rules, Health and Safety at Work Act 2015, the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016, Health and Safety at Work (Hazardous Substances) Regulations and the Hazardous Substances and New Organisms Act 1996.
- 1.4 Tamarind has strong relations in the community and is committed to long-term and meaningful relationships, that allow the local community to develop and grow. Over the past 10 years Tamarind (and its predecessor companies) have contributed more than \$3 million towards community support programs.
- 1.5 The Tui Field (PMP 38158) comprises five (5) subsea wells and infrastructure, all of which is connected to a permanently moored FPSO, located in the centre of the field. The field has produced over 40 million barrels of oil since it first came on line in July 2007. The FPSO is owned by BW Offshore and is operated on behalf of Tamarind via a Charter Agreement between the two parties.
- 1.6 The development program, the subject of this application, proposes that up to four sidetrack wells will be drilled from existing field infrastructure to access up to 7.5 million barrels of additional production. It is planned to drill these

wells in mid-2019 with the total duration of the program not expected to be longer than 9 months in duration. The wells will be drilled using a semi-submersible drilling rig.

- 1.7 Tamarind can effectively and efficiently respond to any major accident or incident through a system of procedures, manuals and trained personnel to ensure that the correct protocols and responses are undertaken in the event of an emergency. Tamarind utilises a common incident management system to ensure that any response processes are known and understood by supporting agencies.
- 1.8 To respond to any spill, Tamarind has put in place spill contingency plans which describe how Tamarind and its supporting organisations will respond to a spill and how communication will be managed between the respective response agencies. Tamarind has a wide range of spill response options available to be mobilised in the unlikely event of a spill, all of which are approved by the appropriate regulators.
- 1.9 Tamarind confirms that it holds all appropriate insurances as are required to ensure that in the event of an unplanned incident appropriate funding and resources are available to both enable an immediate response, and to address any liability claims that may arise.
- 1.10 Strict biosecurity procedures will be put in place to ensure that the rig does not pose a biosecurity risk when it enters NZ waters. Tamarind will develop a Craft Risk Management Plan that will apply to the drilling rigs and any support vessels sourced from outside New Zealand.
- 1.11 Tamarind has undertaken a structured and robust stakeholder management process as part of this application and ensured that all key stakeholders have had an opportunity to understand the scope of the development and to respond accordingly with any concerns that they might have.

## **2. Introduction**

2.1 My full name is Jason Lee Peacock.

2.2 I hold the following qualifications:

2.2.1 A Bachelor of Science in Geology and a Diploma in Management from the University of Canterbury in Christchurch

2.2.2 A Master of Science in Petroleum Engineering from Heriot Watt University in Edinburgh.

2.3 I am currently employed as the Country Manager New Zealand of Tamarind Resources Pte Limited (Tamarind) and have held this position since March 2017. I am also a Director of each of Tamarind's four New Zealand companies, these being Tamarind Taranaki Limited, Tamarind New Zealand Limited, WM Petroleum Limited and Stewart Petroleum Limited.

2.4 I am an employee of AWE Holdings NZ Limited (AWE) and provide services to Tamarind under a secondment agreement.

2.5 In my employment with AWE I hold the position of General Manager and am also responsible for managing AWE's activities in New Zealand.

2.6 I have worked in engineering and the oil and gas industry for over twenty years. This being predominantly in technical, engineering and project management positions. I have worked for a range of large and small companies including Methanex, Fletcher Energy, Chevron and Shell.

2.7 I have been involved in the Tui Field since May 2008 in numerous roles, including Senior Petroleum Engineer, Asset Manager and General Manager. As Country Manager NZ I am responsible for all Tamarind's business in New Zealand, including operations in the Tui oil field, but also in relation to any other production and development operations Tamarind conducts in New Zealand. These responsibilities therefore include the environmental and

safety outcomes associated with the proposed development wells that form part of this application.

2.8 I have read the following information in preparation of my evidence:

2.8.1 The Marine Consent Application and Marine Discharge Consent Application (the “**Applications**”) and the Impact Assessment and Annexures, which accompanied the Applications (the “**IA**”).

2.8.2 The statements of evidence by:

- a) Mr Iain McCallum;
- b) Dr Brian King;
- c) Dr Simon Childerhouse;
- d) Ms Nici Gibbs;
- e) Dr David Thompson;
- f) Dr Alison MacDiarmid;
- g) Dr Alison Lane
- h) Dr Sharon De Luca;
- i) Mr Fraser Colegrave.

2.8.3 Submissions.

2.8.4 Proposed consent conditions.

2.8.5 EPA Key Issues Report, dated July 2018.

2.8.6 The following independent reviews commissioned by the EPA (the “technical reviews”):

- a) *Technical Review of Oil Spill Modelling*, prepared by Coffey Services (NZ) Limited, dated 26 June 2018 (the “Coffey Report”);
- b) *Technical Review and Analysis of Operational Activities associated with Sidetrack Development Drilling and Marine Discharge Consent - Assessment Report*, prepared by Oil

and Gas Solutions Pty Limited, dated 22 May 2018 (the “OGS Report”); and

- c) *Review of Marine Environmental Impact Assessment*, prepared by SEAPEN Marine Environmental Services, dated 26 May 2018 (the “SEAPEN Report”).

2.8.7 Tamarind’s *‘Response to the Board’s Request for Further Information under section 54 EEZ Act’*, dated July 2018 (“RFI Response”).

### **Scope of evidence**

2.9 In this evidence, I will discuss the following:

2.9.1 Background information regarding Tamarind, including the company’s history and its corporate structure, its policies, systems and performance, and its community involvement;.

2.9.2 A summary of Tamarind’s current areas of interest and primary activities and in particular, the history of the Tui Field and Tamarind’s offshore facilities and operations;

2.9.3 Background information regarding the proposed drilling activities and operational reasons for the Applications that have been made;

2.9.4 Biosecurity risk management;

2.9.5 Tamarind’s engagement with stakeholders in respect of the Applications;

2.9.6 Response to issues raised by submitters where these are relevant to my evidence; and

2.9.7 Positive effects associated with the proposed drilling activities.

### **3. Tamarind Taranaki Limited**

#### *Background*

- 3.1 Tamarind is a privately held company that was launched in 2014 and is headquartered in Kuala Lumpur, Malaysia. The Company has its registered office in Singapore and currently employs approximately 150 staff and direct contractors across Malaysia, Singapore, Australia and New Zealand.
- 3.2 The company has two significant shareholders and is supported by a range of private equity and financial institutions. Tamarind currently operates or provides operational services for assets producing approximately 3,000 barrels of oil per day.
- 3.3 In the period from late 2016 through to early 2017 Tamarind purchased all four companies that held interests in the Tui asset. The acquisition of these four companies meant that Tamarind held 100% of the Tui asset and was subsequently granted formal operatorship by New Zealand Petroleum and Minerals in May 2017.
- 3.4 Tamarind's point of difference is its expertise as an operator of late-life oil and gas assets, and this expertise enables it to extract additional reserves from those assets that other organisations may not be able to economically extract.
- 3.5 Tamarind's corporate values are four fold:
  - 3.5.1 HSE above all else – Tamarind's priority is to protect the health and safety of all employees and contractors and to ensure that its activities have the least possible impact on the environment;
  - 3.5.2 Technical Integrity – Tamarind is built on its team's extensive technical experience and high quality, fit for purpose solutions are encouraged throughout the company;
  - 3.5.3 A focus on value – Creating value through innovation, pragmatism and solid relationships;

- 3.5.4 Entrepreneurial mindset – Transparency and communication at all levels is our cornerstone. We promote employee autonomy and freedom to pursue innovation.

### **Tamarind's Commitment to Health, Safety and the Environment**

- 3.6 Tamarind is committed to protecting the health and safety of all employees and ensuring that its activities are not harmful to the environment and to the wider community in which we operate. Tamarind's principal beliefs are that all accidents are preventable and that no task is so important that the risk of injury to people or damage to the environment is justified. To achieve its objective of protecting the safety of its employees and the long-term protection of the environment, Tamarind's Board of Directors approved a HSE Policy Statement, which all employees and contractors are required to strictly adhere to. This policy includes the following:
  - 3.6.1 Identify, assess, control and eliminate where possible, hazards associated with Tamarind's operations;
  - 3.6.2 Monitor and review systems, practices and behaviours to further improve the safety and health of employees and contractor employees;
  - 3.6.3 Maintain a systematic approach to HSE management, and set targets for improvement;
  - 3.6.4 Comply with all legal and regulatory requirements.
- 3.7 To achieve these outcomes Tamarind operates in accordance with a Health, Safety and Environment Management System (HSEMS). The objective of the HSEMS is to provide the definition and structure to ensure that all activities are undertaken in a safe and responsible manner and that these meet Tamarind's legal and regulatory obligations.
- 3.8 The HSEMS contains manuals, standards and specifications in relation to a range of HSE topics and reflects industry best practice. The standards and specifications in the HSEMS are applied throughout Tamarind's operations

from project management to specific operations and project HSE plans, as appropriate. These plans are reviewed annually and adjusted to reflect the changing expectations of the company, regulators, and stakeholders.

3.9 The HSEMS also recognises and ensures compliance with the regulatory requirements of:

3.9.1 The Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act) and associated regulations;

3.9.2 The Maritime Transport Act 1994 and associated Marine Protection Rules;

3.9.3 Health and Safety at Work Act 2015 (HWSA), the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016 (HSW Regulations), Health and Safety at Work (Hazardous Substances) Regulations and associated regulations;

3.9.4 Hazardous Substances and New Organisms Act 1996 (HSNO Act) and associated regulations.

3.10 Tamarind demands a high level of reporting across all its operations and requires that all incidents be reported to ensure that all incidents and near misses are investigated and that any necessary follow up actions are managed appropriately. Incident investigation reports, and the actions arising are recorded and tracked in Tamarind's incident database. Follow up is monitored by the Tamarind HSE Coordinator and the Tamarind Operations Manager.

3.11 The operation, maintenance and modification of the offshore assets is undertaken in accordance with the requirements of all relevant legislation.

3.12 The HSW regulations include a requirement for the development of a Safety Case for offshore installations and subsequent approval by Worksafe NZ. A Safety Case for the Tui Field has been in existence since the start of

operations, with the most recent revision of the Safety Case completed in July 2018.

- 3.13 A safety case specifically relating to the operation of the drilling rig will be developed and submitted to WorkSafe New Zealand for approval prior to the drilling rig operating within the Tui Field. It is a contractual requirement for the drilling rig contractor that a Safety Case is approved by WorkSafe New Zealand prior to activities commencing.

### **Tamarind's Health, Safety and Environmental Performance**

- 3.14 Tamarind is proud of its HSE performance and the very high reporting standards that are upheld in all its operations. Tamarind and its contractors promote the use of an Observation Card system to proactively manage emerging HSE issues and rewards its staff and contractors for active management of HSE.
- 3.15 Tamarind engages formally and regularly with its contractors to actively manage HSE and takes responsibility for its contractor's HSE performance.
- 3.16 Tamarind's current Lost Time Injury Frequency Rate (LTIFR) and Total Recordable Injury Frequency Rate (TRIFR) are both less than International Oil and Gas Producers (IOGP) global industry standards.
- 3.17 Tamarind engages proactively with all regulators to ensure that annual regulatory audits are completed and that any actions from these audits are closed out in an appropriate and timely manner. All regulatory audits for the 2018 year have been completed with no major findings identified.

### **Tamarind's Systems and Procedures for Responding to Incidents**

- 3.18 In addition to the barriers designed to prevent a major accident occurring, Tamarind has a system of procedures, manuals and trained personnel that ensures that the correct protocols and responses are undertaken in the event of an emergency. These processes are set out in the Safety Case and in Tamarind's Emergency Management Plan.

- 3.19 Tamarind has adopted the principles of the Coordinated Incident Management System (**CIMS**) as the management system to be used in response to an emergency. CIMS is a system for managing the response to an incident involving multiple responding agencies and is a system that most oil and gas operators in Taranaki use. Tamarind has adopted this to ensure cross-agency responses are consistently and effectively managed. By adopting the principles within this plan, co-ordination with local and national emergency and support services is enhanced.
- 3.20 Tamarind has appointed a formal Emergency Response Team (**ERT**) that is mobilised in the event of an emergency and which facilitates and manages any response that may be required. This team undertakes annual CIMS training to ensure that they are compliant with any changes to the CIMS system and that the Emergency Response Team are familiar with their obligations in the event on an incident.

### **Spill Response Preparedness**

- 3.21 To respond appropriately to a potential spill event, Tamarind has put in place the Tui Field Spill Contingency Plan (**SCP**), which is approved by Maritime NZ and the EPA. The objective of the SCP is to safely mitigate the effects of a spill arising from Tamarind or its contractors' activities within the Tui Field. This plan describes how Tamarind will:
- 3.21.1 Respond to a spill in the Tui Field;
  - 3.21.2 Alert the appropriate regulatory agencies and seek support from these agencies;
  - 3.21.3 Assist Maritime NZ, the Environmental Protection Authority (**EPA**) and the Regional Council in any response to the incident.
- 3.22 The drilling contractor of any rig operation in the Tui Field would be required to address spill contingency planning as part of a project specific SCP. As noted above, a bridging document would be developed which would specify the interfaces between the existing Tui Field SCP and the project SCP. All regional councils responsible for areas where there is potential for shoreline

impacts from a spill are included in consultation on the SCP as it is developed.

- 3.23 Tamarind maintains spill response equipment on the FPSO Umuroa to respond to any spills that might occur on the facility. The drilling rig contractor is also required to maintain appropriate spill response equipment if there is a spill from the rig during the development drilling program.
- 3.24 Spill response resources for minor spills on the FPSO Umuroa include spill kits approved by Maritime NZ and the EPA. The FPSO Umuroa has a spill tracking buoy which can be deployed in the event of a more significant spill overboard. Tamarind also has access to a Maritime NZ approved stock of dispersant which can be deployed in the field either by the dedicated supply vessel or by air using a locally based helicopter. Training and exercises are held annually with both vessel and helicopter providers to ensure that the dispersant can be successfully applied.
- 3.25 Similar resources will be provided by the drilling contractor and Tamarind, and will be placed on the drilling rig during the entire development program.
- 3.26 Any spill that were to reach the coastline would be managed in coordination with the relevant Regional Council using both the Council and Tamarind's resources, which includes access to the NZ national response equipment stockpile and trained responders.
- 3.27 Tamarind undertakes a range of activities to provide training and raise awareness of staff with respect to spill response. This includes information presented and discussed at monthly HSE meetings, formal training such as spill awareness, equipment operators and aerial surveillance training. In addition, Tamarind's staff are regularly involved in spill response combined exercises with Maritime NZ and the Taranaki Regional Council.

### **Insurances**

- 3.28 Tamarind holds all appropriate insurances that are required at a corporate level and by regulations to ensure that in the event of an unplanned incident

appropriate funding and resources are available to address both an immediate response and any liability claims that may arise.

- 3.29 The Director of Maritime NZ, the Maritime Transport Act 1994 and Part 102.8(2) of the Marine Protection Rules set out obligations for the levels of appropriate insurance coverage for offshore drilling programs. Tamarind has provided evidence to Maritime NZ which demonstrates that its insurance policy provides financial coverage for both incident response and liability coverage at a level which exceeds that required by the regulations.
- 3.30 The owner of the drilling rig is also required to hold the appropriate insurance to meet the requirements of the Director of Maritime NZ, the Maritime Transport Act and Part 102.8(2) of the Marine Protection Rules. It is a contractual requirement for the drilling rig contractor that appropriate and approved insurance is provided for.

### **Commitment to community**

- 3.31 Tamarind is committed to developing long-term and meaningful relationships with the communities located in the areas where it operates, working to create a better future for the local communities as well as the environment. One of our primary drivers is to contribute positively to local communities and community initiatives so that the community is better off once our exploration development and production operations have been conducted. As such, Tamarind (and predecessor Tui companies) has contributed over \$3 million to the Taranaki community over the past ten years. The primary community groups and programs that Tamarind has committed to over the past ten years include:

3.31.1 Big Brothers Big Sisters of Taranaki;

3.31.2 Water safety training programme with New Plymouth District Council;

3.31.3 Restoration of the Waikirikiri lagoon in conjunction with the Department of Conservation;

- 3.31.4 Taranaki Health Foundation's "From Hardship to Hope" kids health fund;
  - 3.31.5 Funding for building at Taranaki Retreat, a mental health support facility;
  - 3.31.6 Funding for the Cape Egmont Rescue Vessel and ongoing maintenance funds
  - 3.31.7 Support for native planting and children's development programs at numerous regional schools.
- 3.32 Tamarind manages its long-term relationships with the community through a sponsorship committee that is independent from Tamarind management. A different sponsorship committee exists in the different areas in which Tamarind operates to ensure the sponsorship committee has a good understanding of the local context. Budget is provided each year for sponsorship and the committee recommends awarding of this budget to management for their approval. When considering any commitment to the community, Tamarind takes into consideration the following:
- 3.32.1 Will the activity result in a positive social benefit;
  - 3.32.2 Will the activity have a positive benefit on the environment;
  - 3.32.3 Do the recipients have a relationship with Tamarind or any of its contractors;
  - 3.32.4 Will the sponsorship lead to an eventual greater self-sufficiency for the recipient.
- 3.33 Tamarind's goal is to leave the Taranaki community and the recipients of Tamarind's sponsorship in a better position than before Tamarind commenced its business in New Zealand.

#### **4. Tamarind's Interests and Activities in the Tui Field**

- 4.1 The Tui Field facilities consist of five existing and lawfully established offshore production wells, associated subsea trees and subsea pipelines, located within the Tui Petroleum Mining Permit (PMP 38158). PMP 38158 is located within the South Taranaki Bight off the west coast of the North Island of New Zealand.
- 4.2 Production within the field began in July 2007 and continues through the Floating Production Storage and Offloading (FPSO) vessel, the Umuroa.
- 4.3 Operatorship of PMP 38158 was originally granted to AWE Taranaki Ltd under the Crown Minerals Act 1991 in 2005. The permit was granted for a term of 20 years commencing 25 November 2005 and ending on 24 November 2025.
- 4.4 In March 2017, Tamarind purchased all the shares in the four companies that operated the Tui Field permit (AWE Taranaki, AWE NZ Pty Ltd, WM Petroleum Ltd and Stewart Petroleum Company Ltd). Tamarind is currently 100% owner and operator of the Tui field.
- 4.5 The Tui Field operations provide employment for approximately 200 personnel either on board the Umuroa or in onshore technical, management or logistical support roles. The Tui Field operations also provide additional employment through suppliers, consultants, maintenance providers and professional services.

#### **Background information regarding the Tui Field**

- 4.6 The Tui Field was discovered in 2003 and developed by AWE and the Tui Joint Venture Partners over the subsequent five years, with production commencing on 30 July 2007.
- 4.7 The field comprises five production wells, which produce oil, gas and water from the Kapuni F-10 reservoir. This reservoir is located approximately 3,600 metres below the sea bed. Production from the five wells is from three

separate accumulations of the Kapuni F-10 reservoir, these being Tui, Amokura and Pateke.

- 4.8 The field is New Zealand's only subsea development, is in 125 metres of water and is approximately 50 kilometres off the coast of Taranaki.
- 4.9 Production from the five subsea wells is routed through a subsea network of pipelines to the FPSO Umuroa, where the produced water, oil and gas are separated in the process facility into separate streams. Produced water is cleaned in the facility to meet Tamarind's existing approved discharge consent requirements and is then discharged into the ocean. Oil is separated from the two other fluids and stored in the FPSO in preparation for transfer to an offtake taker (a process that currently occurs two or three times per year). Gas that is separated in the facility is mostly used as fuel gas to assist with power generation on the facility, but a small amount is burnt each day in as flared gas.
- 4.10 The FPSO Umuroa facility is owned and operated by BW Offshore ("BWO") and provides services to Tamarind through an FPSO Charter Contract. This contract requires that BWO provide the following functions and services:
  - 4.10.1 Safety of personnel and care for the environment is prioritised above all else;
  - 4.10.2 Receive hydrocarbons and produced water from wells via a subsea production system;
  - 4.10.3 Control and manage production from wells at Tamarind's direction;
  - 4.10.4 Operate wells and subsea equipment at Tamarind's direction.
  - 4.10.5 Store produced crude oil;
  - 4.10.6 Measure and offload cargo to offloading tankers;
  - 4.10.7 Manage all operations within Tamarind's regulatory consents;

- 4.10.8 Maintain the FPSO Umuroa to the required Tamarind and regulatory standards.
- 4.11 Tamarind employs personnel in an onshore operations office and has a permanent company representative onboard the FPSO Umuroa to ensure that these obligations are met always.
- 4.12 The subsea wells and associated infrastructure are owned by Tamarind who is responsible for the maintenance and repair of such infrastructure. This subsea infrastructure includes:
  - 4.12.1 Five subsea flowlines, which are placed on the seabed and which provide a conduit for reservoir fluids to flow from each well to the FPSO;
  - 4.12.2 Four gas lift lines, which are placed on the seabed and which provide a conduit for compressed gas to flow from the FPSO to each well, to allow them to flow. Without gas lift the wells will not flow;
  - 4.12.3 Four umbilical lines, which are placed on the seabed and which provide a conduit to allow hydraulic and electrical communication from the FPSO to each well. These umbilicals provide the communication link from the FPSO to each of the wells;
  - 4.12.4 Four midwater arches, which are tethered to the seabed and float in the middle of the water column at a distance approximately 50 metres from the FPSO. These midwater arches provide support for the flowlines and umbilicals that rise up from the sea bed and attached to the FPSO.
  - 4.12.5 Other associated smaller infrastructure such as manifolds and smaller hoses used in the construction of the system.
- 4.13 A pictorial overview of the Tui Field and associated infrastructure is provided in **Appendix 2**.

## **5. The application and operational issues**

- 5.1 The Tui Field has produced more than 40.7 million barrels (6.47 million cubic metres) of crude oil since production commenced in 2007. If no further development activity is undertaken in the field, it is likely that by the end of 2019 production rates from the field will be uneconomic, and decommissioning and restoration of the asset would be required.
- 5.2 The development drilling activities, the subject of the Applications, are intended to extend the life of the field and the existing asset(s) by drilling up to four sidetrack wells that can be produced from using current field infrastructure.
- 5.3 These wells will be drilled as sidetracks from existing wells within the field with the objective of accessing a further 7.5 million barrels (1.2 million cubic metres) of undrained oil reserves from the existing field. This undrained oil is entirely within the known structures in the field and the current wells are not configured in a way which allows these reserves to be effectively drained.
- 5.4 A successful outcome would result in the life of the field being extended out as far as 2025 and would have the effect of maximising the recovery hydrocarbons from the asset.
- 5.5 Tamarind is cognisant of its obligations to the Crown in respect of the Crown Minerals Act 1991 and its responsibility to maximise recovery from the asset and for the Crown to receive a fair financial return as a consequence of granting the mining permit for its resource. Tamarind considers that by undertaking this development program that it is fulfilling its obligations under the Crown Minerals Act.
- 5.6 To undertake the development program, Tamarind has engaged the services of an international drilling contractor to mobilise a semi-submersible drilling rig to the region to execute the drilling of the wells. The drilling rig Tamarind anticipates using will sail under its own power to the drilling location. On arrival of the drilling rig in the Tui field, support vessels will lay anchors to secure the drilling rig in place at each of the drilling locations. At each well the drilling rig will be secured and commence the process of side-tracking

the existing well. The detail of this activity is provided in the evidence of Mr. Ian McCallum, Tamarind's Drilling Manager.

- 5.7 The process of side-tracking all of these wells is expected to take no less than 110 days but could possibly take longer if difficult drilling conditions are experienced. Tamarind expects that the program will not take longer than 9 months in total.
- 5.8 It is important to note that this process will result in no new infrastructure being placed on the seabed or in the water column and that the side-tracking process will occur from within the existing wells, with the side-tracks commencing at a depth of approximately 2,900 metres below the seabed.
- 5.9 The potential effects on the marine environment have been assessed by qualified marine scientists as resulting from seabed disturbance and turbidity associated with the placement and removal of drilling rig mooring systems and any associated environmental monitoring, deposits of cement, underwater noise and artificial light from the drilling rig operations, and the physical presence of the drilling rig and associated operations in the field. As I understand it, the overall impacts on marine ecosystems have been assessed by Tamarind's experts as negligible or minor.

## **6. Biosecurity Risk Management**

- 6.1 Tamarind recognises its obligations in respect of careful management and mitigation of the potential for invasive species to be introduced into New Zealand via a drilling rig or any other marine craft that may be introduced from overseas because of the development project.
- 6.2 To mitigate this potential Tamarind and the drilling rig contractor will be strictly adhering to the requirements of the Ministry for Primary Industry's Craft Risk Management Standard for Biofouling, which came into force on 15 May 2018 and the Craft Risk Management Standard for Vessels, which came into force on 1 February 2018.
- 6.3 Tamarind and the drilling rig contractor have met with the Ministry for Primary Industry on several occasions, and as recently as 17 April 2018, and both

organisations have a very clear understanding of the requirements of the Standard.

- 6.4 Tamarind will ensure that biosecurity is managed to ensure that:
  - 6.4.1 The vessel arrives in New Zealand with a clean hull;
  - 6.4.2 That the hull is considered to be a clean hull when no biofouling of live organisms is present other than that within the long-stay thresholds prescribed in the Standard;
  - 6.4.3 The requirements needed to manage the above water biosecurity risks associated with vessels entering New Zealand are met;
  - 6.4.4 That all acceptable measures for meeting the Standards are applied.
- 6.5 To this end, Tamarind and the drilling rig contractor will develop a Craft Risk Management Plan (**CRMP**) that will apply to the drilling rigs and any support vessels sourced from outside New Zealand. The CRMP will be submitted to the Ministry for Primary Industries for review and approval prior to the drilling rig or vessels entering New Zealand waters.

## **7. Stakeholder Engagement**

- 7.1 In the case of existing operations in the Tui Field, Tamarind has continued the very good work undertaken by AWE as the previous operator of the field. Tamarind has continued to develop and improve on the stakeholder network that AWE established. The key participants in the stakeholder network are national and local regulators and government agencies, including the Environmental Protection Authority, Maritime New Zealand, Ministry for Primary Industries and Worksafe New Zealand. Iwi and hapu are also key stakeholders and a significant amount of engagement is undertaken with these groups also. Tamarind also takes the time to engage with a range of other interested parties who are referred to in Tamarind's stakeholder management plan.

- 7.2 Tamarind's engagements with stakeholders are in two specific forms. Routine engagements are undertaken to update stakeholders on existing operations and specific engagement is undertaken with affected parties in the case of specific project activities. In both cases, Tamarind captures these engagements in a stakeholder register which identifies with whom Tamarind met, the subject of the discussion and any actions that resulted from the engagement.
- 7.3 For some stakeholders, relationship agreements are entered. For instance, the Tui Field is located within Te Kahui O Taranaki's rohe and in order to properly recognise this, Tamarind entered into a Whakataunga Kaupapa, or Relationship Agreement, with Te Kāhui o Taranaki in 2014. This agreement, amongst other things:
- 7.3.1 Sets out the framework for ongoing relations between the parties and recorded the mutual agreement to work towards achieving specific goals;
  - 7.3.2 Records the commitment of the parties to establish a positive and balanced relationship, exercising good faith, cooperation and honesty;
  - 7.3.3 Recognises the importance of kaitiakitanga, or environmental protection, to both parties.
- 7.4 Tamarind continues to honour and encourage the good practices established by the previous operator and it endeavours to engage proactively with Te Kāhui o Taranaki. Tamarind is encouraged by the ongoing good relations between the two parties and suggests that regular and transparent dialogue has allowed the parties to constructively discuss and reach consensus regarding the conditions Te Kāhui o Taranaki has sought to be imposed with respect to the Applications. This is discussed further at paragraph 8.3 below.
- 7.5 In relation to the Applications, Tamarind has undertaken the following consultation with stakeholders:

- 7.5.1 Face-to-face meetings with the EPA, Maritime New Zealand, Biosecurity New Zealand, New Zealand Petroleum and Minerals, Worksafe New Zealand and the Ministry for Primary Industries;
  - 7.5.2 Provision of a draft impact assessment to key stakeholders, including the EPA, and Te Kahui o Taranaki and Ngati Tara Hapu for comment;
  - 7.5.3 Meeting and corresponding with Te Kāhui o Taranaki numerous times in the 6 months leading up to the lodgment of the Applications and following Te Kāhui o Taranaki's submission in response;
  - 7.5.4 Meeting and corresponding with Te Korowai o Ngāruahine Trust in relation to Tamarind's application and following Te Korowai o Ngāruahine Trust's submission in response;
  - 7.5.5 Meeting with other affected stakeholders to provide an update on the development project.
- 7.6 In all cases Tamarind has extended an open invitation to any interested parties to meet and discuss any aspects of the application and Tamarind's operations in the Tui field.

## **8. Response to Issues Raised by Submitters**

- 8.1 In response to the submission by Otaraua Hapu, Tamarind can confirm that all hazardous drill cuttings, drilling/milling solids and synthetic based drilling fluid will be collected and returned to shore for disposal at an approved and consented facility. The drilling rig that Tamarind intends to use for this project has a fully contained system, with a "Green" standard, which means that very high levels of controls are applied to all waste and drainage on board, limiting any potential for overboard discharges of hazardous substances to the greatest extent practicable.
- 8.2 Tamarind is investigating the use of a consented land farm to assist with coastal restoration. Deep well injection of hazardous substances is not a technically feasible option for offshore subsea wells.

8.3 In response to the submission by Te Kāhui o Taranaki, Tamarind can confirm that:

8.3.1 Tamarind is committed to working with Te Kāhui o Taranaki to develop and integrate environmental indicators that take into account Te Ao Maori and western science indicators;

8.3.2 Tamarind has engaged with Te Kāhui o Taranaki and is in the process of arranging a cultural training and awareness session for Tamarind staff and senior management;

8.3.3 Tamarind commits to holding an annual meeting with Te Kāhui o Taranaki, but notes that an annual meeting, and others, are held with Te Kahui already;

Tamarind is agreeable to providing funding of an agreed amount to Te Kāhui o Taranaki to facilitate items 8.3.1 and 8.3.2;

8.3.4 For future applications, Tamarind is agreeable to holding scoping exercises with Te Kāhui o Taranaki to understand the Te Ao Maori perspectives and cultural values, with an aim to formulate mitigation measures and agreed conditions;

8.3.5 Tamarind commits to returning any faulty cement, or unused cement products to shore for disposal where possible;

8.3.6 All structures placed on the seabed as part of this development program will be removed at the cessation of their use;

8.3.7 All wells that are re-entered or side-tracked will have the unusable section of the well abandoned according to industry good practice and NZ regulatory standards. Tamarind also commits to ensuring that the sidetrack wells will be abandoned according to industry good practice and NZ regulatory standards at the end of their productive life.

- 8.4 In response to the submission by Te Korowai o Ngāruahine Trust, Tamarind can confirm that:
- 8.4.1 Tamarind is committed to developing an Engagement Agreement with Te Korowai o Ngāruahine Trust, however it is not considered appropriate that this be a condition of consent;
  - 8.4.2 Tamarind is agreeable to updating its spill management plan and communication protocol to include Te Korowai o Ngāruahine Trust;
  - 8.4.3 All structures placed on the seabed as part of this development program will be removed at the cessation of their use;
  - 8.4.4 Tamarind will investigate technically practicable options for empirical noise monitoring that could be used to quantify noise during the drilling operations. However, given the limited potential for impacts from underwater noise on marine mammals or fish, as discussed in the evidence of Dr Childerhouse and Dr MacDiarmid, noise monitoring would be limited to confirming actual underwater noise levels for subsequent studies of any possible effects on marine mammals and fish;
  - 8.4.5 Tamarind has proposed a condition allowing for the reporting of any marine mammals (other than fur seals) to the relevant government agencies. This proposal is supported in the evidence of Dr Childerhouse,<sup>1</sup> who also recommends tools such as identification charts and other information to facilitate this reporting. Tamarind will work with relevant marine mammal experts to provide for these observations to be conducted effectively.
  - 8.4.6 With respect to Te Korowai o Ngāruahine Trust's suggestion that systematic fish surveys be undertaken, Tamarind considers this measure would be impractical given the high degree of mobility of fish species in the area and is not warranted based on the lack of anticipated impacts as described in the evidence of Dr MacDairmid,

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<sup>1</sup> Refer to the evidence of Simon Childerhouse at page 27.

Ms Gibbs and Dr Lane. The ability to effectively conduct any such survey would also be severely constrained by safety exclusions for vessel or trawl activities near to areas of active offshore oil and gas operations;

8.4.7 Ongoing monitoring will be undertaken to assess environmental effects in the Tui field in accordance with the approved Environmental Effects Monitoring Plan;

8.4.8 Tamarind has a very active program of support for regional environmental programs and is willing to consider supporting any program that Te Korowai o Ngāruahine Trust may suggest;

8.4.9 As noted above, Tamarind has engaged with Te Kāhui o Taranaki who will be undertaking a cultural training and awareness session for staff and senior management.

8.5 Many of the submitters refer to climate change, to a carbon neutral economy and to sustainable development and that this development project is not contributing to that goal. Tamarind supports an approach, under-pinned by science and energy and climate change policy, to achieve a stable and predictable transition to a lower carbon future. Tamarind supports the development of the Zero Carbon Bill and looks forward to the outcomes of this study. Even in a low-emissions future, oil and gas will have an important role to play. Oil and gas are still expected to supply half of the world's energy needs by 2040, around the same proportion as now. Oil demand is expected to grow until 2040, albeit at a steadily decreasing rate, while natural gas usage is expected to grow by 45% in this period. In this light, Tamarind suggests that this development project plays a very small, but contributing role, in the stable transition of the New Zealand and global economy towards one which is less carbon intensive.

## **9. Positive Effects**

9.1 Tamarind is of the firm view that granting this consent will have a net positive effect on the region and for New Zealand. As Country Manager and as a

Director of these companies, I am confident that this development will provide significant benefits and that the risk profile of the project is very low.

9.2 Tamarind has a good track record of successfully completing these types of projects and has excellent management and technical frameworks in place to plan and execute this. The personnel involved in the project are predominantly regionally and nationally domiciled and the benefits of this project will be recognised regionally and nationally.

9.3 I consider Tamarind's evidence shows that Tamarind has, in a determined fashion, looked to find ways to execute this project in a manner that has the least impact on the environment through:

9.3.1 Seeking to use a high tech, latest generation drilling rig that has excellent environmental and technical performance;

9.3.2 Rigorous attention to detail in selection of the least toxic products for use during the program;

9.3.3 Minimal effects on the benthic environment through the re-use of existing infrastructure;

9.3.4 No planned use of explosives or seismic technology;

9.3.5 The recovery of all drilled cuttings and drilling fluids for disposal onshore;

9.3.6 The execution of the program in a very timely fashion, to minimise the disturbance to the environment.

9.4 Tamarind is also encouraged by the significant number of submissions in support of the proposed development. These submissions cover a range of positive benefits that this offshore asset, Tamarind specifically and its subcontractors provide to the Taranaki region and to New Zealand. The submissions support the application and provide tangible evidence that Tamarind's presence in New Zealand provides a net positive benefit through:

- 9.4.1 A proven track record of safe and environmentally conscious operations. Tangible benefits for employment in New Zealand.<sup>2</sup>
  - 9.4.2 Tamarind's employment of local contractors supports a client base that is comprised of 64% oil and gas companies.<sup>3</sup>
  - 9.4.3 Benefits to the community, to the lifestyle of the region, to national GDP and to improved health and safety standards.<sup>4</sup>
  - 9.4.4 HNZ New Zealand, Kinetic Well Services, Port Taranaki, Atlas Professionals and BWO all emphasise the importance of the oil and gas sector to their businesses which is supported significantly by contracts in the oil and gas sector.
- 9.5 Some of Tamarind's community partners have provided supporting statements that reiterate the importance that Tamarind place on the community and outline the benefits that they receive because of long lasting and important relationships, in particular:
- 9.5.1 Big Brothers Big Sisters, a community partner with Tamarind for more than ten years, is a foundation that significantly benefits the youth of Taranaki and continues to benefit from support from Tamarind as their major partner; and
  - 9.5.2 Taranaki Health Foundation outlines the ongoing social investment that Tamarind has made, which have benefited health related projects at the Taranaki Base Hospital, in children's health and for families who are struggling financially due to health issues that they may be experiencing.



**JASON LEE PEACOCK**

20 July 2018

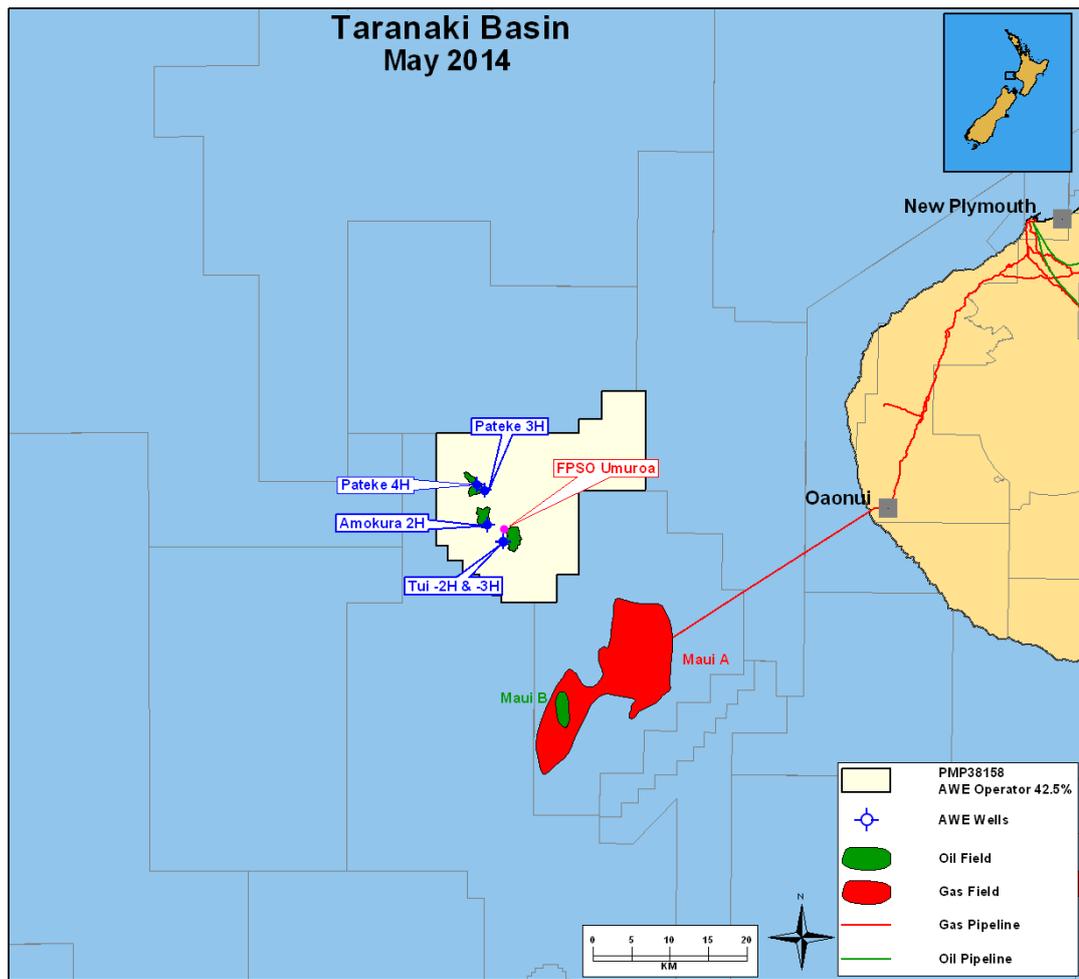
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<sup>2</sup> Refer to the submission of Worley Parsons

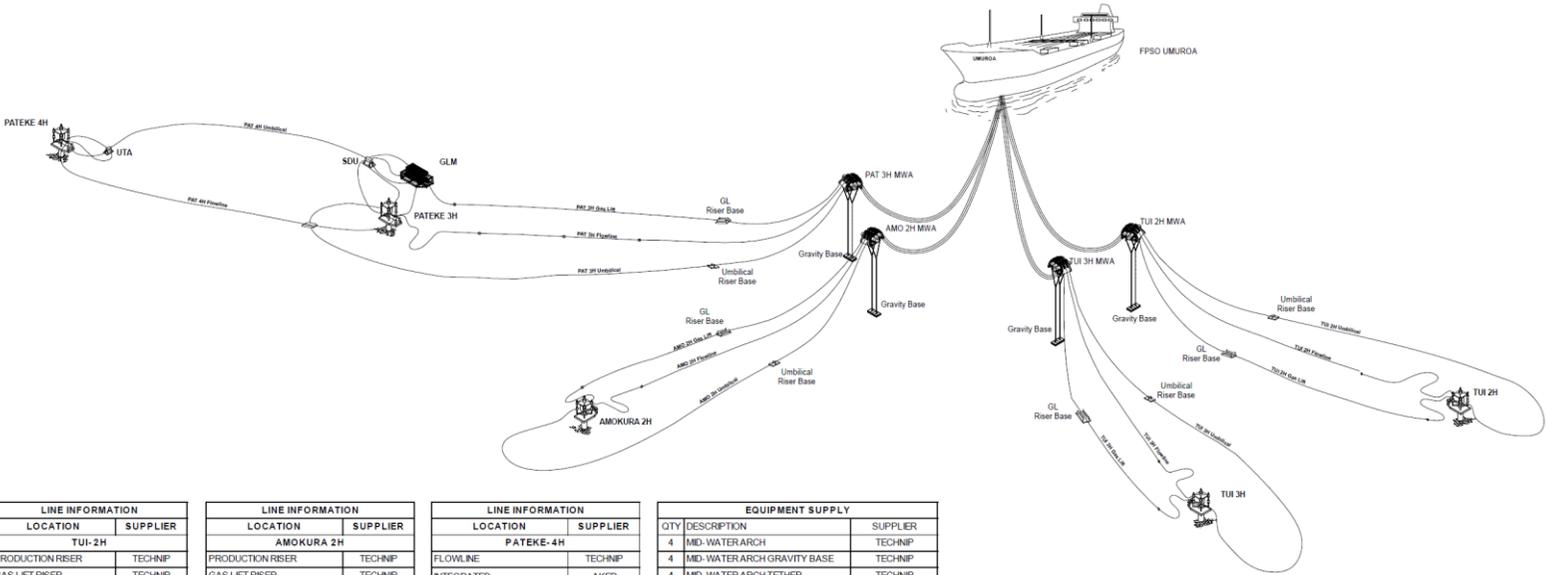
<sup>3</sup> Refer to the submission of Elemental Group

<sup>4</sup> Refer to the submission of Fitzroy Engineering Group

# APPENDIX 1: Field and permit boundaries



# APPENDIX 2: Tui Field layout and associated infrastructure



LINE INFORMATION	
LOCATION	SUPPLIER
TUI-2H	
PRODUCTION RISER	TECHNIP
GAS LIFT RISER	TECHNIP
FLOWLINE	TECHNIP
UMBILICAL	DUCCO
GAS LIFT COILED TUBING	OTHERS
GAS LIFT JUMPER	TECHNIP
TUI-3H	
PRODUCTION RISER	TECHNIP
GAS LIFT RISER	TECHNIP
FLOWLINE	TECHNIP
UMBILICAL	DUCCO
GAS LIFT COILED TUBING	OTHERS
GAS LIFT JUMPER	TECHNIP

LINE INFORMATION	
LOCATION	SUPPLIER
AMOKURA 2H	
PRODUCTION RISER	TECHNIP
GAS LIFT RISER	TECHNIP
FLOWLINE	TECHNIP
UMBILICAL	DUCCO
GAS LIFT COILED TUBING	OTHERS
GAS LIFT JUMPER	TECHNIP
PATEKE-3H	
PRODUCTION RISER	TECHNIP
GAS LIFT RISER	TECHNIP
FLOWLINE	TECHNIP
UMBILICAL	DUCCO
GAS LIFT COILED TUBING	OTHERS
GAS LIFT JUMPER	TECHNIP

LINE INFORMATION	
LOCATION	SUPPLIER
PATEKE-4H	
FLOWLINE	TECHNIP
INTEGRATED GAS LIFT UMBILICAL	AKER SOLUTIONS
GAS LIFT JUMPERS	AKER SOLUTIONS

EQUIPMENT SUPPLY		
QTY	DESCRIPTION	SUPPLIER
4	MID-WATERARCH	TECHNIP
4	MID-WATERARCH GRAVITY BASE	TECHNIP
4	MID-WATERARCH TETHER	TECHNIP
4	GAS LIFT RISER BASES	TS7
4	UMBILICAL RISER BASES	TS7
4	PRODUCTION RISER HOLDBACKS	OTHERS
5	SUBSEA PRODUCTION TREES	CAMERON
4	SINGLE PORT CVC SPOOLS	CAMERON
1	DUAL PORT CVC SPOOL	ONE-SUBSEA
1	GAS LIFT MANIFOLD	ONE-SUBSEA
1	INTERMEDIATE SKID	INTECSEA
1	SDU	DEEPSEA - AKER
1	UTA	DEEPSEA - AKER