EXPLORATION OPPORTUNITY
NEW ZEALAND

OMV New Zealand Ltd (OMV) is seeking partners to earn a participating non-operated interest in seven of its key exploration permits in New Zealand (Figure 1). Four are offered jointly with Mitsui E&P Australia Pty Ltd (MEPAU). OMV intends to retain operatorship along with 30% - 40% equity in each permit. Six permits are in the productive Taranaki Basin & the seventh is in the prospective East Coast Basin.

Gaining entry into these seven exploration blocks offers a unique opportunity to access a balanced non-operated acreage position with limited near-term exposure and long-term exploration running room. The Taranaki permits offer near-field & on-trend exploration in a favourable structural and depositional setting. The East Coast permit offers frontier exploration in an under-explored proven petroleum basin with significant acreage holdings by international oil companies.

**Taranaki South – near field (Figure 2)**

**PEP 51906 Matuku** (OMV operated 100%) covers an area of 806 km². The permit is surrounded by the producing oil fields of Maari, Manaia, Tui, Amokura & Pateke and the giant Maui Gas Field. Drilling & 3D seismic acquisition in 2014 provided encouraging new exploration insights for the future prospectivity.

**PEP 60089 Aquitaine** (OMV Operator 57.14%, MEPAU 42.86%) covers an area of 2,315 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer. The permit lies directly to the east of the OMV operated Maari oil field and hosts the primary source kitchen for the major offshore fields of Maui, Maari & Kupe. Immediately to the NW is the recent oil & gas condensate discovery at Ruru-3.

**PEP 60091 Te Whatu** (OMV Operator 57.14%, MEPAU 42.86%) covers an area of 2,242 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer. The permit lies directly to the west of the OMV-operated Maari oil field and south of the Kahurangi source kitchen. It also hosts the Te Whatu source kitchen & contains structural closures on trend with the Maari & Maui fields. This permit includes a drill-ready prospect with modern 3D seismic.

**Taranaki North – on trend (Figure 2)**

**PEP 57075 Cloudy Bay** (OMV operated 100%) covers an area of 1,365 km². The permit lies on the major structural and depositional trend that hosts offshore producing fields and contains a range of plays and leads in Cretaceous through Miocene reservoirs. OMV acquired 1,015 km² of 3D seismic in December 2016.

**PEP 60092 Ridgeline** (OMV Operator 57.14%, MEPAU 42.86%) covers an area of 2,364 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer. The permit lies on the major structural trend with the Maui & Tui fields to the south and is fed by the proven northern Taranaki source kitchen to the east, source of the Pohokura Gas Field.

**PEP 60093 Toutouwai** (OMV Operator 57.14%, MEPAU 42.86%) covers an area of 2,136 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer. The permit lies immediately to the north of the Tui & Maui fields and has a number of closures directly on trend from these oil and gas accumulations.

**Pegasus East Coast – frontier (Figure 2)**

**PEP 57073** (OMV operator 70%, Statoil 30%) covers an area of 9,800 km² in the offshore Pegasus Basin on the east coast of the North Island of New Zealand. The Pegasus Basin has seen a dramatic increased industry interest in 2015. The permit straddles a mix of shallow to deep-water exploration plays. 3D seismic will be completed in PEP 57073 at the end of Q2 2017.

**Process & Contacts**

For further information on the farm-in process and discussion on opportunities, please contact:

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OMV New Zealand Ltd (OMV) is looking to farm-out a portion of its 100% position in permit PEP 57075, and those that are jointly held with Mitsui E&P Australia Pty Ltd (MEPAU) in permits PEP 60092 & PEP 60093 in the offshore Taranaki Basin, North Island, New Zealand. These permits are currently in Stage 1 of their 12-year terms.

These permits offer an excellent opportunity to gain a position in an under-explored portion of the productive Taranaki Basin as well as access to a portfolio of leads across several play levels. The permits lie along structural trend of the key oil & gas accumulations of the Tui, Maui, Maari and Manaia fields and to the south of the Kora oil discovery (Figure 1). The Taranaki Basin is currently the only hydrocarbon-producing basin in New Zealand and its complex tectonic history has given rise to several plays ranging from Late Cretaceous to Miocene sandstones in fluvial, marginal marine, shoreface and basin-floor fan depositional settings, all of which occur within these permits.

The Assets

All 3 permits are offshore, 50 km northwest of New Plymouth, North Island, New Zealand (Figure 1).

**PEP 57075 Cloudy Bay** - covers an area of 1,365 km². The permit was awarded to OMV in the 2014 block offer. The licence agreement became effective on 1 April 2015 and has a 12-year duration. The current work programme does not contain a firm well commitment. The Stage 1 commitment of re-processing of existing 2D and 3D seismic data has been completed. The Stage 2 commitment of 700 km² 3D seismic acquisition was completed in December 2016. A Drill or Drop commitment by 31/3/2019 will lead to the Stage 3 exploration well commitment to be drilled by 31/3/2020.

**PEP 60092 Ridgeline** - covers an area of 2,364 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer. The licence agreement became effective on 1 April 2016 & has a 12-year duration. The current work programme does not contain a firm well commitment. The year 1 commitment of 2D seismic reprocessing has been completed & G&G technical studies are currently in progress. A commitment or surrender decision by 31/3/2018, leads to the Stage 2 commitment to acquire 620 km² 3D seismic before 31/3/2019. A Drill or Drop commitment by 31/3/2021 will lead to the Stage 3 exploration well commitment to be drilled by 31/3/2022.

**PEP 60093 Toutouwi** - covers an area of 2,136 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer. The licence agreement became effective on 1 April 2016 and has a 12-year duration. The current work programme does not contain a firm well commitment. The year 1 commitment of G&G technical studies has been successfully completed. A commitment or surrender decision by 31/3/2018, leads to the Stage 2 commitment to acquire 250 km² 3D seismic before 31/3/2019. A Drill or Drop commitment by 31/3/2021 will lead to the Stage 3 exploration well commitment to be drilled by 31/3/2022.

**Exploration history**

A number of wells have been drilled in the area and proved a working Petroleum System in various play intervals. The Arawa-1 exploration well (1991) was a technical success penetrating ~2m of net gas pay in thin Upper Miocene sands, but did not penetrate the main Miocene reservoir sequence. Kopuwhai-1 (2008) discovered ~8m of net oil pay in Paleocene sands. The Moa-1B and Taranga-1 wells to the west both encountered good shows of migrating oil indicating an active kitchen, and the Kora-1 discovery to the north penetrated a live oil column in Miocene volcanics (DST-1, 668 BOPD) and oil shows in Eocene sandstones.

**Geological setting**

The Taranaki Basin formed in the Cretaceous in response to continental rifting after the New Zealand landmass broke away from Australia and Antarctica. This rifting was characterised by rapid subsidence and the formation of numerous deep half-grabens that were subsequently filled with large thicknesses of siliciclastic sediments deposited in terrestrial and coastal environments. Oil-prone coals and organic mudstones of the Rakopi Formation were deposited during this time. A marine transgression occurred late in the rifting sequence, followed by an extended period of open marine conditions, including deposition of the oil-prone Waipawa Shale in the Paleocene. Uplift of the hinterland during the Miocene greatly increased sediment supply resulting in widespread turbidite systems, and the eventual progradation of the shelf edge through the permit area. A second phase of extensional tectonics was initiated in the Pliocene, and the onset of back-arc rifting in the Pleistocene resulted in the formation of the North Taranaki Graben immediately to the east of the permits.
Seismic Data Coverage

The permits are mainly covered by a medium density of pre-2000 2D seismic data, with the PEP 57075 being covered by the 1,015 km² newly acquired Nikau 3D seismic survey, acquired in Q4/2016. Reprocessing of the entire seismic database has been completed and has greatly improved the structural and stratigraphic understanding of the permits.

Petroleum System

Source rocks are Late Cretaceous Rakopi and Wainui Formation coals and organic shales and the Paleocene Waipawa Fm marine shale. The Moa Graben and Cape Egmont Deep are the primary source rock depocentres in the region and are modelled to have reached oil maturity during the Plio-Pleistocene.

Reservoir potential is present in the North Cape sandstones deposited during two distinct phases of rift related marine transgression. Further potential exists in basin floor turbidite systems of the Moki Fm (Maari Field), Mt Messenger Fm (numerous onshore fields) and Mangaa Fm (Karewa discovery). These formations are all potentially productive within the permits.

Seal risk is low due to the prevalence of open marine conditions for much of the post-rift sequence. The Turi shale (seal for the Turi field) directly overlies the North Cape sandstone, and the Miocene/Pliocene basin floor turbidites are encased in the deep marine shales of the Manganui and Urenui formations (seals for the Maari and onshore fields respectively).

Trap styles are related to a number of distinct periods of extension and structuration from mid Cretaceous to present day. Identified traps include rotated fault blocks, 4-way closures and 3-way down-faulted structures. Combined stratigraphic and structural closures have been mapped along the various basement highs in the Cretaceous, as well as in the Miocene turbidite systems.

Principal leads

The recently completed reprocessing is providing an enormous aid to better delineating and de-risking the leads across the permits (Figures 2A, 2B & 3) and work continues on the encouraging prospectivity of this part of the basin.

Figure 2: Basement Regional Depth Map A) Cloudy Bay lead 3D view B) Gladstone lead 3D view

Work programmes

Stage 1 work programmes in all 3 permits are completed. Stage 2 work programmes consist of 3D seismic acquisition. In PEP57075 this was completed in December 2016 and in PEP60092 & PEP60093 must be completed by 31/3/2019. Stage 3 work programmes for each permit include the drilling of an exploration well, to be drilled by 31/3/2020 in PEP 57075 & by 31/3/2022 in PEP 60092 & PEP 60093.

Farm-in terms

OMV intends to farm down 30-60% of its equity in PEP 57075 while maintaining Operatorship. OMV & MEPAU are jointly farming down their respective equities in PEP 60092 & PEP 60093 where up to 40% equity will be available to a prospective farminee.

Expressions of interest are welcome and additional data will be provided subject to signature of a Confidentiality Agreement.

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OMV New Zealand Ltd (OMV) is looking to farm-out a portion of its 100% position in permit PEP 51906, and those that are jointly held with Mitsui E&P Australia (MEPAU), permits PEP 60089 & PEP 60091, in the offshore Taranaki Basin, North Island, New Zealand. PEP 51906 is currently in Year 8 of its 12-year term, while PEP 60089 & PEP 60092 are both currently in Stage 1 of their 12-year terms.

The permits are surrounded by producing oil & gas fields at Tui, Maui, Maari and Manaia (Figure 1) and have charge available from the Kahurangi Trough source kitchen in the west and the Maui Sub-Basin source kitchen to the east.

The Taranaki Basin is currently the only hydrocarbon-producing basin in New Zealand and its complex tectonic history has given rise to several plays ranging from Late Cretaceous to Miocene sandstones in fluvial, marginal marine, shoreface and basin-floor fan depositional settings, all of which occur within these permits.

The Assets

All 3 permits are offshore, 100km southwest of New Plymouth, North Island, New Zealand (Figure 1).

PEP 60091 Te Whatu - covers an area of 2,242 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer, and includes a drill-ready prospect covered by modern 3D seismic. The licence agreement became effective on 1 April 2016 and has a 12-year duration. The current work programme does not contain a firm well commitment. The year 1 commitment of G&G technical studies has been successfully completed. Stage 2 includes drilling one exploration well by 31/3/2020, followed by a commit-or-surrender by 31/3/2021. Stage 3 includes the acquisition of 400 km² of 3D seismic by 31/3/2022.

PEP 51906 Matuku - covers an area of 806 km² and is situated adjacent to existing producing assets (Maari and Manaia oil fields, Maui gas-condensate and oil fields and the Tui Area oil fields).

Stage 1 exploration results are presently being evaluated. The Stage 2 and 3 commitments includes a 3D reprocessing feasibility study by 18/11/17, followed by seismic reprocessing and a Drill or Drop commitment by 11/11/2018. The Permit will expire on 18 November 2021.

PEP 60089 Aquitaine - covers an area of 2,315 km². The permit was awarded jointly to OMV & MEPAU in the 2015 block offer. The licence agreement became effective on 1 April 2016 and has a 12-year duration. The current work programme does not contain a firm well commitment. The year 1 commitments of a satellite seeps study & G&G technical studies have been completed. Stage 2 requires a commitment by 31/3/2018 to acquire 1,000 km² 3D seismic before 31/3/2019. A Drill or Drop commitment by 31/3/2020 will lead to the Stage 3 exploration well commitment to be drilled by 31/3/2022.

Geological setting

The Taranaki Basin formed in the Cretaceous in response to continental rifting after the New Zealand landmass broke away from Australia and Antarctica. This rifting was characterised by rapid subsidence and the formation of numerous deep half-grabens that were subsequently filled with large thicknesses of siliciclastic sediments deposited in terrestrial and coastal environments.

The oil-prone coals and organic mudstones of the Rakopi Formation that were deposited during this time comprise the dominant source rocks for exploration in the permits.

The discovery of oil in the Ruru-3 exploration well (Figure 1) enhances the potential of this area.

Seismic Data Coverage

The principal prospects in PEP 51906 and PEP 60091 (Cascade and Te Whatu) are covered by modern 3D seismic data, acquired in 2013 and processed to PSDM. The remainder of both these permits and PEP 60089 are covered by a number of vintages of 2D seismic data.

Petroleum Systems

Source rocks are Late Cretaceous Rakopi Formation coals and organic shales. The rapid loading of >1.5 km of sediments in the late Miocene to present-day has resulted in these source rocks being heated to generation and expulsion temperatures.
Reservoirs in the region include the mid-Miocene Moki Fm (Maari Field), the Middle Eocene Kapuni Group C-sands/Mangahewa Fm (Manaia and Maui fields), Lower Eocene D-sands/Kaimiro Fm (Maui Field), and the Paleocene F-sands/Farewell Fm (Tui Area fields and Maui Field). These formations are all potentially productive in across all 3 permits. There is also evidence for good reservoir sandstone potential in the North Cape Formation and Rakopi Formation, although there is currently no production from these reservoirs in the region.

Seal is present as intra-formational shales (Rakopi, North Cape, Kapuni E and D, and Upper Manganui formations) and regional shale seals of the Late Eocene Turi Fm and calcareous claystones and marls of the Oligocene to Early Miocene Otaraoa, Tikorangi and Lower Manganui formations.

Principal leads

Cascade (Figures 2 & 4) is a three way fault-bounded structure located between the producing Maui and Maari fields. Reservoir potential is present in Late Cretaceous and Paleocene sandstones, with charge available from the Maui kitchen and a local kitchen underlying the prospect.

Te Whatu (Figures 3 & 4) is a four way dip closed structure 15 km south of the Pukeko-1 technical oil discovery. Reservoir potential is present in Late Cretaceous and Paleocene sandstones, with charge available from the local source kitchen immediately beneath the prospect. The previous Te Whatu-1 & 2 wells failed to test these primary objectives.

Tio (Figure 4) is a stratigraphic trap set up by the pinchout of a Paleocene clastic wedge between basement and the Otaraoa shale. The structure lies directly updip of oil mature Rakopi source rocks in the Pihama Sub-basin.

Farm-in terms
OMV intends to farm down 30-60% of its equity in PEP 51906 while maintaining Operatorship. OMV & MEPAU are jointly farming down their respective equities in PEP 60089 & PEP 60091 where up to 40% equity will be available to a prospective farminee.

Expressions of interest are welcome and additional data will be provided subject to signature of a Confidentiality Agreement.

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EXPLORATION OPPORTUNITY
PEP 57073 New Zealand

OMV NZ Ltd is looking to farm-out a portion of its 70% position in Exploration Block 57073, offshore East Coast, North Island, New Zealand.

Gaining a position in the permit offers an exciting opportunity in an under-explored proven petroleum system. The 2009 & 2014 multi-client seismic campaigns have significantly increased the prospectivity of the block.

The asset

The 57073 Permit covers an area of 9,800 km² in the offshore East Coast of the North Island of New Zealand (Figure 1). The permit was awarded to OMV NZ Ltd in the 2014 bid round. The licence agreement became effective on 1 April 2015 and has a 15 year duration. The permit work programme does not contain a firm well commitment. Acquisition of 3D seismic was required within 24 months & has been completed. In early 2016 Statoil farmed into the permit and has a 30% non-operated working interest.

Exploration history

2,660km of 2D seismic data exists within the permit. Seismic, gravity & magnetic data have been acquired between 1972 & 2014. Several bathymetry & seep studies in the permit area show active gas seeps at sea floor & bottom simulating reflectors (BSRs) in shallow subsurface as seen on 2D seismic. Two wells have been drilled on the boundary of the permit, Tawatawa-1 having gas shows over 20% & Titihaoa-1, which was classified by the operator as a non-commercial gas discovery with gas readings up to 80%. Onshore wells have had gas & oil shows & the onshore has an abundance of oil & gas seeps (Figure 2).

Discoveries summary

Immediately adjacent to PEP 57073 the Titihaoa-1 well is classified as a non-commercial gas discovery (Figure 2).

Regional Setting

The permit occupies a region within the East Coast fold & thrust belt on the subduction margin of the Hikurangi Plateau underneath the Australian Plate. The area is structurally complex, but recently acquired 2D seismic data has better imaged the deeper stratigraphy of the subsurface & demonstrated the exploration potential of the region.

Numerous large thrust & fold structures are visible on seismic data, as are inverted mini-basins & stratigraphic pinch-outs that form part of the overall prospective slope basin complex.

Basin modelling work suggests the nearshore fold & thrust belt has the best chance for a mature source rock presence directly beneath the permit.

Hinterland-derived clastic reservoirs suggest that the nearshore location of the OMV permit has a higher chance of better quality reservoir compared to more distal settings. Preliminary field work in year 1 has confirmed good quality, high NTG, thick Miocene clastic reservoirs.

Figure 1: Pegasus & East Coast Basins, North Island New Zealand
**Plays Summary**

Two primary plays exist in the block:

1) **Anticlines** – The East Coast region has seen several km of Miocene to Pleistocene clastic deposition contemporaneous with compressional tectonics. Numerous large anticlines (>100km²) are delineated on seismic (Figures 2 & 3) & are analogous to similar scale onshore structures.

2) **Mini-basins** – Numerous inverted Miocene mini-basins are seen on recent seismic data. Interpreted turbidite sand structural drape & pinch outs occur within these. Direct analogues outcrop onshore along the entire east coast of the north island.

**Source rocks**

The following source rocks are valid for both plays:
- Late Paleocene Waipawa Formation black shale
- Latest Cretaceous & Early Paleocene Whangai Fm
- Late Cretaceous Glenburn Fm.

**Seal**

There are known to be thick & widespread seals across the region from wells & seismic data. Both the Paleogene seal (Wanstead & Weber formations) & Neogene seals are capable of being very effective as documented in outcrop & well samples.

**Structures**

Numerous large structures, several larger than 100km² are capable of holding mean recoverable resources of several hundred million barrels of oil. Preliminary mapping on recently re-processed Schlumberger Multiclient PSDM confirms the location of numerous leads within the play fairway (figure 2).

**Hydrocarbon type**

Dry gas has been intersected in the two closest offshore wells. Despite this, there are numerous oil & gas seeps in the nearby onshore Wairarapa area. Oil has been analysed & tied to both the Waipawa Fm & Cretaceous source rocks. Encouraging results are interpreted from recent seafloor sampling conducted within the area.

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**Figure 2: SLB PEG14-002 Showing examples of Miocene thrust anticline leads (1, 2, 3) & associated slope mini-basins.**

**Figure 3: PEP 57073 – structural leads & mini-basins**

**Work programme**

All work programme commitments have been completed as at the end of year 2 (31/3/2017). In addition, the 3D seismic commitment required by 31/3/2019 has already been met by the Schlumberger Pegasus MC3D (due to be completed by the end of Q2/2017). The well commitment is not until 31/3/2021 to be drilled by 31/3/2022.

**Farm out**

OMV intends to farm down 30% of its equity in PEP 57073 while maintaining Operatorship.

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