

# The Explorer

## WE ARE EXPLORERS FROM NEW ZEALAND

We New Zealanders have always done things our own way. People came here to break the mould. To get away from business as usual. To discover the undiscovered. From the first human arrivals, to the sealers and settlers, to the newest immigrant - every family in these islands has a story of travel, a story of starting over.

A story of exploration.

They left the old world and the old ways and they came to live under wider skies and horizons as vast and open as the imagination.

Today we explore in the spirit of our forebears. Their ingenuity. Their optimism. We keep the flame alive that is at the heart of this country - the impulse to search, to explore, to seek the undiscovered.





# WHAT IS HAPPENING WHEN A WELL IS BEING DRILLED?

New Zealand Oil & Gas is stepping up drilling activity this year. Our drilling began in February with Parit Minyak-2 (PM-2) in the Kisaran block in onshore Sumatra, Indonesia where New Zealand Oil & Gas has a 22.5 per cent interest. Another well is planned there after the first is complete.

More exploratory drilling is planned in the coming season in offshore Taranaki, at Matuku and Tui and later Kaheru and Kakapo.

A well such as PM-2 has several targets. As the drill bit passes down through those target zones, contracted well-site geologists examine returning mud and rock samples for signs of hydrocarbons, and assess whether the rock formations conform to their expectations. They're not necessarily expecting to see hydrocarbons while drilling through each zone, but instead confirming whether the geology and subsurface environment matches the pre-drilling prognosis.

Detailed results are not announced during the drilling phase because the data that is collected is limited and subject to significant uncertainty. Parties to the joint venture also have mutual obligations of confidentiality. In any case, little can be inferred about the commercial viability of the well, even if signs of hydrocarbons are encountered, until wireline logs have been run and reviewed and any zones of interest have been tested.

Oil and gas is usually trapped in the pore space in rocks such as sandstone. It's not realistic to think of oil and gas being stored below ground in large caverns. Imagine picking up a handful of wet sand from the beach, and then think of petroleum (oil or gas) substituting for some of the water in that sand. Fluid will flow from a porous reservoir rock when a well opens it to the surface because of the pressure created by the weight above it.

When a drilling operation reaches target depth, a decision is made about whether to case the well with steel pipe and cement. This is an expensive step, and generally only taken if the operator judges that the well has a good possibility of producing. Casing allows perforations to be punched in the side of the well over intervals of interest. These are used to assess the fluid type, flow rate and in situ pressure.

Flow testing is used to determine the rate (in 'barrels per day' for oil and/or 'million cubic feet per day' for gas) at which hydrocarbons flow from the well. Depending on the flow, a test stage can take from a few hours to several days. At the end of testing the data is used to make an estimate about the total resource likely to be recovered.

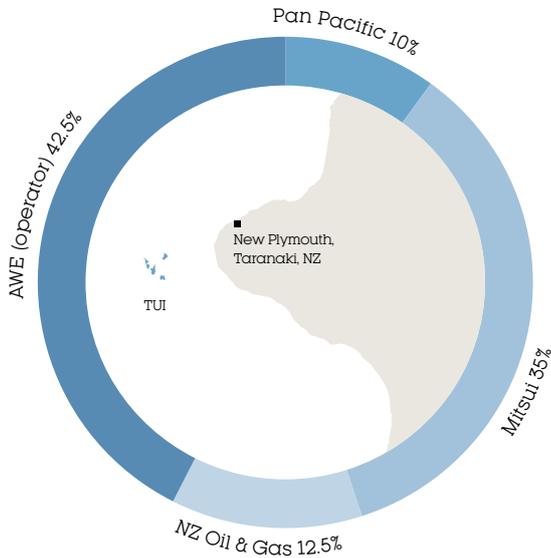
The well may undergo a hydraulic fracture stimulation to allow hydrocarbons to flow more freely. This is a decades-old technology that has recently become more widely known from its use in the US where it has helped to unlock huge gas and oil resources within shale formations.

When flow testing and stimulation operations are complete, an assessment can be made about the economics of further investment to put the well into long term production.

Under stock exchange listing rules, announcements are made weekly while drilling is underway to target depth.



NEW PLYMOUTH, NEW ZEALAND



**TUI**

NZOG's revenue from Tui in the quarter was NZ\$6.1 m.

**Tui area oil fields (PMP 38158). NZOG interest 12.5%**

Total oil production at Tui for the three months to the end of March was 348,973 barrels of oil, at an average rate of 3,877 barrels per day. NZOG's share of the oil production was 43,622 barrels.

There was a tanker shipment of 364,504 barrels in the quarter [NZOG 45,563 share barrels]. As at 31 March there were 127,042 barrels of oil in stock [NZOG share 15,880 barrels].

Production was shut-in on 7th February, due to a leaking seal in the test swivel. The leak was contained and there was no discharge to the environment. Production resumed on 20 February.

NZOG Production

Product	Jan - Mar 2013
<b>Kupe</b>	
Kupe sales gas	0.63 petajoules
Kupe LPG	2,705 tonnes
Kupe light oil	54,702 barrels
<b>Tui</b>	
Tui oil	43,622 barrels



**KUPE**

NZOG's revenue from Kupe in the quarter was NZ\$16.3 million.

**Kupe oil and gas field (PML 38146). NZOG interest 15%**

In the three months to the end of March, Kupe produced 4.2PJ of gas [NZOG's allocation 0.63 PJ], 18,034 tonnes of LPG [NZOG's share 2,705 tonnes] and 364,683 barrels of light oil [NZOG's share 54,702 barrels].

NZOG's revenue from Kupe in the quarter was NZ\$16.3 million.

The Kupe 2013 summer offshore remedial campaign began in March, slightly delayed from that previously indicated, using the Skandi Singapore. At month end: planned pipeline inspection works were fully completed; remedial support work on the umbilical was well underway with minimal weather downtime experienced.



**\$22.4m**

revenue from Kupe and Tui producing assets.

TARANAKI BASIN

Kokako seismic survey underway as Matuku drilling draws near

**Takapou** [PEP 53473]

**Highlight:** Kokako 3D acquisition began  
 NZOG 50% [Operator], Octanex 50%

Ministerial consent for NZOG's acquisition of 50% from Octanex has been received.

A 3D seismic survey began in Kokako in early April using the Western Monarch. It was completed ahead of time on 21 April.

PEP 53473 is adjacent to the north of the Tui oil field and has two previous unsuccessful wells, Takapou-1 and Kopuwai-1. Interpretation of reprocessed 2D seismic data has identified a number of prospects and leads across the 853 square kilometre block, including the "Kokako" prospect which is a structural closure at the "F Sands" level productive in the Tui area fields.

The Kokako 3D survey covers 593 square kilometres. It covers several undrilled structures identified on the existing 2D data.



593 sq km

of 3D seismic survey in Takapou. Nearly 300sq km more in Taranga.

**Matuku** [PEP 51906]

**Highlight:** Well planning for Matuku-1 well underway

NZOG 12.5%, OMV 65% [Operator], Octanex 22.5%

Ministerial consent for NZOG's acquisition of 12.5% from Octanex has been approved.

OMV is meeting the full cost of drilling Matuku-1 under the terms of their agreement with Octanex.

OMV has contracted the Kan Tan IV semi-submersible drilling rig to drill this well in the second half of 2013.

The operator has publicly estimated mean recoverable resource for the Matuku Prospect at around 65 million barrels. If Matuku-1 is successful, NZOG or Octanex can exercise an option for NZOG to acquire a further 5% of Octanex's interest, thus increasing NZOG's share to 17.5%. NZOG would then pay Octanex's remaining 17.5% share of the appraisal well.

**Taranga** [PEP 52593]

**Highlight:** Karoro 3D acquisition began  
 NZOG 50% [Operator], Octanex 50%

Regulatory approval was obtained for NZOG's acquisition of a 50% interest in PEP52593. A change of conditions was also approved to acquire at least 225sq km of 3D seismic in place of the originally planned 2D.

Acquisition of 3D over the Karoro prospect began on 21 April using the Western Monarch when it finished in PEP53473.

**Tui** [PMP 38158]

**Highlight:** Drilling in 2013-14

NZOG 12.5%, AWE 42.5% [Operator], Mitsui 35%, Pan Pacific Petroleum 10%\*

As indicated in the previous quarter, plans are being advanced to drill the new extended-reach development well Pateke-4H and the Oi-1 prospect using the Kan Tan IV semi-submersible drilling rig during the 2013-14 season.

\*Pan Pacific Petroleum will increase its participation in the Oi well to 50% under the sole risk provisions of the Tui Joint Operating Agreement. AWE and Mitsui have elected to participate in the Oi exploration well at reduced equities of 25% and 12.5% respectively, with the option to restore their full equities in any development. NZ Oil & Gas will participate at 12.5%.

**Kakapo** [PEP 51311]

**Highlight:** Efforts to farm down continue.  
 NZOG 100% [Operator]

The Kakapo prospect is ready to drill and NZOG is evaluating rig options, including the semi-submersible Kan Tan IV which will be in Taranaki waters for Matuku-1, Tui and other wells, and various jack-up rig alternatives which may prove more suitable. Efforts continue to farm down NZOG's level of interest in this permit. As announced in February Raisama relinquished its right to obtain 10% of the permit due to changes in its strategic preferences.

**Kaheru** [PEP 52181]

**Highlight:** JV gets ready to drill.  
 NZOG 35% [Operator], TAG Oil 40%, Beach Energy 25%

Preparations are ongoing to drill an exploration well in the Kaheru prospect.

The Joint Venture will utilise a jack-up drilling rig to drill Kaheru-1.

OMV has commissioned the Ensco 107 jack-up rig to drill several development wells at their Maari oil field and the Joint Venture is looking into using the Ensco 107 to drill Kaheru after it has completed its work at Maari.

The mean recoverable reserves (unrisked) are estimated at 45 million barrels [mmbbls] of oil in an oil case; or 200 billion cubic feet [bcf] of gas and 7.5 mmbbls of condensate in a gas case.



NEW PLYMOUTH, NEW ZEALAND

### **Kanuka** [PEP 51558]

**Highlight:** Mensa prospect upgraded

**NZOG 50%, Todd Energy 50%**

[Operator]

Interpretation of reprocessed 3D seismic was completed and has refined the evaluation of the prospect portfolio. It has resulted in upgrading the Mensa prospect, and the operator indicates a mid-range estimate of recoverable resources of 105 mmbbl.

The Joint Venture utilised the Western Monarch to acquire 100 square kilometres of 3D seismic over the Waitara lead in the eastern part of the permit. This met the current work programme commitments.

### **Waru** PEP 54857

**NZOG 100%** [Operator]

PEP 54857 was awarded to NZOG in December 2012 in the 2012 New Zealand Block Offer.

Work has been initiated to re-interpret the extensive existing seismic data and design a 400km 2D seismic survey which is scheduled to be shot within the first two years of the permit term. A well is to be drilled within five years.

## **ON SHORE TARANAKI**

### **Manaia** [PEP 54867]

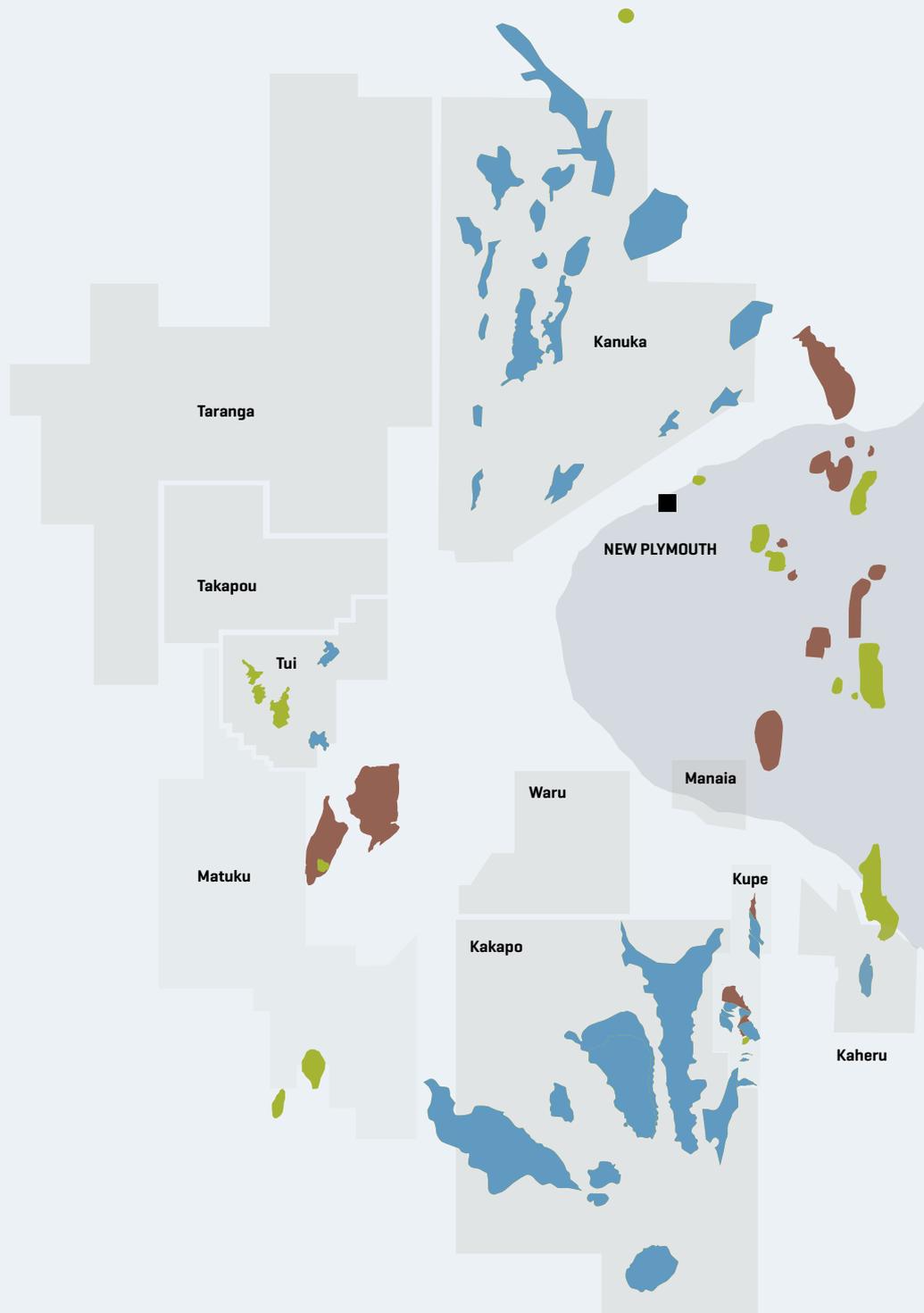
**NZOG 40%, New Zealand Energy Corp.**

**60%** [Operator]

PEP 54867 was awarded to NZOG & NZEC in December 2012 in the New Zealand Block Offer. It is located onshore South Taranaki adjacent to the coast.

There has been only limited previous exploration in PEP 54867 and no wells have been drilled in it. The first 18 months of the permits' duration will see the joint venture acquiring 70km of 2D seismic data.

- GAS
- OIL
- PROSPECTS & LEADS
- NZOG PERMITS





9225 ft

Total depth of Kisaran well.



TUNISIA

**TUNISIA**

**Cosmos Concession**

NZOG 40%, Storm Ventures International 40% [Operator], Entreprise Tunisienne d'Activities Petrolieres [ETAP] 20%

As announced at the time of the half year report in early March, the proposed development project did not meet the company's investment criteria and all expenditures incurred up to 31 December 2012 related to the Cosmos Concession were written off.

**Diodore Prospecting Permit**

NZOG 100% [Operator]

Seismic reprocessing work continues and will be completed later this year.

An application has been submitted to extend the permit by one year from September 2013.



INDONESIA

**INDONESIA**

**Kisaran Production Sharing Contract**

**Highlight:** Parit Minyak-2 [PM-2] well was spudded on 11 February and reached total depth of 9225 feet [2812m] on 8 April 2013

NZOG 22.5%, Pacific Oil & Gas 55% [Operator], Pacific Oil & Gas [Sumatera] Ltd 22.5%

The PM-2 well will undergo a full post-drilling evaluation to determine if further testing is warranted.

The drill site for the Parit Minyak-3 [PM-3] well is almost complete, with rig mobilisation to commence when PM-2 testing is complete. Success in either well will provide the basis for a field development application

**Bohorok Production Sharing Contract**

NZOG 45%, Pacific Oil & Gas [Sumatera] Ltd 45%, PT Surya Buana 10%

Progress continues on the 2013 work programme, which centres around the planning of a 2D seismic survey [with acquisition anticipated in Q1 2014]. In combination with ongoing technical work, the seismic data will allow for the ranking of potential drilling targets.



- GAS
- OIL
- PROSPECTS & LEADS
- NZOG PERMITS



## ZERO

New Zealand Oil & Gas  
has no debt outstanding.

NZOG's operating revenue for the March quarter was NZ\$22.4 million. This included revenue from the sale of Tui oil and revenue from the sale of Kupe sales gas, LPG and light oil.

At 31 March 2013 NZ Oil & Gas had a cash balance of \$168.6m, with cash held in both NZ and US dollar accounts.

During the quarter the Westpac debt facility was repaid in full and cancelled. NZOG no longer has any debt facilities. More financial information is contained in the March 2013 Quarterly Cash Flows Report, which has been released to the NZX and ASX.

### Interim Dividend 2013

NZOG's results for the six months ending 31 December 2012 were announced on 1 March 2013 and included the payment of a fully imputed interim dividend of 3 cents per ordinary share.

The interim dividend was paid on 5 April 2013 with a total cost of NZ\$12,658,764.

2,862,989 fully paid ordinary shares were issued under the Dividend Reinvestment Plan at a cost of NZ\$ 2,477,001. Shares were issued at their full market price.

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**NZOG stock symbols**  
NZX Shares – NZO  
ASX Shares – NZO



# CELEBRATING OUR PEOPLE WHO MAKE A DIFFERENCE



4,000

Shero packs were given to 12,000 visitors at their stall.

New Zealand Oil & Gas wants to contribute to a safer community, and make a difference in the places where we are active.

That's why we supported eleven Women's Refuge volunteers from Auckland, Christchurch and Wellington to run an information stall at the WOMAD Music Festival in New Plymouth.

Every six minutes the 0800 REFUGE crisis line gets a call for help. Women's Refuge is distributing 'Shero' packs that help reduce the need for those crisis calls. At WOMAD they distributed over 4,000 'Shero' packs to the 12,000 visitors at their stall.

Volunteer Sue from Wellington said men as well as women were interested.

"When I made a point of including them in the conversation and that men can be Shero's too and have a role in preventing domestic violence - e.g. how to talk to women they are concerned about; talking to men who may be showing signs of violence - they warmed up.

"I had pharmacists seeking Shero cards to leave on counters; Mental Health practitioners seeking Shero packs and refuge training; business owners interested in ways they could fund raise for us."

Others noticed the importance of the stall in breaking the ice in conversations about domestic violence.

"I had one woman talk about her friend who 'kept going back' and another young woman talk about the violence her mum experienced," Vicki from Taranaki told us.

"By using the Shero packs and those pamphlets as a guide, I was able to break down some of the reasons why women go back and how important it is to deal with violence as a victim or onlooker."



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NEW ZEALAND OIL & GAS