

# March 2017 Quarterly Report

28 April 2017



# **Summary**

**ASX: NWE** 

During the March Quarter, it was announced that agreements with 3C Capital IC Limited and 3C Energy IC Limited, (3C Group) had been entered into to achieve the finalisation of the farm-out of the 160 MMbbl 'Xanadu' TP/15 prospect, a strategic alliance had been formed with 3C Group, and a share placement was completed.

3C Group will contribute 40% of the well costs to earn a 30% interest in TP/15. In addition, 3C Group will have the right to participate in other Perth Basin permits held by Norwest, on equivalent terms to the TP/15 farm-out.

The necessary documentation supporting the application to drill the TP/15 Xanadu-1 well is currently under review by the Department of Mines and Petroleum, and the Office of the Environmental Protection Authority. Norwest is being supported in these approvals processes by Aztech Well Constructions (Aztech) and Strategen Environmental (Strategen).

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Following a detailed technical review, as operator of EP368, Empire Oil and Gas (Empire) has today announced prospective resource estimates (mid-case) for the North Erregulla Deep prospect of 55 BCF gas and 3.55 MMbbls oil (Refer Table 4). The drilling of the commitment well on EP368 is antipicated to commence in quarter 4 subject to JV agreement, regulatory approvals and funding.

The Jingemia Oil Facility in L14 is closer to being brought back online, with the Sale and Purchase process close to finalisation. It is anticipated that work will commence at Jingemia in quarter 3.

The EP413 Joint Venture has been working collaboratively during the quarter in reviewing and analysing the extensive Arrowsmith project dataset. The Joint Venture met during the quarter to continue the technical discussions and forward planning for this highly prospective permit.

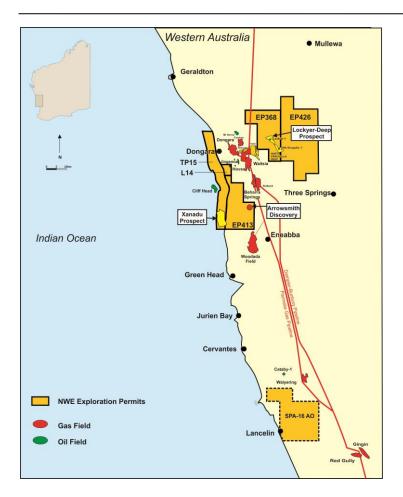


Figure 1. NWE tenements

# **Australian Exploration Program**

# **TP/15**

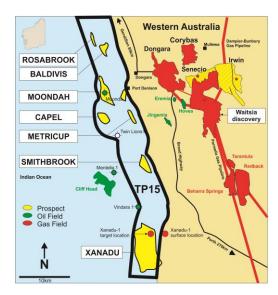


Figure 2. TP/15 permit location

TP/15 is located in the offshore northern Perth Basin, approximately 250km north of Perth. The permit occupies the 3 nautical mile wide state territorial waters of Western Australia, adjacent to the township of Port Denison, and covers an area of 645km².

Xanadu is a conventional oil prospect located near the southern end of the TP/15 permit. The prospect has an estimated recoverable resource of 160 million barrels (Refer Table 1).

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Table 1. TP/15 Joint Venture

Participant	Allocation of Expenditure	Interest	
	in Xanadu-1*	in TP/15	
Norwest	0%	25%	(Operator)
3C Group	40%	30%	
Triangle	40%	30%	
Transerv	20%	15%	

<sup>\*</sup>Upon completion of Xanadu-1, each party will contribute to additional expenditure in proportion to their interests in TP/15.

## **Detailed Project Update**

Planning for Xanadu-1 is well underway, with Norwest using a similar approach to that applied during the drilling of Norwest operated Red-Hill South-1 (TP/15) in 2011 and Arrowsmith-2 (EP413) in 2012. Both wells were delivered on-time and under-budget due to excellent planning, and diligent management project deliverables.

Xanadu is an offshore target, to be drilled from an adjoining onshore permit (EP413) also operated by Norwest. The surface location for the well is situated on Crown Land with extinguished Native Title, and is outside the boundaries of any nature reserves.

#### **Project Delivery**

Aztech has been working closely with Norwest management since late 2016 on planning for Xanadu-1, and as such has been assisting with identification and selection of qualified third party service providers, DMP liaison, well design, siteworks planning, local shire and Main Roads Department planning and approvals. With Aztech also contracted for project planning and management services by AWE for their imminent Waitsia drilling campaign, this provides an excellent opportunity to exploit synergies between the two drilling campaigns providing improved efficiency to both campaigns.

### **Third Party Services & Consumables**

- Work is progressing on finalising all third party services for the drilling campaign, with Norwest close to issuing a Letter of Intent to the successful drilling service provider. More formal contractual agreements will be prepared and executed in due course.
- Long-lead consumable items have been sourced, and deposits paid where required to secure optimal pricing and delivery timeframes.
- Drilling camp, transportation, communications equipment and other third party services are currently under an Expression of Interest process, with Norwest working hard to secure optimal service and pricing for all work to be completed.

#### **Regulatory Approvals**

Current approvals under the lead Regulator – the Department of Mines and Petroleum (DMP)
are well advanced. The necessary approvals include environmental, technical and health &
safety. The project assessment will remain listed as 'On Hold' on the DMP website until all

internal approval processes are complete. Norwest representatives continue to work closely with DMP staff to expedite this process.

- Norwest self-referred this project to the Office of Environmental Protection Authority (OEPA)
  in late 2016, with the period for public comment now complete. The OEPA will now make a
  determination on whether the project requires further assessment or information.
- Strategen provides environmental support to Norwest on the environmental aspects of all projects. Most recently, Strategen assisted with the approvals associated with the EP413 3D Seismic Survey, and is now assisting with the rehabilitation of this area. Strategen is again assisting with the Xanadu-1 approvals processes. A detailed review to identify any environmental concerns with this project has been completed, with several botanical surveys completed over the proposed drilling location area by qualified botanists. No rare flora or fauna was identified within the project boundaries.
- A Heritage Survey with a recognised anthropologist and the local Amangu claimant group representatives is planned for mid-May to survey the project area for the presence of any indigenous artifacts. During siteworks, Amangu representatives will also be on site in a similar capacity.

#### **Prospective Resources**

Unrisked recoverable oil volumes have been estimated deterministically and are summarised in Table 2 below. A 50% recovery factor has been assumed.

Table 2. Un-risked Prospective Resource: Recoverable volumes of oil (MMstb)

Un-risked Prospective Resource: recoverable volumes oil (MMstb) $^{ m 1}$				
Reservoir	Low estimate	Best estimate	High estimate	
Dongara Sandstone	3	12	22	
Irwin River Coal Measures	13	88	159	
High Cliff Sandstone	29	60	256	
Total	45	160	437	

<sup>&</sup>lt;sup>1</sup>The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

Norwest's assessment of the chance of discovery and chance of development associated with Xanadu are provided in Table 3.

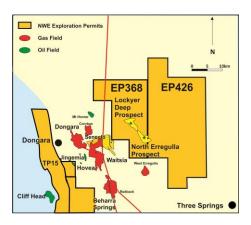
Table 3.

Reservoir	Chance of Success
Dongara Sandstone	14%
Irwin River Coal Measures	13%
High Cliff Sandstone	6%

Refer announcement released to ASX on 29/10/2014.

**Competent Person**: The information on the Xanadu prospect is based on information compiled by Mr. Dean Powell of Powell Seismic Services. Mr. Powell holds a Bachelor Degree of Applied Science (Physics) and is a member of the Society of Exploration Geophysicists. He has over 40 years of experience in petroleum exploration. Mr. Powell has consented in writing to the inclusion of the information stated in the form and context in which it appears.

#### **EP368**



EP368 covers an area of 600 km<sup>2</sup>, and is situated at the northern end of the hydrocarbon fairway running through the northern Perth Basin.

The permit lies to the east of the Dongara township, and adjacent to AWE's massive Waitsia discovery that flowed an impressive 50 MMscf/day in 2015.

Figure 3. Location map of EP368 & EP426

During the quarter, additional technical work was completed on the North Erregulla Deep prospect, located on the southern end of the Lockyer-North Erregulla structural trend (Figure 4). Lockyer Deep and North Erregulla Deep are both high quality prospects and whilst Lockyer Deep has been approved by the EP368 joint venture as the Year 2 commitment well, North Erregulla Deep could offer an alternate location to test the Lockyer-North Erregulla trend based on the results of the recent technical review. Empire expects to commence access discussions with landowners for the drilling of the commitment well next quarter.

Following the completion of the geological basis of design, drilling engineering is planned to commence during quarter 2. Based on the proposed timeline for drilling, the joint venture has agreed to seek regulatory approval for an extension to allow time to plan, finance and drill the well.

Empire has finalised its deterministic assessment of the prospective resources of the North Erregulla Deep prospect, situated in EP368/EP426 and located on the southern end of the Lockyer-North Erregulla structural trend (Figure 4). Please refer to Empire's announcement dated 28<sup>th</sup> April 2017.

Table 4 North Erregulla Deep unrisked Prospective Resources – gross basis

#### Primary gas targets (Bcf)

#### Secondary oil targets (MMbbl)

	Low	Mid	High	Low	Mid	High
Total	15	55	256	0.98	3.55	8.76

Source: Empire announcement dated 28th April 2017

North Erregulla Deep prospective oil resources are listed in in Figure 4 below. This is in addition to the estimated prospective gas resources assigned for the deeper primary Kingia and High Cliff gas target (Figure 5). A single vertical well at the North Erregulla Deep location will penetrate both the shallow oil and deep gas targets.

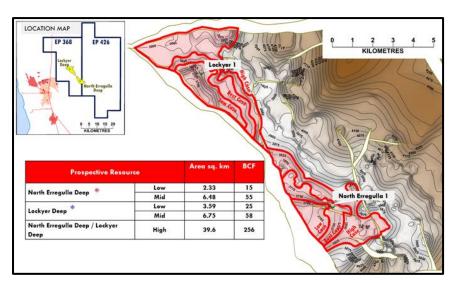


Figure 4: North Erregulla Deep / Lockyer Deep – Prospective Resources – Primary Gas Target

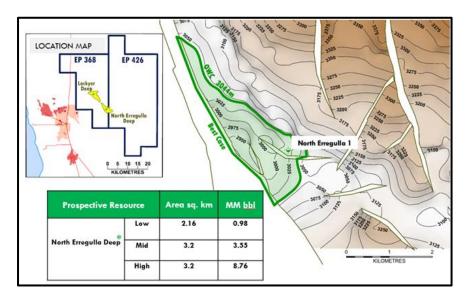


Figure 5: North Erregulla Deep – Prospective Resources – Secondary Oil Target

- \* Possibility of success (North Erregulla Deep) 19%
- \* Possibility of success (Lockyer Deep) 20%
- \* Possibility of success (North Erregulla Dongara/Wagina target) 20%

#### **EP368 Joint Venture**

Empire Oil and Gas 80% (Operator)

Norwest Energy 20%

#### **EP426**

EP426 lies adjacent and to the east of EP368, covering an area of 1197 km<sup>2</sup>. It is located on the north-eastern flank of the Dandaragan Trough in the onshore northern Perth Basin. Refer Figure 3 above for the permit location map.

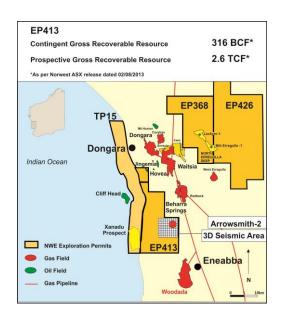
The current work program commitment for EP426 is for geological and geophysical studies, which are continuing.

#### **EP426 Joint Venture**

Empire Oil and Gas 77.78% (Operator)

Norwest Energy 22.22%

#### **EP413**



Perth between the townships of Dongara and Eneabba. The permit covers an area of 508 km², extending from immediately north of L4/L5 which hosts the Woodada Gas Field, to the southern boundary of L14 in which the Jingemia Oil Field is located. The Beharra Springs and Redback gas fields are also located in adjacent permits to the east.

EP413 is located approximately 300km north of

Norwest is operator of EP413, and is currently executing Year 3 of the 5 year work program, with this current permit year dedicated to further technical and commercial evaluation of the block.

Figure 6. EP413 Permit Location Map

A 3D seismic survey was completed in mid-2015, with evaluation of these results still driving the current program. Processing of the results created a large volume of data, and the EP413 Joint Venture partners are working on this dataset to optimise its value in defining the way forward and determining the best location for the upcoming well. The current program includes combining the results from the seismic survey with the vast quantity of data generated during the Arrowsmith-2

program in 2012/13. This merged dataset will assist with identifying 'sweet spots' for possible future drilling locations within the permit area.

### **Seismic Survey Acquisition Area Rehabilitation**

At the completion of the 3D acquisition survey in May 2015, rehabilitation works and monitoring commenced immediately, as detailed in the approved Environmental Management Plan.

In late 2016, the Year 2 Rehabilitation Monitoring Survey and a Dieback Survey were completed within the 3D seismic acquisition area, with final reports provided to Norwest during Q1 2017 with no issues identified.

Images from the rehabilitation monitoring transects are provided in Figure 7 below.

The monitoring and rehabilitation will continue until the OEPA is satisfied that the 3D seismic survey area is fully rehabilitated.





Figure 7. Rehabilitation transects from the EP413 seismic survey area

#### **EP413 Joint Venture**

Norwest Energy NL AWE Limited Bharat PetroResources Ltd 27.945% (Operator) 44.252% (via subsidiaries) 27.803%

## L14 Jingemia Oil Field

L14 contains the Jingemia Oil Field, which under current operator Origin Energy has been in care and maintenance since December 2012. The Jingemia Oil Field is estimated to have initially contained 12 million barrels of oil in place, with 4.6 million barrels produced to date. The area of L14 is 39.8 km<sup>2</sup>.

Norwest Energy previously announced that a Sale and Purchase Agreement (SPA), Change of Title and Change of Operator documentation had been submitted to the Department of Mines and Petroleum for formal approval. The SPA is between Cyclone Energy Pty Ltd and existing L14 Joint Venture partners Origin Energy Developments Pty Ltd, AWE Limited (via subsidiary), ROC Oil (WA) Pty Ltd and John Geary. Norwest has elected to retain its 6.278% interest in L14.

Subject to DMP approval, Cyclone Energy and RCMA Australia will acquire equity in L14, with the intention to restart production from the Jingemia Oil Field.

The regulatory process for Change of Title and Operator approval is continuing. Once approval is granted, the new L14 Joint Venture participants shall have the following interests for the existing Jingemia Oil Field operations:

Cyclone Energy 33.722% (Operator) RCMA Australia 60% Norwest Energy 6.278%

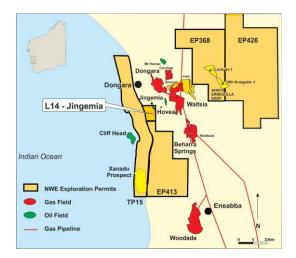


Figure 8. Location of L14 – Jingemia Oil Field

#### **Current L14 Joint Venture**

J Geary

Origin Energy 49.189% (Operator)

AWE Limited 44.141% (via subsidiaries)

Norwest Energy NL 6.278%

Roc Oil (WA) Pty Ltd 0.250%

0.142%

### **SPA-16 AO**

SPA-16 AO (SPA) covers 805 km<sup>2</sup>, and is located at the southern end of the northern Perth Basin. It adjoins EP447 that contains the Walyering gas/condensate field, and EP432 that contains the Cataby-1 oil discovery.

In November 2014, Norwest executed an agreement with Finder Exploration Pty Ltd to acquire its wholly owned subsidiary, Finder No 5 Pty Ltd. This subsidiary holds rights to the SPA, and Norwest is currently involved in the process of applying to the Western Australian Department of Mines to convert the SPA into an Exploration Permit.



Figure 9. SPA-16 AO Location

# **Corporate**

On 10<sup>th</sup> February 2017 10 million unlisted options with an exercise price of \$0.006, previously issued to employees under a shareholder approved option scheme lapsed.

On 15<sup>th</sup> February 2017 the Company issued 208,333,333 fully paid ordinary shares at \$0.0024 per share to 3C Group IC Limited, raising \$500,000. In addition, 60 million unlisted options were also issued to 3C Group, at an exercise price calculated as the lesser of (1) \$0.0024 and (2) the price Norwest issues shares under the last placement completed before the options are exercised. These options will expire on 10 February 2018.

# Issued Capital as at 31st March 2017

Ordinary shares 2,673,902,727 shares Unlisted options 70,000,000 options

# **Petroleum Tenements – Interests**

Permit	Location	Type of Permit	Area (100%)	Norwest (%)		
NORTHERN PERTH BASIN						
EP368	Perth Basin, WA	Onshore	600.3 km²	20%		
EP426	Perth Basin, WA	Onshore	1,197 km²	22.22%		
EP413	Perth Basin, WA	Onshore	508.3 km²	27.945%		
L14	Perth Basin, WA	Onshore	39.8 km²	6.278%		
TP/15	Perth Basin, WA	Offshore	645.8 km²	100%		
SPA-016 AO	Perth Basin, WA	Onshore	805.0 km <sup>2</sup>	100%		
TOTAL AREA NET TO NORWEST 1,981.4 KM2						
TIMOR SEA						
AC/L6 (ROYALTY)	Vulcan Sub-Basin, NT	Offshore	252.1 km²	1.25% ORRI		

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