

September 2017 Quarterly Report 30 October 2017

ASX: NWE



# **Summary**

- In September 2017, conventional oil well Xanadu-1 was drilled, and intersected hydrocarbon bearing intervals in the upper Irwin River Coal Measures (IRCM), demonstrated by elevated gas readings, oil shows, fluorescence and cut-fluorescence while drilling. Subsequent to these events, Norwest lodged a Discovery Notice with the Minister for Mines, Industry Regulation and Safety. This is the first oil discovery in the Perth Basin in 15 years.
- Jingemia Oil Field is one step closer to recommencing production under new operator Cyclone Energy, with the approvals process almost complete with the Regulator. Once Jingemia is brought back on line, Norwest will receive a welcome income stream from production earnings.
- A Share Puchase Plan to raise \$1 million closed on 28<sup>th</sup> July 2017, with total funds raised before
  costs of \$510,000. A further placement to sophisticated and professional investors totalled
  \$536,000 bringing the total funds raised to \$1,046,000.
- In corporate movements, during the quarter Mr Jim Tarlton was appointed to the position of Board Advisor, and Ms Jo-Ann Long as Company Secretary and Chief Financial Officer.

# **Tenement Map & Interests**

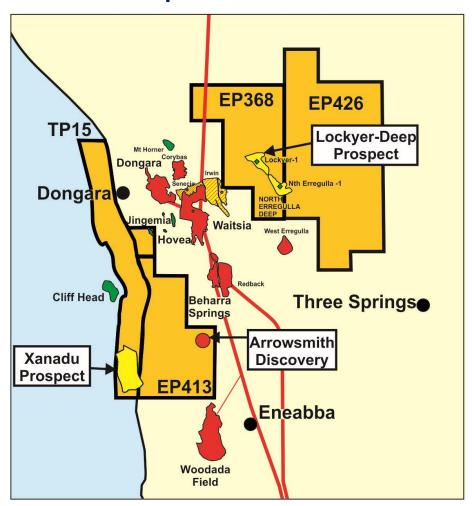


Figure 1. NWE tenements

Permit	Location	Type of Permit	Area (100%)	Norwest (%)	
NORTHERN PERTH BASI	N				
EP368	Perth Basin, WA	Onshore	600.3 km <sup>2</sup>	20%	
EP426	Perth Basin, WA	Onshore	1,197 km²	22.22%	
EP413	Perth Basin, WA	Onshore	508.3 km <sup>2</sup>	27.945%	
L14	Perth Basin, WA	Onshore	39.8 km²	6.278%	
TP/15	Perth Basin, WA	Offshore	645.8 km <sup>2</sup>	100%	
TOTAL AREA NET TO NORWEST 1,176.4 KM2					
TIMOR SEA					
AC/L6 (ROYALTY)	Vulcan Sub-Basin, NT	Offshore	252.1 km <sup>2</sup>	1.25% ORRI	

# **Tenements**

## **TP/15**

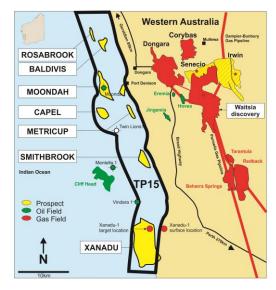


Figure 2. TP/15 permit location

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 645km<sup>2</sup>.

The Xanadu prospect is located at the southern end of the TP/15 permit, and is located approximately 40km south of the township of Port Denison.

#### XANADU-1 WELL

The Xanadu-1 well was spudded on 4 September 2017, reaching a total depth of 2035 mMDRT on Sunday 17 September.

The Xanadu-1 well intersected hydrocarbon bearing intervals demonstrated by elevated gas readings, oil shows, fluorescence and cut-fluorescence while drilling. Norwest confirmed entrapment of oil in sands within the Irwin River Coal Measures (IRCM) in the Xanadu structure.

Norwest subsequently lodged a Discovery Notice with the Minister for Mines, Industry Regulation and Safety (DMIRS).

#### **RESULTS**

Wireline logs were run over a 330m section to confirm reservoir quality sand intervals throughout the IRCM, with porosities ranging 15-16%. The logging suite included:

- Magnetic resonance logging in combination with MDT pressure and fluid sampling
- Porosity logs
- Full hole diameter 3D radial pressure and fluid sampling via the Schlumberger Saturn Probe tool

The initial oil assay results show the oil to have a yield of 34.7° API, with no  $H_2S$ , and less than 0.02% of  $CO_2$ .

With the first phase of crude oil analyses now complete, oil assay results confirm Cliff Head Oil Field to be an excellent analogue. The Cliff Head Oil Field discovery well Cliff Head-1 identified a gross 4.8m oil column at the top of the IRCM below the Kockatea Shale – the same stratigraphy encountered at

Xanadu-1. Cliff Head-1 was immediately side-tracked to a more favourable up-dip location where a 36m gross oil column was intersected.

Key initial findings indicate that in addition to the potential of the up-dip structure, there is evidence that down structure volumes also exist.

A work program for the first half of 2018 is currently being prepared, with activities proposed including:

- Petrophysics, geomechanics and reservoir engineering studies
- Planning for a 3D seismic survey, with a possible acquisition window in late Q1 2018.
- Planning for a proposed sidetrack well from the Xanadu-1 location.
- Ongoing studies over the Xanadu structure and other TP/15 prospects.

These options will be presented at the next Operating Committee Meeting of the TP/15 Joint Venture in November 2017, where decisions will be made on the future work program.

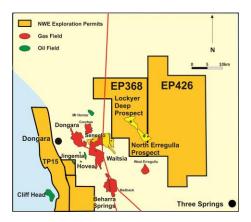
#### **WELL DETAILS**

Permit	TP/15
Well Name	Xanadu-1
Well Location	GDA 94: 29°33'29.117"S114°58'42.074"E
Type of Well	Deviated
NWE Working Interest	25%
Geology	Interbedded sequence of shale and sand

#### **TP/15 JOINT VENTURE**

JV Participant	ASX Code	Percentage Interest
Norwest (via subsidiary) (Operator)	ASX:NWE	25%
Triangle (Global) Energy Ltd (via subsidiary)	ASX:TEG	30%
Whitebark Energy Ltd (via subsidiary)	ASX:WBE	15%
3C Group IC Limited (via subsidiaries)		30%

#### **EP368**



EP368 covers an area of 600 km², 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, and again in October 2017 with the Waitsia-3 flow test reaching a peak gas flow rate of 50 MMscf/d.

Figure 3. Location map of EP368 & EP426

Lockyer Deep contains the same gas-producing formations as Waitsia – the Kingia and High Cliff Sandstone formations, untested in either Lockyer-1 or North-Erregulla-1 historic wells.

The current work program commitment for EP368 is an exploration well, to be completed by June 2018, pending approvals and funding.

#### **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 northeastern 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 a 2D seismic survey, to be completed by June 2018, pending approvals and funding.

#### **EP426 JOINT VENTURE**

Empire Oil and Gas 77.78% (Operator)

Norwest Energy 22.22%

#### **EP413**

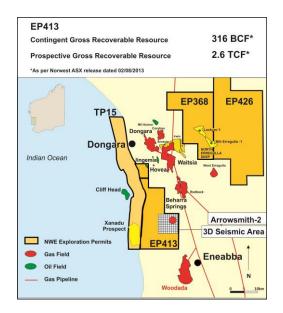


Figure 4. EP413 Permit Location Map

EP413 is located approximately 300km north of 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.

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.

Norwest is currently undertaking commercial studies on behalf of the Joint Venture, with the work program commitment for drilling commencing in February 2018. This program will be on hold pending results from the Western Australian state government scientific inquiry into hydraulic fracture stimulation. Norwest is preparing a force majeure application for a 12 month suspension on this permit, upon the advice of the DMIRS.

### **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. Norwest Energy remains strongly committed to rehabilitating this land, with the annual monitoring and rehabilitation process continuing until both DMIRS and OEPA are satisfied that the area has been fully rehabilitated. The Spring 2017 annual monitoring survey is currently underway.

#### **EP413 JOINT VENTURE**

Norwest Energy NL 27.945% (Operator)
AWE Limited 44.252% (via subsidiaries)

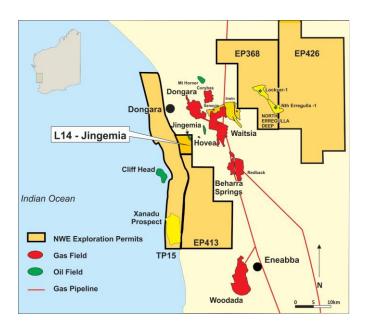
Bharat PetroResources Ltd 27.803%

# L14 Jingemia Oil Field

L14 contains the Jingemia Oil Field, 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>.

Cyclone Energy is now on title as Operator of L14, and activities have commenced on site to bring the facility back into production. It is anticipated that the facility restart will occur during Q4 2017.

There is additional identified exploration upside within the Production Licence, with none of the existing Jingemia wells reaching the deeper structures of the Kingia and High Cliff Sandstone formations, both gas-bearing at Waitsia. A study of these and other opportunities will be undertaken once the facility has been successfully brought back on line.



#### **L14 Joint Venture**

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

Figure 5. Location of L14 – Jingemia Oil Field

# Corporate

A Share Puchase Plan ("the Plan") to raise \$1 million closed on 28<sup>th</sup> July 2017, with total funds raised before costs of \$510,000. A further placement to sophisticated and professional investors ('the Placement') totalled \$536,000 bringing the total funds raised to \$1,046,000. The Placement shares were issued on the same terms as existing ordinary shares in the Company issued under the Plan (with an offer price of \$0.0032).

Tamarind Classic Resources Private Limited has subscribed for \$475,000 worth of shares in the Placement. Their technical and commercial contribution will be invaluable as Norwest continues to progress all projects.

On 29<sup>th</sup> August 2017, the Company appointed Mr Jim Tarlton as an advisor to the Norwest Board. Jim has over 30 years of oil and gas experience in drilling, production, reservoir engineering and asset management. Jim is currently the Technical Director for Tamarind Resources, and previously held the position of VP Operations, Talisman Energy Malaysia. Jim is also the co-founder and director of Well Experts Services, and holds a BA Science (Honours) in Chemical Engineering from Queen's University, Canada.

On 15<sup>th</sup> September 2017, Ms Jo-Ann Long was appointed Company Secretary and Chief Financial Officer. Ms Long holds a Bachelor of Commerce from the University of Western Australia, and is a Fellow of the Institute of Chartered Accountants and a graduate member of the Australian Institute of Company Directors. Ms Long has over 28 years of experience building, leading and advising corporations on financial management, restructures, international expansion, acquisitions and risk

management. Commencing with Deloitte's and followed by 18 years in the Oil and Gas industry, with Woodside and Transerv Energy (now Whitebark Energy) Ms Long has specialised expertise in joint venture operations, commercial agreements, tax strategies, risk management and governance.

### **Issued Capital as at 30 September 2017**

Ordinary shares 3,000,792,727 shares Unlisted options 80,000,000 options

### For further information, please contact:

Jo-Ann Long Company Secretary phone: +61 8 9227 3240

email: info@norwestenergy.com.au visit: <a href="mailto:www.norwestenergy.com.au">www.norwestenergy.com.au</a>