



## September 2016 Quarterly Report

28 October 2016

ASX: NWE



### Summary

During the June Quarter, it was announced that a Strategic Alliance had been formed with Transerv Energy and a Capital Raising completed, which greatly strengthened Norwest's abilities to progress its key projects and attract farm-in partners.

During the September Quarter, Norwest announced that it was one step closer to drilling Xanadu-1 after a termsheet was signed with Triangle Energy (Global) Limited ("Triangle").

The agreements with Triangle and Transerv form the basis for both parties to farm-in on the drilling of Xanadu-1, located within TP/15. Transerv will contribute 20% of the costs to earn a 15% interest and Triangle will contribute 40% of the costs to earn a 30% interest.

With only 40% of the well costs remaining to be funded, and numerous parties reviewing the dataset, it is expected that the new Joint Venture will be finalised by the end of 2016.

The timing of drilling Xanadu-1 will be dependent upon regulatory approvals and rig availability, however it is currently anticipated that drilling will occur in mid-2017, in order to share rig mob/demob costs with other operators.

In total, Norwest anticipates participating in three wells during 2017/18, subject to securing funding and regulatory approvals. The status of each of these drill-ready permits are as follows:

- **TP/15:** Norwest currently has a large number of companies reviewing the TP/15 data room under confidentiality agreements. In addition to the Strategic Alliance with Transerv, and the agreement with Triangle, Norwest has continued to progress discussions with all prospective parties interested in participating in the Xanadu drilling program.
- **EP368:** The focus of this permit continues to be the drilling the Lockyer Deep-1 well, with operator Empire Oil and Gas (ASX: EOG) identifying a prospect on trend with AWE's massive Waitsia gas discovery, situated nearby.

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- **EP413:** Following completion of the Arrowsmith 3D data processing, interpretation is continuing, with further work required regarding the planning of the next well, due to additional conventional prospectivity discovered at the southern end of the permit, with similarities to the Woodada Gas Field located further to the south.

Figure 1 highlights Norwest’s position in the Perth Basin.

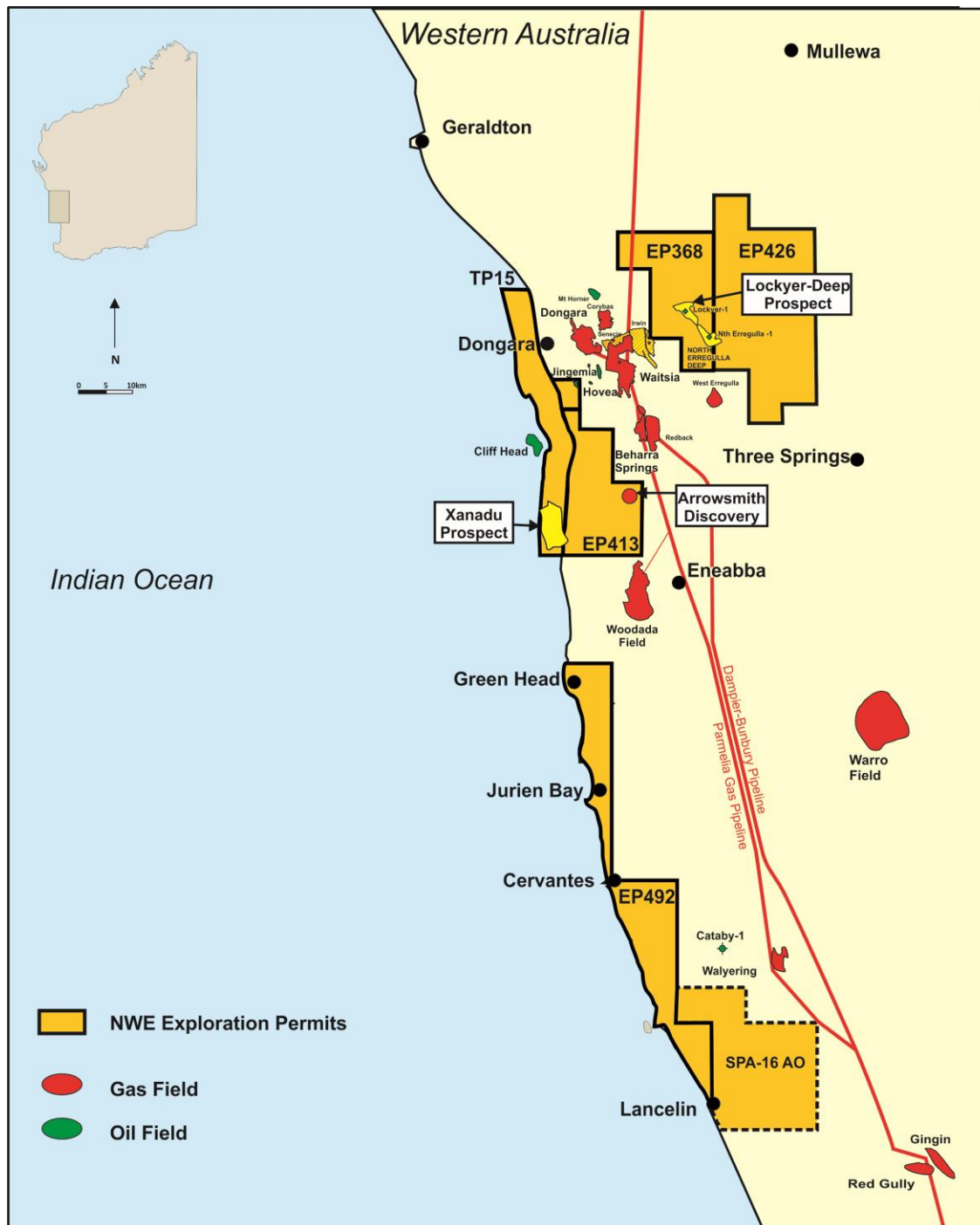


Figure 1. NWE tenements

# Australian Exploration Program

## TP/15

(Norwest 100%)

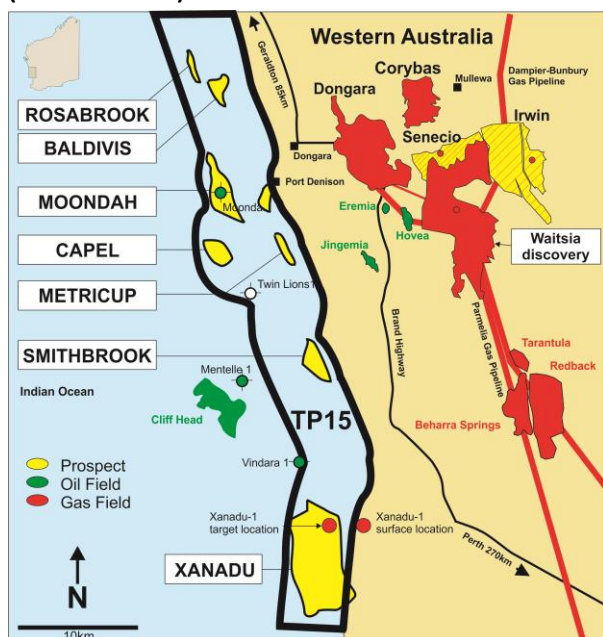


Figure 2. TP/15 permit location highlighting Xanadu prospect

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 covering an area of 645km<sup>2</sup>. Xanadu is a conventional oil prospect located near the southern end of the TP/15 permit.

Throughout the year, Norwest carried out an extensive campaign both within Australia and overseas, to secure funding for the drilling of the Xanadu well. As a result of this program, during the September Quarter Norwest secured two partners to join in this exciting program.

Transerv Energy will contribute 20% of the drilling costs to earn 15%, and Triangle Global Energy will contribute 40% of the drilling costs to earn 30%. Norwest is currently working towards securing funding for the remaining 40% of the well, with the expectation to finalise the Joint Venture by December 2016.

Norwest is currently finalising the necessary documentation to submit to the Department of Mines and Petroleum. This is the first step in the approvals process necessary to drill a well. It is expected that the documentation will be submitted in the coming weeks.

Unrisked recoverable oil volumes have been estimated deterministically and are summarised in Table 1 below. A 50% recovery factor has been assumed.

Table 1.

Un-risked Prospective Resource: recoverable volumes oil (mmstb)*			
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

\*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 the Xanadu prospect are provided in Table 2.

**Table 2.**

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.

## EP368

(Norwest 20%)

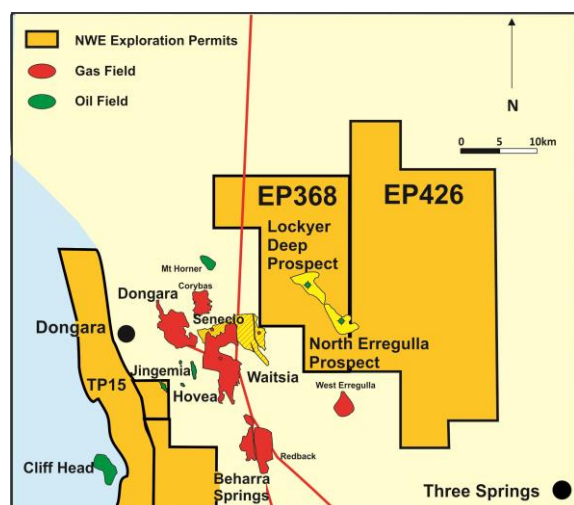


Figure 3. Location of EP368 & EP426 highlighting proximity to the AWE discoveries.

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 Waitisia discovery that flowed an impressive 50 MMscf/day in 2015.

EP368 was reissued for a further five years on 30 June 2015.

Operator Empire Oil & Gas is proposing to drill the Lockyer Deep prospect in 2017 (subject to approvals and drilling rig availability), with the well targeting the same formations as Waitisia; namely the Kingia and High Cliff Sandstone intervals.

Already proven oil-bearing from historic wells North Erregulla-1 and Lockyer-1 at the Dongara Sandstone level, the deeper Kingia and High Cliff Sandstone intervals were not tested in either of these wells. The extent of the Waitisia play into EP368 remains to be confirmed, however results from AWE's Irwin-1 well suggest that the Kingia reservoir fairway increases in thickness to the east, and therefore into EP368.

The Lockyer Deep well is considered a medium risk well targeting between 25 and 134 BCF of gas, with a best case estimate of 58 BCF<sup>1</sup>.

Should the Lockyer Deep well be successful, there is immediate follow up potential at the North Erregulla prospect located to the southeast of Lockyer Deep, and straddling the border with EP426.

<sup>1</sup>Refer Empire Oil and Gas NL (ASX:EGO) Investor Presentation released to ASX on 02/02/2015.

*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.*

**EP368 Joint Venture**

Empire Oil and Gas	80% (Operator)
Norwest Energy	20%

**EP426**

(Norwest 22.22%)

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.

In the June quarter, the permit was renewed for another 5 years (ending 20/06/2021).

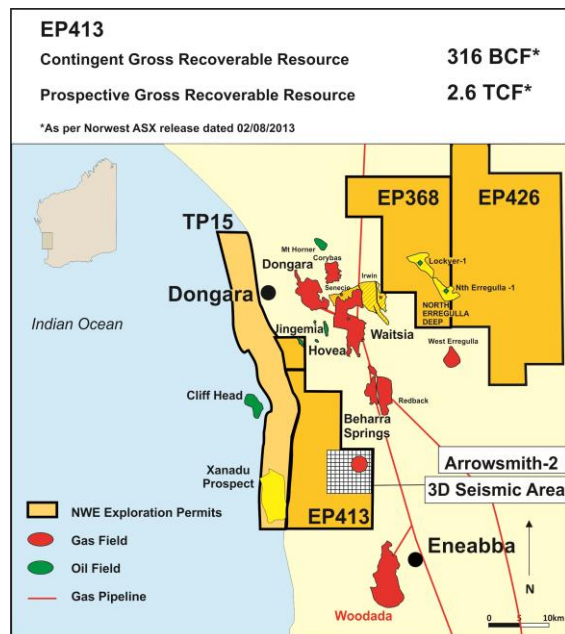
Interpretation of the 2800km Falcon AGG airborne gravity gradiometry, magnetic and ADTM survey, and geological and geophysical studies is ongoing. The structural interpretation has improved the understanding of key structures within the blocks, assisting in identifying key targets.

**EP426 Joint Venture**

Empire Oil and Gas	77.78% (Operator)
Norwest Energy	22.22%

**EP413**

(Norwest 27.945%, Operator)



EP413 is located approximately 300km north of Perth between the townships of Dongara and Eneabba.

The permit covers an area of 508 km<sup>2</sup>, extending from immediately north of L4/L5 which hosts the Woodada Gas Field, to the southern boundary of L14 in which the Jingemial 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.

Figure 4. EP413 Permit Location Map

The 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.

An unexpected outcome from the 3D seismic survey was the discovery of additional prospectivity at the southern end of the permit. On the basis of similarities in structural form and seismic character with that seen further south over the Woodada Gas Field, there is also the potential for stratigraphically trapped conventional gas. This new prospectivity in no way detracts from the reported shale gas potential of the permit, particularly as the shale formations are continuous throughout the block, however it presents itself as an additional opportunity to evaluate, particularly with reference to planning the optimal location for a well. The Joint Venture is carefully evaluating this information, and is currently completing a detailed review and interpretation of the entire 3D seismic survey area to determine the best location for the upcoming well.

### **Baseline Monitoring Program**

CSIRO, in collaboration with Norwest, several other operators and the DMP have established a Research Program into methods of establishing baseline values of environmental indicators and of monitoring techniques for these during development of tight gas resources in the northern Perth Basin.

Areas of investigation have included groundwater and groundwater monitoring, soil gas flux analysis, and a mobile methane survey across the basin. A passive seismic survey array located on EP413 has been monitoring naturally occurring seismic events over the past two years. The data generated will assist in creating baseline data in areas where shale gas exploration is occurring.

### **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.

During the Quarter, a feral animal monitoring survey was conducted, with a report currently being prepared. Preparations are currently underway for the annual spring survey and dieback survey to be completed within the 3D seismic acquisition area within EP413.

The monitoring and rehabilitation will continue until the Office of the Environmental Protection Agency is satisfied that the 3D seismic survey area is fully rehabilitated.

### **EP413 Joint Venture**

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

## L14 Jingemia Oil Field

(Norwest 6.278%)

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>.

In September 2016, Norwest Energy 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.

Norwest's contribution to necessary workovers and start-up costs leading to first production are forecast to be approximately \$200,000, and it is anticipated that production will recommence in the first half of 2017 subject to the necessary approvals.

If the SPA is approved by the DMP, 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%

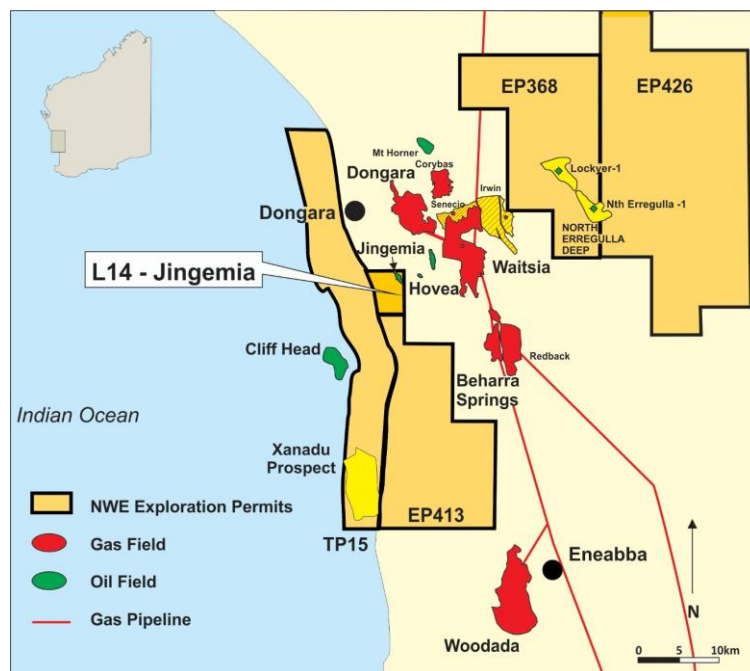


Figure 5. Location of L14 – Jingemia Oil Field

**Current L14 Joint Venture**

Origin Energy	49.189% (Operator)
AWE Limited	44.141% (via subsidiaries)
Norwest Energy NL	6.278%
Roc Oil (WA) Pty Ltd	0.250%
J Geary	0.142%

**EP 492**

(Norwest 100%)

EP492 covers an area of 860 km<sup>2</sup>, and stretches for 120 km along the coast between Lancelin and Green Head, at the southern end of the northern Perth Basin. The Indian Ocean Drive, linking Perth and Dongara, runs through or close to the permit along its full length. Refer to Figure 6 below for a permit location map.

During 2011, Norwest conducted a Falcon airborne gravity gradiometry, magnetics and DTM survey over the area. This data was subsequently modelled and interpreted with the purpose of providing both structural and depth constraints to better define the architecture within this part of the northern Perth Basin. The results of this interpretation were used with existing seismic and well data to define the hydrocarbon potential and location of migration pathways, traps, and seals within the area. Since this survey was completed, Norwest has successfully converted the area from a special prospecting authority (SPA) into an exploration permit.

Over the past twelve months, additional seismic interpretation of the southern portion of EP492 has been carried out, providing a new structural framework in which to consider the prospectivity of the permit. The current planned activity is to review the results from these studies, in order to better assess the prospectivity of the permit.



Figure 6. EP492 and SPA-16 AO Location



## **SPA-16 AO**

(Norwest 100%)

SPA-16 AO (SPA) covers 805 km<sup>2</sup>, and is located at the southern end of the northern Perth Basin, adjacent to Norwest's EP492. It also adjoins EP447 that contains the Walyering gas/condensate field, and EP432 that contains the Cataby-1 oil discovery. Refer to Figure 6 above for a permit location map.

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 a six-year Exploration Permit.

The SPA, combined with Norwest's EP492 represents a significant footprint of 1665 km<sup>2</sup> at the under-explored southern end of the northern Perth Basin.

The award of EP492 was the result of successful negotiations with the Traditional Owners, the Yued People with whom Norwest has developed a solid working relationship. Norwest expects that the successful relationship with the Yued People will assist with discussions relating to the SPA tenure, ultimately leading to the award of an Exploration Permit over SPA-16 AO once negotiations are complete.

The first step of this process was to provide the Department of Mines and Petroleum (DMP) with a Stakeholder Consultation Plan, to demonstrate the process to be applied in working with all stakeholders including the Traditional Owners. This was submitted during the Quarter, and is currently under review by the DMP. Once approval is granted by the DMP, the next step will be to commence Native Title negotiations.

## **United Kingdom Exploration Program**

### **P2265 (Blocks 98/7b, 98/8a and 98/12a)**

(Norwest 65%)

Permit P2265 lies to the east of the producing Wytch Farm oil field in Bournemouth Bay in southern England.

The Joint Venture holds a significant dataset over the area including 2D and 3D seismic, and reprocessing of the historical 3D seismic dataset has now been completed, with a final interpretation report finalised in February 2016.

The Promote period of Bournemouth Bay licenses will expire on 30/11/16. By this date, a commitment must be given to drill a well in the subsequent two years or relinquish the Licence.

Norwest and partner HALO are currently engaged in the process of deciding upon the next phase of activity on the permit.

**P2265 Joint Venture**

NWE Mirrabooka (UK) Pty Ltd	65%
Hague and London Oil (HALO) (Administrator)	35%

**Corporate****Strategic Alliance and Fundraising**

In July, the Company formed a strategic alliance with Transerv to facilitate the farmout and drilling of the Xanadu Prospect located in TP/15, in addition to other onshore permits Norwest has interests in within the Perth Basin.

In August, a share placement was completed raising \$830,000 (before costs) with \$400,000 being placed with Directors and a related party of a director, \$200,000 from Transerv as part of the above strategic alliance and the remainder of funds from sophisticated and professional investors. These funds raised will enable Norwest to progress its three key Perth Basin projects towards drill-ready status.

**Management Changes**

In July 2016, Shelley Robertson was appointed Chief Executive Officer. Mrs Robertson has served as the Company's Asset Manager since joining Norwest in January 2011. Ms Emma Curnow was appointed Company Secretary on 18 July replacing Mr John Annand. Ms Curnow joined the Company in March 2015 as Financial Controller, a role that she will retain.

By reducing staff numbers, sharing office space and costs and introducing additional initiatives to save money, our administrative spend has been greatly reduced, thereby directing more funds towards our exploration program.

**Conferences attended**

Sep 2016	RIU Good Oil Conference, Perth
Sep 2016	DMP Open Day – Panel member

**Issued Capital as at the date of this report**

Ordinary shares	2,465,569,394 shares
Unlisted options	54,150,000 options

## Petroleum Tenements – Interests

Permit	Location	Type of Permit	Area (100%)	Norwest (%)
<b>NORTHERN PERTH BASIN</b>				
EP368	Perth Basin, WA	Onshore	600.3 km <sup>2</sup>	20%
EP426	Perth Basin, WA	Onshore	1,197 km <sup>2</sup>	22.22%
EP413	Perth Basin, WA	Onshore	508.3 km <sup>2</sup>	27.945%
L14	Perth Basin, WA	Onshore	39.8 km <sup>2</sup>	6.278%
TP/15	Perth Basin, WA	Offshore	645.8 km <sup>2</sup>	100%
EP492	Perth Basin, WA	Onshore	860.0 km <sup>2</sup>	100%
SPA-016 AO	Perth Basin, WA	Onshore	805.0 km <sup>2</sup>	100%
<b>TOTAL AREA NET TO NORWEST 2,841.4 KM2 (702,318 ACRES)</b>				
<b>TIMOR SEA</b>				
AC/L6 (ROYALTY)	Vulcan Sub-Basin, NT	Offshore	252.1 km <sup>2</sup>	1.25% ORRI
<b>UNITED KINGDOM</b>				
P2265	Wessex Basin, UK	Offshore	215.3 km <sup>2</sup>	65%

### For further information, please contact:

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### 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.