



# OIL BASINS LIMITED

ABN 56 006 024 764

---

26 October 2011

Company Announcements Office  
Australian Stock Exchange Limited  
10<sup>th</sup> Floor, 20 Bond Street  
Sydney NSW 2000

Dear Sirs

## ***CYRANO OIL FIELD SCOPING STUDY POTENTIAL FOR A RAPID HUB DEVELOPMENT***

### ***HIGHLIGHTS:***

- A practical 'new' rapid development hub Extended Well Test ("EWT") concept may lead to greatly improved economics allowing the development of the Cyrano Oil Field within a modest risked capital of circa USD\$30m and with expected capital recovery breakeven estimated within 12 months. The concept is subject to reservoir risk.
- Oil Basins Limited engaged petroleum engineering project consultants DU-EL Drilling Services Pty Ltd (DU-EL) to review all previous engineering studies and to develop a plan for its possible development as part of the recent Retention Lease R3 / R1 Cyrano Renewal
- The DU-EL Scoping Study has successfully built upon earlier work by RPS Energy and suggested the new rapid development EWT standalone concept. Capital costs are estimated at between USD\$30/bbl to USD\$38/bbl – some 32% to 40% of the previously estimated uneconomic gross comparable development cost.
- With further reservoir simulation studies, the Company has been advised that the potential exists, with well-designed completions and economic short-lived EWTs, to high grade reserves from the circa 1.5 MMbbls 2C reserves already booked on 31 March 2011 to between 2.0 MMbbls and 4.0 MMbbls 2P reserves for Cyrano Oil Field (alone).

## **ASX & MEDIA ANNOUNCEMENT**

The Directors of Oil Basins Limited (ASX codes **OBL**, **OBLOA** and **OBLOB**; **OBL** or the **Company**) are pleased to make the following ASX announcement relating to Retention Lease R3 / R1 containing the undeveloped Cyrano Oil Field, offshore Carnarvon Basin, offshore Western Australia (**WA**) so as to keep the market fully informed.

As previously advised to the ASX on 12 October 2011, the R3 Retention Lease was successfully re-awarded to Oil Basins Limited (**OBL**) as R3 / R1 for a term of 5 years until 10 October 2016. Work program commitments are modest at a minimum of \$200,000 expenditures on Subsurface, Engineering and Economic Evaluation Studies, in each of the five years.

OBL holds 100% of R3 / R1 where previously Oil in Place was estimated at 10.12 MMbbls.

The Cyrano Oil Field, situated in only about 15m water depth, is a relatively shallow (circa 700m deep subsea), low pressure, low permeability reservoir filled with challenging biodegraded 23° API heavy oil with a viscosity of 3.95 centipoise (cp) and with a small gas cap.

Earlier attempts to commercialise the Cyrano Oil Field have been unsuccessful.

In parallel with this imminent awarding, OBL recently commissioned its Perth based specialist petroleum engineering and operations consultant DU-EL Drilling Services Pty Ltd (**DU-EL**) to undertake a scoping study to assess the development options for a field development of the offshore Cyrano Oil Field, Carnarvon Basin

### **Study Scope of Work**

Recognising that the field presents as a marginal field up until this point in time, the scope of work and study parameters included the following:

- an assessment of the challenges presented by the Cyrano Oil Field;
- an overview of the previous operator's engineering studies and economics (including the OBL R3 Renewal Application dated 9 June 2011) and a review of the OBL commissioned RPS Energy Expert Report (**RPS**) dated 2 April 2011; and
- a review of the latest development technologies, the suitability of modern completion systems and pumping equipment and, based upon DU-EL's in-house offshore experience in successfully designing and operating similar small marginal offshore field developments in SE Asia (Vietnam & Philippines), a recommended preferred development for OBL.

### **Principal findings of DU-EL Scoping Study**

- After consideration of all the available options, based on the information at hand and the RPS reservoir report, the DU-EL recommended best option is a standalone low cost development initially in the form of an Extended Well Test (**EWT**) either as a Hub, or series of EWTs using functional removable and re-deployable equipment.
- The Airlie Island option is most likely uneconomical for OBL to pursue, mainly due to the likely disproportionately high net tolling cost related to the attributable upgrading costs of the vintage facility on Airlie to OBL (as a non-JVP) as well as the infrastructure (pipeline and unmanned monopod) required to service the field.

- The most cost effective development would be using a Jack Up Rig or Barge with a modular rig to drill and production test the required extended reach drilling (**ERD**) – approximate 1000m horizontal section of the wells.
- In taking the RPS recommendation of the ERD aspects of the well into account, this study concluding that the most feasible option would be to start with two horizontal ERD wells into the Mardie Greensand formation, as this appears to be the best producing sands, with higher producing rates than the Airlie Sandstones.
- In contrast with RPS (which assumed no pumping in their field assessment and recovery factor), the DU-EL Scoping Study recommends that once the wells have been drilled, they are completed with modern Electric Submersible Progressing Cavity Pumps (**ESPCP**), as per their Basic Concept, to aid in production rates of a low pressure reservoir. The Basic Concept development required for the Cyrano first phase development plan is a horizontal well with a sophisticated ESPCP deployed in aid of extracting the heavy oil.
- Utilising the ESPCPs, recovery factors (**RFs**) are assumed at circa 20% to 40% - broadly in-line with engineering studies by the former operator.
- The wells should then be flowed over a period of time to assess the feasibility of the development design and gain further information about the field. For this phase of the development it is recommended a smaller Barge be mobilised in order to reduce the EWT operating costs. Bringing in a Jack-up Storage Barge with the capacity of 60,000 barrels would in addition reduce the costs of a Floating Storage and Offloading (FSO) vessel on site full-time.
- Production estimates for the ERD horizontals using the advanced ESPCP pump units have been made using DU-EL's experience, with approximate costs estimated up to a two year EWT life following the drilling phase.
- Preliminary EWT economics are encouraging for the conservative production assumptions, and indicates assuming a FEED of USD\$3.5m and additional working capital of circa USD\$5 million with initial capital expenditure estimated at circa USD\$59 million (reducing to less than USD\$30 million with the leased case). Assuming a minimum 795,000 bbls recovery per ERD well, development costs of circa USD\$38/bbl are estimated with one ERD well, reducing to circa USD\$30/bbl with 2 ERD wells. Broad breakeven single EWT economics are within 12 months at a crude oil price of US\$80 per barrel assumed as the Base Crude Price.
- Economics improve with modest RF assumptions and the staged second well (and indeed subsequent EWT's) may be funded by project cashflow under some circumstances – indeed one of the key objectives of the EWT is to trial optimum production testing for either additional future EWT's or a full field development..

## Study Conclusions

- The DU-EL Scoping Study has successfully built upon earlier work by RPS Energy.
- The DU-EL Scoping Study has suggested a 'new' rapid development EWT concept (which subject to acceptable reservoir risk criteria) may lead to greatly improved economics allowing the development of the Cyrano Oil Field within a modest risked capital of circa USD\$30m (assuming all moveable equipment is fully leased) and with expected capital recovery breakeven estimated within 12 months – and recovery factors used are expected to be within those determined by future reservoir simulation studies.
- Reservoir risk and performance of the tight Mardie Greensand flowing moderately low pressure viscous heavy biodegraded crude remains the 'real unknown'.
- Detailed reservoir simulation studies (including orientation of horizontal wells / use of multilaterals and contingent use of either vertical or horizontal injectors – gas and water) are essential to further assess the potential adoption of ESPCP completion technologies and overall recovery factors and reservoir performance characteristics.

## OBL Comments and Strategy

OBL is pleased with the significant re-direction that the DU-EL Scoping Study now proposes to improve overall development economics with the following:

- Use of fit-for-purpose re-deployable relatively cheap shallow water equipment.
- Proposed use of ERD laterals and multilaterals technologies.
- Use of modern ESPCP pumps and the possibility with better modelling and field EWT trials to high grade 2P reserves from the relative modest circa 1.5 MMbbls 2C reserves to between 2.0 MMbbls and 4.0 MMbbls 2P reserves.
- OBL will now take steps to further the geophysical and geological studies by integrating the two studies and as a priority determine the extent of the resources contained within R3 / R1 by the assessment of the extension of the nearby Nasutus Oil Field from R5 into R3/R1).

In parallel with future work program activities, additionally OBL will now seek farmin partners to accelerate the Cyrano Oil Field EWT development studies. The advancing of the rapid EWT development concept will be subject to the approvals and consents of the WA Department of Mines and petroleum and all stakeholders

**A presentation overviewing and summarising the DU-EL Scoping Study is attached to this ASX Announcement.**

Yours faithfully



Neil F. Doyle SPE  
Director & CEO

## **About Oil Basins Limited (OBL)**

OBL is involved in exploration and development of oil and gas in the offshore Gippsland Basin, Victoria, the onshore Canning Basin of Western Australia and the offshore Carnarvon Basin, Western Australia.

Presently, the Company's portfolio includes:

- 12.5% Rights to Vic/P41 situated in offshore Gippsland Basin,
- 17% interest in Vic/P66 situated in offshore Gippsland Basin,
- 100% Beneficial Rights and operator Backreef Area, onshore Canning Basin
- 50% interest in EP5/07-8 situated in onshore Canning Basin (designated operator CSG and USG).
- 100% interest and operator R3 / R1 situated in offshore Carnarvon Basin

OBL regularly performs inhouse and external geological and geotechnical assessments of oil and gas sector farmin, investment and acquisition opportunities and remains interested in expanding its portfolio in both upstream and downstream opportunities within Australia and internationally.

## **About DU-EL Drilling Services Pty Ltd**

DU-EL Drilling has been in operation since 2008. DU-EL Drilling is a project management company that specialises in low-cost upstream energy developments both in Australia and internationally. DU-EL Drilling's aim is to provide cost conscious companies a way forward, by minimising upfront costs and providing an old-fashioned service. DU-EL Drilling understands, especially in the current financial market, that cash flow can be problematic and structures its proposals to alleviate these headaches and still provide a world-class service. As most marginal fields are uneconomic, with DU-EL Drilling's approach to this we believe we can make these more attractive financially.



**OIL BASINS** LIMITED

# **Cyrano Oil Field Scoping Study**

## **Potential for a Rapid Hub Development**

**26 October 2011**



# Disclaimer

This presentation is for the sole purpose of preliminary background information to enable recipients to review the business activities of Oil Basins Limited ABN 56 006 024 764 (ASX code OBL). The material provided to you does not constitute an invitation, solicitation, recommendation or an offer to purchase or subscribe for securities. Copies of Company announcements including this presentation may be downloaded from [www.oilbasins.com.au](http://www.oilbasins.com.au) or general enquires may be made by telephone the Company (613) 9692 7222.

The information in this document will be subject to completion, verification and amendment, and should not be relied upon as a complete and accurate representation of any matters that a potential investor should consider in evaluating Oil Basins Limited.

This presentation may contain forward looking statements based on current assumptions and forecasts made by Oil Basins Limited (OBL) management and other information currently available to OBL from its specialist independent petroleum consultant DU-EL Drilling Services Pty Ltd.

Various known and unknown risks, uncertainties and other factors quantified by OBL's petroleum advisers could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here in the proposed potential Extended Well Test and Full Field Development. OBL and its petroleum consultants do not intend, and do not assume any liability whatsoever, to update these forward looking statements or to conform them to future events or developments.

The technical information quoted has been compiled and / or assessed by Company Director Mr Neil Doyle who is a professional engineer (BEng, MEngSc - Geomechanics) with over 29 years standing, has significant operational experience offshore and has been a full and continuous member of the US Petroleum Engineers since 1981. The geophysical and reservoir technical data relating to the Carnarvon Basin R3/R1 has been independently assessed by RPS Energy and reported to the ASX on 2 April 2011. The petroleum engineering technical data relating to the Carnarvon Basin R3/R1 was independently assessed by DU-EL Drilling Services (with principal conclusions of their Cyrano Development Scoping Study are summarised in this presentation). Both Mr Doyle and DU-EL have consented to the inclusion in this announcement of the matters based on the information in the form and context in which they appear.

Investment in Oil Basins Limited are regarded as speculative and this presentation includes certain forward looking statements that have been based on current expectations, about future acts, events and circumstances. These forward-looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events and circumstances to differ materially from the expectations described in such forward looking statements. These factors include, among other things, commercial and other risks associated with estimation of potential hydrocarbon resources, the meeting of objectives and other investment considerations, as well as other matters not yet known to the Company or not currently considered material by the Company.

Oil Basins Limited and its directors, representatives and consultants accepts no responsibility to update any person regarding any error or omission or change in the information in this presentation or any other information made available to a person or any obligation to furnish the person with further information and its Directors do not endorse or take any responsibility for investments made.



# Cyrano Oil Field – Development Study

## Scope of work

- The R3 Retention Lease was successfully awarded to Oil Basins Limited (**OBL**) as R3 / R1 for a term of 5 years until October 2016.
- As earlier advised, OBL recently commissioned its specialist petroleum engineering and operations consultant DU-EL Drilling Services Pty Ltd (**DU-EL**) to undertake a scoping study to assess the development options for a field development of the offshore Cyrano Oil Field, Carnarvon Basin.
- The scope of work and study parameters included the following:
  - > an assessment of the challenges presented by the Cyrano Oil Field;
  - > an overview of the previous operator's engineering studies and economics (including the OBL R3 Renewal Application dated 9 June 2011) and a review of the OBL commissioned RPS Energy Expert Report (**RPS**) dated 2 April 2011; and
  - > a review of latest development technologies, suitability of modern completion systems and pumping equipment and, based upon DU-EL's offshore experience in successfully designing and operating similar small marginal offshore field developments in SE Asia, a recommended preferred development to OBL.
- Recognising that the field presents as a marginal field at this point in time.

**DU-EL were engaged by OBL to re-examine Cyrano Oil Field development options**

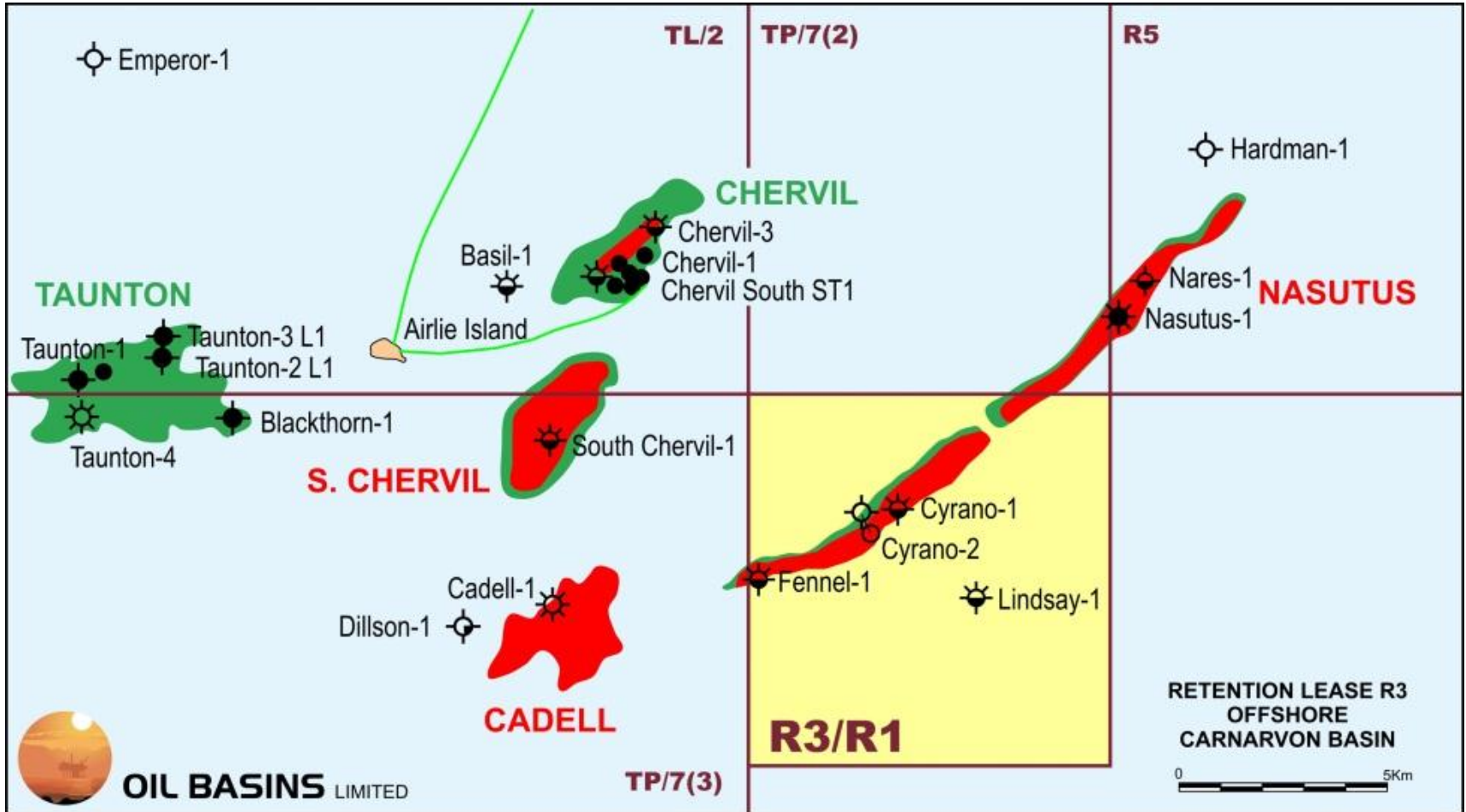




# Cyrano Oil Field – Development Study

## Field Location – An Excellent Hydrocarbon Address

### Location

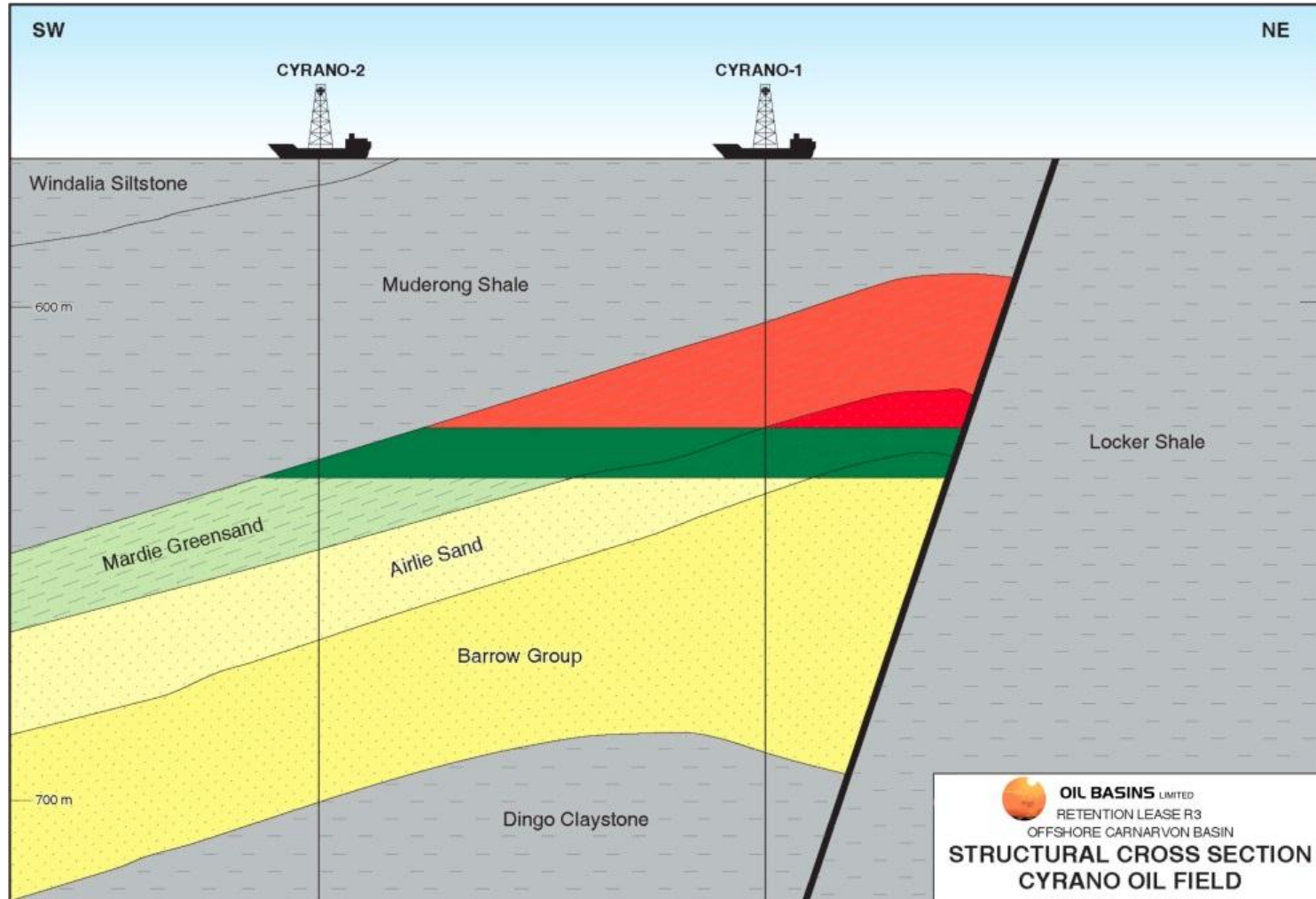




# Cyrano Oil Field – Development Study

## Schematic Cross-section Structure

### Cross-section Structure of Cyrano Oil Field





# Cyrano Oil Field – Development Study

## Previous R3 Renewal Economics

The basis for the OBL R3 Renewal included the following key assumptions (based on best available information from former operator engineering studies and RPS Energy 2P production over an estimated circa 6 to 7 year design life):

- Refurbishment costs for the Airlie Island Facilities (ignored in Base Case Assessment) but considered to be at least USD\$40m in any integrated development.
- CAPEX cost USD\$140 million (includes Project Management and studies, development well, platform, pipeline and share of Airlie Island facilities refurbishment – assumed net R3 share USD\$40 million). Sunk costs excluded.
- OPEX & overheads cost AUD\$10 million p.a.
- Abandonment cost USD\$10 million.
- Oil Price: USD\$80/bbl.
- FX (A\$/US\$): 1.00.
- Using RPS assessed 2C resources 1.5 MMbbls and decline rates as depicted (utilising natural drawdown and no ESP pumps).
- Economics NPV10 minus AUD\$79.5 million

**Cyrano Oil Field under (2011) updated Tie-Back assumptions and USD\$140m CAPEX burden is uneconomic requiring > gross 2.8 MMbbls 2C Resources so as to achieve a 10% IRR breakeven**



# Cyrano Oil Field – Development Study

## Previous view – Tie-back to nearby Airlie Island facilities

The previous view was to develop the Cyrano Oil Field as a tie-back to Airlie Island (which was in addition 10% owned by the previous R3 operator):

- The Cyrano Oil Field is approximately 12 km east-southeast of Airlie Island.
- The island infrastructure (previously used for North Herald / South Pepper development decommissioned in 2002).

Facilities include:

- oil processing and water separation facilities,
- two 150,000 bbl storage tanks,
- a gas lift compressor, pipelines,
- a power generation plant, and
- a flare tower.



Airlie Island

**Cyrano Oil Field tie-back tolling costs to nearby Airlie Island upgraded facilities are likely to be prohibitive (Island redevelopment costs understood USD\$200m) without Unitisation**



# Cyrano Oil Field – Development Study

## Main challenges facing the Cyrano Oil Field

In summary the main challenges are:

- 15m water depth
- Accessibility is limited
- Shallow target depth
- Horizontal drilling at shallow depth
- High gas content
- Potentially an active water aquifer below oil column
- Viscous fluid
- Low reservoir pressure
- Heavy oil
- Low recoverable oil in place
- Facility availability
- Economics



# Cyrano Oil Field – Development Study

## DU-EL's starting point

### Conventional Design Framework

The framework for the drilling engineering and completion design is constrained by the following requirements:

- The Cyrano 1<sup>st</sup> Phase Development will target primarily the Mardie Greensands and Airlie reservoir sandstones and possibly the Lower Barrow reservoir sandstones at depths ranging from 660m – 700m TVD SS.
- Production life of each well is anticipated to be 7 – 10 years.
- Design of the wells should allow flexibility in enhanced recovery options to facilitate primarily water injection and secondarily to allow stimulation; jet pumping and gas lift options.
- Design solutions should be fit for purpose in light of the marginal field economics.
- Under these **specific design conditions** – DU-EL concluded that the preferred option was to tie-back to Airlie Island.
- Consistent with former operator approach and OBL's successful Renewal of R3.

Development was deemed uneconomic at oil prices of circa USD\$80.00/barrel with OBL data inputs and RPS re-assessment.

**DU-EL verified that a conventional development tie-back approach whilst preferred over a permanent standalone installation is marginal (at best) with conventional design assumptions**



# Cyrano Oil Field – Development Study

## RPS Risked OIP & OBL Indicative Potential Recoverable Resources

RPS using a new remapping of the Cyrano Oil Field and re-assessment of the GRV, mapped OWC contours and employing a risked Monte Carlo simulation of the Mardie Greensand and Airlie Sandstone reservoir properties (ignoring the minor oil resources evident in the shallow Barrow Sandstone) have assessed the gross risked Oil in Place (**OIP**) at the Cyrano Oil Field (alone):

Category	Risked Gross	Contingent Resources	OBL Indicative Potential Recoverable Resources
	OIP MMbbls	Note 1 (RPS adopted 15% RF) MMbbls	Note 5 & Footnote (Estimated RF range using ESP's 20% to 40%) MMbbls
P90	5.28	0.79	1.06 to 2.11
<b>P50</b>	<b>10.13</b>	<b>1.52</b>	<b>2.03 to 4.05</b>
P10	18.19	2.73	3.63 to 7.28

1. Contingent 2C resources were booked by OBL at 1.52 MMbbls based upon a conservative RPS adopted RF of 15% (assuming only natural drawdown over 6 to 7 years and with no installation of electric submersible pumping).
2. **The above R3 / R1 OIP estimates ignore any impact of the Nasutus Extension from R5 to the northeast.**
3. The 2C category was determined as being uneconomic based upon an estimated USD\$140 m development CAPEX for a tie-back development to Airlie Island.
4. **Former operator's engineering studies considered that Cyrano Oil with modern electrical submersible pumps RFs of between 23% to 38% would be readily achievable with horizontal well completions.**
5. **This view is consistent with DU-EL's experience of circa 20% to 40% with similar developments.**

**OBL will be specifically targeting increasing the booked P50 in future reservoir ESP simulation studies and future development options – scoped by DU-EL**



# Cyrano Oil Field – Development Study

## DU-EL's integrated design approach

**Firstly, the risked gross oil in place volumes for the Cyrano field is estimated at a significant 10.46 MMbbl (P50) (if this can be economically recovered).**

- As there remains a considerable uncertainty in the actual recoverable field reserves at present, the risks can be managed / assisted by maximising the flexibility in the development concept, rigorously controlling costs, minimising financial commitments and contingency planning.
- Extended Well Tests (**EWTs**) are used to routinely evaluate productivity and characteristics of a reservoir.
- By performing an EWT on the first well drilled in Cyrano Phase 1 of development the reservoir's potential can be evaluated and the risks reduced.
- For a challenging field like Cyrano, it is important to try and minimise all costs associated with drilling and testing the well.

The following costs have been estimated:

- Drilling horizontal well: USD\$20,000,000 (including rig costs)
- Jack Up Barge costs: USD\$45,000 per day (estimate only)
- Well Test cost: USD\$15,000 per day.





# Cyrano Oil Field – Development Study

## DU-EL's integrated design approach

In order to perform a six month well test and also recoup all well costs using a Jack Up Barge and Jack Up Storage Barge, the well would need to produce up to or greater than 2,500 bbls per day, which is not possible according to the RPS reservoir study (using laterals with natural production decline).

**Consequently DU-EL expanded the integrated study scoping methodology to consider specialised high performance proven equipment and Enhanced Oil Recovery Technology (EORT).**

**A 'Base Concept' of one production well with artificial lift only is the minimal recommendation in optimising the Cyrano Oil Field Development.**

In addition, four additional development concepts (using modern equipment and EORT suitable for heavy biodegraded oil such as Cyrano) were considered to add efficiency above the base concept, as per below:

- One production well and one gas injection well
- One production well and one injection well with EORT (Thermal – Steam Injection)
- One production well and one injection well with EORT (Water Injection w/ Chemical additions)
- Dual Well Seabed boosting multiphase configuration



# Cyrano Oil Field – Development Study

## EWT – Basic Concept Artificial Lift Only

### Rig Type

Jack Up / Jack Up Barge

### Production unit

MOPU / Monopod

### Well Design

One well – 15m water depth Horizontal / Deviated (1000m)

### Development Concept

The first production well within the Cyrano Oil field has been identified as a horizontal well to optimise the recovery of the heavy oil in place. Using an artificial lift concept such as Electrical Submersible Progressing Cavity Pumps (**ESPCPs**) can aid in maintaining production rates due to low reservoir pressures.

The Cyrano Oil Field comprises of an oil column with 23°API, high viscosity, low pressures and low permeability reservoir characteristics. This to date has caused uneconomical scenarios for developing this area.

**For a well with these reservoir characteristics and conditions the concept of artificial lift by using a ESPCP for aiding and stimulating the production of the oil in place is the minimum requirement for developing this field.**

### Drilling

In order to drill this horizontal well a Jack Up Drilling Rig or Jack Up Barge with a modular land drilling unit can be used. The advantages of using a Jack Up Barge with a modular land drilling unit are purely financial. The limiting factor of utilising the barge option would be availability and mobilisation. These two factors alone have potential to eliminate the use of a Jack Up Barge with a modular land rig to drill the well.

**A Jack Up Drilling Rig was selected in the Basic Concept.**



# Cyrano Oil Field – Development Study

## EWT Base Concept Artificial Lift Only

### Completions

With the well conditions and reservoir characteristic this concept will utilise an artificial lift technique for recovering the Oil in Place. Schlumberger, Baker Hughes and Weatherford have high quality equipment specifically designed for Cyrano's well conditions.

**The Basic Concept development required for the Cyrano first phase development plan is a horizontal well with a pump (ESPCP) in aid in extracting the heavy oil.**

### Production and Offloading

Once well testing is complete, producing and offloading is the next phase of the operation. Due to the field being in only 15m of water, it poses a challenge. There are two feasible alternatives identified in overcoming this challenge.

The First Option is to divert all produced returns via standard methods to a monopod or Mobile Offshore Production Unit (MOPU) which has been installed within the Cyrano field. From this phase the produced oil can be directed to an offloading point to a FPSO or FSO.

In order to utilise option one, if more than one well was drilled, a X-mas Tree would be required to be tied into a subsea manifold and then pumped through a flowline to the Monopod or MOPU.

The Second Option is to pipeline directly from the subsea manifold which joins multiple production wells to the Airlie Island Production Facility (or alternatively to an onshore storage and shipping facility at Onslow Harbour. These pipeline options may still pose the same shipping hazard as above, and would probably require a trench.

**A Jack Up Storage Barge (capacity 600,000 bbls) was selected in the Basic Concept.**



# Cyrano Oil Field – Development Study

DU-EL Scoping Study : EWT Base Concept Artificial Lift Only

**Jack-Up Drilling  
& EWT Facility**



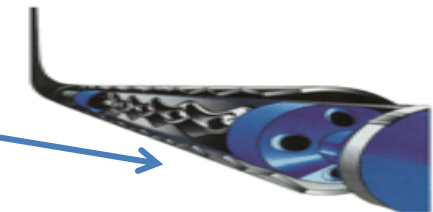
**Jack-Up Oil Storage Barge**



**FSO & Shuttle Tanker**



**Downhole ESPCP (shown blow-up) Pumps**





# Cyrano Oil Field – Development Study

## DU-EL Scoping Study : Purchase Jack Up Drilling & Testing Unit

**Cost in Region of USD\$12m (60m WD Jack Up)**

**Refurbish cost ~USD\$8m**

**Mobilisation Cost ~USD\$6m**

**Safety Case Cost ~USD\$750k**

**Total Outlay ~USD\$27m**

**Note: These costs were obtained at time of study and may change with current availability**



# Cyrano Oil Field – Development Study

## DU-EL Scoping Study : Purchase Jack Up (Modern Hercules 2008)





# Cyrano Oil Field – Development Study

## DU-EL Scoping Study : Purchase Jack Up Storage Barge

**Cost in Region of USD\$5m (60m WD Jack Up)**

**Refurbish cost ~USD\$2m**

**Mobilisation Cost ~USD\$4m**

**Safety Case Cost ~USD\$500k**

**Total Outlay ~USD\$12m**

**Storage Capacity between 60,000 and 100,000bbls**

**Note: These costs were obtained at time of study and may change with current availability**



# Cyrano Oil Field – Development Study

## DU-EL Scoping Study : Jack Up Storage Barge







# Cyrano Oil Field – Development Study

DU-EL Scoping Study : Estimated Total CAPEX

**Re-deployable Equipment USD\$39m**

**Drill Well and complete ~USD\$20m**

**Total CAPEX USD\$59m**

**Alternative Leasing Option**

**Reduces CAPEX by circa USD\$34m to circa USD\$25m  
(after assuming circa USD\$5m required for WC)**



# Cyrano Oil Field – Development Study

## DU-EL Scoping Study : OPEX Estimate

**JU Rig and JU Barge day rate based on 1 year USD\$106k**

**Well Test Spread USD\$15k per day**

**FSO USD\$50k utilised 10 days a month, cost spread over 1 year  
(USD\$16.5k per day)**

**Total Opex USD\$137,500 per day**

**Break Even Production @\$70bbl > circa 1,964 bopd assuming no  
leasing**

**Break Even Production drops to less than 1,000 bopd with Leasing**



# Cyrano Oil Field – Development Study

## DU-EL Scoping Study : Summary

**Jack Up and Jack Up Barge are assets ~\$USD40m CAPEX**

**OBL can spread cost over two years which would reduce OPEX or can be Leased reducing overall CAPEX by circa USD\$35m and increasing OPEX by circa USD\$8m to USD\$12m pa**

**EWT aims to derisk the overall project development of a Full Field**

**EWT offers Rapid Production and negates upfront high cost outlay for Airlie Tolling Tie-back option (net share of refurbishment of Airlie Island and pipeline costs)**

**No reliance of other third parties / facilities**

**Assets can be redeployed in future developments**



# Cyrano Oil Field – Development Study

## EWT Base Concept Artificial Lift Only – Preliminary Economics

Based on a Jack Up Drilling Rig for the drilling phase, current day rates of approximately USD\$200,000 per day and bringing in a smaller Jack Up / Barge in order to flow the well with an approximate average day rate of USD\$45,000 per day.

**Production estimates for the ERD horizontals using the advanced ESPCP pump units have been made using DU-EL's experience with approximate costs estimated up to a two year EWT life following the drilling phase.**

Economics based on a CAPEX of two staged ERD wells over 12 months (each at circa minimum 1,000 bopd based upon earlier work by RPS) and then the OPEX of a Jack Up Drilling & Testing Unit and utilising a Jack Up Storage Barge in order to reduce the time on site for the FSO.

**Preliminary EWT economics are encouraging for the conservative production assumptions and indicates assuming a FEED of USD\$3.5m and additional working capital of circa USD\$5 million; and initial CAPEX estimated less than USD\$30 million (with fully leased equipment) and assuming minimum 795,000 bbls recovery (Development costs estimated at circa USD\$38/bbl with one ERD well and reducing to circa USD\$30/bbl with 2 ERD wells).**

Assuming a fully leased equipment case, broad-breakeven single EWT economics are as follows

USD\$70/bbl – circa 16.5 months

USD\$80/bbl – circa 12 months

USD\$90/bbl – circa 9 months

Once a full reservoir and EWT simulation study is completed (possibly during FEED) to optimise the flow of the wells the production estimates can be looked at with closer attention in the economic stage of planning Cyrano Development. A crude oil price of US\$80 per barrel is assumed for economics



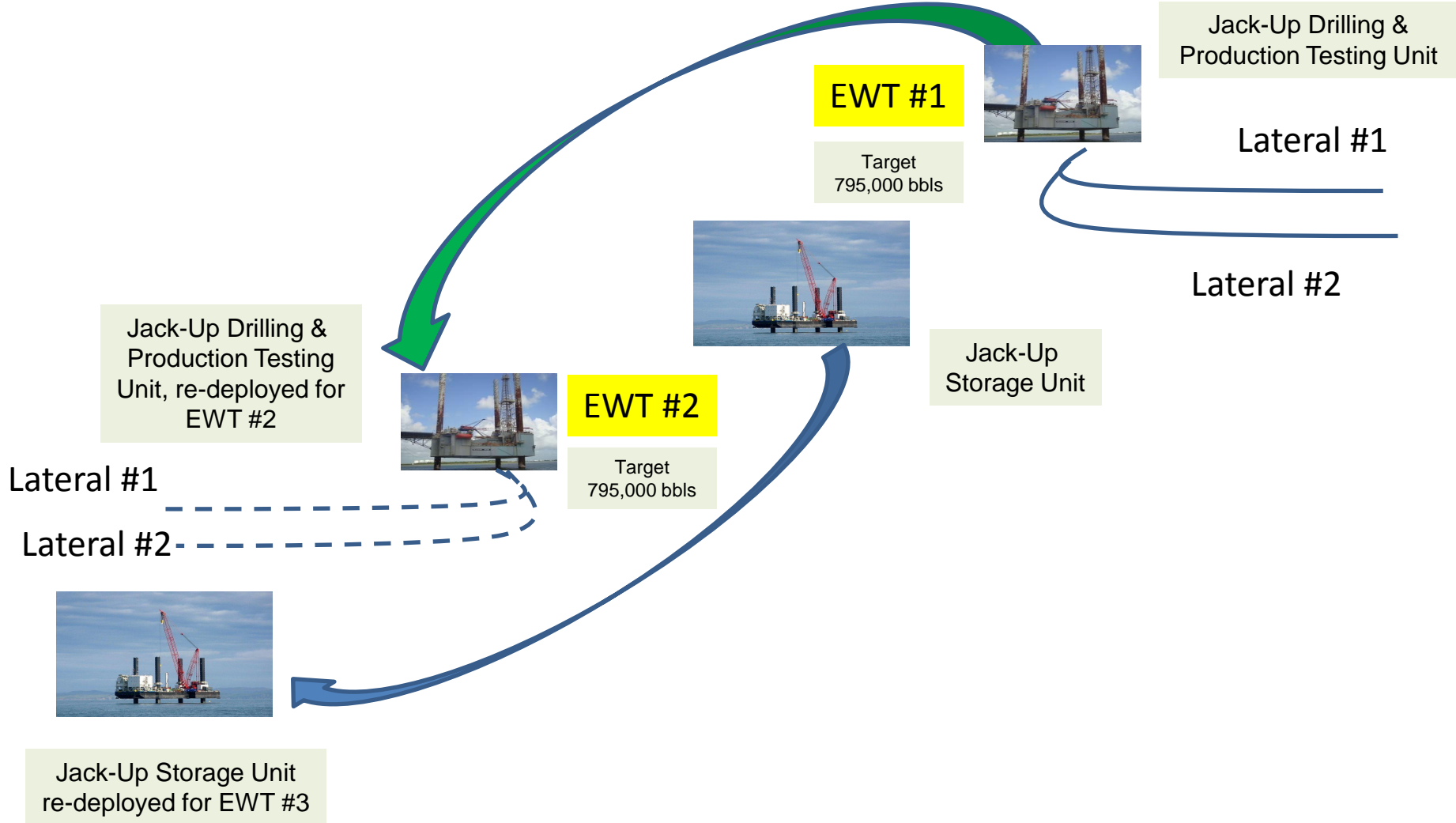
# Conclusions & Future Work

- DU-EL Scoping Study has successfully built upon earlier work by RPS Energy.
- DU-EL Scoping Study has practically suggested a 'new' rapid development EWT concept (which subject to acceptable reservoir risk criteria) may lead to improved economics to assist in the develop the Cyrano Oil Field within a modest risked capital of less than circa USD\$30m with expected capital recovery (breakeven estimated circa 12 months)
- **OBL's preliminary single EWT scoping economics indicate circa USD\$30/bbl to USD\$38/bbl (likely to drop further if second well is self-funding and if multiple EWT's are permitted)**
- Reservoir risk and performance of the tight Mardie Greensand flowing moderately low pressure viscous heavy biodegraded crude remains the 'real unknown'.
- Detailed reservoir simulation studies (including orientation of horizontal wells / use of multilaterals and contingent use of either vertical or horizontal injectors – gas and water) will be required to further assess the potential adoption of ESPCP completion technologies and determine the estimated material balance recovery factor so as to define minimum expected 1P and 2P production profiles (targeting minimum 1,000 bbls/day per EWT well) and risked 1P and 2P reserves per EWT (targeting minimum 2P reserves of circa 650,000 to 795,000 bbls per EWT).
- Scope with modelling and high-grading EWT assumptions that the overall Recovery Factor may increase from the current 15% without pumps to between 20% to 40% using ESPCP pumps – **OBL objective is to target minimum 2.5 MMbbls 2P reserves from Cyrano alone.**
- New work (as proposed in the R3 / R1 Renewal Work Program) needs to be completed on the geological and geophysical interpretation and risked Oil In Place assessment of the potentially large Nasutus Oil Field extension into R3 from neighbouring R5 – with the objective of planning the siting of either the first or second EWT on this potential significant resource extension (early into the project) – **OBL objective is to target an additional 1.5 MMbbls 2P reserves from the Nasutus, R5 extension alone.**



# Cyrano Oil Field – Development Study

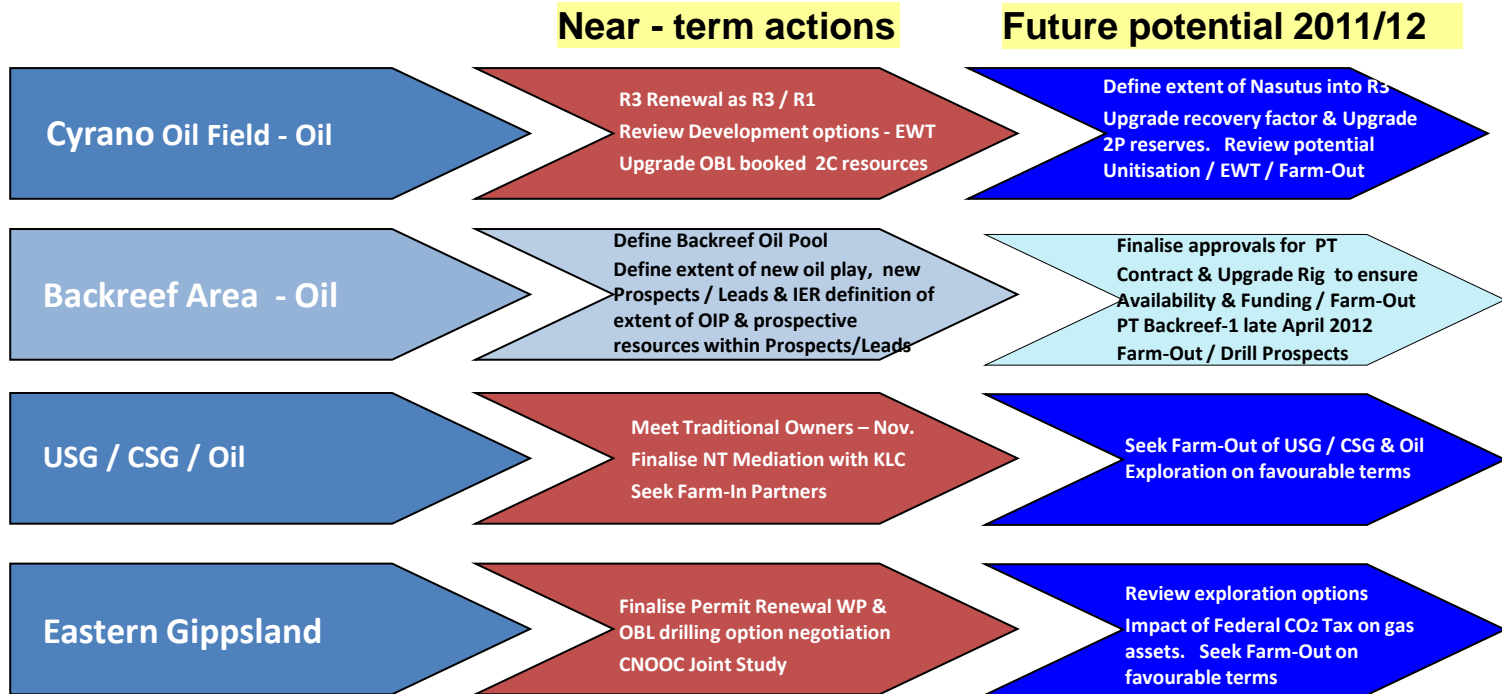
## DU-EL Scoping Study : Phase #2 – Multiple EWTs





# OBL's plan to liberate shareholder wealth

*Likely 'near-term drivers of value' & asset portfolio re-rating opportunity*



OBL has four diverse Projects within it's portfolio all with near-term potential re-rating impact and offering investors significant leverage to Conventional Oil & Gas, Unconventional CSG & USG

Any one of these Projects can be potentially valued as "a multiple" of the existing OBL Market Cap @ 2.5 cps

**Work on ALL projects has progressed significantly in 2HY 2011 to reposition Firm in 2012.**



# Glossary & Petroleum Units

## Reserves & Resources

### PRMS - SPE's "Guidelines for the Evaluation of Petroleum Reserves & Resources"

**Contingent Resources** are those discovered and potentially recoverable quantities that are, currently, not considered to satisfy the criteria for commerciality and are defined as follows:

*Contingent Resources are those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from known accumulations, but which are not currently considered to be commercially recoverable.*

**Known Accumulation**—The term accumulation is used to identify an individual body of moveable petroleum in a reservoir. However, the key requirement is that in order to be considered as known, and hence contain reserves or contingent resources, each accumulation/reservoir must have been penetrated by a well. In general, the well must have clearly demonstrated the existence of moveable petroleum in that reservoir by flow to surface or at least some recovery of a sample of petroleum from the well.

**Prospective Resources** are those potentially recoverable quantities in accumulations yet to be discovered and are defined as follows:

*Prospective Resources are those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from undiscovered accumulations.*





# Glossary & Petroleum Units

<b>M</b>	Thousand
<b>MM</b>	Million
<b>B</b>	Billion
<b>bbbl</b>	Barrel of crude oil (ie 159 litres)
<b>PJ</b>	Peta Joule (1,000 Tera Joules (TJ))
<b>Bcf</b>	Billion cubic feet
<b>Tcf</b>	Trillion cubic feet
<b>BOE</b>	Barrel of crude oil equivalent – commonly defined as 1 TJ equates to circa 158 BOE – approximately equivalent to 1 barrel of crude equating to circa 6,000 Bcf dry methane on an energy equivalent basis)
<b>PSTM</b>	Pre-stack time migration – reprocessing method used with seismic
<b>PSDM</b>	Pre-stack depth migration – reprocessing method used with seismic converting time into depth
<b>AVO</b>	Amplitude versus Offset, enhancing statistical processing method used with 3D seismic
<b>GIP</b>	Gas initially in place – also known as GIIP
<b>OIP</b>	Oil in place – also known as Stock Tank Oil Initially in Placed (STOIIP)
<b>fm</b>	Formation
<b>sst</b>	Sandstone
<b>OWC</b>	Oil water contact