Production, Drilling, Development and Investment in the United Kingdom Onshore Hydrocarbon Sector

UNION JACK OIL plc AIM: UJO

## Corporate Presentation

March 2017





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### Strategy – focused on value creation









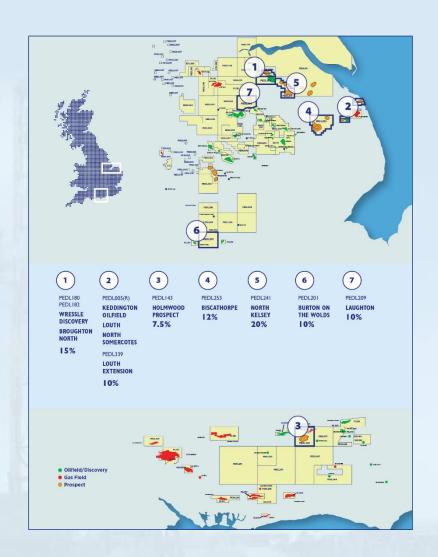


- Strategic Objective: create shareholder value by building a successful UK onshore E&P company and growing risked asset value per share
  - The Board believe the full-cycle costs associated with UK onshore E&P activity remain attractive
- Focused on conventional low-cost onshore production, development, and exploration drilling: avoided early-stage and frontier exploration as high risk
  - Conventional onshore projects are manageable and typically use straight forward development techniques
- Assembled a portfolio of drill-ready exploration and appraisal targets
  - Shortens lead times between acquisition and either exploration drilling or initial production from discoveries
- Expand drill-ready portfolio selectively: open to production opportunities
  - Asset farm-in, corporate activity and licence rounds: also targeting attractive low-cost producing assets
- Apply strict financial and technical discipline to our activities
  - Pride ourselves on having low general and administrative costs for the foreseeable future and remaining debt free

## Conventional low-cost onshore production, development and exploration drilling



- Experienced corporate and technical team
- Listed on AIM: UJO
- Assembled a balanced portfolio of seven licence interests all based onshore UK
  - Wressle-1 discovery (PEDL180/PEDL182) with combined ~710 boepd on test
  - Progressing Field Developments for oil production at Wressle
  - Acquired interest in (PEDL182) containing Broughton North prospect
  - Acquired interest in the producing Keddington oilfield (PEDL005R)
  - Contains the drill-ready and significant Louth and North Somercotes prospects (PEDL005R)
  - Acquired interest in (PEDL143) containing drill-ready Holmwood prospect
  - Drill-ready Biscathorpe prospect (PEDL253) where oil bearing sandstone has previously been discovered
  - Drill-ready North Kelsey prospect (PEDL241)
  - Significant shale potential in PEDL201
- Cash in excess of £2.3 million following payment for a further 3.33% of PEDL180 and PEDL182 (3.33% subject to OGA approval)



## **Experienced corporate and technical team**



#### David Bramhill, Executive Chairman

David has over forty years of experience in the natural resources industry. He has consulted for several companies including; Shell, Petrofina, British Petroleum, Premier Oil and Saxon Oil via Rotork plc. He has directed and managed several energy companies including Nighthawk Energy, Wessex Exploration and OilQuest Resources, an onshore UK exploration company that merged with EnCore Oil in 2006 and was subsequently acquired by Premier Oil plc in 2012.

#### Joseph O'Farrell, Executive Director

Joseph has over thirty years of corporate experience in the hydrocarbon industry. He has managed several energy companies and is a former director of OilQuest Resources. He has assisted numerous companies, working in conjunction with corporate advisers in Pre-IPO fund raising and project acquisition.

#### **Graham Bull**, Non-Executive Director and Technical Adviser

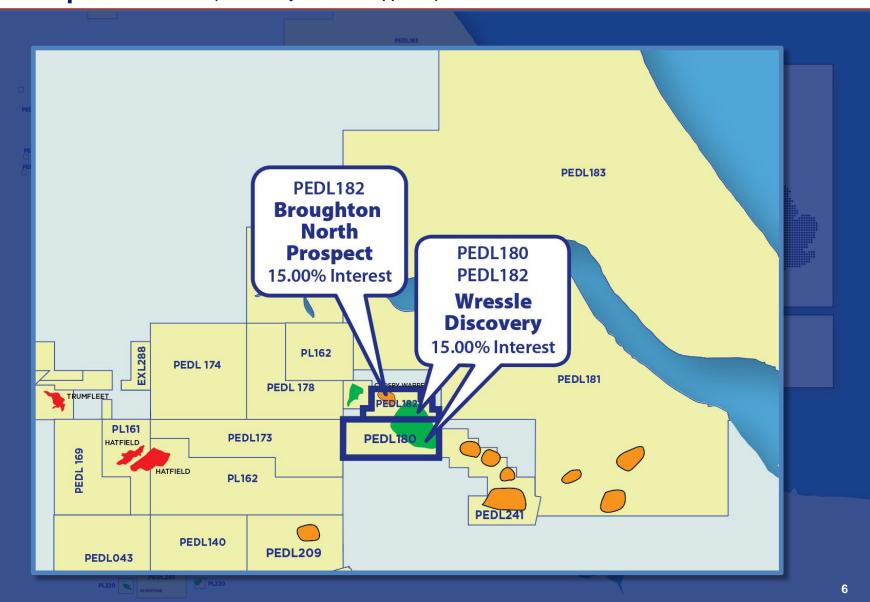
Graham is a geologist with 48 years of international oil and gas industry exploration experience. Following graduation from the University of Leicester in 1968 with a BSc Hons Geology he worked in Canada and held positions with Chevron, Dome Petroleum, Siebens Oil and Gas and Poco Petroleum and also provided exploration expertise to a Canadian drilling fund. He returned to the UK in 1982 taking the position as Chief Geologist to Sovereign Oil and Gas plc. In addition, Mr Bull has operated as a geological adviser for EnCore Oil plc (formerly OilQuest Resources plc), Premier Oil plc, Cirque Energy and DSM Energy. He is currently an exploration geological consultant working on Northwest Europe offshore and onshore United Kingdom and other international areas. Mr Bull is a member of the Petroleum Exploration Society of Great Britain, the American Association of Petroleum Geologists and a Fellow of the Geological Society of London.

#### Raymond Godson, Non-Executive Director

Raymond is a Chartered Accountant with forty years of experience in the hydrocarbon sector. He is a former director of RTZ Oil & Gas, subsequently acquired by Elf in 1988 and has held positions with numerous energy related companies including, Ophir Energy, Fusion Oil & Gas, Aurelian and Teredo Petroleum.

# PEDL180 and PEDL182 Wressle oil discovery (15.00%) – progressing Field Development Plan for oil production (3.33% subject to OGA approval)





# Wressle discovery (15.00%) – progressing Field Development Plan for oil production (3.33% subject to OGA approval)



- PEDL180 and PEDL182 licences are in Lincolnshire in the established East Midlands producing province
  - On trend with nearby discoveries at Crosby Warren, Brigg and Broughton
- Licences contain the Wressle-1 discovery that produced at an aggregate of ~710 boepd from all zones tested
  - Competent Persons Report review on following slides
- Commenced planning and permitting work in support of a Field Development Plan for oil production at Wressle
- The initial development plan utilising the Wressle-1 discovery well was submitted to the Oil & Gas Authority ("OGA") and for which a Planning Application was refused by the North Lincolnshire Council
- Resubmission of new Planning Application and appeal underway
- Significant value created by the drill bit at Wressle-1 discovery well
- Wressle structure extends into PEDL182

## **Testing at Wressle-1 discovery**





## Wressle reserves Competent Persons Report by ERC Equipoise Ltd



- Oil and gas Reserves and Contingent Resources identified by the Competent Person in aggregate exceed the Operator's original pre-drill estimates
- Gross P Mean Oil Initially In Place ("OIIP") is 14.18 million stock tank barrels in aggregate
  across three reservoir sands, the Ashover Grit, Wingfield Flags and Penistone Flags, of which
  2.15 million stock tank barrels are potentially recoverable (2P+2C)
- Gross 2P oil Reserves of 0.62 million stock tank barrels in aggregate identified across two
  reservoir sands, the Ashover Grit and Wingfield Flags that form the basis of the initial
  development plan which currently excludes development of the material Penistone Flags
  reservoir sands
- Commercial oil production is expected to initiate at an estimated 500 barrels per day gross and generate significant net cash flow
- Gross 2P gas Reserves of 0.2 billion standard cubic feet
- Development options and production planning for the Penistone Flags reservoir are expected
  to be progressed following commissioning of the initial Wressle development and will include
  monetisation of the produced gas by pipeline or electricity generation which will be sold to the
  National Grid.

## Substantial Contingent Resources in the Penistone Flags confirmed



- Substantial Contingent Resources have also been confirmed by the Competent Person in the Penistone Flags reservoir at Wressle that are over and above the oil and gas Reserves identified in the Ashover Grit and Wingfield Flags reservoirs
- The Penistone Flags reservoir has gross oil 2C Contingent Resources of 1.53 million stock tank barrels and 2.0 billion standard cubic feet of gas
- The Competent Person highlights that the Penistone Flags reservoir was oil bearing in the Wressle-1 discovery well and also in the Broughton-B1 exploration well approximately two kilometres to the north west that was drilled by BP in 1984, and tested oil from the Penistone Flags reservoir at a rate of approximately 40 barrels per day. The gross thickness of the Penistone Flags reservoir sand is 26 metres in the Broughton-B1 exploration well and 29 metres in the Wressle-1 discovery well and it is expected to be laterally extensive
- Development options and timing of production plans from the Penistone Flags reservoir are expected to be progressed following commissioning of the Wressle development
- The conversion of the Penistone Flags 2C Contingent Resources of 1.53 million stock tank into 2P Reserves, in full or in part, is expected to occur following receipt of necessary development approvals and commencing production at the Wressle development and once a subsequent development plan has been identified for the Penistone Flags reservoir
- The Board intend to apply the net cash flows generated from the initial Wressle development to finance the development of the Penistone Flags reservoir

## **Net Volumes of hydrocarbons attributable to Union Jack**

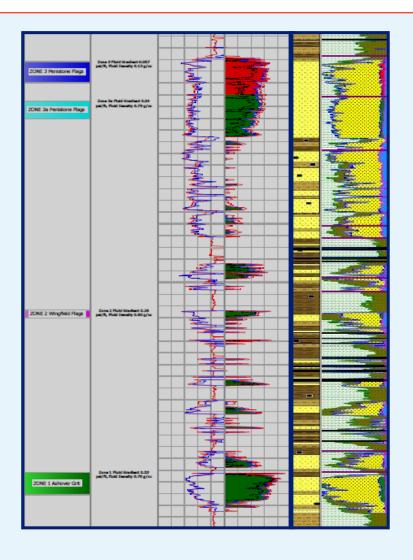


	Gross Volumes			Net Volumes attributable to Union Jack		
	Oil MMstb	Gas bcf	Oil Equiv MMboe	Oil MMstb	Gas bcf	Oil Equiv MMboe
2P Ashover Grit and Wingfield Flags	0.62	0.20	0.65	0.09	0.03	0.10
2C Penistone Flags	1.53	2.00	1.86	0.23	0.30	0.28
Broughton North Mean Unrisked Prospective Resources	0.51	0.51	0.60	0.08	0.08	0.09

Source: ERC 11

## Wressle- 1 composite log





Penistone Flags
15.9 metre pay
DST 89 bopd, 35 API and 1.7 mmcfd
EWT 180 bopd

Wingfield Flags **■** 5.1 metre pay
DST 182 bopd, 39 API and 0.46 mmcfd

Ashover Grit

■ 6.1 metre pay
DST 80 bopd, 39 API and 0.47 mcfd

## Wressle well site testing operations





# PEDL182 Broughton North Prospect (15.00%) - Broughton North Prospect mapped on high quality 3D seismic data (3.33% subject to OGA approval)



- The acquisition affiliates two prospective licence areas, already demonstrated by the Wressle-1 oil and gas discovery
- Broughton North Prospect mapped on high quality 3D seismic data
- The Wressle-1 oil and gas discovery has significantly reduced the geological risk over licences PEDL180 and PEDL182
- The Wressle field is deemed by the Operator to extend into PEDL182
- Union Jack holds an 15.00% interest in PEDL182 and PEDL182 (3.33% subject to OGA approval)
- The Broughton North well, when drilled will be funded by Union Jack's share of production from the Wressle field

## **Broughton North Prospect Prospective** Resources

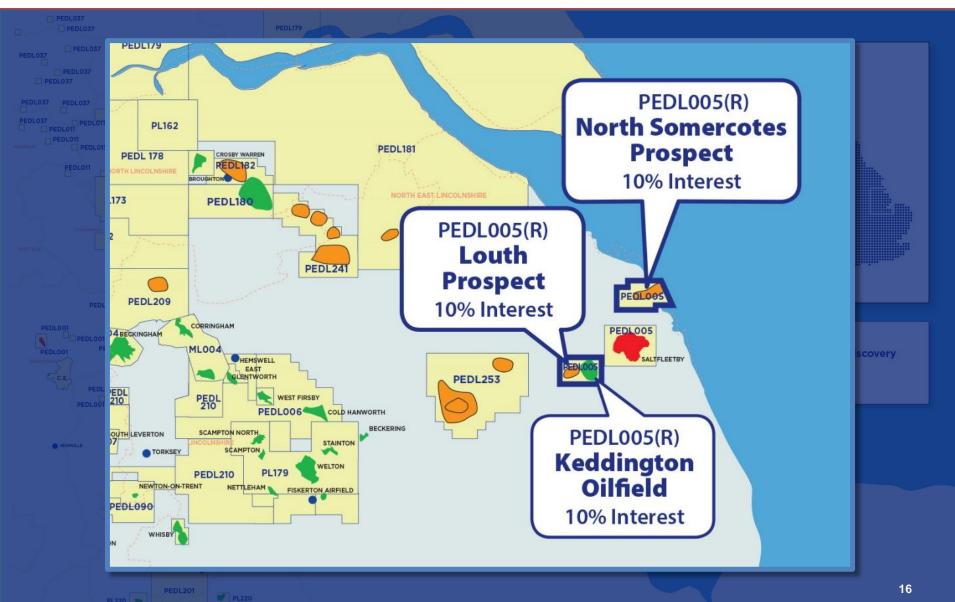


- The Broughton North Prospect has OIIP of 3.43 million stock tank barrels, gross unrisked Mean Prospective Resources of 0.51 million stock tank barrels and 0.51 bcf of gas in aggregate across two reservoir sands, the Ashover Grit and Penistone Flags
- Broughton North is a drill-ready prospect, subject to obtaining planning permission
- The Broughton North Prospect benefits from the results of the Wressle-1 oil and gas discovery and the Broughton-B1 exploration well that significantly reduces the geological risk over PEDL180 and PEDL182. Consequently ERCE attribute a high Geological Chance of Success ("COS") with a range of 40% to 49% for the prospect
- Mapping of the Broughton North Prospect also benefits from the same high quality 3D seismic data as was used to identify the Wressle-1 oil and gas discovery
- Funding for an exploration well on the prospect will be assisted by the significant net cash flows to be generated from commercial production from the initial Wressle development

\*Source: Egdon Resources plc 15

## PEDL005(R) Keddington oilfield (10%) – producing asset





## PEDL005(R) Keddington oilfield (10%)



- Union Jack's first production interest acquired in September 2015
  - Acquired a 10% interest in Keddington, associated infrastructure and production facilities
- Will look to maximise the value of the "Greater Keddington" area
  - Licence has significant potential with two additional drill-ready prospects identified
- Louth Prospect: oil prospect is defined on reprocessed 3D seismic data
  - Estimated to contain OIIP of 5.5 MMbbl and mean prospective resources of 1.4 MMbbs (gross)\* with an attractive COS<sub>aeo</sub> of 37%<sup>†</sup>
- North Somercotes Prospect: gas prospect located north of the Saltfleetby gasfield
  - Estimated to contain Mean Prospective Resources of 11.0 Bcf (gross)\*\* and a COS<sub>geo</sub> of 25%\*\*
- Under the terms of the farm-in agreement, UJO will pay
  - 20% of the cost of the Kedington-5 well drilled in January 2016
  - 20% of the costs of the Louth-1 exploration well

## **Keddington production facilities**

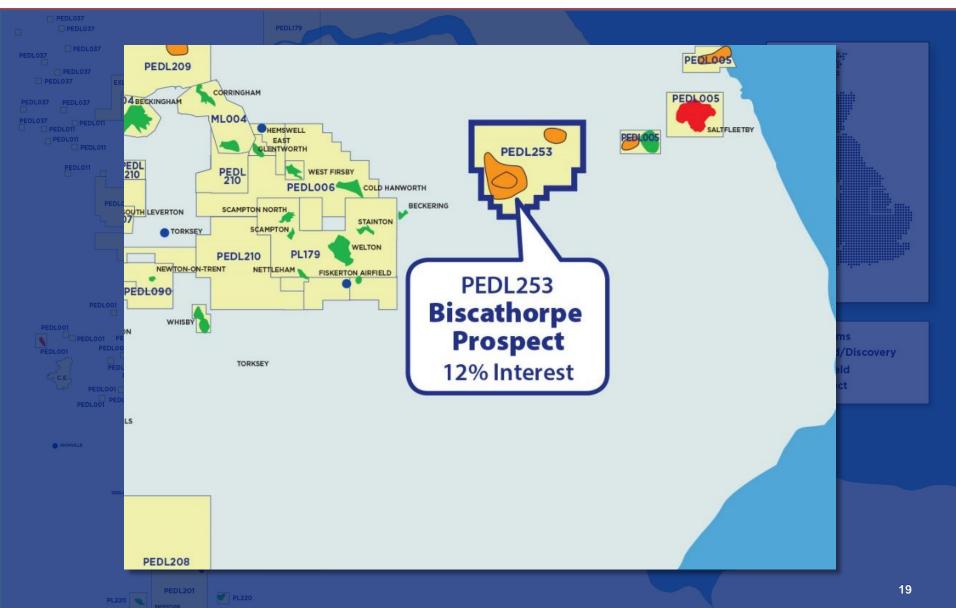




### PEDL253 Biscathorpe Prospect (12%)

- large drill-ready prospect with planning consent





## **Biscathorpe Prospect (12%)**

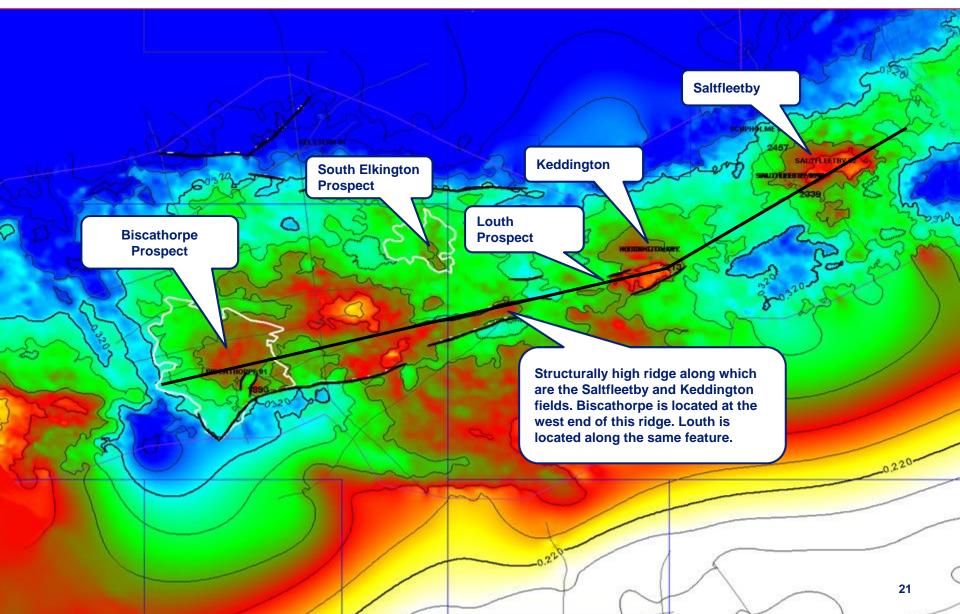
### large drill-ready prospect with planning consent



- PEDL253 is within the proven hydrocarbon fairway of the South Humber Basin
  - On trend with the Saltfleetby Gasfield, Keddington Oil Field and the Louth and North Somercotes prospects
- The Biscathorpe-1 well drilled by BP in 1987 encountered a thin oil filled sandstone which is expected to thicken down-dip
- Biscathorpe Prospect is a well defined four way dip closed structure mapped from recently reprocessed 3D seismic
  - Biscathorpe-2 well will be located in a direction towards a potentially thicker sand development within the structural closure of the trap
  - Subsurface target location defined and planning consent granted for the drilling and any subsequent testing
- Mean prospective resources estimated at 14.00 MMbbl oil (gross)\* with COS<sub>geo</sub> 40%<sup>†</sup>
  - 1.4 MMbbl net to UJO with additional exploration upside potential in the licence
- Biscathorpe-2 vertical appraisal well expected to be drilled during 2017
- Under the farm-in, UJO will pay a total of 24% of the cost of the well
- Licence extension of one year granted to 30 June 2017

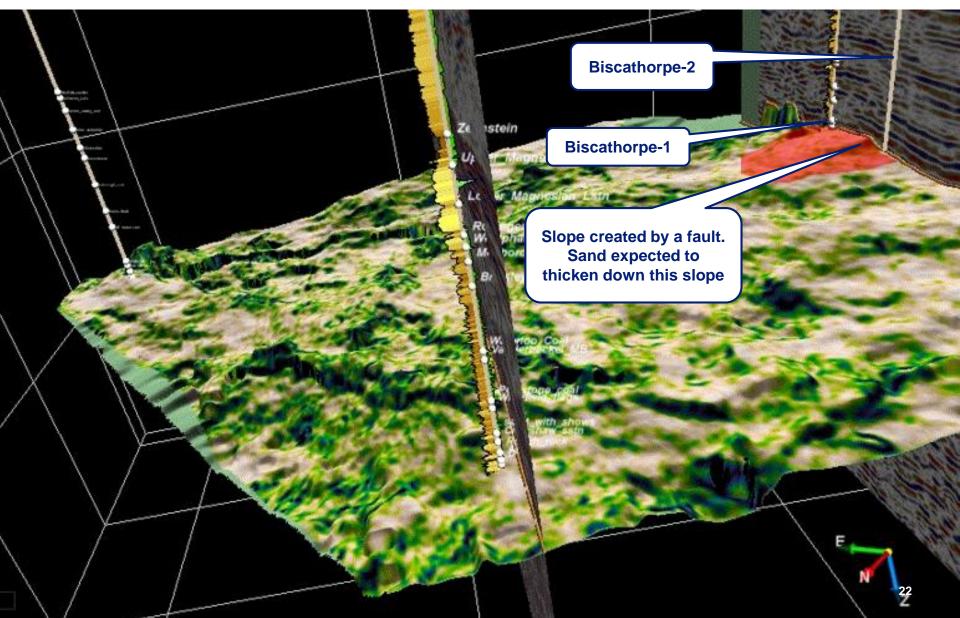
## **Biscathorpe Prospect**





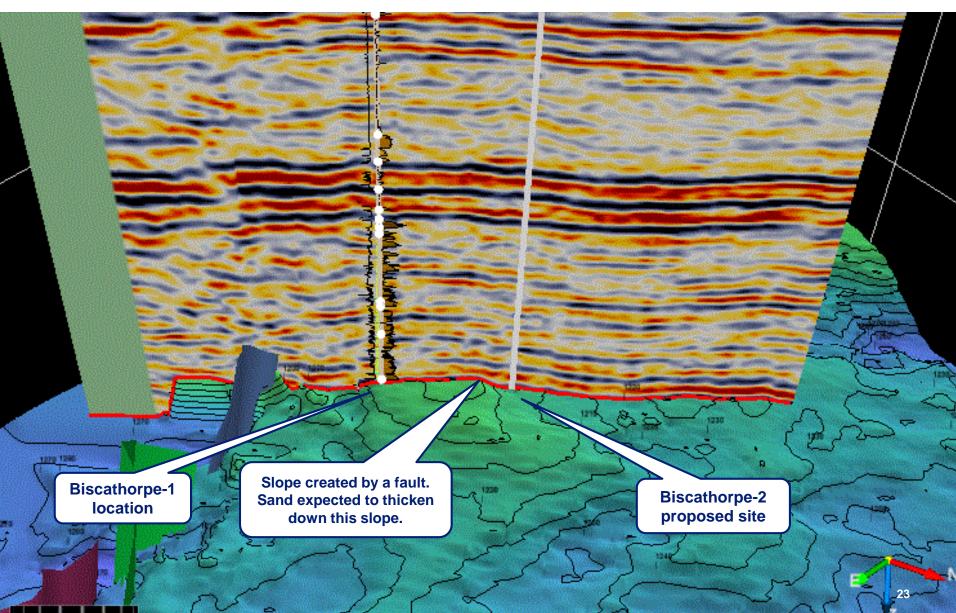
## **Topographic map of the Dinantian surface at Biscathorpe**





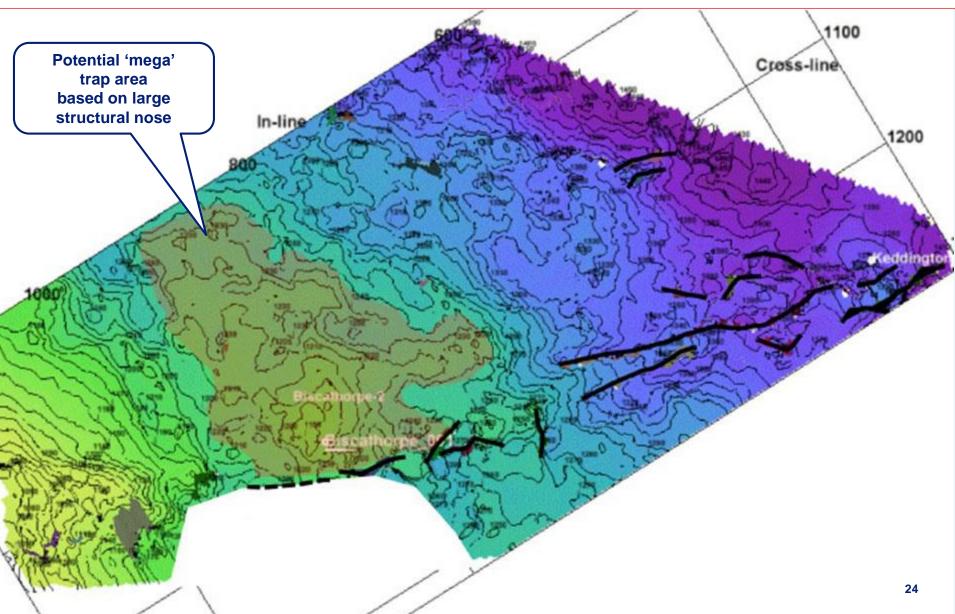
## Seismic line Dinantian Structure map showing potential thickening into Biscathorpe-2 location





## Biscathorpe-2 – Dinantian Structure map showing potential for a 'mega' trap





## Biscathorpe Prospect review – revised volumetrics and risk



Volumetric Input / Output	P90	P50	P10	Mean
STOIIP (mmbo)	7.52	29.50	142.00	56.00
Prospective Resources (mmbo)	1.84	7.30	35.30	14.00

Trap presence	80.00%
Trap Effectiveness	80.00%
Reservoir presence and effectiveness	65.00%
Hydrocarbon charge	95.00%
Geological chance of success	39.52%

- Principal risk relates to thickness of 'basal' unit at proposed Biscathorpe-2 location
- Risk on trap presence/effectiveness relates to upside stratigraphic trapping mechanism

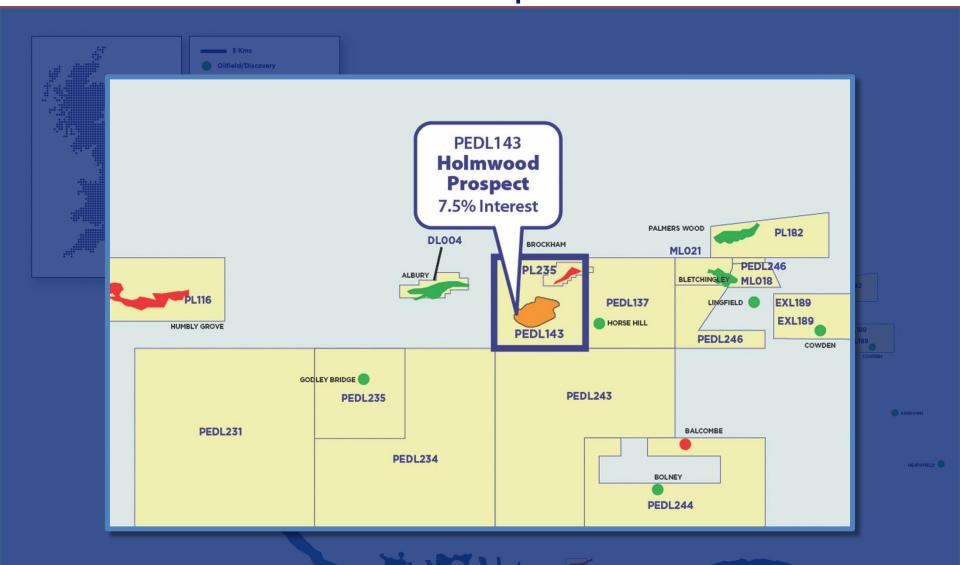
## Findings of Independent Review of Biscathorpe 3D by Sotwell Exploration Ltd



- Well ties, by synthetic seismogram are high quality and allow a robust link between the geology and seismic data
- The Biscathorpe 'concept' is confirmed, with good evidence from attributes of the possibility of sand thickening away from the current well location
- The Biscathorpe-2 location appears optimal
- A 'mega' play trap at Biscathorpe is potentially feasible with stratigraphic upside
- The whole area is very attractive for oil exploration additional wells linked to seismic would probably display new prospect concepts

# PEDL143 Holmwood Prospect (7.5%) – Acquisition brings the first Weald Basin licence interest to Union Jack's UK onshore portfolio





## Holmwood-1 is a high impact exploration well

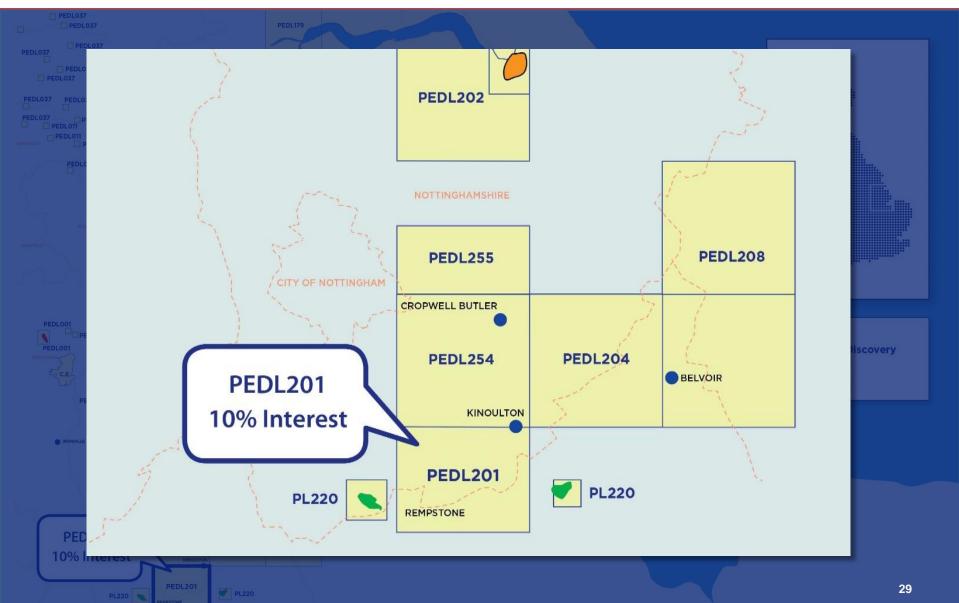


- Holmwood -1 is a high impact exploration well with planning consent and is expected to be drilled during 2017
- The Operator estimates the unrisked gross mean prospective resources to be
   5.6 million barrels with a geological chance of success of 33% from the shallower sandstone reservoirs only
- The drill site is 12 kilometres immediately west of and of similar stratigraphy to the Horse Hill discovery
- Further upside resource potential exists from the Jurassic Kimmeridge limestones
- Presence of multiple potential payzones
- Angus Energy recently re-completed the Brockham-2 well, north of Holmwood, and encountered hydrocarbon shows in the Portland, Kimmeridge and Corallian horizons and reported encouragement for the predicted analogy to the Horse Hill geology

## PEDL201 Burton on the Wolds (10%)

- significant unconventional prospectivity





### **Burton on the Wolds (10%)**

## - significant unconventional prospectivity



- PEDL201 is in the onshore UK East Midlands Petroleum Province
  - Situated on the southern margin of the Widmerpool Gulf
- Molten Limited completed a report reviewing the shale resource potential of PEDL201
  - Mean deterministic un-risked in-place volumes within that shale area of approximately 5.4 Bbbl oil and over 2.7 Tcf gas (gross)
  - Mean un-risked in-place volumes of 540 MMbbl OIIP and 270 Bcf GIIP (net to UJO)
- Internationally, horizontal drilling and hydraulic fracturing technologies have permitted extensive shale developments, most notably in the United States
  - Developments such as the Bakken oil play in the US have been producing for over 19 years
  - Shale oil recovery factors in the US have ranged from approximately 1% to nearly 10%.
- Potential in-place volumes could represent significant economic value
  - Even if recovery factors at the low end of those in the US can be achieved in the UK



## **Union Jack investment summary**



- Low-risk onshore strategy and a balanced portfolio of seven licence interests
- Portfolio positioned to deliver asset value growth
- Commercialisation planned for Wressle-1: Field Development Plan, resubmission of planning appeal underway
  - Three formations successfully tested under free flow (combined ~710 boepd)
- Planned drilling and acquisition activity in 2017 that will generate ongoing news flow
- Planned activities all fully funded: Cash in excess of £2.3 million following payment for additional 3.33% of PEDL180 and PEDL182
- Actively evaluating a number of opportunities created by volatile markets
- Apply strict financial and technical discipline

## **Corporate information**



- Listed on AIM: 31 July 2013
- Shares in Issue:
  - 4,333,063,205 ordinary shares of 0.025p each
  - 55,052,548 warrants in issue
- Contact info@unionjackoil.com
- Website www.unionjackoil.com

### Advisers



### **Glossary**



#### 3D Seismic

A set of numerous closely-spaced seismic lines that provide a high spatially sampled measure of subsurface reflectivity

#### B/Bcf

Billion (1x109) / billion cubic feet of gas

#### boe/boepd

Barrels of oil equivalent (6,000 cf = 1 boe)/barrels of oil equivalent per day

#### bbl/bopd

Barrels of oil / barrels of oil per day

#### Cf

Cubic feet of gas

### COS<sub>geo</sub>

Geological chance of success

#### **DST**

**Drill Stem Test** 

#### **EWT**

**Extended Well Test** 

#### Farm-in

The process of buying into a licence block held by another licensee by paying a proportion of the costs, normally in excess to the interest that is finally earned, e.g., earning a 10% interest on a 2:1 basis means that 20% is paid by the party farming in to earn a 10% interest

#### **GIIP**

Gas initially In place

#### M/Mbbl/Mboe

Thousand (1x10³) / thousand barrels of oil / thousand barrels of oil equivalent

#### mcfd

Thousand cubic feet of gas per day

#### MM/MMbbl/MMboe

Million (1x106)/million barrels of oil/million barrels of oil equivalent

#### mmcfd

Million cubic feet of gas per day

#### **NPV**

Net present value typically discounted at 10%

#### OIIP

Oil initially In place

#### **Prospective resources**

Those quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations

#### **Recovery factor**

The fraction of hydrocarbons that can or has been produced from a well, reservoir or field; also, the fluid that has been produced in comparison to the original hydrocarbons in place

#### **Working interest**

A company's equity interest in a project before reduction for royalties or production share owed to others under the applicable fiscal terms

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