

## United Oil & Gas plc\*

27 November 2017

### BUY

#### Stock Data

Share Price:	4.0p
Market cap.:	£8.0m
Shares in issue:	200.9m
Fully diluted equity:	238.2m

#### Company Profile

Sector:	Oil & Gas
Exchange:	LSE Standard List
Ticker:	UOG

#### Activities

Oil and gas exploration, development and production company with existing assets in the UK and Italy. Management strategy is to expand the current portfolio with value accretive acquisitions focused primarily on stable jurisdictions in the UK and Europe.

#### Performance Data



#### Directors

Brian Larkin:	Chief Executive Officer
Jonathan Leather:	Chief Operating Officer
Alberto Cattaruzza:	Non-Exec. Director

\*Optiva Securities acts as broker United Oil & Gas plc

### Leveraging experience to build a portfolio

United is an independent oil and gas company established by two former senior employees of Tullow Oil in 2015. United's strategy is to leverage management's experience and contacts within the oil industry in order to acquire an exciting portfolio of hydrocarbon assets. The company has already secured an interest in the Waddock Cross oil field in the UK and also farmed into the Selva gas field in Italy on which a well is currently drilling. As such, we believe that United is poised to accelerate significantly the development of an exciting international oil and gas business.

United's strategy is to build a portfolio of oil and gas E&P assets with an initial focus on the UK and Europe as well as other international opportunities. In particular, the management has demonstrated expertise in evaluating oil and gas assets and subsequent farm-in opportunities. Further expansion of the company will likely focus on assets within stable political and fiscal regimes and management is keen to leverage off its contacts within the industry to gain access to early divestment opportunities and avoid auctioned transactions.

United acquired interests in the Waddock Cross field (26.25%) and the associated exploration upside (18.95%) on licence PL090 in Southern England in August 2016. The field was shut-in in 2014 due to an excessive water cut. However, reassessment of existing 3D seismic data has indicated that two wells to probe the crest of the field well above the oil water contact have the potential to boost production significantly by 2020.

We expect that United will participate in the first of a two well programme in Q2/Q3 next year, whereby a successful result will de-risk the field significantly. Consequently, we anticipate that the company's maximum financial exposure to Waddock Cross will be approximately US\$0.6m by the end of 2019.

In Italy, United has signed a farm-in deal with ASX-listed Po Valley Energy to acquire a 20% interest in the Podere Gallina licence in Northern Italy under a capped 2 for 1 farm-in agreement. This licence contains the currently shut-in Selva gas field in addition to several exploration opportunities on the surrounding block.

On 21 November 2017, United confirmed that a single well commenced drilling at a location up dip to previously exploited areas of Selva. This well, which is expected to be completed within approximately five weeks, will access at least 17 BCF (gross) of gas resources located in very high quality reservoir. As such, Selva has the potential to produce gas at stable plateau for up to eight years providing a very attractive source of long term cash flow to United.

On the exploration side, United has identified the Broadmayne prospect on UK licence PL090 as possessing major potential upside, whereas in Italy, the Podere Gallina licence exhibits several interesting prospects, one of which; East Selva could provide significant upside to the re-development of the main Selva field.

Based on United's fully diluted equity, we have established a highly conservative NPV valuation of 4.4p for United which focuses on the core assets within the portfolio only. However, we also calculate that the upside valuation for the company could be as high as 13.2p on an unrisks basis. This scenario excludes the addition of additional assets to United's remit which could add significant longer term value to United's portfolio.

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# Introduction to United Oil & Gas

United Oil & Gas is an independent oil and gas company established in 2015 by two former senior employees of Tullow Oil. The group's core strategy is to acquire assets where the management's extensive experience in the hydrocarbon sector can unlock significant value through the acceleration of near term activity.

At this early stage in the company's development, United has already acquired a 26.25% interest in the Waddock Cross oil discovery in Southern England coupled with a 19% stake in the surrounding exploration licence PL090 where there could be substantial resource upside. The UK assets are complemented by United's farm-in to a 20% interest in Po Valley Energy's Podere Gallina licence in Northern Italy. This permit contains the Selva gas field and several gas exploration targets that warrant further examination.

## Experienced management team

United's Chief Executive, Brian Larkin, acquired extensive experience in his time with Tullow where he held senior finance and commercial positions within the group. United's Chief Operating Officer, Dr Jonathan Leather, complements Brian's commercial expertise with 18 years' technical experience in the oil industry. Jonathan has acquired a range of technical qualifications and he worked for Tullow from 2007 to 2015 where he held several senior technical positions prior to establishing United. Additional information regarding United's management team can be found in the Appendix at the end of this report.

## Strategy

United's strategy is to build an exciting portfolio of oil and gas exploration, development and production assets while continually seeking further opportunities to establish further portfolio growth and value. In particular, the management intends to leverage off its extensive network of senior executive contacts in the oil and gas industry in order to gain access to early divestment opportunities and avoid auctioned transactions.

United's management has a proven track record of evaluating farm-in opportunities and is continually assessing assets in which the full value potential is currently unrealised. The company has already acquired two non-operated asset interests in the UK and Italy and will apply its experience in instigating operational activity with its partners to unlock the value potential of these assets.

The company is focused on building a low risk, cash generative portfolio in the UK and Europe whilst remaining alert for exceptional growth opportunities on a global basis in areas befitting the management's experience.

## Reverse takeover by Senterra Energy

United was admitted to trading on the LSE Standard List on 31 July 2017 following the reverse takeover (RTO) of United by Senterra Energy. Senterra, which had previously been suspended pending completion of the deal, changed its name to United Oil & Gas prior to readmission on 28 July 2017.

Following the conclusion of the RTO with Senterra and readmission to the LSE Standard List, United issued 120 million new shares at a placing price of 2.5p per share to raise gross funds of £3.0m. As such, United currently has 200.9 million shares in issue. The company also has almost 37.3 million warrants, priced at 2.5p in issue, indicating a fully diluted number of 238.2 million on which our valuation assumptions are based.

### **Use of funds**

United has indicated that it will participate in two wells over the next 12 months. A total of £1.5m has been budgeted for the company's participation in the Selva well (termed Podere Maiar) on the Podere Gallina licence in Italy which is currently drilling. The second well will be drilled on the Waddock Cross field in the UK and the company has apportioned £0.5m for its participating interest.

On Selva, United has farmed in on a 2 for 1 basis under an agreement which states that the company will pay 40% of the costs of the first well in order to earn an equity interest of 20% in the project. This contribution is capped at €1.2m after which all development costs are incurred on a pro rata basis. United has confirmed that the Podere Maiar well was spudded in mid-November and is expected to take five weeks to drill.

Given that the company's strategy is to continually assess further opportunities in the sector, the remainder of the placing funds up to £1.0m will be used to fund ongoing administration and working capital; specifically the evaluation of potential new ventures.

# The Waddock Cross oil field

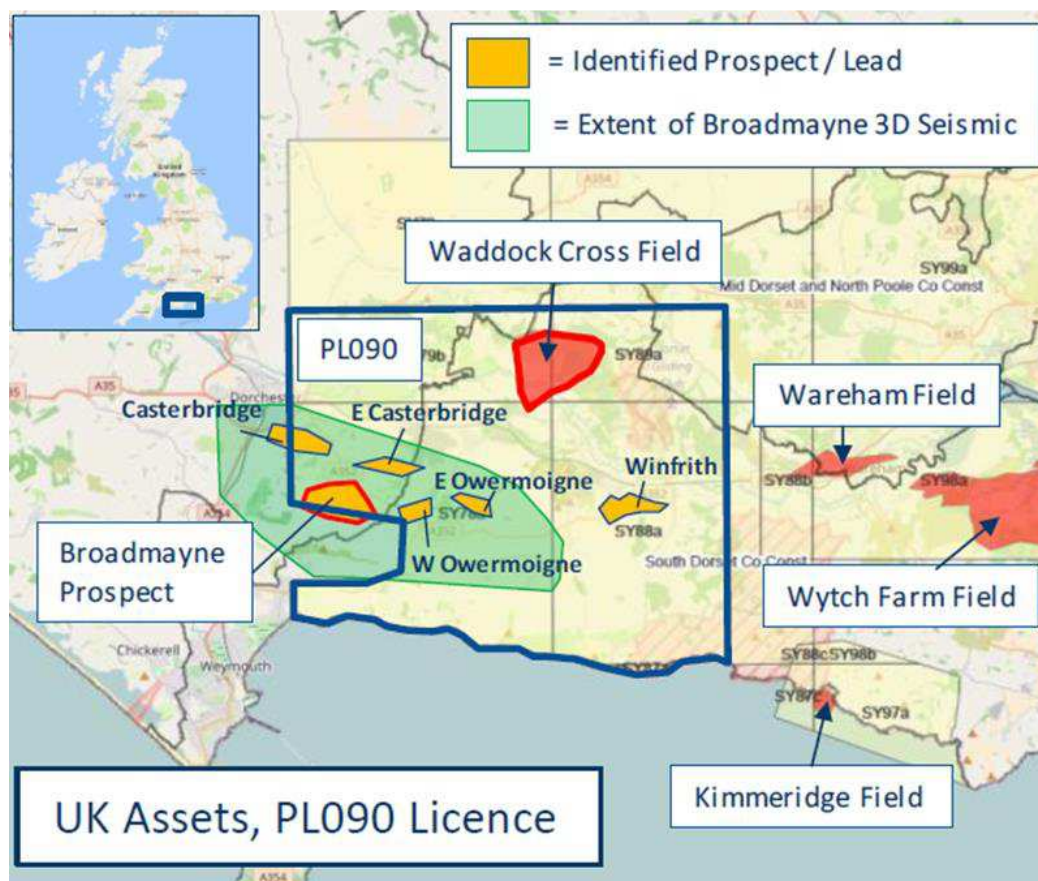
United acquired First Oil Expro Ltd.'s interests in UK onshore licence PL090 in August 2016. These interests included a 26.25% interest in the Waddock Cross field, which covers an area 19 km<sup>2</sup>, in addition to an 18.95% interest in the wider PL090 exploration licence which surrounds Waddock Cross and covers a further 183 km<sup>2</sup>. This exploration area includes several leads and the promising 'Broadmayne' prospect located to the southwest of the Waddock Cross field. The operator of Waddock Cross and PL090 is Egdon Resources, a company with significant experience in the UK onshore sector and both licences do not expire until 2024.

## Existing equity partners in PL090

Partner	Waddock Cross field	Exploration interest
Egdon Resources*	55.00%	42.50%
United Oil & Gas	26.25%	18.95%
Aurora Exploration	18.75%	13.50%
Corfe Energy	0.00%	25.00%

Source: Company, \*Operator

## Licence PL090 including the Waddock Cross field



Source: Company

## The Waddock Cross field in detail

The Waddock Cross field is a shallow oil discovery located at an approximate depth of 600 metres. There is a large oil-in-place volume estimated to be 29-30 mmbbls of oil located in two main intervals within the Jurassic Bridport Sandstone reservoirs. Independent consultant, ERC Equipose estimates that 2C gross contingent resources are 1.23 mmbbls held within two productive intervals. This equates to approximately 320,000 bbls net to United's equity interest.

### Gross resource estimates for Waddock Cross

Interval	STOIIP (mmbbls)			Recovery factor (%)			Gross Contingent Resources (mmbbls)		
	Low	Mid	High	Low	Mid	High	1C	2C	3C
Cycle 2	13.4	20.6	31.7	1.5%	2.1%	3.0%	0.20	0.43	0.95
Cycle 3	3.4	7.9	18.6	5.0%	10.0%	20.0%	0.17	0.79	3.72
<b>Total</b>	<b>16.8</b>	<b>28.5</b>	<b>50.3</b>	-	-	-	<b>0.37</b>	<b>1.23</b>	<b>4.67</b>

Source: ERCE

### United's working interest in Waddock Cross

Gross Contingent Resources			Working interest	Net Contingent Resources (mmbbls)		
1C	2C	3C	%	1C	2C	3C
0.37	1.23	4.67	26.25%	0.10	0.32	1.23

Source: ERCE

### Drilling history

The field was discovered with the Waddock Cross-1 (WX-1) well by BG in 1982. This well intersected a 22 metre oil column in the Bridport Sandstone interval at a vertical depth of 610 metres. The discovery was subsequently appraised by Egdon Resources with the vertical WX-2 well in 2004, followed up by the horizontal WX-3 well in 2005 which was intended to target the better quality Cycle 2 reservoir. However, WX-3 came in deep compared to prognosis and was eventually completed in the Cycle 3 reservoir. This well produced at a rate of up to 53 bopd upon testing. However a diesel squeeze (a technique of forcing dry cement mixed with diesel oil through casing openings to repair water-bearing areas without affecting the oil-bearing areas) damaged the reservoir and halted production.

The field was finally brought into production through the WX-2 well in late September 2013. However, initial production rates were disappointing due to a higher than expected water cut and the field was shut-in during 2014.

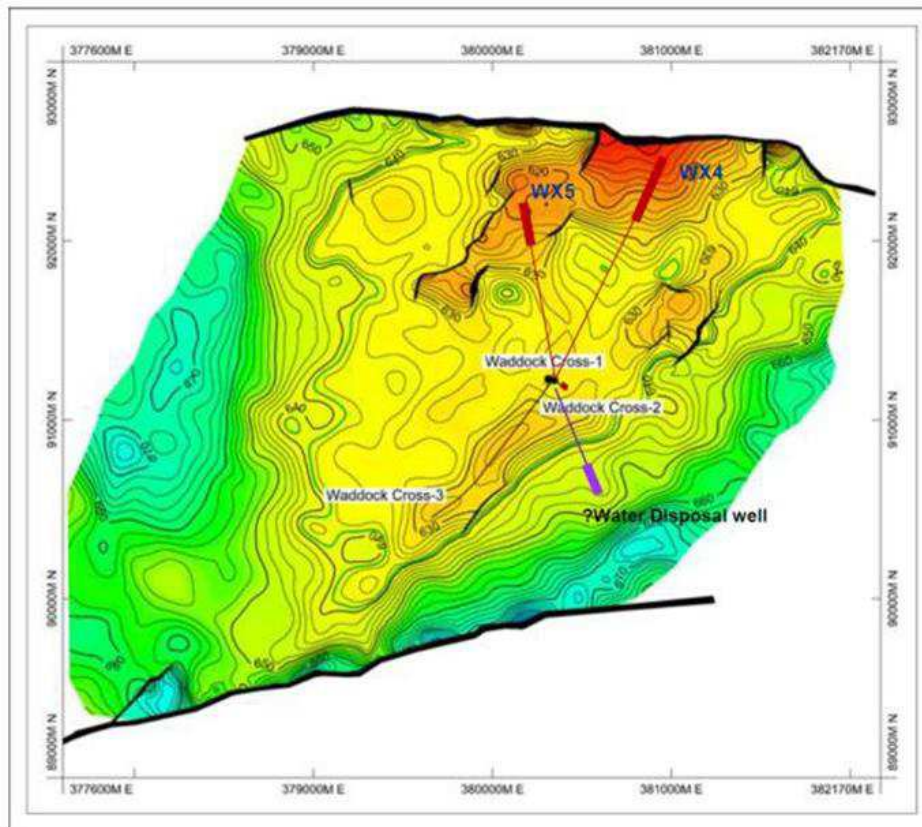
### Work programme

United has noted that all three wells drilled to date were located in the same area of the field and the higher quality Cycle 2 sands have always been encountered close to the oil-water contact (OWC) with the associated high water cuts when put on flow testing or production.

With this in mind, United has examined existing 3D seismic data and noted that the crest of the field is located to the north of the WX-1 and WX-2 wells and it is the company's intention to drill a sidetrack well to intersect the Cycle 2 reservoir located higher above the OWC. The company has examined reservoir simulation modelling which implies that a well in this area could produce at a rate above 200 bopd.

Our assumptions for Waddock Cross factor in a sidetrack well and an additional development well in order to access the bulk of the ascribed contingent resources within the field. Their indicative names; WX-4 and WX-5 and their approximate locations, in addition to the existing wells on the field are depicted clearly on the map below.

## Location of existing and potential new development wells on the Waddock Cross structure



Source: Company, ERCE, Egdon Resources

## Indicative valuation of Waddock Cross

Within our assessment of the Waddock Cross field, we have assumed that a successful horizontal sidetrack well is drilled in late Q2/Q3 2018 at a gross cost of US\$1.6m. Additional core capex will also include a second horizontal development well at a cost of US\$1.5m and a water injection well at a similar cost. We anticipate that the water injector will be completed by 2020 although we anticipate that initial oil production could commence in by Q1 2019.

We have assumed that the development plan produces approximately 0.84 mmbbls barrels of oil from a gross 2C contingent resource of 1.2 mmbbls. This indicates that there is significant potential upside from at least one further development well on the field to tap additional resources (see subsequent analysis on page 9).

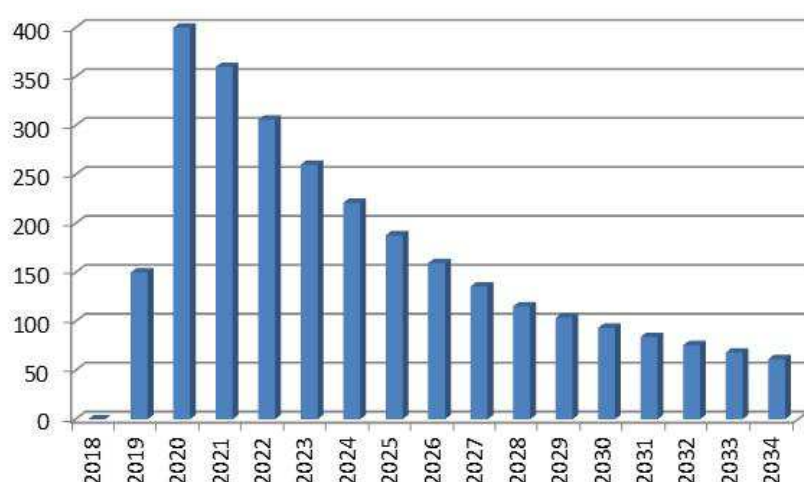
We assume that gross production peaks at 400 bopd when both production wells are on stream at 200 bopd each and declines thereafter at approximately 10%-15% per annum over a period of 15 years. We believe that these are comparatively modest assumptions given that horizontal development wells in this region have the potential to flow at initial rates in excess of 500 bopd.

Within our assumptions we have used an oil price of US\$55 in 2018, escalating to US\$60 in 2019 and peaking at a flat US\$65 per barrel from 2020 onwards.

Within our projections we have factored in an aggregate tax rate of 40% on pre-tax cash flow, reflecting a corporation tax rate of 30% and a Supplementary Charge of 10%. For the purposes of currency conversion, we have applied the current US Dollar to Sterling exchange rate for the year to date of approximately US\$1.32: £1.00. This applies throughout our report.



### Gross indicative oil production profile (bopd)



Source: Optiva estimates, Company

### Cost assumptions

We have factored in fixed operating expenditure (opex) of US\$100,000 per year and variable opex of US\$5.00 per barrel into our assumptions in addition to a gross fixed abandonment cost of US\$1.0m incurred in 2034. However, we believe that the field has the potential to continue to produce beyond this period assuming the production licence can be renewed. This would push the abandonment charge out beyond 2034.

### Indicative NPV for Waddock Cross

On the basis of our assumptions, we have ascribed an unrisks net NPV of US\$4.4m for United's 26.25% working interest in the Waddock Cross field. Although we are confident that United's development plan for Waddock Cross will eradicate the technical issues associated with the excess water production from the field, we feel it appropriate to attach a discount of 20% to our valuation to reflect the risk associated with drilling the first sidetrack development well on the project. Note that a successful result with the first well will de-risk the second development well to a major extent. Consequently, we have ascribed a risked NPV of US\$3.5m for the company's interest in Waddock Cross.

### Oil price upside and downside

The NPV of Waddock Cross is sensitive to changes in the long term oil price although we note that project NPV does not turn negative until crude prices reach a long term average of US\$20 per barrel. We believe this scenario is highly unlikely. However, for the sake of establishing a range consistent with the trend for average oil prices in more recent years, we calculate that the project NPV is established in a range of US\$1.2m to US\$3.7m (risked) assuming a respective average oil price range of US\$35 to US\$75 from 2020 onwards.



## Maximum cash requirement

On our base case oil price assumption of US\$65 per barrel flat over the long term, we have also concluded that the company's maximum net financial exposure to the asset will be approximately US\$0.6m in 2018 when cash flow from initial production has not yet started to offset expenditure on development drilling. Our cash flow estimates depict this clearly and net cash flow moves positive in 2020 assuming that the development plan is expedited as outlined.

## Net cash flow estimates for United's interest in Waddock Cross (26.25%)

Item (US\$m)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Revenue	0.0	0.9	2.5	2.2	1.9	1.6	1.4	1.2	1.0	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4
Opex	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Capex	-0.4	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3
Cash flow before tax	-0.4	0.4	1.9	2.0	1.7	1.5	1.2	1.1	0.9	0.8	0.6	0.6	0.5	0.5	0.4	0.4	0.1
Taxation	0.0	0.0	-0.7	-0.8	-0.7	-0.6	-0.5	-0.4	-0.4	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.1	-0.0
Cash flow after tax	-0.4	0.4	1.1	1.2	1.0	0.9	0.7	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.0
Cumulative cash flow	-0.4	-0.0	1.1	2.3	3.4	4.2	5.0	5.6	6.2	6.6	7.0	7.3	7.6	7.9	8.2	8.4	8.4

Source: Optiva estimates

## Exploiting 3C contingent resources

As outlined earlier, we alluded to the potential of an additional development having the capability to exploit all of the 2C resources on Waddock Cross and a proportion of the 3C resources associated with the field. This is quite a substantial resource at almost 4.67 mmbbls. As such, we have been conservative with recovery rates and modelled a development of approximately 1.6 mmbbls (gross). This is predicated on a similar programme to the 2C resources case but includes an additional development well and a higher fixed operating expenditure to reflect the potentially larger scale of development.

We have applied the same range of variables as our base case example. However, our production profile assumes initial production of 470 bopd per well, declining more aggressively to 235 bopd in year two, 156 bopd in year three, 120 bopd in year four and a more gradual decline thereafter. With a staggered start for each producing well, our production profile peaks at approximately 860 bopd in 2020.

This upside case provides an unrisks NPV of US\$9.1m for United's interest in the field which represents a significant increase on the base case valuation with substantial resource upside still available to the development. Risked on the same basis as our 2C case, our indicative NPV is US\$7.3m.

# Exploration upside on PL090

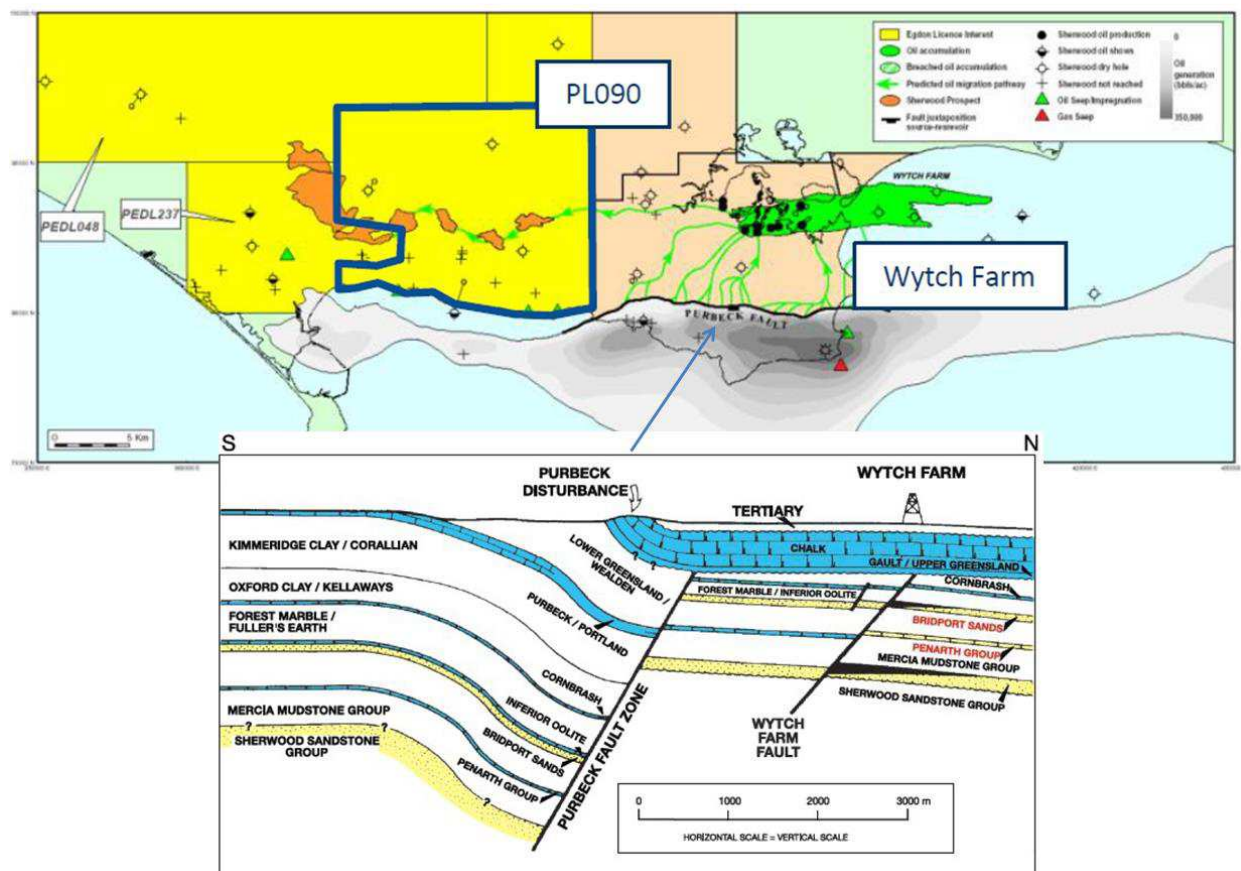
United and its partners have identified several exciting leads and prospects on the wider PL090 licence in which United holds a 18.95% working interest. These are outlined on the general location map in the previous section of this report. This map also depicts the area which has been covered by the Broadmayne 3D seismic survey from which much of the portfolio of leads and prospects has been compiled.

## The migration exploration model

The exploration play for PL090 is focused on the Sherwood Sandstone targets that are located on the migration route for oil spilling out of the huge Wytch Farm oilfield located to the east of the licence. Wytch Farm originally contained over 500 mmbbls of oil and it is understood that wells targeting the Sherwood Sandstone reservoirs, with superior properties compared to Waddock Cross, have a high productive potential in excess of 500 bopd per well.

The map below depicts very clearly the predicted oil migration routes for oil spilling out of the Wytch Farm structure. The majority of the pathways head in a north to south direction towards the Purbeck Fault zone located on the Dorset coast. This geological region is dominated by the Purbeck Disturbance to the south of Wytch Farm which is a geological fold where originally flat sedimentary strata in the Tertiary section was deformed over 30 million years ago through tectonic activity. However, of great interest to United is the major east/west pathway for migratory hydrocarbons that has enabled the company to identify several prominent and potentially oil bearing structures on PL090.

## Oil migration pathways and the Purbeck Disturbance



Source: Company

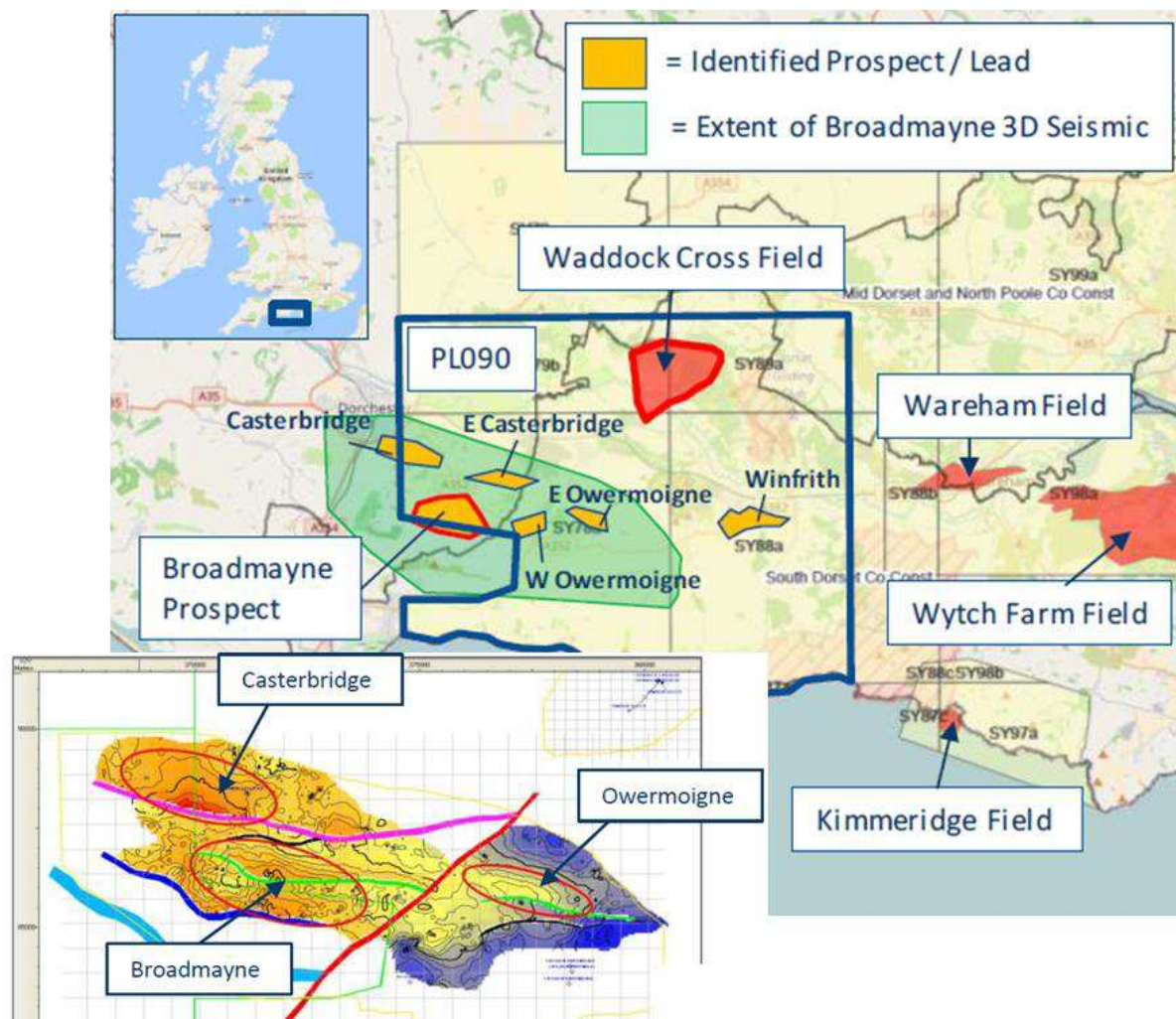
### Testing the migration model

Recent 3D seismic data was acquired in 2014 at a gross cost of approximately US\$2.0m prior to the company's acquisition of its existing interest in the licence and United notes that this data has yet to be optimally processed. However reprocessing of the data by EPI Group seismic consultants is currently underway in a deal negotiated by United and work is expected to be completed in mid-2017.

The company believes that the key to a successful Sherwood Sandstone exploration play is to test thoroughly the migration model and we believe completion of the reprocessing of the 3D data will be instrumental in this. Upon completion, we expect that a decision will be made regarding a target prospect and well planning work can commence. However, the company outlines that with environmental planning and site preparation activities to be conducted, exploration drilling is unlikely to commence until 2019.

For the purposes of our initial assessment of the prospectivity licence PL090, we have elected to examine the comparatively mature Broadmayne prospect which has been highlighted by 3D data located on the migratory pathways to the west of Wytch Farm. Early seismic interpretation has also shown prominent leads including Casterbridge, East Casterbridge, East and West Owermoigne and Winfrith where additional prospective resource upside could reside.

### Primary prospects and leads on PL090



Source: Company

## Exploration upside valuation for PL090

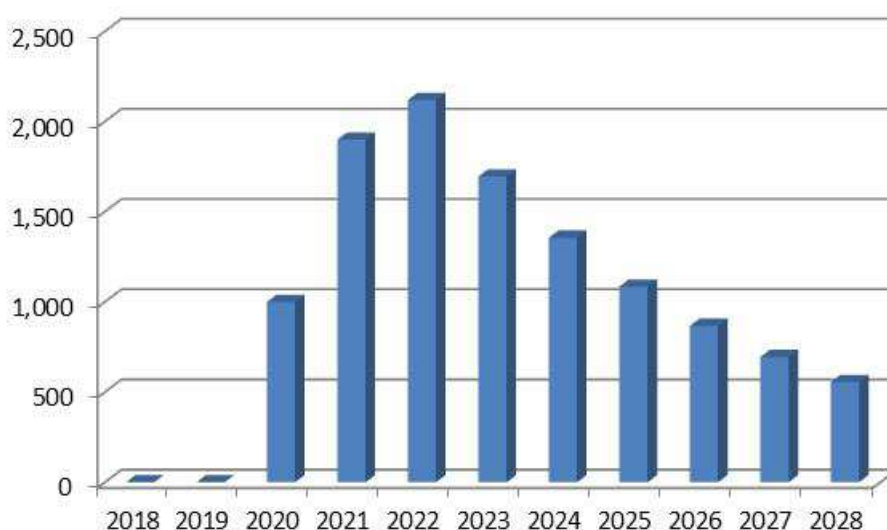
Valuing exploration upside is considerably more indicative than ascribing value to reserves. As such, we have provided an assessment of the risked potential of the Broadmayne prospect located to the southwest of Waddock Cross. As outlined previously, there are several additional leads of interest on the licence. However, their evaluation is at an earlier stage compared to Broadmayne and further technical work will be required to mature these structures into drillable prospects.

### Broadmayne development plan

We have assumed that a 4 mmbbls oil development at Broadmayne would comprise of up to five development wells at a gross cost of US\$3.0m each, coupled with an additional US\$7.0m of infrastructure investment. Variable opex is assumed to be similar to Waddock Cross although we have assumed a fixed opex of US\$400,000 per annum as a Broadmayne development would be considerably larger than Waddock Cross. Abandonment costs are flagged to be US\$2.0m gross and incurred in 2028 when the 4.0 mmbbls are exhausted.

Note that current resource estimates include resources that extend into the neighbouring licence PEDL 237. This block was relinquished by the partners in PL090 prior to United's participation in the licence in August 2016. However, United is confident that this block will be successfully re-applied for when the current partners in PL090 file a commitment to drill the Broadmayne prospect.

### Indicative production profile for the Broadmayne field development



Source: Optiva estimates, Company

### Indicative NPV for Broadmayne

We have used the same oil price and taxations assumptions that we applied to Waddock Cross in our earlier analysis and with our combined assumptions, we arrive at an unrisks gross NPV of US\$71.8m for a full field development. United's interest would be approximately US\$13.6m in accordance with its equity interest in this part of the PL090 licence.

At this stage, it is appropriate to risk our valuation to reflect the geological chance of drilling success (CoS) in this region of the UK. As such, we have applied a 25% CoS in order to establish a risked valuation for United's interest. This values the company's interest in this single prospect at US\$3.4m. Although exploration drilling is not yet scheduled on the Broadmayne prospect or any prospects subsequently worked up over the next two years and the company is not yet funded for such activities, we believe that the company's maximum exposure to a project of the scale outlined would be approximately US\$2.0m net to the group.

It is pertinent to note that should early exploration drilling on Broadmayne be successful, the CoS for subsequent appraisal and development wells on the structure would increase significantly, reducing the risk factor and boosting NPV accordingly.



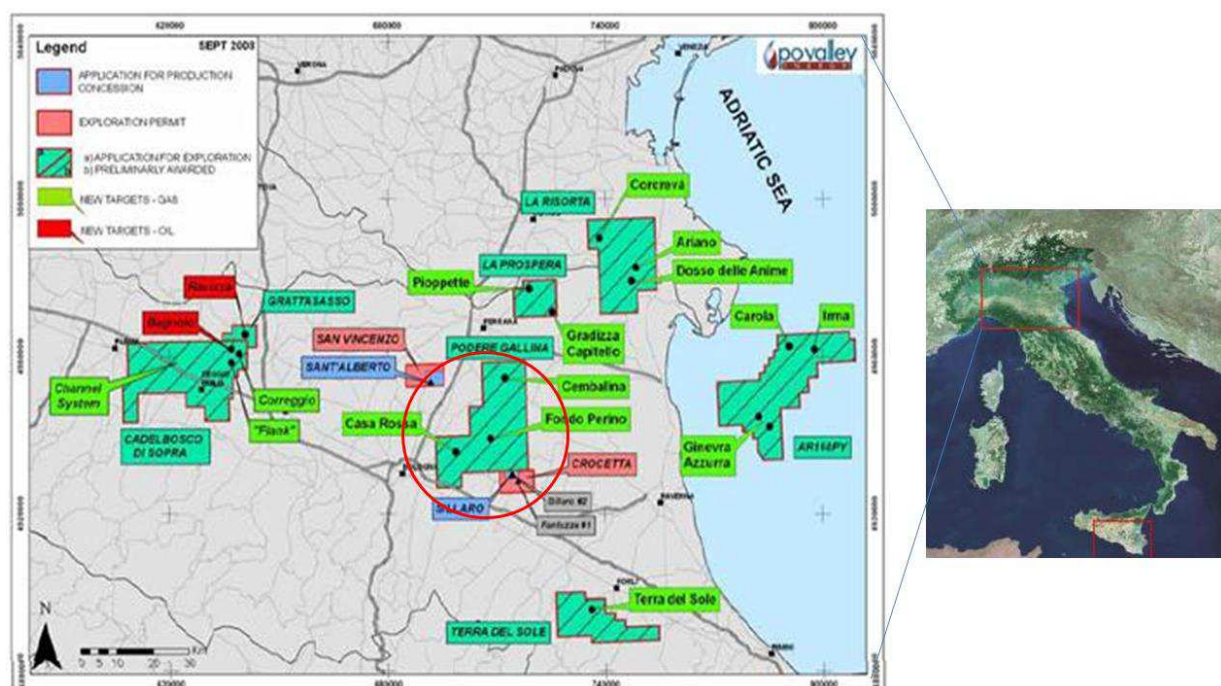
## Italy – The Podere Gallina Licence

United has signed a farm-in deal with ASX-listed Po Valley Energy to acquire a 20% interest in the Podere Gallina licence in Northern Italy. This licence contains the currently shut-in Selva gas field in addition to several exploration opportunities in the surrounding block.

### Farm-in terms

The agreement with Po Valley is based on a 2 for 1 farm in deal whereby United will pay 40% of the costs of a well on Selva up to maximum of US\$1.2m in return for a 20% working interest in the field. The well which has been termed Podere Maiar has an anticipated AFE (Authorised for Expenditure) gross cost of US\$3.3m and was spudded in mid-November 2017. It is expected to take five weeks to drill and all development costs incurred thereafter will be paid on a pro rata basis (i.e. 20% net to the company).

### Location of the Podere Gallina Licence in Northern Italy



Source: Po Valley Energy

## The Selva gas field

The Selva gas field produced over 83 BCF of gas from 15 wells over a period of 35 years until it was shut-in in 1984. At this time, the well was still producing 0.9 BCF of gas per year with no evidence of a water cut. This is equivalent to a daily production rate of approximately 2.5 mmcfpd of gas.

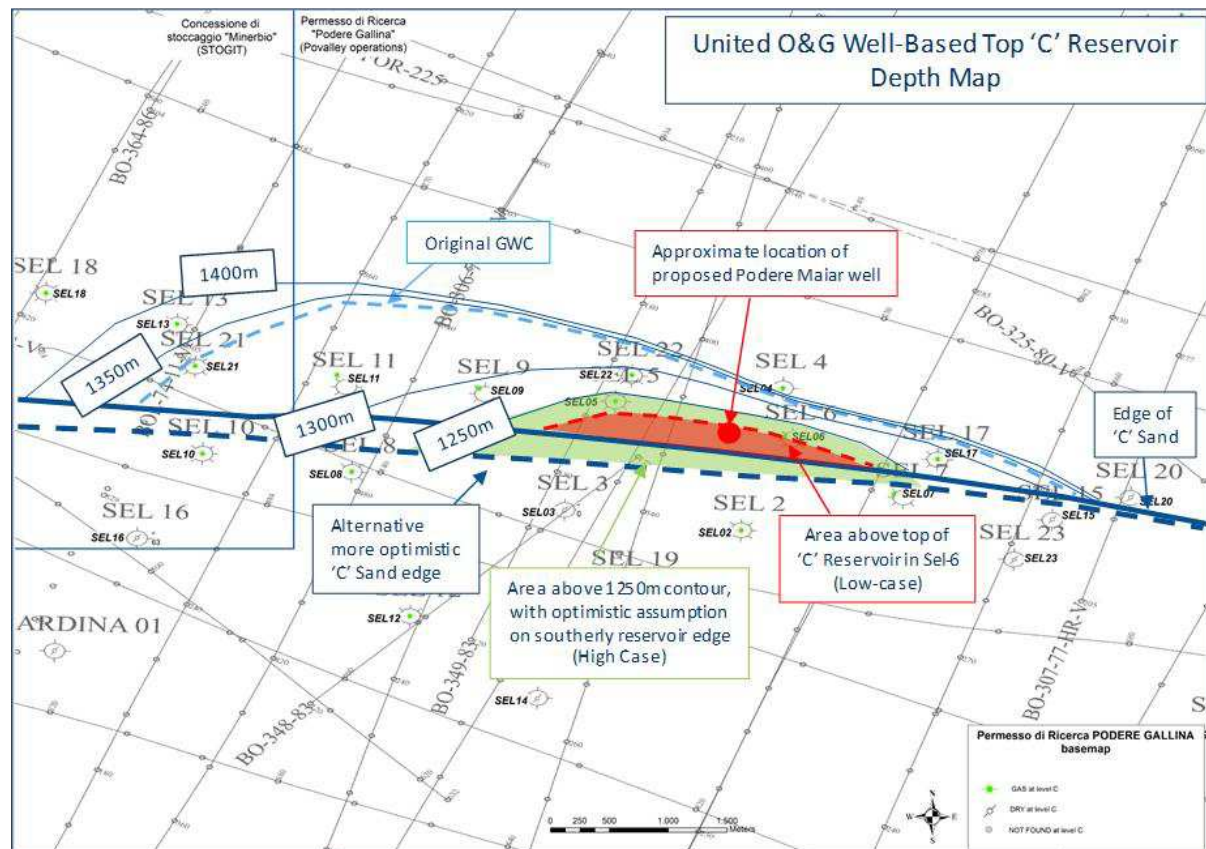
United observes that there is a limited volume of seismic data over the field. However, a large number of the existing wells on the structure constrain the reservoir edge and indicate that there is a major undrained area updip of the existing wells which has been termed the 'Selva Stratigraphic' and is estimated to contain base case recoverable reserves of a further 17 BCF of gas.

## Geology of the Selva gas field

According to CGG Services (UK) Limited, a subsidiary of CGG Worldwide, recent modelling of the Selva field in 2013 was based on an assumption that the initial gas-water contact at 1,336 metres had risen to 1,235 metres represented by the top level C sands on the Selva-6 well (it should be noted that no water was being produced from the well when it was shut-in). This had left a potentially undrained gas volume updip from this well. As such, United is targeting this updip volume with the Podere Maiar well. The undrained area of Selva and the approximate location of the Podere Maiar well are outlined on the map below.

Historical seismic and well data from Selva have shown the Selva Stratigraphic prospect to be an Upper Middle Pliocene onlap (the geological phenomenon of successively wedge-shaped younger rock strata extending progressively further across an erosion surface cut in older rocks) to a Lower Pliocene thrust bounded anticline. CGG has noted that interpretation of the seismic lines on Selva suggests that the reservoir is displaced by reactivated thrust splays which detach onto the main thrust fault.

### Selva Stratigraphic – Level C reservoir within wider Selva field



Source: CGG Services (UK) Limited

## Resources

The Selva Stratigraphic has been attributed gross 2C contingent resources of 17 BCF of gas (c. 2.8 mmboe) within the narrow 1C to 3C range of 11.4 BCF to 23 BCF. The target reservoir in the Lower Pliocene sands of the older Selva field had average properties of 70 metres thickness, 27-31% porosity and approximately 80% gas saturation. Consequently recovery factors were high in the 77-86% range across the P90 to P10 reserves cases.



### Podere Maiar (Selva field) well contingent resources

Asset	Equity	Gross Contingent Resources (BCF)			Net Contingent Resources (BCF)		
		1C	2C	3C	1C	2C	3C
Podere Maiar well	20%	11.4	17.0	23.0	2.3	3.4	4.6

Source: CGG Services

### The Podere Maiar well

As a proposed redevelopment, the partners believe that a development well on the Selva Stratigraphic is relatively low risk with the major risk represented by the location of the reservoir edge line. The forthcoming Podere Maiar well will target the turbiditic sandstone reservoirs of the mid-Pliocene Porto Garibaldi 'C' sands in the Selva Stratigraphic area located updip of the existing Selva field.

In common with the same reservoirs on the wider Selva field, the C sands targeted by Podere Maiar are expected to be 50-70 metres thick with net porosities in excess of 25%. Between 1960 and 1984, these intervals produced over 67 BCF with 30 BCF derived from the Selva -6 well which is located close to the crest of the structure.

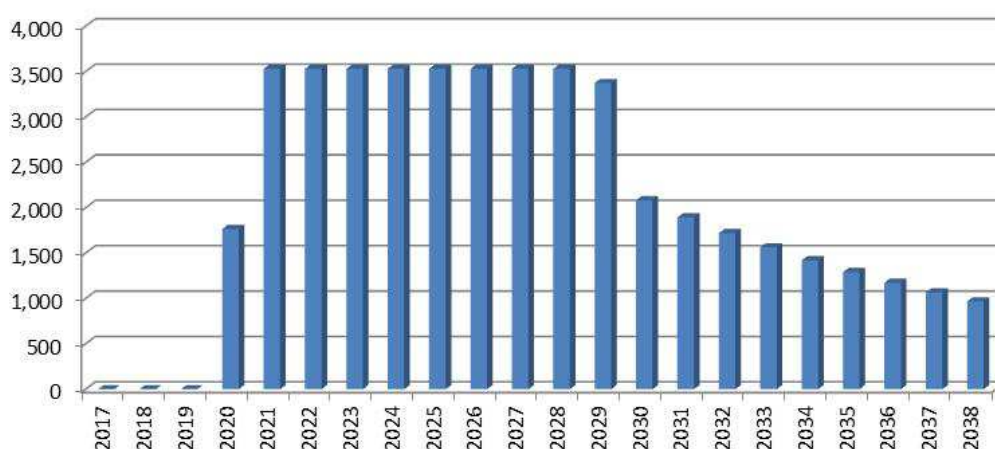
## Indicative valuation of Selva (Podere Maiar)

Within our valuation assumptions for United's interest in the Selva and specifically the Podere Maiar well, we have ascribed a range of variables as guided by CGG, the competent person.

Primarily, we have assumed that the gross cost of a development well on the structure will cost US\$3.2m-US\$3.3m on a gross basis. United will pay 40% of the cost of this well up to a maximum of US\$1.2m to earn its 20% working interest in the field. The company will then fund its share of further development expenditure at its working interest rate of 20%.

We anticipate that the field can be fully developed and the 2C gas resources recovered with a single well and that initial rates of approximately 3.5 mmcfpd (c. 583 boepd) will be sustained for up to eight years consistent with the long term production potential of the Pliocene reservoirs across the Selva structure. Our assumptions are based on the production profile below and to this we have applied a flat long term gas price of US\$5.94 which is equivalent to the current Italian gas price of €0.21 per cubic metre.

### Anticipated gas production profile for the Podere Maiar well (mcfpd)



Source: CGG Services (UK) Limited

## Cost assumptions

Within our assumptions, we have assumed a further €3.5m (US\$3.8m) of infrastructure related capex. We have also ascribed fixed opex of €375,000 (US\$403,000) per annum and variable opex of €10 (US\$10.75) per mcm (1,000 cubic metres equivalent to 35.3 mcf) of gas produced in line with Po Valley estimates. We have also applied a long term tax rate of 28.8% to net profits.

## Indicative NPV

On the basis of our assumptions, we have ascribed a net NPV of US\$3.8m for United's 20% working interest in Selva (Podere Maiar). We have also concluded that the company's maximum net financial exposure to the asset will be approximately €1.9m (US\$2.0m) in 2019/early 2020. This will then be offset rapidly as gas production from the field ramps up in 2020 and cash flow remains steady for several years thereafter. Our assumptions also factor in a gross abandonment charge of approximately US\$0.5m in 2038 assuming the field is depleted sufficiently.

## Net cash flow assumptions for United's interest in Selva (20%)\*

Item (US\$m)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Revenue	0.0	0.0	0.0	0.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.0	0.9	0.8	0.8
Opex	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1
Capex	-1.3	-0.3	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Cash flow before tax</b>	<b>-1.3</b>	<b>-0.3</b>	<b>-0.4</b>	<b>0.7</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.5</b>	<b>1.4</b>	<b>0.9</b>	<b>0.8</b>	<b>0.7</b>	<b>0.6</b>
Taxation	0.0	0.0	0.0	0.0	-0.2	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.2	-0.2	-0.2	-0.2
<b>Cash flow after tax</b>	<b>-1.3</b>	<b>-0.3</b>	<b>-0.4</b>	<b>0.7</b>	<b>1.3</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.0</b>	<b>0.6</b>	<b>0.5</b>	<b>0.5</b>	<b>0.4</b>
Cumulative cash flow	-1.3	-1.7	-2.1	-1.4	-0.1	1.0	2.1	3.2	4.3	5.4	6.5	7.6	8.7	9.3	9.8	10.3	10.8

Source: Optiva estimates

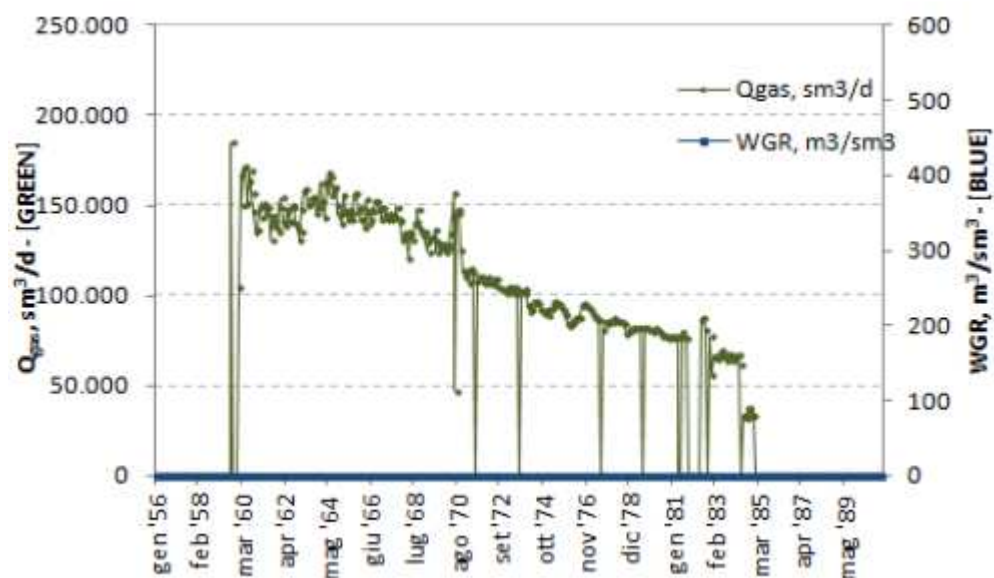
\*Note: we expect that cash flow generation will continue until abandonment in 2038

## Selva upside potential

It is apparent that our assumptions predict that gas production will be sustained at a rate of approximately 3.5 mmcfpd for what appears to be an unusually long plateau of peak output. However, it should be noted that this production profile represents significantly choked back gas production and strong reservoir control which can be sustained over a long period such is the high quality of the C sands in this region.

For example, the Selva-6 well, as alluded to earlier, produced at a rate of 4.4 to 6.0 mmcfpd from 1959 to 1970, a period of more than 10 years with production in excess of our assumed rate from a modern well. Selva-6 continued to produce at rates of 2.6-3.5 for a further decade until the early 1980s before it was finally shut in. This is illustrated clearly in the chart below which depicts the long term production profile for the Selva-6 well, a trend which bears strong similarities to our predicted production profile for the planned Podere Maiar well.

### Selva-6 production profile (cubic metres per day)

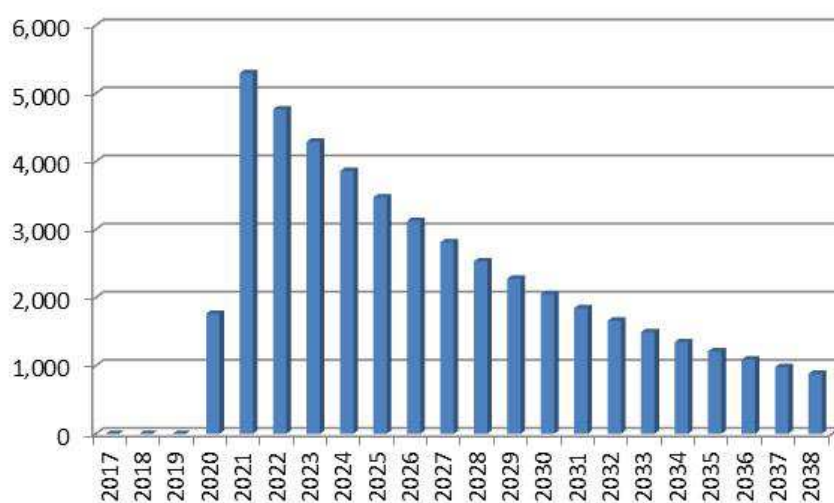


Source: Po Valley Energy

### Upside production profile boost NPV

If we apply a scenario where the Podere Maiar well is pushed harder in the early years of production and long term decline rates are more aggressive (see production profile below) compared to our previous core assumptions, we believe that the impact of higher initial cash flow has the potential to push NPV to a level of US\$4.7m net to United's working interest. However, in the interests of a responsible operator maintaining strict reservoir management and stable cash flow, we are factoring in our more conservative view in our core NPV assumptions for the company.

### Enhanced gas production profile for the Podere Maiar well (mcfpd)

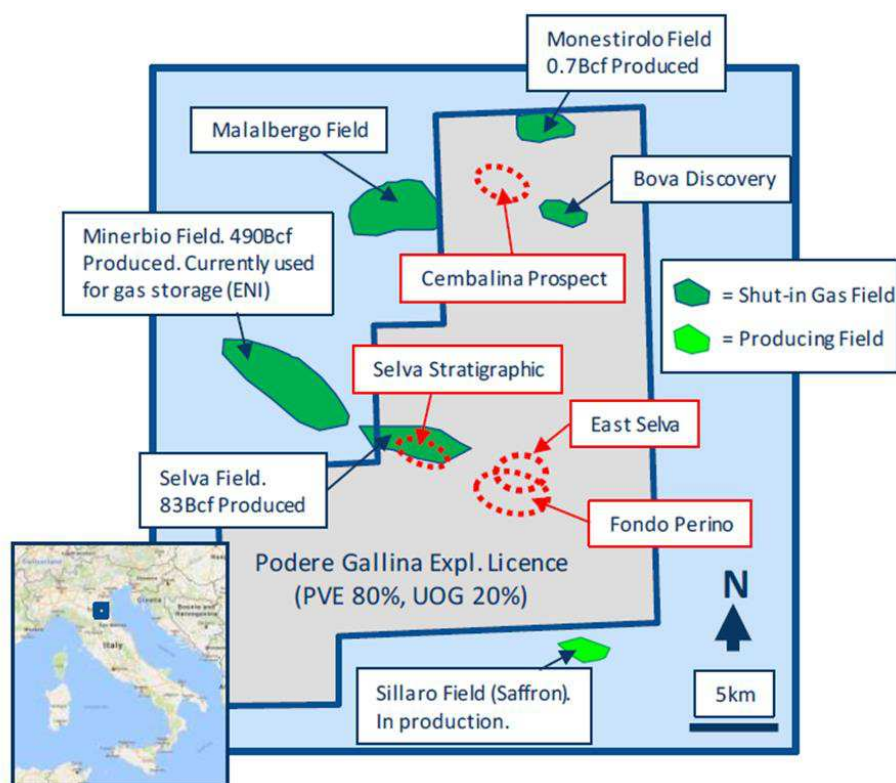


Source: Optiva estimates

## Exploration upside on Podere Gallina

United has identified additional exploration upside on the Podere Gallina licence. In particular, the company highlights the East Selva target which lies on the pinch-out edge to the east of the main Selva field. Adjacent to Selva East is the Fondo Perino target which lies immediately south west of Selva East. At present, exploration activity to probe these additional structures is unfunded although we do consider the risk potential upside that these structures could represent in this report for illustrative purposes.

### The Selva Stratigraphic and associated prospects



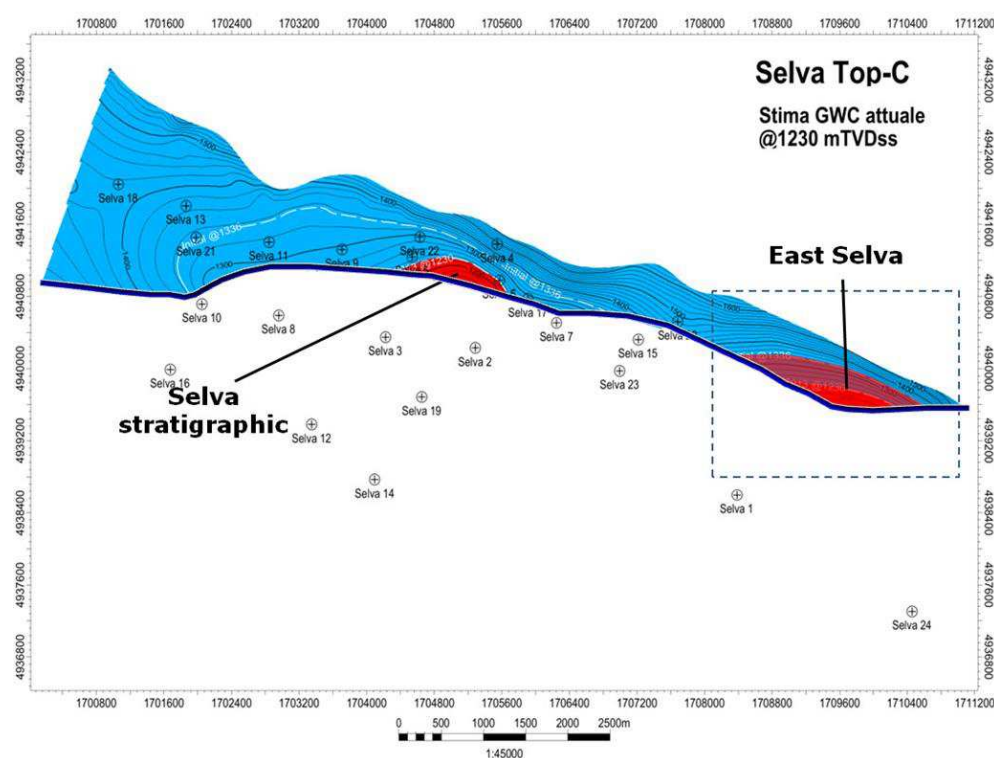
Source: Po Valley Energy

### The East Selva prospect

The map below depicts the East Selva prospect very clearly in addition to valuable additional data including the location of the historical wells on the wider Selva structure. East Selva is located on the same play trend as the Selva field and also the larger Minerbio Field to the northwest in the adjacent licence (see map above). This field is now depleted although still used for gas storage by its operator, ENI. As with the main Selva field, East Selva represents a target in the C sand interval, the top of which is estimated to be at a vertical depth of 1,230 metres.

CPR work by independent consultant, CGG has indicated that East Selva could contain base case recoverable resources of 35 BCF of gas although currently the CoS is low at approximately 15% to reflect the fact that the prospect is only defined by a few 2D seismic lines. Consequently, the operator Po Valley Energy has proposed a 3D seismic programme that would have the potential to delineate the structure far more clearly and de-risk the work programme prior to exploration drilling.

## Stratigraphic location map of East Selva



Source: Po Valley Energy

## Ascribing a value to exploration on Podere Gallina

United has noted that there are audited prospective resources associated with three exploration prospects on the Podere Gallina licence, the details of which are outlined in the table below. The company has outlined that the 3D programme suggested to firm up the East Selva prospect would also incorporate the Fondo Perino prospect which is located adjacent to East Selva. Plans to assess Cembalina with additional seismic work have yet to be firmed up at this stage.

### Key prospects and resource estimates on Podere Gallina

Prospective resources	Gross	(BCF)		Net	(BCF)		CoS
	Low	Best	High	Low	Best	High	%
East Selva	29.1	34.8	40.6	5.8	7.0	8.1	15%
Fondo Perino	10.2	14.6	20.5	2.0	2.9	4.1	34%
Cembalina	2.1	3.3	4.7	0.4	0.7	0.9	51%

Source: CGG Services (UK) Limited

### Focus on East Selva

To engineer an indicative valuation for the key prospects on Podere Gallina, we have applied the unit NPV per mcf of gas produced from our Selva (Podere Maiar) valuation of US\$1.08 per mcf to the unrisked net prospective resource for each prospect. However, to risk this appropriately we have applied the indicative CoS and a commercial risk factor of 20% to account for non-geological risks to generate a fully risked NPV for each prospect.

Our unrisks valuation for the three prospects is outlined below. At this early, stage we have elected to include only East Selva in our core assumptions and treat the Fondo Perino and Cembalina prospects as upside at this early stage. East Selva and Fondo Perino carry a lower commercial risk factor than Cembalina given that, assuming success with the Podere Maiar well, the company states that it would be very straightforward to tie East Selva in particular into a development project.

#### Indicative valuation of key prospects on Podere Gallina

Prospect	Net Resource	CoS	NPV/mcf	Unrisks	Risks	Commercial risk	Fully risks
	BCF	%	US\$	US\$m	US\$m	%	US\$m
East Selva	7.0	15%	1.08	7.8	1.2	20%	0.9
Fondo Perino	2.9	34%	1.08	3.3	1.1	20%	0.9
Cembalina	0.7	51%	1.08	0.7	0.4	50%	0.2
<b>Total</b>				<b>11.8</b>	<b>2.7</b>		<b>2.0</b>

Source: CGG

# Company valuation summary

This section of the report provides a combined summary of our core valuation assumptions for United and also provides an illustration of the upside potential that the current portfolio represents. Our core valuation assumptions are outlined in the table below. For the purposes of currency conversion, we have applied the current US Dollar to Sterling exchange rate of approximately US\$1.32: £1.00.

## Core valuation assumptions

Item	Status	Valuation	Valuation
		US\$	GBP
PL090 (Waddock Cross field)	Development	3.5	2.6
PL090 exploration upside (Broadmayne)	Exploration	3.4	2.6
Podere Gallina (Selva field)	Development	3.8	2.9
Podere Gallina exploration upside (East Selva)	Exploration	0.9	0.7
Overheads	Corporate	-0.5	-0.4
Cash (debt)	Corporate	1.3	1.0
Warrants	Corporate	1.2	0.9
<b>Total</b>		<b>13.7</b>	<b>10.4</b>

Source: Optiva estimates

## Core valuation assumptions

Within our core valuation summary, we have attempted to be highly conservative and have included the following asset interests. Primarily, the group's interest in Waddock Cross is represented by a two well development programme producing approximately half of the ascribed 2C resources over 15 years. This valuation has been discounted by 20% to reflect the initial technical risk associated with the first new well on the field. We believe that this is prudent given the impact of the initial technical issues experienced by the operator prior to the field being shut in. As would be expected and illustrated earlier in this report, there is significant NPV upside available in the event of a higher long term oil price than is factored into our assumptions (US\$65 flat).

### UK exploration

With regards to the wider exploration potential of PL090, we have only ascribed value to a single prospect, Broadmayne, at this stage. This is risked at a 25% CoS (chance of success) to reflect the inherent nature of exploration drilling in the region. We would expect the CoS to improve significantly for subsequent wells upon a successful result from a maiden exploration well, thus increasing the potential value of a future development.

### Italy

In Italy, we have valued the Selva field on the basis of stable production from a single well development which would provide attractive cash flow over a period of at least 18 years, consistent with previous wells on the licence. Within our exploration upside expectations, we have ascribed a highly risked indicative valuation for a single prospect, East Selva, on the Podere Gallina licence given its close geological relationship with the Selva field. This has a modest 15% CoS and we have risked it by a further 20% to reflect the comparative immaturity of its commercial as well as technical development.



## Corporate items

We estimate that after setting aside the company's financial obligations for Waddock Cross and Selva, United has approximately £1.0m of cash that is not assigned to existing projects. Our valuation also includes a corporate overhead of US\$0.5m to reflect non-operational costs incurred within the first 12 months and a further £0.9m (US\$1.2m) of cash from the potential conversion of warrants that are currently in the money with an exercise price of 2.5p.

## The valuation in context

If we apply a fully diluted number of approximately 238.2 million shares in issue which includes 37.3 million warrants, we arrive at a valuation of approximately 4.4p per share at the current exchange rate for United..

## Group cash flow assumptions

In order to summarise United's expected financial position post RTO, we have combined the cash flow expectations for both Waddock Cross and Selva which were outlined previously. As can be seen, we anticipate that the group will have a maximum cash requirement in 2018 as cumulative development expenditure on both assets peaks. With production from Waddock Cross peaking in 2020, we anticipate that cash flow will turn positive providing additional funds to run the business and develop new strategic opportunities.

### Combined net cash flow assumptions for United's interests in Waddock Cross and Selva

Item (US\$m)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Revenue	0.0	0.0	0.9	3.3	4.0	3.6	3.3	3.1	2.9	2.7
Opex	0.0	0.0	-0.1	-0.3	-0.4	-0.3	-0.3	-0.3	-0.3	-0.3
Capex	-1.3	-0.8	-0.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
<b>Cash flow before tax</b>	<b>-1.3</b>	<b>-0.8</b>	<b>-0.1</b>	<b>2.6</b>	<b>3.6</b>	<b>3.3</b>	<b>3.0</b>	<b>2.8</b>	<b>2.6</b>	<b>2.4</b>
Taxation	0.0	0.0	0.0	-0.7	-1.0	-1.1	-1.0	-0.9	-0.9	-0.8
<b>Cash flow after tax</b>	<b>-1.3</b>	<b>-0.8</b>	<b>-0.1</b>	<b>1.9</b>	<b>2.5</b>	<b>2.1</b>	<b>2.0</b>	<b>1.8</b>	<b>1.7</b>	<b>1.6</b>
Cumulative cash flow	-1.3	-2.1	-2.2	-0.3	2.3	4.4	6.4	8.2	10.0	11.6

Source: Optiva estimates

## Potential valuation upside

Although the following summary does not form part of our core valuation of United, we believe that it is highly instructive to illustrate the potential upside that resides in United's existing portfolio prior to any further acquisitions.

### Potential valuation upside summary

Item	Status	Valuation	Valuation
		US\$	GBP
PL090 (Waddock Cross field)	Development	9.1	6.9
PL090 exploration upside	Exploration	13.6	10.3
Podere Gallina (Selva field)	Development	4.9	3.7
Podere Gallina exploration upside (East Selva)	Exploration	11.8	9.0
Overheads	Corporate	-0.5	-0.4
Cash (debt)	Corporate	1.3	1.0
Warrants	Corporate	1.2	0.9
<b>Total</b>		<b>41.5</b>	<b>31.4</b>

Source: Optiva estimates

### Key assumptions

Within this particular, we have factored in several upside scenarios for the same assets as described in the section immediately prior to this. These are all outlined in detail in the body of this report. However, we have factored in a valuation for Waddock Cross which incorporates a development of three development wells and produces all the 2C resources and a small a proportion of the 3C. If we also remove the risk factor for our calculations, we can see that the uplift in potential NPV is substantial.

Similarly, if we assume exploration success with the Broadmayne prospect on UK licence PL090, this effectively de-risks the asset providing a fourfold increase in the indicative NPV.

In Italy, we have elected to illustrate the impact of a more aggressive production profile in the earlier years of production at Selva. Although the aggregate gas resources recovered is unchanged, this enhances NPV through the impact of higher cash flow in earlier years. On the exploration front, we have simply included two additional prospects, Fondo Perino and Cembalina on an unrisks basis.

In conclusion, we believe that impact of success cases in the UK and Italy has the potential to provide a substantial degree of upside to our core valuation of the business and we believe that the unrisks valuation of United could be as high as 13.2p per share.

# Appendix – Director’s Biographies

## **Brian Larkin – Chief Executive Officer**

Brian is the founding director of United Oil and Gas Limited. He is a Qualified Accountant and has an MBA from Dublin City University. He has extensive oil and gas industry experience having worked for Tullow Oil Plc, where he held both finance and commercial positions. Brian has worked on a variety of production, development and exploration projects in countries such as, French Guiana, Guyana, Suriname, Uruguay and Asia. Prior to Tullow, he worked for Providence Resources Plc, in senior finance and commercial positions. During his time with Providence Resources Plc, Brian worked on a wide portfolio of assets in regions such as, the Gulf of Mexico, offshore Ireland, onshore United Kingdom, and offshore Nigeria.

## **Dr Jonathan Leather – Chief Operating Officer**

Jonathan has over 18 years’ experience in the oil industry and holds a Geology degree from Oxford University, a PhD in Sedimentology from Trinity College, Dublin, and an MBA from Warwick University. He worked for Tullow Oil Plc from 2007 to 2015, where he held a number of senior positions, including membership of the Global Exploration Leadership Team. He also managed Tullow’s Subsurface Technology Group – a team he established and built up to provide specialist technical input across the company in both exploration and development. As part of this, he worked on assets and opportunities ranging from onshore producing fields to deep water frontier exploration. Prior to Tullow Plc, Jonathan worked for Shell, where he was initially involved in North Sea exploration – identifying both near-field opportunities and new play concepts. He then moved into a global team, working on development projects in Nigeria and Abu Dhabi, as well as continuing to be involved in exploration in Europe, Malaysia, and Saudi Arabia.

## **Alberto Cattaruzza - Non-Executive Director**

Mr Cattaruzza graduated as a Chemical Engineer from the University of Padua. Having worked in Germany for LURGI GmbH, he returned to Italy in 1966 and joined Chevron Oil Italiana s.p.a. In 1995, he joined the Oilinvest Group operating in Europe under the brand name, Tamoil, as Managing Director of their German affiliate. He was later appointed Oilinvest Refining & Marketing Officer and a board member of several other group companies. In 2001, Mr Cattaruzza started an independent entity providing technical and business consultancy services in the oil sector.

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