Otto Energy Limited (OEL) – Initiation

Looking for Elephants in Alaska & More Success in Texas

15 February 2019

Wayne Sanderson
wsanderson@phillipcapital.com.au
+61 3 8633 9930

Summary

Otto Energy (OEL) provides an attractive combination of high impact exploration in Alaska, one of the most prospective onshore oil provinces in the world, with low risk drilling and production from the Gulf of Mexico.

We initiate coverage with a “Speculative Buy” recommendation. Our risked valuation is 7.7 cents per share (24.5 cents unrisked).

North Slope Alaska

In Feb 2017 Repsol and Armstrong announced one of the largest US onshore oil discoveries in 30 years post the Horseshoe #1 & 1A wells in Alaska’s North Slope. These extended the apparent size of the Pikka oilfield discovered in 2013 by a further 30 klms to the south. Repsol believes the Pikka / Horseshoe blocks may contain 500m to 1.2 billion barrels.

In Nov 2017 Oil Search (OSH) acquired a 25.5%-37.5% interest in the field from Armstrong for US$400m, and operatorship, with an option to double that for a further US$450m. OSH and Repsol are planning a US$4 bn development of the field.

OEL and its JV partners hold extensive acreage in Alaska. They are about to spud a “high risk/ high reward” exploration well called “Winx #1” located just 6 klms east from Horseshoe in the adjacent lease. If successful OEL’s 20% working interest could be worth up to A$338m or 13 cents /share (unrisked).

Gulf of Mexico

OEL has existing production of 2,000 barrels of oil equivalent per day in the Gulf of Mexico generating cash flow after royalties of US$6.3m / qtr (A$8.8m). This is being directed into an exciting multi-well exploration programme (7 wells remaining for 2019).

An 8 well “low risk” exploration programme in JV with Hilcorp is off to a good start with a discovery at well #2 (Lightning) which recorded 55m net pay and is expected to go into production in March. We value OEL’s 37.5% interest at A$34m or 1.3 cents /share.

Success in the remaining 6 Hilcorp prospects comprises up to A$45m or 1.8 cents /share (unrisked) to our Sum of the Parts valuation.

Catalysts

Winx-1 Alaska drilling news March / April, a 400m barrel exploration prospect (OEL 20%). Further exploration in the Central blocks eg Talitha (900mmbbls oil in place).

Drill results on 6 further wells with Hilcorp in the Gulf of Mexico, mostly lower risk, higher probability targets of 3-8m barrels (100% basis). OEL share 37.5%. Success rate so far is 1 out of 2.

Possible new JVs (low risk, quick to production).

Recommendation — Spec Buy; PT $0.09

Risk Rating	**Very High**
12-mth Target Price (AUD)	**$0.09**
Share Price (AUD)	$0.065
12-mth Price Range	$0.035 - $0.083
Forecast 12-mth Capital Growth	38.5%
Forecast 12-mth Dividend Yield	0.0%
12-mth Total Shareholder Return	**38.5%**
Market cap (A$m)	121.9
Net debt (net cash) (A$m)	0.6 (31/12/18e)
Enterprise Value (A$m)	122.4
Gearing (Net Debt/ Equity)	2%
Shares on Issue (m)	1,875.3
Sector	Energy
Average Daily Value Traded ($)	$431,000
ASX 300 Weight	n/a

Financial Forecasts & Valuation Metrics

Years ending June $m	17(A)	18(A)	19(e)	20(e)	21(e)
Sales revenue	0.0	9.6	29.6	22.0	17.6
EBITDA	-5.2	-0.0	-21.6	7.7	3.1
NPAT (reported)	-5.2	-5.2	-27.9	2.4	-0.2
NPAT (adjusted)	-5.2	-2.8	-27.9	2.4	-0.2
EPS (adjusted)	-0.4	-0.2	-1.4	0.1	-0.0
EPS growth	n/m	n/m	n/m	n/m	n/m
DPS	0.0	0.0	0.0	0.0	0.0
P/E	-14.7	-33.0	-4.5	60.0	-681.0
EV / Ebitda	-9.1	-6,036.7	-4.9	12.3	30.1
Yield	0.0%	0.0%	0.0%	0.0%	0.0%
Price / Book	3.2	3.4	4.8	2.8	2.8
Net debt / equity	net cash	22.7%	8.6%	net cash	net cash

Source: Phillip Capital estimates

OEL SHARE PRICE PERFORMANCE

Description of Business

Otto Energy Limited (OEL) is an ASX listed oil and gas exploration and production company, now based in Houston Texas. A timely exit of its 33% stake and operatorship in Galoc (offshore Philippines) in 2015 as oil prices fell saw OEL cashed up and searching for new, lower sovereign risk opportunities in the US market. The company's strategy is to build production to 5,000 barrels per day in the Gulf of Mexico by 2020, the cash flows from which should then allow OEL to be self sustaining and form a solid base to allow the company to grow substantially.

Today, OEL has stakes in three interesting joint ventures, all operated by OEL's JV partners. The assets are in two areas of prolific historical oil production and exploration success being the US Gulf of Mexico coastal shelf, and the Northern Slope in Alaska, USA.

Byron (BYE) farm-in (originally announced 10/12/15; Continuing)

Production assets:

- **SM-71 - South Marsh Island, offshore Louisiana in the Gulf of Mexico shelf** – 50% working interest with Byron Energy Ltd (BYE)(Operator) in shallow water (42 metres) approximately 100 klms offshore on the Gulf Coast shelf. The field was discovered by the partners in April 2016 and entered production in March 2018. Currently producing 2,000 boepd (barrels of oil equivalent per day)(OEL share). Two other prospects drilled by the JV were unsuccessful (SM-6 & Bivouac Peak).

Exploration:

- OEL has the right to participate for a **50% working interest in VR 232**, which is adjacent to BYE/ OEL's SM 71 oil field. There are no current plans to drill, but this adds a development pathway for BYE / OEL for the future, partly de-risked by SM-71 data.

Hilcorp farm-in (originally announced 31/7/18; Continuing)

- OEL earning a 37.5% working interest by paying 50% of the costs to drill eight prospects on the US Gulf coast (US$75m total; OEL share $37.5m). Hilcorp is one the largest private companies in the USA with annual oil production bigger than Woodside (WPL).
- The first well "Big Tex" was unsuccessful (announced 15/10/18).
- The second well "Green#1" in the Lightning prospect, Matagorda County Texas - was announced as a discovery on 4/2/19 with 180 feet (55 metres) of hydrocarbon pay (and possibly up to 330 feet (101 metres) depending on further testing). This well is expected to commence production in March/ April this year.
- 6 more wells to be drilled under the program during 2019 (3 on dry land, and 3 from drilling barges in shallow water), with "Don Julio 2", onshore Texas to spud shortly.

Production assets: Nil currently, but Lightning expected to enter production from March.

Alaskan farm in (originally announced 21/7/15, and modified 6/8/15 and 30/7/18; Continuing)-

- Western blocks (Area: 91.9 sq klms) - OEL earning a 22.5% interest (20.0% after Great Bear back-in rights) in four blocks on the Alaskan North Slope held by Great Bear Petroleum by paying 25.0% of the costs of one well by May 2019. This will be the "Winx-1" well which is due to spud this month (Feb 2019). The consortium comprises 88Energy (ASX: 88E) 36.0% working interest, Red Emperor Resources (ASX: RMP) 31.5%, OEL 22.5%, Great Bear Petroleum 10.0%.
- Central blocks (Area: 1,163 sq klms) - OEL has between an 8.0% to an 10.8% interest in 90 leases on the Alaskan North Slope held by Great Bear Petroleum (recently acquired by Pantheon Resources plc in the UK). We understand the OEL interests include the "Talitha" prospect which is near the "Pipeline Discovery #1" well drilled 31 years ago in 1988 by ARCO (Atlantic Richfield Co – acquired by BP in 2000). However it does not include the block containing Great Bear's 2015 "Alkaid-1" discovery and "Phecda" prospect, as OEL has not exercised a US$25m option over that acreage.

The Byron Energy and Hilcorp joint ventures are targeting relatively modest sized resources in locations judged by the operators and OEL to have a fairly high probability of success, and low costs to develop because of the location being very close to existing pipelines and infrastructure. The Alaskan joint venture is a much higher risk and reward situation. Drilling success here could be a company maker.

Phillip Capital Forecasts

We show below our forecasts for FY19, FY20 and FY21.

Otto Energy Limited - Forecasts Years ended June 30	US$m	FY18	FY19e	FY20e	FY21e
Oil price - realised	US$/bbl	$ 64.90	$ 60.51	$ 56.10	$ 56.10
Gas price - realised	US$/mcf	$ 3.37	$ 3.25	$ 3.00	$ 3.00
Net production (WI)					
Oil	mmbbls	0.174	0.541	0.433	0.346
Gas	mmscf	0.120	0.240	2.096	1.677
Oil & Gas equivalents	**mmboe**	**0.194**	**0.194**	**0.716**	**0.573**
Revenue					
Oil	US$m	11.3	32.7	24.3	19.4
Gas		0.4	3.7	2.7	2.2
Less: Royalties		-2.2	-6.8	-5.1	-4.1
Net Field Revenue		**9.6**	**29.6**	**22.0**	**17.6**
Other income		0.1	0.0	0.0	0.0
Total Income	**US$m**	**9.6**	**29.6**	**22.0**	**17.6**
Field cash costs	US$m	-0.7	-3.5	-3.3	-3.2
Administration		-4.0	-5.7	-6.0	-6.3
EBITDAX	**US$m**	**4.8**	**20.4**	**12.7**	**8.1**
Exploration		-4.8	-42.0	-5.0	-5.0
EBITDA		**0.0**	**-21.6**	**7.7**	**3.1**
Depreciation		-0.9	-5.1	-4.1	-3.3
EBIT		**-0.9**	**-26.7**	**3.5**	**-0.2**
Interest Expense		-1.8	-1.1	-1.1	0.0
Pre-Tax Profit		**-2.8**	**-27.9**	**2.4**	**-0.2**
Tax credit (expense)		0.0	0.0	0.0	0.0
NPAT (normalised)	**US$m**	**-2.8**	**-27.9**	**2.4**	**-0.2**
Abnormals		-2.4	0.0	0.0	0.0
NPAT (reported)	**US$m**	**-5.2**	**-27.9**	**2.4**	**-0.2**
Shares on issue (WAV)	m	1,403.1	1,945.9	2,259.4	2,470.0
EPS (normalised)	**US cents**	**-0.20**	**-1.43**	**0.11**	**-0.01**
EPS (norm) AUD equivalent	**AUD cents**	**-0.3**	**-2.0**	**0.2**	**0.0**
FX rate		0.7752	0.710	0.710	0.710

Source: Phillip Capital estimates

Key assumptions

- Forecasts are for the SM-71 field only. We will add in details for the Lightning field when initial production data becomes available. This should be additive to our forecasts.
- We assume a further US$15m capital raising in 2H19. However we recognise that OEL may be able to avoid this if Lightning production and cash flows comes on strongly, or if some the Hilcorp exploration expense slips into FY20 allowing more time for the Lightning cash flows to come through.

Assumptions, Valuation & Recommendation

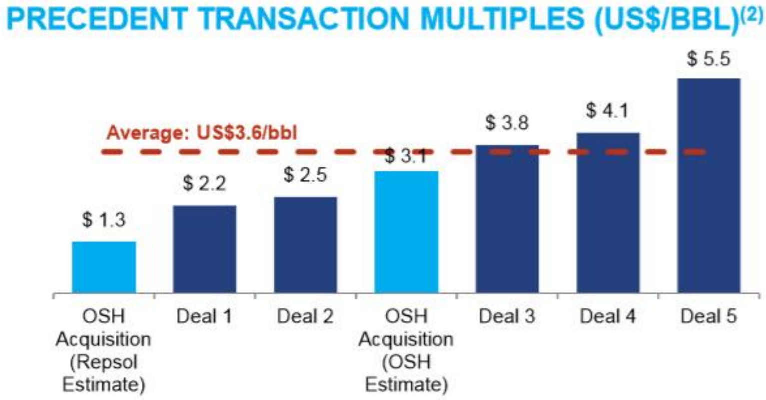
We have valued OEL shares using a Sum of the Parts approach, as shown below.

Valuation Summary	Method & Assumptions	Risk Weighting	Unrisked US$m	Unrisked A$m	Unrisked A$ ps	Risked A$m	Risked A$ ps
	AUD / USD FX rate			0.710			
Producing Assets:							
SM 71 (OEL WI 50%)	Field model & DCF	100%	45.5	64.1	0.025	64.1	0.025
Lightning (OEL WI 37.5%)	Field model & DCF	60%	23.9	33.7	0.013	20.2	0.008
Subtotal			**69.4**	**97.8**	**0.039**	**84.3**	**0.034**
Non Producing Assets:							
Vermillion 232 (OEL WI 50%)	Value at 5% of SM71	10%	2.3	3.2	0.001	0.3	0.000
Hilcorp JV (OEL WI 37.5%) - 6 wells to go	Field model & DCF	33%	31.7	44.7	0.018	14.7	0.006
Alaska - Western blocks (OEL WI 20% after BI)	OSH/ Armstrong trans US$3bbl	20%	240.0	338.0	0.134	67.6	0.027
Alaska - Central blocks (OEL WI 8.0 & 10.8%)	50% of OSH/ Armstrong trans	10%	82.3	115.9	0.046	11.6	0.005
Subtotal			**356.3**	**501.8**	**0.199**	**94.3**	**0.037**
Corporate Costs	3x P/E	100%	-17.1	-24.0	-0.010	-24.0	-0.010
Net Cash (Net Debt) at 31/12/18		100%	-0.4	-0.6	0.000	-0.6	0.000
Dilutory adjustments:							
Assumed capital raise in 2H19		100%	15.0	21.1	0.008	21.1	0.008
Convertible note conversion by 30/6/20		100%	11.5	16.3	0.006	16.3	0.006
Options & performance rights		100%	2.3	3.3	0.001	3.3	0.001
Total Valuation - Fully Diluted			**437.1**	**615.7**	**0.245**	**194.7**	**0.077**
Shares on issue - Basic		**1,875.3**					
Assumed raise in 2H19		384.1					
Convertible note conversion by 30/6/20 at A5.484c		210.6					
Options & performance rights		46.8					
Shares on Issue - Fully Diluted		**2,516.7**					

Source: Phillip Capital estimates

Key Forecast and Valuation Assumptions

- **SM-71** – We assume a 76% oil / 24% gas split; 20% pa decline rate in production after year 1; an additional offshore well is drilled in Year 4 (2022) to boost production (OEL share US$10m); ~40% recovery rate in 10 years; Tax 25.6%.10% DCF discount rate.
- **Lightning -** We assume a 32% oil / 68% gas split; 20% pa decline rate in production after year 1; an additional well is drilled in Year 4 (2023) to boost production (OEL share US$3.5m); ~40% recovery rate in 10 years; 10% DCF discount rate.
- **Vermillion 232** – We value this at 5% of our SM-71 valuation. It is the adjacent lease to SM-71 but that doesn't necessarily mean there is economic oil there. With SM71 only in its 10th month of production, OEL sees no rush to drill this permit. One prospect on V232 at least could possibly be drilled from the existing SM-71 platform which would potentially save considerable capital cost, if selected as the best target. Option value really at this stage.
- **Hilcorp JV – 6 further wells** - we have modelled these collectively using a 32% oil / 68% gas split based on OEL/ Hilcorp disclosures. We have used the mean target of 60m boe (see table on page 9); 20% pa decline rate in production after year 1. Further wells to be added in year 4 (2024) to boost production. 10% discount rate. We assume that 2 of the 6 will be successful, so we apply a 33% probability of success in our valuation. We estimate that OEL/ Hilcorp have assigned a 48% probability of success to this group, so we think we are being conservative.
- **Alaska – Western blocks** – We have not modelled this as we have insufficient information, and there is a binary outcome. In the success case, we assume that Great Bear exercises its back in right which reduces OEL's working interest from 22.5% to 20%. We apply US$3.00 per barrel to OEL's 20% working interest of the 400mmbbl target (ie 80 mmbbls to OEL). The Oil Search / Armstrong transaction was concluded at US$3.10 per barrel which OSH considered a very attractive price, and below industry averages for comparable large global transactions of $3.60/bbl. We expect that OEL and its partners would look to sell the asset to a larger player in the event of success, as the development costs would be way beyond the JV partners financial capability. It would make strong commercial sense for the permit to be developed in conjunction with Repsol / Oil Search's Horseshoe discovery, or perhaps Conoco Phillips on the other boundary. In the event of unsuccessful drilling, the permit is probably worthless. We assign a 20% probability of success given the close proximity to Horseshoe to the west. We have not allowed for possible tax.



Source: Oil Search Alaska presentation, 14/12/17

- **Alaska – Central blocks** – These blocks are further away from the main areas of exploration activity so we assign a low 10% probability of success. On an adjacent non-OEL block, Great Bear Petroleum / Pantheon Resources plc must test the Alkaid discovery before May this year (240 feet of net pay in 2015; Great Bear say 549 mmbbl target). OEL has an option over this block, but is unlikely to exercise. A success case would benefit the adjacent OEL/ Great Bear permits. The OEL JV plans to drill a well in 2020 called Talitha, to re-test the Pipeline State #1 well drilled in 1988 by ARCO (Atlantic Richfield) which had strong oil shows. The OEL JV will apply modern 3D seismic and other technology to select the best target. We use a valuation yardstick of $1.50 per barrel, being half the Oil Search / Armstrong transaction rate. There is clearly oil present in the area, but the question is whether it is commercial or not. We assign a 10% probability of success.
- **Corporate costs** – We include these at a negative value of 3x FY19's costs. A possible acquirer of OEL would probably not need these.
- **Possible capital raising in 2H19 –** Our forecasts assume a US$15m raising (A$21m) in order to meet OEL's share of 2019 exploration costs under the Hilcorp program.
- **Convertible Notes –** The maturity dates on OEL's US$8.2m of Convertible Notes have recently been extended from 30/6/19 to 30/6/20. The adjusted conversion price is A 5.484c so they are in the money currently. The coupon is 14% pa, so we assume they will be converted to ordinary shares at the last possible moment. $8.0m of these are owned by OEL's major shareholder Molton Holdings Ltd and $0.2m by OEL Chairman John Jetter.

Valuation & Recommendation

Our Sum of the Parts "risked" valuation is 7.7 cents per share. So we believe that OEL is slightly under-valued at 6.5 cents currently. However, we can see clear scope for further upside should any of the exploration targets come in ahead of our conservative assumptions, or if SM-71 production, or Lightning production and oil content are significantly better than our assumptions.

With 1 high impact well (Winx-1) about to spud, and 6 high probability / low risk wells to be drilled this year with Hicorp, there should be no shortage of newsflow from OEL this year. We would not be surprised to see OEL re-test its 12-month high of 8.3 cents.

With a current market cap of A$122m, there seems to be room for significant upside upon exploration success, and a positive re-rating should also follow as OEL goes from one production asset to potentially several, reducing risk.

We like the strategy of a) pure US focus and b) having multiple bets of manageable size with several experienced JV partners, and the diversified portfolio of different projects.

We initiate coverage on OEL with a "Speculative Buy" recommendation and set a 12-month price target at $0.09 per share, a 20% premium to our risked valuation to recognise the latent upside potential. Our price target represents a potential 12-month TSR of 38.5%.

The risk rating is very high.

Positive factors / Reasons to Buy

1. **Looking for Elephants in Alaska** – The clear number 1 value driver for OEL this year is the outcome of the high risk / high reward Winx-1 well in Alaska which is about to spud. We estimate the value of OEL's 20% working interest at A$338m or **13 cents per share** based on the US$3.10 price per barrel of resource in the US$400m Oil Search / Armstrong deal in Nov 2017. We have notionally assigned a 20% probability of success which produces a "risked" valuation of A$68m or 2.7 cents per share. But the upside in the success case is obvious. A quick recap of the key points:
   - **Alaska North Slope - a prolific oil producing region** containing some of the largest oilfields in the world (eg Prudhoe Bay oil field operated by BP, ExxonMobil and ConocoPhillips, the largest oil field in the USA at 225 square miles and containing 32 billion barrels of oil; in production since 1977, over 15 bn barrels produced to date).
   - **Horseshoe #1 & 1A wells in Feb 2017 by Repsol / Armstrong** found 150 feet and 100 feet of light oil reservoired in Nanushuk delta sandstone. **Repsol stated this was the largest US onshore discovery in 30 years,** as it extended the Nanushuk fairway a further 30 klms south from previous discoveries at Pikka (650 foot oil column in 2013) and Qugruk (2015). The Nanushuk fairway is now estimated at 70 klms long and 2-6 klms wide, covering an area of 200 sq klms.
   - **Quguruk production tests flowed 2,160 bopd (vertical) and 4,600 bopd (horizontal).** Oil Search and Repsol now planning a US$4bn+ development.
   - Winx-1 location is just 4 miles (6.4 klms) east of Horseshoe, in the adjacent lease block.
   - Winx-1 location is also just 16 klms west of the ConocoPhillips "Meltwater" discovery (100 mmbo).
   - **Pikka "satellites" also exist** according to Oil Search eg Alpine discovery 8 klms away from Pikka.
   - OEL/ Great Bear have used modern 3D seismic to determine the optimum location for this well, which they believe shares the same attributes as Horseshoe. OEL/ Great Bear have stated a geological chance of success in the range of 25-30%. The well is targeting multiple sequences.
   - Clear potential for the Horseshoe results to be replicated here (or not).

2. **Alaskan JV partner Great Bear acquired by Pantheon Resources plc - now much better funded** – In December / January, Great Bear Petroleum merged with AIM listed Pantheon Resources plc (PANR) in a 49 (GB)/51 (PANR) merger valuing Great Bear at approximately US$50m. Great Bear / Pantheon has a 10% working interest in the Alaskan western blocks with OEL (plus a 10% back-in right if Winx is successful), and approximately 90% of the Central Blocks (OEL 8.0% & 10.8%). Pantheon has other assets in East Texas. The significance of this is that Great Bear now has much better access to capital versus previously being capital constrained. We also note that Pantheon Resources plc has some high quality directors with significant experience in Alaska. We expect a step up in activity by Great Bear / Pantheon going forward. We note the PANR share price has increased from 17p before the deal to 22p currently.

3. **Established production in Texas with Byron** – OEL participated in 3 wells with Byron Energy (BYE, Operator), with one of the three resulting in a discovery. South Marsh Island - 71 (SM-71) has already recovered its total capital costs in just 10 months, and looks set to contribute good profits and cashflows for many years. This acreage had previously produced oil for other earlier participants, so it vindicates OEL's strategy of using modern 3D seismic and other evaluation tools to find pockets of oil left behind by others. The JV has secured the adjacent permit VR232 which provides a longer-term opportunity as SM-71 depletes to potentially extend the life of the field.

4. **Early Success in Texas with Hilcorp, a quality partner; Bodes well for next 6 wells** – We believe OEL has been fortunate to secure a promising 8 well joint venture program with Hilcorp, which is one of the largest private oil companies in the USA with monthly production greater than Australia's Woodside (WPL). The first well was unsuccessful, but the second well (Lightning, on-shore Texas) is a discovery with a significantly better than expected 180 feet of hydrocarbon pay encountered (2-5x better than the 31-75 feet expected). The well is expected to begin production next month. There are 6 further wells to be drilled in the program during 2019. OEL has described these wells as high probability,

lower risk targets of 3-10 mmbbls. With 1 out of 2 wells successful so far for a 50% success rate, the outlook for the balance of the program is positive. We apply a 33% probability of success in our valuation which implies that 2 of the 6 wells will become producers.

5. **Clear Growth Strategy** – OEL has articulated a sensible growth strategy to participate in a diversified portfolio of exploration opportunities in the Gulf of Mexico (GOM) coastal shelf. The target is to achieve daily production of 5,000 barrels of oil per day (Vs 1,400 currently). Currently OEL has two joint ventures in the GOM area, with a portfolio of targets diversified by county, geographic play type, and some offshore (shallow waters to keep costs manageable) and some on-shore. Eventually OEL intends to become an Operator in its own right as it was previously at Galoc in the Philippines, but meanwhile it is benefitting and learning from the experience of Byron and more particularly, Hilcorp. OEL is purely focussed on opportunities in the USA with low sovereign risk.

6. **Potential for further JVs** – We expect OEL will look to enter into further farm-ins and joint ventures. There is potential for another program with Hilcorp, or with other operators. Again the criteria OEL is looking to fill is low risk, low capital costs, good probability of success and a short time to get into production.

7. **Management Performance Rights instructive -** The vesting hurdle on the latest issue of management performance rights is a compound TSR (total shareholder return) of 15% pa with a starting price for measurement of 6.4 cents per share. This implies indicative vesting hurdle share price of 7.36c, 8.46c, and 9.73c over the next three years.

Negatives / Risk Factors

1. **Binary outcome on Winx-1**. There can be no guarantee that OEL's high impact well in Alaska will be successful. The Nanushuk oil trend is ~70 klms long, but only 2-6 klms wide. Winx-1 is 6.4 klms to the east of Horseshoe, so it is quite possible that it will be just outside the trend. In addition to the possibility of not finding commercial quantities of oil, there is also the risk of mechanical or technical failure of the well or drill rig, especially due to the demanding conditions in the Alaskan winter. The share price increased from 4.3 cents to 6.0 cents on the 4/2/19 release of the better than expected discovery in Texas (Lightning). We think the share price is just starting to edge up again in anticipation of the Winx well. Our valuation would be around 5.0 cents per share without the Alaskan Western blocks / Winx prospect.

2. **Exploration risks on Hilcorp program** – The normal exploration risks also apply to the 6 remaining wells under the Hilcorp program. These risks are somewhat mitigated by the quality and experience of Hilcorp as Operator, and the portfolio approach of six wells across different counties and different geological play types.

3. **JV partner risk** – There is a risk that relationships with joint venture partners could sour, particularly if things don't go well. OEL is still trying to recover money from its JV partner in Tanzania. So far we believe OEL has excellent relationships with its current JV partners, and we are not aware of any problems. And the recent takeover of OEL's Alaskan partner Great Bear Petroleum we think is a clear positive (refer page 16 for further discussion).

4. **E & P companies are capital hungry** – Nearly all junior Exploration & Production companies are capital hungry, and need to come back to shareholders regularly for more money. OEL raised US$14m in 1H19 to part-fund the US$37.5m Hilcorp program but we think it need more funding. We have assumed a US$15m capital raising in 2H19 to allow OEL to complete the Hilcorp exploration program. OEL is currently loss making due to a high exploration spend, still fairly low levels of oil production, and expensive 14% convertible notes. It needs to get its annual production up if it is to become self funding.

5. **Oil price risk** – The severe decline in the oil price from 2014 to 2017 has arguably benefitted OEL, in that it contributed to OEL's decision to exit high sovereign risk countries, and high risk offshore exploration in favour of a new low risk strategy in the USA. OEL says that the cyclical down-turn has opened up plenty of attractive new opportunities for junior players in the USA that would not have been open previously.
   With regards to current production, OEL does not hedge its oil or gas production, nor its US$ exposure so a fall in oil or gas prices would further delay becoming profitable.

US Gulf of Mexico / Gulf Coast – Detailed Review

The Gulf of Mexico (GOM) region is one of the most prolific oil and gas producing regions on earth. Commercial extraction of petroleum resources dates from the early decades of the 1900s, with first offshore production commencing in 1938. Today, the federally-administered GOM Outer Continental Shelf alone accounts for about a fifth of all crude oil produced in the USA.

The company's strategy is currently focused on growth in the Gulf of Mexico for the following reasons:

• Proven prolific hydrocarbon province where modern technologies such as RTM seismic processing continue to create new opportunities to access resources previously bi-passed by others
• Low sovereign risk
• High margin oil with breakeven economics around US$20/barrel
• Short cycle time from discovery to development of 8-18 months
• Low cost drilling and development (Shallow water < 300 feet, keeping capex manageable)
• Relatively low risk exploration
• High oil / non-gas liquids yield allows higher margins
• Deal flow is liquid and a full spectrum of opportunity size is available
• Otto has area expertise and well-developed business relationships; and
• Otto has production in the area.

OEL has a growing portfolio of exploration prospects. The Hilcorp portfolio has 6 further wells to be drilled during 2019 with a prospective resource of 40-60 million barrels. The Big Tex well was unsuccessful, but the Lightning discovery earlier this month looks significantly better than pre-drill estimates.

Prospect	Planned Spud Date	Result	Target Depth (TVD) Feet	Rig Type	Working Interest (WI)	Net Revenue Interest	Probability of Success	Prospective Resource P50 (m bbls)	Prospective Resource Mean (m bbls)	County / Parish
Hilcorp / Gulf Coast farm-in								**(100% basis)**	**(100% basis)**	
Drilled:										
Big Tex, Louisiana	Sep-18	Duster x	13,500	Barge	37.5%	29.51%	54.0%	3.3	6.8	Plaquemines
Lightning, Texas	Oct-18	Discovery √√	14,500	Land	37.5%	28.50%	45.0%	3.2	4.4	Matagorda
Still to come :										
Don Julio 2, Texas	Dec-18		11,500	Land	37.5%	28.50%	44.0%	2.5	4.0	Chambers
Mustang, Texas	Jan-19		17,500	Land	37.5%	30.00%	56.0%	6.7	8.5	Chambers
Beluga, Texas	May-19		13,000	Barge	37.5%	28.50%	45.0%	2.9	4.7	Galveston Bay
Oil Lake, Louisiana	Jul-19		14,500	Land	37.5%	29.06%	45.0%	3.3	4.4	Cameron
Tarpon, Texas	Jul-19		14,000	Barge	37.5%	29.06%	34.0%	24.0	35.6	Galveston Bay
Mallard, Louisiana	Nov-19		11,000	Barge	37.5%	29.63%	64.0%	0.9	3.3	Assumption
Sub-Total - Wells still to be drilled						29.13%	48.0%	40.3	60.5	
Total (incl Big Tex & Lightning)						29.10%	48.4%	**46.8**	**71.7**	
Hilcorp / OEL risked Volumes (p 8, 31/7/18 preso)								**19.9**		
Hilcorp / OEL implied overall probability of success							42.4%			
Expected drill costs & land costs (100% basis)								**$ 75.0**		
Great Bear / Alaskan farm-in								**Best Estimate**		
Winx-1, Alaska (Western blocks)	Feb-19		Shallow	Land	22.5%	18.75%	25-30%	400.0		North slope
Talitha (or others in Central blocks)	2020		Shallow	Land	8% to 10.8%			500.0		North slope

Source: OEL presentations & announcements dated 31/7/18, 25/6/18 & 31/1/19; Pantheon Resources plc / Great Bear Petroleum presentation 22/1/19

Prospects

We think the prospects for this joint-venture are good. Our reasons are discussed below.

Quality and experienced partner - Hilcorp Energy assembled this package of 8 prospects, and OEL farmed in. Hilcorp was founded in 1989 is one of the largest privately owned oil and natural gas companies in North America. Based in Houston, it has nearly 2,000 employees. Hilcorp specialises in reinvigorating legacy oil and gas fields across North America including the US Gulf coast, Alaska and the Rockies. It currently produces around 325,000 boe per day (Woodside produces 230,000 boepd). Whilst Hilcorp might not be known for its exploration skills, we still think it makes an excellent partner for OEL.

Big Tex exploration well - The first well under the Hilcorp programme was drilled to target depth (4,182 metres), encountered oil shows but these were deemed to be sub-commercial so the well was plugged and abandoned (announced 15/10/18).

Lightning / Green #1 exploration well – 4/12/18 announced commencement of drilling of the second Gulf coast well under the Hilcorp JV with a land-based rig. The prospect in Matagorda County Texas was assessed as a mean 4.57 m boe target (100% basis) and having a 45% probability of success. OEL will earn a 37.5% working interest by paying 50% of the costs of drilling and either setting casing or plugging and abandoning the well (OEL estimated share of costs: US$4.97m).

On 4/2/19 OEL announced this as a significant discovery, with a minimum 180 feet of net pay, well above pre-drill estimates of 31 feet (P50 est) to 75 feet (P10 est). Depending on porosity and water saturation cut-offs, there is potential for as additional 150 feet of net pay in the well. Estimates of reserves will take some months to calculate and will be further refined with production data. OEL plans to connect the field to one of two nearby pipelines (45 days) with first production expected by the end of March. The well cost approximately US$10m to drill, plus a further US$3m to connect the pipelines.

Hilcorp's original P50 estimate for this well was a possible Resource of 3.2m boe (P50 est) to 10.1m boe (P10 est). Given that the discovery interval of 180 feet is 5.8x to 2.4x these pre-drill estimates, **we estimate Hilcorp / OEL may have a discovery of 18-24m boe here** (5.3 – 6.9 m boe for OEL's 28.5% net revenue interest (vs OEL's share of SM 71 reserves of 6.6m boe – ie 40.625% x 16.2m boe).

As this is an on-shore well, the capital costs are expected to be significantly lower than the offshore SM 71 discovery and so returns significantly higher.

It's early days, and there hasn't been a flow test yet, so we don't know the mix of oil v gas, or the flow rates. We have modelled a 32% oil / 68% gas split based on OEL/ Hilcorp disclosures. And at this stage, we are assuming a resource of 15m boe. We will revise this as and when further information becomes available.

OEL says there may be "future additional wells to deliver the full field potential of this significant new discovery".

OEL said the discovery is testament to the application of new seismic technologies and evaluation techniques which bodes well for remainder of the Hilcorp program.

The drilling rig will now move to the Don Julio 2 well location and commence drilling in coming weeks.

Further 6 wells to go

We have modelled a success case for the 6 further wells to be drilled under the Hilcorp program. Again we have modelled a 32% oil / 68% gas split based on OEL/ Hilcorp disclosures. We have used the mean target of 60m boe (see table page 9), and applied a 33% probability of success in our valuation. This effectively implies just 2 of the 6 wells will be successful. We estimate that OEL/ Hilcorp have assigned a 48% probability of success to this group.

Additional Upside

Should the Tarpon or Mustang prospects be successful, OEL has ground floor rights (ie pays only its working interest) to participate in nearby Damsel and Corsair/ Hellcat opportunities. These wells are in addition to the original eight wells. We have not put a valuation of this.

In addition, OEL has a right of first offer to a subsequent Gulf Coast program, if Hilcorp elects to offer such a program to third parties.

Alaska – Northern Slope

The Alaskan North Slope is an established oil province with mega discoveries, including BP's Prudhoe Bay (discovered in 1967 by Humble Oil and ARCO) which is the largest conventional oil field in the USA and the Kuparuk field (discovered in 1969 by ARCO). Alaska's oil boom started in 1977 when the Trans Alaska Pipeline System (TAPS) was completed. This transports oil from Prudhoe Bay 800 klms south to the Valdez terminal for onward export. A positive quirk is that Alaskan crude achieves a premium price to West Texas Intermediate, in fact much closer to Brent.

Although these older fields are now in decline, there has recently been an upsurge of drilling activity and exploration success. This has included Repsol and Armstrong's Pikka / Horseshoe discoveries and ConocoPhillip's Willow /Narwhal discoveries which have extended the Nanushuk oil trend by a stunning 30 klms to 70 klms in length (but only 2-6 klms wide). Repsol stated that the Horseshoe 1/1A discovery in 2017 was the largest US onshore discovery in 30 years.

Oil Search has stated that on the Alaska North Slope, 78% of the discovered volume is oil (OSH presentation 14/12/17, p19). There is no commercial market for Alaskan gas to date.

The Alaskan North Slope is now considered one of the most prospective onshore conventional oil provinces in the world.

OEL has a 22.5% working interest in the adjacent block to Horseshoe, with a highly prospective well (Winx-1) about to spud.

OEL's interests in the Alaskan North Slope comprise the following:

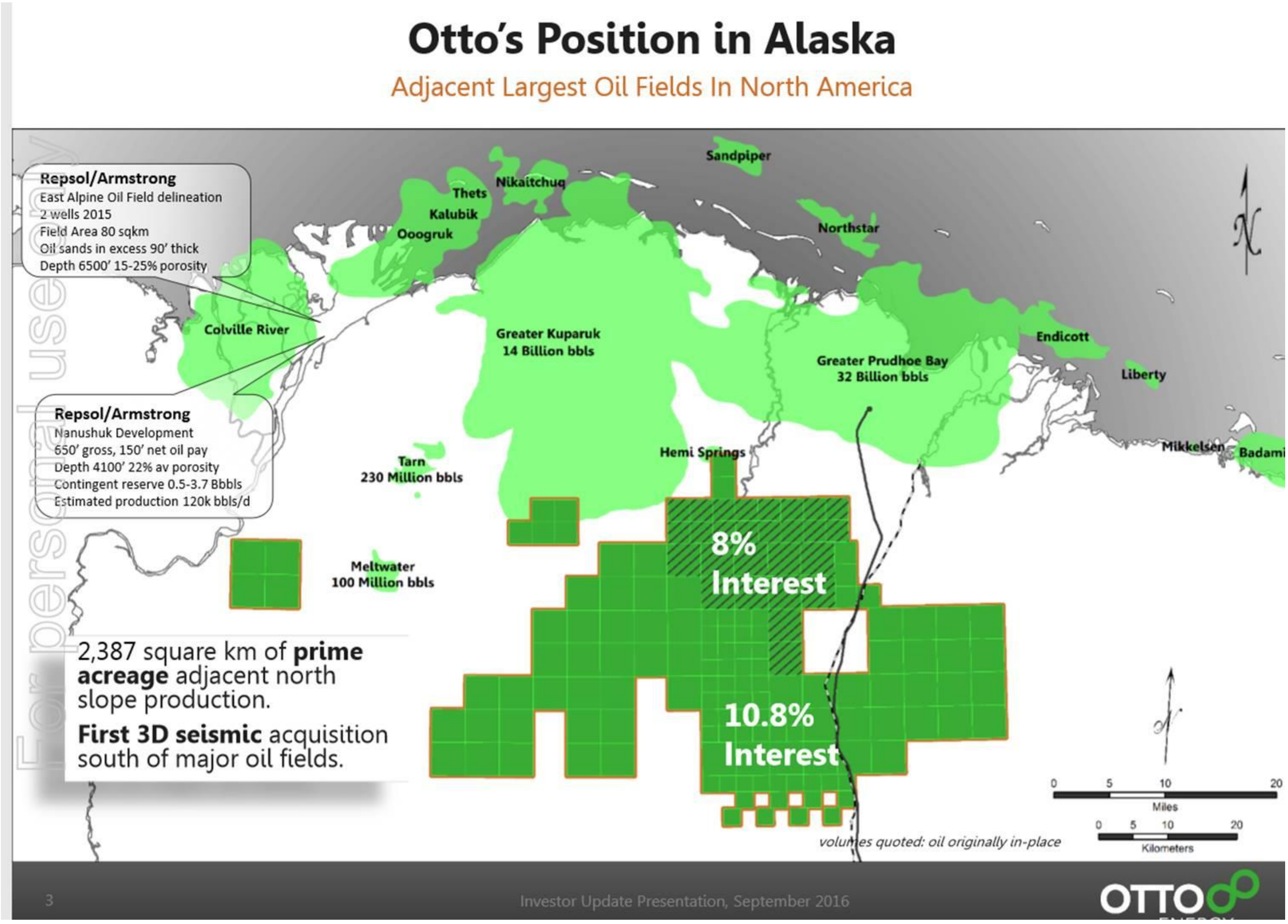
- **Western blocks (Area: 91.9 sq klms)** - OEL earning a 22.5% interest (20.0% after Great Bear back-in rights) in four blocks on the Alaskan North Slope held by Great Bear Petroleum by paying 25.0% of the costs of one well by May 2019. This will be the "Winx-1" well which is due to spud this month (Feb 2019). The consortium comprises 88Energy (ASX: 88E) 36.0% working interest, Red Emperor Resources (ASX: RMP) 31.5%, OEL 22.5%, Great Bear Petroleum 10.0% (before Great Bear back-in right). Refer table below.
- **Central blocks (Area: 1,163 sq klms)** - OEL has between an 8.0% to an 10.8% interest in 90 leases on the Alaskan North Slope held by Great Bear Petroleum (recently acquired by Pantheon Resources plc in the UK). We understand the OEL interests include the "Talitha" prospect which is near the "Pipeline Discovery #1" well drilled 31 years ago in 1988 by ARCO (Atlantic Richfield Co). However it does not include the block containing Great Bear's 2015 "Alkaid-1" discovery and "Phecda" prospect, as OEL has not exercised a US$25m option over that acreage. OEL is planning possibly 1-2 wells here for 2020.

The relevant interests in the Western Blocks under the commercial agreements are as follows (subject to regulatory approval by the State of Alaska):

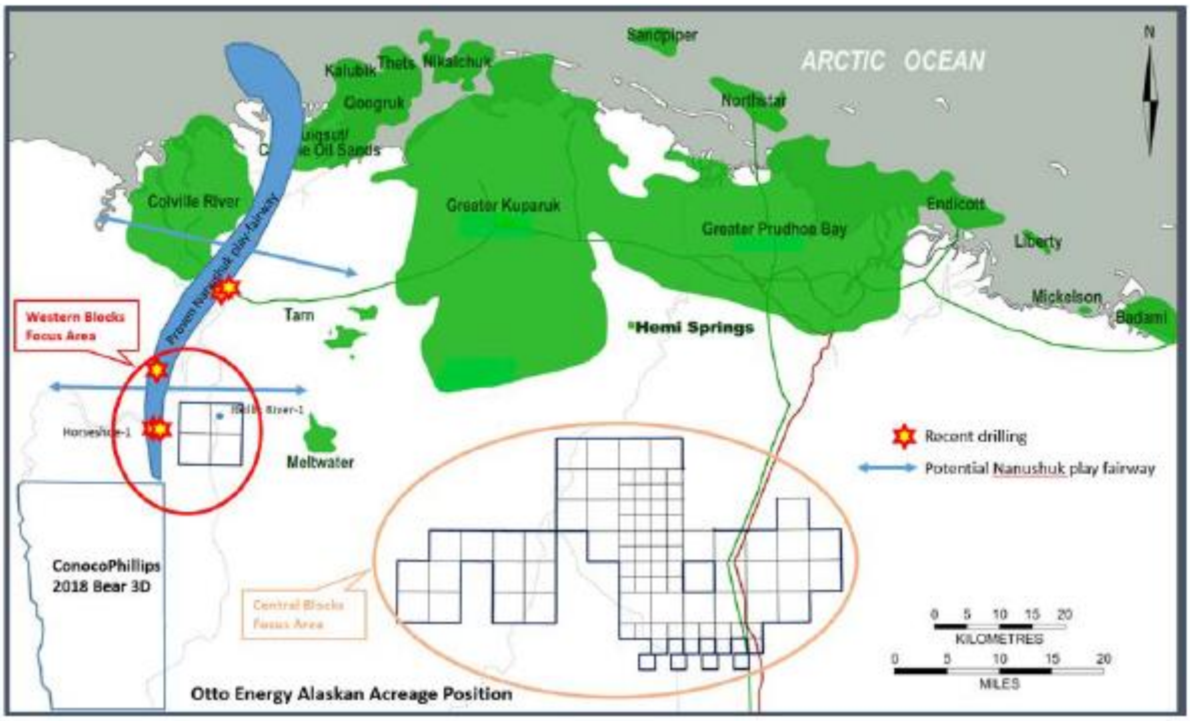
	Current Working Interest	Post-transaction			
		Working Interest (before back-in)	Paying Interest (before back-in)	Net Revenue Interest* (before back-in)	Working Interest (after back-in)
Otto Energy	10.8%	22.5%	25.0%	18.75%	20.0%
88 Energy (Drilling Management)	-	36.0%	40.0%	30.00%	32.0%
Red Emperor	-	31.5%	35.0%	26.25%	28.0%
Great Bear Petroleum**	89.2%	10.0%	-	8.33%	20.0%
State of Alaska	-	-	-	16.67%	
	100%	100.0%	100%	100%	100%

*Government royalty of 16.67%. **Currently Operator of record on leases.

OEL / Great Bear acreage shown in dark green in the map below (NB. 2016 map). A lot has changed since.



Below – 2018 map showing length and width of Nanushuk play fairway (in blue), and OEL / Great Bear western blocks proximity to Horseshoe 1 major discovery.



Alaskan North Slope – Western Blocks

The OEL / Great Bear western blocks border the Horseshoe blocks and are just 1 mile from the Horseshoe 1/ 1A discovery by Repsol / Armstrong which extended the Pikka oilfield 30 klms to the south. The site chosen for the Winx-*1 well is 4 miles (6.4 klms) to the east of Horseshoe.

Brief history of the Pikka / Horseshoe Oil field (Nanushuk trend)

- 2008 – Armstrong Oil & Gas commence licencing over Pikka area
- 2011 – Repsol farms in to Armstrong acreage
- 2013 – Repsol / Armstrong discovers Pikka unit (Nanushuk). 650 foot oil column.
- 2016 – ConocoPhillips discovers Willow (Nanushuk). Recoverable resource >300mmbbls; 100,000 bopd potential.
- Feb 2017 – Repsol / Armstrong major oil discovery – Horseshoe 1 & 1A. This extended the Pikka oilfield by a further 30 klms to the south. Estimated 500-1.2 billion barrels of recoverable light oil for Pikka / Horseshoe combined. 80,000-120,000 bopd potential. **Repsol states this is the largest US onshore discovery in 30 years.**
- Nov 2017 – Oil Search (OSH) acquires half of Armstrong and GMT's interests in Pikka (25.5% WI) and Horseshoe (37.5% WI) for US$400m. Becomes Operator. Option to acquire the remainder by June 2019 for US$450m.
- 2018 - ConocoPhillips drills 6 wells – all encountered oil – 4 at Willow, Stony Hill 1 & Putu 2 (3 miles from Pikka).

Oil Search and Repsol are planning a multi-billion dollar development aiming for 80,000 to 120,000 barrels of oil per day by mid 2024. OSH has indicated a US$1.3bn contribution based on a 35% interest post exercising the Armstrong option and on-sale to new partners. This implies **US$4.3 billion** for the whole project. This would entail 50 well pairs (100 wells), 60 klms of new pipelines, 42 klms of roads, 1 possibly 2 Central Processing Facilities (CPFs) and a 200 person permanent camp. Oil Search describe the project as a Tier 1 project, acquired at a highly competitive price, with low operating costs and a break-even oil price of US$37/bbl.

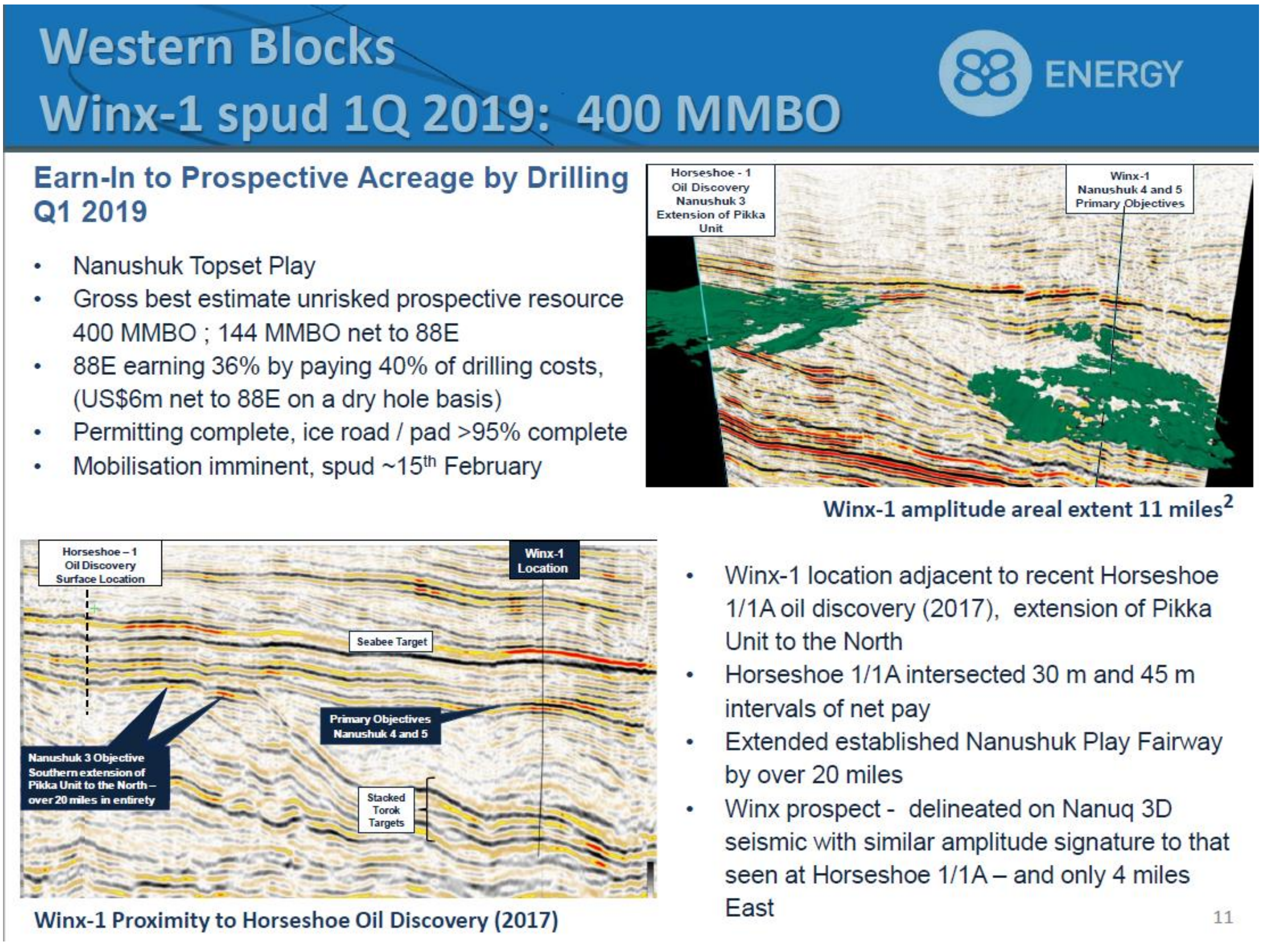
Oil Search & Repsol are also planning to do further exploration beyond the Pikka / Horseshoe fairway, which we think adds further optimism for both OEL/ Great Bear's Western blocks (including Winx-1) and the Central blocks.

Prospects for OEL

The OEL / Great Bear JV's proximity to the successful exploration and development described above is potentially very exciting. We show overleaf some information from 88Energy (88E) the operator of the JV. Success with Winx-1 could add significant value to OEL. However this is pure exploration, with a binary outcome. We have assigned a notional 20% probability of success in our Sum of the Parts valuation.

Catalysts

- Winx-1 drilling results
- Drilling success by others in the vicinity



Source: 88energy (88E) presentation, 31/1/19

Note: Winx has multiple target zones. Seismic charts top right compare Horseshoe to Winx.

Alaska North Slope – Central Blocks

OEL has between an 8.0% to an 10.8% interest in 90 leases on the Alaskan North Slope held by Great Bear Petroleum, which was recently acquired by Pantheon Resources plc in the UK (PANR) in a 51/49 merger (PANR/ GB). The PANR / Great Bear merger documents reveal that Great Bear has invested over US$200m into this acreage and proprietary 3D seismic to date (> 1,000 square miles of seismic).

With Great Bear now being part of a larger UK listed company, we believe its access to funding should now be significantly improved. We expect to see an increase in activity by Pantheon / Great Bear going forward. We briefly analyse Pantheon in the next section. (Refer Pantheon Resources plc General Meeting presentation, 22/1/19).

The OEL / Great Bear JV has a large acreage position of some 1,163 sq klms. However these blocks are further away from the main areas of exploration activity so we conservatively assign a low 10% probability of success in our Sum of the Parts valuation at this early stage.

It is important to note that the Trans-Alaskan Pipeline System (TAPS) runs north-south through the OEL / Great Bear acreage. It is an open-access pipeline and now has excess capacity due to the decline in the older oilfields.

Next News

On an adjacent non-OEL block, Great Bear Petroleum / Pantheon Resources plc must test the **Alkaid discovery before May this year.** This was a discovery by Great Bear in 2015 with 240 feet of net pay but for various reasons including funding, was not tested at the time. Great Bear / Pantheon analysis states this is a 549 mmbbl target across 3 zones (Source: Pantheon Resources plc . General Meeting presentation 22/1/19, p 14). OEL has an option over this block, but is unlikely to exercise. A success case at Alkaid would indirectly benefit the adjacent OEL/ Great Bear permits.

The OEL JV plans to drill a well in 2020 called Talitha, to re-test area near the Pipeline State #1 well drilled in 1988 by ARCO (Atlantic Richfield) which had strong oil shows, but was plugged and abandoned then due to a low oil price at the time (Brent $15/bbl) and the TAPS pipeline being at full capacity due to high production from Prudhoe Bay and others.

Modern 3D seismic shot by Great Bear has confirmed the Pipeline State#1 discovery of **900mmbbls of oil in place.** (Source: Pantheon Resources plc General Meeting presentation, 22/1/19, p14).

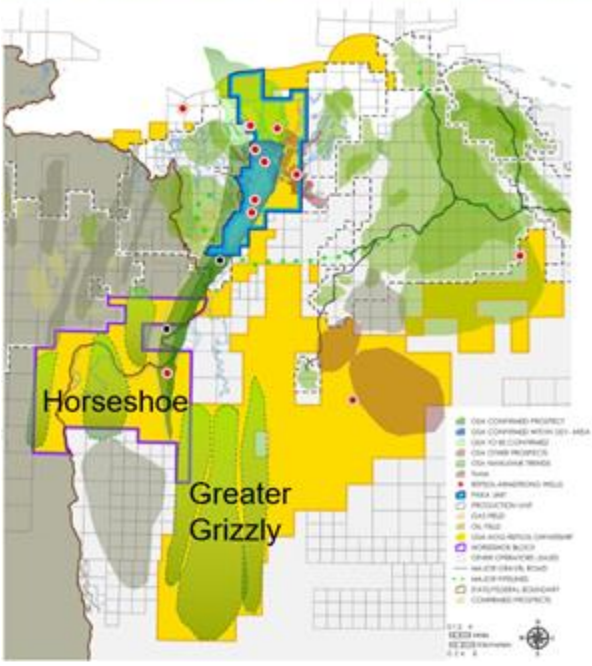
The OEL / Great Bear JV will apply this modern 3D seismic data and other techniques to select the best target(s). We use a valuation yardstick of $1.50 per barrel, being half the Oil Search / Armstrong transaction rate. There is clearly oil present in the area, but the question is whether it is recoverable and commercial or not. We assign a 10% probability of success at this early stage.

Finally, drilling by others in nearby permits could produce further discoveries. We believe the area still remains highly prospective for further oil discoveries. We note that Oil Search and Repsol are also planning to do further exploration beyond the Pikka / Horseshoe fairway, which we think adds further optimism for both OEL/ Great Bear's Western blocks (including Winx-1) and the Central blocks. Refer OSH slide overleaf.

MATERIAL EXPLORATION UPSIDE IN PROVEN PLAYS

Oil Search

PORTFOLIO BEING DEVELOPED TO SUPPORT SUSTAINED EXPLORATION PROGRAMME
CURRENTLY IDENTIFIED >1BILLON BARREL UNRISKED RESOURCE POTENTIAL



- Evaluation and high-grading of preferred exploration fairways in progress
- Focus on identifying potential tie-back and standalone development scale opportunities
- High chance of success in Horseshoe block
- 2020 drilling to test scale of Horseshoe resource (i.e., standalone CPF or tie-back)
- Multiple Nanushuk play prospects identified on existing 3D seismic. To be targeted with future 3D seismic acquisition where none existing
- Reprocessing 3D seismic regionally to ensure best targets are identified pre-drill
- Additional Jurassic and Cretaceous and other proven plays throughout area

Source: OSH presentation 19/11/18, p52

Alaska Vs PNG comparison (Source: OSH 14/12/17)

ALASKA COMPLEMENTS PNG PORTFOLIO

Oil, quicker to market, rapid appraisal and control

Oil Search

Papua New Guinea (Papuan Basin)		Alaska (North Slope)
5 billion boe discovered[1]	Proven Reserve	37 billion boe discovered[1]
7 billion boe[2]	Yet-to-find	60 billion boe[2]
Hides Gas Field 1987 (1 billion boe[1])	Largest Field	Prudhoe Bay Field 1968 (19 billion boe[1])
89% discovered volume is gas	Phase	78% discovered volume is oil
Fold Belt & Foreland Basin	Geological Setting	Fold Belt & Foreland Basin
Activities largely restricted to dry season Remote with seasonal influences	Operating Environment	Operations are restricted to the winter season Development all year round
Expensive remote logistics Highlands exploration well costs >US$120m/well 2D seismic > US$200,000/km	Cost Environment	Close proximity to infrastructure Onshore exploration drilling <US$30m/well 2D & 3D seismic available
Moderate development lead time for gas, New discoveries require new infrastructure	Development options	Ullage available via open access pipeline Only in-field infrastructure required for export

(1) Source IHSMarkit 2017
(2) Source USGS 2010/11

OIL SEARCH ALASKA STRATEGY SEMINAR - DECEMBER 2017 | PAGE 19

Pantheon Resources plc – OEL's new partner in Alaska

In December / January, Great Bear Petroleum merged with AIM listed Pantheon Resources plc (PANR) in a 49 (GB)/51 (PANR) merger valuing Great Bear at approximately US$50m. Great Bear / Pantheon has a 10% working interest in the Alaskan western blocks with OEL (plus a 10% back-in right if Winx is successful), and approximately 90% of the Central Blocks (OEL 8.0% & 10.8%). Pantheon has other assets in East Texas.

The significance of this is that Great Bear now has much better access to capital versus previously being capital constrained. We also note that Pantheon Resources plc has some high quality directors with significant experience in Alaska (see details below). We expect to see a step up in activity by Great Bear / Pantheon going forward. We note the PANR share price has increased from 17.5p before the deal to 22p currently (+26%). PANR's market cap has increased by 195% to US$158m following the deal.

Pantheon Resources plc / Great Bear transaction		Pre-Deal 20/12/18		Post Deal 14/2/19
PANR share price pre-announcement (20/12/18)(GBP)		0.175		0.22
PANR shares on issue		237.5		557.0
PANR market cap (GBP m)		41.6		122.5
PANR market cap US$m (GBP to USD FX rate 1.29)	**$**	**53.6**	**$**	**158.1**
Increase in market capitalisation				195%
Consideration				
(a) Equity: 202.5m shares : GBP value		35.4		
US$m (GBP to USD FX rate 1.29)	**$**	**45.7**		
(b) Cash US$	**$**	**6.00**		
Value of Deal US$m	**$**	**51.7**		
Assets:				
10% working interest in Alaskan North Slope - western bocks (includes Winx-1, 10% free carry plus 10% back-in right upon success)				
75% working interest in Alkaid block (Otto 0%)				
90% working interest in Alaskan North Slope - central blocks (includes Talitha / Pipeline Discovery well)				
51/49% merger of Pantheon with Great Bear. Pantheon has other assets in East Texas				

Source: Pantheon Resources Information Memorandum 21/12/18; General Meeting presentation 22/1/19

Pantheon Resources plc – Board and Management Team

Phillip Gobe (Chairman)
+40 years' experience in the sector. Currently a non-executive director of the S&P 500 Pioneer Natural Resources and Scientific Drilling International Inc, the 5th largest provider of directional drilling & measurement equipment and operational services in the USA. Formerly head of Prudhoe Bay operations in Alaska for ARCO.

Jay Cheatham (MD)
Petroleum Engineer. +40 years' experience. Ran family E&P business prior to joining ARCO. At time of BP's $30bn acquisition Jay headed up ARCO International (responsible for all operations outside USA). Prior to that he led all ARCO exploration and production for USA (Gulf coast)

Bob Rosenthal* (Proposed Technical Director)
Geologist +40 years' experience. Co-Founder of Great Bear Petroleum. Ex BP (Global Consultant - Exploration worldwide). Expert in seismic stratigraphy and high tech geophysics

Justin Hondris (FD)
Banking & financial background with over 20 years' experience including roles in institutional equities and private equity.

John Walmsley (Non exec Director)
+30 years' experience in the sector. Previously MD of Hardy Oil & Gas, FD of Enterprise Oil, partner at Arthur Andersen & Co. Executive Chairman of Consilience Energy Advisory Group.

Carl Williams*(Proposed Non exec Director)
Managing Director Riverstone Holdings. Chemical Engineer. Ex Goldman Sachs

Jeremy Brest* (Proposed Non exec Director)
Credit structure specialist. Director, Conrad Petroleum.

Senior Management:

Patrick Galvin* (Chief Commercial Officer and General Counsel Alaska)
Former Alaska State Commissioner of Revenue, Former Petroleum Land Manager for the Alaska Dept of Natural Resources, overseeing the State's oil and gas leasing program, Former Director of the Division of Governmental Coordination, facilitating and coordinating state permitting activities in the coastal zone. Former partner at K&L Gates

Josh McIntyre (Financial controller – Alaska)

Source: Pantheon Resources General Meeting presentation, 22/1/19

History of Company

Ottomon Energy Ltd was incorporated on 7 January 2004 and first listed in December 2004 raising $3.0m at $0.20 per share, with a 1 for 2 free option exercisable at 20c. The original focus of the company was three prospective onshore gas licences in Turkey. Further exploration interests were acquired in the Philippines (offshore) and Argentina (onshore) in 2005. Italy and Tanzania followed later.

OEL changed its name to Otto Energy Ltd in August 2006, maintaining the same OEL code.

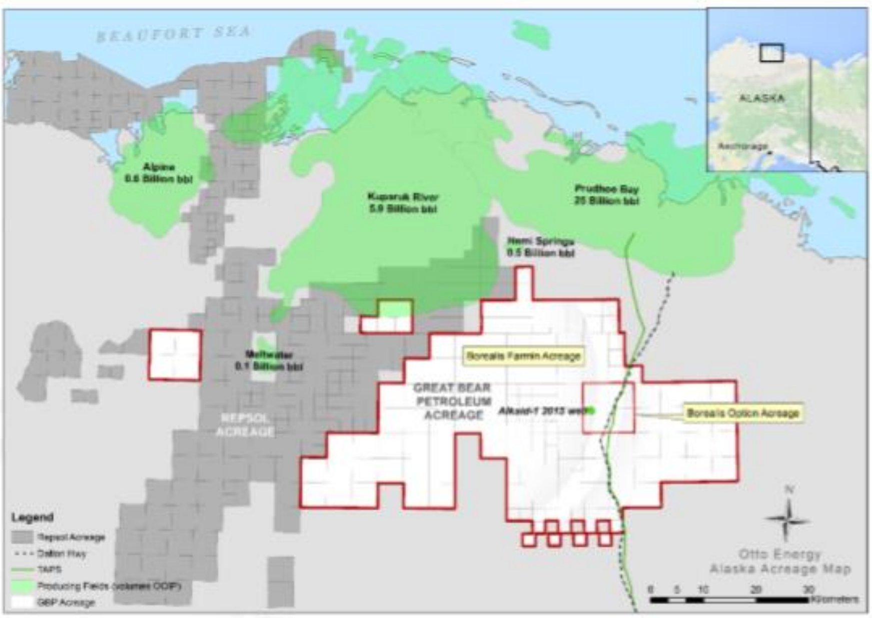
In October 2007 OEL acquired an 18.28% interest in the Galoc oil field in the Philippines for $60.6m ($58.5m cash and $2.1m OEL shares), financed by a $68m placement at 30 cents per share. The Brent oil price was around US$45 per barrel at this time. The Galoc field was discovered in 1981 and commenced oil production in April 2008. Vitol Group was the operator. In August 2011 OEL increased its stake to 33% by acquiring Vitol Group's stake for US$18.7m equivalent to US19.00 per barrel (of 2P reserves) and also assumed operatorship of the field. The Galoc Phase 2 expansion was successfully completed in 2014.

Mr Matthew Allen was appointed CEO on 24/2/14, having previously been CFO since November 2009. Mr Gregor McNab resigned for personal reasons.

Exits Philippines - In February 2015 OEL completed the sale of its 33% stake in the Galoc field for US$108m (A$130m) to Nido Petroleum Limited. The Brent oil price was US$60.78 per barrel on this date. This followed an earlier agreement to sell the stake to Risco Energy Investments for US$101m. In FY15, OEL booked a gain on sale after tax of US$10.4m. This was in addition to the operating profits and cash flows earned by OEL from the field's inception.

Capital Return - Following completion of the Galoc sale, a capital return and special dividend of A$0.064 per share in total was paid to shareholders in June 2015 (A$0.0564 capital return plus A$0.0076 special div, unfranked). This totalled US$57.3m (A$73.9m) being returned to shareholders.

Alaska - In July and August 2015 entered into agreements to acquire working interests of 8% and 10.8% in two highly prospective acreage areas in Alaska held by Great Bear Petroleum Operating LLC, in a US$20m deal (staged payments of $14m plus a US$6.0m drilling commitment). The $14m was paid in September 2015. OEL also acquired 100% of the issued capital of Borealis Petroleum Pty Ltd for A$1.2m in OEL shares as part of this overall transaction.



PhillipCapital
Your Partner In Finance

Source: OEL September 2015 quarterly report

Byron Energy (BYE) JV - In December 2015 OEL entered a new joint venture with Byron Energy Limited (ASX code: BYE) to farm-in to 2 shallow offshore leases, and 1 onshore lease in the Gulf of Mexico / Louisiana region (South Marsh Island 6 "SM6" which was a discovery by BYE in 2015; South Marsh Island 70/71 "SM71"; and Bivouac Peak). Simplistically, OEL to pay 66.67% of costs for a 50% working interest on the first well in SM6 and SM71, and to pay 60% of the costs for Bivouac Peak for a 45% working interest. Costs above budget shared according to economic interest percentages. In addition OEL has a first right of approval to participate in 1 further new asset acquired by BYE before March 2017, on similar terms.

SM-6 #2 well – The OEL / BYE JV's first well was the SM-6 #2 well which was spudded in February 2016 in water depth of 65 feet (20 metres), offshore Louisiana. OEL was to pay 66.67% of the US$8.0m budgeted costs of the well ($US5.3m net to OEL) to earn a 50% working interest. Any costs above that amount, and all future expenditure on the licence to be in accordance with OEL & BYE's working interests (OEL 50%). The prospective resource target was 3.6m barrels of oil and 59.2 Mmscf of gas. OEL assigned a 70% chance of success as the well was updip from BYE's successful SM-6 #1 well.

The well encountered 102 feet of hydrocarbons, but the drill became stuck at 8,000 feet (2,464 metres) 320 feet (100m) before achieving target depth and the primary G20 sand interval target. A side-track attempt also failed, and the hole had to be abandoned on 28 March 2016. Because the well did not reach the base of the G 20 sand target, OEL did not earn an interest in the SM-6 lease. OEL was only required to pay for its share of drilling and abandoning the well. BYE subsequently relinquished its SM-6 licence. The rig was released to drill SM 71 below.

SM 71 Discovery - The SM 71 #1 was spudded in April 2016 with a targeted prospective resource of 2.3m barrels of oil and 1.7 Mmscf of gas. The target was a salt dome structure where over 116 million barrels of oil and 375 billion cubic feet of gas (bcf) have already been produced by previous operators. BYE / OEL plan to use modern 3D seismic (called RTM) and other technology to unlock further resources trapped in the structure. The location was 50 kilometres south of SM-6 well, in 130 feet of water (40 metres), and is geologically independent of SM-6. A 70% chance of success was stated. OEL was to pay 66.67% of the US$4.5m budgeted costs of the well ($US3.0m net to OEL) to earn a 50% working interest. Any costs above that amount, and all future expenditure on the licence to be in accordance with OEL & BYE's working interests (OEL 50%). OEL also reimbursed BYE US$0.9m for pre-drilling 3D seismic costs.

The well was announced as a discovery on 20/4/16. Successfully drilled to target depth of 6,843 feet, the well intersected hydrocarbons in three separate zones with a combined gross thickness of 150 feet (46 metres). Production commenced on 23/3/18 from the F1 and F2 wells at a rate of approximately 4,000 barrels per day. A third well (F3) off the same offshore platform entered production in April 2018.

BYE announced on 15 January 2019 that the field has now produced over 1 million barrels of oil, 1.3 billion cubic feet of gas (bcf) and reached pay-back of the initial exploration and development costs (as at mid-January 2019). Book value in OEL's balance sheet at 30/6/19 was US$28.0m at cost (OEL's share) implying about US$42m total exploration and development costs for the field. A 9-10 month pay-back is an impressive performance.

September 2016 – Announced developing plans to drill two multilateral wells in Alaska, in 2017, both near the Pipeline State-1 well drilled in 1988 by Arco (Atlantic Richfield Co) on the same block. Well "A" was to target four play types with a combined expected resource of 223 mmbbls (mean) and a 29.5% probability of success. Well "B" was to target two play types with a prospective resource of 428 mmbbls with a probability of success of 12% (weighted average). These locations were 8 and 24 klms from the Trans Alaska Pipeline (TAPS) which would potentially decrease developments costs in the event of a discovery. OEL exposure on the first 3 wells was limited to US$2.6m per well.

July/ August 2017 – US$8.2m convertible notes issued – US$8.0m to major shareholder Molton Holdings Limited and US$200,000 to Mr John Jetter, OEL's Chairman. Conversion price A$0.055 per share (an 89% premium to the 30 day VWAP), 14.0% interest rate, plus a success fee of 2.5% to 12.5% depending on the period outstanding. Maturity date is 30/6/19. Approved by shareholders at a General Meeting on 25/7/17 and issued 2/8/17. Funds to be applied towards the SM-71 development wells with Byron Energy (BYE).

October 2017 – $8.5m placement and $1.0m Share purchase plan at 3.5 cents announced - to fund two development wells at SM-71 with Byron Energy (BYE) and one at ST224 with Houston Energy. The SPP was upsized to $3.5m following receipt of $6.2m in applications.

October 2017 – ST-224 South Timbalier exploration well spudded - targeting a mid-case resource of 3.2m barrels of oil and 90 bcf of gas in 170 feet of water, offshore Gulf of Mexico/ Louisiana. OEL had a 25% working interest, with **Houston Energy** the operator. However the well was unsuccessful and was plugged and abandoned in December 2017.

June 2018 – Byron Energy (BYE) awarded VR 232 lease - which is adjacent to BYE/ OEL's SM 71 oil field which is currently producing 4,000 boe per day. OEL has the right to participate for a 50% working interest in VR 232. One prospect could be drilled from BYE / OEL's SM 71 F platform. There are no current plans to drill, but this adds a development pathway for BYE / OEL for the future.

During 2017, OEL divested all non-US interests.

Alaska - June 2018 – Announces plans to drill a 400m barrel oil prospect in Alaska in early 2019. Binding term sheet agreement with Great Bear Petroleum Ventures II LLC for OEL and other participants to acquire the majority of Great Bear's working interest in four leases (the Western blocks). OEL's net revenue interest will be 18.75% (previously 10.8%). OEL to earn an 18.75% net revenue interest by paying 25.0% of the costs. Estimated drilling costs US$15m (OEL share US$3.75m).

The relevant interests in the Western Blocks under the commercial agreements are as follows (subject to regulatory approval by the State of Alaska):

	Current Working Interest	Post-transaction			
		Working Interest (before back-in)	Paying Interest (before back-in)	Net Revenue Interest* (before back-in)	Working Interest (after back-in)
Otto Energy	10.8%	22.5%	25.0%	18.75%	20.0%
88 Energy (Drilling Management)	-	36.0%	40.0%	30.00%	32.0%
Red Emperor	-	31.5%	35.0%	26.25%	28.0%
Great Bear Petroleum**	89.2%	10.0%	-	8.33%	20.0%
State of Alaska	-	-	-	16.67%	
	100%	100.0%	100%	100%	100%

*Government royalty of 16.67%. **Currently Operator of record on leases.

We note that Red Emperor Resources NL (RMP) was a farm-in partner in 2015 in OEL's SC55 Philippines prospect.

Background: A discovery in 2017 by Repsol / Armstrong called **Horseshoe 1 & 1A** is located just 1 mile to the west of the Great Bear/ OEL blocks. These encountered more than 150 feet of net oil pay in Horseshoe 1, and 100 feet in the Horseshoe 1A side-track well. Production of over 120,000 barrels per day is expected from 2021 for Repsol / Armstrong.

In November 2017, **Oil Search Limited (OSH)** announced a transaction for the part-acquisition of a number of assets in the Alaskan North Slope from Armstrong Energy LLC and GMT Exploration Company LLC for US$400m, including a 25.5% interest in the Pikka unit, and a 37.5% interest in the Horseshoe block. OSH also has an option to acquire the balance of Armstrong and GMT's interests in these two assets (25.5% of Pikka and 37.5% of Horseshoe) exercisable at OSH's discretion before 30/6/19. OSH to assume operatorship on 1/6/18. The purchase price was stated to be approximately US$3.10 per barrel of discovered resource based on a 2C resource of 500 mmbbls, or US$1.30 per barrel using Repsol's upside case estimates. This is a big development project (US$4.5bn) and first oil is not expected until 2023. OSH plans to drill two appraisal wells in the Pikka blocks in 2019, and further wells in the Horseshoe block in 2020 – described by OSH's 19/11/18 presentation as "high chance of success

July 2018 – OEL opens Houston office, appoints US technical team, MD Matthew Allen relocates from Perth to Houston.

Hilcorp JV - July 2018 – Farms in to an 8 well drilling program with Hilcorp for the Gulf of Mexico coastal area (onshore and near shore). OEL to earn a 37.5% working interest by paying 50% of the costs of drilling, setting casing or plugging and abandoning, plus lease costs. This is estimated at US$37.5m (50% of the estimated US$75m for the program). A$20m capital raising was also announced.

August 2018 – Significant reserves upgrade to 16.2m BOE – 2P reserves at SM 71 increased from 5.6 MMboe to 16.2 MMboe, +10.6 MMboe or +189% on a 100% basis, as independently assessed by Collarini Associates. This was based on production performance and development drilling results to June 2018. OEL's 40.625% net revenue interest share of this is 6.6 MMboe.

August 2018 – $20m raising - Raised $20m via a $10m placement and $10m rights issue (1:9), at 5.9 cents. The retail component was significantly over-subscribed. $4.5m of excess applications returned to shareholders.

Bivouac Peak exploration well – 27/8/18 – Announced commencement of drilling the Weiss-Adler #1 exploration well in shallow waters offshore Louisiana. Targeting a gross resource of 32.2 m boe (barrels of oil & gas equivalent) (35% oil / 65% gas). Estimated drilling costs US$10.8m. OEL will earn a 29.8% net revenue interest by paying 53.33% of the first US$10m drilling costs, and 29.8% thereafter.

However on 11/10/18 OEL announced that the well had been drilled to target depth (17,766 feet), but porosity logs and objectives were deemed uncommercial so the well would be plugged and abandoned.

Big Tex exploration well – 30/8/18 announced commencement of drilling the first of the 8 planned Gulf coast wells under the Hilcorp JV from a barge mounted rig. The prospect in Plaquemines county Louisiana was assessed as a mean 6.5m boe target (100% basis) and having a 54% probability of success. OEL will earn a 37.5% working interest by paying 50% of the costs of drilling and either setting casing or plugging and abandoning the well (OEL estimated share of costs: US$4.23m).

However on 15/10/18 OEL announced that despite strong hydrocarbon indications on mud logs, the well had an insufficient producible reservoir and would be plugged and abandoned.

Lightning / Green #1 exploration well – 4/12/18 announced commencement of drilling of the second Gulf coast well under the Hilcorp JV with a land-based rig. The prospect is on-shore, in Matagorda County Texas, and was assessed as a mean 4.57 m boe target (100% basis) and having a 45% probability of success. OEL will earn a 37.5% working interest by paying 50% of the costs of drilling and either setting casing or plugging and abandoning the well (OEL estimated share of costs: US$4.97m). Target depth 15,500.

On 4/2/19 OEL announced this as a significant discovery, with a minimum 180 feet of net pay, well above pre-drill estimates of 31 feet (P50 est) to 75 feet (P10 est). Depending on porosity and water saturation cut-offs, there is potential for as additional 150 feet of net pay in the well. Estimates of reserves will take some months to calculate and will be further refined with production data. OEL plans to connect the field to one of two nearby pipelines (45 days) with first production expected by the end of March. The well cost approximately US$10m to drill, plus a further US$3m to connect the pipelines.

Hilcorp's original P50 estimate for this well was a possible Resource of 3.2m boe (P50 est) to 10.1m boe (P10 est). Given that the discovery interval of 180 feet is 5.8x to 2.4x these pre-drill estimates, we estimate Hilcorp / OEL may have a discovery of 18-24m boe here (5.3 – 6.9 m boe for OEL's 28.5% net revenue interest (v OEL's share of SM 71 reserves of 6.6m boe – ie 40.625% x 16.2m boe). As this is an on-shore well, the capital costs are expected to be significantly lower than the offshore SM 71 discovery and returns significantly higher.

Its early days, and there hasn't been a flow test yet, so we don't know the mix of oil v gas, or the flow rates. We have modelled a 32% oil / 68% gas split based on OEL's Hilcorp disclosure.

December 2018 - Convertible notes amendment – OEL announced it now has the option to extend the term of the 8.2m US$1.00 convertible notes by another year, to 30 June 2020. The conversion price is A 5.484 cents (5.5c adjusted for the entitlement offer).

December 2018 – Issue of 23.8m new LTI performance rights to directors and staff, and 8.9m to new staff in the USA as sign on incentives. The vesting hurdle on these securities is a compound TSR (total shareholder return) of 15% pa with a starting price for measurement of 6.4 cents per share. This implies indicative vesting hurdle share price of 7.36c, 8.46c, and 9.73c over the next three years.

Winx – 1 exploration well, Alaska – The latest update on 31/1/19 confirmed a mid-February spud date with rig mobilisation now underway. The prospect will target a gross best estimate prospective resource of 400 m barrels of oil across multiple stacked objectives, and having an estimated 25-30% geological probability of success. The site is approximately 4 miles east of the Horseshoe 1/1A discovery well in 2017 that significantly extended the "Nanushuk play" fairway to the south. Estimated drilling cost US$15.0m (OEL share $US 3.75m). OEL will earn an 18.75% net revenue interest by paying 25% of the costs.

Don Julio 2 spuds - 15 February 2019 – "Middleton #1" exploration well in the Don Julio 2 prospect in onshore Chambers county Texas has commenced drilling. Target depth is 11,800 feet. OEL will earn a 35.625% working interest by paying 47.5% of the costs of drilling, casing or abandonment (OEL share US$3.53m). Hicorp / OEL says the area is relatively under-explored and have assessed a probability of success at an above average 44%. OEL says there has been a recent discovery within a few klms of the Don Julio 2 location. The JV is targeting a mean resource estimate of 4.1mboe, with a 25% / 75% oil / gas split. The JV partners in this well are Hilcorp (Operator) 59.375%, OEL 35.625%, and private parties 5.0%.

Directors & Senior Management

OEL has four non-executive directors and two executive directors – Matthew Allen CEO and Paul Senycia, an Exploration Geoscientist.

Mr John Jetter BLaw, BEcon, INSEAD Chairman (Independent Non-Executive) Appointed Non-Executive Director 10 December 2007, Non-Executive Chairman 25 November 2015
Mr John Jetter is the former Managing Director, CEO and head of investment banking of JP Morgan in Germany and Austria, and a member of the European Advisory Council, JP Morgan London. Mr Jetter has held senior positions with JP Morgan throughout Europe, focusing his attention on major corporate clients advising on some of Europe's largest corporate transactions.

Mr Jetter has been a non-executive Director of Venture Minerals Limited since June 2010 and Peak Resources Limited since April 2015 and is a member of the Remuneration and Nomination Committee.

Mr Matthew Allen BBus, FCA, F Fin, GAICD Managing Director and Chief Executive Officer
Appointed 24 June 2015
Mr Matthew Allen was appointed Chief Executive Officer in February 2014 and Managing Director in June 2015. Mr Allen joined Otto Energy in 2009 as Chief Financial Officer and has played an integral role in implementing Otto's strategy since joining Otto.

Prior to joining Otto, Mr Allen worked for **Woodside Energy** for over 8 years in leadership roles in a number of Woodside business units, including within Woodside's overseas businesses in Africa. Mr Allen's experience lies in the operation and management of oil & gas companies with particular focus on strategic, commercial and financial aspects of the business. Mr Allen has global upstream experience in the USA, Asia, Africa, Australia and the Middle East.

He is a Fellow of Chartered Accountants Australia and New Zealand, Fellow of the Financial Services Institute of Australasia and Graduate Member of the Australian Institute of Company Directors.

Mr Ian Macliver BCom, FCA, SF Fin, FAICD Director (Independent Non-Executive)
Appointed 7 January 2004
Mr Ian Macliver is Managing Director of Grange Consulting Group Pty Ltd, which provides specialist corporate advisory services to listed and unlisted companies. Mr Macliver has held senior executive and Director roles in both resource and industrial companies, specifically responsible for capital raising and other corporate initiatives.

Mr Macliver has been the non-executive **Chairman of Western Areas Limited** since November 2013, and non-executive Director since October 2011. Mr Macliver was a non-executive Director of Rent.com.au Limited (formerly Select Exploration Limited) from September 2010 to June 2015 and a non-executive Director of **Range Resources** Limited from June to August 2014. Mr Macliver is a member of the Audit and Risk Management Committee and the Remuneration and Nomination Committee.

Mr Ian Boserio BSc Hons First Class (Geophysics), BSc (Geology) Director (Independent Non-Executive)
Appointed 2 September 2010
Mr Ian Boserio brings to the Otto Board more than 30 years international experience in the oil and gas business, focused predominantly on exploration and management. Mr Boserio was formerly at **Shell** as the Australian New Business Manager, prior to that he led the Shell Australia and New Zealand exploration team developing its gas portfolio for LNG development. Mr Boserio also worked with Shell internationally, including roles in Australia, North Sea, Middle East, India and Indonesia, including a five year secondment into Woodside. He is currently co-owner and technical director of private oil and gas company Pathfinder Energy Pty Ltd. Mr Boserio is a member of the Audit and Risk Management Committee.

Mr Paul Senycia BSc (Hons), MAppSc Director (Executive)
Appointed 24 April 2018
Mr Paul Senycia is an exploration geoscientist with over 35 years of international oil and gas experience in both commercial and technical aspects of the business. Mr Senycia has held senior roles in large and small companies worldwide including **Shell, Woodside and Beach Petroleum.** Over the last twenty years Paul has accumulated substantial Gulf of Mexico expertise both on the shelf and in the deep water. This has included deal capture, asset management and project divestment activities. Outside the Gulf of Mexico, Paul has worked in Europe, Asia, Africa and Australasia both on and offshore.

Kevin Small, Non-Executive Director
Appointed 29 January 2019
Kevin has over forty years' experience in the Gulf of Mexico both onshore and offshore, and has been responsible for the generation, farm-in, drilling and development of numerous Gulf Coast discoveries. Kevin brings extensive networks and relevant experience to Otto's Gulf Coast business. In addition to his

non-executive director role, Kevin will continue to consult to the Company on a part-time basis as a Senior Exploration Consultant.

Prior to joining Otto Kevin worked with Tri-C Resources, a privately owned Houston based oil and gas company, developing Gulf Coast conventional prospects for drilling. Between 2003 and 2012, Kevin worked for Bluestreak Exploration Group developing prospects exclusively for LLOG Exploration which resulted in successful discoveries on the Gulf of Mexico Shelf and Deepwater. Kevin was the Exploration Manager and a founding member of the Houston office of Westport Oil and Gas Company between 1996 and 2003, ultimately helping them go public in October 2000. Kevin also has worked for the Superior Oil Company and McMoran Oil and Gas, starting his career in 1978. During his time with LLOG, Westport, and McMoRan, he has drilled wells with cumulative production of over 692 BCFG and 82 MMBO.

Kevin graduated with a B.S in Geophysical Engineering from the Colorado School of Mines in 1978 and is a resident of Houston, Texas.

Senior Management

Will Armstrong – Vice President, Exploration and New Ventures
Prior to joining Otto Will worked with Tri-C Resources, a privately owned Houston based oil and gas company, developing Gulf Coast conventional prospects for drilling. Prior to joining Tri-C Resources, Will screened Gulf Coast, Offshore GOM, and Deepwater GOM prospects for Continental Land & Fur between 2007 and 2014. Between 1999 and 2007, Will worked as a geophysical consultant, generating Offshore and Gulf Coast prospects on behalf of Houston Energy, Westport Resources, and Petroquest Energy.

Prior to consulting, Will had generated prospects for several Houston-based independent oil & gas companies, including being a founding member of Newfield Exploration. Will began his career at Tenneco Oil Company in 1987 in Lafayette.

Will graduated with a B.S. in Geology, minor in Mathematics, from Grand Valley State College in 1985. He also graduated from Wright State University with a M.S. in Geology, emphasis in Geophysics and Hydrogeology, in 1987.

Philip Trajanovich – Senior Commercial Manager
Philip was engaged by Otto as a commercial manager in July 2016 and has worked in both the Perth and Houston offices since that time. Prior to joining Otto, Philip was Commercial Manager at **Aurora Oil and Gas** and its subsequent acquirer Baytex Energy for over four years, focused on the Eagleford shale unconventional play. Philip has also worked with ConocoPhillips as an Asset Manager for nearly three years and **Woodside Energy** as a Commercial Adviser for over seven years. Philip has gained extensive experience in all facets of upstream oil and gas operations and commercial structures internationally and within the USA. Philip graduated with a B.Com with First Class Honors from the University of Western Australia in 2001.

Mark Sunwall – Senior Exploration Consultant
Mark Sunwall was engaged as a senior exploration consultant by Otto in April 2016. Mark has a successful 40+ year career exploring and developing onshore Gulf Coast and Gulf of Mexico petroleum basins with major and independent oil companies. Mark has been instrumental in the establishment of the Houston business to date and brings a wealth of knowledge and extensive networks to Otto.

Prior to joining Otto, Mark worked for **Aurora Oil & Gas** for four years as the Geoscience Manager focused on the Eagleford shale unconventional play. In addition, Mark has over five years' experience with a small independent oil and gas company in Houston, has worked with **Woodside Energy** for over four years and started his career with Texaco (subsequently acquired by Chevron) spending over twenty six years with Texaco. Mark graduated with a B.S. in geology from Southwest Minnesota State University in 1974. Mark also has a M.S. in geology from Miami University and graduated in 1976.

Kevin Small – Senior Exploration Consultant
Appointed a non-executive director. See above for details.

Company Secretary Mr David Rich BCom, FCA, GAICD, AGIA, Grad.Dip.CSP Appointed 31 January 2017
Mr Rich is an experienced public company CFO and Company Secretary with over 15 years as CFO of ASX listed upstream oil and gas companies with international interests including Australia, Europe, Asia, Africa and the USA.

Directors' shareholdings

Five of the 6 directors hold ordinary shares in the company. These have all increased their ordinary shareholdings since the Annual Report, mainly due to performance rights vesting and converting into ordinary shares.

Directors Shareholdings	Shares	Convertible Notes	Performance Rights	Ordinaries % of Coy
Per Annual Report:				
John Jetter (Chairman)(Appointed NED 10/12/07, Chairman 25/11/15)	21,607,020	200,000	1,033,000	1.4%
Matthew Allen (MD & CEO)(Appointed 24/6/15)	7,666,667		6,227,000	0.5%
Ian Macliver (NED since 2/1/04)	6,007,627		703,000	0.4%
Ian Boserio (NED since 2/9/10)	2,803,968		620,000	0.2%
Paul Senycia (Executive Director, appointed 24/4/18)	3,661,468		5,450,000	0.2%
Total	**41,746,750**	**200,000**	**14,033,000**	**2.7%**
Total Company	1,530,928,490	8,200,000	18,827,000	
Latest available:				
John Jetter (Chairman)(Appointed NED 10/12/07, Chairman 25/11/15)	21,951,353	200,000	1,804,667	1.2%
Matthew Allen (MD & CEO)(Appointed 24/6/15)	8,975,667		8,908,000	0.5%
Ian Macliver (NED since 2/1/04)	6,241,960		1,212,667	0.3%
Ian Boserio (NED since 2/9/10)	3,010,635		1,082,333	0.2%
Paul Senycia (Executive Director, appointed 24/4/18)	4,711,468		5,069,000	0.3%
Kevin Small (NED appointed 29/1/19)	0		4,840,000	0.0%
Total	**44,891,083**	**200,000**	**22,916,667**	**2.4%**
Total Company	1,875,254,612	8,200,000	46,766,000	
Changes since Annual Report:				
John Jetter (Chairman)(Appointed NED 10/12/07, Chairman 25/11/15)	344,333	0	771,667	
Matthew Allen (MD & CEO)(Appointed 24/6/15)	1,309,000	0	2,681,000	
Ian Macliver (NED since 2/1/04)	234,333	0	509,667	
Ian Boserio (NED since 2/9/10)	206,667	0	462,333	
Paul Senycia (Executive Director, appointed 24/4/18)	1,050,000	0	(381,000)	
Kevin Small (NED appointed 29/1/19)	0	0	4,840,000	
Total	**3,144,333**	**0**	**8,883,667**	
Total Company (Appendix 3 B 21/12/18)	344,326,122	0	27,939,000	

Source: Company Reports

Major Shareholders

OEL has two substantial shareholders:

- Molton Holdings Ltd
- Perennial Value

The top 20 is shown below.

Otto Energy Limited (OEL)		Cur: 31-Jan-2019	
Top 20 Shareholders		Shares	Held(%)
1	Molton Holdings Ltd	305,859,697	16.3
2	Perennial Value Management Limited	118,673,345	6.3
3	CVC Limited	39,600,000	2.1
4	AMP Limited, Asset Management Arm	33,583,462	1.8
5	Safari Capital Pty Ltd, Asset Management Arm	28,657,138	1.5
6	**John Jetter (OEL Chairman)**	21,951,353	1.2
7	Austin Miller	19,721,621	1.1
8	Nero Resource Fund	18,949,153	1.0
9	Sphinx Holdings Ltd	9,126,587	0.5
10	**Matthew Allen (OEL CEO)**	8,975,667	0.5
11	Stuart Andrew Pty. Ltd.	8,814,621	0.5
12	Debuscey Pty Ltd	8,501,292	0.5
13	Ian Macliver	6,241,960	0.3
14	Conran Smith	5,119,000	0.3
15	William Williams	4,900,000	0.3
16	**Paul Senycia (OEL Executive Director)**	4,711,468	0.3
17	MLC Investment Management Limited	4,540,774	0.2
18	Andrew Coulter	4,064,286	0.2
19	Sally Travis	4,064,286	0.2
20	Brian Williams	3,725,000	0.2
	Top 20 total	659,780,710	35.2

Source: Iress

Otto Energy (OEL)	A$ share price:	$ 0.065
	US$ equivalent	$ 0.047

Profit & Loss

Year end June	FY18	FY19e	FY20e	FY21e
	US$m	US$m	US$m	US$m
OP. REVENUE	**9.6**	**29.6**	**22.0**	**17.6**
Production Costs	(0.7)	(3.5)	(3.3)	(3.2)
Other Income	0.1	0.0	0.0	0.0
General & Admin	(4.0)	(5.7)	(6.0)	(6.3)
EBITDAX	**4.8**	**20.4**	**12.7**	**8.1**
Exploration	(4.8)	(42.0)	(5.0)	(5.0)
EBITDA	**0.0**	**-21.6**	**7.7**	**3.1**
Ebitda Margin	-0.1%	-72.9%	34.9%	17.4%
Depreciation & Amort	(0.9)	(5.1)	(4.1)	(3.3)
EBIT	**-0.9**	**-26.7**	**3.5**	**-0.2**
Ebit Margin	-9.6%	-90.2%	16.1%	-1.3%
Net Interest Income (Expense)	(1.8)	(1.1)	(1.1)	(0.0)
Share of Assoc NPAT	0.0	0.0	0.0	0.0
Pre-tax profit	**(2.8)**	**(27.9)**	**2.4**	**(0.2)**
Income Tax Credit (Expense)	(0.0)	0.0	0.0	0.0
Tax Rate	0.1%	0.0%	0.0%	0.0%
Minorities (share of loss)	0.0	0.0	0.0	0.0
Abnormals	-2.4	0.0	0.0	0.0
NPAT (reported)	**(5.2)**	**(27.9)**	**2.4**	**(0.2)**
Adjustments (Abnormal)	2.4	0.0	0.0	0.0
NPAT (adjusted)	**(2.8)**	**(27.9)**	**2.4**	**(0.2)**

Balance Sheet

	FY18	FY19e	FY20e	FY21e
Cash	5.9	8.8	19.9	22.0
Receivables	4.0	4.0	3.0	2.4
Inventories	0.0	0.0	0.0	0.0
Other	0.3	0.3	0.3	0.3
Total current assets	**10.3**	**13.1**	**23.2**	**24.6**
PP&E	0.1	0.1	0.1	0.1
Oil & Gas Properties	27.2	30.2	31.2	32.2
Intangibles	0.0	0.0	0.0	0.0
Deferred tax assets	0.0	0.0	0.0	0.0
Other	0.4	0.4	0.4	0.4
Total non-current assets	**27.6**	**30.6**	**31.6**	**32.6**
Total Assets	**37.8**	**43.7**	**54.8**	**57.2**
Payables	-4.8	-4.8	-4.8	-4.8
Interest bearing liabilities - Current	-10.7	-10.7	0.0	0.0
Provisions	-0.2	-0.2	-0.2	-0.2
Other	0.0	0.0	0.0	0.0
Total Current Liabilities	**-15.7**	**-15.7**	**-5.0**	**-5.0**
Interest-bearing liabilities - Non-curr	0.0	0.0	0.0	0.0
Provisions	-1.1	-1.1	-1.1	-1.1
Other	0.0	-5.1	0.0	0.0
Total Non-current Liabilities	**-1.1**	**-6.2**	**-1.1**	**-1.1**
Total Liabilities	**-2.2**	**-21.9**	**-6.1**	**-6.1**
Total Shareholders' Equity	**21.0**	**21.9**	**48.7**	**51.2**

Interims

Year end June	1H18	2H18	1H19e	2H19e
Revenue	0.1	9.5	17.3	12.4
EBITDAX	**-1.6**	**6.4**	**12.9**	**-33.3**
Exploration	-3.7	-1.1	-19.6	-22.4
EBITDA	**-5.3**	**5.3**	**-6.6**	**-14.9**
EBIT	-5.3	4.4	-9.2	-17.5
Equity Share of Assocs NPAT	0.0	0.0	0.0	0.0
NPAT (Reported)	**-8.3**	**3.1**	**-9.8**	**-18.1**
NPAT (Adjusted)	**-6.3**	**3.5**	**-9.8**	**-18.1**
EPS (adjusted)(cents)	**-0.5**	**0.3**	**-0.6**	**-0.9**
EPS Growth			n/m	n/m
DPS (cents)	0.0	0.0	0.0	0.0

Source: Phillip Capital estimates

Per share & Ratio data

Year end June	FY18	FY19e	FY20e	FY21e
Shares on issue - Wavge	1,403.1	1,945.9	2,259.4	2,470.0
Shares on issue - at year-end	1,530.9	2,259.4	2,470.0	2,470.0
Reported EPS (US cents)	(0.4)	(1.4)	0.1	(0.0)
Growth	-16.5%	286.9%	-107.6%	-108.8%
P/E ratio (x)	-12.7x	-3.3x	43.4x	-492.4x
EPS (adjusted)(US cents)	**(0.2)**	**(1.4)**	**0.1**	**(0.0)**
Growth	-55.6%	628.1%	-107.6%	-108.8%
P/E ratio (x)	**-23.9x**	**-3.3x**	**43.4x**	**-492.4x**
DPS (A$ cents)	0.0	0.0	0.0	0.0
Franking	0%	0%	0%	0%
Yield	**0.0%**	**0.0%**	**0.0%**	**0.0%**
OCF per share (US cents)	0.1	1.0	0.5	0.3
Price/OCF (x)	36.2x	4.7x	9.2x	14.4x
EV/ Sales	8.2x	3.6x	4.3x	5.2x
EV/EBITDA	**-6036.7x**	**-4.9x**	**12.3x**	**30.1x**
EV/EBIT	-85.7x	-4.0x	26.5x	-391.9x

Liquidity & Leverage

	FY18	FY19e	FY20e	FY21e
Net Cash (Net Debt) $m	(4.8)	(1.9)	19.9	22.0
Net Debt / Equity %	23%	9%	-49%	-54%
Net Debt / EBITDA	n/a	n/a	n/a	n/a
ROA (EBIT / T.Assets) %	-2.4%	-61.1%	6.5%	-0.4%
ROE (NPAT / T.Equity) %	-13.1%	-127.4%	6.0%	-0.6%
Interest Cover (EBIT)	-0.5x	-23.3x	3.2x	-234.7x
Dividend Payout % (of adj EPS)	n/a	n/a	n/a	n/a
Enterprise Value $m	78.5	106.2	94.1	92.0

Cash Flow

	FY18	FY19e	FY20e	FY21e
Oil & Gas Sales (net)	6.4	29.6	22.0	17.6
Payments to Suppliers	(4.7)	(9.2)	(9.3)	(9.5)
Interest Received (Paid)	0.2	(1.1)	(1.1)	(0.0)
Income Taxes Paid	(0.0)	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0
Operating cash flows	**1.8**	**19.3**	**11.6**	**8.1**
Exploration	(3.9)	(42.0)	(5.0)	(5.0)
Development	(20.8)	(3.0)	(1.0)	(1.0)
Free Cash Flow	**(23.0)**	**(25.7)**	**5.6**	**2.1**
Acquisitions / Divestments	0.0	(0.1)	0.0	0.0
Net investing cash flows	**(24.8)**	**(45.1)**	**(6.0)**	**(6.0)**
Dividends Paid	0.0	0.0	0.0	0.0
Equity Raised (Bought back)	8.8	28.7	16.3	0.0
Change in Debt	7.9	0.0	(16.3)	0.0
Financing Cash Flow	**16.7**	**28.7**	**0.0**	**0.0**
Change in Cash	**(6.3)**	**2.9**	**5.6**	**2.1**

Price Assumptions (Q4 only)

	FY18	FY19e	FY20e	FY21e
WTI oil price (US$ / bbl)	$ 68.34	$ 58.52	$ 55.00	$ 55.00
Received LLS price (US$ / bbl)	$ 64.90	$ 60.51	$ 56.10	$ 56.10
Gas price recd (US$ / mmbtu)	$ 3.37	$ 3.25	$ 3.00	$ 3.00

Production

	FY18	FY19e	FY20e	FY21e
Oil (mmbbls)	0.174	0.541	0.433	0.346
Gas (mmscf)	0.120	2.096	1.677	1.342
Non-gas liquids (m barrels)	0.000	0.000	0.000	0.000
Total production (m bbls oil equiv	0.194	0.716	0.573	0.458
Daily (OEL share)(boepd)	2,001	1,961	1,569	1,255

	Risk	Unrisked		Risked	
Valuation Summary	Weight	A$m	A$ps	A$m	A$ps

Refer page 4

PhillipCapital
Your Partner In Finance

CONTACT INFORMATION

CEO				
John Miles	+61 3 8633 9838 jmiles@phillipcapital.com.au			
Research				
Wayne Sanderson	+61 3 8633 9930 wsanderson@phillipcapital.com.au			
Corporate Finance				
Benjamin Yeo	+61 3 9618 8257 byeo@phillipcapital.com.au	Sharon Cardy	+61 9233 9611	scardy@phillipcapital.com.au
Institutional Sales				
Enzo Salvatore	+61 3 8633 9924 esalvatore@phillipcapital.com.au	Chris Walker	+61 3 8633 9928	cwalker@phillipcapital.com.au
Craig Stephens	+61 3 8633 9881 cstephens@phillipcapital.com.au			
Private Wealth				
Enzo Salvatore	+61 3 8633 9924 esalvatore@phillipcapital.com.au	Mark Wiseman	+61 3 9618 8228	mwiseman@phillipcapital.com.au
Ben Roper	+61 7 3338 3835 broper@phillipcapital.com.au	Michael Heffernan	+61 3 8633 9842	mheffernan@phillipcapital.com.au
Bo Xin	+61 7 3338 3840 bxin@phillipcapital.com.au	Michael Cori	+61 2 9233 9648	mcori@phillipcapital.com.au
Chris Forte	+61 3 8633 9841 cforte@phillipcapital.com.au	Nick Katiforis	+61 3 8633 9847	nkatiforis@phillipcaptial.com.au
Chris Walker	+61 3 8633 9928 cwalker@phillipcapital.com.au	Nigel Ormiston	+61 7 3149 8630	normiston@phillipcapital.com.au
Daniel McFarlane	+61 3 8633 9917 dmcfarlane@phillipcapital.com.au	Patricia Harrison	+61 2 9994 5505	pharrison@phillipcapital.com.au
David Dwyer	+61 2 9233 9643 ddwyer@phillipcapital.com.au	Patrick Trindade	+61 3 8633 9926	ptrindade@phillipcapital.com.au
David Thang	+61 3 8633 9923 dthang@phillipcapital.com.au	Philip Rhead	+61 2 9994 5509	prhead@phillipcapital.com.au
Howard Elton	+61 3 9618 8233 helton@phillipcapital.com.au	Prasanna Wickramatunge	+61 3 9618 8270	pwickramatunge@phillipcapital.com.au
Jim Yong	+61 7 3338 3839 jyong@phillipcapital.com.au	Reg Keene	+61 2 9233 9603	rkeene@phillipcapital.com.au
Joel Christie	+61 7 3338 3834 jchristie@phillipcapital.com.au	Rob Hughes	+61 3 8633 9846	rhughes@phillipcapital.com.au
Josh Graham	+61 3 92339645 jgraham@phillipcapital.com.au	Sam Sheffield	+61 7 3338 3837	ssheffield@phillipcapital.com.au
Kate Hanrahan	+61 3 8633 9909 khanrahan@phillipcapital.com.au	Shane Langham	+61 7 3338 3838	slangham@phillipcapital.com.au
Lachlan Owen	+61 3 8633 9842 lowen@phillipcapital.com.au	Sue McDonald	+61 3 9618 8211	smcdonald@phillipcapital.com.au
Luke Pitrone	+61 3 9618 8236 lpitrone@phillipcapital.com.au	Xiaoming Huang	+61 3 8633 9912	xhuang@phillipcapital.com.au
Funds Management				
Glenn Tan	+61 3 8633 9905 gtan@phillipcapital.com.au	Monica (Mengnu) Yu	+61 3 8633 9810	my@phillipcapital.com.au
Jessica Bell	+61 3 8633 9998 jbell@phillipcapital.com.au	Zane (Zheng) Song	+61 2 9233 9640	zsong@phillipcapital.com.au
Michael Laletas	+61 3 8633 9925 mlaletas@phillipcapital.com.au			

CONTACT INFORMATION (Regional Member Companies)

SINGAPORE

Phillip Securities Pte Ltd

Raffles City Tower
250, North Bridge Road #06-00
Singapore 179101

Tel +65 6533 6001

Fax +65 6535 6631

www.phillip.com.sg

HONG KONG

Phillip Securities (HK) Ltd

11/F United Centre 95 Queensway
Hong Kong

Tel +852 2277 6600

Fax +852 2868 5307

www.phillip.com.hk

INDONESIA

PT Phillip Securities Indonesia

ANZ Tower Level 23B,
Jl Jend Sudirman Kav 33A
Jakarta 10220 – Indonesia

Tel +62-21 5790 0800

Fax +62-21 5790 0809

www.phillip.co.id

THAILAND

Phillip Securities (Thailand) Public Co. Ltd

15th Floor, Vorawat Building,
849 Silom Road, Silom, Bangrak,
Bangkok 10500 Thailand

Tel +66-2 6351700 / 22680999

Fax +66-2 22680921

www.phillip.co.th

UNITED KINGDOM

King & Shaxson Capital Limited

6th Floor, Candlewick House,
120 Cannon Street,
London, EC4N 6AS

Tel +44-20 7426 5950

Fax +44-20 7626 1757

www.kingandshaxson.com

MALAYSIA

Phillip Capital Management Sdn Bhd

B-3-6 Block B Level 3 Megan Avenue II,
No. 12, Jalan Yap Kwan Seng, 50450
Kuala Lumpur

Tel +603 2162 8841

Fax +603 2166 5099

www.poems.com.my

JAPAN

Phillip Securities Japan, Ltd.

4-2 Nihonbashi Kabuto-cho Chuo-ku,
Tokyo 103-0026

Tel +81-3 3666 2101

Fax +81-3 3666 6090

www.phillip.co.jp

CHINA

Phillip Financial Advisory (Shanghai) Co. Ltd

No 550 Yan An East Road,
Ocean Tower Unit 2318,
Postal code 200001

Tel +86-21 5169 9200

Fax +86-21 6351 2940

www.phillip.com.cn

FRANCE

King & Shaxson Capital Limited

3rd Floor, 35 Rue de la Bienfaisance 75008
Paris France

Tel +33-1 45633100

Fax +33-1 45636017

www.kingandshaxson.com

UNITED STATES

Phillip Futures Inc

141 W Jackson Blvd Ste 3050
The Chicago Board of Trade Building
Chicago, IL 60604 USA

Tel +1-312 356 9000

Fax +1-312 356 9005

INDIA

PhillipCapital (India) Private Limited

No. 1, C - Block, 2nd Floor, Modern Center,
Jacob Circle, K. K. Marg, Mahalaxmi
Mumbai 400011

Tel: (9122) 2300 2999

Fax: (9122) 6667 9955

www.phillipcapital.in

TURKEY

PhillipCapital Menkul Degerler

Dr. Cemil Bengü Cad. Hak Is Merkezi
No. 2 Kat. 6A Caglayan
34403 Istanbul, Turkey

Tel: 0212 296 84 84

Fax: 0212 233 69 29

www.phillipcapital.com.tr

Recommendation Criteria

Investment View

PhillipCapital Investment View is based on an absolute 1-year total return equal to capital appreciation plus yield.

Buy	Hold	Sell
>20%	20% – 5%	<5%

A Speculative recommendation is when a company has limited experience from which to derive a fundamental investment view.

Risk Rating

PhillipCapital has a four tier Risk Rating System consisting of: Very High, High, Medium and Low. The Risk Rating is a subjective rating based on: Management Track Record, Forecasting Risk, Industry Risk and Financial Risk including cash flow analysis.

Disclaimer/Disclosure

This publication has been prepared solely for the information of the particular person to whom it was supplied by Phillip Capital Limited ("PhillipCapital") AFSL 246827.

Warning

This report is intended to provide general securities advice and does not purport to make any recommendation that any securities transaction is appropriate to your particular investment objectives, financial situation or particular needs. Prior to making any investment decision, you should assess, or seek advice from your adviser, on whether any relevant part of this report is appropriate to your financial circumstances and investment objectives.

PhillipCapital's Research policy is to update research reports as and when the Research Analyst and Research Management deem appropriate, based on developments with the issuer, the sector, or the market that may have a material impact on the research views or opinions stated therein. The information contained in this report is drawn from sources believed to be reliable, but the accuracy and completeness of the information is not guaranteed, nor in providing it does PhillipCapital assume any liability. This information is given as of the date appearing on the report and PhillipCapital assumes no obligation to update the information or advise on further developments relating to these securities.

PhillipCapital and its associates within the meaning of the Corporations Act may hold securities in the companies referred to in this publication. This publication must not be distributed to retail investors outside of Australia.

Disclosure of Economic Interests

The views expressed in this research report accurately reflect the personal views of the author about the subject issuer and its securities. No part of the analyst's compensation was, is or will be directly or indirectly related to any recommendation or view expressed in this report.

The author of this report does hold an economic interest in the securities covered in this report or other securities issued by the subject issuer which may influence this report:

Disclosure of Corporate Involvement

PhillipCapital has not in the previous 24 months been involved in a publicly-announced transaction involving the payment of a fee to PhillipCapital by the corporate issuer described in this report. PhillipCapital may and may seek to do business with companies covered in its research.

PhillipCapital reports are available on Bloomberg, Reuters, FactSet, Capital IQ and www.phillipcapital.com.au

Important Notice

Regulatory Disclosure

This report was prepared solely by PhillipCapital. ASX did not prepare any part of the report and has not contributed in any way to its content. The role of ASX in relation to the preparation of the research reports is limited to funding the preparation by PhillipCapital, in accordance with the ASX Equity Research Scheme. ASX does not provide financial product advice. The views expressed in this research report may not necessarily reflect the views of ASX. To the maximum extent permitted by law, no representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by ASX as to the adequacy, accuracy, completeness or reasonableness of the research reports.