Allenby Capital

Company Note

Interims

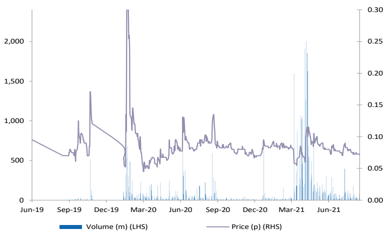
3 September 2021

Corporate

Current price	**0.0725p**

Sector	**Oil & Gas**
Code	**BOIL.L**
AIM	**AIM**

Share Performance



	1m	3m	12m
BOIL.L	-13.3%	-20.6%	-22.7%

Source: Thomson Reuters, Allenby Capital

Share Data		
Market Cap (£m)		**8.4**
Shares in issue (bn)		**11.58**
52 weeks (p)	High	Low
	0.14	**0.06**
Financial year end		**31 December**

Source: Company Data, Allenby Capital

Key Shareholders	
Hargreaves Lansdown	17.62%
Interactive Investor Services	11.96%
JIM Nominees Ltd	11.18%
SundaGas PTE Ltd	9.99%
HSDL Nominees Ltd	9.52%

Source: Company, Allenby Capital

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Equity Research

Baron Oil plc (BOIL.L)

Considerable progress

In the year-to-date Baron Oil has made considerable progress in advancing its two leading projects. In the case of the world class Chuditch gas project in the Timor Sea, 3-D seismic reprocessing and evaluation is now well underway and initial reprocessed data is scheduled for delivery in Q4 2021. Significantly, Baron has indicated that it anticipates initiating discussions with potential Chuditch joint-venture partners in September. Further Chuditch developments in 2021 have been an increase in Baron's interest in the project from 25% to 75%, the assumption of the operatorship and the publication of an independently assessed substantial prospective resource estimate. In the case of the high-impact Inner Moray Firth Dunrobin project Baron has recently announced an increase in interest from 15% to 32% in exchange for financing a seismic reprocessing/evaluation programme. With drill or drop decisions required on Chuditch by Q4 2022 and Dunrobin by Q2 2023, the first half of 2022 looks interesting for Baron.

- **Chuditch project:** Chuditch lies in the Timor Sea 185 km south-east of the Timor-Leste coast, 400 km north-west of Darwin and 120 km north-east of Santos's Bayu Undan giant condensate and gas field. The ownership of the Chuditch PSC is Baron 75% and the Timor-Leste NOC 25%. The Chuditch project was originally based on the Chuditch-1 discovery made by Shell in 1998 in the Jurassic Plover sandstones, a regionally prolific reservoir formation. This, however, was never flow tested. Subsequent to the discovery, several analogous prospects and leads have been identified on the area of the PSC.

- **Chuditch resource base:** In terms of resources Chuditch is potentially world class. Baron recently announced an independently assessed mean prospective resource estimate for the PSC of 592mm boe gross split 95% gas and 5% liquids. This is lower than Bayu Undan's recoverable reserves of 967mm boe but still a substantial resource base by international standards. Water depths in the PSC at around 70m are not challenging and enable jack-up rather than more expensive semi-submersible rigs to be used.

- **Chuditch risks:** Chuditch is a relatively low-risk project. This reflects the fact that it is based on a discovery in a regionally prolific reservoir formation. Shell, indeed, put the geological chances of success at 100% for Chuditch-1. We also note that infrastructure in the form of the Bayu Undan pipeline to Santos's Darwin LNG plant is relatively close to Chuditch.

- **Chuditch work programme:** Baron is currently undertaking a $3.5m work programme for the Chuditch project. A major part of this relates to the $1.6m 3-D seismic reprocessing and evaluation exercise being carried out in the UK by the renowned international geophysical concern, TGS. The first data set is scheduled for delivery in Q4 2021 and the final in Q2 2022. The information should provide a superior image of the sub-surface and assist in determining the gas-in-place and drilling locations. Baron also has access to a geological and geophysical database held on behalf of Timor-Leste by Geoscience Australia. Petroleum system modelling and petrophysical evaluation is underway. A combination of sophisticated technical analysis aimed at project de-risking and the potentially large resource base should assist in attracting joint-venture partners.

Year End: 31 December					
(£'000)	**2018**	**2019**	**2020**	**2021E**	**2022E**
EBITDA	(549)	(442)	(710)	(1,171)	(1,218)
NET CASH / (NET DEBT)*	1,838	472	1,311	1,517	(1,146)

Source: Allenby Capital. Allenby Capital acts as Nomad & Broker to Baron Oil plc (BOIL.L). *Including restricted cash.

Please refer to the last page of this communication for all required disclosures and risk warnings.

Chuditch development plan

Under the terms of the PSC, drilling is required at Chuditch by end 2023. The tentative plan is to drill one appraisal and one exploration well back-to-back. According to Baron, well costs are likely to be relatively low at around $12m each on a dry hole basis. Prospective well costs are nevertheless sufficiently great as to require a joint venture partner to share or free-carry the risk. Given the requirement to drill by end 2023 and the lead time for well planning, Baron would probably need to secure a joint-venture partner by the third quarter of 2022.

JKM LNG prices

The most likely application for natural gas produced from a prospective Chuditch development is conversion into LNG and export to East and South Asia. The relevant benchmark price for this trade is the JKM (Japan Korea Marker). Significantly, the JKM spot price has surged this year and recently has approached $20/mm Btu cif,(cost of insurance and freight) based on S&P Global Platts data. This is an historically high price seasonally and compares with averages of about $5.5/mm Btu in 2019, $4/mm Btu in 2020 and an all-time low of under $2/mm Btu late in the second quarter of 2020. JKM prices for November 2021 delivery are running at about $20.4/mm Btu. Interestingly, the JKM is now trading comfortably above parity with Brent on a Btu equivalent basis. In an increasingly integrated world for gas, LNG is also trading at historically high prices seasonally in Europe.

The surge in JKM in 2021 reflects what is a very tight market. Arguably this has been surprising. The explanation stems from a combination of buoyant demand for gas and unusually low inventories ahead of the autumn inventory building season in the northern hemisphere. Buoyant demand has been a function of heavy power generation usage stemming from a recovery in economic activity and particularly, unusually high air conditioning needs.

The upshot of historically high prices is that supplying LNG for East Asian markets has become a highly profitable activity for integrated producers, bearing in mind cash costs for lifting, gas processing and pipeline in the $2-3/mm Btu and another $4-5/mm Btu for LNG liquefaction and transportation. While major investment decisions regarding natural gas development are unlikely to be made based on spot prices, recent trends in the marketplace have also shifted the forward curve upwards. This presumably reflects the potential for the supply-demand balance in the out years to be tighter than previously expected. This is an auspicious backdrop for those, such as Baron, seeking a joint-venture partner for a major new gas project supplying LNG feedstock.

Inner Moray Firth Dunrobin project

The Dunrobin project lies towards the western extremity of the east-west Moray Firth structural trend on licence P2478 about 20 km south of the now defunct Beatrice field (production >140mm barrels) and 30 km south of the northern shoreline. The Moray Firth is part of the North Sea Mesozoic rift system, one of the world's most prolific petroleum provinces. The Dunrobin prospect was identified using legacy 3-D seismic and comprises three large-rotated fault blocks. Reservoir targets are the Jurassic Beatrice and Dunrobin sands. In addition to Dunrobin, P2478 also contains the smaller Golspie prospect.

Baron announced in August a major move on the corporate and development fronts which now firmly establishes Dunrobin as the number two project. The company increased its interest in the consortium from 15% to 32% (subject to OGA consent) in exchange for financing 100% of the remaining cost commitments relating to Phase A of the Dunrobin work programme. Following the Baron farm-in, the other P2478 licence interests are as follows: Corallian Energy (Reabold Resources RBDR.L 49.99%) 36.0%, Upland Resources (UPL.L) 32.0%. Corallian remains the operator.

Baron's financial commitment has been capped at a modest £160,000 with the key component of the exercise being 3-D seismic reprocessing and evaluation. Results are expected during the first half of 2022. The objective is to further de-risk the prospect and refine the understanding of the resource base. Significantly, Baron has assumed the role of technical overseer for the remaining Phase A work programme commitments. Phase A ends in July 2023 by which time a drill or drop decision is required. It should be remembered here that a regional technical study was undertaken in 2020 by a 'large European E&P company'. The results were released in Q1 2021 and corroborated the view of the P2478 joint-venture partners concerning the potential scale of the Dunrobin prospect.

Dunrobin's attraction does indeed concern its scale. Baron believes that it is one of the few remaining >100mm barrel undrilled structures in the UK sector of the North Sea. Corallian has suggested that Dunrobin could host mean prospective resources of 174mm barrels gross. A prospect of this scale is clearly of considerable interest to a junior. Based on experience elsewhere in the vicinity, Baron believes dry hole costs would be around £7m gross. Relatively low costs reflect shallow water at <100m and a modest TD (total drilling depth) of perhaps 660m. Given the lead time for well planning and permitting of up to a year, we believe the P2478 consortium would need to secure a free-carry joint-venture partner by the end of 2022.

Sechura Desert Peru El Barco-3X project

The 100% owned El Barco project is situated on Block XXI in the Sechura Desert of northern Peru, approximately 900 km north of the capital Lima. The prospect lies towards the south of the Block about 19 km east of the Pan American Highway and 100 km south-east of Piura, the regional capital of the same name. The location is therefore far from being remote.

The El Barco prospect in the south of the Block lies slightly to the north-east of the Minchales well. It was identified in 2015 following a 170 km 2-D seismic shoot and a review of the aeromagnetic, airborne gravity and Minchales log data. Significantly, Baron has suggested that amplitude anomalies and gas chimneys have been identified in the shallow intervals. Baron has previously indicated that a prospective El Barco-3X well would target two formations. These are the Oligocene Mancora sandstones and the fractured Amotape basement rocks. Baron's estimates of recoverable resources are as follows:

- Mancora sandstones, 14 bcf with geological chances of success (GCOS) of 55%.
- Amotape basement, 8.5mm barrels of oil with a 27% GCOS.

The El Barco project has been under Force Majeure for the duration of the covid-19 epidemic. Significantly, Peru has recorded the highest death toll per capita in the world due to the disease. Covid related restrictions have, however, recently been relaxed ahead of the pending review of the national State of Emergency. A further development of late in Peru has been the election of a left-wing President in the form of Pedro Castillo. Although a wild card, we believe that President's attention is more likely to be focused on the mining majors than a small hydrocarbon exploration project.

Baron's Peru-based team has also recently been able to visit and engage with the local community. In addition to the lifting of covid-related restrictions on movement, Baron would require several conditions to be met to advance the El Barco project to drilling. These are as follows:

- Confirmation of a three-year extension to the licence
- Securing a local farm-in partner

- Freedom to conduct workshops with the local communities in Belisaro and El Barco.
- Drilling authorisation at the local level including the regional president and council.

Given the above and residual covid restrictions, it is no surprise that Baron thinks it unlikely that a decision on drilling El Barco-3X will be made until 2022.

Financials

There were no major surprises in the interim statement for the six months ended June 30, 2021. In terms of the income statement two points to note were the year-on-year increase in administrative expense of 16% and the gain of £359,000 relating to the deal to increase the stake in SundaGas (Timor-Leste Sahul) Ltd (TLS), the Chuditch operating company. The increase in administrative costs mainly reflects the change in status of TLS from an associate to a subsidiary. The cash flow impact of this however will probably be small during the year, given that much of TLS's administrative costs were previously recharged to Baron relating to the Chuditch work programme.

The gain related to TLS reflects the deemed disposal under IFRS3 of the interest in the associated entity and the acquisition of the remaining equity interest in the company. It is a non-cash item.

Baron's financial position remains comfortable in relation to spending commitments reflecting the £3m gross equity raise in March/April. At end June, reported cash was £2.52m. We believe that at end August cash was probably down to about £2.1m. At end 2021 we continue to forecast a cash position of £1.52m which compares with £1.31m a year previously. The underlying forecast cash outflow in 2021 of £2.85m pre the equity raise mainly stems from Chuditch-related outlays with the TGS reprocessing/evaluation study being particularly important and G&A. Our forecasts reflect £1.72m for outlays on intangibles and £1.13m for operating activities. We continue to look for a theoretical net debt position at end 2022 of £1.15m. This reflects outflows of £1.22m and £1.47m related to G&A and outlays on intangibles respectively. Our breakdown for the latter is £0.88m for Chuditch, £0.43m for El Barco and £0.16m for Dunrobin.

Valuation

We are leaving our Baron valuation estimate unchanged from the note dated August 18, 2021. Our risked sum-of-the parts estimate is £30.9m or 0.27p/share after allowing for anticipated dilution of working interests for prospective farm-ins. For this calculation we have used a valuation quotient of $0.5/boe and an exchange rate of £1=$1.40. Our un-risked valuation across the three projects on the same basis would be £94m or 0.81p/share. In the event of a success case pre-development the valuation quotient would probably need raising to perhaps $2/boe.

Exhibit 1: Baron Oil risked and diluted valuation summary

Basin	Project	Working interest %	Net un-risked mean resources bcfe	Net un-risked mean resources boemm	Risking factor %	Net risked mean resources boemm	Valuation quotient $/boe	Un-risked valuation $m	Absolute $m	Absolute £m	Risk adjusted valuation post farm ins p/share
Bonaparte	Timor-Leste Chuditch	37.5	1323	220.5	33	73.7	0.5	110.2	36.9	26.3	0.227
Sechura	Peru Block-XX1	50.0	65	10.8	33	3.6	0.5	5.4	1.8	1.3	0.011
Moray Firth	UK P2478	16.0	188	31.3	30	9.4	0.5	15.6	4.7	3.4	0.029
Total			**1575**	**262.5**		**86.7**		**131.3**	**43.3**	**30.9**	**0.267**

Source: Allenby Capital.

Notes: Working interests have been adjusted where appropriate for anticipated farm-ins for the first stage of appraisal/exploration. Adjustments have been made to Timor-Leste, Peru Block-XXI and Inner Moray Firth P2478. P2478 valuation includes both Dunrobin and Golspie prospects.

Risking factors are Allenby inhouse probability estimates of commercialising projects at this stage.

The Chuditch risking factor is a composite of 40% for the discovery and prospects and 20% for the lead.

The shares in issue used in the per share calculation is 11.5836 bn. Exchange rate: £1=$1.40.

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