

Rockhopper Exploration

Sea Lion thoughts and Ombrina Mare

Company update

Oil & gas

5 April 2017

Price **20.25p**

Market cap **£93m**

US\$/£0.80

Net cash (\$m) at 31 December 2016e
excluding post-period adjustment 80

Shares in issue 456.9m

Free float 99%

Code RKH

Primary exchange AIM

Secondary exchange N/A

Share price performance



% 1m 3m 12m

Abs (10.0) (11.0) (27.7)

Rel (local) (9.6) (13.1) (38.6)

52-week high/low 39.0p 19.2p

Business description

Rockhopper Exploration is a London-listed E&P with fully funded development of Sea Lion, a 500mmbbl+ field in the Falklands. The Isobel Elaine complex could add further significant resources. Rockhopper also holds production and exploration assets in the Mediterranean and Egypt.

Next events

Development and exploration in Egypt H117

Ombrina Mare arbitration update H217

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Key for Rockhopper (RKH), at a recent results presentation Premier Oil's (PMO) management talked about progress being made for Sea Lion's development and the options that are currently being explored. The turbulent macro environment and PMO's financial difficulties have slowed Sea Lion's progress, but these comments suggest increasing options to develop the asset. For RKH, we examine a number of possible scenarios for sensitivities (vendor financing, export credit approach, flexing of fiscal terms), although we leave our baseline approach and valuation broadly unchanged until news is more concrete. Our core NAV remains 73p/share (although a number of estimates change within this), representing material upside for investors as and when Sea Lion's development moves forward.

Year end	Total revenues (US\$m)	Reported PBT (US\$m)	Cash from operations (US\$m)	Net (debt)/ cash (US\$m)	Capex (US\$m)
06/14	1.9	(7.6)	(11.2)	199.7	(11.3)
12/15	4.0	(44.7)	(6.9)	110.4	(80.9)
12/16e	7.9	123.0	(24.4)	79.9	(34.2)
12/17e	11.1	(18.1)	(1.7)	50.2	(13.0)

Note: Year end changed in 2014 from June to December

Sea Lion financing options being examined

Our analysis indicates that Sea Lion's economics are attractive at current oil prices (IRR is over 20% a \$55/bbl flat Brent price). PMO is exploring structuring and financing options to move it towards FID (including export credit and service company financing) and is exploring options with the Falkland Islands Government to best enable development. We assess what these options may mean qualitatively and quantitatively where appropriate, although we caution that the final solution may be materially different to these approaches. In theory, the deal that RKH has with PMO already covers all capex required for Phase 1 (pre first oil), so the impact of the financing options should be limited. However, we imagine RKH would be open to reducing its working interest to bring certainty to the development.

Ombrina Mare international arbitration commences

In early 2016, Italy reintroduced restrictions on offshore drilling, effectively stopping development of Ombrina Mare. RKH has launched arbitration proceedings to recover damages it believes it has suffered following this change of law claiming Italy may have breached a European-wide energy treaty. This process could take a number of years, but may help RKH recover "very significant monetary damages". An illustrative modelling indicates NPV10 value of perhaps \$150m.

Valuation: NAV remains to 73p/share

We tentatively include a risked estimate for Ombrina Mare arbitration of 5p/share. Following our analysis, we introduce a further risking to our valuation of 80% to account for future potential reductions RKH may agree to get Sea Lion to FID; this offsets the increase to project value following reductions in opex. RKH's shares still trade at a large discount to our valuation - we note that the current share price includes only c 10% of the value of Phase 1 Sea Lion.

Ombrina Mare

Ombrina Mare was discovered in 2007 by Mediterranean Oil & Gas and is 100% owned by RKH following its acquisition of MOG in 2014. The Italian fiscal regime (4-7% royalties, 28% corporate income tax) and estimated 2C recoverable (overwhelmingly oil) reserves of 26.5-40mmboe (95% 17-19° API oil) combine to make it a potentially lucrative project. An appraisal programme would be required (potentially adding material prospective resources in the process), but an indicative development plan in 2014 envisaged 10mboe/d peak production using 5-9 production wells. As such, the prohibition to drill within 12 nautical miles from Italy's coast, dictated by the re-introduction of the Budget Law in early 2016, stops the development of a valuable asset.

It is RKH's contention that Italy's action contravened the Energy Charter Treaty (ECT), which was introduced in 1998 to provide a stable platform for energy sector investment in Europe. It is therefore seeking lost profits.

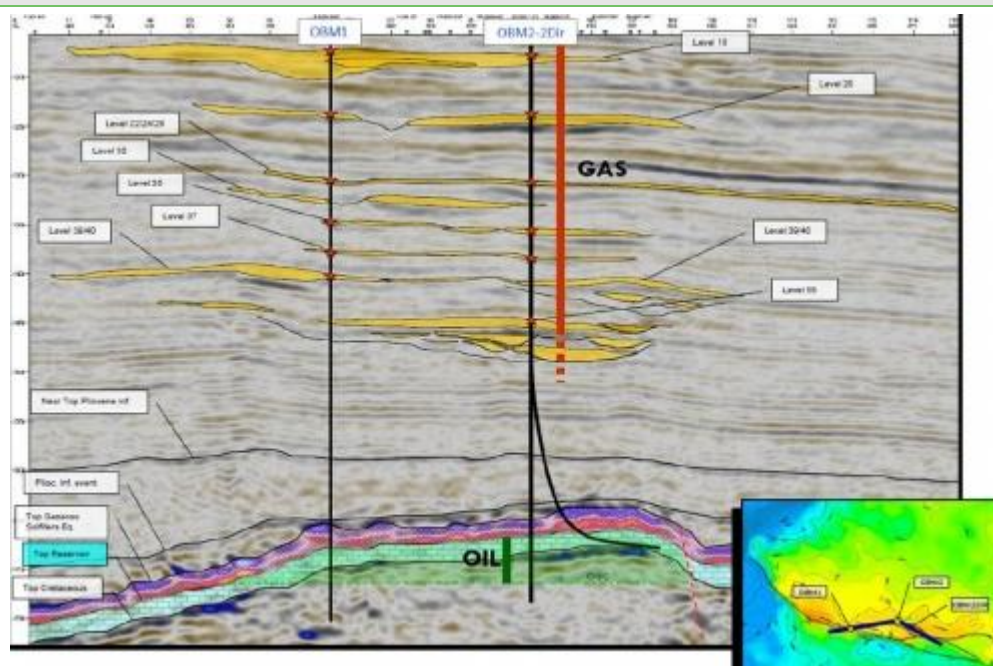
It is not clear on what basis lost profits are made in the legal case – whether this would be on a gross unrisks basis, and under what assumptions of production, oil price, costs and discount rate. However, it is clear that Ombrina Mare had the potential to become a very significant asset for Rockhopper with current gross NPV10 of over \$150m.

We have an indicative model on Ombrina Mare with first oil in 2020 (which assumes that an appraisal/development programme would have been initiated in 2016 (or before)), capex of \$20/boe and opex of \$15/boe, resulting in a value of \$8/boe based on a 10% discount rate. For comparison, this would fall to \$6/boe at a 12.5% discount rate. These assumptions are from work in 2015 and have not been adjusted to reflect lower service and capital costs due to the falling oil market, so could well be understating the value. For comparison, a \$5/bbl decrease in capex would see an increase to \$11/boe (on NPV10). It should not be forgotten that the values increase markedly as production nears, with NPV10 values of \$21/boe in 2020 – implying a gross block value of over \$500m (although bear in mind this value is after a significant capital spend).

We would expect Rockhopper to have looked to farm-down its interest in any development, reducing its 100% working interest in return for a carry on development. Depending on the commercial arrangement that could have been reached, we would expect Rockhopper would have been able to retain the majority of value in this case.

The company has entered into an agreement with a third party to fund the litigation, which should allow it to retain “a very material proportion of any award.” We make no estimate of potential awards at this point and expect the process may take years.

For valuation purposes, we would cautiously assert that investors may look to include some of this potential in their expectations. Until we hear further from the company, we tentatively assume that Rockhopper is seeking lost profits of current NPV10 \$150m – we choose to include 25% of this value and discount it by two years, equating to 5p/share. We are aware that these are estimates and open to material uncertainty.

Exhibit 1: Ombrina Mare


Source: Rockhopper

Background to modelling changes at Sea Lion

It is reasonable to assume that the project would be sanctionable now if it was under a well-capitalised operator

After the work that Premier has done in reducing probable costs for Sea Lion, the economics of the project have improved. PMO indicated that the likely capex has fallen to \$10/bbl while opex has fallen to \$15/bbl and this has reduced the 2018 NPV10 breakeven to around \$45/bbl (as we model, it is around \$42/bbl flat).

We take a more conservative approach with costs, but even so the IRR increases to 20% at \$50/bbl and 24% at \$55/bbl (on a flat basis). At our base case long-term assumption of \$70/bbl on a real basis, the gross project IRR is as large as 46%.

Given these results, it is reasonable to assume that the project would be sanctionable now if it was under a well-capitalised operator. A summary of the returns/IRRs at different oil prices is below.

Exhibit 2: Gross project phase one IRRs under different oil price scenarios (flat oil price unless stated, \$/bbl), %

	40	45	50	55	60	65	70	Real 60	Real 70
Gross project IRR	8%	15%	20%	24%	28%	32%	36%	39%	46%

Source: Edison Investment Research Note: The real \$60/70/bbl assumes a 2.5% inflation of prices after a recovery from current levels.

Gross project NPVs at these oil prices are attractive. Note that the RKH/PMO relationship splits this NPV (at FID) on a 50:50 basis at the moment.

Exhibit 3: Gross unrisks phase one NPV at 12.5% discount rate, \$m

Phase 1 IRR at FID (2018)	40	45	50	55	60	65	70	Real 60	Real 70
Gross unrisks project NPV at 12.5% discount rate	(171)	92	336	576	812	1,048	1,284	1,674	2,267

Source: Edison Investment Research Note: The real \$60/70/bbl assumes a 2.5% inflation of prices after a recovery from current levels.

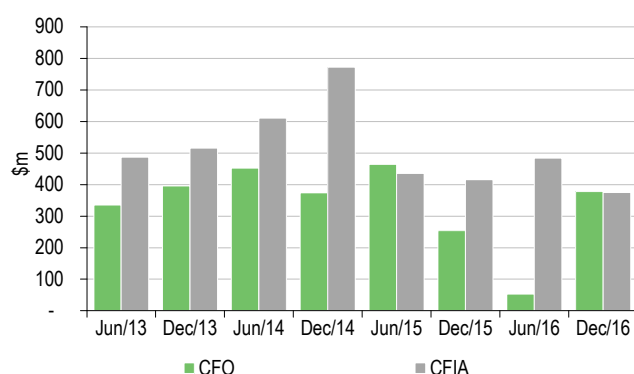
These numbers imply that unless one were to take a fairly pessimistic view on the macro (either that the costs indicated are too optimistic or that oil prices remain below current levels for the duration of the project), an operator would (we would suggest) look to sanction the project.

This picture is slightly modified for any incoming partner. They would take on a disproportionate capital burden (through a carry), but returns still suggest that Sea Lion is an attractive project (even if only looking at Phase one in isolation). The picture improves if we account for Phase two and any Isobel Deep exploitation.

PMO financing issues

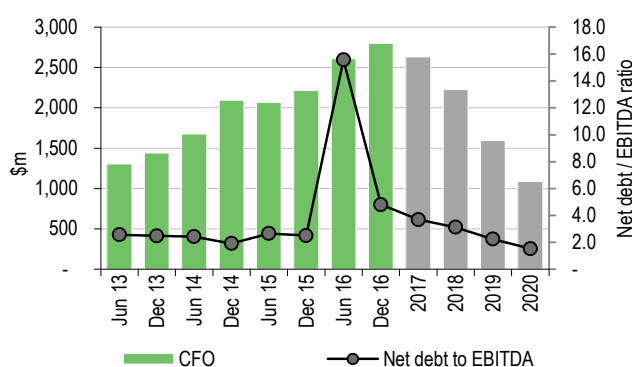
The Sea Lion development is currently dependent on PMO's ability to finance the capex. The combination of the falling oil price and high capital investment led to a worsening net debt situation over the recent past leading to an inability to fund further significant investment (and certainly not of the scale required for Sea Lion).

Exhibit 4: PMO's cash flow from operations outpaced by capital investment since 2013



Source: Bloomberg

Exhibit 5: PMO's net debt and net debt/EBITDA measures worsened



Source: Bloomberg Note: Grey bars are analyst consensus forecasts

According to PMO, it will not get back to a net debt/EBITDA ratio of less than 3x until 2018 (and 2x until 2020). Unless the company finds alternative ways to finance the investment, it appears that PMO cannot afford to develop Sea Lion as currently structured.

RBL capacity is initially limited due to low and flat oil price curve

Examining the capacity to generate reserve-based lending (RBLs), we assume a \$50/bbl Brent deck and apply the field-life and loan life NPVs to calculate the amount of capital that could be raised pre-first oil (after taking into consideration a capex add-back). We model loan life cover ratio (LLCR) of 1.4x, field life cover ratio (FLCR) of 1.3x, and a discount rate of 7%. Under these conditions, unless the tenor (time to maturity) of the loan is greater than four years, no significant RBL facility would be available before 2020, although RBL facilities do become more material as production nears. Exhibit 6 indicates how variations in the assumptions affect the 2019-22 lending facilities. Debt providers could well be using different assumptions to those above.

Exhibit 6: Sensitivity of loan capacity to loan tenor, \$m (gross project)

Tenor of loan, years	3	4	5	6	7
2019	0	0	91	365	365
2020	312	632	953	1,249	1,473
2021	550	893	1,210	1,450	1,628
2022	782	1,120	1,378	1,568	1,732

Source: Edison Investment Research

The lack of RBL in early years is common – typically equity funding (of around 40%) comes first before debt can be drawn.

Financing options

As a result, we look at how various financing mechanisms mentioned by PMO may affect the receiver of cash flows from Sea Lion and therefore value to RKH shareholders.

Basis of analysis – entire project

For the sake of transparency, we have undertaken the analysis below on the basis of the gross project, rather than from the current viewpoint of RKH or PMO. Getting the project to FID is likely to involve amending the current arrangement and it may be in RKH's interest to sacrifice some value (via working interest, carry or other means) to ensure the project proceeds. The current agreement for Phase 1 has working interests standing at 40% RKH:60% PMO. While RKH benefits from a material capex carry, it pays PMO guarantee fees (out of cash flows) that will adjust the NPV at FID to a 50:50 split.

As a result, while a deal to provide third-party financing should in theory only hit PMO's bottom line (since it is due to carry the capital investment in Phase 1), the current agreement whereby NPV is shared suggests that some of any value lost/gained through this process is shared with RKH.

Structures examined

We look at the effect of a number of structures on Sea Lion's project value:

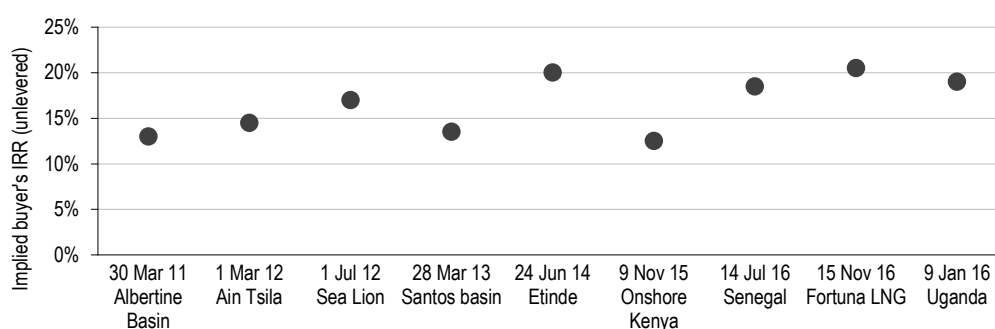
- vendor financing (of Phase 1 only)
- debt financing (of Phase 1 only); and
- adaption of fiscal terms to reduce royalties but increase corporation tax.

For simplicity, we only examine the effects on Phase 1 to reduce the complicating factors that Phase 2 inclusion may present: (i) the differing working interests in Phase 2 (where RKH holds a 64% WI in PL04); (ii) the existence of Isobel Deep which could be as large as Sea Lion (pending proper appraisal, according to the company); and (iii) the vastly different financial positions that the partners should have as Phase 1 comes on stream and cash flows result.

Vendor financing

We have studied a number of recent deals with development carries and generated implied IRR for the incoming party. Two recent deals are particularly germane for Sea Lion: the development deal executed by Ophir with OneLNG and the sale of a portion of Tullow's (Uganda) interest to Total (and now CNOOC following pre-emption exercise). As the chart below indicates, these imply an IRR for the buyer of around 20% (based on oil price expectations at time of the deal).

Exhibit 7: Implied IRR for buyer in recent deals



Source: Edison Investment Research, various

For the purpose of this analysis, we assume that \$500m of capex is carried over a period of years (pre-first oil), with a percentage of project cash flows then flowing to achieve a targeted return. In

this case, we assume the return is 25%. This is higher than many of the other deals, so it is likely a conservative scenario. In this case, the third party would receive 17% effective interest in Phase 1 cash outflows (in return for supplying about 33% of upfront capex).

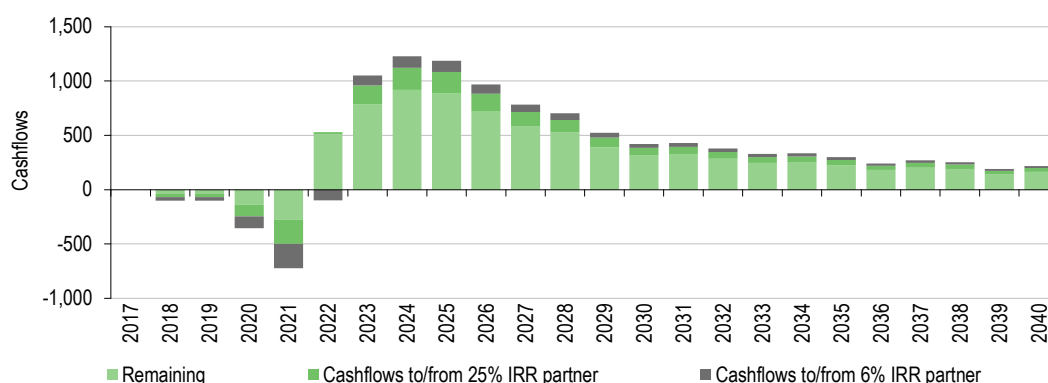
Debt financing

Export credit is a system by which quasi-governmental institutions (credit agents) act with governments to provide finance normally in the form of support to exporters. This can take the form of direct lending or guarantees to support commercial bank lending. It is likely given their respective sizes that PMO/RKH would not be sufficiently large/have a good enough credit rating to guarantee the revenues for an FPSO build, for instance.

Typically, these loans would require certain conditions to be met, such as the location where equipment is manufactured. This may mean that some plans for the development may require adaption. We would note that that loan finance available for this kind of spending would be favourable and provide for a significant percentage of the value of such a purchase, it could mean overall costs are not affected by much.

There is uncertainty over how this structuring would work, so for illustrative purposes we model a loan of \$500m with an 8% interest rate. This would require effective ring-fencing of around 9% of the Phase 1 project cash flows.

Exhibit 8: Project cash flows



Source: Edison Investment Research

Movement in fiscal terms

At high oil prices, Falkland Island fiscal terms are relatively generous, with a 9% royalty and 26% corporate income tax. However, these are inflexible as in lower oil price environments, the royalty component becomes more onerous as it acts as revenue tax and would be payable from first production, unlike corporate income tax, which is only payable after historical losses have been offset by production. PMO stated at its full-year results presentation that it was “working with the Falkland Islands government to look at fiscal terms that will enable the project to go forward”. We would be surprised if the close co-operation between the partners and the Falkland Islands over the last few years had not examined ways that the project could be brought forward to get to first cash flows sooner. While this is perhaps more finely felt by shareholders (given their higher discount rates than the FIG), the cash flows are also important for the population of the islands. There should therefore be some appetite for negotiations on both sides.

We would expect any movement to focus on royalty rates flexing with oil prices (rather than corporate income tax rates), with a lower rate for oil prices less than a threshold (say \$50/bbl), with compensating increase to royalty rates if oil prices move higher (say \$80-90/bbl). This better balance incentives and rewards to get the project moving forward.

For illustration, we show below how these changing rates (without thresholds over oil prices) affect gross project NPV (for contractors) and government revenues (undiscounted).

Exhibit 9: Movement to NPV12.5 given differing tax rates

		Corporate tax rate					
		15%	20.0%	25.0%	26.0%	30.0%	35.0%
Royalty	5%	24%	17%	9%	8%	2%	(5%)
	9%	15%	8%	1%	0%	(5%)	(12%)
	10%	13%	6%	(1%)	(2%)	(7%)	(14%)
	15%	1%	(5%)	(11%)	(12%)	(17%)	(23%)

Source: Edison Investment Research

Exhibit 10: Changes to government project revenues with varying tax rates

		Corporate tax rate					
		15%	20.0%	25.0%	26.0%	30.0%	35.0%
Royalty	5%	(41%)	(28%)	(16%)	(13%)	(3%)	10%
	9%	(26%)	(14%)	(2%)	0%	9%	21%
	10%	(22%)	(10%)	1%	3%	12%	24%
	15%	(3%)	7%	17%	19%	28%	38%

Source: Edison Investment Research

Factors not accounted for in our analysis

Given the nature of the analysis and the unknown nature of any eventual deal, we have excluded a number of factors which would, with fuller information and data, normally be included.

At this stage, we have kept the analyses separate and note that the effect of mixing two or more of these structures may not necessarily result in the same NPV as simply adding together the individual effects, particularly, for example, due to tax effects.

WACC – we assume a constant discount rate to evaluate the project cash flow in this analysis. In reality, increased debt funding (to a certain limit) will reduce the WACC of the companies, driving up project value. Higher corporate tax rates increase the benefit of tax shielding of debt but reduce the post-tax cash flows, while the effect of changes to royalty rates are not captured by WACC but are key to any renegotiations over changes (particularly for revenues to the Falkland Islands) and may affect initial debt capacity and interest rates applied.

Valuation

We have tweaked our modelling assumptions, given PMO's statement (in the conference call to its recent full-year results) that it has been successful in further reducing costs (to \$15/bbl for opex and \$10/bbl for capex). We remain above guidance on both opex (falling from \$23/bbl to \$18/bbl life of field) and capex (unchanged at \$13/bbl) for the moment but this reduction has the effect of increasing the value for Sea Lion, reducing NPV10 breakeven and making the project more attractive for industry partners and investors.

To balance this, the likelihood of RKH sacrificing some of its value to help get the asset developed in the timelines we currently assume, is relatively high. It is not clear what form this might take, nor how much could be sacrificed. We already apply a fair degree of risking to Sea Lion to account for the uncertainty. Normally, in fields as well appraised as Sea Lion and with FEED ongoing, our risking would be 50% or more, but we have been using a risk factor of 25% for Phase 1 and 20% for Phase 2. We introduce a further risk of 80% to these numbers to account for possible value leakage to get a deal done (mirroring the possible impact of a third party/service company requiring a high IRR for entry), which reduces our valuation. Investors may also see this risking as a mechanism that roughly equates to the NPV impact of a (roughly) two-year delay in our modelling

of first oil in 2022. As discussed earlier, we also include a risked valuation for Ombrina Mare, which adds 5p/share. These changes offset each other, leading to an unchanged NAV of 73p/share.

Exhibit 11: NAV summary

Asset	FX £/US\$ = 1.3				Recoverable			Net risked value			
	Shares: 457m		WI	CoS	Gross	Net	NPV	WACC of 12.5%			
	Country	First production	%		mmboe		\$/boe	\$m	p/share	10%	15%
Net (debt)/cash at Dec 2016e								80	14	14	14
G&A (NPV10 of five years)								(41)	(7)	(7)	(7)
2017 Exploration								(2)	(0)	(0)	(0)
Remaining payments for Falkland exploration (from 2016, paid in 2017)								(18)	(3)	(3)	(3)
Production											
Guendalina	Italy	20%	100%	2.0	0.4	11.8	5	1	1	1	
Civita	Italy	100%	100%	0.2	0.2	3.3	1	0	0	0	
Abu Sennan	Egypt	22%	100%	19	4.1	3.1	13	2	3	2	
Development										0	0
Sea Lion Phase 1	Falkland	2022	40%	20.0%	220	88	10.8	191	33	43	26
Sea Lion Phase 2 in PL32	Falkland	2026	40%	16.0%	88	35	5.7	32	6	8	4
Sea Lion Phase 2 in PL04	Falkland	2026	64%	16.0%	215	137	5.7	124	22	32	15
Ombrina Mare - under arbitration	Italy	100%	15%	25	25	8.1	30	5	5	5	
Core NAV					569	290	414	73	96	56	
Isobel Elaine	Falkland	64%	10%	472	302	2.1	65	11	23	5	
Isobel Elaine (CPR volumes)	Falkland	64%	10%	140	90	2.1	19	3	7	1	

Source: Edison Investment Research Note: Our CoS for Ombrina Mare is not an explicit judgement on the likelihood of RKH winning the case.

Financials: RKH in good health

RKH remains in good financial health with around \$60-65m in cash at the end of 2016 (adjusting for post period payments for 2016 activities). Cash flows from Egypt and Italy should largely offset G&A spend in 2017 and other capex spend is relatively light (spread between FEED activities at Sea Lion, a well in Egypt and abandonment costs in Italy). We forecast year end 2017 cash to be around \$50m.

We note that it may be a number of years before a decision comes from the Ombrina Mare arbitration. If won, the resulting award may increase Rockhopper's cash reserves markedly. If our assumptions on value of claims are fair, the award could be larger than the current market capitalisation of Rockhopper.

Exhibit 12: Financial summary

IFRS, year-end December, US\$'000s	2013	2014	2015	2016e	2017e
Total revenues	0	1,910	3,966	7,882	11,079
Cost of sales	0	(3,970)	(11,049)	(7,593)	(12,968)
Gross profit	0	(2,060)	(7,083)	289	(1,890)
SG&A (expenses)	(12,341)	(10,033)	(10,895)	(9,756)	(8,700)
R&D costs	0	0	0	0	0
Other income/(expense)	(1,461)	(1,782)	(22,934)	(1,637)	0
Exceptionals and adjustments	(3,428)	5,844	(10)	140,670	(1,990)
Depreciation and amortisation	0	0	0	0	0
Reported EBIT	(17,230)	(8,031)	(40,922)	129,566	(12,580)
Finance income/(expense)	1,499	657	975	155	0
Other income/(expense)	0	(209)	(4,750)	(6,729)	(5,523)
Exceptionals and adjustments	0	0	0	0	0
Reported PBT	(15,731)	(7,583)	(44,697)	122,992	(18,103)
Income tax expense (includes exceptionals)	(62,542)	(5)	55,395	(530)	(634)
Reported net income	(78,273)	(7,588)	10,698	122,462	(18,737)
Basic average number of shares, m	284	289	293	457	457
Basic EPS	(27.5)	(2.6)	3.7	268.2	(41.0)
Adjusted EBITDA	(13,802)	(13,875)	(32,814)	(6,579)	(1,915)
Adjusted EBIT	(13,802)	(13,875)	(40,912)	(11,104)	(10,590)
Adjusted PBT	(12,303)	(13,427)	(44,687)	(17,678)	(16,113)
Balance sheet	2013A	2014A	2015A	2016E	2017E
Property, plant and equipment	353	12,146	12,637	18,120	21,630
Intangible assets	153,656	204,164	256,658	460,944	460,924
Other non-current assets	0	11,506	9,803	10,004	10,004
Total non-current assets	154,009	227,816	279,098	489,068	492,558
Cash and equivalents	247,482	199,726	110,434	79,887	50,174
Inventories	0	2,188	1,670	1,866	1,866
Trade and other receivables	1,932	4,681	6,199	22,000	22,000
Other current assets	309	1,384	2,192	1,657	1,657
Total current assets	249,723	207,979	120,495	105,410	75,697
Non-current loans and borrowings	0	0	0	0	0
Other non-current liabilities	39,137	60,960	106,893	142,062	147,585
Total non-current liabilities	39,137	60,960	106,893	142,062	147,585
Trade and other payables	3,084	19,358	30,457	30,000	30,000
Current loans and borrowings	0	0	0	0	0
Other current liabilities	107,056	100,439	9	9	9
Total current liabilities	110,140	119,797	30,466	30,009	30,009
Equity attributable to company	254,455	255,038	262,234	422,407	390,660
Cash flow statement	2013A	2014A	2015A	2016E	2017E
Profit for the year	(15,731)	(7,583)	(44,697)	122,462	(18,737)
Taxation expenses	0	0	0	(530)	(634)
Net finance expenses	(1,003)	(470)	3,942	6,649	5,523
Depreciation and amortisation	282	2,186	2,744	5,354	9,511
Share based payments	797	672	1,937	2,171	1,990
Other adjustments (includes impairments)	2,687	(4,415)	26,075	(172,135)	0
Movements in working capital	134	(1,627)	3,143	11,116	0
Income taxes paid	0	0	0	530	634
Cash from operations (CFO)	(12,834)	(11,237)	(6,856)	(24,382)	(1,713)
Capex	(2,550)	(11,261)	(80,919)	(34,223)	(13,001)
Acquisitions & disposals net	0	(24,037)	0	(4,688)	0
Other investing activities	(143,385)	84,720	39,791	60,807	(15,000)
Cash used in investing activities (CFIA)	(145,935)	49,422	(41,128)	21,896	(28,001)
Net proceeds from issue of shares	0	(225)	(2,733)	0	0
Movements in debt	0	0	0	0	0
Other financing activities (includes insurance settlement in 2016)	34	439	2,219	33,012	0
Cash from financing activities (CFF)	34	214	(514)	33,012	0
Increase/(decrease) in cash	(158,735)	38,399	(48,498)	30,525	(29,714)
Currency translation differences and other	3,853	(1,155)	(794)	(1,072)	0
Cash at end of period	62,482	99,726	50,434	79,887	50,174
Net (debt) cash	247,482	199,726	110,434	79,887	50,174

Source: Edison Investment Research, company accounts. Note: difference between cash on balance sheet and cash flow statement may be due to restricted cash and short-term investments. Also note that year ends changed in 2014. We show no financial impact either for costs of Ombrina Mare litigation, nor expectation of award.

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