

Independent Oil & Gas[#]

BBG Ticker: IOG LN

Price: 6.9p

Mkt Cap: £4.8m

BUY

Year to Dec	Revenue (£m)	EBITDA (£m)	PBT (£m)	EPS (p)	EV/Sales (x)	EV/EBITDA (x)	P/E (x)
2013A	0.0	(0.9)	(1.0)	(2.0)	n/m	n/m	n/m
2014A	0.0	(11.0)	(12.1)	(19.2)	n/m	n/m	n/m
2015E	0.0	(1.7)	(2.0)	(2.0)	n/m	n/m	n/m
2016E	0.0	(1.8)	(2.1)	(2.1)	n/m	n/m	n/m
2017E	24.2	17.4	17.1	12.0	0.2	0.3	0.6

SOURCE: Company, VSA Capital estimates.

Skipper Heavy Oil To Lead the Way

Independent Oil & Gas (IOG)[#] is a development and production company that was created by the merger of MOST and Ebor Energy in 2011 before listing on the AIM market in September 2013.

Focus on Skipper

We consider IOG as a developer as its primary focus is to bring its Skipper heavy oil discovery into production in the near-term future. In order to do so, the company recently extended its Sale and Purchase Agreement (SPA) with Alpha Petroleum until 7 December 2015 to acquire its 50% interest and become operator and sole licensee on the field. The Skipper licence itself has also been extended by the UK Oil and Gas Authority (OGA) until the end of the year providing IOG with more time to drill the Skipper commitment appraisal well. Skipper is an offshore heavy oil field located in the North Sea which holds 26.2mboe of 2C resources in total.

Significant Portfolio of North Sea Assets

IOG holds a significant portfolio of assets in the North Sea comprising seven gas fields, representing a total of 67.8 BCF 2P & 2C resources. The company intends to submit development plans for Blythe and Skipper by 2015 and early 2016 respectively. IOG will also explore two potential exploration targets beneath Skipper that could add another 46mboe of OIIP to the 26.2mboe 2C. IOG is implementing a hub strategy with the aim of enhancing the economics of its projects all located within its core area; the North Sea.

One of the key strengths of IOG lies in its highly experienced management team. Mark Routh (CEO), was the founder of **CH₄ Energy** which also focused on the same North Sea hub strategy. The team's experience in negotiating similar deals gives us confidence it will be able to successfully bring these projects forward. First production is targeted by 2017.

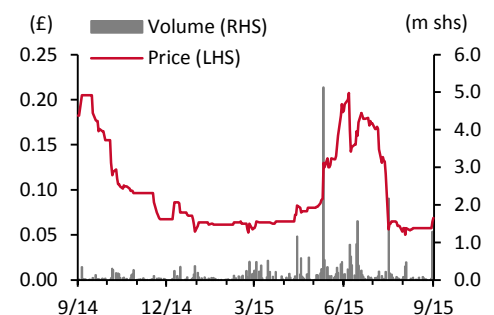
Recommendation and Target Price

We initiate coverage on IOG with a Buy recommendation and a 70p TP, in line with our core NAV. The main risk is related to funding progress.

Company Description

E&P company focused on developing O&G assets in the UK North Sea.

One Year Price Performance



Price % chg	1mn	3mn	12mn
	19.6%	-63.3%	-62.3%
12mn high/low:			20.8p/5.0p

SOURCE: FactSet, as of 25/09/15 close.

Market:	LSE AIM
Price target:	70p
Shares in issue:	70.1m
Free float:	55.1%
Net debt (2015e):	£0.0m
Enterprise value:	£4.8m
Next news:	Appraisal well

Major shareholders

Hargreaves Lansdown*	24.32%
(*Peter Young)	(19.74%)
Acura Oil and Gas	9.93%
TD Direct Investing Nominees*	8.40%
(*Mark Routh)	(6.16%)

Marc Anis-Hanna, Oil & Gas Analyst

+44 (0)7825 839144 | manishanna@vsacapital.com

Edward Vaughan, Oil & Gas Contributor

Valuation

We have used a sum-of-the-parts methodology where we include Blythe and Elgood gas fields and the Skipper heavy oil field into our core NAV as these are expected to be the first developments undertaken by IOG in 2017-18. These developments are contingent to IOG securing its funding which is the base case scenario we assume for this report.

NAV Table

Prospects	Timing	Type	Unrisked mboe	Equity %	CoS %	EMV US\$m	Net risked p/sh	Potential upside/sh
Blythe	2017	gas	6.2	50%	50%	10	7	7
Elgood	2017	gas	2.0	100%	50%	6	4	4
Skipper	2018	oil	26.2	100%	50%	92	59	59
Development NAV			34			108	70	70
Harvey	2016	gas	2.9	100%	25%	5	3	9
Hambleton	2016	gas	1.1	100%	25%	2	1	3
Contingent NAV			4			6	4	13
Maureen & Dornoch	2016	oil	12	100%	10%	8	5	47
Truman		gas	4.5	100%	10%	2	1	13
Tetley/Rebellion		gas	3.6	100%	10%	2	1	10
Exploration NAV			20			12	8	71

SOURCE: VSA Capital estimates.

We have not included Cronx in our valuation as it is yet to be acquired by IOG and requires a funded well by year end, which is unlikely as all efforts are focused on Skipper. Blythe's 50% Chance of Success (CoS) is a reflection of the fact that this project is yet to be funded for its proposed work programme. However, we stress there is no geological risk as the field has proven reserves of 6.2mboe (2P) and has already produced gas via two wells.

Skipper is the most important asset for IOG as it represents 84% of its core NAV and holds the potential of unlocking significant value if successful, which in return would boost IOG's development story. We assume that IOG will successfully acquire the remaining 50% of skipper from Alpha Petroleum before the end of the year. The realisation of this transaction is key to IOG's valuation. We think this heavy oil field holds very low geological risk since oil has already flowed to surface and the company possesses clear 3D mapping. We believe the risk surrounds the securing of funding for the appraisal well to which the company has already made significant progress towards. We use a cautious 50% CoS to take into account the fact that the rig is not 100% secured, nor is the development funding. However, we await the appraisal well results which in our view could have an important impact on IOG's valuation as it should, among other things, help determine the recovery rate, currently estimated at 19% from the last CPR. We believe this is too conservative and we expect a number between 26-33%, comparable to other North Sea heavy oil fields. However, for modelling purposes we use the CPR's figure of 19% recovery for our valuation, which gives Skipper a 2C resource estimate of 26.2mboe.

We do not include cash into our valuation as IOG is currently only funded until late October 2015. Furthermore, we anticipate an interim fundraise of c£2m in order to cover for the G&A costs as well as the two FDP submissions, which we assume in our model will be raised through equity, hence having a reasonably dilutive effect on our valuation.

The company is in an unusually strong position as it holds 100% of most its assets, with the exception being Blythe, providing some room to farm down and improve its cash position. We also note from the NAV table above that the potential upside to our valuation is significant. We believe IOG is an undervalued company, in light of its good portfolio of assets, currently suffering from the negative sentiment toward the oil & gas sector due to the sharp decrease in hydrocarbon prices. Bringing forward the Skipper development plan should reassure investors which in return could attract more capital.

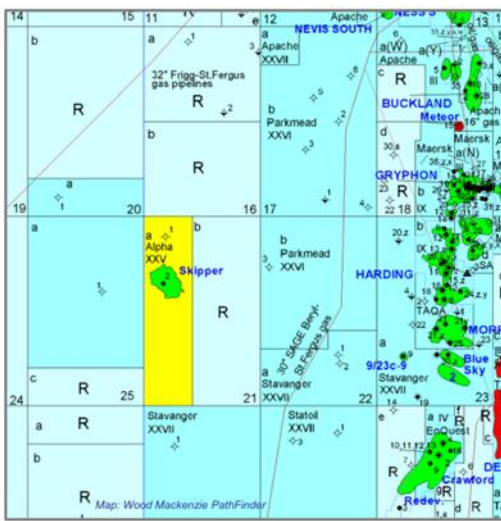
We initiate coverage with a BUY recommendation and a 70p/share target price, in line with our core NAV using US\$50/boe for 2016-17 and a flat US\$10/mcf NBP price.

Investment Case

The Key Short Term Target is Skipper

In the upstream cycle, we consider IOG as a developer. Its primary focus is to bring its already discovered Skipper field into production in the near term future. Skipper is an offshore heavy oil field located in the North Sea which holds 26.2mboe of 2C resources in total. Its oil is heavy with 14-16° API but should not lead to a major discount to Brent: around US\$3/boe. For our modelling purposes, we have used the potential recovery rate estimated at 19% according to AGR Tracs CPR. However, we view this as very conservative since the field viscosity is expected in the range of 50-150cP implying a recovery rate of between 26-33%, comparable to other North Sea heavy oil fields. We will therefore potentially increase the recovery rate following results from the appraisal well.

Skipper and Nearby Oil Fields



SOURCE: Independent Oil & Gas.

IOG will no longer perform a Drill Stem Test (DST) on its planned appraisal well since observing flows from a vertical well will not be particularly informative as to how the lateral wells will perform. Instead, IOG will obtain oil samples from the Skipper field to establish its viscosity.

As it is a medium sized field, the oil samples should allow the company to build a competent reservoir model and progress to FDP submission whilst saving costs through this technique. Modelling is essential to predicting the behaviour of the crude both on the surface and in the reservoir. It will help IOG in improving its understanding of the quality of the oil in place, determine its viscosity and the best development plan to be designed.

It will support IOG in optimising its development plan and choose between different existing solutions to develop this type of heavy oil field: either through a usual offshore platform or via the leasing of an FPSO. The first solution is more likely to happen, but in any case, we

expect this development to be highly capital consuming since it will require the drilling of approximately 13 wells (11 producers and 2 injectors) with gross costs that we estimate at around £300m. The well is currently the unique short term catalyst and we believe it holds the potential to kick-start IOG's development story. Moreover, the appraisal well will also test other exploration targets beneath Skipper - Maureen & Dornoch - that could add another 11.6mboe of 2C resources.

In order to bring this field into production, the company recently extended its SPA with Alpha Petroleum until 7 December 2015 to acquire the remaining 50% interest and become the operator and sole licensee on the field. The Skipper licence itself has also been extended by the OGA until the 31 December 2015 providing IOG with more time to drill the Skipper commitment appraisal well. We expect this well to be drilled by the end of 2015 or in H1 2016 at the latest – therefore requiring an extension from the OGA - and cost c£7m. Following the completion of this mandatory step, IOG will then be able to submit its development plan to the OGA and may potentially convert the resources estimated at 26mboe (2C) to actual proven reserves enhancing the valuation of this asset.

The rig contract is almost in place as IOG made significant progress in its discussions with a number of companies. Services costs will be partly deferred allowing IOG to get its rig working on site with reduced upfront payments. Some service providers have also committed either to part-fund the well or provide loans to secure their participation, all of which will be payable at the end of September 2016. We expect first oil to be produced in 2018 and sold to BP Oil Trading through its existing crude sales agreement, which also demonstrates the good quality of the Skipper crude.

Two Development Plans Expected by 2016

The chart below shows that IOG offers investors significant potential for rapid near-term growth as demonstrated by the chart below, whilst at the same time minimising exposure to high-risk exploration. It is a stated aim of IOG to acquire producing assets by 2018 and it anticipates that acquired production will continue to increase to replace the natural decline of its fields.

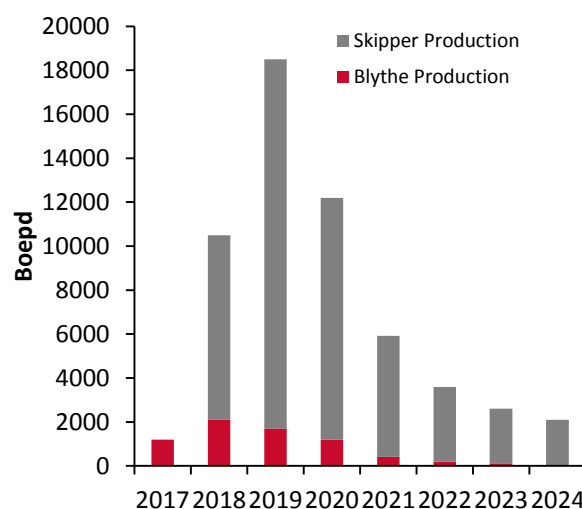
The production plan is set by the management in the scenario that the required funding is secured. First, IOG will complete its acquisition of the remaining 50% of the Skipper heavy oil field and drill its appraisal well. The development plan for Skipper is expected to be submitted by the first half of 2016 depending upon the rig being secured on time.

IOG will then submit its second development plan for the Blythe field before the end of the year. The subsurface work is complete and the export route for gas is being finalised. First gas is expected for 2017. IOG is, therefore, only two years from production.

Assuming these milestones are achieved, we are confident that IOG will be able to reach c18kboe/d in 2019 from Skipper and Blythe. IOG intends to achieve this target, and potentially more, by exploiting fields in close proximity to its existing developments, thus creating a hub strategy allowing the fields to be tied back to the in-place facility.

We believe it is a straightforward development program since the North Sea is a mature area with extensive infrastructure in place. IOG should start generating cash flow in 2017 with revenues coming from production in excess of £150m in 2018.

Blythe and Skipper Production Profile



SOURCE: Independent Oil & Gas. Includes 100% of Skipper.

Assets Developed by an Experienced Management Team

IOG has an extremely experienced management team, particularly when considering its current market cap. IOG's CEO, Mark Routh, was the founder and CEO of CH₄ Energy, set up in 2002 with £250k from the management and £750k from private equity firm 3i. In 2006 CH₄ was sold for £154.4m realising a 7.3x multiple on 3i's initial investment.

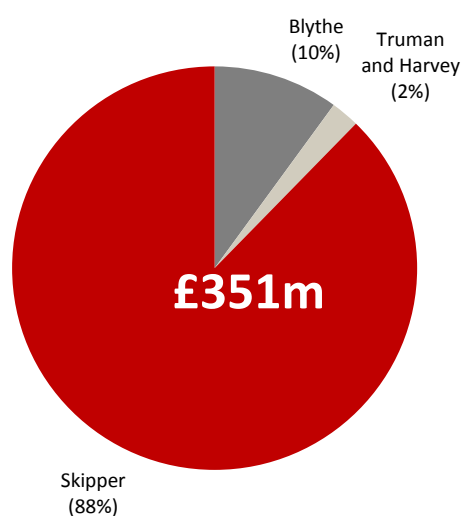
The team also comprises people with an excellent operational background. Richard Jameson has worked for Hess and possesses very strong experience in delivering oil and gas developments and decommissioning projects on time and on budget. John Boyle is the ex-Cairn Drilling Manager and he led the team that drilled the recent successful Senegal campaign. Colin Jones is the former Chair of society of Petroleum Engineers in Oslo.

Furthermore, the management has a proven track record utilising this hub strategy as CH₄ Energy was built on the same principle and similarly focused on North Sea gas development. Due to the previous success of the management team using a near identical strategy, we see the experience of IOG's management as key to its story.

Funding Requirement is The Main Risk/Catalyst

Following the unexpected withdrawal of the key strategic investor in August who was supposed to fund IOG through its entire asset portfolio development, the funding scenario has weakened and would now appear as the main risk for investors, although we see that different solutions could be provided to finance IOG development plans. We believe that this largely explains the actual share price discount as sentiment is negative due to the lack of funding and investors caution toward E&Ps in general. The company is currently funded until October 2015 and needs to pay back Darwin loan (£0.36m) which was extended to 7 December 2015 without any further incurred cost nor interest. When acquiring Alpha's 50% share of Skipper, IOG will also get its contingent liabilities. The company has negotiated staged payments as part of the acquisition with US\$3m at FDP approval and US\$15m at first oil in 2018.

2016-17 Capex Estimate



SOURCE: VSA Capital estimates - We assume 100% of Skipper.

Although we think this is challenging time to raise funding especially in a capital intensive sector such as the O&G industry, in our view IOG should succeed in doing so since it is a company with proven discoveries within a well-known mature area, geopolitically stable, with the infrastructure in place and supported by a reputable management team. It is therefore easy to understand that the two missing pieces to make IOG a success are funding and production, with the latter clearly being a direct consequence of the former.

IOG has several near term catalysts that are central to driving the company towards production by 2017 and providing short term support to the share price. The first near term catalyst to IOG should be securing the short term financing to fund the Skipper and Blythe discoveries through to production. It is interesting to note that IOG's management is now clearly considering raising cash through the farm out of its assets.

The majority of IOG's capital spending should be realised in 2017, representing the largest sum spent by the company to date. 88% of the total capex over the period 2016-17 will be allocated to the development of Skipper, which, although it is heavy oil, has attractive economics and should achieve a price comparable to Brent – we assume a discount of only US\$3/boe.

Despite the fact that the funding required would be equal to 70x IOG's current market cap, we understand that the company speaks regularly to different potential partners, investors and other stakeholders, which gives us confidence on the feasibility of this project. The company will consider all funding possibilities including equity raise, RBL lending or farm-out of interests. In fact, IOG was able to secure a further US\$50m RBL debt facility contingent to Blythe FDP being approved by authorities. Despite a volatile oil environment, investors are clearly confident in IOG's capacity to deliver on its projects.

We have decided to show in this table IOG's current licences and its commitments in order to provide more clarity to investors with regards to timing and feasibility of the projects. We think that the company may not be in a position to develop all of its assets on time, especially those expiring at the end of 2015. However, IOG could potentially obtain further extensions from the OGA if it meets certain criteria, including funding.

IOG's commitments

Asset	Drill or Drop Commitment
Blythe	YE 2016
Elgood	YE 2016
Skipper	YE 2015
Harvey	YE 2015
Hambleton	YE 2016
Maureen & Dornoch	YE 2015
Truman	YE 2015
Tetley/Rebellion	YE 2016

SOURCE: Independent Oil & Gas.

Business Overview

History

IOG was founded in 2011 by combining the UK assets of MOST Inc. and Ebor Energy Inc. As a result IOG now owns a 50% stake in the Blythe gas field in the Southern North Sea and 50% of the Skipper licence south east of the Shetlands (block 9/21a). Subject to securing its long term funding and regulatory approvals, IOG will acquire 50% stake of the Skipper licence from Alpha and will become the operator and sole owner of the license.

IOG listed on AIM in 2013 and was awarded 100% WI in the Harvey and Truman licence (blocks 48/23c and 48/24b) in December of the same year. Then in March 2015 IOG was awarded 100% WI in the Elgood, Hambleton, Tetley and Rebellion licence (block 48/22c).

Assets

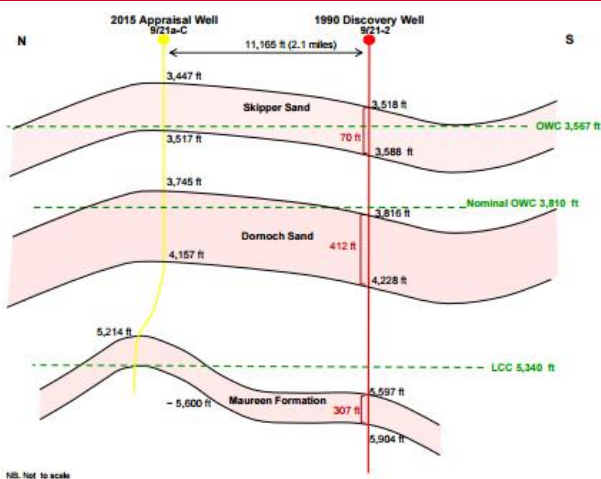
Skipper (IOG: 50%)

Summary

The Skipper discovery is a heavy oil bearing reservoir located in block 9/21a in the Northern North Sea (NNS) in 350ft of water 25km west of the Gryphon and Harding oil fields. Currently IOG owns a 50% stake in the Skipper licence, however, subject to completion, it agreed the acquisition of the remaining 50% from Alpha Petroleum Resources in June 2015. IOG will be the sole owner and operator upon completion of this acquisition which remains subject to IOG securing its long term funding and it receiving the necessary regulatory approvals, this is expected to be completed in October.

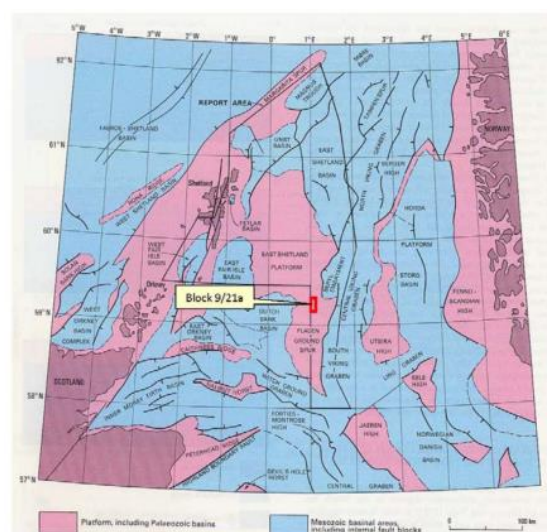
Skipper sits on the East Shetlands Platform, 40km west of the main bounding fault of the Viking Graben. It is charged by oil generated from the Kimmeridgian shale source rock within the Viking Graben which has migrated vertically and laterally into fault terraces at the edge of the graben. While some oil has been trapped in sandstone formations on these terraces (e.g. Gryphon), the remainder has continued to migrate on to the East Shetlands Platform.

Skipper Cross Section



SOURCE: Independent Oil & Gas.

North Sea Basin Architecture



SOURCE: AGR TRACS.

The Skipper discovery was made in 1990 by **Unocal** when the 9/21-2 well encountered 51' of oil bearing sands in the Palaeocene Beauly Formation. However, the drill stem test attempted was sub-optimal and the well failed to flow on test and it was plugged and abandoned with oil shows.

Alongside Blythe IOG received an extension to the Skipper licence which runs until December 2015, by which point IOG plans to have committed to drill an appraisal well in order to obtain oil samples. This will provide the essential technical data to support full field development planning, which IOG plans to submit by H1 2016 at the latest, and critically assess the viscosity of the oil which is one of the main risks surrounding the project. The 9/21-2 well was not originally designed to test the Skipper sand as it was targeting the deeper Maureen formation. This meant only a dead oil sample and log data was acquired, hence the need for an appraisal well.

IOG is targeting to produce first oil in 2018 at 17.4kbpd. Currently IOG estimates it will drill a total of 13 wells, this includes 11 producers and two injector wells. However, the final development plan could alter depending on the findings of the appraisal well.

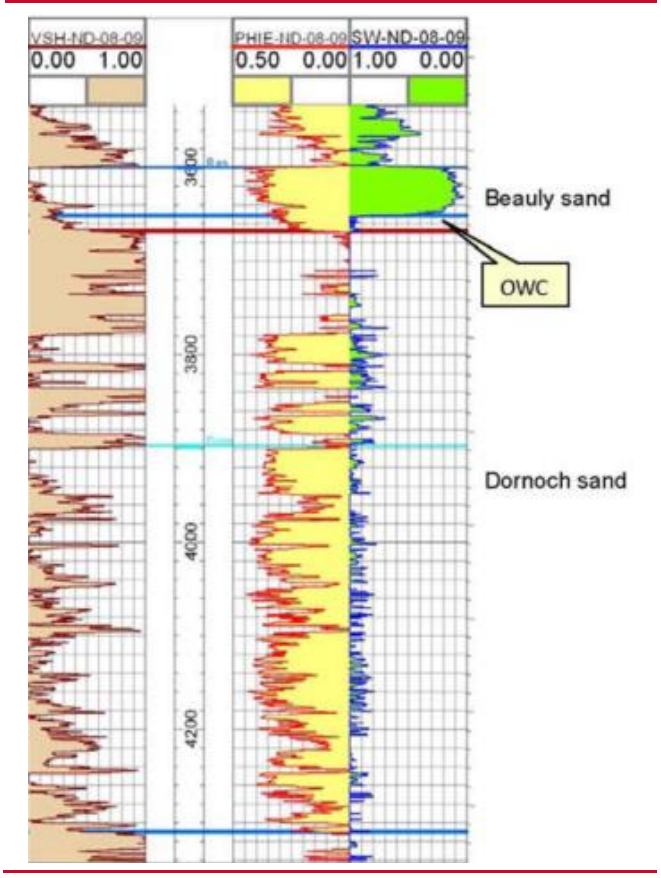
Resources

The reservoir for the Skipper formation is the Beaully sand, it consists of a series of coarsening up sequences of sands with minor interbedded clays. The net to gross ratio (the amount of total pay footage of the reservoir compared to the total thickness of the reservoir) is high for both the 9/21-1 and 9/21-2 wells confirming the overall high quality of the reservoir.

Four dead oil samples were taken from well 9/21-2 during various phases of the test and analysed by consultants Robertson group in 1991 and again by Fugro Robertson in 2006. All four samples were determined to be highly biodegraded indicating the oil at Skipper is heavy and viscous. However, Fugro/Robertson did note that even a small amount of non-degraded oil in the reservoir would significantly reduce the viscosity.

IOG has had its resources estimate independently assessed by AGR Tracs, its base case (2C) assumes the Skipper crude to have an API density of c15° with medium to high viscosity (160cP) at reservoir conditions and dissolved gas content of 135scf/stb. This data was combined with assumptions on relative permeability which were checked against nearby analogue fields to produce its 1C, 2C and 3C estimates.

Interpreted Log of Well 9/21-2



SOURCE: AGR TRACS.

Skipper Contingent Resources

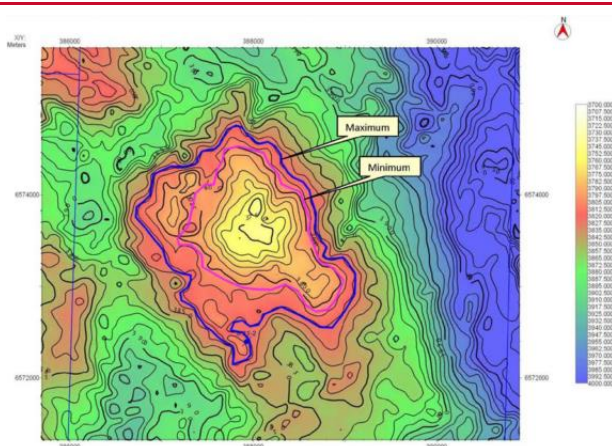
Case	Low Estimate (1C)	Best Estimate (2C)	High Estimate (3C)
Gross Crude Oil (mmbbl)	17.9	26.2	34.9

SOURCE: AGR Tracs.

Exploration Upside

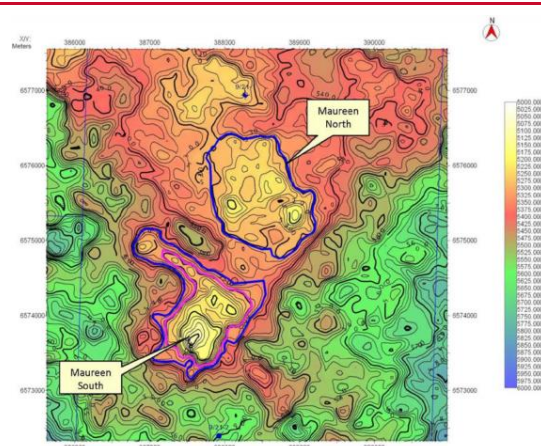
In addition to the discovery in the Beaulieu sand at Skipper, two deeper Palaeocene reservoirs hold further exploration upside. The first being the Dornoch sand which lies directly beneath the Beaulieu reservoir. It is over 400ft thick and similar to the Beaulieu has very good porosity and high net to gross. Importantly it also forms the reservoir for the Bressay and Bentley fields 80km to the north. Lying beneath the Dornoch is the sands of the Maureen formation. The mapping of the Dornoch shows a four-way dip closure which has been tested by the 9/21-2 well as evidenced by the log above. The Maureen Formation shows that two closures are present, however, neither of the wells tested either closure, which is reflected in the geological chance of success of the Maureen prospects.

Dornoch Depth Map



SOURCE: AGR TRACS.

Maureen Depth Map



SOURCE: AGR TRACS.

Volumes for both the Dornoch and Maureen reservoirs were calculated by AGR Tracs probabilistically and a geological chance of success (CoS) for each prospect was estimated based on the likelihood of the presence of the four necessary parameters to create a working petroleum system. This includes 1) a source rock to generate hydrocarbons (HC) and charge the system 2) an effective seal to prevent the migration of HC away from the system 3) presence of a sufficient reservoir rock and finally 4) a trap is present. The main risk to each of the prospects surrounds the charging of the reservoirs.

Dornoch and Maureen STOIP and CoS

Reservoir	Gross P50 STOIP (mmboe)	Geological Chance of Success (%)
Dornoch	19.5	19
Maureen South	22.9	16
Maureen North	3.6	13
Total	46	-

SOURCE: AGR TRACS.

Blythe (IOG: 50%)

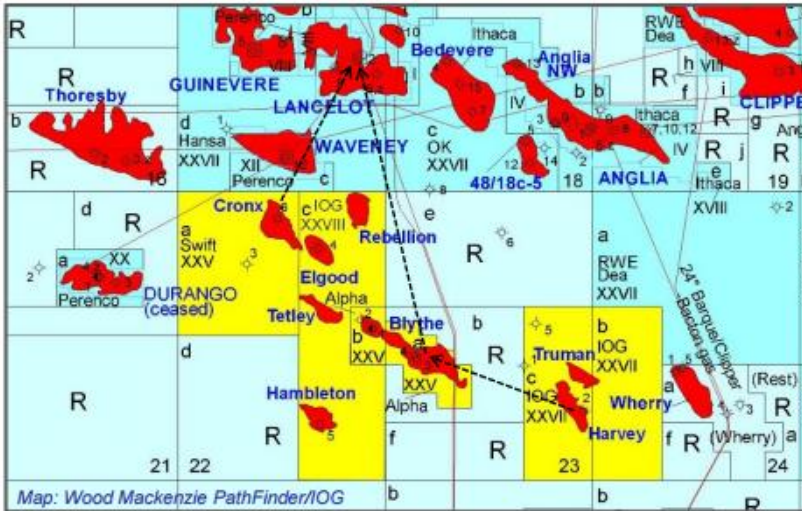
Summary

Blythe is a gas discovery situated in blocks 48/22b and 48/23a of the Southern North Sea (SNS) and is located 25km NW of the Hewett field, the water depth is c23m. Discovered in 1966 in the Rotliegend formation it was one of the first gas finds to be discovered in the North Sea.

The Blythe licence was acquired by the operator, Alpha Petroleum Resources, in the 25th licencing round which owns the remaining 50%. Together, Alpha and IOG plan on submitting the field development plan by the end of 2015 and are targeting first gas in 2017 at 30mmcf/d. IOG has already agreed a gas offtake agreement for its Blythe gas with BP Gas

Marketing. This wholly owned subsidiary of BP will take 50% of the gas produced from the Blythe field (IOG's share) which is expected to be sold at Bacton on a day ahead basis.

SNS Hub Production



SOURCE: Independent Oil & Gas.

Reservoir Characterisation and Reserves

The Blythe gas field is located in the Lower Permian Rotliegend basin of the SNS. The reservoir interval, the Leman Sandstone Formation, consists largely of aeolian dune sands that were deposited in a desert like environment with the Weisslied sandstone above. This formation is overlain by the Kupferschiefer Shale which acts as the cap rock to the reservoir. The field is covered by 3D data processed in 2004 and shows the structure has shallow relief with a four-way dip closure acting as the trapping mechanism for the hydrocarbons.

The gas bearing interval of the field is divided into six intervals as indicated on the log of well 48/23-3 (below) and these six layers form the basis for estimating the gas initially in-place (GIIP) for the reservoir, and therefore ultimately the recoverable reserves. IOG has independently verified reserves for the Blythe field by the consultancy ERC Equipoise. This is estimated using simulation models for the three GIIP cases, together with the respective recovery factor, and is summarised in the table below.

Table of Blythe Resources and Reserves

Gas Initially In-Place (GIIP)	P90	P50	P10
BCF	38.80	52.30	84.20
Gross Reserves	1P	2P	3P
BCF	22.30	34.30	47.50
Reserves Attributable to IOG	1P	2P	3P
BCF	11.15	17.15	23.75

SOURCE: ERC Equipoise

Development Plan

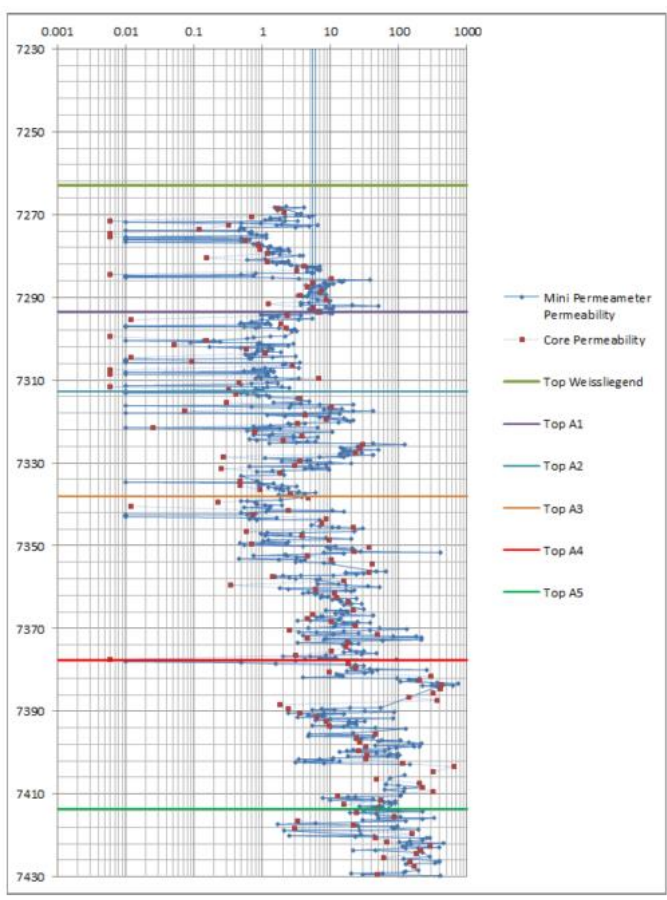
Since the discovery, two appraisal wells have been drilled by Arco between 1987 and 1990, both of which flowed at 15mmcf/d. The most recent well was a horizontal appraisal/development well drilled in 1990, however, whilst it achieved a maximum production rate of c15mmcf/d, no fully stabilised production rate was achieved during the test with a general decline in rate and pressures for each flow period. As a result development of the field was abandoned at the time.

However, recent modelling studies have subsequently indicated that this well did not penetrate at the reservoir at the optimal level and the laminated nature of the dune sands is also likely to have contributed to this poor performance. The tests concluded that drilling a horizontal well to a stratigraphically lower, better quality, interval than the previous well should lead to higher gas production rates, coupled with water production.

The current development plan consists of utilising a normally unmanned installation (NUI) from which a single tri-lateral production well targeting the A4 reservoir in the anticlinal area mapped to the NE of the current well control. The two additional 1000ft long side lateral wells are designed to maximise reservoir coverage and optimise gas production, the initial production rate is expected to be 30mmcf/d and exported via the Lancelot field pipeline which lies 20km to the north.

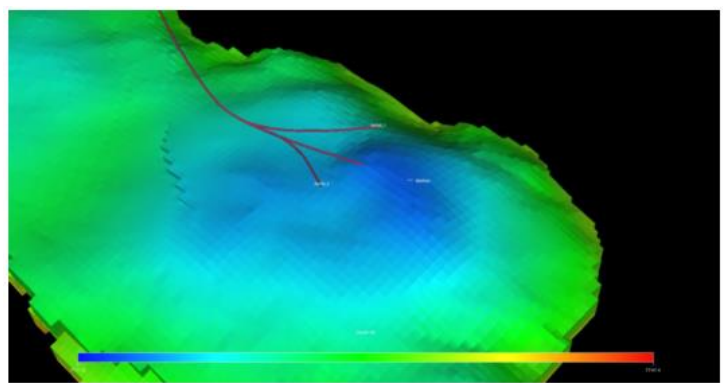
In order to accurately drill this well into the better quality A4 reservoir of the Rotliegend the operator plans to drill a pilot hole to confirm the depth of the top of the Rotliegend and finalise the profile of the production boreholes.

Well 48/23-3 Core, Permeability Vs Depth



SOURCE: ERC Equipoise.

Planned Tri-lateral Well Targeting A4 Reservoir

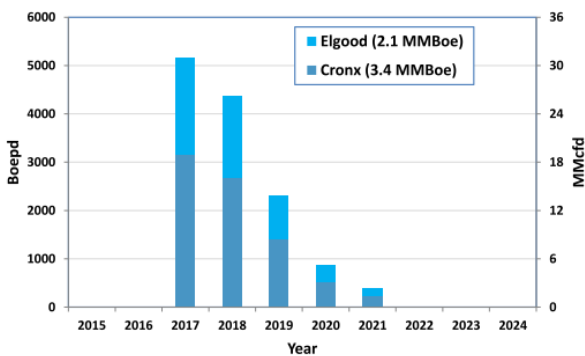


SOURCE: ERC Equipoise.

Cronx and Elgood (IOG: 100%)

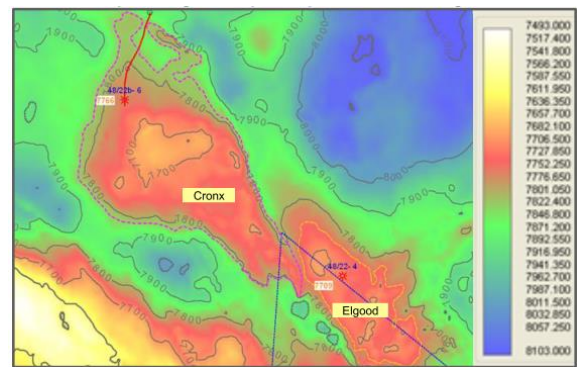
The Cronx gas field is 14km north-west of the Blythe field and was discovered by **Perenco** in 2007, however, it was not progressed due to its size and the gas price at the time. The field was independently assessed by ERC Equipoise in 2012 which shows a base case expected gas recovery of 17.6BCF or 3.4mmboe 2C resource. Similarly, the nearby Elgood discovery was discovered by Enterprise Oil in 1991, again this was also not progressed due to its size and the gas price at the time although it was tested at 17.6mmcf/d, IOG estimates it has a 2C resource of 2.1mmboe. IOG currently plans to develop Cronx and Elgood together, tied back to its SNS hub and it is targeting first gas in Q1 2017 at 30mmcf/d. Cronx’s acquisition is subject to drilling an appraisal well by the end of 2015 which is unlikely in our view.

Cronx and Elgood Expected Production



SOURCE: Independent Oil & Gas.

Depth Map of Cronx and Elgood



SOURCE: Independent Oil & Gas.

SNS Hub Area

IOG owns 100% WI in further blocks which have the potential to tie back into IOG’s SNS hub, if successful, due to their close proximity. These blocks include the Harvey discovery and the Truman prospect, which potentially have several near term catalysts. IOG is expected to acquire and reprocess 85km² of existing 3D seismic data, carry out re-mapping work and it has a drill or drop commitment for one well to 2.5km by January 2016. It also has a similar agreement with the Tetley, Rebellion and Hambleton prospects for a drill or drop commitment by Y/E 2016.

SNS Hub 2C Resource Estimates

	Truman	Harvey	Tetley	Rebellion	Hambleton
2C Contingent Resource Estimate (BCF)	25	16	14	6	6

SOURCE: Independent Oil & Gas.

Appendix 1: Management Team

Board of Directors

Mark Routh, Chief Executive Officer

Mark Routh began his career in the oil and gas industry in 1980 with Schlumberger as a field engineer. He has since built up over 30 years of experience with BP, Hess and CH₄ Energy across a broad spectrum of roles in the oil and gas industry including executive management, commercial management and petroleum engineering. In 2002 Mr. Routh founded the private equity backed North Sea operator CH₄ Energy with £1m funding from the management and 3i. This was subsequently sold to Venture Production in 2006 for £154.4m. As mentioned in the investment case we see this experience of creating a company also built on a hub strategy as key to IOG going forward. He is also non-executive chairman of Warrego Energy Limited a company with onshore gas assets in Western Australia and holds an MSc in Petroleum Engineering from Imperial College London.

Peter Young, Chief Financial Officer

Peter Young has 15 years' experience in banking and finance, spanning structured and project finance, energy derivatives structuring and sales and trade execution, mostly focused on the mid-cap E&P sector. Mr. Young was a co-founder of IOG in February 2011 as the Business Development Director before becoming CFO in January 2013. Prior to IOG he was Head of European Energy Derivative Sales at Standard Chartered and an Executive Director at Mitsui.

James Chance, Commercial Director

James Chance spent five years as an oil and gas banker with Standard Chartered, most recently as a director managing the bank's relationships with E&P companies and integrated energy companies across corporate finance, advisory, financial markets and transaction banking. He previously held an equivalent role at Standard Bank. Prior to that he was co-director of the MENA Division at EA, a leading risk advisory firm that is now part of IHS, where he consulted to financial and energy clients on commercial risks & opportunities in the region and was a regular commentator on financial news networks. He was previously a speechwriter and advisor to Prince Hassan of Jordan. He holds an MBA from London Business School, a 1st from Oxford and an MA and PhD from London.

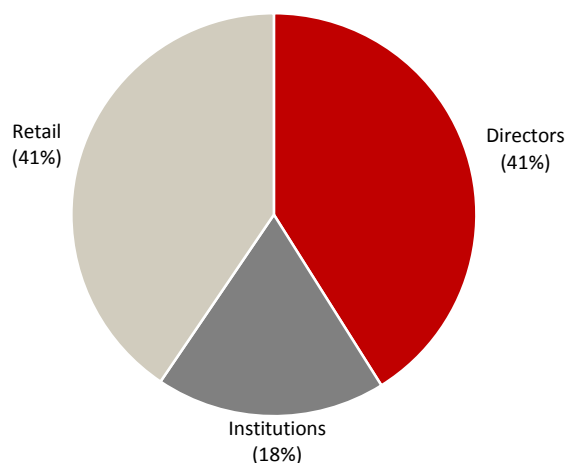
Marie-Louise Clayton, Non-Executive Director

Marie-Louise Clayton has 30 years' experience in international business finance across several industries including telecoms, oil and gas, FMCG and power. She is a very experienced non-executive director having sat on multiple boards including three FTSE 250 companies. In addition to IOG she is currently a non-executive director at Diploma, Zotefoams and Geoffrey Osborne Ltd. Previously she has held a number of executive positions at for internationally listed companies including the position of Group Finance Director at Venture Production, a FTSE 350 oil and gas company which grew rapidly from IPO in 1997 delivering 40% compound growth in its last five years, before it was acquired by Centrica in 2008.

Mike Jordan, Non-Executive Director

Mike Jordan, is an entrepreneur who led the successful development and subsequent divestment of three environmental groups between 1995 and 2006. He formed the Acura Investment Group in 2007, and as CEO has

Shareholder Base



SOURCE: Independent Oil and Gas.

investments in energy, property, retail and the oil and gas sector. He was also the former director and president of Ebor Energy Group.

Paul Murray, Non-Executive Director

Paul Murray is currently the Chair of Audit & Risk and a non-executive director at Royal Mail, QinetiQ and two private companies; Naked Energy Ltd and Ventive Ltd. Prior to his current roles he served as the Group Finance Director of Carlton Communications and LASMO a FTSE 100 North Sea oil and gas company that was acquired by ENI.

Technical Team

IOG has a deeply experienced technical team that includes experts in North Sea geology, geophysics and engineering as well as North Sea development financing. The team's experience is certainly not recognised in the current market cap of the company and is made up of personnel one would expect to find at a blue chip oil and gas company. Currently the technical team purely provides consultancy services to IOG but will work full-time for IOG once it obtains operatorship of the Cronx and Skipper fields, which as stated we expect to happen upon securing the long term funding arrangement. The technical team assembled puts IOG in a well-placed position to succeed as an operator.

Richard Jameson, Chief Operating Officer

Richard Jameson has 30 years' experience in project management and engineering with the last ten years spent in productions operations management. This includes design, engineering, construction and project implementation, commissioning and decommissioning with several blue chip oil and gas companies including Premier, Hess, BG and Foster Wheeler amongst others making him an extremely experienced North Sea oil and gas manager. Mr Jameson holds an MBA, Mechanical and Production Engineering (HND), Marketing (Dip.M) and is a member of the Chartered Institute of Marketing.

Chris Brown, Technical Director

Chris Brown has 33 years' of upstream oil & gas experience including 10 years working overseas. He has a proven track record of discovering oil in Egypt, Libya, Italy, Peru, Poland and the North Sea. As well as having experience in managing all types of seismic and well operations he successfully managed a number of multi-disciplined teams including geoscience, engineering and commercial analysts. Moreover, Mr. Brown set up Enterprise Oil's office in Italy and was a key member in the discovery of over one billion barrels of oil over several fields in the country.

Brian Oldfield, Chief Geoscientist

Brian Oldfield, has 45 years' experience working in the oil and gas industry internationally. He has worked for a number of majors including Conoco, Zapata, Total, Idemitsu, Statoil and Agip. He has over 20 years' experience in the UK North Sea working in all basins of the UK developing exploration plays for regional and licensed areas as well as having experience in 30 geological basins across the globe. Mr. Oldfield also prepared the successful UK bid applications for Blythe gas development project in 25th Round and Blythe East and Skipper West Areas in 27th Round.

Colin Jones, Chief Petroleum Engineer

Colin Jones has over 28 years' global experience, currently with DNO International on heavy oil developments. He spent 10 years with Norsk Hydro before starting an independent consultancy. Mr. Jones is also a founding director of MOST Inc. and a former Chairman of the Society of Petroleum Engineers, Oslo. He has been active in M&A, company restructuring, asset valuations, reserves auditing, on and offshore field operations and field development studies.

John Boyle, Drilling Manager

John Boyle has 40 years' experience in the international oil and gas industry. He served as VP for two leading oil service companies in the US and a non-executive for Varel International. He has also worked in the operator sector for BP, Shell and most recently Cairn Energy as a consultant in a senior drilling management role as part of high profile frontier exploration programme offshore Greenland. Thereafter he has been involved in Cairn's broadening exploration programme with emphasis on the North Atlantic region.

Andy Bell, Financial Consultant

Andy Bell has over 30 years' experience in the E&P sector. His experience spans private and public funding in London and Toronto. In 2011 he managed the sale of Centric Energy to Africa Oil as CFO.

Appendix 2: The North Sea Landscape

Oil has been produced from the North Sea for over 40 years with more than 43bn barrels pumped since 1975. The industry is vital to the health of the UK economy as a whole and has provided a steady stream of revenue for the government since drilling first began. In fact, since 1970 direct taxes from the production of oil and gas have totalled more than £330bn to the end of 2014. Furthermore approximately 450 thousand people are employed by the industry.

The North Sea has required vast investment over its life span and has seen it surpass nearly all expectations: £13bn was spent to develop its offshore fields in 1976. Investment is now becoming harder to come by and significant efforts have been made since the crash in oil prices at the beginning of June 2014 to ensure this investment continues and enables the North Sea to achieve its full potential. Overall, whilst the environment has ultimately become more challenging for investors, significant steps forward have been made to improve their post-tax returns.

Over the past year, there has been collective action by the industry, the OGA and the UK government, to improve the outlook of the North Sea, encourage new investment and extend the life of existing assets and infrastructure that may otherwise be decommissioned. HM Treasury for example announced a range of tax reforms in the March 2015 Budget to help attract fresh investment. This included reducing the supplementary charge to 20% and introducing a new investment allowance to improve the post-tax value of exploration, further consultation with industry to promote exploration and £20m of funding to acquire fresh 2D seismic data. The OGA was established as the new regulator and will work to improve stewardship of the basin. The industry is now building on these efforts by the Government to deliver the cost and efficiency improvements required to secure the UK Continental Shelf's (UKCS) long-term future.

The UK and the North Sea in particular has many qualities that still make it an attractive investment proposition: the region has a proven petroleum system with low geological risk and has readily available significant infrastructure in-place. Moreover, it has a low political risk and now an increasingly clear fiscal regime. Despite the fall in oil prices over the past year, DECC has indicated that production from the UKCS actually increased in H1 2015 by c3% YoY due to several large projects coming onstream and that investment has been growing for seven consecutive years peaking at £14.8bn in 2014.

Appendix 3: Financials

Income Statement

Year End Dec (£m)	2012	2013	2014	2015e	2016e	2017e
Brent Oil Price Average (USD/bbl)	115.5	110.2	99.4	60	50	50
Production (kboe/d)						1.3
Revenues	-	-	-	-	-	24
EBITDA	(0.3)	(0.9)	(11.0)	(1.7)	(1.8)	17.4
Profit before income tax	(0.4)	(1.0)	(12.1)	(2.0)	(2.1)	17.1
Tax charge	-	-	-	-	-	(5.1)
Net income	(0.4)	(1.0)	(12.1)	(2.0)	(2.1)	12.0
Per share data	2012	2013	2014	2015e	2016e	2017e
Average number of shares outstanding (basic)	47.3	50.4	63.3	99.9	99.9	99.9
Average share price (p/sh)	-	27.6	21.6	7.0	7.0	7.0
EPS (£)	(0.01)	(0.02)	(0.19)	(0.02)	(0.02)	0.12

SOURCE: Company data, VSA Capital estimates. Nb of shares assumes a possible US\$2m equity raise.

Cash Flow Statement

Year End Dec (£m)	2012	2013	2014	2015e	2016e	2017e
Profit before tax	(0.4)	(1.0)	(12.1)	(2.0)	(2.1)	17.1
Impairment	-	-	8.3	-	-	-
Interest	0.1	0.2	0.1	0.0	0.0	-
Tax paid	-	-	-	-	-	(5.1)
Other items	(0.1)	0.3	2.3	-	0.0	0.0
Cash flow from operations	(0.4)	(0.5)	(1.5)	(2.0)	(2.1)	12.0
Disposals	-	-	-	-	-	-
Shares issued	0.1	2.0	0.5	0.2	2.0	-
LT Debt	0.4	-	0.5	-	0.0	0.0
Total sources of funds	0.1	1.5	(0.5)	(1.8)	(0.1)	12.0
Capital expenditures	(0.4)	(0.1)	(0.5)	0	(8)	(343)
Dividends	-	-	-	-	-	-
Total uses of funds	(0.4)	(0.1)	(0.5)	0.0	(8)	(343)
Working capital changes	0.2	(0.3)	0.2	0.9	0.9	-
Cash Flow surplus/(deficit)	(0.1)	1.1	(0.8)	(1.0)	(6.7)	(331)

SOURCE: Company data, VSA Capital estimates.

Balance Sheet

Year End Dec (£m)	2012	2013	2014	2015e	2016e	2017e
Non Current Assets	15.2	15.3	7.5	7.5	15.0	358.1
Current Assets	0.1	1.2	0.7	0.3	0.9	0.3
of which: Cash	0.0	1.1	0.4	-	0.8	-
Total Assets	15.2	16.5	8.2	7.8	15.9	358.4
LT Debt	-	-	-	-	7.5	350.6
Other Long Term Liabilities	1.5	1.5	1.6	1.6	1.6	1.6
Current Liabilities	0.7	0.1	0.7	1.2	2.3	2.3
Total Liabilities	2.2	1.6	2.2	2.8	11.4	354.5
Equity & Minorities	13.7	14.9	6.0	5.0	4.5	4.0
Total Equity & Liabilities	15.9	16.5	8.2	7.8	15.9	358.4

SOURCE: Company data, VSA Capital estimates.

Appendix 3: Peer Group Table

Company	Local Currency	Share Price (local)	Mkt Cap (USDm)	P/E				P/B				ROE (%)			
				2014	2015e	2016e	2017e	2014	2015e	2016e	2017e	2014	2015e	2016e	2017e
Independent Oil & Gas Plc	GBP	0.07	6.9	n/a	n/a	n/a	0.6	3.8	2.2	2.4	2.7	(105.0%)	(31.0%)	(37.0%)	290.0%
EnQuest PLC	GBP	0.27	334.1	n/a	7	n/a	n/a	0.3	0.2	0.2	0.3	(12.1%)	3.8%	(3.3%)	(0.1%)
Faroe Petroleum plc	GBP	0.65	267.2	n/a	n/a	n/a	98	0.6	0.7	0.7	0.7	(22.9%)	(2.8%)	(2.4%)	0.7%
IGas Energy plc	GBP	0.21	94.1	12	18	10	7	0.7	n/a	n/a	n/a	4.7%	n/a	n/a	n/a
Ithaca Energy Inc.	GBP	0.33	163.6	n/a	n/a	n/a	3	0.4	0.2	0.2	0.2	(2.8%)	(4.0%)	(0.4%)	6.0%
Lundin Petroleum AB	SEK	101.40	3747.8	n/a	n/a	15	18	4.5	12.1	10.0	7.3	(52.7%)	(64.1%)	66.6%	41.4%
Northern Petroleum Plc	GBP	0.05	6.9	n/a	n/a	n/a	n/a	0.2	n/a	n/a	n/a	(66.9%)	n/a	n/a	n/a
Premier Oil plc	GBP	0.64	498.6	n/a	n/a	12	4	0.7	0.3	0.3	0.3	(10.3%)	(10.1%)	2.4%	6.5%
Providence Resources Plc	GBP	0.15	31.3	n/a	n/a	n/a	n/a	1.2	n/a	n/a	n/a	(17.3%)	n/a	n/a	n/a
Serica Energy PLC	GBP	0.05	21.0	n/a	n/a	2	2	0.2	0.3	0.3	0.3	(41.5%)	(2.2%)	12.2%	10.5%
Xcite Energy Limited	GBP	0.21	99.4	n/a	n/a	n/a	n/a	0.5	0.3	0.3	0.3	(1.4%)	(1.3%)	(1.7%)	(2.7%)
Sector			5271	0.3	5.5	12.7	13.7	3.2	10.2	5.4	3.4	(38.8%)	(39.6%)	32.1%	22.6%

Company	Gearing (%)				EV/EBITDA				FCF Yield (%)				Return on Invested Capital (%)			
	2014	2015e	2016e	2017e	2014	2015e	2016e	2017e	2014	2015e	2016e	2017e	2014	2015e	2016e	2017e
Independent Oil & Gas Plc	0.0%	n/a	43%	0.0%	n/a	n/a	n/a	0.6	(8.0%)	(11.0%)	(80.0%)	(3056.0%)	(110.9%)	(31.3%)	(40.3%)	319.0%
EnQuest PLC	62.4%	105.9%	128.7%	120.9%	2.5	4.4	4.6	3.5	(91.5%)	(128.6%)	(85.3%)	27.6%	(7.8%)	2.0%	(1.2%)	(0.3%)
Faroe Petroleum plc	(13.4%)	(8.4%)	(3.6%)	4.6%	2.5	3.5	3.2	3.6	16.0%	(11.6%)	(26.4%)	(17.8%)	(22.9%)	(2.1%)	(2.0%)	0.0%
IGas Energy plc	57.9%	36.3%	28.5%	18.7%	7.5	5.5	5.3	3.9	25.7%	34.0%	(2.1%)	0.8%	2.5%	(1.6%)	1.1%	2.0%
Ithaca Energy Inc.	76.5%	88.6%	72.2%	41.5%	7.4	8.1	4.1	1.5	(83.8%)	28.2%	84.7%	231.5%	(1.6%)	(1.0%)	(0.1%)	3.6%
Lundin Petroleum AB	596.4%	1148.3%	1021.0%	625.1%	28.2	16.9	5.6	4.6	(24.2%)	(30.9%)	3.9%	6.0%	(14.7%)	n/a	n/a	n/a
Northern Petroleum Plc	(27.3%)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	(31.5%)	n/a	n/a	n/a	(65.8%)	n/a	n/a	n/a
Premier Oil plc	97.3%	147.8%	142.8%	122.4%	3.4	4.3	4.0	3.1	(10.0%)	(68.8%)	6.7%	36.5%	(5.1%)	n/a	n/a	n/a
Providence Resources Plc	17.5%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	(15.4%)	n/a	n/a	n/a	(17.3%)	n/a	n/a	n/a
Serica Energy PLC	(14.9%)	19.4%	25.1%	n/a	n/a	n/a	4.2	5.1	(14.0%)	(30.9%)	(6.2%)	n/a	(41.5%)	n/a	n/a	n/a
Xcite Energy Limited	20.8%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	(32.0%)	(2.9%)	(139.2%)	(340.5%)	(1.2%)	n/a	n/a	n/a
Sector	0.0%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	(8.0%)	(11.0%)	(81.0%)	(3085.0%)	(110.9%)	31.3%	40.3%	14.0%

SOURCE: FactSet, VSA Capital estimates.

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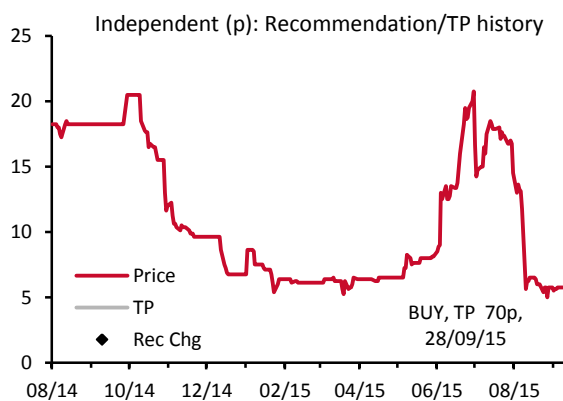
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Equities breakdown: 30 June 2015	Spec. BUY	BUY	HOLD	SELL
Overall equities coverage	26.3%	68.4%	5.3%	0.0%
Companies to which VSA has supplied investment banking services	25.0%	75.0%	0.0%	0.0%

Recommendation and Target Price History



SOURCE: FactSet data, VSA Capital estimates.

Valuation basis

We have used a sum-of-the-parts methodology where we include Blythe and Elgood gas fields as well as Skipper heavy oil field into our core NAV since these are expected to be the first developments undertaken by IOG in 2017-18.

Risks to that valuation

The main risk to our valuation is related to funding progress and development delays.

This recommendation was first published on 28/09/2015.