



BLOCK ENERGY

Building Blocks

Bloomberg	ticker	BLOE LN
Share price	p/shr	10.00
Target	p/shr	35.0
TP upside	%	250%
Shares out	Million	388.4
Fd shares	Million	421.8
Mkt cap	US\$m	50.5
EV	US\$m	33.0



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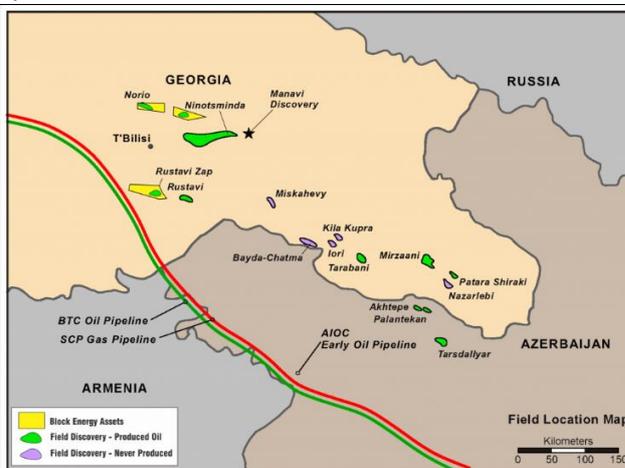
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INVESTMENT CASE

Block Energy is a Georgia-focussed E&P with interests in three onshore licences (Norio, West Rustavi and Satskhenisi) in the heart of the country’s Kura Basin (see Figure 1, below). The company grabbed the headlines earlier this year by delivering one of the most productive wells (well 16aZ) ever to be drilled in Georgia. This well (on the 100% owned West Rustavi field) flowed at rates in excess of 1,000 bbls/d, which was more than three times expectations. The result has allowed Block to step up development operations, financed via a recent £12m equity placing, and completing Block’s evolution into a fully-fledged producer – our forecasts suggest annual EBITDA of US\$17.5m by 2020. With additional near term catalysts, including first sales from West Rustavi, development and appraisal drilling, new 3D seismic and an updated Competent Person’s Report (CPR), Block is set for a busy few months. Furthermore, with shares trading at c.70% discount to our **35p/shr Target Price**, we see considerable scope for rerating in the near term. Accordingly, we are initiating coverage with a **BUY recommendation**.

Figure 1: Block licence map



Sources: Block Energy

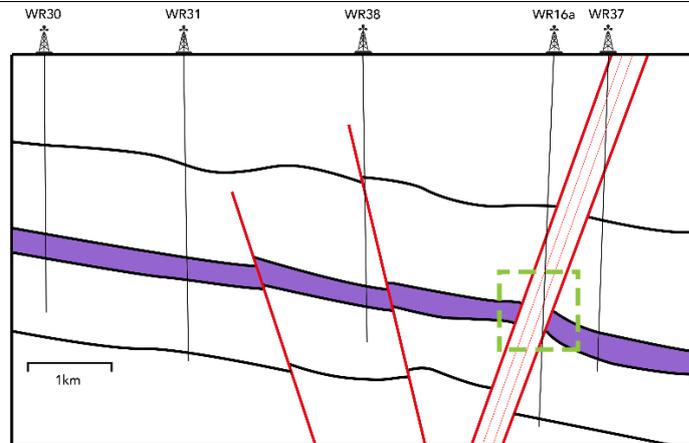
THE BUILDING BLOCKS

Block operates the West Rustavi (moving to 100% - currently 71.5%), Norio (100%) and Satskhenisi (90%) oil and gas fields, having consolidated its interests over the past couple of years. According to independent auditor Gustavson, at last June’s IPO (and therefore not accounting for the recent results from well 16aZ), the three fields were estimated to contain a relatively modest 2.6 mmbbls of 2P reserves. More significantly, however, the auditor attributed an additional 73 mmbbls of discovered 2C oil resources, and c.625 bcf of discovered 2C gas. A key focus of the company to date, therefore, has been to prove the commerciality of this substantial 2C resource base through appraisal drilling, allowing for the upgrade to 2P reserves. In April this year, the company clearly demonstrated the effectiveness of horizontal drilling through the Middle Eocene reservoirs at West Rustavi. Block’s objective now is to establish the reservoir response across the rest of the West Rustavi structure, as well as elsewhere across the rest of its portfolio, and potentially beyond.

In planning its next moves, it makes sense for Block to look to gradually step out from well 16aZ. With this in mind, the next well in the programme, which is due to spud this summer, will be sidetracked into the same fault block as 16aZ. Well 38 will be sidetracked in an easterly direction, crossing the fault illustrated in Figure 2, with drilling directed towards the bottom-hole location of 16aZ. In our view this maximises Block’s chances of repeated success – although with drilling costs of just c.US\$2m we would consider rates in the low hundreds of barrels per day as successful, making this well particularly low risk. Even without the forecasted internal cash flow, Block is comfortably financed for four new horizontal sidetracks across its West Rustavi licence, to be drilled through 2019 and 2020. Meanwhile, infrastructure upgrades are ongoing, which will ramp up short term production capacity to 4-5,000 bopd, with the potential for further scaling up to c.12-15,000 bopd. Block has scheduled a

new 3D seismic survey of the field, and is reviewing tenders with the winning bidder to be announced in due course. This will support an updated CPR and allow for the positioning of future development wells for the full scale development of West Rustavi.

Figure 2: West Rustavi schematic cross section



Sources: Block Energy

THE BIGGER PICTURE

With the low hanging fruit of the Upper & Middle Eocene oil, it is easy to overlook the underlying gas potential at West Rustavi. Legacy Soviet wells have tested gas, and the auditor Gustavson has estimated recoverable 2C dry gas resources at over 600 bcf. In order to establish reservoir productivity and prove commerciality, appraisal drilling will be required, but the auditor’s confidence is reflected in its 75% risk factor. This deeper gas potential will be tested with the deepening of the second and third well in the upcoming drilling programme.

There is also scope for inorganic growth in Georgia. While the slow moving Majors are starting to take an interest in the region (for instance late last year ExxonMobil signed an agreement with the state to undertake a study of hydrocarbon resources), acreage is still predominantly held by a handful of small independents, creating the opportunity for Block to take advantage of its position and expand its regional footprint.

COMPELLING VALUATION – TARGET PRICE OF 35P/SHR

The fiscal terms of Block’s three PSCs are highly favourable, with no local taxes or royalties, contractors able to recover 100% of costs, and profit oil shared at least 40:60 (contractor: state). Furthermore, it is an inexpensive place to operate, with services typically sourced locally or from neighbouring Azerbaijan and/or Turkey. Accordingly, at US\$70/bbl Brent prices, netbacks are attractive, with post-tax margins comfortably in excess of US\$30/bbl. On this basis, well 16aZ pays back its drilling costs in under two months at c.1,000 bbls/d.

By the end of 2019 Block should have advanced its infrastructure upgrades at West Rustavi, and drilled one new development well. On conservative average annual production forecasts of c.1,290 bopd, our model estimates FY20 EBITDA of US\$17.5m, which puts the company on an EV/EBITDA multiple of just 1.9x.

Block is equally cheap based on DCF modelling. We calculate a risked valuation, which includes value for only its 2P reserve base plus 2C oil resources at West Rustavi, of 35p/shr. This is equivalent to 3.5x the current share price, and highlights the potential for multiple returns while the market cap is still modest (US\$51m at 10.0p/shr).

With no shortage of near term catalysts to trigger such a re-rating, plus existing resources and substantial near term cash flow more than meeting the company’s capital requirements for growth, we consider today’s 10.0p/shr an attractive entry point. Accordingly, **we initiate coverage with a BUY recommendation and a 35p/shr target price.**

ASSETS IN DETAIL

Block Energy currently has stakes in three onshore Georgia PSCs. The company’s flagship asset is the West Rustavi block, where it recently sidetracked and tested a legacy production well producing exceptional test flow rates in excess of 1,000 bbls/d. Its other two permits, Norio and Satskhenisi, produce a combined volume of 20-40 bopd, but their low operating costs make them profitable at current oil prices. Furthermore, in addition to the 1.6 mmbbls of 2P reserves they contain significant volumes of 2C resources (c. 38 mboe) which could be monetised in future.

As part of last year’s IPO process, Block commissioned independent auditor Gustavson Associates to undertake a competent persons report on the three permits. Subsequent to the report, Block has reached an agreement to up its stake in West Rustavi to 100% (from the current 71.5%). The headline volumetrics from the report are included in Figure 3, below, however it should be noted that the CPR does not account for Block’s operational progress at Norio (workovers have successfully increased production from 10 bopd to 20-40 bopd), nor its appraisal success with the West Rustavi sidetrack 16aZ.

Figure 3: Block Energy reserves and resources

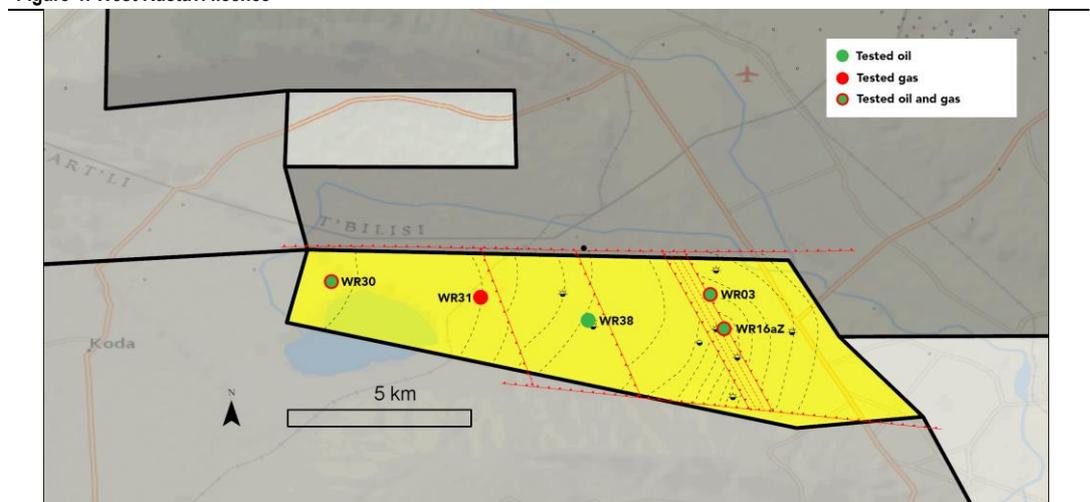
	OIL RESERVES (MMBBLs)			OIL RESOURCES (MMBBLs)			GAS RESOURCES (BCF)			TOTAL RESOURCES (MMBOE)		
	1P	2P	3P	1C	2C	3C	1C	2C	3C	1C	2C	3C
W. Rustavi	0.5	0.9	1.6	18.6	37.9	69.3	314	608	1,000	70.9	139	236
Norio	0.9	1.6	2.5	3.1	7.2	13.9	0.8	1.9	3.7	3.2	7.5	14.5
Satskhenisi	0.0	0.0	0.0	16.4	27.8	43.7	9.3	16.4	26.5	18.0	30.5	48.1
Total	1.4	2.5	4.1	38.1	72.9	127	324	626	1,030	92.1	177	299

Sources: Gustavson Associates, Mirabaud Securities

WEST RUSTAVI

The West Rustavi block is situated just 10 km south-east of Georgia’s capital city Tbilisi, and a few kilometres to the west of the industrial city of Rustavi. The block contains several oil and gas discoveries first drilled during the Soviet era. A number of vertical wells encountered oil and gas within various Eocene and Upper Cretaceous aged horizons. Commercial production commenced in the late 1980s, but the collapse of the Soviet Union soon ended production. Another operator picked up the permit in the late 1990’s but did little more than the minimum committed work programme leaving the block essentially dormant until 2017, when Georgia Oil and Gas (GOG) acquired the permit in a public auction and immediately farmed an interest to Block Energy in exchange for a modest amount of cash, Block Energy equity shares and a work programme. In late 2018/early 2019 Block re-entered and sidetracked one of the former production wells (well 16aZ). The sidetrack was hugely successful, testing at rates in excess of 1,000 bbls/d – more than three times the pre-drill expectations.

Figure 4: West Rustavi licence



Sources: Block Energy

WEST RUSTAVI GEOLOGICAL OVERVIEW

West Rustavi, like Norio and Satskhenisi, is situated in the Kura Basin – a broad and thick Cenozoic sedimentary basin filled with sediments derived from the uplifting Caucasus Mountains. The source rock for the basin is predominantly provided by the Oligocene/Miocene Maikop shale, which at up to 10% total organic content is rich, and up to 2,000 metres thick. Due to the heavy tectonic deformation in the region the shale has been subject to substantial temperatures and pressures, and is therefore regionally productive for both oil and gas.

The reservoir horizons at West Rustavi can be categorised into Upper, Middle and Lower Eocene, and the Upper Cretaceous. Arguably the most prospective horizon, and the horizon in which Block’s recent sidetrack produced over 1,000 bbls/d, is the Middle Eocene. The Middle Eocene is characterised by volcanoclastic sediments (clastic units, like sandstone, but comprising sediments originally derived from volcanic activity, such as ash). The Upper Eocene comprises sandstone, clays, siltstone and mudstone. Like the Middle Eocene, Upper Eocene matrix porosities are relatively low, at <5-12%, and accordingly an element of natural fracturing is necessary for economically viable flow rates.

Figure 5: West Rustavi well 16aZ



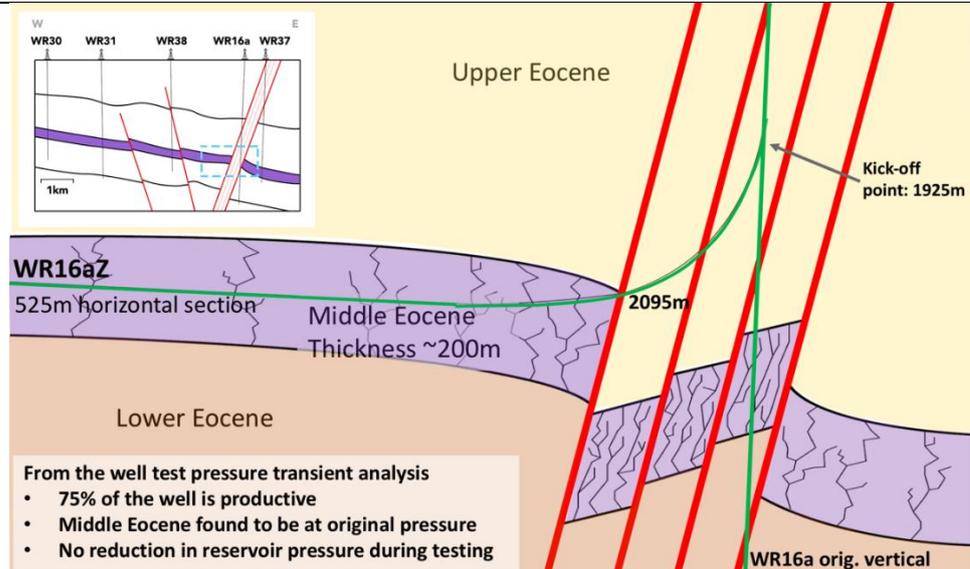
Sources: Block Energy

WEST RUSTAVI INFRASTRUCTURE AND OPERATIONS

When Block acquired the West Rustavi field, it inherited five shut-in wellbores with intact wellheads, as well as a further eight abandoned wells (which are believed to be recoverable). Modest storage is currently available nearby (c. 4,000 bbls), and Block recently secured a further 90,000 bbls of local storage from state oil company Georgian Oil and Gas Corporation (GOGC). The field is serviced by road and electrical infrastructure, and a low pressure gas pipeline runs through the block. This line supplies the city of Rustavi (which lies less than one kilometre to the south of the licence), as well as other industrial customers such as a fertiliser and steel plant. Despite being close to both Tbilisi and Rustavi, West Rustavi is situated in a relatively sparsely populated area, thereby reducing the potential issues regarding permitting and acquiring 3D seismic.

Following the success of horizontal sidetrack well 16aZ (see Figure 6, below), Block now plans to sidetrack three to four similar legacy wells through the primary Eocene reservoir. The first will be a sidetrack of well 38, with an easterly horizontal section through what is interpreted as the same fault block as 16aZ (see inset in Figure 6, below). Due to its proximity to well 16aZ risks to the performance of well 38 are substantially reduced, but there can be no guarantee that the well will deliver the sort of flow rates seen with 16aZ. In our view, the risks here are down to the interpretation of the subsurface, given the lack of high-quality 3D seismic. Well 38 is anticipated to spud during late summer and take c.60 days to complete.

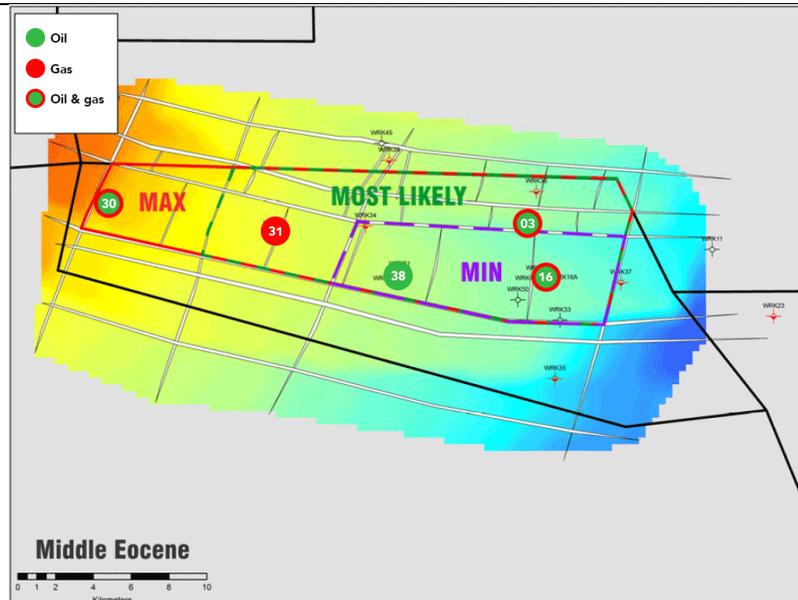
Figure 6: West Rustavi well 16aZ sidetrack cross section schematic



Sources: Block Energy

Block currently plans to follow well 38 with a sidetrack of the most westerly well on the field, well 30. This well lies within the P10 area, or the maximum part of the Middle Eocene reservoir which the independent auditor, Gustavson, considers to be productive (see Figure 7, below). Accordingly, on this basis the well is likely to be the highest risk / highest reward of the campaign. Aside from its Middle Eocene oil potential, well 30 is also prospective for Lower Eocene gas, having tested at rates of c.0.9 mmscf/d in the late 1980s. Block, therefore, intends to deepen this well to appraise the gas potential, before sidetracking a horizontal section through the primary Middle Eocene reservoir. The third sidetrack is likely to be undertaken at well 3 (c.2km north of 16aZ).

Figure 7: West Rustavi Middle Eocene reservoir area



Sources: Gustavson Associates

Block has allocated c.US\$2m of its recent equity placing for upgrades to infrastructure (including on site storage, upgraded separation and processing facilities, and loading bays for export). Under the current work programme, infrastructure capacity should be increased to c.4-5,000 bopd by the end of the year. While establishing its own, permanent production facilities, the company has secured temporary use of local storage solutions to enable constant production. Before the success of well 16aZ, Block was selling its crude to a domestic refinery. However, with the anticipated ramp up of production, Block will have new options for marketing, which should substantially reduce costs on a per barrel basis.

During the extended test of well 16aZ, over 200 boepd of associated gas was flared. Block has signed an MOU with Bago Ltd, one of the largest private gas suppliers and purchasers in Georgia, with a view to monetising this gas. According to the MOU, the precise terms of which are subject to final agreement, Bago will finance the infrastructure costs (processing plant, tie backs to local pipelines etc) in return for a pre-determined gas price. Block estimates that it will net some US\$1m of additional annualised revenue from 16aZ under the Bago agreement, with first gas forecast for the end of the year.

In due course Block expects to undertake a comprehensive 3D programme across the entire West Rustavi block which should result in a step change in the understanding of the sub-surface. This will be particularly important in understanding the network of faults and fractures throughout the field which contribute to reservoir productivity, and will be crucial in the positioning of new bespoke producers (which should follow the current sidetrack drilling programme). The new 3D seismic data will be integrated into a new competent person’s report, expected to be published at some point next year.

WEST RUSTAVI OWNERSHIP STRUCTURE

Block took ownership of West Rustavi in June 2017, initially acquiring a 5% stake but with a structured plan to increase its interest to 75% through a phased work programme carry. As part of the June 2018 IPO, Block acquired a further 20% of the licence for US\$0.5m of cash and US\$1m of new equity (taking its overall interest to 25%). Block then re-negotiated with the vendor, Georgia Oil & Gas (GOG), agreeing to acquire the remaining 75% (i.e. increasing its interest to 100%) for a combined US\$1.5m payment, comprising US\$1m in new equity (at the 60 day VWAP), and a cash payment of US\$0.5m. To date, Block has earned a 71.5% stake, which will increase to 100% by the end of August in return for a US\$250k cash payment and the issue of US\$500k worth of new equity to GOG. It’s also worth noting that the 25 year PSC does not expire until 2043, and the drilling of 16aZ effectively satisfied Block’s mandatory work programme for the first five year phase of the licence.

Figure 8: West Rustavi consideration structure

	NEW SHARES (MILLION)	EQUITY US\$M	CASH US\$M
Stage 1 (71.5%)	9.6	0.50	0.25
Stage 2 (90%)	-		0.25
Stage 3 (100%)	3.5*	0.50	-
Total consideration	13.1	1.00	0.50

Sources: Company data, Mirabaud Securities. *Number of shares based on current market price of 10.9p/shr.

NORIO

Norio was first discovered in 1938, and to date, some 55 oil wells have been drilled on the structure. Despite the field producing (on and off) for some 80 years, only 1.8 mmbbls have been produced in total; in part a reflection of the complex faulting of the structure.

Today only four wells are on production, at a combined rate of c.20-40 bopd. Production facilities on site have capacity well in excess of these levels. These include on-site storage for over 10,000 bbls, water separation and handling facilities, including one disposal well.

BLOCK ENERGY

Since acquiring its stake in Norio during 2017, Block has focussed on inexpensive workovers at Norio, applying modern recompletion techniques to the Soviet era wells. At a cost of just US\$10,000-\$20,000 per well, Block has substantially increased productivity of existing wells, by boring through near wellbore damage (dating back to poor Soviet drilling and completion methods) into fresh reservoir. This has helped up production from the 10 bopd in June 2018 to today's levels, without the drilling of any new wells. By recompleting and working over additional Norio wells, and drilling a new horizontal well, Block believes it can increase production from the field to c.250 bopd, however with the operational focus for this year at least on West Rustavi, Norio is likely to take a back seat for now. Over the medium term, new wells, including horizontal sections are planned in order to further increase production and monetise the c.7 mmbbls of remaining 2C contingent resource.

Figure 9: Norio wellsite



Sources: Block Energy

SATSKHENISI

The Satskhenisi field is situated c.10km due east of Norio. The field was discovered in 1956, and was drilled (a total of 19 wells) throughout the Soviet era. The field has been on almost continuous production since 1956, however has only produced c.325,000 bbls of oil, from up to 14 shallow wells, despite peak rates in the region of 7,000 bopd.

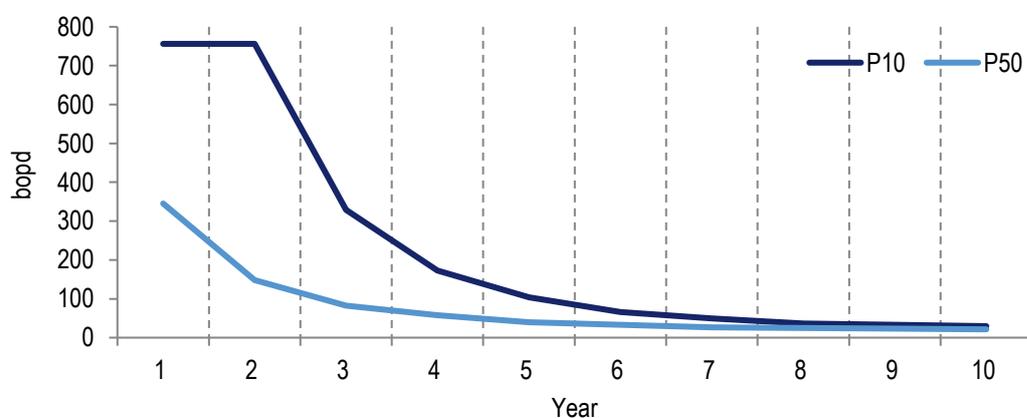
Between 2013 and 2015 the previous operator, Iskander Energy Corp, undertook a fresh drilling and workover campaign on the licence, including well stimulation. The results however were disappointing, and today only three wells remain on production, with flow rates in the region of just 5-10 bopd. Nevertheless, with very modest incremental operating costs, Satskhenisi remains profitable even at flow rates of just 5 bopd. The company is currently considering whether to drill a new horizontal field or the application of the micro-drilling technology being applied at Norio. With its independently audited 30 mmbbls of 2C resources, the field offers opportunities should higher oil prices or emerging technologies motivate further investment.

PRODUCTION PROFILE, FINANCIAL FORECASTS AND VALUATION

PRODUCTION PROFILES

The flow test results from 16aZ broadly correspond to the P10 case (the upside case) in the Gustavson CPR. The CPR assumes average rates of c.750 bopd in year 1, held flat for one year, and declining thereafter (see the dark blue line in Figure 10, below). Well 16aZ is capable of producing at rates well in excess of 1,000 bbls/d, but for reservoir management purposes, we would expect the well to be choked back to rates in the region of 750 bbls/d. Accordingly, in our view the CPR P10 case is a good assumption, given our knowledge to date. We have assumed that Block's future wells perform in line with the CPR P50 case (the light blue line in Figure 10). Naturally, given the results from the initial well in the programme this approach may prove to be conservative, and once more data is available our numbers may be subject to revision. For now we assume that each new horizontal well comes onstream at c.345 bopd, and averages c.250 bopd over their first year.

Figure 10: Individual West Rustavi horizontal well profile, P10 and P50 cases



Sources: Mirabaud Securities

Block is currently upgrading its production capacity to up to 4-5,000 bopd at West Rustavi, allowing for the ramp up in group output. Until the facilities upgrades are complete, we are assuming that 16aZ averages just c.190 bopd over the full year, on top of the 20-40 bopd from Norio and Satskhenisi. Next year however, we expect the 16aZ well to produce according to the CPR P10 well profile. The sidetrack of the next well in the programme, well 38, should be complete and onstream by the end of 2019. Therefore, our 2020 forecasts include the full 250 bopd of average production (in line with the P50 case). We model the third horizontal well, well 30, to be onstream by the end of Q1, followed by a new well each quarter for the duration of the year. With this in mind, we are assuming gross average production of c.1,260 bopd from West Rustavi in 2020, holding broadly flat in 2021 at c.1,285 bopd as new wells offset natural decline. Over the medium term we would expect Block to contract a second rig in order to accelerate development drilling.

The Norio and Satskhenisi operations are likely to take a back-seat to West Rustavi over the next couple of years. As such, our model assumes that production from the two fields is held at just 30 bopd (gross) until 2022. Over the medium term, we have assumed a c.US\$15m investment programme at Norio in 2022-23, which includes new horizontal development wells, and recompletions and workovers of existing wells. This should deliver a gross production increase to 1,250 bopd.

FINANCIAL FORECASTS

We have assumed average Brent oil prices of US\$65/bbl in 2019, with a long term assumption of US\$70/bbl from 2020 onwards. Consistent with the CPR, we have assumed a sales discount of US\$9/bbl, which largely accounts for transportation and marketing costs, although we understand that there may be scope to narrow this differential – particularly as offtake volumes increase.

Operations in Georgia are inexpensive, and costs are largely fixed. On completion of the infrastructure upgrades, we anticipate annual operating costs of c.US\$2.4m for West Rustavi, with a further c.US\$0.2m at Norio/Satskhenisi. Based on our forecasted 1,288 bopd in FY20, this corresponds to unit opex of US\$5.5/bbl.

With sales of US\$3.6m forecast for 2019, we estimate that Block will record a modest operating loss of US\$0.7m this year (including central overheads), however profitability is expected to rise sharply in 2020, with US\$17.5m of EBITDA from sales of US\$22m. According to our numbers, 2021 will see the asset reach “Payment Date” (see Discounted Cash Flow Analysis, below), and as such, we expect Block’s net entitlement interest to fall to 61% (from 70% in 2020). This leads to sales of US\$18m, and EBITDA of US\$14m. Even with a >US\$20m investment programme over 2019-21, we expect cash to build up strongly on the balance sheet, with net cash of c.US\$15m by the end of 2020 and US\$25m by the end of the following year. This provides plenty of scope to expand the development drilling programme, and further ramp up production through 2021 and beyond.

Figure 11: Financial summary

CALENDAR YEAR		2019	2020	2021
Norio & Sats. daily production	boepd	30	30	30
W. Rustavi daily production	boepd	189	1,258	1,160
Total production	mboe	0.1	0.47	0.43
Average realised price	US\$/boe	42.0	42.7	37.5
Entitlement interest	%	75%	70%	61%
Oil sales	US\$m	3.4	20.1	16.3
Gas sales	US\$m	0.3	1.8	1.7
Total revenue	US\$m	3.6	21.9	17.9
Operating costs	US\$m	(2.6)	(2.6)	(2.6)
<i>Unit opex</i>	<i>US\$/boe</i>	<i>(32.1)</i>	<i>(5.5)</i>	<i>(5.9)</i>
Corporate G&A	US\$m	(1.8)	(1.8)	(1.8)
EBITDA	US\$m	(0.7)	17.5	13.6
<i>EBITDA margin</i>	<i>US\$/boe</i>	<i>(9.2)</i>	<i>37.2</i>	<i>31.2</i>
Depreciation	US\$m	(0.8)	(4.7)	(4.3)
Pre-tax profit	US\$m	(1.5)	12.8	9.2
Income tax	US\$m	0.3	(2.4)	(1.8)
Net income	US\$m	(1.2)	10.4	7.5
<i>Adjusted EPS (fd)</i>	<i>p/shr</i>	<i>(0.23)</i>	<i>1.52</i>	<i>1.09</i>
Pre-tax profit (losses)	US\$m	(1.5)	12.8	9.2
Non-cash items	US\$m	0.8	4.7	4.3
Tax paid	US\$m	-	-	(1.8)
Operating cash flow*	US\$m	(0.7)	17.5	11.8
<i>Cash flow margin</i>	<i>US\$/boe</i>	<i>(9.2)</i>	<i>37.2</i>	<i>27.2</i>
<i>Cash flow per share (fd)</i>	<i>p/shr</i>			
Capex	US\$m	(9.8)	(10.0)	(1.3)
Free cash flow	US\$m	(10.6)	7.5	10.6
Shares issued	US\$m	14.8	-	-
Movement of debt, other	US\$m	(0.3)	-	-
Net increase (decrease) in cash	US\$m	4.0	7.5	10.6
Net cash (debt)	US\$m	7.1	14.6	25.2
P/E – fully diluted	x	(44.0x)	6.6x	9.2x
EV/EBITDA	x	(44.7x)	1.9x	2.4x
EV/Net cash flow	x	(44.7x)	1.9x	2.8x

Sources: Mirabaud Securities

BLOCK ENERGY

With only one horizontal well on the field, it is difficult to predict the field's full potential under a full field development. However, taking a most conservative approach (using the pre-16aZ CPR estimate of 21 mmbbls of recoverable oil in the Middle Eocene horizon alone, and assuming a maximum of 10-12% of field volumes can be recovered in any one year), we believe that the reservoir could ultimately sustain production levels of 6-7 kboepd. On top of this Middle Eocene oil production, the field contains oil and gas potential throughout the Upper and Lower Eocene and the Upper Cretaceous. This year's drilling programme is expected to appraise at least some of this potential. Accordingly, by the time the CPR is updated around the turn of the year (factoring in drilling results, including 16aZ, as well as the comprehensive 3D seismic programme), Block may have line of sight to production in excess of 10 kboepd (gross).

DISCOUNTED CASH FLOW ANALYSIS

We have built individual DCF models for the Norio and West Rustavi fields. For now, we have valued only the oil potential, ignoring gas upside. The terms of the Norio and Satskhenisi PSCs mirror one another, and are very generous. Operating costs can be fully recovered from licence revenue, and 50% of revenue can also be used to recover capital costs on the licences. Any unrecovered costs can be carried over in a cost recovery pool (which currently totals some US\$20m). Remaining 'profit oil' is split 50:50 between the contractor and the state, until "Payment Date", which is defined as the time when cumulative revenues from Cost & Profit Oil exceed total sunk capex. After this point the contractor's share of Profit Oil falls to 40%. The West Rustavi terms are similar, the only difference being that both operating and capital costs can be recovered from 50% of revenue. West Rustavi's cost recovery pool is currently in the order of c.US\$2m. There are no other state taxes or royalties due by Block, making the overall terms highly favourable from the contractors perspective.

Our general assumptions include an average Brent price of US\$65/bbl in 2019, rising to a long term price of US\$70/bbl from 2020, and a discount rate of 10%. The result is an NPV per barrel of US\$16.9 at West Rustavi, and US\$15.8 at Norio/Satskhenisi. Our valuation accounts for the audited 2P reserves at Norio and Satskhenisi, as well as 1.7 mmbbls which we attribute to the current campaign at West Rustavi. To account for future development drilling, we have included West Rustavi's 37 mmbbls 2C resource base, but we have applied a 25% haircut to the NPV/bbl (resulting in a US\$12.7/bbl valuation), to reflect the time value of money. On top of this, we have added a highly conservative 75% rising to reflect geological and commercial uncertainties. After making corporate adjustments, including the deferred consideration for West Rustavi (US\$0.25m in cash, plus US\$0.5m in equity), we estimate risked Total NAV at 35.1p/shr.

Figure 12: Block Energy NAV table

ASSET	COUNTRY	GROSS		NET		UNRISKED			RISKED	
		MMBOE	INTEREST	MMBOE	US\$/BOE	US\$M	P/SHR	COS ²	US\$M	P/SHR
Norio	Georgia	1.6	100%	1.6	15.8	26.0	4.7	100%	26.0	4.7
West Rustavi Phase I	Georgia	1.7	100%	1.7	16.9	29.1	5.3	100%	29.1	5.3
West Rustavi Phase II (oil)	Georgia	37.1	100%	37.1	12.7	471.0	85.9	25%	117.8	21.5
Satskhenisi	Georgia	0.0	90%	0.0	15.8	0.2	0.0	100%	0.2	0.0
Net cash (debt)					15.8	17.5	3.2		17.5	3.2
Deferred consideration						(0.3)	(0.0)		(0.3)	(0.0)
Option & warrant proceeds						2.0	0.4		2.0	0.4
Total NAV		40.5		40.5		545.7	99.5		192.4	35.1

Sources: Company data, Mirabaud Securities

APPENDIX 1: GEORGIA COUNTRY OVERVIEW

Georgia lies in the Caucasus region of Eurasia, at the cross roads of Western Asia and Eastern Europe. Neighbouring Turkey, Russia, Armenia, Azerbaijan and the Black Sea, Georgia has, since the second century BC, served as an important conduit for the Silk Road connecting China with the Mediterranean. The country still serves as an important transportation corridor, with oil and gas pipelines transporting around one per cent of the world’s hydrocarbons through Georgia on a daily basis.

Figure 13: Georgia country map, oil & gas infrastructure and key facts



Source: Block Energy, CIA World Factbook.

Georgia’s oil and gas potential has been well known since hydrocarbons were first industrially extracted during the second half of the 19th Century. It took the rise of the Soviet Union in the 1920s to ramp up activity, with thousands of vertical wells drilled throughout the 20th Century. Despite this history, and its role in the industry today, Georgia is not a meaningful producer. Production from the country peaked in the 1970s at over 70,000 bopd, however to date still only c.200-250 mmbbls has ever been commercially produced. Georgia, therefore, offers an opportunity for a company like Block to unlock the untapped potential through the application of modern techniques, such as horizontal drilling and advanced recompletion methods.

More generally, since independence, Georgia has been working to improve relations with Euro-Atlantic institutions. The country started a formal programme to root out corruption in public office around the start of the century, and has, as a result, been steadily moving up the Corruption Perceptions Index leaderboard. Georgia now sits at an impressive 41st place, on a par with Spain and above major European economies such as Italy. The latest national elections were held in 2016, won by the country’s first female President, Salome Zourabichvili. Zourabichvili was born in Paris, and only became a Georgian citizen in 2004. The country has been vocal in its desire to join NATO and the EU, and in 2014 it signed an Association Agreement with the EU, formalising a “Deep and Comprehensive Free Trade Area” (DCFTA).

GEORGIA PETROLEUM GEOLOGY

Georgia has two geological basins – the Riona basin, which covers the western half of the country and extends into the Black Sea, and the Kura/Kartli basin in the east, which runs through into Azerbaijan. The basin is relatively young, dating to the Cenozoic Alpine orogeny (the formation of the Alpine and Caucasus mountain ranges during the collision of the African/Arabian plate and the Eurasian plate). It is during this process that the substantial geological deformation of the region occurred. The collision created east-west trending anticlines and thrust faults, which serve as structures for oil and gas deposits. These stresses are also particularly important for the productivity of the Middle Eocene reservoir. This volcanoclastic horizon is brittle, and the natural fractures which formed during deformation can substantially improve reservoir productivity.

APPENDIX 2: BOARD AND MANAGEMENT

Paul Haywood, Chief Executive Officer

Paul is a founding member of Block Energy. He has been active in the Georgian E&P industry since 2010, involved in the acquisition, development and sale of multiple assets in country. Paul's experience includes six years in the Middle East building early stage and growth projects. More recently Paul has held senior management roles with UK and Australian public companies in the natural resources sectors, including hard-rock exploration in the MENA region and oil and gas exploration in the FSU.

Philip Dimmock, Non-Executive Chairman

Philip spent a significant part of his career at BP in a wide variety of senior positions, including manager of the Forties oil field. Subsequently, his executive roles included Vice President International/Managing Director UK at Ranger Oil Ltd/Canadian Natural Resources and Vice President Operations at Vanco Energy. In non-executive board positions, Philip was a director of Nautical Petroleum Plc and, recently, the Senior Independent Director of Gulf Keystone Petroleum Ltd. He currently serves as Advisor to Oando Energy Resources Inc. Philip has an MA in Physics from the University of Oxford.

Roger McMechan, Technical Director

Roger has more than 30 years' experience of managing domestic and international operations with senior managerial and executive roles at companies including Petro Canada, Burlington Resources and Winstar Resources (active in Algeria, Hungary, Romania and Tunisia). He has deep experience in new field development, mature field optimisation, oil and gas well completions and stimulation, and oil and gas opportunity evaluation. Roger has worked in Georgia for several years, overseeing operations, crude marketing, new well drilling, old well workovers and recompletions. He has a BSc in Engineering from the University of Waterloo and is a Professional Engineer registered in Alberta.

Niall Tomlinson, Business Development Director

Niall has more than a decade's experience as an energy and mining analyst. He began his career with Rio Tinto as an exploration geologist and has worked with a range of junior natural resource companies. Niall has spent three years assessing natural resource projects in the Republic of Georgia. He holds an MSc in Metals and Energy Finance from Imperial College and is a Chartered Geologist.

Chris Brown, Non-Executive Director

Chris Brown has nearly 40 years' experience across the international upstream oil and gas sector. Educated at Exeter University, Imperial College and the INSEAD Management School, he is a founding director of MontBlanc Oil & Gas and Beagle Geoscience, which provide consultancy and management services for the exploration and production sector. During his career Chris has led oil and gas operations in the UK, Europe, North Africa and South America, and has managed seismic and well operations encompassing deep water, shelf, desert, mountain, urban and jungle terrain. He is a regular speaker and presenter at industry conferences.

BLOCK ENERGY

DISCLAIMER

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Market index : FTSE AIM O&G

Date	Market Index level	Share Price (p)	Target Price (p)	Opinion
Block Energy 01 Jul. 2019	1,091.67	10.0	35	BUY

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BLOCK ENERGY

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