Elk Petroleum Limited - ELK

Enhanced oil recovery and shale oil from Wyoming

Capital Structure

ASX Code	ELK	
Shares	115.9	m.
Options	3.0	m @37.6 cts
Price	$0.235	
Market Cap	$27.2	m.
Net Cash (est)	$2.0	m.

Corporate Valuation

		$/share	
ELK Valuation	$m.	Risked	Upside
Grieve	$ 55	$ 0.35	$ 0.44
Niobrara	$ 24	$ 0.15	$ 0.38
Other	$ 6	$ 0.04	$ 0.13
Cash (post issue)	$ 10	$ 0.06	$ 0.06
Corporate	-$ 6	-$ 0.04	-$ 0.04
Total	$ 90	$ 0.57	$ 0.97

Board & Management

Neale Taylor	Chairman
Bob Cook	Managing Director
Tony Strasser	Non-Executive Director
Matt Healy	Non-Executive Director

Opinion*

Elk Petroleum is now well positioned for growth. It retains a fully funded 35% WI in an enhanced oil recovery (EOR) program at the Grieve oilfield in Wyoming, operated by EOR specialist Denbury Resources Inc., which will see production of between 12 and 24 million barrels (mmbbls) of oil over a 15-20 year project life, possibly commencing in H2 2012 but currently economically and conservatively modelled as commencing 18 months after the start of CO_2 injection.

The company retains 100% WI in the overlying Niobrara Shale, which has been shown to be oil productive in nearby vertical wells. Farm-out to a horizontal well specialist company would target ~9 mmbbls of recoverable oil on the Grieve leases alone, which would add over $50 million to Elk's value, assuming a 50% retained working interest (WI).

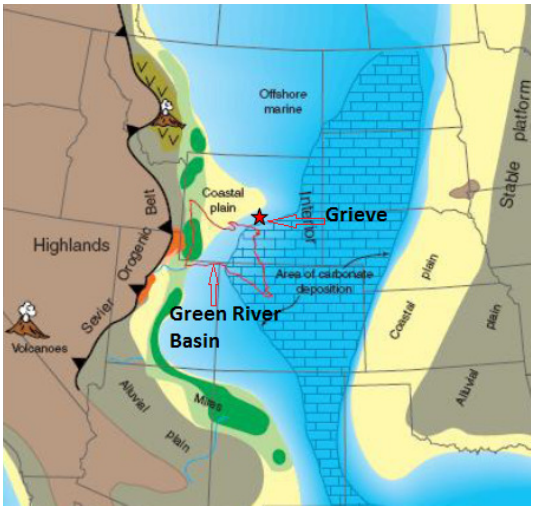
Peter Strachan.

*No recommendation is offered for commissioned research.

Investment Drivers

- Elk is fully funded for a 35% interest in a 12 to 24 mmbbl, enhanced oil recovery project at the Grieve oilfield in Wyoming. Strachan Corporate estimates a net risked value of over $55 million after tax to the company for Grieve.
- Production from the Grieve oilfield is expected to achieve peak production rates ranging between 4,000 to 12,000 BOPD, delivering Elk an EBITDA of between US$29 and US$67 million pa for those peak years, respectively.
- Elk retains 100% interest in 3,700 acres of Niobrara shale Formation, overlying Grieve's Muddy Formation oil resource. Horizontal, multistage fracture stimulation of wells on neighbouring permits is likely to demonstrate a viable oil recovery project, which would yield an estimated 9 mmbbls of oil from this acreage. On the basis that oil from this zone should have an NPV of US$13/bbl, the Niobrara shale would be worth an estimated US$120 million. Strachan Corporate estimates that a retained 50% WI in Niobrara oil after farm-out has a risked value of US$24 million for Elk.
- Elk's Managing Director is relocating to Casper in Wyoming to drive new business development on the back of its strong position from imminent Muddy oil production and likely farm-out negotiations on its Niobrara acreage.

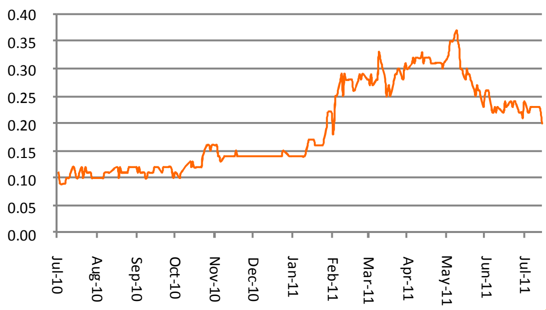
Location Of Elk's Leases



The Niobrara at Grieve is part of the calcareous shale deposited on a shallow north-south trending marine shelf.

Source: ELK

Share Price



Background

Experienced Wind River Basin Operator

Elk has been working in Wyoming since listing in June 2005. Early attempts to achieve a chemical flood solution at the Grieve field floundered, but the availability of carbon dioxide (CO_2) for enhanced oil recovery (EOR) catalysed a deal at Grieve with industry EOR specialist Denbury Resources. The company is also working to farm-out its 100% interest in the overlying, oil bearing Niobrara Shale Formation, with a view to establishing a program of horizontal well completions with multi-stage fracture stimulation.

Grieve Enhanced Oil Recovery 35%

Funded for development of +12 mmbbl oilfield

Elk has executed a contract to purchase sufficient CO_2 gas from ExxonMobil and secured access to Anadarko's CO_2 supply pipeline for the transportation of CO_2, to produce the estimated recoverable oil from the Muddy reservoir at the Grieve oilfield. The company has partnered with successful and highly experienced CO_2 EOR specialist, Denbury Resources. Denbury is earning a 65% interest in the project by building, owning and operating a 4.8 kilometre long pipeline to the field for CO_2 supply as well as substantial surface facilities to handle CO_2 gas injection and oil separation, while also sole funding all other field development costs, totalling about US$78 million in expenditure. Elk will continue to own and operate a 51 km long oil sales pipeline from the field to a market point in the nearby town of Casper. Elk will receive a toll fee for the use of this oil line, which could also become a key piece of sales infrastructure in the event of expanding oil production from the shallow, oil bearing Niobrara shale formation.

4.2-6.5 mmbbls to Elk's account

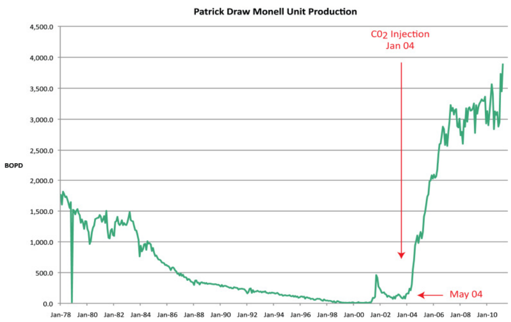
The Grieve oilfield has produced 30 million barrels (mmbbls) of oil from an estimated 80 mmbbls of oil originally in place. Elk estimates that the Muddy Formation has potential to yield a further 12-24 mmbbls of oil when applying CO_2 EOR technology, while consultant reservoir engineer Ryder Scott, has certified 18.6 mmbbls of Possible reserves in the project.

The joint venture will also explore the deeper Cloverly and Tensleep Formations, where ambiguous results were achieved by historic drilling.

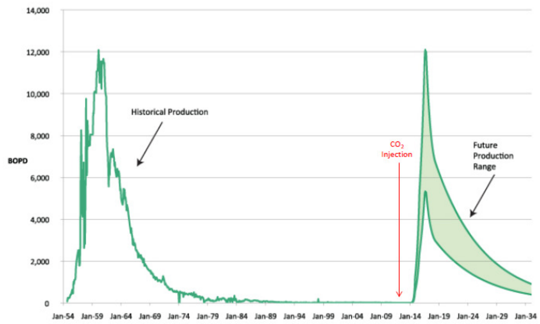
The US Department of Energy estimates that there are 3.2 billion barrels of oil which can be recovered from the US Rocky Mountain region using CO_2 EOR. When pumped into high pressure reservoirs at depth, CO_2 is a liquid. When CO_2 is pumped in to the high point of a reservoir closure using purpose drilled well bores, it is miscible with the oil and sweeps remaining oil before it in that miscible state, forcing the oil towards deeper producer wells. The CO_2 reduces the capillary pressure holding oil to the sand grains in the reservoir and promotes oil swelling, while reducing fluid viscosity and thus increases oil's mobility in the reservoir. Oil is effectively displaced from pores within a reservoir, increasing overall recovery rates.

Many good analogies for EOR using CO_2

Analogous EOR Production Profile



Forecast Grieve EOR Production Profile



Source: Elk

Elk's partner Denbury Resources will establish facilities to deliver purchased CO_2 the final 4.8 kilometres to the Grieve field and compression facilities for CO_2 separated from produced oil to be combined with the purchased CO_2 and re-injected into the Muddy Formation. First oil flows could be expected within 3-4 months of the commencement of gas injection should Grieve follow the production profiles of nearby CO_2 flood analogs, but given the uncertainty of time required to re-pressure the reservoir with CO_2, economic modelling has assumed "first oil" 18 months after the start of CO_2 injection in early 2012. Produced fluids will be separated into oil, water and gas. Water will be disposed at the base of the oilfield while CO_2 will be recycled for reinjection and oil delivered to holding tanks for export along Elk's crude pipeline to Casper.

Benchmark CO_2 EOR projects indicate an all-up cost for capital and operating expenses of about US$33 per barrel, including US$8/bbl for field acquisition costs. Elk's acquisition of the Grieve field is a sunk cost, so it could claim a delivered net-back of US$60.50 per barrel for Grieve oil, if the oil attracts a 10% discount from WTI at US$95/bbl.

Several analogous CO_2 EOR projects exist in Wyoming and Colorado, giving confidence to projects by Elk and Denbury. Elk and its consultants have been able to model CO_2 EOR production at Grieve with confidence, given the Muddy Reservoir's known geology and production history. The partners are now working towards achieving first CO_2 injection by mid 2012 with oil production commencing a ramp up in 2013. This quicker response is based on a

Denbury development plan involving a pattern flood (as opposed to the earlier proposed gravity stable flood) and nearby pattern flood analogs which achieved "first oil" response approximately 3-4 months after the start of CO_2 injection. The company projects a 15-20 year project life with peak oil production of between 4,000 and 12,000 BOPD, which would deliver a peak EBITDAX of between US$29 and US$67 million pa to Elk. Strachan Corporate models the project with an after tax NPV10 of US$11/bbl at an oil price of US$96/bbl.

Denbury Resources Inc (NYSE: DNR)

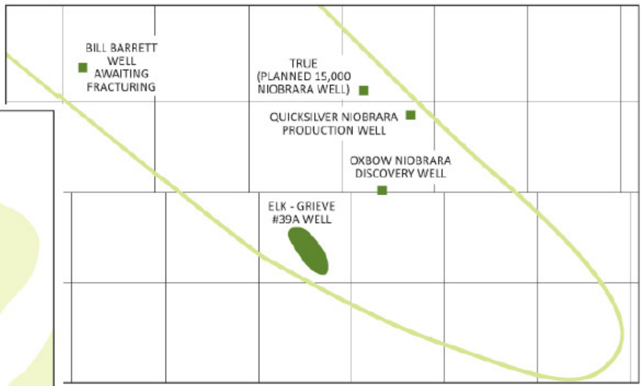
USA's best EOR partner with Elk

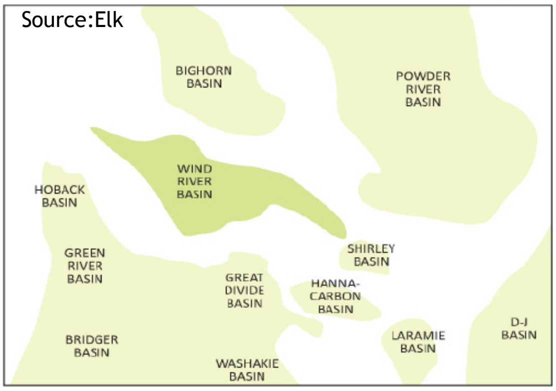
Denbury is a NYSE listed company with a market capitalisation of approximately US$8.2 billion. It is the largest oil and gas producer in Mississippi and Montana and owns the largest reserves of CO_2 used for tertiary oil recovery, east of the Mississippi River. Since commencing CO_2 EOR operations in 1999, Denbury has built its CO_2 EOR production to over 31,000 BOPD. The company holds over 163 mmBOEPof oil reserves in its CO_2 EOR portfolio, alongside 235 mmbbls of additional reserves in non EOR category.

Niobrara

Large Niobrara shale oil potential

The Niobrara Shale is an extensive, oil saturated source rock formation, covering much of western and northern Colorado and Wyoming. It is extensively developed by application of horizontal drilling and multi-stage fraccing in the DJ, Powder River and Green River Basins, to name a few.





Proven Niobrara leases trading at up to $5,000/acre

Drilling at the Grieve oilfield has intersected up to 90 metres of fractured oil-bearing Niobrara section. Samson Oil & Gas farmed out its Niobrara acreage to Haliburton in January '11 for $3,275 per acre and CNOOC paid Chesapeake Energy an average of $4,875 per acre, plus a carry for leases over the Niobrara. Recent transactions have shown values of around $5,000 per acre for productive Niobrara permits, with industry estimates of ultimate oil recovery per well, ranging from 400K to 800K bbls on 160 acre sections. Closer drilling may be possible over time.

Elk's 3,700 acres at Grieve hold potential for 9 mmbbls of oil if developed on 160 acre centres with recovery of 400 Kbbls per well. Elk is likely to seek to expand its Niobrara interests in the region and then attract a suitably qualified farm-in partner to assist with project funding and technical development of the asset.

Entek Energy (ASX:ETE) calculates an NPV of over $18/bbl of oil produced from horizontal completion of its DJ Basin Niobrara formation.

Ash Creek 100% - ?%

Elk is producing oil from two wells in the Shannon Formation at its Ash Creek oilfield. Water flooding by recycled formation water is expected to boost oil production. In addition, the company has engaged a consultant reservoir engineer to assess the field's potential for chemical flood stimulation, with assessed potential oil recovery of 1.5 to 4 mmbbls.

A 3 to 6 month data gathering and modelling program has commenced and Elk will seek a partner to fund progress towards full field development in 2012.

Hereford Gas Field 50%

Elk has discovered approximately 60 Bcf of low heat value gas with high levels of nitrogen and possible by-product helium content. The company is studying several development possibilities, including processing the whole gas stream to extract hydrocarbon gases for sale into nearby pipelines while developing markets for the nitrogen content to either oilfield service companies, agriculture/fertiliser businesses, or for use in enhanced oil recovery. Alternatively, the gas could be either used unprocessed for electricity generation or the total project sold to another company.

Financial Evaluation

Funded for development

Elk has an estimated $2 million of net cash at the end of June 2011 and is fully funded for development of the Grieve EOR project. Farm-out funding support will be sought for Elk's Niobrara project during H2 2011.

Elk's MD is relocating to Casper in Wyoming to drive new project acquisition, which is likely to require some additional funding support.

Elk's Risked Development Profile

ELK Valuation	$m.	$/share Risked	$/share Upside
Grieve	$ 55	$ 0.35	$ 0.44
Niobrara	$ 24	$ 0.15	$ 0.38
Other	$ 6	$ 0.04	$ 0.13
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Corporate	-$ 6	-$ 0.04	-$ 0.04
Total	$ 90	$ 0.57	$ 0.97

Source:Strachan Corporate

Some additional equity support likely H2 '11

Board

Neale Taylor — **Chairman**

Neal has 40 years of technical, operating and commercial experience in oil and gas exploration, production, planning and evaluation, acquisition and joint venture management with major industry players including Esso.

Bob Cook — **Managing Director**

Bob has over 40 years experience in the energy and petroleum industries, including 18 years with Esso Australia and four years with Ampolex in senior management positions.

Tony Strasser — **Non-Executive Director**

Tony is a qualified accountant with extensive experience in corporate finance and advisory services over two decades. He is currently Executive Director and Chief Financial Officer at Bridgeport Energy Ltd.

Matt Healy — **Non-Executive Director**

Matt is a construction engineer, he has worked in various executive and operational roles primarily facilitating development and project management. He currently holds an executive position with the Westfield Group.

Field	Equity %	Acres	Reserves mmbbl	Reserves Bcf	Reserves ELK	NPV $/bbl	POS %	Elk Value	$/Share
Grieve	35%	3700	18		6.3	11	80%	$ 55	$ 0.35
Grieve Niobrara	50%	3700	9		4.6	13	40%	$ 24	$ 0.15
Ash Creek	40%		1.5		0.6	8	40%	$ 2	$ 0.01
Hereford	50%			30	15	1	30%	$ 5	$ 0.03

Source: Strachan Corporate

Strachan Corporate values Elk's Grieve project on the basis of an 80% probability of recovering 18 mmbbls, with oil at an NPV of $11 per barrel. The Niobrara project assumes farm-out to 50% retained interest for an initial carry on appraisal drilling. The Ash Creek oilfield and Hereford gas project are ascribed nominal value.

Funding

Strachan Corporate assumes that Elk will require $10 million of additional equity for working capital support and new project acquisition, as well as eventual support for its Niobrara Shale