Conventional Oil & Gas: Producer

EEG.asx
Speculative Buy

11 Jan 2013

Share Price:	$0.165
12mth price target:	$0.21

EMPIRE ENERGY GROUP LIMITED

Conventional Production, Unconventional Potential

Empire Energy Group Limited ("Empire", "EEG", "Company") operates oil assets in the Central Kansas Uplift, Kansas and the Appalachian Basin, New York. In addition, the Appalachian Basin acreage is prospective for Marcellus and Utica shale and the Company holds 14.6 million acres in the McArthur Basin in the Northern Territory.

Oil production – Central Kansas Uplift

Empire acquired a 79% working interest in oil producing assets covering around 16,500 acres in the Central Kansas Uplift in Kansas in late 2010. The current 2P reserves are approximately 5.3mmbbls (an increase from the 4.8mmboe in 2P reserves on acquisition) and current production is approximately net 500bopd (an average of 3bopd per well).

The asset is held by production and Empire is netting back around $52 per barrel (depending on one off costs). We estimate an NPV_{10} of $80.5m which assumes production of 2P reserves at a cost of $30 per barrel.

Gas production – Appalachian Basin

Empire has a 98% working interest in gas producing assets in the Appalachian Basin in Pennsylvania and New York. The Company has approximately 38bcf of 2P reserves and production has been consistent since acquiring the bulk of the assets in late 2009. Production is from more than 1,800 wells producing at a combined rate of approximately net 6,700mmcf/d.

The depressed gas price in the US is squeezing the profitability of probable reserves but we estimate Empire has been able to maintain profitability from existing proved reserves and long term hedging of gas production. We calculate an NPV_{10} of $38.1m for the Appalachian basin gas production which assumes no further development beyond the proved 38bcf of gas, an average NRI of 74% and OPEX of $2.50/mcf.

Unconventional potential

Empire holds approximately 231,000 acres of Marcellus shale and 142,000 acres of Utica shale, mostly in New York. There is currently a moratorium on fracking in New York which means the large scale development of the acres held by Empire is not possible. It is still unclear when the moratorium will be lifted.

Empire also holds approximately 14.6 million acres in the McArthur Basin in the Northern Territory which is prospective for Barney Creek Formation shale gas and oil. The Company is currently engaged in land holder negotiations and exploration will not be able to commence until Native Title and other land holder decisions are finalised.

Speculative Buy – Upside must come from unconventional

We value Empire's combined production assets at $118.5m but with US$52m in debt we see restrained upside in these assets. We believe the upside in Empire's shares will come from progress made in the unconventional assets. There are question marks surrounding the timing of when these assets can be better explored but as each hurdle is overcome we see instant uplift. Price target $0.21.

Brief Business Description:
Oil and gas production in the US with large unconventional upside

Hartleys Brief Investment Conclusion
Production provides a good base with upside to come from unconventional potential

Chairman & CEO:
B W McLeod

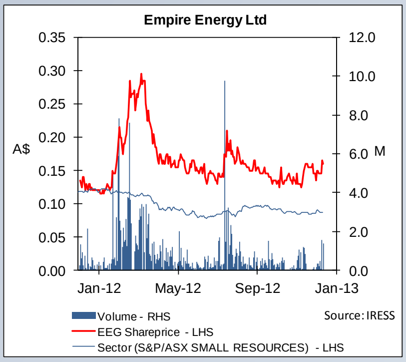
Company Address:
Level 7, Macquarie St
Sydney, NSW, 2000

Valuation:	$0.518
Issued Capital:	304.9m
- fully diluted	308.4m
Market Cap:	$50.3m
- fully diluted	$50.9m
Net Cash (30 Sep '12):	-$46.7m
EV	$97.0m

Valuation Summary	**$m**	**$/share**
Appalachian Basin	$38.1	$0.123
Kansas Uplift	$80.5	$0.261
US Shale	$65.3	$0.212
Aus Shale	$29.0	$0.094
Net (Debt)/Cash	-$46.7	-$0.151
Corporate Overheads	-$12.3	-$0.040
Hedge	$6.0	$0.019
Total	**$159.9**	**$0.518**

Av daily turnover	$0.2m
Yearly volume (shares)	209.9m
2P Reserve (mmboe)	12.55
EV/2P Reserve ($/boe)	$7.73

Source: Hartleys Research



Authors:
Peter Gray
Oil and Gas Analyst
Ph: +61 8 9268 2837
E: peter_gray@hartleys.com.au

SUMMARY MODEL

Empire Energy Ltd (EEG)

Key Market Information	
Today's Date	11 Jan 2013
Share Price	$0.165
52 Week High-Low	$0.11 - $0.32
Market Cap ($m)	$50.3
Enterprise Value ($m)	$97.0
Ordinary Shares	304.9
Fully Diluted Shares	308.4

Profit & Loss ($m)	12/10A	12/11A	12/12F	12/13F
Revenue from sale of product	**14.0**	**30.9**	**25.7**	**24.9**
OPEX (excl amortisation)	(7.0)	(15.2)	(8.5)	(8.9)
Overheads and other expenditure	(3.3)	(4.7)	(6.1)	(6.1)
Total costs	**(10.3)**	**(20.0)**	**(14.6)**	**(14.9)**
EBITDA	3.9	12.1	11.3	10.0
Depreciation/amortisation	(3.3)	(5.2)	(8.4)	(7.9)
EBIT	**0.6**	**6.9**	**2.9**	**2.1**
Net interest	(1.8)	(6.9)	(4.8)	(2.4)
Pre-tax profit	**(1.2)**	**0.0**	**(1.9)**	**(0.3)**
Tax expense	6.1	(1.6)	1.1	-
NPAT	**4.9**	**(1.6)**	**(0.8)**	**(0.3)**
Abnormal items	(7.9)	2.2	(0.4)	0.0
Reported profit	(3.0)	0.6	(1.2)	(0.3)

Balance Sheet ($m)	12/10A	12/11A	12/12F	12/13F
Cash	2.6	4.4	4.4	3.8
Other	6.5	11.2	9.7	9.8
Total Current Assets	**9.1**	**15.6**	**14.2**	**13.6**
Producing assets	98.0	94.8	96.6	89.1
Development assets	-	-	-	-
Other	8.4	10.7	7.5	7.9
Total Non Current Assets	**106.4**	**105.5**	**104.1**	**97.0**
Total Assets	**115.5**	**121.0**	**118.3**	**110.6**
Interest Bearing Liabilities	67.5	53.0	49.6	41.9
Other	-6.1	-5.3	-4.2	-4.0
Total Current Liabilities	**73.7**	**58.4**	**53.8**	**45.9**
Interest Bearing Liabilities	0.1	0.1	0.0	0.0
Other	6.9	13.5	14.9	14.9
Total Non Current Liabilities	**7.0**	**13.5**	**15.0**	**15.0**
Total Liabilities	**80.7**	**71.9**	**68.8**	**60.9**
Net Assets	**34.8**	**49.2**	**49.5**	**49.7**

Cashflow Statement ($m)	12/10A	12/11A	12/12F	12/13F
Operating cashflow	4.3	10.0	11.6	10.1
Income tax paid	-	(2.2)	(0.2)	-
Interest and other	(1.8)	(5.6)	(2.7)	(2.4)
Operating activities	**2.5**	**4.3**	**8.8**	**7.7**
Property, plant and equipment	-	(0.5)	(2.2)	-
Exploration/development	-	(2.7)	(1.9)	(1.2)
Proceeds from sale	24.4	0.0	0.3	-
Other	(55.1)	(0.0)	(0.1)	-
Investment activities	**(30.7)**	**(3.1)**	**(4.0)**	**(1.2)**
Repay/draw debt	28.5	(14.3)	(6.0)	(7.7)
Equity	0.0	15.2	1.0	0.5
Other	(0.0)	(0.2)	(0.0)	-
Financing activities	**28.5**	**0.7**	**(5.0)**	**(7.1)**
Net cashflow	**0.3**	**1.9**	**(0.1)**	**(0.6)**

Ratio Anaysis	Unit	12/10A	12/11A	12/12F	12/13F
Cashflow per share	cps	0.16	0.65	(0.04)	(0.21)
Cashflow multiple	x	105.6	25.2	n/a	n/a
Earnings per share	cps	3.00	(0.96)	(0.39)	(0.14)
Price to earnings ratio	x	10.3x	-32.2x	-64.0x	-162.8x
Dividends per share	cps	-	-	-	-
Dividend yield	%	0.0%	0.0%	0.0%	0.0%
Interest cover	x	0.35	1.00	0.60	0.87
Return on equity	%	14.0%	-3.2%	-1.6%	-0.6%

Recommendation: Speculative Buy

Directors	Position
B W McLeod	Executive Chairman
D H Sutton	Non-Executive Director
K A Torpey	Non-Executive Director

Company Information
Level 7, Macquarie St
Sydney, NSW, 2000
Ph: (02) 9251 1846
Fax: (02) 9251 0244
www.empireenergygroup.net

Substantial Shareholders

Shareholder Name	Shares	Interest
Macquarie Group Ltd	53.7m	17.6%

Reserve/Resources	Liquids (mmbbl)	Gas (bcf)	Total (mmboe)
Appalachian/Central Kansas	5	39	13
Total	**5**	**39**	**13**

Production Summary	Unit	12/10A	12/11A	12/12F	12/13F
Liquids	mmbbl	0.1	0.3	0.3	0.3
Gas	bcf	2.3	2.4	2.4	2.2
Total	**mmboe**	0.2	0.3	0.4	0.4

Price Assumptions	Unit	12/10A	12/11A	12/12F	12/13F
Oil price	US$/bbl	77.88	85.65	84.79	89.77
Gas price	A$/GJ	6.04	6.08	5.65	5.05
Exchange rate	A$/US$	0.92	1.02	1.03	1.05

Hedging	Unit	12/10A	12/11A	12/12F	12/13F
Oil	mbbl($ per bbl)		132 ($90)	121 ($90)	113 ($90)
Gas	bBtu($ per mmbtu)	1492 ($6.3)	1404 ($6.3)	1484 ($6.1)	1408 ($6.0)

Sensitivity Analysis	$/sh	NPAT	EPS (cps)	CF/sh (cps)
Base case	**0.518**	**(0.3)**	**(0.14)**	**(0.21)**
Oil price +10%	0.544	0.7	0.32	-0.30
Oil price -10%	0.493	-1.3	-0.60	-0.12
Gas price +10%	0.528	0.0	-0.01	-0.22
Gas price -10%	0.509	-0.6	-0.27	-0.19
OPEX +10%	0.509	-1.2	-0.55	-0.19
OPEX -10%	0.528	0.6	0.27	-0.23

N.B. NPAT, EPS, CFPS forecasts are for CY2013

Share price valuation	$m	$/share
Appalachian Basin	38.1	0.123
Kansas Uplift	80.5	0.261
US Shale	65.3	0.212
Aus Shale	29.0	0.094
Net (Debt)/Cash	(46.7)	-0.151
Corporate Overheads	(12.3)	-0.040
Hedge	6.0	0.019
Total	**159.9**	**0.518**
Total (excluding exploration)	**65.6**	**0.213**

Analyst: Peter Gray
Phone: +61 8 9268 2837

Last Earnings Estimate Changes:
4 January 2013

Sources: IRESS, Company Information, Hartleys Research

BUSINESS OVERVIEW

Conventional oil and gas producer in the US

Empire holds production and exploration assets in the United Sates of America and Australia. In particular, the Company has gas production in the Appalachian Basin in New York and Pennsylvania, oil production in the Central Kansas Uplift and holds vast unconventional acreage in New York and the Northern Territory in Australia.

Upside from unconventional Marcellus/Utica shale and McArthur shale

Current production averages around 1,400 boe/d.

Fig. 1: *Project Locations*

Source: Empire Energy Group Ltd

APPALACHIAN BASIN GAS PRODUCTION

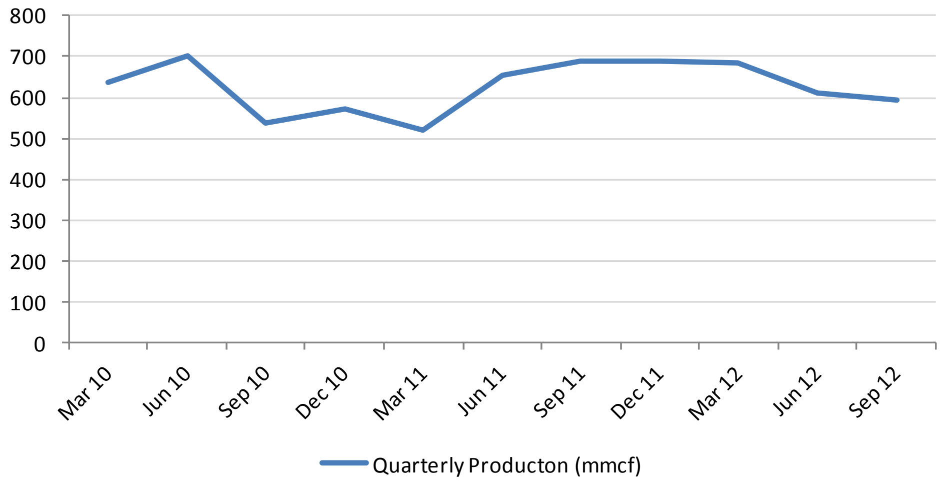
98% working interest in Appalachian Basin gas production

Empire has a 98% working interest in gas producing assets in the Appalachian Basin in Pennsylvania and New York.

Empire has approximately 38bcf of 2P reserves in the Appalachian Basin. Production has been consistent since acquiring the bulk of the Appalachian production assets in late 2009. Production is from more than 1,800 wells producing at a combined rate of approximately net 6,700mcf/d.

Net production of 6.7mmcf/d

Fig. 2: *Quarterly Production*



Source: Hartleys Research Estimates

Production is spread over more than 300,000 acres with over 675 miles of pipeline crossing the acreage. The depressed gas price in the US is squeezing the profitability of probable reserves but we estimate Empire has been able to maintain profitability from existing proved reserves and effective hedging.

NPV of $38.1m for gas production

We calculate an NPV_{10} of $38.1m for the Appalachian basin gas production which assumes no further development beyond the proved 38bcf of gas, an average NRI of 74% and OPEX of $2.50/mcf.

CENTRAL KANSAS UPLIFT OIL PRODUCTION

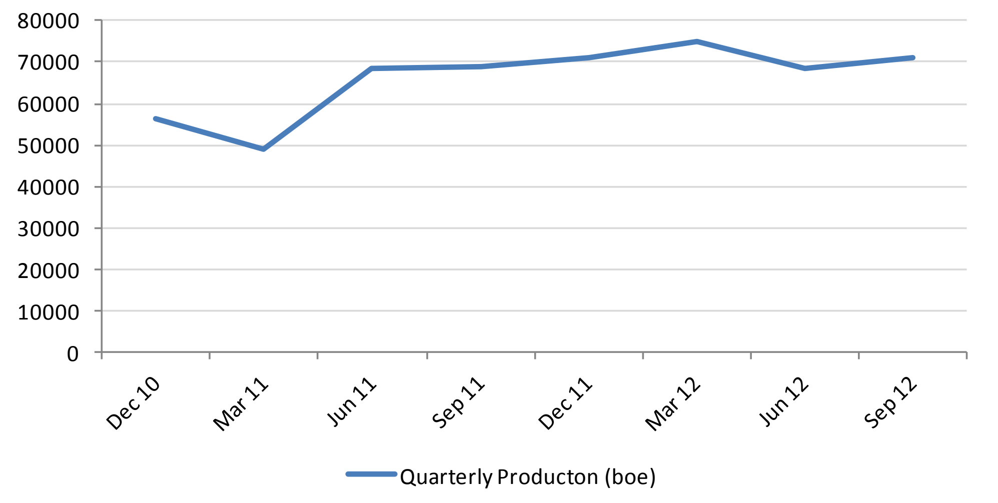
79% working interest in oil producing assets in Central Kansas Uplift

Empire acquired a net 79% interest in oil producing assets covering 16,500 acres in the Central Kansas Uplift in Kansas in late 2010. At the time of the acquisition, the asset was producing at ~580bopd from 268 wells.

Empire has approximately 5.3mmbbls of 2P reserves in the Central Kansas Uplift (an increase from the 4.8mmboe in 2P reserves on acquisition) and is now producing approximately gross 750bopd.

Producing 750bopd gross

Fig. 3: *Quarterly Production*



Source: Hartleys Research Estimates

Production is very low on an average per well basis (~3bopd per well), however, production costs are such that, in the prevailing oil price environment, Empire is netting back around $52 per barrel (depending on one off costs). Importantly, the acreage is held by production so there is no forced development.

NPV of oil production of $80.5m

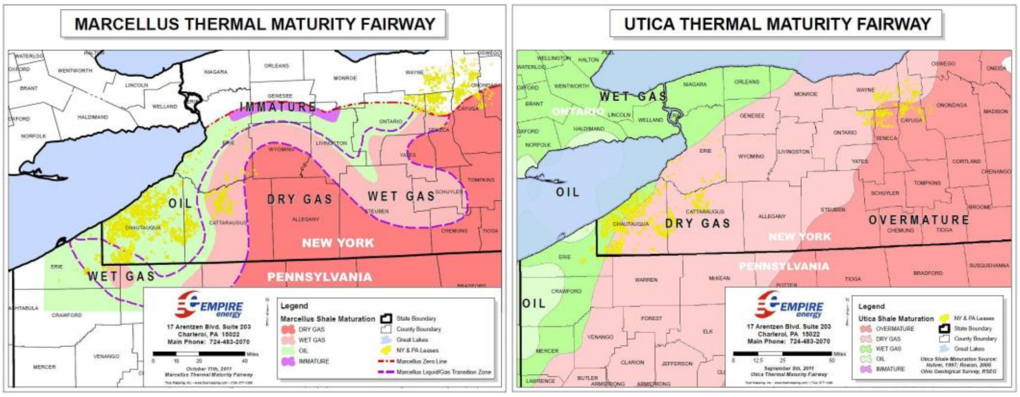
We estimate an NPV_{10} of $80.5m which assumes production of 2P reserves at a cost of $30 per barrel.

MARCELLUS AND UTICA SHALE

Appalachian Basin assets also prospective for Marcellus/Utica Shale

Empire holds approximately 231,000 acres of Marcellus shale and 142,000 acres of Utica shale, mostly in New York. There is currently a moratorium on fracking in New York which means the large scale development of the acres held by Empire is not possible. It is still unclear when the moratorium will be lifted.

Fig. 4: Marcellus/Utica Shale Fairway



Source: Hartleys Research Estimates

We value US shale potential at $65.3m based on $300 per acre

We have estimated a value of $300 per acre of shale prospectivity as a rule of thumb which we have applied to the 231,000 acres prospective for the Marcellus shale. This results in a value of $65.3m that could be attributed to the shale play. However, given the lack of certainty surrounding high volume frac development and lack of direct proof of concept across the acreage (although there is exploration developing in nearby states), we believe the market will attribute very little value to the shale. This does provide a potential opportunity for a future uplift in value should New York state lift the moratorium.

MCARTHUR BASIN SHALE

14.6m acres in McArthur Basin

Empire holds approximately 14.6 million acres in the McArthur Basin in the Northern Territory which is prospective for Barney Creek Formation shale gas and oil. The region is underexplored and Empire's acreage is unexplored, however, recent drilling by Armour Energy Ltd in a contiguous block resulted in a 10 minute flow rate equivalent to 3.3mmcf/d.

We value McArthur Basin acreage at $29m based on $2/acre

The Company is currently engaged in land holder negotiations and exploration will not be able to commence until Native Title and other land holder decisions are finalised. Empire has noted that some of its acreage will be considered sacred site and as such, no exploration will take place on these lands. It is not clear how much of the acreage will be considered sacred site.

Interest in shale exploration in Australia is increasing and there have been a number of farm in transactions in acreage in the southern portion of the Northern Territory over the last 18 months, reflecting values of between $10 and $40 per acre. However, listed peers are trading on multiples of between $1 and $8 per acre. As such, we currently assume a $2 per acre multiple which results in a value of $29m.

US production and US/Australian exploration

INDUSTRY EXPOSURE

Empire's key industry exposure is to the traditional oil and gas industry in the US. The Company is also exposed to the unconventional oil and gas exploration industry in the US and Australia.

GEOGRAPHIC EXPOSURE

US production and US/Australian exploration

Empire has production assets in the Appalachian Basin (New York and Pennsylvania) and Central Kansas Uplift (Kansas and Oklahoma) in the US and the McArthur Basin (Northern Territory) in Australia.

PEERS AND COMPETITORS

Northern Territory focussed peers include Armour Energy Ltd (ASX:AJQ) and Central Petroleum Ltd (ASX:CTP).

MANAGEMENT, DIRECTORS AND MAJOR SHAREHOLDERS

Economic Exposure of Board and key management	Position	Total Options	Shares #	Total Economic Exposure millions	rank
Directors					
Bruce McLeod	Exec Chairman	7,300,000	6,939,760	14,239,760	1
David Sutton	Non Executive Director	0	833,300	833,300	5
Kevin Torpey	Non Executive Director	0	2,191,449	2,191,449	3
Key Management Personnel					
Al Boyer	Empire Energy Executive	undisclosed	undisclosed	undisclosed	
David Hughes	Specified Executive of the Empire Group	750,000	1,443,998	2,193,998	2
Rachel Ryan	Specified Executive of the Empire Group	816,666	28,571	845,237	4
Kylie Arizabaleta	Financial Controller	undisclosed	undisclosed	undisclosed	
Dr John Warburton	CEO to the Company's wholly owned subsidiary Imperial Oil and Gas Pty Ltd	undisclosed	undisclosed	undisclosed	

Source: CY11 Annual report, Appendix 3y

Taken from 2011 Annual Report

Bruce McLeod – Executive Chairman

Bruce William McLeod
B.Sc (Maths), M.Com (Econ) Age 59
Executive Chairman

Mr McLeod has had extensive experience in the Australian capital markets. Over the past 20 years he has been involved in raising debt and equity capital for a number of resource, property projects and companies, as well as the takeover and rationalisation of listed and unlisted companies. Prior to this he spent 6 years with a major international bank, where he was Executive Director, responsible for the financial and capital markets operations.

Appointed a Director of the Company on 21 May 1996.

Other Current Directorships
Chairman of Mayan Iron Corporation Ltd.

Former Directorships in Last 3 Years
Earth Heat Resources Ltd from 6 February 2008 to 22 January 2010.
Carnegie Wave Energy Limited from 1 November 1996 to 6 May 2011.

David Henty Sutton
B.Com ACIS Age 68
Non-Executive Director

Mr Sutton has many years' experience as a Director of companies involved with share broking and investment banking. He was executive chairman from 2002 to 2010 of Martin Place Securities Pty Ltd, a boutique investment firm holding an AFS Licence. He currently owns and manages Dayton Way Financial Pty Ltd, a boutique financial services company focussing on the global resource sector.

Prior to his current role he was a partner and director of several securities exchange member firms. He became a member of the Stock Exchange of Melbourne and subsequently Australian Securities Exchange Limited.

Appointed a Director of the Company on 17 January 1997.

Other Current Directorships
Chairman of Silver Mines Limited, AAT Corporation Limited, Precious Metals Investments and Chairman of Sinovus Mining Limited.

Former Directorships in Last 3 Years
Director of Earth Heat Resources Ltd from 14 October 2007 to 11 May 2011.

Kevin Anthony Torpey
B.E., MIE Aus., CP Eng, FAusIMM, (CP) Age 73
Non-Executive Director

Mr Torpey is a Chartered Professional Engineer and a graduate from Sydney University. Over the last 40 years he has been involved in the development of many diverse major projects involving oil, iron ore, aluminium, nickel, lead/zinc, uranium, magnesite, coal and gold, located locally and in Ireland and Indonesia.

Generally these projects have been associated with major companies such as Consolidated Goldfields, EZ Industries, Alcan, International Nickel, Tara Minerals Limited (Ireland), Noranda, Denison Mines (Canada), Toyota, Mitsubishi and Iwatani. For the last 20 years his association has mainly been as a corporate officer initially as Managing Director of Denison Mines (Australia) and then Managing Director of Devex Limited. Over the last few years he has acted as a consultant to a number of companies involved in mining projects and new technologies.

Appointed a Director of the Company on 26 November 1992.

Other Current Directorships
Non-Executive Director of Latrobe Magnesium Limited

MAJOR SHAREHOLDERS

Macquarie Group is the largest shareholder with 17.6% of the Company

Macquarie group is the largest shareholder with 17.6% (53.7 million shares).

OPTIONS, CONVERTIBLES AND UNPAID CAPITAL

All options held by executives

Fig. 5: *Summary of options on issue*

Number of Options	Exercise Price	Expiry Date
66,666	$0.1575	5-Mar-13
3,500,000	$0.15	1-Jul-13
1,650,000	$0.17	1-Jul-13
1,650,000	$0.18	31-Dec-13
7,000,000	$0.35	31-Dec-14

Source: Appendix 3B

All options are unlisted and held by executives of the Company

FINANCIALS

PRODUCTION / PROFIT & LOSS

Company guidance

The company does not provide any earnings guidance.

Hartleys Forecasts

0.3mmbbls of oil and 2.2bcf of gas estimated to be produced in 2013

Fig. 6: *Production*

Production Summary	Unit	12/10A	12/11A	12/12F	12/13F
Liquids	mmbbl	0.1	0.3	0.3	0.3
Gas	bcf	2.3	2.4	2.4	2.2
Total	**mmboe**	0.2	0.3	0.4	0.4

Source: Hartleys Research Estimates

Profitability impeded by finance costs which should improve as debt is paid down

Fig. 7: *Profit and Loss*

Profit & Loss ($m)	12/10A	12/11A	12/12F	12/13F
Revenue from sale of product	**14.0**	**30.9**	**25.7**	**24.9**
OPEX (excl amortisation)	(7.0)	(15.2)	(8.5)	(8.9)
Overheads and other expenditure	(3.3)	(4.7)	(6.1)	(6.1)
Total costs	**(10.3)**	**(20.0)**	**(14.6)**	**(14.9)**
EBITDA	3.9	12.1	11.3	10.0
Depreciation/amortisation	(3.3)	(5.2)	(8.4)	(7.9)
EBIT	**0.6**	**6.9**	**2.9**	**2.1**
Net interest	(1.8)	(6.9)	(4.8)	(2.4)
Pre-tax profit	**(1.2)**	**0.0**	**(1.9)**	**(0.3)**
Tax expense	6.1	(1.6)	1.1	-
NPAT	**4.9**	**(1.6)**	**(0.8)**	**(0.3)**
Abnormal items	(7.9)	2.2	(0.4)	0.0
Reported profit	(3.0)	0.6	(1.2)	(0.3)

Source: Hartleys Research Estimates

BALANCE SHEET

Approximately $50m in debt to be repaid from production

Fig. 8: *Balance Sheet*

Balance Sheet ($m)	12/10A	12/11A	12/12F	12/13F
Cash	2.6	4.4	4.4	3.8
Other	6.5	11.2	9.7	9.8
Total Current Assets	**9.1**	**15.6**	**14.2**	**13.6**
Producing assets	98.0	94.8	96.6	89.1
Development assets	-	-	-	-
Other	8.4	10.7	7.5	7.9
Total Non Current Assets	**106.4**	**105.5**	**104.1**	**97.0**
Total Assets	**115.5**	**121.0**	**118.3**	**110.6**
Interest Bearing Liabilities	67.5	53.0	49.6	41.9
Other	-6.1	-5.3	-4.2	-4.0
Total Current Liabilities	**73.7**	**58.4**	**53.8**	**45.9**
Interest Bearing Liabilities	0.1	0.1	0.0	0.0
Other	6.9	13.5	14.9	14.9
Total Non Current Liabilities	**7.0**	**13.5**	**15.0**	**15.0**
Total Liabilities	**80.7**	**71.9**	**68.8**	**60.9**
Net Assets	**34.8**	**49.2**	**49.5**	**49.7**

Source: Hartleys Research Estimates

Ratio Analysis

Fig. 9: *Ratios Analysis*

Ratio Anaysis	Unit	12/10A	12/11A	12/12F	12/13F
Cashflow per share	cps	1.52	1.49	2.90	2.50
Cashflow multiple	x	10.9	11.1	5.7	6.6
Earnings per share	cps	3.00	(0.96)	(0.39)	(0.14)
Price to earnings ratio	x	10.3x	-32.2x	-64.0x	-162.8x
Dividends per share	cps	-	-	-	-
Dividend yield	%	0.0%	0.0%	0.0%	0.0%
Interest cover	x	2.15	1.76	2.35	4.11
Return on equity	%	14.0%	-3.2%	-1.6%	-0.6%

Source: Hartleys Research Estimates

Fixed Assets

The Company holds a large amount of oil and gas production equipment, pipelines and other fixed assets required to operate producing oil and gas fields.

Debt

Approximately US$50m in debt that is repaid from 90% of free cash flow from operations

Empire has a credit facility of US$150m of which approximately $US50.0m is currently drawn down. The current average interest rate is LIBOR+4.7%. The reserve base facility has been implemented to undertake acquisitions and development drilling. The facility is reviewed annually and is due to expire in February 2013. The Company is currently completing negotiations to extend the facility for a further 3 years. Repayments are based on 90% of the monthly free cash flow from operations.

Assuming Empire's assets continue to produce positive free cash flow, the roll over of the credit facility should be a matter of course. However, there is a risk that the facility is not rolled over, in which case Empire may be required to raise capital, sell assets, relinquish assets or find alternative ways to repay any debt owed.

The provider of the Empire credit facility has exercised approximately $2m in Empire options over 2012 which could indicate the provider is comfortable with future operations.

Hedging

Gas hedged at between $4.75 and $6.07 per mmBtu

Oil hedged at between $85 and $90 per barrel

The Company has the following price hedges in place.

Fig. 10: *Price Hedges*

Year	Est Net mmBtu	Hedged mmBtu	%	Average $/mmBtu	Est Net Bbl	Hedged Bbl	%	Average $/Bbl
2012	1,050,000	730,570	69.6%	$6.07	124,081	92,150	74.3%	$90.00
2013	2,000,000	1,407,720	70.4%	$5.97	149,298	113,160	75.8%	$90.00
2014	1,850,000	1,335,488	72.2%	$5.91	141,058	105,120	74.5%	$90.00
2015	1,650,000	1,166,000	70.7%	$5.45	133,280	98,160	73.6%	$90.00
2016	1,440,000	1,200,000	83.3%	$4.43	126,616	42,000	33.2%	$85.67
2017	1,300,000	570,000	43.9%	$4.57	120,585	39,600	32.9%	$85.23
2018	1,200,000	510,000	42.5%	$4.75				
Total	**10,490,000**	**6,919,778**	**66.0%**	**$5.41**	**794,618**	**490,190**	**61.7%**	**$89.24**

Source: Hartleys Research Estimates

CASH FLOW

Solid operating cash flows offset by debt repayments

Fig. 11: Cash Flow Statement

Cashflow Statement ($m)	12/10A	12/11A	12/12F	12/13F
Operating cashflow	4.3	10.0	11.6	10.1
Income tax paid	-	(2.2)	(0.2)	-
Interest and other	(1.8)	(5.6)	(2.7)	(2.4)
Operating activities	**2.5**	**4.3**	**8.8**	**7.7**
Property, plant and equipment	-	(0.5)	(2.2)	-
Exploration/development	-	(2.7)	(1.9)	(1.2)
Proceeds from sale	24.4	0.0	0.3	-
Other	(55.1)	(0.0)	(0.1)	-
Investment activities	**(30.7)**	**(3.1)**	**(4.0)**	**(1.2)**
Repay/draw debt	28.5	(14.3)	(6.0)	(7.7)
Equity	0.0	15.2	1.0	0.5
Other	(0.0)	(0.2)	(0.0)	-
Financing activities	**28.5**	**0.7**	**(5.0)**	**(7.1)**
Net cashflow	**0.3**	**1.9**	**(0.1)**	**(0.6)**

Source: Hartleys Research Estimates

Capex requirements

Modest capex required as production is from established fields

Capex requirements are unpredictable but we do not consider Empire to have a significant forward Capex program. The Company spent approximately $1.6m on development for the 9 months to 30 September 2012 and we would expect this to be a substantial level of Capex going forward.

Dividends

Empire does not pay a dividend and we would not expect a dividend in the next two years.

SENSITIVITIES

Fig. 12: Sensitivities

Sensitivity Analysis	$/sh	NPAT	EPS (cps)	CF/sh (cps)
Base case	**0.518**	**(0.3)**	**(0.14)**	**2.50**
Oil price +10%	0.544	0.7	0.32	2.82
Oil price -10%	0.493	-1.3	-0.60	2.17
Gas price +10%	0.528	0.0	-0.01	2.59
Gas price -10%	0.509	-0.6	-0.27	2.41
OPEX +10%	0.509	-1.2	-0.55	2.20
OPEX -10%	0.528	0.6	0.27	2.79

**N.B. NPAT, EPS, CFPS forecasts are for CY2013*

Source: Hartleys Research Estimates

VALUATION CONSIDERATIONS AND PRICE TARGET METHODOLOGY

VALUATION

Total Company valuation of $0.52

We value production assets at $0.21

Our valuation of Empire is $0.52 per share including exploration assets and $0.21 for production assets only.

Fig. 13: *Valuation*

Share price valuation	$m	$/share
Appalachian Basin	38.1	0.12
Kansas Uplift	80.5	0.26
US Shale	65.3	0.21
Aus Shale	29.0	0.09
Net (Debt)/Cash	(46.7)	-0.15
Corporate Overheads	(12.3)	-0.04
Hedge	6.0	0.02
Total	**159.9**	**0.52**
Total (excluding exploration)	**65.6**	**0.21**

Source: Hartleys Research Estimates

The value of the Appalachian Basin asset and Central Kansas Uplift asset is based on an NPV_{10} using the assumptions noted previously in this report.

Our valuations of the shale potential of the Marcellus/Utica and McArthur Basin are based on the lower matrices of transactions or comparable companies. As such, the upside and downside to these valuations can vary considerably.

PRICE TARGET

Price target of $0.21

We have a price target of $0.21. Our price target reflects the value of the producing assets plus some possible upside from the McArthur Basin. We have discounted the Marcellus/Utica shale potential because it is not clear how long the moratorium on fracking in New York will continue. We note, however, that lifting of the moratorium should provide upside to our price target.

RECOMENDATION & RISKS

INVESTMENT THESIS & RECOMENDATION

We recommend Empire as a Speculative Buy.

Production is good but will not provide upside

The production assets provide a solid base for the Company to operate from. However, the level of debt (US$50m) and the requirement for 90% of free cash flows to be allocated towards repaying the debt means that there is unlikely to be adequate free cash flow at an equity level to develop assets outside of the current production assets (or pay dividends). Also, the production assets are security for the debt facility which results in an element of risk to the assets (but a small one at current oil and gas prices, especially considering 70% of gas production is hedged at prices above market). We see restrained upside from the producing assets over the next three years (at least) due to the structure of the debt facility but once the debt has been repaid we would expect production to provide useful cash flow.

Upside will come from potential for unconventional development as regulatory and administrative hurdles are cleared

The upside in Empire will come from its shale potential. Both of Empire's shale assets have development impediments preventing immediate exploration. However, potential resolution of native title discussions in the Northern Territory and the cessation of the moratorium in New York provide clear opportunities for uplift.

A key issue for Empire is how it will fund future development beyond its current production assets. Empire does not have the funds to develop these assets so we would expect the Company to farmout development of these assets once hurdles are overcome.

SIMPLE S.W.O.T. TABLE

Key strength: operator of most assets

Key weakness: debt facility

Key opportunity: end of New York moratorium

Key Threat: prolonged negotiations on unconventional assets

Strengths	Existing production Production assets have a long history Oil production Diversified portfolio with large upside Operator of all assets Most of US unconventional assets held by production
Weaknesses	Debt facility consumes majority of free cash flow Limited cash position for exploration (outside of debt facility to be used for development drilling) Exploration potential impeded with authorisations required
Opportunities	End of New York moratorium Finalisation of Native Title negotiations Increasing commodity prices Farmout of exploration acreage
Threats	Continued depressed gas price Declines in commodity prices Prolonged negotiations for exploration approval

Source: Hartleys Research

RISKS

Empire has a diversified portfolio of assets so its risks span development and production.

Fig. 14:Key assumptions and risks for valuation

Assumption	**Risk of not realising assumption**	**Downside risk to valuation if assumption is incorrect**	**Comment**
2P oil reserves are converted to 1P	Low	Moderate-High	We have included 1.3mmbbls of 2P reserves in our model. The development of these reserves will depend on improving recoveries, drilling more wells or working over existing wells. As such, there is no guarantee that these 2P reserves will be converted to 1P, however, we consider it likely because Empire has a great knowledge of the fields and the production history is very long.
Credit default risk	Low	Extreme	If Empire's lender chose not to roll over the debt facility, Empire would need to raise US$50m either through the sale of assets, a capital raise or possibly alternative debt financing. A capital raise or an asset sale would be detrimental to the current share price.
Production risk	Low	Low-Moderate	Oil and gas production is inherently unpredictable but given the type and age of Empire's fields and the knowledge gained by Empire, we consider production risk to very low.
Long run oil price of $95 and a long run gas price of $5	Moderate	Moderate	Future commodity prices are influenced by many factors and are impossible to predict accurately. We base our long run commodity prices on consensus data
Funding risk	Low	Low-Moderate	We do not believe that Empire has sufficient existing cash facilities ($4m) or free cash flow to fund large scale development of its exploration assets. As such, it is likely that the Company will need to farmout a portion of its acreage or undertake a capital raising should it choose to develop and explore its shale acreage.
Exploration valuation risk	Low	Low-Moderate	We have estimate the value of Empire's exploration assets based on comparable metrics. No two assets are truly comparable and, as such, there is an inherent risk in a comparable valuation.
Conclusion		*We believe the key risk to our valuation is exploration risk.*	

Source: Hartleys

HARTLEYS CORPORATE DIRECTORY

Research

Trent Barnett	Head of Research	+61 8 9268 3052
Mike Millikan	Resources Analyst	+61 8 9268 2805
Ben Crowley	Resources Analyst	+61 8 9268 3045
Peter Gray	Research Analyst	+61 8 9268 2837
Janine Bell	Research Assistant	+61 8 9268 2831

Corporate Finance

Grey Egerton-Warburton	Head of Corp Fin.	+61 8 9268 2851
Richard Simpson	Director – Corp. Fin.	+61 8 9268 2824
Paul Fryer	Director – Corp. Fin.	+61 8 9268 2819
Dale Bryan	Director – Corp. Fin.	+61 8 9268 2829
Ben Wale	Snr Mgr – Corp. Fin.	+61 8 9268 3055
Ben Crossing	Snr Mgr – Corp. Fin.	+61 8 9268 3047
Stephen Kite	Snr Mgr - Corp. Fin.	+61 8 9268 3050
Scott Weir	Mgr - Corp Fin.	+61 8 9268 2821

Registered Office

Level 6, 141 St Georges Tce	**Postal Address:**
Perth WA 6000	GPO Box 2777
Australia	Perth WA 6001
PH: +61 8 9268 2888	FX: +61 8 9268 2800
www.hartleys.com.au	info@hartleys.com.au

Note: personal email addresses of company employees are structured in the following manner: firstname_lastname@hartleys.com.au

Hartleys Recommendation Categories

Buy	Share price appreciation anticipated.
Accumulate	Share price appreciation anticipated but the risk/reward is not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a price level at which it may become a "Buy".
Neutral	Take no action. Upside & downside risk/reward is evenly balanced.
Reduce / Take profits	It is anticipated to be unlikely that there will be gains over the investment time horizon but there is a possibility of some price weakness over that period.
Sell	Significant price depreciation anticipated.
No Rating	No recommendation.
Speculative Buy	Share price could be volatile. While it is anticipated that, on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the investment is considered high risk.

Institutional Sales

Carrick Ryan	+61 8 9268 2864
Justin Stewart	+61 8 9268 3062
Simon van den Berg	+61 8 9268 2867
Chris Chong	+61 8 9268 2817
Simon Andrew	+61 8 9268 3020
Veronika Tkacova	+61 8 9268 3053

Wealth Management

Nicola Bond	+61 8 9268 2840
Bradley Booth	+61 8 9268 2873
Adrian Brant	+61 8 9268 3065
Nathan Bray	+61 8 9268 2874
Sven Burrell	+61 8 9268 2847
Simon Casey	+61 8 9268 2875
Tony Chien	+61 8 9268 2850
Travis Clark	+61 8 9268 2876
Tim Cottee	+61 8 9268 3064
David Cross	+61 8 9268 2860
Nicholas Draper	+61 8 9268 2883
John Featherby	+61 8 9268 2811
Ben Fleay	+61 8 9268 2844
James Gatti	+61 8 9268 3025
John Georgiades	+61 8 9268 2887
John Goodlad	+61 8 9268 2890
Andrew Gribble	+61 8 9268 2842
David Hainsworth	+61 8 9268 3040
Neil Inglis	+61 8 9268 2894
Murray Jacob	+61 8 9268 2892
Bradley Knight	+61 8 9268 2823
Gavin Lehmann	+61 8 9268 2895
Shane Lehmann	+61 8 9268 2897
Steven Loxley	+61 8 9268 2857
Andrew Macnaughtan	+61 8 9268 2898
Scott Metcalf	+61 8 9268 2807
David Michael	+61 8 9268 2835
Damir Mikulic	+61 8 9268 3027
Jamie Moullin	+61 8 9268 2856
Chris Munro	+61 8 9268 2858
Michael Munro	+61 8 9268 2820
Ian Parker	+61 8 9268 2810
Ian Plowman	+61 8 9268 3054
Charlie Ransom	+61 8 9268 2868
Brenton Reynolds	+61 8 9268 2866
Conlie Salvemini	+61 8 9268 2833
David Smyth	+61 8 9268 2839
Greg Soudure	+61 8 9268 2834
Sonya Soudure	+61 8 9268 2865
Dirk Vanderstruyf	+61 8 9268 2855
Jayme Walsh	+61 8 9268 2828
Samuel Williams	+61 8 9268 3041