

Antares Energy Ltd

Resource Play in USA

24 July 2009

Opinion Data

Recommendation	Restricted
Risk Rating	High
Current share price	\$0.30
12 month target price	Restricted
Price range - high/low	\$0.38 - \$0.07
Market capitalisation	\$55m

Antares Energy (AZZ) has rebuilt its business over the past 4-years, now focussing on the Eagle Ford / Edwards resource plays, onshore Texas, USA. The current MD has done as he indicated when assuming the role (exiting non-cash generating assets, repairing the balance sheet, and attempting to reduce exploration risk). While more needs to be done (pay down / roll over the outstanding convertible notes) to continue to grow the production base, results to-date all suggest the company is moving in the right direction.

The key value drivers for the stock are:

- Extensions to the current Yellow Rose leases, which are in the process of being tested with one vertical well, and potentially have 3-5 bcf recoverable per well (with high liquids);
- Flow rates per well - which remain to be verified, although nearby Operators (Petrohawk, TXCO Resources, Pioneer) have demonstrated 3-9 mmscf/pd from the same formation(s) via horizontals;
- Balance sheet capacity - given these are "resource plays", the ability to fund either via farm-out to 3rd parties, or via additional capital, are critical in our view. The forward capital commitments are quite large (circa US\$4.5m per well 100% basis), for horizontal development wells. Some 100+ locations have been identified - implying gross capex of around US\$450m;
- Resource plays tend to have a distribution curve in terms of recovery per well, and also flow rates per well (how quickly pay-back occurs);
- AZZ has significant asset potential, however, flow rates and access to capital will limit the upside in the short term. We derive a risk-adjusted valuation circa 30cps, with upside of \$1.05 cps over time (on current capital).

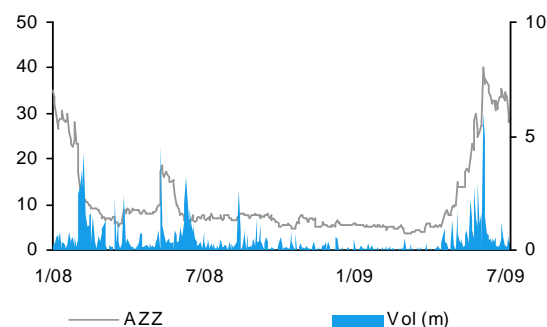
Earnings Forecasts

Y/e Dec (A\$m)	CY'08A	CY'09F	CY'10F	CY'11F
Revenue	8.1	9.9	46.1	57.9
EBITDA	1.7	2.0	5.5	8.5
EBIT	2.3	1.9	2.3	2.8
NPAT (reported)	0.6	0.7	16.5	19.8
NPAT (adjusted)	-0.3	0.7	16.5	19.8
Adjusted EPS (cps)	-0.2	0.4	9.0	10.7
EPS Growth (%)	na	na	na	0.2
PE (x)	89.9	84.9	3.4	2.8
EV / EBITDA (x)	35.8	45.4	18.3	12.9
EV / EBIT (x)	26.3	49.3	43.0	38.6
Gearing (%)	185%	109%	87%	76%
EBIT Margin (%)	28%	19%	5%	5%
Interest Cover (x)	0.9	1.5	11.1	11.0

Valuation Scenarios

Valuation Scenarios	A\$m	Risked	Unrisked (A\$m)
Production	13.6	100%	\$14
Edwards	18.8	30%	\$62
EFS (HK 50%)	26.1	30%	\$87
EFS (AZZ 50%)	19.0	30%	\$60
Per Share	\$0.30		\$1.05

AZZ Share Price / Volume



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EXECUTIVE SUMMARY

Brief history

Antares Energy (AZZ) listed in 1994, initially focussed onshore WA, then acquired production assets in Turkey. AZZ attempted fracture stimulation of the large resource at Whicher Range, South Perth Basin in 2004.

AZZ made discoveries in Turkey, with its principal asset being the Gocerler gas field, which appeared to suffer from pressure declines. AZZ refocussed on the USA, with a new MD, Howard McLaughlin in 2004/05, and divested the Turkish assets in late 2005 (for US\$40m). This was viewed positively by the market.

AZZ then spent 2-years making modest onshore Oklahoma / Texas gas discoveries. During this period, AZZ acquired its current Texas leases, shot 3-D and attempted to farm-out to 3rd parties. An equity line facility was also put in place in late 2007, which assisted with funding the business during the restructure.

A new MD was introduced in mid-2008. Positively, some of the 10m outstanding \$2.00 convertible notes have been brought back and cancelled, non-core assets divested, and higher-risk exploration targets have been relinquished.

Attempting to lower risk

The current MD has focussed on maintaining the modest production base, reducing the corporate costs, and then identifying lower risk plays. This included the Yellow Rose project (initially the Edwards limestone reef play).

This has been expanded, thanks to successful drilling results by other Operators, testing the deeper sections (in particular the Eagle Ford Shale – EFS) by Petrohawk.

Well by well farm-in by HK

This led to Petrohawk (NYSE - HK) farming into part of AZZ's acreage in early 2009, whereby, Petrohawk could earn into an agreed designated area (320Ac), by drilling and testing a well. Petrohawk would then retain 100% of the production, until such time as "pay-back" is achieved, when AZZ would then be entitled to receive its 50% share of production.

Upside large, but clear risks

Potentially, AZZ could be part of a large scale resource play, with a quality Operator. As such, AZZ has resource potential of circa 300-500bcfe for its 50% share of the 12,000+Ac area. The risks are clear:

- Balance sheet capacity to fund any development (which is challenging in the current environment);
- Geological risk (which appears modest);
- US pricing (potentially the low point); and
- What are the likely distribution outcomes of "recovery per well" in this play.

We look at recent trade sale data to imply an asset based valuation for AZZ. We have considered the delta to US gas prices, and we look at the NPV's of the asset potential.

We derive a risk-adjusted valuation of around 30 cps, with upside of circa \$1.05 cps (on current issued capital).

High-risk, with high-reward play

We reiterate – this is not a short term play.

The catalysts are also clear:

- Funding of appraisal and any development;
- Flow tests (although the current vertical well will not provide all the answers);
- US gas prices; and
- Potential corporate activity (Petrohawk potentially).

RESOURCE PLAYS

WHAT ARE THEY AND WHY ARE THEY IMPORTANT

**Large scale
“unconventional”
plays**

Resource plays are large-scale, wide-spread, hydrocarbon bearing strata that require a technique to allow the resource to be commercially extracted. Typically these are “unconventional hydrocarbons”. Coal Seam Methane is the most common example of a resource play, and has been exploited in the USA since the 1950’s. Shale gas is the next (in order of size) to be considered. Shale is an ultra fine grained sedimentary rock. Shale resource plays are widely dispersed in the US sedimentary basins and because of the huge volumes of rock, the resource potential is very large. The source and reservoir is the same (and hence different to a conventional hydrocarbon resource). To be considered as a valid target for the E&P industry, it must have the following characteristics:

- Total Organic Carbon (TOC) > 2%;
- Be of significant scale (thickness and area of distribution);
- Must have been buried deep enough to have generated hydrocarbons (commonly measured by Vitrinite Reflectance levels);
- Must have some means of enhancing the very low permeability (naturally via fracturing, or artificially via fracture stimulation) – which drives Recovery Factor (Rf);
- Must be economically extractable, with the principal determinant of “recovery factor” typically being the permeability of the rock. This tends to be variable, and often the key to the play is how to engineer a “stimulation program” to enhance the flow rates;
- Given generally lower flow rates (200,000 scf/pd to 3-4 mmscf/pd range), in periods of lower commodity prices, these asset classes tend to be the 1st to be “shut-in”; and
- Depth to the unit – determines the well cost, and this along with Rf drives the economic equation.

As such, these types of resources plays, once identified, and the technical issues resolved, tend to be the domain of larger companies.

Petrohawk, Pioneer Resources, EXCO Resources are all examples of corporate growth via resources plays, Petrohawk was one of the early discoverers of the profitable Haynesville Shale in North Louisiana, Arkansas and Texas.

We note the recent acquisition by BG Group of 50% (292,000 Ac) from EXCO Resources, which has booked “proved reserves” of 1.2 tcf for some US\$1.055bn (implying a cost for developed reserves of US\$0.90/mcf).

The listed Australian E&P sector has experienced several attempts to “lock-up” large-scale resource plays in the USA:

- Austin Chalk (ADI / EKA / AUT);
- Mancos Shale / tight gas (MAE / ODY);
- Tertiary oil recovery (COI / ELK/);
- Powder River CSM (PGS);
- Niborra tight oil play (Orchard Petroleum);
- Barnett Shale (SSN / NWE);
- Quebec Shale (MPO), and other major shale plays are:
- Fayetteville;
- Haynesville & Marcellus.

Principal risk factors

In the main, this has provided relatively poor returns for investors. We view the key risks as:

- Ability to fund (balance sheet capacity);
- Quality of Joint Venture partners;
- Technical capability within the Company;
- Recovery per well;
- Costs per well;
- US gas prices; and
- Scale of operations (i.e. will it be material to the company);

The order of things

The USA continues to be the largest user of energy globally. As such the large easy to find (and develop) resources of the USA have been exploited. In terms of ease of extraction, the following is typical:

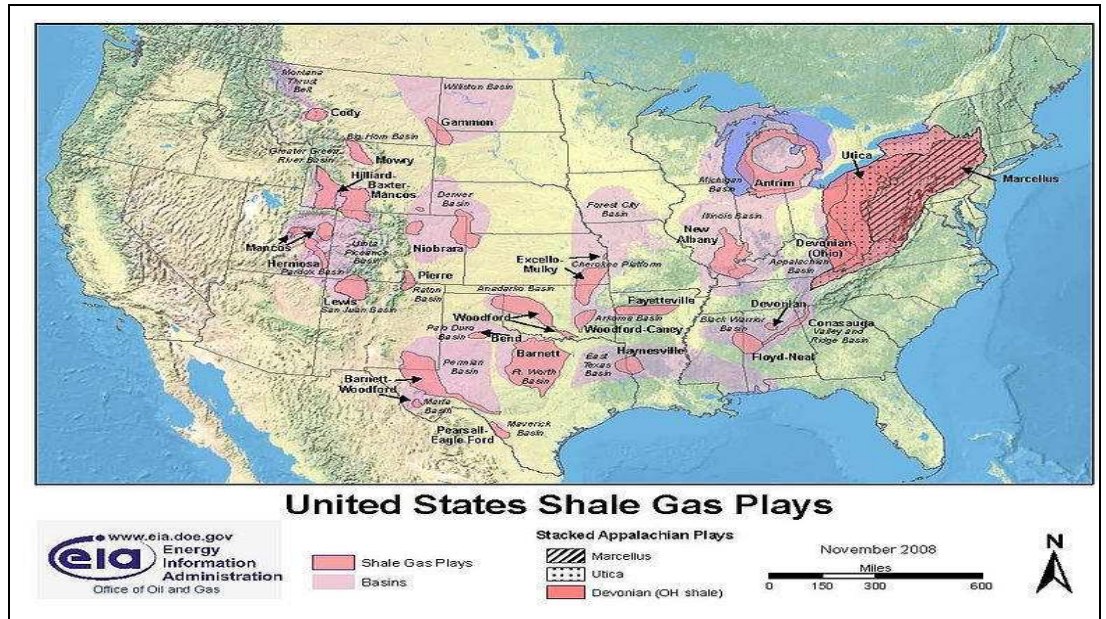
- Simple oil/gas fields (large resources are almost always found 1st in basin exploration)
- Small oil/gas fields
- Low recovery (heavy oil projects – e.g. California) fields
- Secondary / Tertiary recovery from the above resources
- Tar sands
- Coal Seam Methane
- Tight gas resources
- Shale plays
- Kerogen's

This should highlight risks and rewards

Given the difficulty of extraction this should highlight that while resource plays are very large-scale, it requires a great deal of technical expertise (which is normally available “in-house” in large E&P Companies).

Next, given the higher development costs per unit of production (\$/mcf), then these assets tend to be the 1st to be “shut-in” if and when commodity prices take a tumble. Utah is probably a good example of this at current US gas prices, due to the transportation charges reducing the net-backs to the producers.

US Shale Regions



Source: EIA data

Long-dated call over US gas prices?

Assuming the company has the ability to fund development, then we believe this is probably a good way of looking at these plays (highly leveraged to change in US gas prices). Various data sources (and land acquisitions) suggest Majors are looking to “lock-up” large scale resource plays in the US market. We think the recent acquisitions by some of the Major E&P companies tend to support this view.

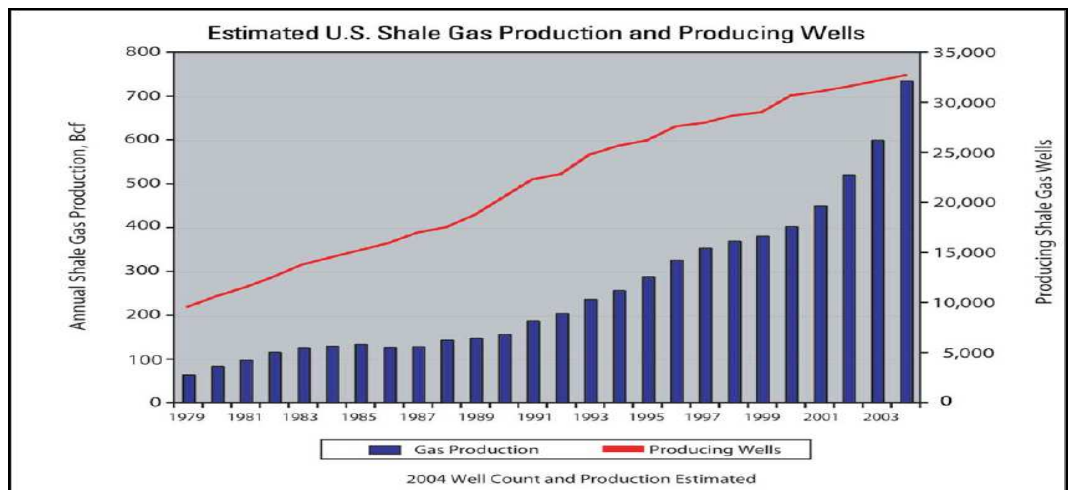
Will become increasingly important

One of the major positives for AZZ appears to be the high liquids content of the gas resource, with bbl's / mmcf ratios of 25 – 100 bbl's. This is “wet gas”.

The USA is now reliant upon pipelines from Canada, minor imports of LNG, and the Gulf of Mexico for its domestic natural gas requirements.

US gas prices have crashed – due to reductions in gas-fired power station demand, increased availability from Canada, and falls in demand in industry (plastics / chemicals).

The following chart shows the increasing importance of resource plays to domestic production. These “resource plays” now account for circa 46% of total US gas production.



Source: EIA data

Recovery – drives the value equation

The following table outlines the variability in recovery/well from various US shale plays, from ASX listed players.

Various USA Resource Play data

Play	BCF/well	IP (rate)	Cost (\$m)	Sources	Period (yrs)
Barnett	2.9	0.2	1.0	SSN	15
Kentucky	0.35	0.05	1.0	WHN	20
Utah	5	5	8.0	MAE	15
Eagle Ford	5	9	4.5	Petrohawk	15
Barnett	2.4	7	5.0	XTO	12
Palo-Duro Bend Shale	1.5				
New Albany Shale	1.2	0.25	0.8	AUT	30

Source: Various ASX listed companies

Most ASX listed USA plays have under delivered

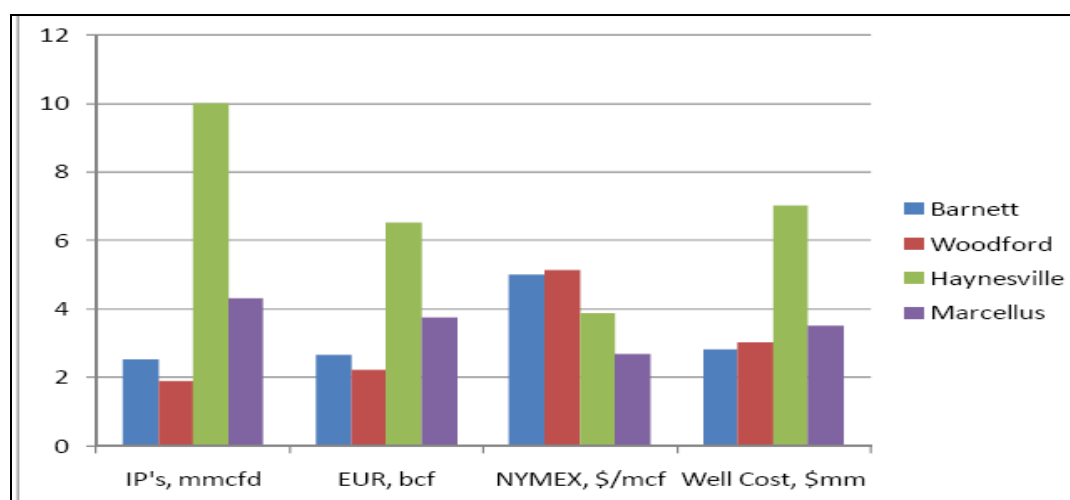
Most of the Australian listed resource plays have promised much, and delivered little for investors. We view the following as the principal reasons for the underperformance as being:

- Lack of understanding of the technical requirements to make a play work;
- Lack of access to funding;
- Too much debt, more so when commodity prices fell heavily in H2 2008;
- Lack of access to infrastructure;
- Lack of scale (i.e. resource not material enough for the size of the company);
- Disjointed joint venture structure (non-alignment);
- Over-estimation of the size of the prize; and
- Under-estimation of the required capital.

Economics – quality drives the equation

The following chart highlights why high-quality resource plays will be sought after by major companies. This is evidenced by the Majors looking to lock-up future domestic gas supplies (BG Group, Exxon, Conoco etc). Note that liquids (condensates) can and does drive the economics.

Economic drivers



Source: CHK data

Eagle Ford - Initial data looks very good

Initial data from Petrohawk, Reostar suggests that the Eagle Ford Shale is comparable to the Haynesville in its productivity and recovery/ well.

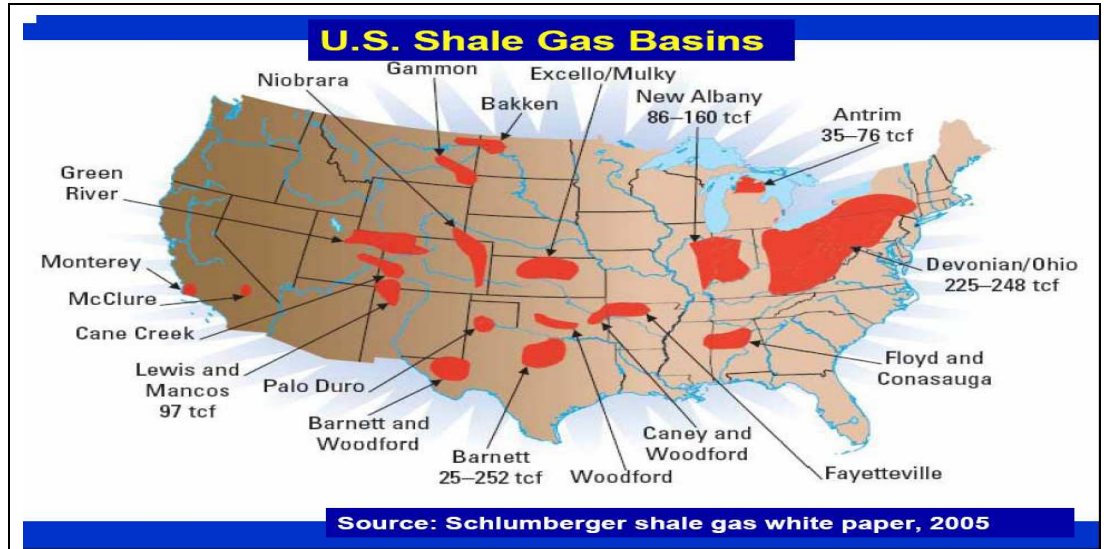
We view this as significant – as Petrohawk has some 210 bcfe booked proved reserves, and a resource of circa 12 tcf within its Haynesville acreage. Indeed, Petrohawk has indicated a resource of circa 4.3 tcf in its own 156,000 Ac (Eagle Ford Shale).

We do note that each shale play does have a distribution curve of outcomes (rate/ Rf), and that it is simply too early to determine the long-run mean for the Eagle Ford Shale.

EAGLE FORD SHALE (EFS) TECHNICAL DATA

Huge resources The USA has large-scale shale resource plays, evidenced in the map below.

US Shale Gas Basins



Source: USGS / Schlumberger

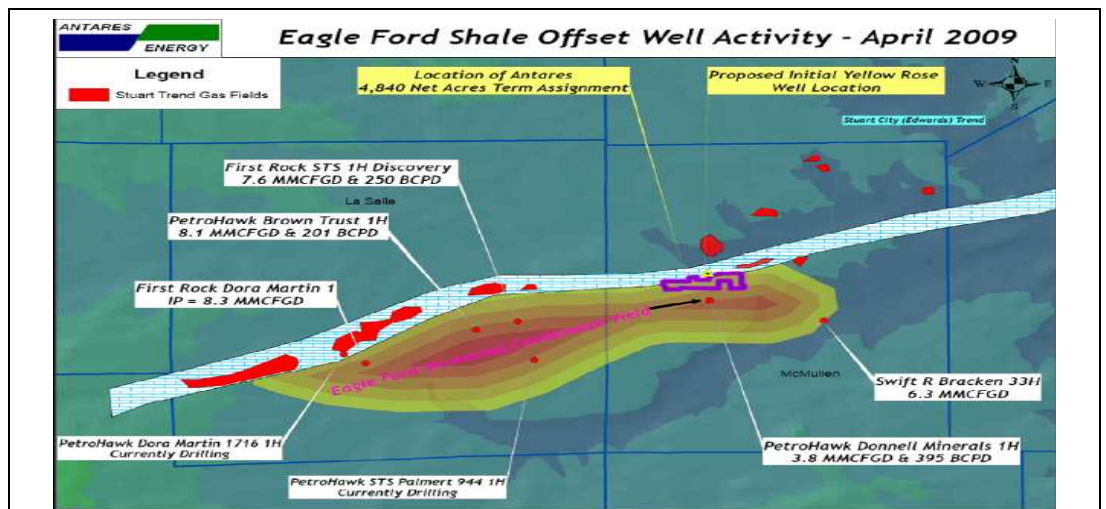
Technical data - looks solid

The Eagle Ford Shale play is located in Gulf Coast region of South Texas, is an upper-Cretaceous aged deposit (100ma), ranging from 4,000 to 14,000' in depth, with thicknesses of 50 to 500' feet. Additional data is provided in the appendix.

The Eagle Ford Shale is a slightly calcareous regional shale, which is gas-charged (circa 8300psi pressure, which is over-pressured), has both primary porosity and matrix porosity, and again is reliant upon fracture development to enhance permeability. It is now common to fracture stimulate deep shale wells in the USA.

Recent activity (Petrohawk / Pioneer Resources/ EXCO) suggests average recovery per well in the 4-6 bcf/well. Be aware that the numbers stated by Petrohawk refer to horizontal development wells, while AZZ has currently only drilled one vertical well.

Results in the area



Source: Petrohawk data

Relatively high liquids, and over pressured

Petrohawk has “locked up” a major portion of the play, and has production history from four wells. Note the variation in the liquids ratio across the play – from circa 25 bbl/mmcf in the west to 100bbl's/mmcf in the east.

The trend across the field from south-west to north-east suggests increasing condensate yields. The Eagle Ford has been encountered from true vertical depths of approximately 11,000' to 11,700'. Data suggests a slight thinning of the section to the north.

The “highly calcareous organic shale” appears to have both calcite & dolomite – with secondary porosity likely to be a significant factor in resource / unit area. Understanding this variation in geo-chemistry will be significant in our view.

Technical attributes – look good

Public data from Petrohawk suggests:

- Porosities in excess of 10% (primary plus matrix)
- High gas saturations (85%+)
- Petrohawk has stated “ultimate recovery average of 5.5 Bcfe per well” for this play (range of 4 to 7 Bcfe/ well). This appears to be based on a 200'-250' thick section.
- Average total organic content (TOC) between 4.4% and 4.7%;
- Total porosity ranges between 9.4% and 10.7%;
- Average permeability ranges between 1,110 and 1,280 nanodarcies;
- Gas saturation ranges between 83% and 85%;
- Estimated “free gas in place” per section between 180 and 210 Bcf (note this comprises 2 separate contributions – free gas in natural porosity, and gas in matrix porosity. There is also a contribution from “sorbed gas” which appears minor at this stage).
- Note mineralogy appears to be a significant determinant of porosity (calcite / dolomite);
- Reservoir pressure is high – circa 8300psi (significantly over-pressured).

This suggests that the Eagle Ford (location specific) is one of the better quality shale reservoirs discovered to date in the United States. The comments by Petrohawk – “*natural and coring induced fractures are not present*” suggest that understanding the fracture stimulation required is going to be critical in economic evaluation.

The high liquids content (condensate) will greatly assist the economics, although the geological reason for this does not seem known at this stage.

KEY RISKS

Distribution of expected outcomes

All of the ASX listed companies that have followed the US Resource Play model, have not (in our view) adequately allowed for the variability in outcomes of both the IP (initial production) and EUR (expected ultimate recovery), nor capital cost estimates in each part of the play.

As such, the balance sheet capacity of all players has been called into question.

So – is AZZ different?

The public domain data from AZZ suggests:

1. Initially, the Yellow Rose project did not include the EFS play, and as such, AZZ has benefited from HK's success to the south, and west.
2. The Company has done a diligent job in assessing both risk, and expected returns in a resource play.
3. AZZ has acquired 3-D seismic over its leases, whereby most other players have not.
4. AZZ has provided reasonable data on its reserves base at years end, with certified 1P / 2P / 3P, and valuations at the industry standard 10% discount rate for each reserves category. Realistically, only PSA / AMU / AZZ actually provide this data to the market. We view this disclosure as positive.
5. AZZ has farmed-out to a major company, but has attempted to retain some acreage control, as it has done the deal on a section by section type deal (section in the US E&P industry refers to 1 square mile = 640 Ac).

The distribution curve of volumes/well in "resource plays" are driven in the main by Initial Production (IP) rates.

Given the limited data to date the range is 3.1mmscf/pd to 9.5+mmscf/pd.

There is no public data on the completion design / length of horizontal, and hence the flow rate per unit length exposure to the reservoir can not be determined.

Shales tend to be quite uniform in composition – however, they tend to be complex in terms of fracture distribution. We look at the distribution of recoveries in the region, and then apply analogies for AZZ's acreage position. We have discounted the Edwards limestone play – to take into account the areas that look more productive – given the seismic data and nearby Pioneer results.

We think the company offers attractive upside, however, we think this will take some time to become apparent.

BALANCE SHEET

Current capital structure

AZZ has the following capital structure:

AZZ Capital Structure		
		Comment
FPO	184.2m	
Debt	18.8m	9.4m convertible notes
Options	5.6m	
Cash	6.0m	

Source: AZZ data

Management incentivised via unit development costs – this is a +ve

The Options comprise:

- 1m @ \$0.25;
- 1m @ \$0.99; and
- 3.6m performance rights – the majority of which are exercisable if / when the F&D costs per bcf of 2P reserves are less than \$1/mcf.

Finally, AZZ has a \$20m equity line facility with Cornell Capital Partners – which remains undrawn to this point.

C-notes – debt at current prices

AZZ has 9.4m \$2.00 face value, 10% coupon outstanding convertible notes on issue.

Given holders can elect to convert to ordinary shares or redeem, (@ \$2.00), we have treated these as debt.

We do note that the Notes mature on 30 October 2013, and that AZZ has actually bought back around 1.1m of these instruments well below par (booked through the P&L).

Future capital likely to be reqd

Given AZZ has farmed out to SIDC (Edwards) and Petrohawk (Eagle Ford), but retains a 75% and 50% interest respectively, and the deeps play is after payout to sunk costs with Petrohawk, then we think the balance sheet will be stretched in the short term (1-2 years).

Petrohawk has stated – it will spend some US\$120m+ in 2009, on the Eagle Ford acreage (its own and AZZ's).

Well costs – Operator has done well

The vertical test of the Yellow Rose location cost circa US\$1.2m. Petrohawk has indicated that the horizontal development wells are circa US\$4.5 – 5.0m drilled and completed.

The days to Total Depth (TD) have been reduced from around 35 to 22 currently for Petrohawk Operated wells – which suggest a good-quality Operator.

LARGE RESOURCE POTENTIAL

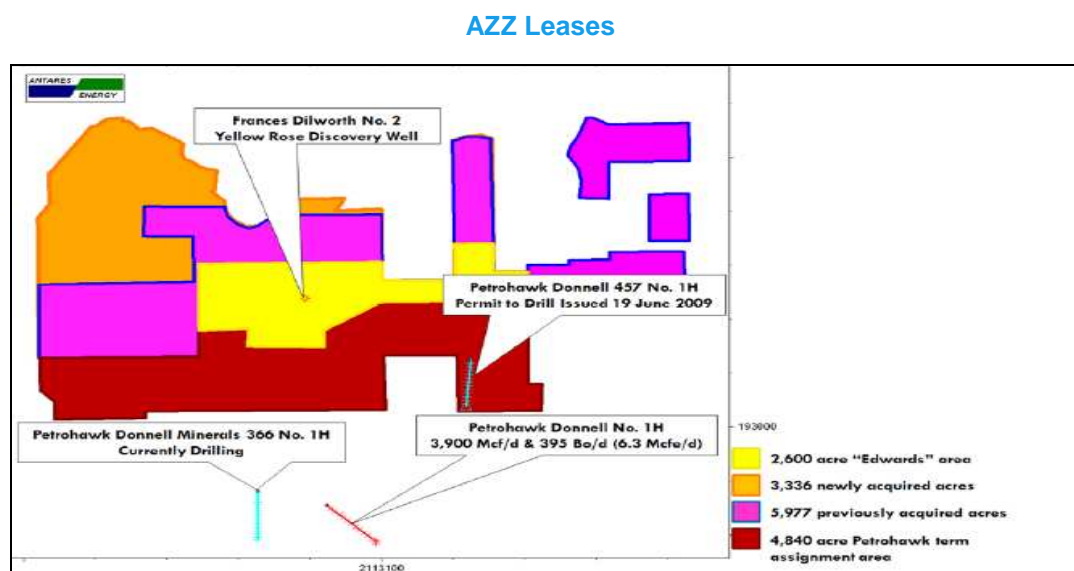
Reasonable acreage position

AZZ has spent the past 4-years acquiring an onshore acreage portfolio, Louisiana / Texas, post the sale of its Turkish production assets.

AZZ has three separate agreements covering its gross 16,700Ac:

- 5,977Ac (AZZ 100%)
- 3,336 Ac (AZZ 100% - recently acquired)
- 2,600Ac (75% - with SIDC having 25%)
- 4840Ac (50% - with Petrohawk, interest is assigned after Petrohawk is "paid-out")
- 8,200 Ac under lease in Texas

The following map outlines their position.



Source: AZZ data

+ve results from HK

Petrohawk has now drilled 8 + wells on the play, with flow rates from 3 – 9+ mmscf/pd from horizontal wells. We view this as a very good result.

Two distinct play types

The Edwards Play is a limestone reefal built up, below the Eagle Ford. As such, we suggest it is likely to be variable in its permeability (and this is critical in determining the ability to flow).

60% of the Edwards appears prospective – from 3-D

We have used a 2-2.5 bcf/well recovery and risked this value at 30%. Based on the acquisition of SIDC's 50% interest in the Northern part of the area, we suggest that AZZ believes that the Eagle Ford also extends to the north.

Large capital program likely

The next table outlines the potential number of wells /upside value.

AZZ Potential well locations					
Play	Acres	Spacing	EUR	%	Net Wells
Production					
Edwards Lst	2600	100	2	75	39
EFS	4840	104	5	50	116
AZZ 50% owned	9200	104	4.5	50	199

Source: Austock Securities forecasts

**Petrohawk has
circa 160,000 AC
under lease**

These wells cost US\$4.5m to US\$5.5m (drilled and completed).

**Recent
transactions –
US\$420+/Ac**

Petrohawk to spend US\$120m+ in 2009 appraising the Eagle Ford Shale.

ReoStar Energy Corporation will acquire 13,000 Ac of Eagle Ford play, leasehold (Gulf Coast region) for US\$5.5m. Reostar indicated it believes potential reserves of 500 bcfe, with recoveries per well of 6 - 11 bcfe. Best wells include:

- #1-H Butaud i(Eagle Ford) with IP of 17.5 mmscdf/pd + 2,500 bbls/day of condensate (142bbls/mcf).

MARKET COMPARABLES

AUSTRALIAN LISTED COMPARABLES

Market comparables

The following table outlines the equity market comparables. In our view, AMU / PSA are larger, more established players, with MAE / SAE being smaller. We view the following list as directly comparable with AZZ:

- Adelphi Energy (ADI)
- Aurora Energy (AUT)
- Buccaneer Energy (BUC)
- Eureka (EKA)
- Golden Gate Petroleum (GGP)
- Pryme Oil and Gas (PYM)
- Red Fork Energy (RFE)
- Target Energy (TEX)
- Texon (TXN)

ASX Listed Resource Plays

Company		2P(m boe)	EV \$m	Cash \$m	Debt \$m	EV / 2P \$/boe	Comment
Antares Energy	AZZ	0.6	65.6	7.8	18	115.2	2P is current booked, excludes appraisals (EFS / Edwards)
Auroa Oil and Gas	AUT	1.0	17.2	7.1	0	17.2	Now farm-out
Adelphi Energy	ADI	0	3.5	1.9	0	n/a	
Golden Gate Petroleum	GGP	0.8	65.6	3.4	8	24.2	Rates at Jumonville well
Marion Energy	MAE	48.3	80.0	15.2	16.1	1.7	For sale
Pryme Energy	PYM	0.3	12.6	2.43	0	39.3	
Red Fork Energy	RFE	6.8	128.1	6.2	0	18.7	Done well
Samson oil and gas	SSN	3.3	28.6	4.2	26.1	8.7	
Texon Petroleum	TXN	0.7	15.5	4.3	0	22.2	Expensive
Averages						30.9	

Source: Austock Securities forecasts, Company data

We think the Australian market is pricing the USA producers at a discount to NPV's, and there is some evidence that selected explorers have had at least some of the upside built into their share prices. The table also highlights situations where a company has not been able to fund their development to fruition.

ASX Listed Producers

		2P(m boe)	EV \$m	Cash \$m	Debt \$m	EV / 2P \$/boe	Comment
Amadeus Energy	AMU	8.7	113.7	1.8	76.0	13.1	Solid production
Horizon Oil	HZN	13.0	183.9	25.5	18.1	14.1	China / NZ more important
Marion Energy	MAE	48.3	80.0	15.2	16.1	1.7	Rocky's gas play
Petsec Energy	PSA	9.1	88.6	17.0	64.0	9.7	Excludes China oil, inc in debt
Salinas Energy	SAE	5.0	7.7	14.9	2.8	1.5	Excludes McCool / PV
Averages						8.0	

Source: Austock Securities forecasts & Company data

5 main production co's

This suggests that production assets are currently cheaper than exploration plays.

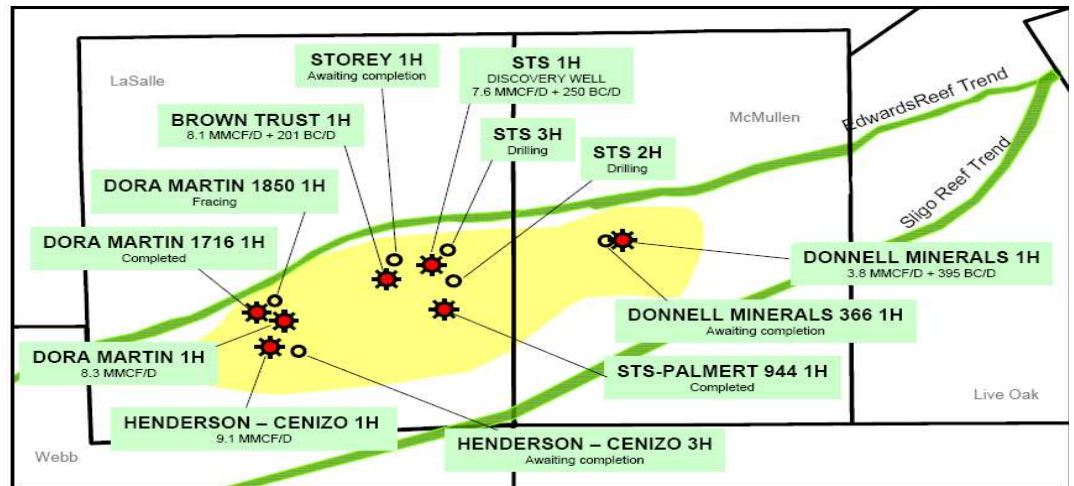
We like the play

The Eagle Ford Shale (EFS) is currently one of the “hottest” resource plays in the USA. It has similar technical attributes to the large-scale Haynesville shale play.

Due to the high liquids content

The Petrohawk data suggests some variability in flow rates, although there is no data on the lengths of horizontal sections, nor the orientation (which is likely to be critical in maximising flow rates) of the wells to date.

Eagle Ford Shale wells



Source: PetroHawk presentation

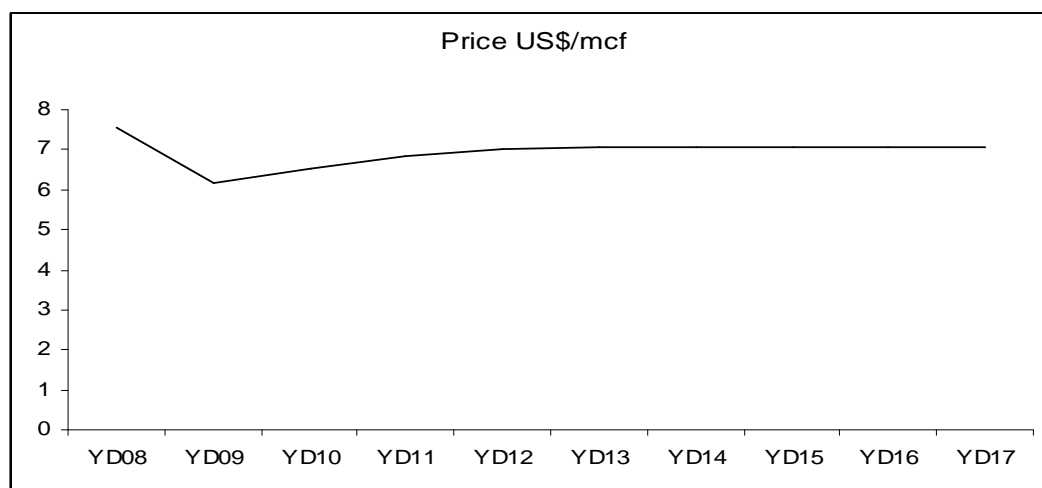
VALUATION AND ISSUES

Assumptions used in DCF valuation

We have assumed the following:

- Gas prices as per the following chart;
- 10% discount rate;
- 70% success rate;
- Well costs circa US\$4.5m +/- for horizontal development wells;
- IP around 4mmscf/pd + 250 bbls/day+ of associated condensate;
- 5+ wells per annum;
- 25% landowner royalty; and
- NYMEX and Henry Hub pricing.

USA gas price assumptions



Source: Austock estimates

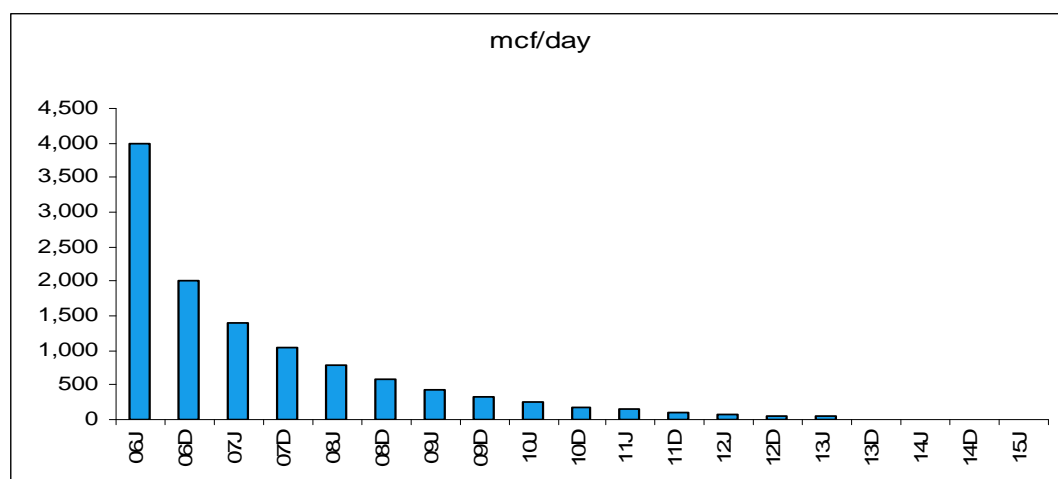
To history match limited data

Given the initial production (IP) rates by Petrohawk, and to match both the time period, and recovery per well, we suggest a two-stage decline curve is likely. Given contributions from both primary porosity and the matrix, this is logical.

We have simply “back solved the volumetrics”, and thus estimate an IP/well of around 4.0 mmscf/pd, declining as per the diagram below.

This is a reasonable match to public data for the Heasville shale.

Potential rate/well



Source: Austock estimates

So how much

Using the data available from Petrohawk, and the implied 104 Ac spacing, potentially, AZZ has 120+ well locations, implying a resource in the order of 250+ bcfe, with attractive productive potential. We note the variability in condensate yields across the play.

We have assumed 150bbbl's/mmcf ratio – which means the liquids contribute around 30% of the total boe's produced – but account for 45-50% of the total value (i.e. this is a liquids project).

Issues – scale implies PP&E not known

We view the key issue being balance sheet capacity to fund the above development program. We have not included required gas plants / liquids separation/stabilisation plant costs – as the scale of the development is not yet known. Our capital cost estimates assume only well / completion costs.

NPV valuation – more sensitive to oil prices

Using the above assumptions, and a development scenario data, we estimate the following potential value:

Net Asset Valuation

Asset	Interest	Gross Reserves		Net 2P Reserves			Value		Risk Factor	Valuation			
		(mmb)	(bcf)	(mmb)	(bcf)	(mmboe)	(US\$/bbl)	(US\$/mcf)		(US\$mm)	(A\$mm)	A\$(\$ ps)	
Producing													
USA													
	Production	95%	0.5	1.5	0.5	1.4	0.7	-	-	na	-	-	-
	Production	65%	1.0	50.0	0.7	32.5	6.1			100%	10.9	13.6	0.07
		50%	0.0	0.0	0.0	0.0	0.0	2.50			0.0	0.0	0.00
	Subtotal				1.1	33.9	6.8				10.9	13.6	0.07
Resources & Exploration													
USA													
	Edwards Lst	50%		80.0	0.0	40.0	6.7	1.25		30%	15.0	18.8	0.10
	Eagle Ford Shale	50%	2.0	100.0	1.0	50.0	9.3	1.00		30%	20.8	26.1	0.14
	Eagle Ford Shale	100%	2.0	100.0		100.0	16.7	0.50		30%	15.0	18.8	0.10
Australia & NZ													
	Corporate	100%								100%	-7.2	-9.0	-0.05
	Subtotal				1.0	190.0	32.7				43.6	54.6	0.29
Other assets													
	Option proceeds										0.0	0.5	0.00
Cash	21-Mar-07										4.8	6.0	0.03
Debt	21-Mar-07										-14.4	-18.0	-0.10
Net asset valuation					2.1	223.9	39.4				45.0	56.7	\$0.30

Source: Company financials & Austock Securities estimates

ASSET BASED VALUATION

Recent transactions

BG Group acquired 50% of EXCO Resources assets in Texas for US\$1.055bn, comprising 50% of 1.1 tcf 1P (71% developed), 2+ tcf upside, which implies a valuation of circa US\$1.75/mcf for PDP assets, and US\$0.65/mcf on a EUR basis.

So what does AZZ have

Results to date indicate:

1. 146' of section in the Eagle Ford – implies GIP of circa 123bcfe/section at this location,
2. Recovery of 4bcfe/well on a 104Ac spacing,
3. Implied Recovery factor = 16.1%,
4. 50% WI in 8200 Ac (79 locations),
5. 100% in 2500Ac (24 locations),
6. Net to AZZ as follows:

Asset potential

Eagle Ford Shale play:

- 50% of 79 locations = 158 bcfe
- 100% of 24 locations = (96 bcfe)
- Net 254 bcfe
- Potentially this is worth \$165m

Edwards Limestone Play:

- 75% of 2600Ac
- 110+bcfe net to AZZ
- Potentially – this is worth US\$50m+/-
- Some 15+ locations have been identified (AZZ capex - US\$34m)

Totals

- Existing production assets (circa \$16m)
- Net cash / debt = -10m
- Corporate costs = -12m
- Total = US\$180m +/-
- FPO 190.1m
- Unrisked value = US\$0.85cps +/- = (A\$1.05cps – using 80c /A\$)

Risked @ 30%

We think this valuation must be risked to take into account:

- What is the AZZ appraisal / development timeline;
- Lack of access to non-public data;
- Capital required for field gathering / fluid extraction / compression etc;
- Access to infrastructure (Petrohawk likely to toll treat joint venture production).

Leveraged to chg in US gas markets

We estimate a 15% move in \$/mcf values for each 10% move in US gas prices.

Summary

Our fully risked valuation is 30cps.

We estimate that the market is ascribing some \$40-45m in value for its resource play potential (approximately 30%).

While we view the upside case as being around \$1.05/share (on current issued capital) and surrounding wells by Petrohawk have been very positive – we do not believe the upside case is justified in the current market for the following reasons:

1. Access to capital;
2. Appraisal program not yet completed;

3. Flow testing yet to be completed;
4. HK will drill a horizontal test, probably in Q3 2009, but will retain 100% of the production until pay-back is achieved (ie return of their investment). This will stretch the cashflows of AZZ in our view;
5. The equities market is pricing production assets below NPV, hence why should early stage appraisal assets be fully valued.

Value Triggers

Given Petrohawk must “spend to earn” a 50% interest by spending circa \$4-4.5m for each 320Ac agreed area (which HK then retain all revenues until they recoup all of its capital costs), this implies Petrohawk would have to spend some US\$60m+ to “earn” into AZZ’s acreage.

This implies a minimum valuation of AZZ of circa \$70m (farm-in value - 37cps +/-).

Given the potential value of the resource, plus upside from the Edwards limestone, the stock is one of the more intriguing US development plays.

The forthcoming value triggers will be:

- Testing of the Edwards (we believe this to be of less potential than the Eagle Ford);
- Petrohawk drilling the Donnell Minerals 457 # 1H well (spudded 20/7/2009);
- Flow testing of same (in particular condensate yields);
- Plans for required infrastructure (size of gas plants);
- US oil and gas prices;
- Petrohawk announcing further “earn in” sections.

Antares Energy Ltd (AZZ)

Market Cap \$55 m
Price \$0.30

Date 17-Jul-09
Model Updated 17-Jul-09

PROFIT & LOSS (\$m)

Y/E Dec	1H/08A	2H/08A	1H/09F	2H/09F
Sales Revenue	3.0	5.1	9.4	0.5
Other Income	0.0	0.0	0.0	0.0
Operating Costs	0.7	0.9	1.9	1.1
Deprn & Amort	0.8	0.9	0.2	1.9
Exploration Exp.	0.8	1.1	1.0	0.0
Corporate/Admin	1.3	-0.3	-0.3	1.3
EBIT	-0.5	2.5	6.6	-3.8
Interest	0.9	1.4	0.5	1.3
Operating Profit	-1.4	1.1	6.0	-5.1
Tax expense	-0.4	0.4	1.8	-1.5
Abnormals/Minorities	0.0	0.9	0.0	0.0
NPAT (reported)	-1.0	1.6	4.2	-3.6
Normalised NPAT	-1.0	0.7	4.2	-3.6

CASH FLOW STATEMENT (\$m)

Y/E Dec	1H/08A	2H/08A	1H/09F	2H/09F
Adjusted Net Profit	(1.0)	1.6	4.2	(3.6)
+Interest/Tax/Expl Exp	1.3	2.9	3.3	(0.2)
- Interest/Tax/Expl Inc	6.9	0.8	5.2	(2.1)
+Deprn/Amort	0.8	0.9	0.2	1.9
+/- Other	(3.7)	0.4	(0.2)	1.4
Operating Cashflow	(9.5)	5.0	2.3	1.6
- Capex (+asset sales)	0.0	4.0	0.6	35.3
- Working Capital Increase	(2.8)	0.3	0.0	0.0
Free Cashflow	(6.7)	0.7	1.7	(33.7)
- Dividends (ords & pref)	0.0	0.0	0.0	0.0
+Equity raised	0.1	2.4	0.0	0.0
+Debt drawdown (repaid)	0.0	(1.0)	0.0	0.0
Net Change in Cash	(6.6)	2.1	1.7	(33.7)
Cash at End Period	2.2	4.3	8.8	(22.1)
Net Cash/(Debt)	(8.3)	(14.3)	(19.8)	(57.7)

PRODUCTION SUMMARY

Y/E Dec	1H/08A	2H/08A	1H/09F	2H/09F
USA (bcfe)	0.09	0.18	1.92	0.03
liquids (mdbl)	0.01	0.02	0.05	0.04
Total (mboe)	0.03	0.07	0.37	0.04
US gas price	10.19	9.23	5.90	6.01
Spot Oil Price (US\$/bbl)	103.39	93.85	60.50	61.55
Ave Realised Price (A\$/boe)	32.96	28.05	25.02	12.82

BALANCE SHEET (\$m)

Y/E Dec	2008A	2009F	2010F	2011F
Cash	4.5	-27.5	-35.5	-44.5
Total Assets	22.1	24.0	48.3	70.6
Total Debt	18.6	35.6	35.6	35.6
Total Liabilities	19.6	20.9	28.7	31.1
Shareholders Funds	2.5	3.2	19.7	39.4
Ratios				
Net Debt/Equity (%)	560.6%	1993.6%	362.0%	203.2%
Interest Cover (x)	0.9	1.5	1.1	1.0
Return on Equity (%)	22.9%	20.5%	83.9%	50.2%

Reserves & Resources

Reserves - Net AZZ (est)	Oil	Gas
	(mdbl)	(bcf)
USA	0.2	3.4
Other	0.0	0.0
Total Group	0.2	3.4

Major Shareholders

	No. Shares (m)	%
HEP Oil	24.0	13.0%
Yandal Investments	1.0	5.4%
J Cruickshank	6.9	3.7%
Top 20 Shareholders	92.0	50.0%

* Note we have included the convertible notes as debt, given the strike price

PROFIT & LOSS (\$m)

Y/E Dec	2008A	2009F	2010F	2011F
Sales Revenue	8.1	9.9	46.1	57.9
Other Income	0.0	0.0	0.0	0.0
Operating Costs	1.6	3.1	12.7	16.3
Deprn & Amort	1.7	2.0	5.5	8.5
Exploration Exp.	1.9	1.0	1.0	1.0
Corporate/Admin	1.0	1.0	1.0	1.1
EBIT	2.0	2.8	25.9	31.1
Interest	2.3	1.9	2.3	2.8
Operating Profit	-0.3	0.9	23.5	28.2
Tax expense	0.0	0.3	7.1	8.5
Abnormals/Minorities	0.9	0.0	0.0	0.0
NPAT (reported)	0.6	0.7	16.5	19.8
Normalised NPAT	-0.3	0.7	16.5	19.8

CASH FLOW STATEMENT (\$m)

Y/E Dec	2008A	2009F	2010F	2011F
Adjusted Net Profit	0.6	0.7	16.5	19.8
+Interest/Tax/Expl Exp	4.2	3.1	10.4	12.3
- Interest/Tax/Expl Inc	7.7	3.0	3.3	10.1
+Deprn/Amort	1.7	2.0	5.5	8.5
+/- Other	(3.3)	1.2	0.7	0.3
Operating Cashflow	(4.5)	4.0	29.8	30.7
- Capex (+asset sales)	4.0	36.0	37.8	39.7
- Working Capital Increase	(2.5)	0.0	0.0	0.0
Free Cashflow	(6.0)	(32.0)	(8.0)	(9.0)
- Dividends (ords & pref)	0.0	0.0	0.0	0.0
+Equity raised	2.5	0.0	0.0	0.0
+Debt drawdown (repaid)	(1.0)	0.0	0.0	0.0
Net Change in Cash	(4.5)	(32.0)	(8.0)	(9.0)
Cash at End Period	4.5	(27.5)	(35.5)	(44.5)
Net Cash/(Debt)	(4.1)	(63.1)	(71.1)	(80.1)

PRODUCTION SUMMARY

Y/E Dec	2008A	2009F	2010F	2011F
USA (bcfe)	0.50	1.95	3.48	4.24
liquids (mdbl)	0.00	0.09	0.20	0.26
Total (mboe)	0.09	0.42	0.78	0.97
US gas price	7.57	5.95	6.35	6.79
Spot Oil Price (US\$/bbl)	77.17	61.02	65.00	69.38
Ave Realised Price (A\$/boe)	94.92	23.82	59.01	60.00

VALUATION

	risk %	A\$m	A\$/sh
Edwards Lst	30%	18.5	0.10
USA Production		13.6	0.07
Eagle Ford Shale	30%	26.1	0.14
Eagle Ford Shale	30%	18.8	0.10
Corporate	100%	(9.0)	(0.05)
Cash		6.5	0.03
Debt		(18.0)	(0.10)
Total NAV @ 10% discount rate		56.4	0.30
EV/BOE (2P) A\$		125.88	

Directors

Richard Elliott	Chairman
James Cruickshank	CEO/MD
Bill Hassell	Executive Director
Hugh Lennerts	Company Secretary

TERMS AND ABBREVIATIONS

Std terms

Bbl – Barrel of oil = 42 gallons (159 litres)

Boe – Barrel of oil equivalent (1 standard cubic foot of gas = 1/6 bbl)

Mcf – 1000's of cubic feet of natural gas (normally quoted on a daily flow rate basis)

Mmscf – millions of standard cubic feet of gas

Tcf – Trillion cubic feet

M – millions

Ac – acre (1 Ac = 4046.8 sq meters, 640Ac = 1 sq mile)

Section – 640 Ac (1 sq mile)

Acres: equal to 4840 square yards.

Hectares: equal to 10,000 square meters (equivalent to 2.471 acres)

35.301 cubic feet per 1 cubic meter

ORRI – Overriding royalty interest

Energy

J (Joule) - defined to be the work done by a force of one Newton acting to move an object through a distance of one meter in the direction in which the force is applied. Equivalent to 0.2388 calories)

Gigajoule (or GJ) Gigajoule (10⁹ joules). There are 1,000 GJ in a Terajoule (TJ) and 1,000 TJ in a Petajoule (PJ).

Tj – tera joule (10⁶ joules)

GIP

Gas-in-Place (GIP) – an estimated measure of the total amount of gas contained in a reservoir and, as such, a higher figure than Recoverable Gas.

NPV (10) – The present value of reserves booked and audited based on the prevailing fiscal assumptions. In the case of an exploration company, the NPV reserves are assumed to be the risked reserves as outlined by the competent persons report.

OOIP – Original oil in place, also OOGIP (see above).

R(f) – Recovery Factor – how much of the OGIP can be recovered.

Common terms

Recovery – The fraction of hydrocarbons (from initially “in place”) that can or has been produced from a well, reservoir or field; also, the fluid that has been produced.

EUR - Expected Ultimate Recovery

Pay – A net reservoir interval containing moveable (recoverable) hydrocarbons – defined as gross (total hydrocarbon column) and net (producibile hydrocarbon column – see definition of permeable).

Permeability – Is the extent to which a solid allows the flow of a fluid. This flow depends on the properties of the solid and also on the dynamic viscosity of the fluid and the difference in pressure driving the flow, and is widely measured in darcies or millidarcies.

Seismic – Pertaining to waves of elastic energy, such as that transmitted by Pwaves and Swaves, in the frequency range of approximately 1 to 100 Hz. Seismic energy is studied by scientists to interpret the composition, fluid content, extent and geometry of rocks in

SPE / WPG

The Society of Petroleum Engineers (SPE) and the World Petroleum Congress (WPG) has formalised a set of standards for the classification of petroleum accumulations.

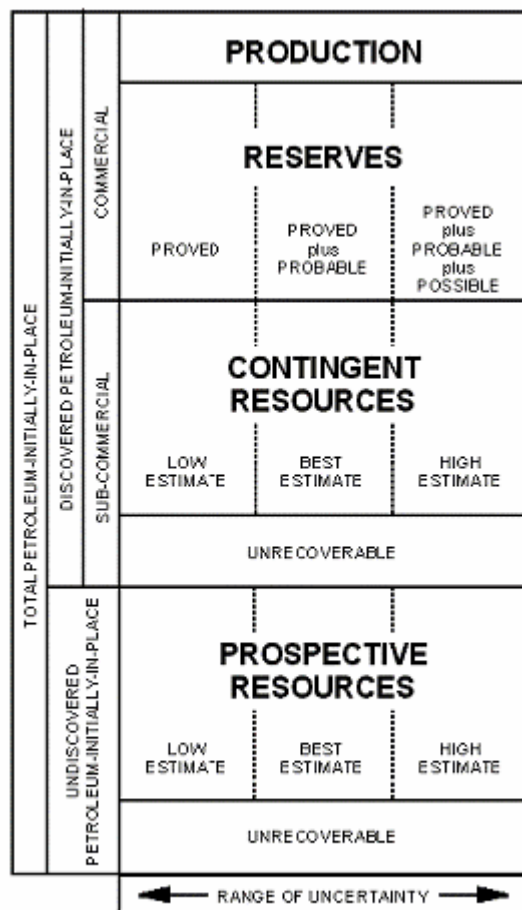
The US Securities and Exchange Commission (SEC) require oil and gas companies to report reserves and resources at the end of each reporting period (either June or December). In addition, the SEC requires US registered companies to classify oil and

gas assets according to Proven (1P), Proven plus Probable (2P) and Proven plus Probable plus Possible (3P). The SEC also requires a breakdown on if assets are “developed” or “undeveloped” and if in production, as follows:

PDP – Proven Developed Producing

PUD – Proven Undeveloped

Investors need to be aware of the future capital requirements of drilling wells to access 2P reserves.



Not to scale

Classification

Reserves and Resources – Classification

1P – (Proven oil / gas reserves) are those quantities of petroleum which, by analysis of geological and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under current economic conditions, operating methods, and government regulations. Proved reserves can be categorized as developed or undeveloped. If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.

2P – (Probable oil / gas reserves) are those unproved reserves which analysis of geological and engineering data suggests are more likely than not to be recoverable. In this context, when probabilistic methods are used, there should be at least a 50% probability that the quantities actually recovered will equal or exceed the sum of estimated proved plus probable reserves.

3P – (Possible oil / gas reserves) are those unproved reserves which analysis of geological and engineering data suggests are less likely to be recoverable than probable

reserves. In this context, when probabilistic methods are used, there should be at least a 10% probability that the quantities actually recovered will equal or exceed the sum of estimated proved plus probable plus possible reserves.

Certification

Process using either actual well performance (NSA) or reservoir simulation (MHA) to assess a range of outcomes in terms of recoverable reserves / resources.

This is highly dependant upon the quality of an unconventional reservoir (CSM / shale plays) – in particular permeability.

Shale Play data

Resource Base				
NCI Assessment				
NCI Collected Producer Assessments by Play				
Shale Play	Basin	Technically recoverable gas		Gas In-Place
		NCI Mean	Maximum Reported	Maximum Reported
Antrim	Michigan Basin	13.2	20.0	76.0
Devonian, which includes:	Appalachian Basin	69.6	311.8	1744.1
Marcellus	Appalachian Basin	34.2	262.0	1500.0
New Albany	Illinois Basin	3.8	19.2	160.0
Floyd/Chatanooga	Black Warrior Basin	2.1	4.5	22.5
Haynesville	Gulf Coast Onshore	34.0	251.0	717.0
Fayetteville	Arkoma Basin	26.0	41.6	52.0
Woodford Arkoma	Arkoma Basin	8.0	11.4	23.0
Caney and Woodford	Arkoma Basin	No Data		
Woodford Ardmore	Ardmore Basin	4.2	6.0	78.0
Barnett	Fort Worth Basin	26.2	44.0	168.0
Barnett and Woodford	Permian Basin	35.4	53.0	264.9
Palo Duro	Palo Duro Basin	4.7	8.3	41.7
Lewis	San Juan Basin	10.2	12.3	61.4
Cane Creek	Paradox Basin	No Data		
Excello/Mully	Cherokee Platform	No Data		
Balden	Williston Basin	1.8	3.0	15.1
Gammon	Williston Basin	No Data		
Niobrara (incl. Wattenburg)	Denver Basin	1.3	2.7	13.4
Hilliard/Baxter/Mancos	SW Wyoming	11.8	22.7	113.5
Lewis	SW Wyoming	13.5	19.7	98.3
Mowry	SW Wyoming	8.5	10.6	53.1
Monterrey/McClure	San Joaquin Basin	No Data		
Total Shale Gas Assessment		274.3	841.8	3764.7

©2008 Navigant Consulting, Inc. Note: Total does not include "L48 Offshore No Access"

Source: AAPG, Navigant

Characteristics of US Shale plays

Individual Character of Gas Shales Shape Production Challenges	
<ul style="list-style-type: none"> ➤ Devonian Shale (OH) <ul style="list-style-type: none"> • Most historical production from Big Sandy field in KY and WV • Modest production began in 1920s and has continued to present • Wells produce 0.23 to 0.3 Bcf over 30 years ➤ Antrim (MI) <ul style="list-style-type: none"> • Must be dewatered like coal • Wells produce 0.4 to 0.8 Bcf at peak rates of 125-200 Mcfd and life of 20 years • >7800 wells drilled ➤ New Albany (IL) <ul style="list-style-type: none"> • Activity peaked in 1996 (~90 wells) • Must be dewatered 	<ul style="list-style-type: none"> ➤ Lewis (NM & CO) <ul style="list-style-type: none"> • Commonly commingled with deeper gas sands • Wells produce 2 Bcf at peak rates of 100-200 Mcfd and 6% decline rate ➤ Fayetteville (AR) <ul style="list-style-type: none"> • New play. Estimated EUR of 0.58 to 0.6 Bcf per well • Geologic equivalent of Barnett shale in Texas ➤ Barnett <ul style="list-style-type: none"> • Core Newark East Field produces >1 Bcfd. USGS estimates 26.7 Tcf gas-in-place. • Initial recovery rates of 8 to 15% are being boosted by new technology

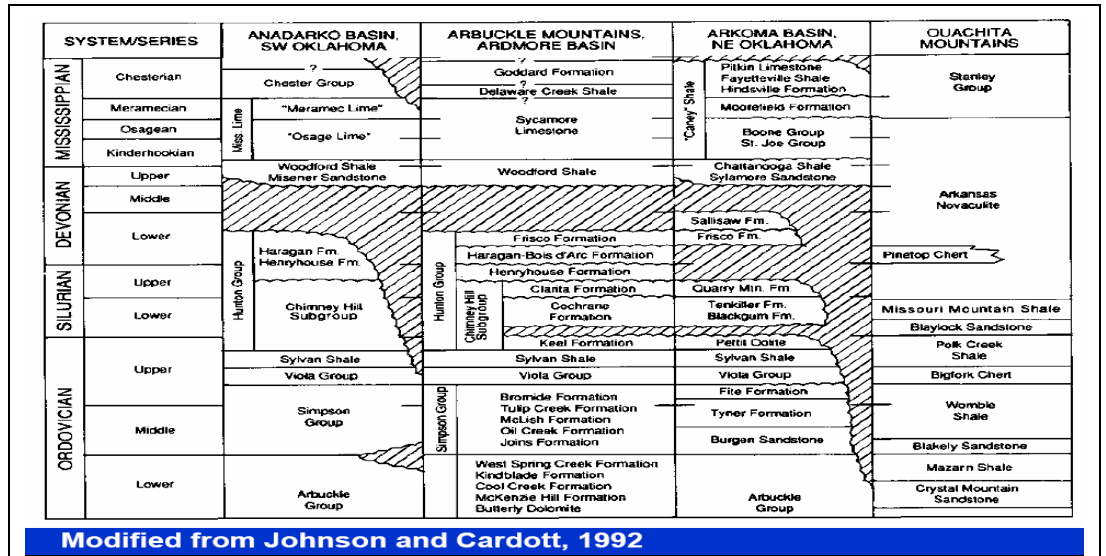
Source: US DOE public data

The data above suggests a range of Recovery Factors (Rf) of 8-20% in the long-term.

Note the EFS play compares very favourably to older (arguably more easily accessible, both geographically, and depth to formation) established play.

Geological summary of the section

Section

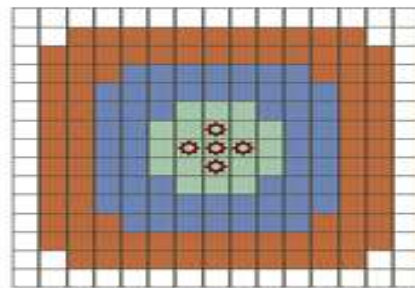






Source: USGS data

The Geological section shows where in the strata the Eagle Ford Shale play lies, just below the Austin Chalk.

Impact of well spacing

NSA – recovers per unit area



-  WELL LOCATION
-  PROVED
-  PROBABLE
-  POSSIBLE

A typical reserves certifier in the USA will assign reserves / resources on a “per well area”, with the radius of investigation dependant upon how permeable the reservoir is.

In the USA, the “proved and probable” is actually broken down into the following categories:

- PDP – Proved developed producing
- PNP – proved not producing
- PUD – proved undeveloped
- 3P – similar to Australia.

How two

NSA calculate “Original Gas In Place” per well as follows:

$$\text{OGIP per well (MMCF)} = 1,359 * \text{GC} * \text{D} * \text{H} * \text{A} / 1,000,000$$

Recoverable Gas Volumes (MMCF) = OGIP * Recovery Factor

Where:

- OGIP = original gas-in-place
- MMCF = million cubic feet
- 1,359 = constant for conversion
- GC = gas content (scf/ton) = $VL * Pressure / (PL + Pressure)$
- D = density of coal (g/cc)
- H = net thickness of coal (feet)
- A = drainage area per well (acres)

Where Langmuir constants VL and PL define the isotherm curve determined by laboratory adsorption tests.

Recovery Factor is determined (in the main) by the permeability of the shale / coal.

Economic drivers Clearly, the highest possible recovery factor of the available resource, with high initial flow rates, and reasonable well costs.

Other factors to consider are gas heating value (ethane / propane and other “heavies” increase the heat content in Btu’s per unit volumes, and this tends to command higher prices.

Next the location of the resource should be considered, for example Texas gas resources receive close to “full Henry Hub” prices, while those in central Utah, tend to trade at a discount (due to pipeline tariffs).

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Chris Chia	612 9233 9605	Head of Asian Sales
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Recommendation Criteria

Investment View

Austock Securities Investment View is based on an absolute 1-year total return equal to capital appreciation plus yield.

Buy	Hold	Sell
> 20%	20% - 5%	< 5%

A Speculative recommendation is when a company has limited experience from which to derive a fundamental investment view.

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