





## Mayan Energy

6 September 2017

### Rapidly growing oil production from low-cost, distressed assets

Dallas based Mayan Energy listed on AIM in 2013 under the name Northcote Energy. In September 2016, successful US business man Eddie Gonzalez became CEO and introduced a new management team adopting a sensible new strategy.

#### ■ Initial target to grow oil production to 1,000 bopd in 2018

Mayan is re-focusing on the mature oilfields of Texas and Oklahoma. Developing shallow, low-risk projects with low levels of capex and infrastructure already in place. From this sound base, the company is seeking to grow production to 1,000 bopd within 12 months, adding 1,000 bopd annually thereafter.

#### ■ The Board & Management team has just invested £330,000, aligning interest with investors

Eddie Gonzalez has started building an impressive team of oil industry heavy hitters. One of them, Dr. David Kahn, who has been behind a number of 10,000+ bopd companies, has invested £250,000. This level of investment speaks volumes for the directors' desire to see Mayan become a successful growth stock.

#### ■ Using powerful technologies to increase returns

New technologies will be used to improve downhole information and recoveries. These include the nanosurfactant ERA-3, which has been shown to improve recovery as much as 5-fold. This is a proprietary technology developed and owned by Mayan's new Chief Technical Officer, Dr. David Kahn.

#### ■ DCF analysis reveals potential upside of in excess of 1,300%

Discounting our forecast cash flows (at a conservative rate) following the well workovers & new wells at the company's growing list of projects & also adjusting for a further modest capital raise provides upside towards 1.6p. With the shares currently at 0.28p, and reflecting the risks involved, we initiate coverage of Mayan Energy with a **Speculative buy** stance.

Table: Financial overview. Source: Company accounts & Align Research

Year to end Dec	2015A	2016A	2017E	2018E
Revenue (US\$m)	0.84	0.27	0.70	8.90
PTP (US\$m)	(6.19)	(7.15)	(3.65)	3.37
EPS (US\$ cents)	(0.12)	(0.06)	(1.11)	0.45
EPS (p)	(0.09)	(0.05)	(0.85)	0.32
PE	N/A	N/A	N/A	0.87

*This investment may not be suitable for your personal circumstances. If you are in any doubt as to its suitability you should seek professional advice. This note does not constitute advice and your capital is at risk. This is a marketing communication and cannot be considered independent research.*

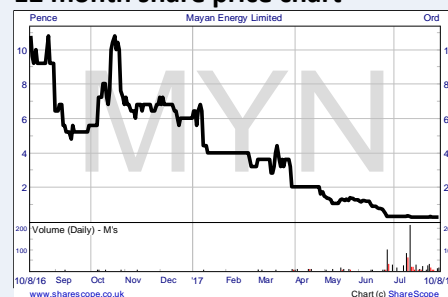
**SPECULATIVE BUY –  
Initial Price Target  
1.6p**



#### Key data

EPIC	MYN
Share price	0.28p
52 week high/low	12.4p/0.23p
Listing	AIM
Shares in issue	733,643,627*
Market Cap	£2.05m
Sector	Energy Producers
* Includes 83,333,333 shares to be issued to David Kahn	

#### 12 month share price chart



#### Analyst details

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## Business overview

### Mayan Energy Projects

- **Zink Ranch** - A 50% working interest (WI) and a 37.5% net revenue interest (NRI) in the Zink Ranch and Mathis leases in Osage County, Oklahoma which cover 1,520 acres. When acquired in October 2013, production from 15 wells averaged 20 barrels of oil per day (bopd) and 60 thousand cubic feet (MCF) of gas per day (gross).
- **Stockdale Field** - A 60% WI with a 45% NRI in the 105.7 gross acre Stockdale Ranch lease, Texas. This acquisition, which was announced on 1<sup>st</sup> August 2017, includes an interest in a producing well where production is around 50 gross bopd (30 bopd net to Mayan).
- **Forest Hill Field** – A 70% WI and 52.5% NRI in two leases in Wood County, Texas. Currently, these leases are not in production, but the property has been historically prolific with more than 230 wells.
- **Shoats Creek** – Mayan has a 50% WI and 37.7% NRI in the Lutch Moore (LM 13) Shallow Well formation, along with a 20% WI and 15.08% NRI in LM 20 for oil, and a 50% WI and 37.7% NRI in respect of gas. The company first became involved in Shoats Creek in Louisiana in 2014. However, performance has been disappointing due the capital nature of the project and so Shoats Creek which is now likely to be sold. **We have not included any value for Shoats Creek in our evaluation and do not consider Shoats Creek as material to the investment thesis of Mayan.**

## Background

Mayan Energy Ltd is the old Northcote Energy Ltd (AIM:NCT) that joined AIM in January 2013 with a market capitalisation of £8.6 million following a placing that raised £1 million at 1p per share.

Northcote was focused on the US onshore oil and gas and held a portfolio of projects with development potential based on the Mississippian Lime Formation. However, by 2014/2015, Shoats Creek Field in Louisiana had become the top priority, along with taking advantage of the deregulation of the Mexican energy sector to build a focused energy services and development company south of the border. In August 2016, the company's name was changed to Mayan Energy to reflect its then widening exposure to Mexico. **However, the falling oil price, declining revenue, increased losses, a weak share price and investor disappointment heralded big changes in the board room.**

In September 2016, Eddie Gonzalez was appointed as CEO to turn the company around with a new management team and a new strategy. Mr. Gonzalez strategically appointed J.D. McGraw to the position of Non-Executive Director as Mr. McGraw enjoys a strong background in corporate development together with significant involvement in US public markets.

The first natural step for Eddie Gonzalez as incoming CEO was to sort out the problems, which were far more numerous he had been recognized by the board at the outset. Although the share price was already under pressure, Mr. Gonzalez was forced to raise needed funds at unattractive levels simply to deal with these legacy issues. In April 2017, with many billions of shares in issue, the shares were consolidated on a 400-for-1 basis.

In recent months, Mayan has become clearly focused on developing high impact but low risk distressed assets in the mature producing basins within the states of Texas and Oklahoma. Recent announcements have shown that the company is growing a portfolio of these properties to provide sustainable cash flow and implement a dividend in the future.

## Projects

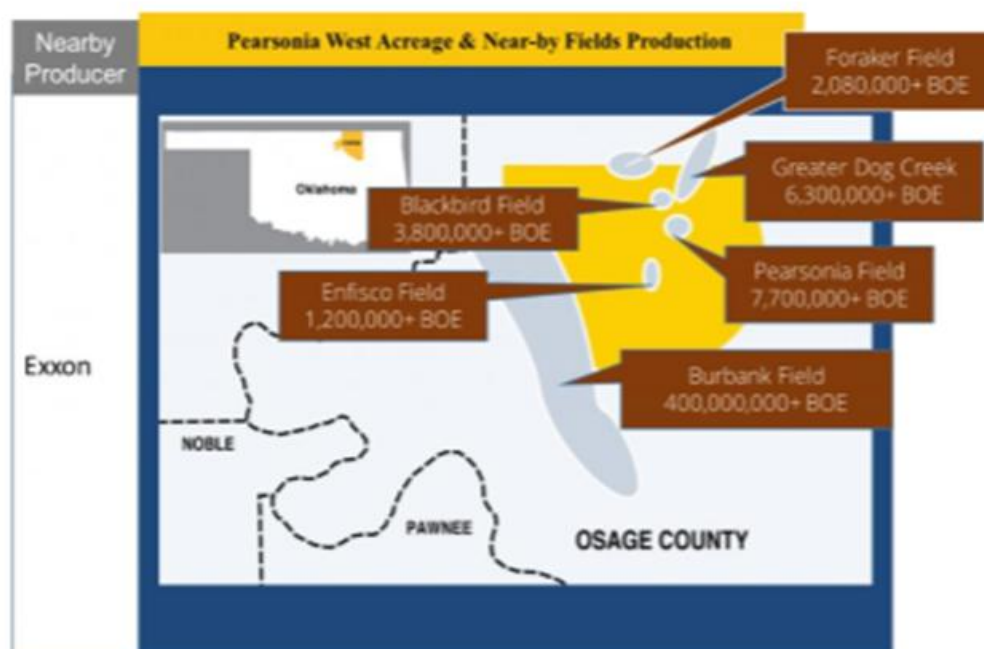
Mayan is focused on the redevelopment and enhancement of its upstream oil and gas interests in Oklahoma and in Texas at Zink Ranch, Stockdale Field and the Forest Hill Field. By and large, these are low risk projects which require affordable levels of capital expenditure for a junior oil and gas company. **These three projects lie within mature basins with decent infrastructure and have been selected by the new management team to provide growing levels of steady production and cash flow that could serve to transform the company.**

With such a focus, Shoats Creek in Louisiana no longer really fits within the portfolio and options are currently being explored to dispose of this property. Despite the potential of Shoats Creek, its location in a swamp, with no infrastructure, makes such a project far too capital intensive for a small cap oil company. Recent work carried out at Shoats Creek has added value to ensure that the project can be disposed of in a responsible manner and provide a return to Mayan.

Plans to take advantage of Mexican deregulation to build an energy services and development company seem to have been quietly shelved as the new management is wholly-focused on its new strategy of developing a series of low cost US oil projects.

### Zink Ranch

Mayan has a 50% WI and a 37.5% NRI in the Zink Ranch and Mathis leases in Osage County, Oklahoma. Zink Ranch covers 1,520 acres and was acquired by the company in October 2013. At the time of acquisition, production came from 15 producing wells averaging gross daily production of 20 bopd and 60MCF gas per day from the Skinner Formation. **The new management team believes that Zink Ranch has highly impressive potential and so have begun to fast track the development of this project.**



Nearby oil fields to Zink Ranch. Source: Company

Zink Ranch is a structurally high field which has not experienced over-production. At present, most of the wells are just producing from one zone and only a few of the wells have ever been fracked. **Currently there are 17 wells available for re-completion along with the opportunity of drilling 100 more wells.**

The target is the Pennsylvanian sandstone (with Bartlevilles, Skinner and Prue zones) at a depth of 650 metres and a net thickness of 25 metres. The true potential of this property is highlighted by the major fields that surround the company's lease.

The wells need to be fractured and produced with an electric submersible pump (ESP) in order to produce commercial oil production and large volumes of water. The typical production profile is for initial production (IP) of greater than 50 bopd, with production stabilising at 15 bopd and producing a total of 30,000 barrels of oil per well or 3 million barrels of oil for the field.

**Zink Ranch is seen as the blue print of the sort of projects that a company the size of Mayan ought to be involved in.**

New CEO Eddie Gonzales views Zink Ranch as being a hidden gem in the company's portfolio. His opinion was fully justified by the farm out of a 50% working interest in the company's then 100% owned and operated leases, in a deal valued at \$2 million with Longview Oil & Gas, LLC (LOG), where Dr David Kahn is the principal.

**This farm-out deal gave Mayan \$50,000 cash and a 50% carried interest worth \$2 million in one new drill well on each of the Zink Ranch and Mathis leases, along with five workovers of wells at the Zink Ranch lease.**

The Mathis new well will be a 3,500 foot vertical drill to target the Mississippian formation at an estimated cost of \$1.3 million. The Mathis leases already have two drilling locations at shallow depth (less than 3,500 foot) in the Mississippian formation, which have been identified by seismic work. It is a good time to drill such a well, with lower costs in the oil services industry, as well as stable oil prices.

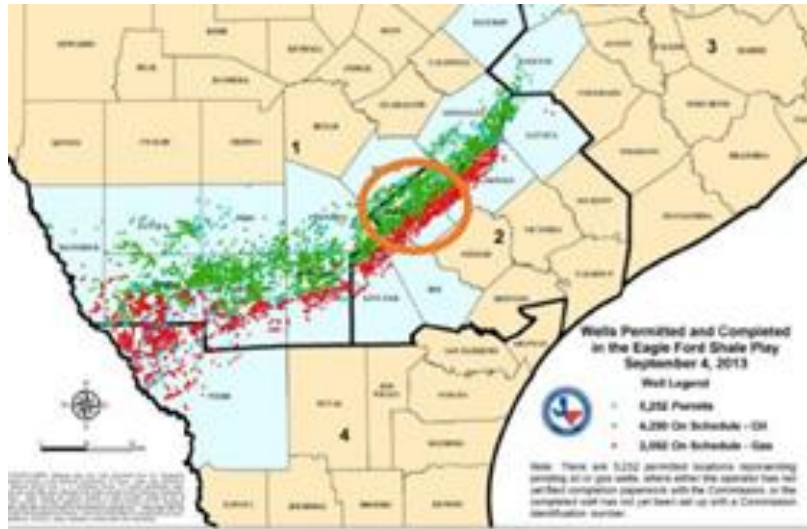
The Zink Ranch new well will be a 1,800 – 2,000 feet drill to target and fracture multiple Pennsylvanian sands, with an estimated cost of \$350,000. The five Zink Ranch workovers are planned to generate production by fracturing existing tight formations within existing wells to unlock their potential, with an estimated cost of \$300,000. These workovers are expected to begin in August 2017.

The funds from LOG will serve to accelerate the workover existing wells and commence drilling. Phase 1 involves a 16 well workover to achieve 150 bopd, with Phase 2 a 100 well drilling program at an estimated cost per well of \$150,000.

## Stockdale Field

The company has a 60% WI with a 45% NRI net in the 105.7 gross acre Stockdale Field lease. This acquisition, which was announced on 1<sup>st</sup> August 2017, includes an interest in a producing well where production is around 50 gross bopd (30 bopd net to Mayan) from the Anacacho formation at a depth of approximately 3,600 feet.

The Stockdale Field lease lies on a trend with the Austin Chalk, which is one of the most prolific US onshore oil and gas formations in history. **The board is seeking to use this lease as the basis of building up a far larger acreage position in Wilson County, dependent on the success resulting for the work on this initial acquisition.**



*Location of Wilson County on a map of wells in the Eagle Ford Shale Play. Source: Company*

Wilson County has numerous Austin Chalk well bores that were drilled in the mid-1990s along with good infrastructure. However, Austin Chalk is just one of several prolific horizons, but it has been the primary target in the past. The company intends to recomplete these existing wellbores in the shallower Anacacho formation which appears to have been overlooked in the rush for Austin Chalk production.

The total cost of this interest in the Stockdale Field lease is \$260,000. In addition to an initial payment of \$60,000, Mayan is to carry the seller on certain development expenses up to a total of \$200,000 within 180 days. This suggests that over the next six months, at least \$500,000 will be spent on developing the potential of this property.

Along with the several prolific horizons, this area is characterised by significant large natural faults and fractures. Recently, some oil companies have been successful in re-completing existing wells in the shallower Anacacho or Taylor carbonate which sits on top of the Austin Chalk, at a depth of 1,200 metres. **These operators have developed large wells producing 80,000 to 180,000 barrels of oil.**

Stockdale Field has been well delineated and studied over the years. The team identified ten low cost opportunities to re-enter the Anacacho formation and expect potential recoverable reserves to be within the same 80,000 – 180,000 barrels of oil range in each successfully completed Anacacho well.

### **Forest Hill Field**

Mayan has a 70% WI and a 52.5% NRI in two leases in Wood County, Texas. The property has been historically prolific, with more than 230 wells. Currently, these leases are not in production although oil was still being produced from some wells up until 15-18 months ago. **It is believed that there is still substantial oil in place which could be recovered by waterflood or another method of enhanced oil recovery.**

The property was acquired in August 2017 along with a 50% stake in Pergerson Energy, LLC, which is a registered oil and gas operator in Texas from LOG. Pergerson will be used by Mayan to operate the Forest Hill Filed assets. The total cost of these acquisitions was \$110,000 in cash plus an agreement to carry LOG to a maximum of \$63,000 of expenditure concerning the first six wells to be worked over. Mayan and LOG will each hold a 50% interest.

A three-phase workover program is planned. Phase 1 to commence in August 2017 consists of the workover of six initial wells, which were producing as recently as Q1 2016. This is expected to add 60 bopd of gross production.

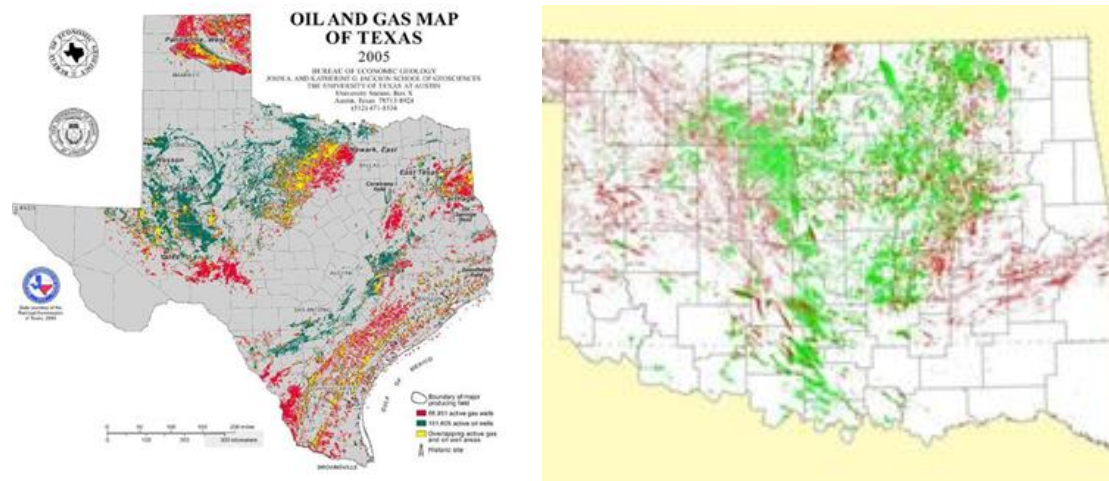
Phase 2 is timetabled for 2017/18 and involves the workover of 50 – 70 wells and Phase 3 involves the workover of the remaining wells using waterflood to capture additional reserves and production in 2018/19.

**Phase 1 is expected to add substantial value to the project and Mayan is planning to farm-out some of its interest to gain a partner to help fund the significantly development costs required in Phases 2 and 3.**



## Strategy for growth

Mayan Energy is undergoing a transformation to focus on becoming a highly profitable oil and gas production company with growing revenue streams from pursuing opportunities in distressed assets within the mature fields in Texas and Oklahoma. Scalable low risk projects with high impact potential are being targeted for acquisition. **These states have a long and rich history in oil and gas production, and as the maps below show, are peppered with oil and gas wells.**



*Oil and gas map of Texas & Oklahoma. Source: Company*

**There are plenty of distressed assets with wells and infrastructure in place to choose from in Texas and Oklahoma for a number of reasons.**

Firstly, there is little competition, as these projects are too small to interest the majors and too big for lone operators. Secondly, the fall in the oil price from 2014-2016 left a lot of the smaller oil companies with badly damaged balance sheets. Thirdly, there is a real lack of technology and expertise available to small producers in geology and reservoir engineering. In addition, a shortage of working capital has led to production declining. That is not to mention problems in dealing with the ever increasing levels of compliance within the industry.

**Such distressed assets in Texas and Oklahoma can be highly attractive as they can provide growing and sustainable cash flow.** There are obvious attractions, notably the low geological risk as there are existing wells and the plays are shallow. On top of that, the long history of oil and gas means that there is mature and low-cost infrastructure and services available, along with the provision of oil field services and technology nearby. In addition, projects can be brought into production relatively swiftly and benefit from a reasonable tax regime.

## New management

**Under the leadership of the new CEO Eddie Gonzalez, the company is being steered towards low risk projects which also offer the opportunity for immediate cash flow.**

Mayan is now seeking to take advantage of opportunities in conventional reservoirs using primary recovery methods and re-stimulating wells within mature producing basins. With the oil price now getting stronger and WTI trading around the \$49 a barrel mark, decent returns can be made from the better projects which the team has been acquiring.

Gonzalez has begun to bring on board key members of his team. His background in the oil industry has led to him developing strong relationships with a number of big company oil and gas men, who look likely to be involved in helping Mayan prosper. The first of these appointments has been Dr David Kahn to the position of Chief Technology Officer Advisor. **Dr Kahn has enjoyed a long and successful career in the oil industry and has founded several companies that have grown to produce over 10,000 bopd.**

## Technology

The new board will be introducing some powerful technology to Mayan's projects to help drive down costs and overheads in order to boost returns and maximise cash flow. Technologies being adopted are likely to include: Roke Quad Neutron Tool, Plasma Pulse and Nanosurfactants. These technologies are commercially available, but often overlooked but can add prolifically to the production of oil wells.

Roke Quad Neutron Tool has been shown to consistently provide valuable results in formation evaluation logging. This tool allows accurate downhole evaluation and provides oil engineers with information on saturation, porosity, clay column, and relative permeability.

Plasma Pulse generators produce powerful pulses into the perforated interval of a well which have been shown to resonate deep into the oil reservoir resulting in an opening of pore space, increasing the permeability and the mobilisation of oil. Plasma Pulse has been demonstrated to successfully reduce the dramatic decline production curve leading to improved recovery together with long lasting increased production. **There have been instances where Plasma Pulse has effectively increased production by as much as 400%.**

Nanosurfactants are used to stimulate oil reservoirs and improve oil and gas recovery. ERA-3 is a family of very powerful surfactants which are non-toxic and environmentally friendly silicon/sodium polymers used to help recover oil. ERA-3 acts to reduce the surface friction between the oil and sand and rock it is stuck to in the reservoir formation. This action allows the oil to then be released and flow upwards to float on water. In this way ERA-3 accelerates oil recovery in reservoirs. **Dr David Kahn is the man behind ERA-3 and so really understands the situations where this technology can be used for its optimum performance.**

## **Production targets**

Mayan is now well positioned for growth as the new management team is focusing on restoring production. Importantly, they are ensuring that Mayan gets much better production, much cheaper production and in a better location. **The focus of attention is on Texas and Oklahoma as here management know that properties with decent wells, full infrastructure and production costs of between \$10 – 15 a barrel, are available for acquisition.**

The funds raised recently are expected to be almost sufficient to take production up to as much as 400 bopd, possibly within a matter of months. The £2 million farm-in deal, with Dr Kahn's company Longview Oil & Gas at Zink Ranch is expected to allow production to climb to 400 bopd where Mayan will receive 200 bopd. At the other properties, Mayan believes that it will need to invest \$250,000 – \$300,000 to get another 400 – 500 bopd, with the company benefitting to the tune of 250 bopd.

**CEO Eddie Gonzales has suggested that 250 – 400 bopd should be achievable within six months and has a target of 1,000 bopd before the end of 2018.** Once such a level of oil production has been achieved on a sustainable basis management will be seeking to increase production by 250 bopd per quarter. **The economies of scale and the cash flow that comes from consistent production at such a level would provide a powerful force to take Mayan to the next level.**

**Between them, Zink Ranch, Stockdale Field and Forest Hill Field can easily provide in excess of 1,000 bopd net to the company.** These give the company a solid foundation on which to acquire additional inexpensive and low capital-intensive projects. It does seem that the management team has a shortlist of projects that Mayan could acquire once sustainable production at a decent level is achieved where funds are available for development costs. Dr Khan has an enviable deal flow of oil and gas projects as he works as an oil company broker, and which should allow Mayan to pick up some of the projects that suit its acquisition criteria.

## Financials & current trading

The company was originally listed with an onshore US oil and gas asset and since that time management has extended the geographical reach through acquisitions in Louisiana, Oklahoma and Texas. In response to a falling oil price, the board had historically seeking involvement in high impact opportunities across the oil and gas sector in Mexico, the USA and Indonesia.

Losses that have been recorded in recent years are largely due to significant impairment provisions made against the company's oil and gas assets ahead of completing the sale of a number of projects within the portfolio, low commodity prices and high corporate overheads.

Y/E 31 Dec	US\$'000	2012A	2013A	2014A	2015A	2016A
Revenue		-	989	1,432	841	270
Pre-tax profit/loss		-212	-3,755	-9,778	-6,188	-7,149
Net profit/loss		-212	-3,755	-9,778	-6,188	-7,149

*Mayan's five-year trading history. Source: Company accounts*

### 2016 results

The 2016 financial year saw considerable restructuring of the company's portfolio and operations, with the goal of reducing costs and debt, while at the same time bringing low cost oil and gas operations on stream. The loss for the year of \$7.15 million was largely due to impairments against US based assets and Mayan's investment in Mexico. The company recognised an impairment to the carrying value of Shoats Creek and it was suggested that the board would be looking at options to dispose of this project in 2H 2017.

During the year, the cost structure of the company was addressed and was dramatically reduced from \$360,000 to \$150,000 per month. The Chairman's statement in the 2016 Annual Report drew attention to reductions in the company's debt burden. Firstly, following the 2016 year-end, \$190,000 of obligations were retired at 21 cents in the dollar. Secondly, \$300,000 of debt concerning the Mayan's Horizon and Zink Ranch assets due to the operator was settled by assigning the unprofitable Horizon assets to Glenn Supply Company.

### Recent developments

In late June 2017, following the restructuring of the Oklahoma assets, the board was able to report that the company had entered into a US\$2 million farm out deal with LOG. This deal concerns a 50% working interest in Mayan's 100% owned and operated Zink Ranch and Mathis leases in Osage County, Oklahoma.

In late June 2017 the company raised £587,500 at 0.3p per share. Mayan also issued 60 million shares at the placing price in settlement of £180,000 in adviser fees and outstanding creditors. At the same time, Mayan agreed to invest £300,000 into Block Energy plc, an NEX-listed oil and gas company with interests mainly in Georgia.



On 1<sup>st</sup> August 2017, Mayan announced the acquisition of a 60% working interest in a 105.7 gross acre lease in Wilson County, Texas. This acquisition included an interest in one well producing approximately 50 gross bopd. The purchase price was \$60,000 cash along with an agreement to carry the seller of certain development expenses of up to \$180,000 within 180 days.

**On 8<sup>th</sup> August 2017, the company announced a placing, acquisition of interest and the appointment of new personnel.**

Mayan raised £861,000 at 0.3p per share, which included substantial investments by MX Oil and Dr David Khan of £300,000 and £250,000 respectively. The company is to acquire an interest in two leases in Forest Hill Field, Wood County, Texas from LOG along with an interest in the registered operator Pergerson Energy. There was also news that Gordon Johnson, Vice President of LOG would be joining the team at Mayan to act as a geological and operations consultants as he is a specialist in remediation and the recompletion of oil and gas wells in mature fields.

## Risks

### Geological risks

There are a series of technical risk factors concerning the amount of understanding of the geology of the company's project areas, the horizons being targeted and the distribution and the true level of previous production from their mature fields.

### Oil price risks

Oil prices are highly cyclical and changes in the price could have a negative or positive impact on the valuation of the company's projects and revenue from the sales of hydrocarbons. Over the past decade the price of oil has been highly volatile, trading in the range of \$145 to \$29. Currently, the benchmark West Texas Intermediate (WTI) crude oil trades around the \$49 level.

### Acquisition risk

Mayan's growth strategy is focused upon the acquisition of inexpensive distressed oil and gas assets in Texas and Oklahoma - oil and gas properties which can either be brought back into production or where oil production can be greatly increased at a low capital cost coupled with low operating costs in the region of \$10 – 15 a barrel. The acquisitions made to date look impressive in our view, however there is a risk that these assets and other properties that may be acquired in the future may not perform as expected at the time the deal was done.

### Future funds

The market for raising funds for small cap companies may have improved from the worse conditions seen eighteen months ago, however the equity market does continue to be difficult, especially for resource companies. Some recent fund raisings in the oil sector have seen share prices being undermined by incoming investors demanding substantial discounts to provide the necessary capital.

## **Board of Directors**

### **Heriberto “Eddie” Gonzalez – Managing Director/CEO**

Eddie is a seasoned and successful entrepreneur with diverse interests including energy (E&P and gas marketing), waste disposal and trucking. He has successfully built and sold four companies, two turnarounds and two start-ups. Eddie studied finance at Houston Baptist University and lives in San Antonio, Texas with his wife and three children.

### **Charles Wood - Chairman**

Charlie is a fellow of the Securities Institute of Australia and has been in business over nineteen years, holding senior financial and management positions in both publicly listed and private enterprises in Australia, Europe and South America. He has considerable corporate and international expertise over the past decade has focused on mining, oil & gas and technology.

### **JD McGraw – Non-Executive Director**

JD McGraw is the Chairman of Blue Arch Resources, Inc. and formerly served as a Director and President of Nova Biosource Fuels, Inc. He has provided professional services to a number of companies, including AdTec, American Rice, Blockbuster Video, Chuck E. Cheese, Dryper, DataVon, International Recovery, Republic Industries, and Swift Energy. JD has held various positions in a wide range of sectors throughout his 25-year career, including Founder, CEO, and President. His background includes start-up and corporate development at all levels including involvement in number of public offerings.

## **Operations Team**

### **Heriberto “Eddie” Gonzalez – Managing Director/CEO**

See previous page.

### **Stephen J. Brock – VP Operations**

Stephen is an oil & gas professional with over twenty years of production, drilling, completion and work-over experience with daily operations and cased hole disciplines. He has plenty of expertise in the safe and efficient management of well-site and in coordinating information, people, and budgets. Stephen is flexible and able to adjust to changes in priorities and changes in conditions. He also has extensive experience in construction & operation of oil field waste disposal facilities.

### **Gordon Johnson – Geology/Operations Consultant**

Gordon and his family have been involved with oil & gas for over eighty years. He was employed by two major and two large independent oil companies as a landman. Since then, Gordon has served as President of several companies, one traded on the NASDAQ. During his career, he has been responsible for generating geological prospects, the acquisition of oil and gas leases and producing properties, generation of drilling funds, supervision of the drilling and the completion of numerous oil and gas wells, and M&A. His present company concentrates on acquiring existing wells for remediation and re-completion as well as generating development drilling prospects.

### **JD McGraw – Non-Executive Director**

See previous page.

### **Dr David S. Khan – Chief Technology Officer Advisor**

David has more than twenty-five years of fairly diverse experience in the petroleum industry as an Executive with Halliburton, Baker Hughes, Texaco and Enron. In the last fifteen years, he has been a Principal and Founder in several successful global oil companies with production in excess of 10,000 bopd including Ivanhoe Energy, Black Pearl & Tanganikya. David has expertise in reservoir and stimulation techniques while leveraging innovative technologies via an integrated approach in order to achieve low cost operations while accelerating production. Moreover, he is a principal of a nano-based chemical company and serves in a number of board and advisory roles.



## Forecasts

We initiate coverage of Mayan Energy with forecasts for the current financial year and for full year 2018. The company is seeing increased oil and gas revenues from its fast improving portfolio of projects and a programme of workovers of existing wells and the drilling of new wells.

The estimated operating loss is \$3.67 million for 2017. The weighted average number shares will rise almost 10-fold although this is largely as a consequence of the 1-for-400 consolidation earlier on this year and which would equate to a loss per share of 1.11 cents. Capital expenditure for drilling and workovers is expected to come from cash flow. We believe that growth could be accelerated however if Mayan raised a further £1 - 2 million in 2018, although given the company's growing asset base, this could be from either farm-outs or debt finance.

US\$'000s y/e 31 December	2015A	2016A	2017E	2018E
<b>Continuing operations</b>				
<b>Revenue</b>	841	270	700	8,900
Cost of sales	(961)	(786)	(1,150)	(3,630)
Gross profit	(120)	(516)	(450)	5,270
<b>Administrative expenses</b>				
Impairment of property, plant and equipment	(1,359)	(4,721)	(1,500)	-
Other administration expenses	(4,301)	(1,777)	(1,700)	(1,900)
<b>Total administrative expenses</b>	(5,660)	(6,498)	(3,200)	(1,900)
<b>Operating loss</b>	(5,780)	(7,014)	(3,645)	3,370
Finance income	20	2	-	-
Finance costs	(428)	(137)	-	-
<b>Loss before income tax</b>	(6,188)	(7,149)	(3,645)	3,370
Income tax expense	-	-	-	-
<b>Loss after tax for the year</b>	(6,188)	(7,149)	(3,645)	3,370
<b>Other comprehensive income</b>				
<b>Items that may be subsequently reclassified to profit or loss</b>				
Currency translation differences	254	86	-	-
<b>Total comprehensive income</b>	(5,934)	(7,063)	(3,645)	3,370
<b>Loss for the year attributable to:</b>				
-Owners of the parent	(6,137)	(7,147)	(3,645)	3,370
-Non-controlling interest	(51)	(2)	(25)	(5)
<b>Total comprehensive income for the year</b>	(6,188)	(7,149)	(3,670)	3,365
<b>Profit/(Loss) per share from continuing and discounted operations</b>				
-Basic and diluted (US cents per share)	(0.12)	(0.06)	(1.11)	0.45
Weighted average number of shares	5,015,981,767	11,784,429,398	331,370,708	754,156,446
Total shares plus options & warrants	6,982,587,657	21,149,138,787	840,349,090	814,900,487

Table: Mayan summary forecasts. Source Company accounts and Align Research

## Valuation

**The turnaround and refocusing of Mayan looks to now have been completed.** New projects have been injected into the company which offer good scope for growth and, importantly, represent low risk projects that are affordable for a small cap oil stock.

Our model has been conservatively formulated based upon our analysis of the management plans for Zink Ranch and the recent acquisitions. **Firstly, our valuation for the company is based on analysing the cash flows from these projects resulting solely from primary recovery. Secondly, the production figures used include no allowance for flush petroleum, which is the initial high yield of oil with high pressure from a flowing well.**

Oil prices over the coming years have been chosen by reference to the forecast for WTI provided by the World Bank in their latest Commodity Markets Outlook. It has been assumed that the company will receive WTI less 10% on all production.

### Zink Ranch

We have prepared an analysis of the Phase 1 and Phase 2 stages planned at Zink Ranch. Phase 1 involves a 16 well workover to achieve 150 bopd. It has been assumed that all these well workovers are completed at a rate of two per month at a cost of \$50,000 per well. Stabilised production following these well workovers is assumed to be 10 bopd with a 15% decline rate. An allowance has been made for a 50% carried interest over five workover wells on the lease which has been agreed with LOG.

Phase 2 consists of a 100 well drilling program which is assumed to commence in 2018, with all wells in production by 2012 and a goal of achieving production in excess of 1,000 bopd. The estimated cost per well is assumed to be \$150,000. For these new wells, we have used a figure of 25 bopd for stabilised production with a 15% decline rate. **Our analysis of the Zink Ranch does not include the Mathias new well and the Zink Ranch new well where we are waiting for further information to be announced on the likely potential of these wells.**

### Forest Hill Field

In the past, the Forest Hill Field has been quite prolific. The workover program is expected to be undertaken in three phases. Phase 1 is timetabled to begin in August 2017 and will see the workover of six initial wells with 60 bopd of gross production expected. It has been assumed that the cost of the well workovers will come in at \$50,000 per well. Stabilised production for these well has been assumed to be 10 bopd with a 15% decline rate. We have factored in Mayan carrying LOG on some of the early expenditure on the first six wells.

Phase 2 involves the planned workover of 50 – 70 wells. **In our analysis, we have used the lower figure to continue to be conservative.** We have suggested that Phase 2 begins in 2018 and that there are three well workovers per month. The cost of well workovers, stabilized production rate and the decline rate are assumed to be the same as for Phase 1.

### Zink Ranch & Forest Hill forecast tables

US \$ million	2017 4 mos	2018	2019	2020	2021	2022	2023
Oil price WTI	47.0	61.7	61.9	62.2	62.6	63.0	63.4
Oil price WTI -10% discount	42.3	55.5	55.7	56.0	56.3	56.7	57.1
<b>PHASE 1</b>							
Cumulative reworked wells on production	8	16	16	16	16	16	16
Average production per well (bopd)	10.0	9.3	7.9	6.7	5.7	4.9	4.1
Total daily production (bbls)	40	149	126	108	91	78	66
Total production (bbls)	9,150	54,312	46,165	39,240	33,354	28,351	24,099
Total revenue	0.39	3.02	2.57	2.20	1.88	1.61	1.38
Revenue (75% NRI)	0.29	2.26	1.93	1.65	1.41	1.21	1.03
Expenses							
Well rehab/frac/start production	0.40	0.40	-	-	-	-	-
Operating expenses	0.09	0.53	0.55	0.50	0.48	0.47	0.45
Total expenses	0.49	0.93	0.55	0.50	0.48	0.47	0.45
Gross profit on NRI revenue	(0.20)	1.33	1.38	1.15	0.93	0.74	0.58
Gross profit 50% WI	(0.10)	0.67	0.69	0.58	0.46	0.37	0.29
Adjustment for carry	0.30						
Mayan's share 50% WI	0.20	0.67	0.69	0.58	0.46	0.37	0.29
<b>PHASE 2</b>							
Cumulative reworked wells on production	-	6	29	65	100	100	100
Average production per well (bopd)	-	25.0	21.3	18.1	15.4	13.1	11.1
Total daily production (bbls)	-	79	388	876	1,296	1,305	1,109
Total production (bbls)	-	28,835	141,620	319,740	473,040	476,325	404,785
Total revenue	-	1.60	7.89	17.90	26.65	27.01	23.10
Revenue (75% NRI)	-	1.20	5.92	13.42	19.99	20.26	17.32
Expenses	-						
Well rehab/frac/start production	-	0.90	3.45	5.40	5.25	-	-
Operating expenses	-	0.17	0.50	1.20	2.01	2.30	2.23
Total expenses	-	1.07	3.95	6.60	7.26	2.30	2.23
Gross profit on NRI revenue	-	0.13	1.97	6.82	12.73	17.96	15.09
Mayan's share 50% WI		0.07	0.98	3.41	6.36	9.35	7.84

Table: Revenue forecast and cash flows for Zink Ranch. Source: Company & Align Research

US \$ million	2017 4 mos	2018	2019	2020	2021	2022	2023
Oil price WTI	47.0	61.7	61.9	62.2	62.6	63.0	63.4
Oil price WTI -10% discount	42.3	55.5	55.7	56.0	56.3	56.7	57.1
<b>PHASE 1</b>							
US \$ million	2017 4 mos	2018	2019	2020	2021	2022	2023
Oil price WTI	47.0	61.7	61.9	62.2	62.6	63.0	63.4
Oil price WTI -10% discount	42.3	55.5	55.7	56.0	56.3	56.7	57.1
Cumulative reworked wells on production	6	6	6	6	6	6	6
Average production per well (bopd)	10	8.79	7.47	6.35	5.40	4.59	3.90
Total daily production (bbls)	36	53	45	38	32	26	23
Total production (bbls)	4,300	19,2560	16,363	13,908	11,822	10,049	8,541
Total revenue	0.18	1.07	0.91	0.78	0.67	0.57	0.49
Revenue (75% NRI)	0.14	0.80	0.68	0.58	0.50	0.43	0.37
Expenses							
Well rehab/frac/start production	0.30	-	-	-	-	-	-
Operating expenses	0.08	0.17	0.17	0.15	0.14	0.14	0.13
Total expenses	0.38	0.17	0.17	0.15	0.14	0.14	0.13
Gross profit on NRI revenue	(0.26)	0.64	0.52	0.43	0.36	0.29	0.23
Gross profit on 70% WI	(0.17)	0.45	0.36	0.30	0.25	0.20	0.16
Adjustment for carry	(0.06)						
Mayan's share 70% WI	(0.23)	0.45	0.36	0.30	0.25	0.20	0.16
<b>PHASE 2</b>							
Cumulative reworked wells on production	-	36	50	50	50	50	50
Average production per well (bopd)	-	10.00	8.63	7.34	6.24	5.30	4.50
Total daily production (bbls)	-	180	457	367	312	265	225
Total production (bbls)	-	65,700	166,947	133,873	113,792	97,723	82,215
Total revenue	-	3.65	9.30	7/49	6.41	5.48	4.69
Revenue (75% NRI)	-	2.74	6.98	5.62	4.81	4.11	3.52
Expenses	-						
Well rehab/frac/start production	-	1.80	0.70	-	-	-	-
Operating expenses	-	0.62	0.81	1.22	1.19	1.15	1.12
Total expenses	-	2.42	1.51	1.22	1.19	1.15	1.12
Gross profit on NRI revenue	-	0.32	5.46	4.40	3.62	2.96	2.40
Mayan's share 70% WI	-	0.22	3.82	3.08	2.54	2.07	1.68

*Table: Revenue forecast and cash flows for Forest Hill Field. Source: Company & Align Research*



## Stockdale Field

There is one existing well on the Stockdale Field which is providing approximately 30 bopd net to Mayan, plus there are a total of 24 well workovers planned. Assumptions for the Stockdale Field concerning the economics of producing from the Taylor and Anacacho horizons include: well workover cost of \$50,000 per well and 35 bopd stabilised production with a 15% decline rate. An adjustment has been made as Mayan has agreed to carry the seller on certain development expenses up to a value of \$200,000 before the end of January 2018.

US \$ million	2017 4 mos	2018	2019	2020	2021	2022	2023
Oil price WTI	47.0	61.7	61.9	62.2	62.6	63.0	63.4
Oil price WTI -10% discount	42.3	55.5	55.7	56.0	56.3	56.7	57.1
Cumulative reworked wells on production	6	22	24	24	24	24	24
Average production per well (bopd)	35.0	34.0	31.4	26.7	22.7	19.3	16.4
Total daily production (bbls)	105	472	783	680	612	551	496
Total production (bbls)	12,600	172,380	285,795	248,200	223,380	201,115	181,040
Total revenue	0.53	9.57	15.92	13.89	12.59	11.40	10.33
Revenue (75% NRI)	0.40	7.18	11.94	10.42	9.44	8.55	7.55
Expenses	-						
Well rehab/frac/start production	0.30	0.70	0.10	-	-	-	-
Operating expenses	0.08	0.64	0.75	0.81	0.80	0.78	0.76
Total expenses	0.38	1.34	0.85	0.81	0.80	0.78	0.76
Gross profit on NRI revenue	0.02	5.84	11.09	9.61	8.64	7.77	6.99
MYN's share of GP 60% WI							
24 well workover program	0.01	3.50	6.65	5.77	5.18	4.66	4.19
Existing well in production	0.11	0.36	0.31	0.27	0.23	0.19	0.16
Subtotal							
Adjustment for carry	(0.20)	-	-	-	-	-	-
Mayan's share 60% WI	(0.08)	3.86	6.97	6.03	5.41	4.86	4.36

' – over the last four months of the year

*Table: Revenue forecast and cash flows for Stockdale Field. Source: Company & Align Research*

## Combined valuation

Mayan's share of gross profit/(loss) from Zink Ranch (Phases 1+2), Stockdale Field and Forrest Hill Field (Phases 1+2) have been aggregated and profits after tax for the years 2017 to 2023 have been determined. The company has a history of making significant losses and hence we estimate that tax will not need to be paid until 2022.

US \$ million	2017 4 mos	2018	2019	2020	2021	2022	2023
Oil price WTI	47.0	61.7	61.9	62.2	62.6	63.0	63.4
Oil price WTI -10% discount	42.3	55.5	55.7	56.0	56.3	56.7	57.1
Average oil production							
Based on WI (bopd)	157	612	1,018	1,132	1,254	1,184	1,020
Based on NRI (bopd)	118	428	713	792	878	828	714
Share of gross profit/(loss)							
Zink Ranch Phase 1	0.20	0.67	0.69	0.58	0.46	0.37	0.29
Zink Ranch Phase 2	-	0.07	0.98	3.41	6.83	9.35	7.84
Forest Hill Field Phase 1	(0.23)	0.45	0.36	0.30	0.25	0.20	0.16
Forrest Hill Field Phase 2	-	0.22	3.82	3.08	2.54	2.07	1.68
Stockdale Field	(0.08)	3.86	6.97	6.03	5.41	4.86	4.36
Total	(0.11)	5.26	12.83	13.40	15.49	16.85	14.32
Administration	1.70	1.90	2.00	2.10	2.30	2.50	2.70
Pre-tax profit/(loss)	(1.81)	3.36	10.83	11.30	13.19	14.35	11.62
Tax	-	-	-	-	0.70	2.15	1.74
Profit/(loss) after tax	(1.75)	3.36	10.83	11.30	12.49	12.20	9.88
Discount factor	1.0000	1.1364	1.293	1.4674	1.6675	1.8949	2.1533
Present value	(1.81)	2.96	8.38	7.70	7.49	6.44	4.59
NPV (12) \$m	35.75						

<sup>1</sup> based on NRI

*Table: Net Present Value result for Mayan Energy – 12% disc rate. Source: Align Research*

We have sought to adjust for risk in selecting to use the NPV(12) figure of US\$35.75 million. Based on the number of shares in issue (733,643,627) following the placing that was announced on 8<sup>th</sup> August 2017, this equates to 3.77p per share (FX rate of \$1.29 used).

Discount rate	10%	12%
NPV US\$ million	38.86	35.75
NPV £ million	29.90	27.50
NPV per share	4.10p	3.77p

*Table: Net Present Value per share results for Mayan Energy. Source: Align Research*

The company is planning to finance the drilling and workovers from cash flow, monies recently raised and the already announced LOG farm in deal on Zink Ranch. **To successfully achieve the development program that has been announced it looks as though Mayan will require an additional £400,000. This may come from the disposal of Shoats Creek, but the timing of such a deal is uncertain and unlikely to be rushed.**

We thus expect Mayan to look to raise a modest amount of additional funds in the market on the back of expected positive news flow validating new management's approach and the likely attendant investor support. **If an additional raise of £400,000 at say 0.6p (66.666 million shares) was undertaken, the number of shares in issue would rise to 800,310,293 by 31 December 2017. On that basis, our NPV(12) figure would be slightly reduced to 3.46p**

We will reiterate however that the Board are planning for the current capital expenditure for drilling and well workovers to be derived from the company's own cash flow. To really accelerate growth and to push cash flow production into a serious positive step change given the potential well targets Mayan have in their portfolio, we believe that the raising of a further £1 million - 2 million in 2018 would properly catalyse this. We do also point out that this does not have to be raised from the equity market though as Mayan is fast increasing its options for funding.

The work that Mayan is starting to undertake at these projects is expected to add substantial value which creates the opportunity for bringing in a farm-in partner to help share the development expenditure and accelerate the programs of well workover and drilling. Also, given the company's increasing valuable asset base, such funds could also be available from debt financing.

Following its dire history, the stock does look as though it has been given the cold shoulder by investors and explains why it is currently undervalued to such an extent, indeed on the company's own expectations and our conservative modelling the stock looks to be trading at perhaps less than 1 times PE for 2018 and a massive discount to NPV. **Clearly this is an undervaluation of epic proportions should management actually deliver on their promises. We believe that both the refocusing on good quality viable projects which can become cash flow positive very quickly and with oil production set to grow substantially, that a material re-rating is now due. As delivery of the production and cash flow goals are produced, we would expect the market to ascribe at least a 5 times multiple as visibility of the EPS component becomes apparent. This would result in a stock price of 1.6p.**

The new management team has made no secret of the fact that they have exciting projects to bring in once the company achieves a decent level of sustainable oil and can afford to fund the development costs on additional properties. There does seem to be a healthy news flow developing which will hopefully begin to attract attention to Mayan for all the right reasons.

On the back of the anticipated good news flow and recent successful fund raising allowing management to put the new plan into action which will translate into rising oil production and cash flows **we thus initiate coverage of Mayan Energy with an initial target price of 1.6p and a Speculative Buy stance.**

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