



ALIGN
RESEARCH

MX Oil

26th October 2018

World class Nigerian offshore oil & gas project looks set to benefit significantly from rising oil prices and rapidly falling lifting costs.

MX Oil has evolved during the last couple of years to become actively involved in the “hot” Nigerian E&P space through the acquisition of a stake in the highly prized Aje field. Prospects in the West African Transform Margin look compelling moving forward and the company is now on the cusp of seeing a material return on its investment in OML 113.

■ Good quality reservoir with high grade oil sold at a premium to Brent

The Aje project in OML 113 lies within the relatively shallow waters off Nigeria, with oil being sold internationally at a premium to Brent Crude. The recent CPR has highlighted the level of reserves and resources at Aje, demonstrating the value that is being created, along with future opportunities.

■ Rapidly rising oil production will allow lifting cost to fall

The Aje field produces 3,300 bopd from two wells (165 bopd net to MXO). Drilling of new wells is likely to see a step change & importantly allow lifting costs to fall from the current \$40/bbl.

■ Dilution expected to be controlled by project financing the big oil & gas expansion

As benefits a world class project, additional capex will be required, however, the increase in reserves that was demonstrated in the recent CPR should pave the way for MXO to fund its share through project financing with an offtake agreement.

■ Risked NPV suggests share price upside of more than 700%

Our conservative valuation illustrates the material potential upside in the stock at the current lowly valuation. Our target price is 0.85p and stance **Conviction Buy**.

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

Year to end Dec	2016A	2017A	2018E	2019E
Revenue (£'000)	1,571	1,727	3,400	8,800
PTP (£'000)	(1,336)	(3,435)	(430)	2,300
EPS (p)	(0.14)	(0.24)	(0.02)	0.08

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.

CONVICTION BUY – Price Target 0.85p



Key data

PIC	MXO
Share price	0.095p
52 week high/low	0.90p/0.07p
Listing	AIM
Shares in issue	2,771.35m
Market Cap	£2.63m
Sector	Oil & Gas

12 month share price chart



Analyst details

Dr Michael Green

michael.green@alignresearch.co.uk

IMPORTANT: MX Oil is a research client of Align Research. Both Align Research & a Director of Align hold an interest in the shares of MXO. For full disclaimer information please refer to the last page of this document.

Business overview

MX Oil Operations

MX Oil is a natural resources investment company targeting near term production assets in proven oil and gas producing countries like Nigeria.

- **Nigeria** – The Aje Field is part of OML 113 where the company has a current 5.0006% revenue interest (**soon to increase to 6.675% following payout of YFP's 25% carry**). OML 113 lies in the West African Transform Margin in offshore Nigeria and oil production commenced in May 2016. The field has extensive reserves and resources as confirmed by the recent CPR (April 2018).



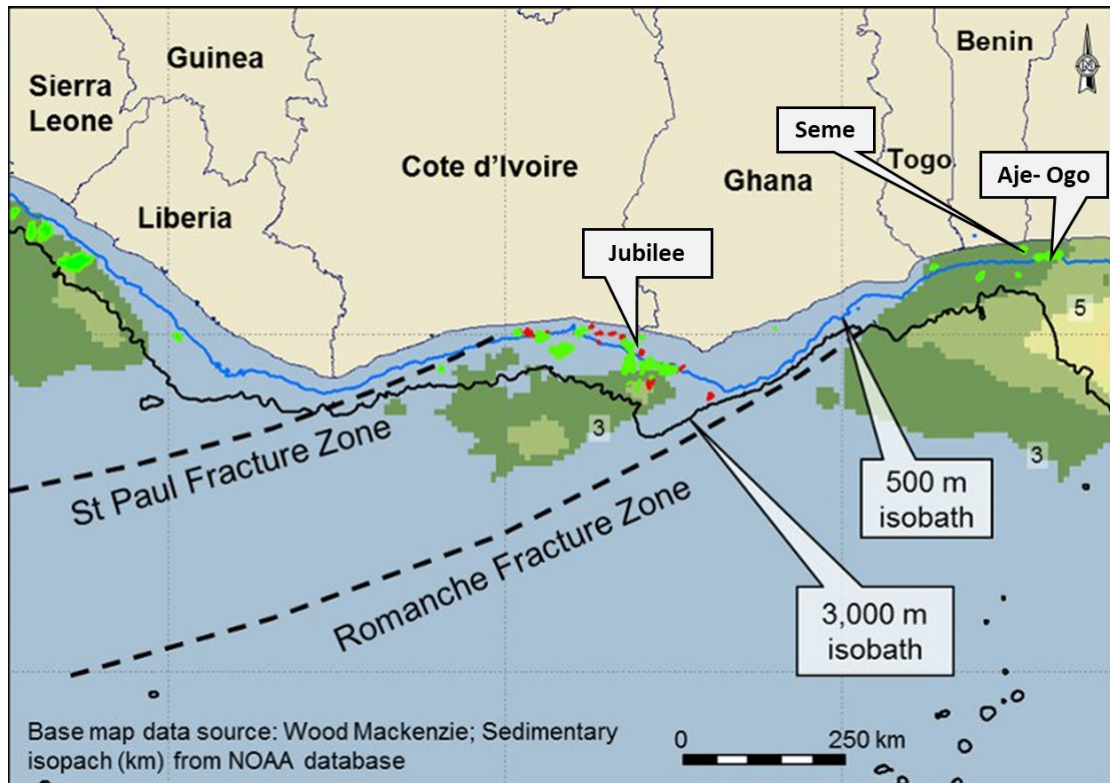
The Pacific drillship. Source: Company

West African Transform Margin

In 2007, Kosmos Energy discovered the Jubilee oilfield in deep-water off western Ghana, which was an area thought to have little potential for hydrocarbons. Anadarko Petroleum worked with Kosmos Energy on Jubilee and two years later, in 2009, discovered hydrocarbons with a deep-water well drilled offshore Sierra Leone. The thinking at the time deemed these areas to be unattractive for oil and gas exploration. However, these two discoveries, more than 1,000 kilometres apart, led to the development of the latest phase of the West African Oil industry.

The geological setting for such oil and gas deposits resulted from continental drift, plate tectonics and subsequent deposition and associated subsidence. The transform faults lie at the plate boundaries and its motion is predominately horizontal as two tectonic plates slide past one another. The transform margin is where the continents meet the transform faults.

Oil is found in this location due to a combination of reasons. Firstly, transform margins are often characterised by having little oceanic circulation. Secondly, anoxic conditions exist whereby the sea water is depleted of dissolved oxygen, which means that organic material remains well preserved. Thirdly, provided that this organic material gets buried sufficiently deep enough, hydrocarbons will be generated.



Principle oceanic transform fault 'fracture' zones and sedimentary isopach (km). Source: Gecexpro.com

Plate-tectonic extension started during the Early Jurassic and continued during the Cretaceous (around 200 to 100 Million years ago (Ma)). This resulted in extensive rifting in the Seme, Aje and Ogo area which was followed by steady and even subsidence during the Albian (113 - 100 Ma), and continued through to Cenomanian-Turonian (100 – 90 Ma). During this period thick shallow marine sands were deposited on top of a hydrocarbon source rock of Albian age which forms the characteristics of the Aje petroleum system.

Post Turonian (90 Ma to Present) the rate of subsidence continued in the Seme, Aje and Ogo area leading to over steepening of the Shelf and Continental Slope, which resulted in the formation of submarine canyons and excessive slumping during the Oligocene (34 – 23 Ma).

It is the potent cocktail of regional geological factors that have created a favourable setting for major oil and gas discoveries. **Today, the African Transform Margin is now well established as a petroleum province and the West African Transform Margin is being seen as a new centre of oil exploration in that continent.** There have been a number of Cretaceous oil discoveries along the Transform Margin which includes the Aje field in OML 113, offshore Nigeria.

Background

The company joined AIM in 2005 as Pan Pacific Aggregates which went onto become Astar Minerals in 2012. March 2014 saw a £1.95 million placing and a change in the management team which led to Stefan Oliver becoming CEO. These moves heralded a change in strategy which saw the company seeking to become actively involved in the oil and gas sector.

In July 2015, the company announced the acquisition of a 5% revenue interest in the OML 113 Licence, offshore Nigeria, which includes the Aje Field, from Jacka Resources. This represented a substantial development project with proven, flow tested discoveries where production was expected to commence in January 2016. Terms and conditions concerning the ownership of a stake in the OML 113 set out that if a partner is unable to pay its Authorization for Expenditures (AFEs – which is the mechanism used in joint ventures to ensure good costs and budgetary control) then their holding would be nullified. **In light of this situation that Jacka Resources found itself in, the board was able to agree a highly opportunistic deal which was successfully negotiated within days and at a big discount to the price that other partners had invested in OML 113.**

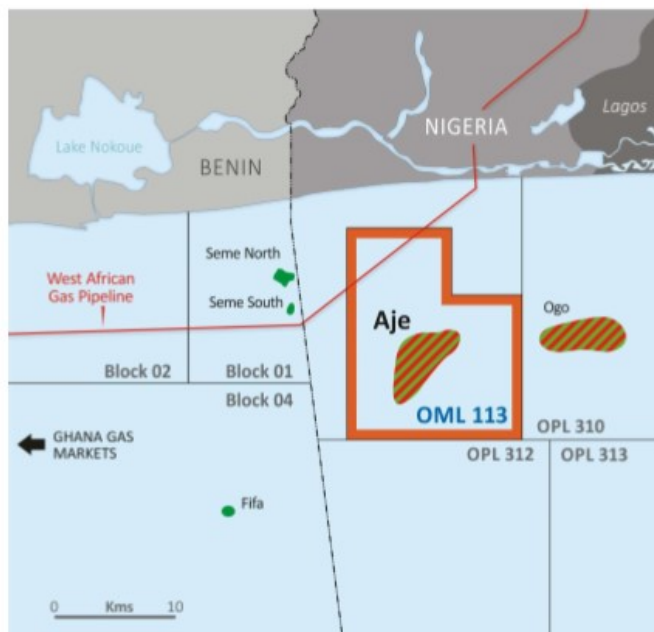
This move fitted in well with MX Oil's strategy to build a sound cash generative platform by acquiring high impact near term production assets in proven oil and gas jurisdictions. The company acquired this project by assuming US\$3 million of debt, satisfied by issuing 43.38 million shares at 4.5p per share, plus a commitment to fund US\$11 million of project costs. This was accompanied by a placing that successfully raised £6 million at 4.5p in the face of a declining oil price.

Production at the Aje field began in May 2016 with oil being produced from two wells. Over the next twelve months, reports suggested that the production economics were steadily improving, helped by a rising oil price and reductions in operating costs. **The company has also been actively reviewing other interesting investment opportunities which include energy related technology outside upstream oil and gas that could create additional value for shareholders.**

Operations

MX Oil has a 5.0006% revenue interest in the OML 113 licence offshore Lagos in Nigeria which contains the Aje development project, along with a number of exploration prospects. There is a farm-in element here and once Yinka Folawiyo Petroleum (YFP) has received US\$30 million from the project, then the company's revenue interest will increase to 6.675%.

OML 113 covers an area of 858km² offshore at the western part of Nigeria, close to the Benin border and forms part of the Dahomey Embayment. Water depths range from 100 to 1,000 metres. The project lies 24 kilometres south of the Nigerian coast and just 12 kilometres from the West African Gas Pipeline (WAGP). In addition, the Lagos state gas market, with a population of more than 16 million people, is just 64 kilometres away.



Location of Aje field. Source: Company

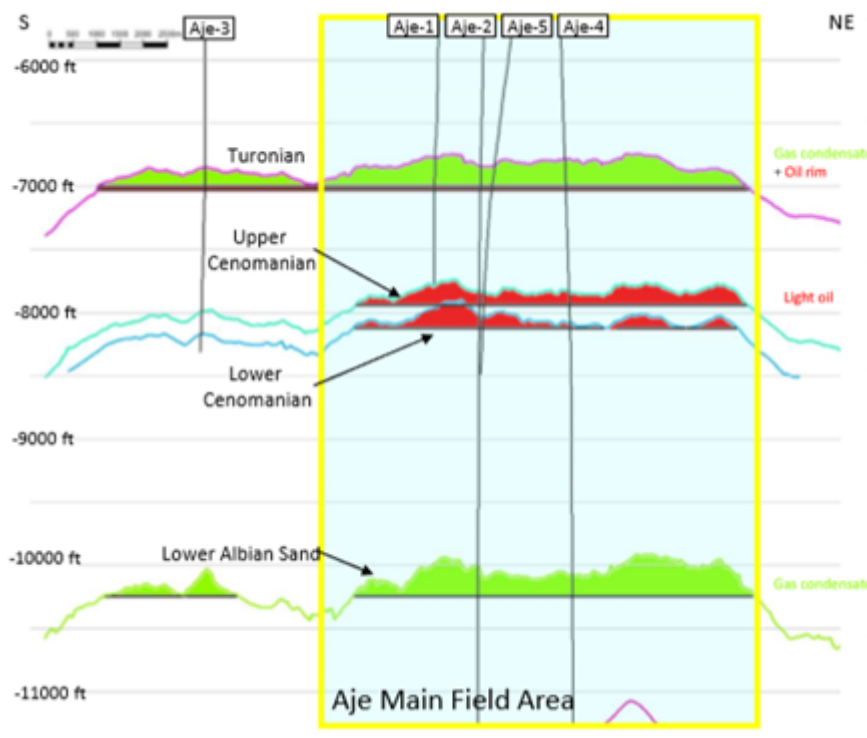
Introduction

The Aje field was discovered in 1997 and boasts multiple oil, gas and gas condensate reservoirs in the Turonian, Cenomanian and Albian sandstones. Aje represents one of the many Cretaceous discoveries along the West African Transform Margin. The best-known fields on this trend are probably the producing Jubilee oil field and Sankofa in offshore Ghana plus Greater Tortue in offshore Senegal and Mauritania.

There are five partners in OML 113 which are: YFP, NewAge, Panoro Energy, EER (Colobus) Nigeria and MX Oil. YFP and NewAge jointly look after the technical work, although in the early stages of the project most of such work was undertaken by Chevron and VITOL.

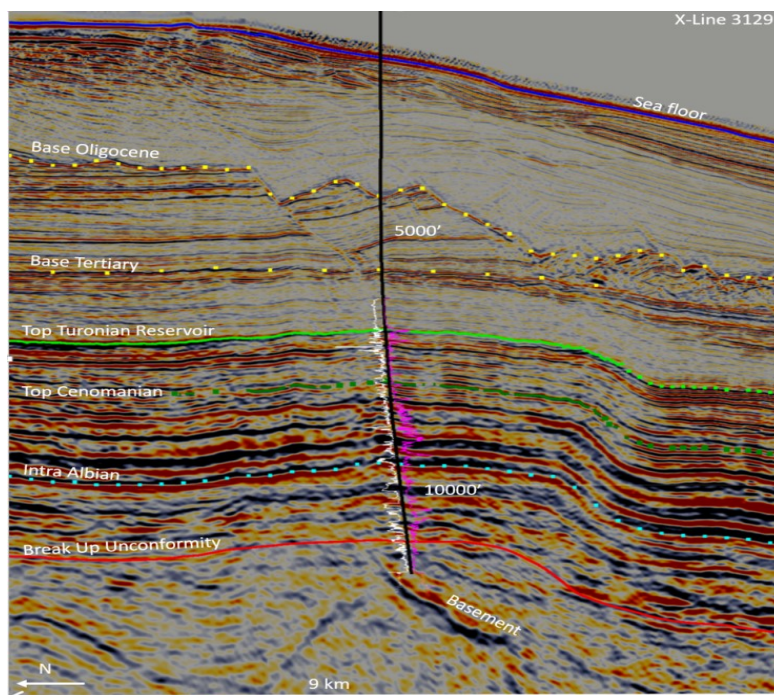
Drilling

At the time of the acquisition in July 2015 four wells had been drilled where Aje-1 and Aje-2 had both flow tested oil and gas condensate at high rates, whilst Aje-4 had intersected significant pay in four productive reservoirs. Today, Aje-4 and the recently drilled Aje-5 have both been completed.



Five wells drilled at the Aje Field. Source: Company

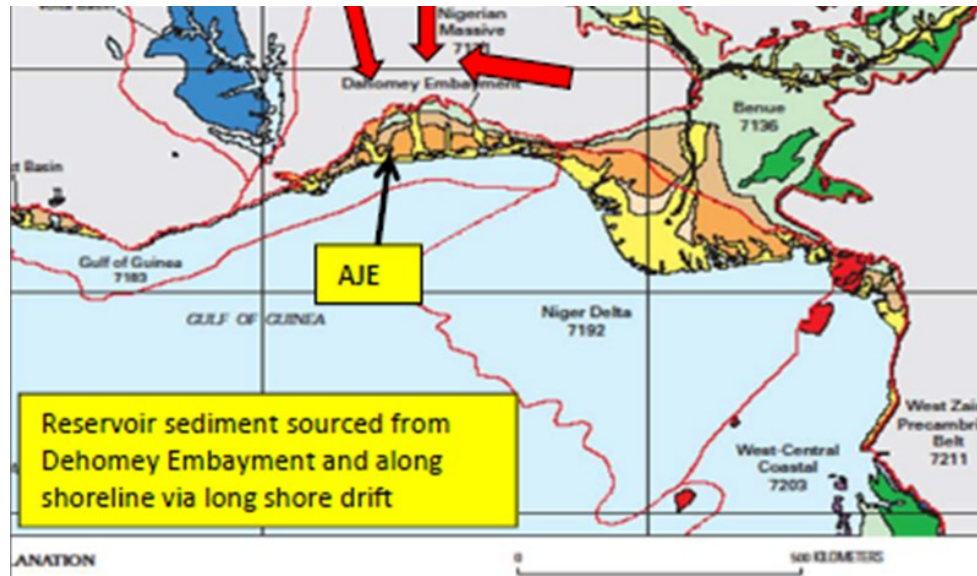
Work on interpreting newly acquired 3-D seismic data has helped in planning the full field development as well as evaluating the exploration potential that exists over the complete OML 113 licence. **There is potential for a syn-rift exploration play which may have been de-risked after the 2013 Ogo discovery on contiguous block OPL 310 to the east.**



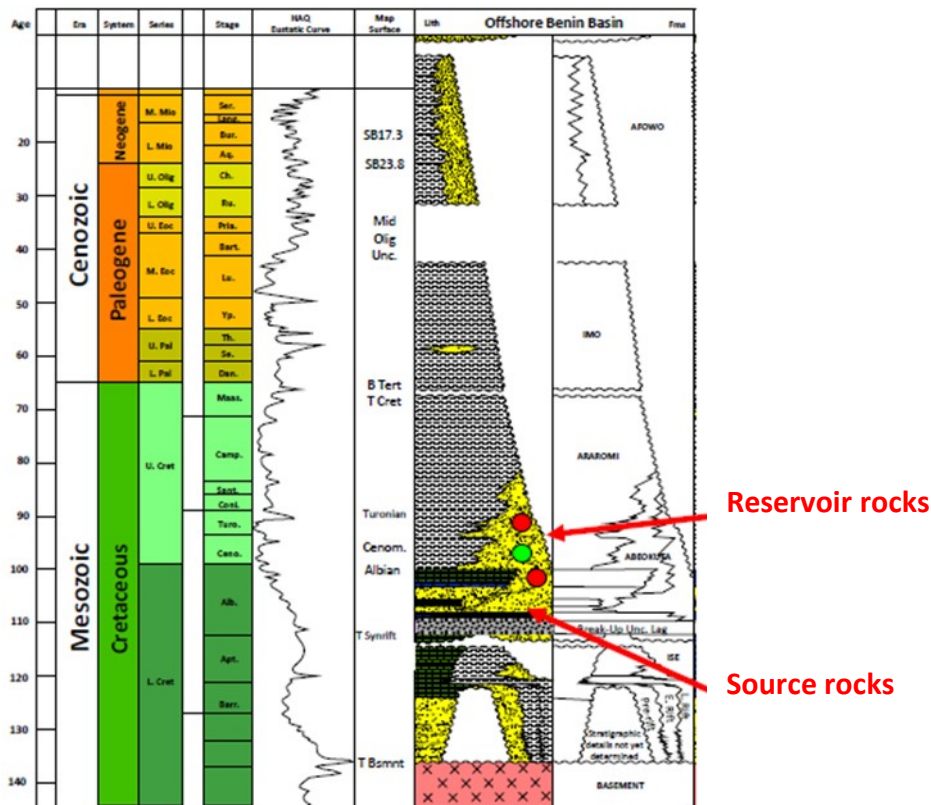
N-S Seismic at Aje field through the Aje-4 well. Source: Company

Stratigraphy

The reservoir sediments are sourced from basement outcrops in the North and deposited in the Dahomey Embayment and have moved along the coast via longshore drift. The producing reservoir rocks are of Upper Cretaceous Turonian and Cenomanian age, with high multi-Darcy permeabilities in the Turonian interval. The source rocks are organic rich deposits of Lower Cretaceous Albian age that have generated significant oil and gas volumes.



NW African Margin: Benin & Nigeria Basins. Source: Company



Stratigraphy of the Aje field. Source: Company

Oil production

There have been five exploration and appraisal wells drilled (Aje 1 to Aje-5), with a total of four reservoir intervals encountered at Turonian, Cenomanian and Albian levels. The project came on-stream in May 2016 and production is through the Front Puffin floating production storage and offloading (FPSO) unit, which has the capacity to produce 40,000 barrels per day of liquids (oil + water) and store up to 750,000 barrels of oil.

At present, two wells are producing, which are Aje-4 and Aje-5ST2. The Aje-4 well was recompleted as a development well on the Cenomanian. Aje-5 was initially completed on the Cenomanian but underperformed and so was sidetracked in 2017 to test two alternative Cenomanian locations and was finally completed on the Turonian oil rim at a higher level.

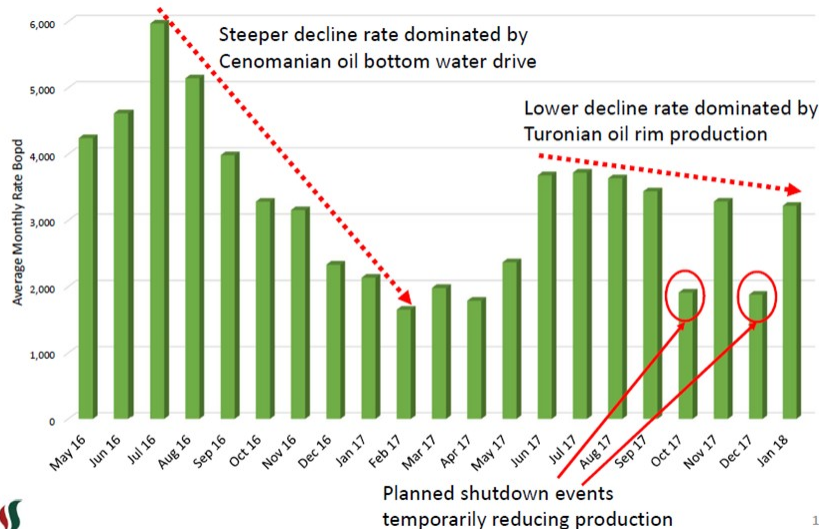


The Front Puffin FPSO. Source: Company



Subsea trees. Source: Company

Currently, the Aje field produces around 3,300 – 3,400 bopd from two wells (165 bopd net to MX Oil). The Aje-4 well in the Cenomanian produces 1,500 – 1,700 bopd with a 63% water cut, (production performance extrapolation of Aje-4 suggests that there is a lot more oil in the Cenomanian giving encouragement to the drilling of a further well to the east). The Aje-5ST2 well produces 1,600 – 1,700 bopd from the oil rim. Over the coming months, a gradual decline is anticipated until the next well is drilled, although good management of the FPSO production process system might help prevent this. The well is performing better than anticipated underlining the potential of the oil rim.



Aje field production history. Source: Company

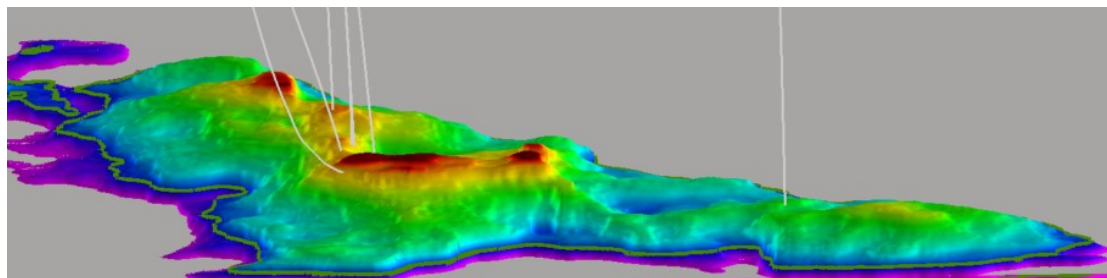
Revenue and operating costs

The oil produced is of high quality, with an API of 41°, which is classed as an Amenam crude and sold to international oil companies and trading houses at a 70-80 US cents premium to Brent Crude.

Lifting costs currently stand at \$40/bbl based on 3,300 bopd which factors in operating costs and general & administrative expenses (G&A). **These lifting costs are expected to decrease substantially as the rate of oil production rises.** At the moment, oil production is coming from Cenomanian and Turonian reservoirs, although a significant gas and oil resource remains to be developed in the Turonian reservoir.

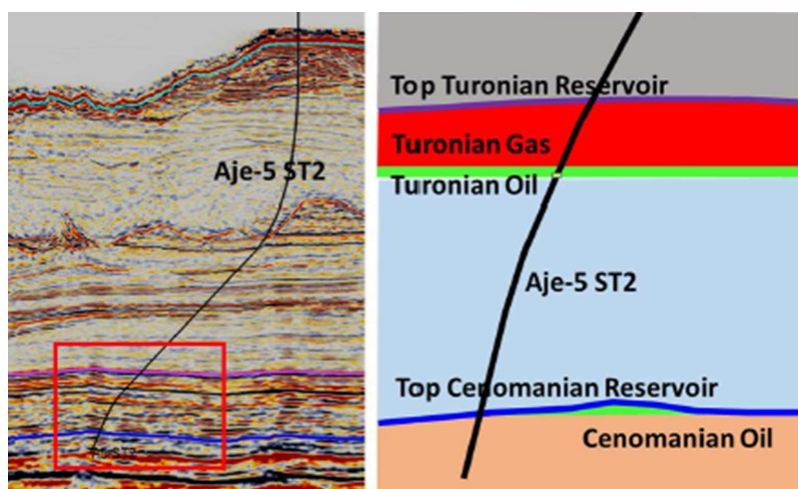
Turonian Oil Rim

The production performance of Aje-5 since May 2017 suggests that the Turonian oil rim has significantly greater potential than previously thought.



Aje Turonian structure viewed from the west. Source: Company

The enhanced oil production seen at Aje-5ST2 has been put down to better than anticipated characteristics of the oil rim. It is now estimated that the oil rim could be up to 40 feet thick. At the same time, assay samples point to a better oil quality. These factors serve to increase the in-place volumes and the valuation on an NPV basis.



The Turonian Oil Rim. Source: Company

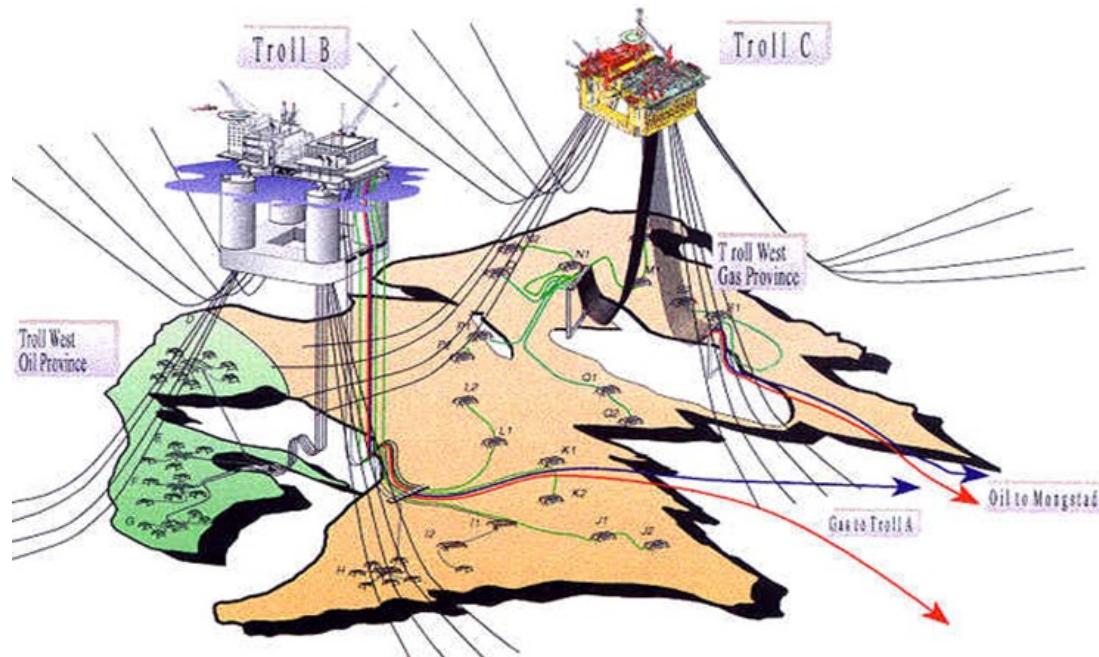
In mid-June 2018, MX Oil announced an assessment of the Turonian development potential. Basically, work carried out on the production data from both the Aje-4 and the Aje-5 wells has been used as the basis on which to estimate the potential for an integrated oil and gas development of the Aje Field. At that time, it was reported that the licence partners were working on a simulation study to assess the potential for new oil wells in both the Turonian and Cenomanian.

The Aje-4 well completed on the Cenomanian then was producing 1,500 - 1,700 bopd; and on this performance it is thought that the connected oil volume to that well are significantly larger than the current mapping suggests. This means that there is the potential to drill a further well to the east of Aje-4, probably in the location that was planned for the Aje-6 well. Also, at that time, the Aje-5 sidetrack well was producing 1,600 - 1,700 bopd from a just a six foot completion interval on the Turonian oil rim. So, this well is also producing at a rate that was better than expected which serves to illustrate the reservoir's potential.

Drilling of long horizontal wells and producing in a controlled manner will be necessary to keep the water and gas in place in order for the optimal development of the oil rim. The Directors estimate that these wells could produce up to 5,000 bopd per well which three months of simulation studies was expected to confirm. There is no doubt that the Aje Field has the scope to become a very significant producing asset.

Analogue fields

MX Oil's technical team has been studying analogue fields in order to learn from these developments. The Troll West Gas Province within the Troll Field in the Norwegian sector of the North Sea is seen to be highly analogous, having an oil rim of similar thickness, similar permeability and similar viscosity as Aje. The Troll Field is one of the biggest fields in the North Sea, containing 40% of Norway's gas. It also has significant quantities of oil in thin zones underneath the gas cap which lie to the west of the field.



The Troll Field development schematic. Source: Offshore Technology

The Troll A platform, which has a total height of 472 metres, came into production in 1996, whilst the Troll B Platform (came into production in 1995) and Troll C Platforms (came into production in 1999) are semi-submersibles. If this offshore project was successfully developed in the 1990s in a water with a depth of 300 metres plus, it does give a lot of confidence that Aje can be very successfully developed using today's improved technology and in far shallower water at around a depth of 100 metres.

The Troll Field West Gas Province oil rim development gives an insight to the potential which might now be available to unlock at the Aje Field.

CPR

AGR TRACS updated its July 2014 CPR in April 2018, which clearly showed the potential of the Aje Field and the level of resources and reserves that are potentially available. The new CPR focused on the April 2017 Fast Track Gas Field Development Plan (FDP) which was prepared by the operator YFP for the Turonian gas-condensate field development. There have been significant developments in the Aje project over the past two years that have had a material impact on the reserves and resources position of the project.

The main purpose of the updated CPR was to provide an independent review of the subsurface evaluation incorporating the results from three new penetrations in the Cenomanian (Aje-5, Aje-5STI and Aje-5ST2), including production from new wells coming on-stream from the Cenomanian reservoir in May 2016 and from the Turonian oil rim in May 2017, all of which has occurred since the last CPR.

In addition, a field development plan for the Turonian Aje gas project (FDP) had been submitted to the Nigerian Government for their consideration in 2017. The FDP comprised of four or five production wells in the Turonian to be tied back to the existing and new infrastructure. AGR TRACS reviewed the Turonian FDP along with the supporting volumetric estimates, production forecasts, facilities costs and economic evaluations.

The updated CPR showed that the level of reserves has increased substantially since the 2014 CPR. These reserve estimates were derived using the following price assumptions – an oil price of US\$60 per barrel flat Real Terms and for gas a US\$4.00 per Mscf flat Real Terms. The price assumed for condensate was the same as used for oil with LPG being 65% of the oil price expressed in US\$ per barrel.

Reserves	2018		2014	
	Gross MMboe	Net entitlement to MXO MMboe	Gross MMboe	Net entitlement to MXO MMboe
1P Proven Reserves	78.2	5.0	11.7	0.7
2P Proven and Probable Reserves	127.1	8.2	23.4	1.3
3p Proven, Probable and Possible Reserves	215.0	12.7	-	-

Aje OML 113 reserves. Source: AGR TRACS CPR April 2018

AGR TRACS also certified gross 1C Unrisked Contingent Resources of 4 MMboe, 2C Unrisked Contingent Resources of 9 MMboe and 3C Unrisked Contingent Resources of 17.5 MMboe. MX Oil's net entitlement is respectively 1C Unrisked Contingent Resources of 0.20 MMboe, 2C Unrisked Contingent Resources of 0.45 MMboe and 3C Unrisked Contingent Resources of 0.88 MMboe. These Contingent Resource volumes listed above are all expressed as unrisked technically recoverable volumes. As the development plans are still in progress no economic cut-off has been applied.

At the time the company announced the results of this latest CPR, the management made a number of important points. Firstly, that the recent performance of the Aje-5ST2 sidetrack well completed on the Turonian oil rim has served to encourage the Aje partners to investigate a more extensive development of this oil rim. As the Aje Gas FDP was completed and submitted ahead of this well coming on line, AGR TRACS has only been able to recognise contingent resources associated with four horizontal wells proposed as a Phase 2 development in the FDP. However, AGR TRACS has advised that the encouraging production performance for the Aje-5ST2 well so far provides a strong incentive for further studies to better understand how the oil rim can be optimally developed.

Secondly, the board of MX Oil believe that these results not only confirm the commerciality of the Aje gas development, but also outline the necessity for a revision of the development plan following the completion of oil rim studies. Adopting such an approach would mean that the final investment decision on the future development of the Turonian reserves could be taken with an improved and more comprehensive analysis and understanding of the complete project.

Strategy for growth

MX Oil is currently at an exciting period in its growth story as there are a series of highly positive developments on the horizon which could add substantial value for shareholders.

To create the greatest value from the project requires the critical sequencing and optimisation of production from multiple gas and oil horizons. The Aje field is a unique play which has a good quality reservoir (permeability etc) containing good quality oil. The Joint Venture Partners have now initiated a simulation modelling study of both the Turonian and Cenomanian reservoirs which will include an update of the geological model of these reservoirs with the latest well data followed by dynamic simulation modelling, the results of which will be used to define the optimal further development plan.

The field is in relatively shallow water offshore Nigeria sitting on the edge of the shelf and well away from the Niger Delta. Nigeria represents a benign environment and MX Oil got involved in the project at a late stage when it had been substantially de-risked and after 4½ years of the field appraisal and development program. Additionally, the project was just six months away from production. The company has a good partner in YFP, which is a strong local entity and the oil production is sold around the world at a premium to Brent crude.

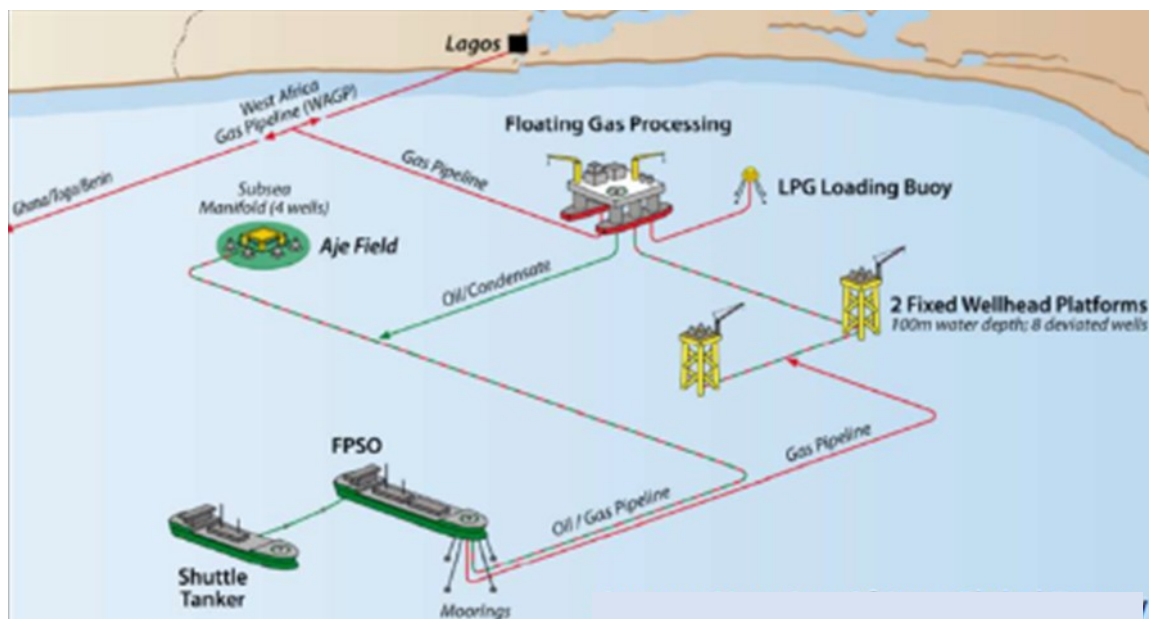
Already, the Field Development Plan (FDP) for the Turonian gas project has been completed, which is an important component of the CPR. The Turonian Oil Rim Development Plan will be finalized using the results of the simulation modelling study with the Final Investment Decision (FID) for the Integrated Oil and Gas Development Project scheduled thereafter. Drilling is expected to commence during the first half of 2019 on the first of the Turonian horizontal wells. The full oil and gas development is likely to involve the drilling of up to six horizontal oil development wells.

Although MX Oil has a 6.675% stake in the project, the company is heavily involved in the decision-making process. Some activities might only require 65% of the partners to approve, but crucial forward development planning requires 100% approval. Nigel McKim, Chief Operating Officer, can date his involvement with the Aje field back to the time when VITOL were involved in the 2000s and, together with the company's Technical Director Wim Burgers, are playing an important role in helping to ensure that the decisions made by the partners are technically sound as well as being economically justifiable. With the project in the midst of the development phase, additional information is becoming available concerning many of the critical parameters.

The Aje Field Development Plan (FDP) approved by the Nigerian government in March 2014 consisted of a three-phase development programme. Phase 1 was intended to be the start of initial production in January 2016 from two wells, estimated at an initial production of 11,000 bopd. Phase 2 was the drilling of two further wells with an expected increase in total Cenomanian oil production to 19,000 bopd. Phase 3 was the targeted development of the Turonian gas condensate reservoir. Now, as mentioned earlier, the development plan envisaged by MX Oil favours 6-8 wells primarily on the Turonian oil rim, which will also provide the bulk of the gas production.

So, moving ahead, the focus now does seem to be more on the combined production of oil from the Cenomanian and Turonian reservoirs. It looks like a phased development, with an initial horizontal well development of the Turonian oil rim and the Cenomanian reservoir significantly boosting oil production rates, followed by the full oil and gas project. Oil rim reservoirs present a good opportunity but are not straight forward. In essence, there is limited thickness of oil which is overlain by a gas cap and underlain by an aquifer. To maximise the oil recovery, the gas above and the water below the oil rim need to be kept in place while the oil is taken out gently. In the Turonian oil rim the solution is seen to be long horizontal wells and producing in a measured way to keep the water and gas in place at an anticipated rate of 5,000 bopd per horizontal well.

Armed with the updated CPR and the completed FDP, MX Oil will be seeking project finance with an offtake agreement to fund its share of the required capital expenditure. It is likely that such a financing arrangement could involve other partners in the project. Such a project financing deal could be agreed and closed before the year-end. **Once funded and with new wells on stream the lifting costs are expected to drop substantially, which serves to substantially magnify the returns.**



Integrated oil and gas development project. Source New Age African Energy

Aje holds in the order of 500 Bcf of gas recoverable. Today, the gas project is approximately 2 years away from commencement and will require a new facility to handle production of an expected 80-120 million standard cubic feet of gas per day (mmscf/d). The Aje field in OML 113 lies within close proximity to the West Africa Gas Pipeline and there is strong local demand for gas as Nigeria represents the largest economy in Africa. **Nigerian gas production is currently around 600 mmscf/d, although demand is estimated to be 2,700 mmscf/d.**

Financials & current trading

Losses that have been recorded over the last five years are mainly due to administration expenses.

Y/E 31 December £'000s	2013A	2014A	2015A	2016A	2017A
Revenue	-	-	-	1,571	1,727
Pre-tax profit/loss	-51	-1,149	-2,899	-1,336	-3,435
Net profit/loss	-51	-1,177	-2,889	-1,366	-3,435

MX Oil five-year trading history. Source: Company accounts

2017 results

Financial results for the twelve months ended 31st December 2017 saw continued production from the Aje Field within block OML 113 despite an interruption in production at Aje 5 while some subsurface intervention was carried out. At the time, the final results announced production from the field had stabilised at around 3,300 bopd (165 bopd net to MX Oil). During the oil production process, there has been a lot of new data collected about the reservoir and geology.

Out of the two wells that are currently in production, the Aje-5 well has been producing from the Turonian Oil Rim since May 2017. The good news is that, based on the data from this well, it now looks likely that significant oil volumes could be recovered here. This has all resulted in discussions concerning the development of an integrated oil and gas development plan for the Turonian reservoir. For the period the company recorded a pre-tax loss of £3.435 million which was largely due to £2.565 million of operating costs and administration expenses at £1.495 million, which were 35% lower than in the previous year. The basic and diluted loss came out at 0.24p per share.

2018 Interim results

Results for the six months to 30th June 2018 were announced in September 2018. For this period, the company made a pre-tax loss of £1.147 million which resulted in a loss per share of 0.07p. At the time these results were announced the board pointed out that oil was being produced at a stable rate from two wells in the Aje Field, part of OML 113 and also that an updated CPR had been prepared which had showed an increase in reserves.

Fundraising and Operational Update (22 October 2018)

Late October 2018 saw the company successfully raise £1 million at 0.1p per share. This placing was well supported by the board, with certain directors participating not just by converting accrued salaries into shares but also by subscription. Participation by the board accounted for £153,000 of the funds raised.

This money has been earmarked to provide for the additional investment appraisal of OML113 and to pay for the company's working interest share of the licence extension fees associated with the renewal. The announcement also brought news that the company has carried out a review of its cost base and taken some tough measures to significantly prune its budget going forward. On top of the Directors' commitment to the conversion of accrued salaries and subscription, they have also agreed to receive shares instead of salary for the next six months, which could save in excess of £200,000.

The fundraising announcement was accompanied by an operational update which reported that good progress has continued to be made in the Aje Field during the current year, with the two wells within the OML 113 licence producing at a fairly stable rate of 3,300 bopd (185 bopd net to MX Oil).

The updated CPR (May 2018) has shown the way forward with the partners modelling the potential for new oil wells in both the Turonian and Cenomanian. It currently looks likely that the partners will commission further drilling in 2019, although it has to be pointed out that it's all down to the results of the modelling work.

This drilling would represent Phase 2 to be followed by the full development project. Given this kind of timescale, the company has already commenced discussions with potential financiers to cover MX Oil's share of these development costs both in Phase 2 and for the full field development. Basically, these costs would be covered by project financing at the asset level. To this end, has brought in the energy-focused advisory firm Gneiss Energy to provide assistance in arranging project finance for the next phase of development.

The company believes that these two development phases may result in peak oil production in the range of 8,000 – 12,000 bopd per day, which is based on the assumption of one new development well in the Cenomanian reservoir and one horizontal sidetrack well in the Turonian reservoir. Whilst, the full development project could see production increased to 20,000 bopd and 100mmscf/d.

The updated CPR estimated a mid-case of up to 150 – 170 million barrels (mmbos) of oil in place in two reservoirs that have been targeted by potential additional development activity. Work by MX Oil has suggested that a recovery factor of 40% may well be achievable by comparison of analogous development projects, which points to total oil resources of up to 50 million barrels, that might be accessed by this development activity.

The company has wasted no time in attempting to model the economics of an enhanced Aje project with this additional upside. At the current oil price of US\$80 per barrel, their model generates a NPV10 of US\$28 million (net to MX Oil) based on the current development programme.

This includes the current assumption that the gas development project would cost US\$1.1 billion. However, MX Oil's own engineering cost estimates outline a much lower figure of US\$545 million, on which basis the NPV10 increases to US\$50 million (net to MX Oil).

Further investment appraisal work by the company has seen the team also model the economic effect of pursuing the potential development activity. MX Oil's enhanced scenario suggests the recovery of an incremental 40mmbos coupled with an estimated additional US\$400 million of capex. Even with the economic outcome risked at 50%, the risked NPV10 came out at US\$78 million net to the company.

Risks

Geological risks

There are a series of technical risk factors concerning the amount of understanding of the geology of the project areas, the reservoirs being targeted and the distribution and magnitude of the indicators that have been identified in exploration work.

Political risk

There are political risks involved in companies operating in Nigeria. The oil industry is arguably the most susceptible sector of the market to political risks largely due to its importance to the host country's economy.

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 \$140 to \$28. Brent crude currently trades around the \$76 level.

Exchange rate risks

Movements in the value of currencies will have an effect on the company's accounts on translation from US dollars into British pounds. Fluctuations in the value of the US dollar against the pound may have an effect on the valuation MX Oil is awarded by the UK stock market.

Future funds

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

Board of Directors

Richard Carter - Non-Executive Chairman

Richard (ACMA), aged 35, graduated from Hertfordshire University with a BA (Hons) in Accountancy and began his career at Mouchel Parkman Group plc, a London Stock Exchange listed engineering and government infrastructure provider. In 2004, he moved to International Publishing Company Limited (now Time Inc. UK Limited), a UK publishing company where he worked closely with publishing editors to help drive revenue and reduce costs as well as developing and improving management information. Richard was also involved with new product revenues such as telemarketing, competitions and online subscriber acquisition plans. In 2007, he joined AIM quoted technology and telecommunications start up, Avanti Communications Group plc. Richard was responsible for setting up the company's financial function, operations and processes and internal and external reporting procedures. He also worked directly with the CEO on the company's commercial strategy. Richard was also the Investor Relations Manager and assisted with fundraisings involving the issue of equity, debt and high yield bonds. In September 2014, he joined Gate Ventures plc, an investment company focused on media and entertainment projects. As Chief Financial Officer, Richard oversees all investment transactions of Gate Ventures plc and also serves on the boards of its investee companies Infinity House Productions, Ensygnia IP Ltd, and Playjam Holding Ltd

Stefan Olivier – Chief Executive Officer

Stefan has been CEO since he founded MX Oil Plc in early 2014. He has worked on a large number of oil deals during his thirteen years' in Corporate Broking including Energy Equity Resources. Stefan has spent the last eight years focused on financing natural resources transactions via both equity and debt.

Nigel McKim – Chief Operating Officer

Nigel has significant experience in field development planning and production in the oil and gas industry. He has 30 years of experience in field development planning and production in the oil and gas industry. Nigel was previously the COO of Nobel Upstream where he was responsible for the company's technical capabilities and participated in the building of a portfolio of assets in Texas, the UK and Azerbaijan. Prior to this, he held senior positions with BHP Billiton Petroleum Limited and Hess Services (UK) Limited, starting his career with Shell International.

Sergio Lopez - Non-Executive Director

Sergio is a director of Nogal Holdings LLC and its associated companies. Sergio has been in the oil and gas industry for the last 13 years with experience ranging from finance to operations. Lewis Energy Group appointed Sergio as its Mexico Country Manager to coordinate a 15 year E&P contract with Pemex, which represented the first move by an American independent oil and gas company into Mexico since 1938. He negotiated a special budget to drill the first exploratory Eagle Ford Shale well in Mexico, named Emergente-1. This resulted in the first and only producer in the Eagle Ford Shale in Mexico called Habano. Sergio earned his Bachelor in Business Administration in Accounting and Finances from the Tecnologico de Monterrey in Mexico.

Wim Burgers, Technical Director (Consultant)

Wim has more than 40 years international exploration and development experience in the oil and gas industry. His work with Exxon Mobil, his main employer, was concentrated on asset evaluations in conventional & unconventional plays, including heavy oil & tight liquids. Wim has identified many exploration and development opportunities in various areas like Sub-Sahara Africa and notably Nigeria, US On- and Offshore, Mexico, offshore Brazil, Colombia, Caspian Region, and the North Sea. He earned a master's degree in geology from Leiden University, The Netherlands, and he is fluent in many languages including Spanish.

Forecasts

We initiate coverage of MX Oil with forecasts for the financial years ending 31st December 2018 and 2019. For 2018, we assumed that oil production from Aje averages around 3,300 bopd, where 165 bopd is net attributable to MX Oil. The pre-tax loss is determined to be £0.43 million after £0.50 million of financing costs. The loss per share is calculated to be 0.02p.

For 2019, oil production is forecast to average 6,800 bopd, with 453 bopd net attributable to MX Oil. There is a farm-in element here and once YFP has received US\$30 million of revenue from the project, then the company's revenue interest will increase to 6.675% which we envisage happening in H1 2019 following further drilling. The pre-tax profit is calculated to be £2.30 million, which we believe would equate to earnings per share of 0.08p.

Year End 31 December (000s '£)	FY2016a	FY 2017a	FY 2018e	FY 2019e
Continuing operations				
Revenue	1,571	1,727	3,400	8,800
Operating costs	-	(2,565)	(1,830)	(3,800)
Administration expenses	(2,311)	(1,495)	(1,500)	(1,700)
Share based payment expense	(146)	-	-	-
Operating profit /(loss)	(886)	(2,333)	70	3,300
Investment income	-	-	-	-
Other gains and losses	(54)	(27)	-	-
Finance costs	(396)	(1,129)	(500)	(1,000)
Profit/(loss) on ordinary activities before taxation	(1,336)	(3,435)	(430)	2,300
Taxation	-	-	-	-
Profit/(loss) for the year	(1,366)	(3,435)	(430)	2,300
Basic and diluted profit/(loss) per share (p):				
From continuing and total operations	(0.14)	(0.24)	(0.02)	0.08
Weighted average number of shares	921,886,563	1,439,477,518	1,928,921,020	2,938,151,034
Total shares plus warrants and options	1,281,173,998	1,742,177,331	2,823,849,664	3,073,849,664

Source: Company/Align Research

Valuation

MX Oil is at an important stage in the development of the company. The Aje project has been in production for more than eighteen months and there are well-advanced plans to ramp up production substantially higher over the coming years. The full development of the Aje project will involve an integrated oil and gas development project to maximize NPV. Below, we have outlined the assumptions on which our valuation is based.

Revenue share

MX Oil has a 5.0006% revenue interest in the OML 113 licence offshore Lagos in Nigeria which contains the Aje development project, along with a number of exploration prospects. There is a farm-in element here and once YFP has received US\$30 million of revenue from the project, then the company's revenue interest will increase to 6.675%. **Further drilling is probably necessary for YFP to receive this revenue and on current plans this is likely to happen in the first half of 2019.**

Production profile

The development plans agreed with the Nigerian government focus on the gas in the Turonian developed by five new wells. However, this agreement is likely to be revised. It would seem that the preferred development plan could now involve 6-8 wells primarily targeting the Turonian oil rim and also providing the bulk of the gas production. Our analysis is based on oil production from Cenomanian and liquids production (LPG and condensate) from the Turonian using the combined 2P reserves of 52.5 million barrels estimated in the latest CPR.

Current production is from two wells - one in the Cenomanian and the other in the Turonian, which between them have scope for a total of around 3-4 million barrels of future production. The Aje-6 well is expected to be drilled in 2019. This well would most likely be drilled targeting the Cenomanian but if unsuccessful would be completed on the Turonian. The next well could be a sidetrack of one of the existing wells in late 2019.

Thereafter another 4-6 wells could be drilled, which are likely to be horizontal wells in the Turonian oil rim, gas breakthrough in these wells will result in an exponential decline in oil production in each well. A high plateau of oil production is expected to be achieved consistently over several years.

Each of these horizontal wells is capable of producing at a much higher rate but the level of production would be restricted in order to keep the gas and water in place. Production is likely to be constrained by capacity of the Front Puffin FPSO which can handle 20,000 bopd plus produced water. The integrated oil and gas project requires a new gas processing facility, this may be operated in conjunction with the Front Puffin. Alternatively, the Front Puffin may be replaced with a facility that is capable of handling both the oil and gas production.

We have assumed that gas production begins in 2022 and that this production is tied back to a new facility coming into place. The project schedule critical path is driven by the subsea pipelines and control systems and the export pipeline for gas sales. We have assumed a plateau production rate of 120mmscf/d for nine years (based on the gas component in the 2P Reserves estimated in the latest CPR). This may be conservative as obviously a higher plateau production rate would generate a higher NPV for the project.

Oil & gas sales and prices

Oil is currently being sold internationally at a premium to Brent Crude of around 70-80 US cents. In our analysis, to remain conservative we have assumed a flat rate of US\$70 for Brent plus 75 cents, making a total of US\$70.75 per barrel.

With the gas, there is the export option provided by the West African Gas Pipeline, with the most likely sales point being Ghana and this is expected to include sales of LPG. There is also the local Lagos market supplying gas fired power stations. On the gas we have used a netback figure of US\$4 per mcf, which is a figure that partner Panoro Energy published in its recent presentation.

Lifting costs

Currently, lifting costs are US\$40 per barrel and are estimated to fall when production increases.

Financing

MX Oil is seeking to fund its share of the capital expenditure by project financing, which is likely to involve other partners in the Aje field. We have elected to use a figure of 70% financing to be procured in the form of senior debt with the share of equity at 30%. The annual interest figure used in our analysis is 7.5%.

Royalties and Taxation

The royalty rate is 10% and the Nigerian applicable tax rate of 50% for oil and 30% for gas.

Sum-of-the-parts valuation

	Valuation £ million
Aje (MX Oil's 6.675% interest – project financed)	84.74
Cash (February 2018 placing)	1.0
Debt	nil
Total	85.67
Per share (2,771,349,664)	3.09p
On a fully diluted basis (2,823,849,664)	3.03p
On number of shares assumed post project financing (10,024,630,914)	0.85p

Source: Align Research

Based on our model, we derived a NPV(12) of US\$108.47 million or £84.74 million for MX Oil's 6.675% stake in the Aje project. Added to cash, our sum-of-the-parts valuation came out at £85.67 million. **Based on the current number of shares in issue (2,771,349,664) suggests a per share valuation of 3.09p and on a fully diluted basis (2,823,849,664) this valuation equates to 3.03p per share.**

With the project financing of MX Oil's US\$47.25 million of capital expenditure requiring an estimated US\$14.18 million (£11.08 million) of equity to be raised, we have assumed that these funds are raised at 0.25p, which represents a large premium to the current share price, but one which we believe is completely justified by the quality of this world class oil and gas project, its robust economics, rapid expected growth in profitability with rising production and lower lifting costs. **This would take the number of shares on a fully diluted basis to 10,024,630,914 and suggest a valuation per share of 0.85p, which we have chosen as our target price.**

Conclusion

MX Oil is an investor in a world class offshore oil and gas project which is set to benefit from rising oil prices and rapidly falling lifting costs. There was a report recently published by Goldman Sachs which drew attention to the favourable environment for Big Oil. The reason is down to the slump in the price of crude oil which has driven smaller service companies out of business and forced the larger ones to change their behaviour and continue to drive down costs to survive. Now with improved oil prices, Goldman believes that this has set the stage for the world's largest oil companies to have the strongest production and cash flow growth for two decades. It looks as though MX Oil will be able to also strongly benefit from these very same factors.

We look forward to being given the chance to update our target price as clarity becomes improved about the scale of the potential upside at the Aje project. **Our target price is 0.85p with a Conviction Buy stance.**

DISCLAIMER & RISK WARNING

It is the policy of ALIGN Research to only cover companies in which we have conviction in the investment case. Our “Conviction Buy” recommendation is derived from our conviction in either taking equity as payment for our research services, or applying our fee to the purchase of equity in a covered company whilst absorbing the cash cost of our freelance analyst payments.

MX Oil is a research client of Align Research. Align Research & a director of Align Research own shares in MX Oil. Full details of our Company & Personal Account Dealing Policy can be found on our website <http://www.alignresearch.co.uk/legal/>

ALIGN Research has made every reasonable effort to ensure the accuracy of the information in our research reports and on our website, although this can not be guaranteed. Our research reflects the objective views of our team of analysts. As we actively seek to take the majority of our fees by the way of equity payment in the companies we cover, we believe that we are aligned with both investors and the subject company. Additionally, we only write about those companies that we have conviction in. However, as a consequence of this alignment, our vested interest is in an increase in value of the subject company’s equity. As such, we can not be seen to be impartial in relation to the outcome of our reports.

ALIGN Research has both a personal & company dealing policy (covering staff & consultants) in relation to the dealing in the shares, bonds or other related instruments of companies that we follow & which adhere to industry standard personal account dealing (PAD) rules. ALIGN Research may publish follow up notes on these securities/companies but has no scheduled commitment and may cease to follow these securities/companies without notice.

Your capital is at risk by investing in securities and the income from them may fluctuate. Past performance is not necessarily a guide to future performance and forecasts are not a reliable indicator of future results. Nothing in this report should be construed as an offer, or the solicitation of an offer, to buy or sell securities by us. As we have no knowledge of your individual situation and circumstances the investment(s) covered may not be suitable for you. You should not make any investment decision without consulting a fully qualified financial advisor. The marketability of some of the companies we cover is limited and you may have difficulty buying or selling in volume. Additionally, given the smaller capitalisation bias of our coverage, the companies we cover should be considered as high risk.

ALIGN reports may not be reproduced in whole or in part without prior permission from ALIGN Research. This financial promotion has been approved by Align Research Limited, which is authorised & regulated by the Financial Conduct Authority. FRN No. 768993. © 2018 Align Research Limited.



Align Research Limited
7 Moorhead Lane
Shipley
UK
BD18 4JH

Tel: 0203 609 0910
E: info@alignresearch.co.uk