

**THIS CIRCULAR IS IMPORTANT AND REQUIRES YOUR IMMEDIATE ATTENTION.**

If you are in any doubt as to the course of action to be taken, you should consult your stockbroker, bank manager, solicitor, accountant or other professional adviser immediately.

Bursa Malaysia Securities Berhad takes no responsibility for the contents of this Circular, makes no representation as to its accuracy or completeness and expressly disclaims any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this Circular.

The Securities Commission Malaysia (“SC”) has approved the Proposals (as defined herein) as contained in this Circular. The approval of the SC should not be taken to indicate that the SC recommends the Proposals or assumes responsibility for the correctness of any statement made or opinion or report expressed in this Circular. The SC has not, in any way, considered the merits of the Proposals.

The SC is not liable for any non-disclosure on the part of Reach Energy Berhad (“**Reach Energy**”) and takes no responsibility for the contents of this Circular, makes no representation as to its accuracy or completeness, and expressly disclaims any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this Circular.

Our Company will not be obliged to process your request for repurchase of your Relevant Shares (as defined herein) UNLESS the procedures and requirements as set out in Section 18 of this Circular are strictly complied with.



**REACH ENERGY BERHAD**

(Company No.: 1034400-D)

(Incorporated in Malaysia under the Companies Act, 1965)

**CIRCULAR TO SHAREHOLDERS**

**IN RELATION TO THE**

- (I) **PROPOSED ACQUISITION BY REACH ENERGY VENTURES SDN BHD, A WHOLLY-OWNED SUBSIDIARY OF REACH ENERGY BERHAD OF:**
- (A) **60% EQUITY INTEREST IN PALAEONTOL B.V., A WHOLLY-OWNED SUBSIDIARY OF PALAEONTOL COOPERATIEF U.A. WHICH IN TURN IS AN INDIRECT WHOLLY-OWNED SUBSIDIARY OF MIE HOLDINGS CORPORATION (“MIEH”); AND**
- (B) **60% OF THE SHAREHOLDER LOANS (AS DEFINED IN THIS CIRCULAR) FROM MIEH, FOR A TOTAL CASH CONSIDERATION OF USD154,889,000, SUBJECT TO ADJUSTMENTS; AND**
- (II) **PROPOSED PLACEMENT OF NEW ORDINARY SHARES OF RM0.01 EACH IN REACH ENERGY TO RAISE GROSS PROCEEDS OF UP TO RM180.0 MILLION**

**AND**

**NOTICE OF EXTRAORDINARY GENERAL MEETING**

*Joint Principal Advisers*



Hong Leong Investment Bank Berhad (10209-W)

(A Participating Organisation of Bursa Malaysia Securities Berhad)  
(A Trading Participant of Bursa Malaysia Derivatives Berhad)



Maybank Investment Bank Berhad (15938-H)  
(A Participating Organisation of Bursa Malaysia Securities Berhad)

*International Financial Adviser*



**BNP PARIBAS**

**BNP PARIBAS Capital (Malaysia) Sdn Bhd**  
(Company No. 247454-M)

Should you be unable to attend the Extraordinary General Meeting (“EGM”), you may appoint a proxy or proxies to attend and vote on your behalf. If you wish to do so, you must complete, sign and deposit the enclosed Form of Proxy in accordance with the instructions contained in it, at Symphony Share Registrars Sdn Bhd’s office at Level 6, Symphony House, Pusat Dagangan Dana 1, Jalan PJU 1A/46, 47301 Petaling Jaya, Selangor Darul Ehsan not less than 48 hours before the time set for the EGM or any adjournment thereof. The lodging of the Form of Proxy will not preclude you from attending and voting in person at the EGM should you subsequently decide to do so.

Date and time of EGM	: Friday, 4 November 2016 at 3.30 p.m.
Venue of EGM	: Banquet Hall, Level 1, TPC Kuala Lumpur (formerly known as Kuala Lumpur Golf & Country Club (KLGCC)), 10, Jalan 1/70D, Bukit Kiara, 60000 Kuala Lumpur, Malaysia
Last day and time for lodging of the Form of Proxy	: Wednesday, 2 November 2016 at 3.30 p.m.

This Circular is dated 13 October 2016

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## DEFINITIONS

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Except where the context otherwise requires, the following definitions will apply throughout this Circular:

- "Act" : Companies Act, 1965
- "Adjusted Purchase Consideration" : The adjustment to be made to the Purchase Consideration in the manner as set out in Section 2.1.4 of this Circular
- "Adjusted Purchase Consideration (Maximum)" : Being the Purchase Consideration of USD154,889,000 plus the agreed maximum amount of the Net Contribution Amount of USD21,000,000 pursuant to the SPA
- "Aral Loan" : The following loans provided by Emir-Oil to Aral Petroleum Capital LLP (being a debtor of the Palaeontol B.V. Group and an independent third party):  
(a) the loan dated 21 April 2015 for a principal amount of KZT148,000,000;  
(b) the loan dated 22 July 2015 for a principal amount of KZT42,000,000;  
(c) the loan dated 23 July 2015 for a principal amount of KZT14,000,000; and  
(d) the loan dated 13 August 2015 for a principal amount of KZT37,000,000
- As at the LPD, the total loan amount is equivalent to RM2,964,300
- "Board" : Board of Directors of our Company
- "BNM" : Bank Negara Malaysia
- "Bursa Depository" : Bursa Malaysia Depository Sdn Bhd
- "Bursa Securities" : Bursa Malaysia Securities Berhad
- "Business Day" : A day (other than a Saturday or Sunday) on which banks are open for general business in Beijing (the People's Republic of China), Hong Kong (the People's Republic of China), Astana (the Republic of Kazakhstan), Kuala Lumpur (Malaysia), Amsterdam (Netherlands) and the Cayman Islands
- "CAPEX" : Capital expenditure
- "Circular" : This circular to our shareholders dated 13 October 2016 in relation to the Proposals
- "CMSA" : Capital Markets and Services Act, 2007
- "Completion" : The completion of the sale and purchase of the Sale Shares and the transfer and assignment of the Relevant Percentage of the Shareholder Loans in accordance with the SPA
- "Completion Date" : The date that falls on the 10<sup>th</sup> day after the Unconditional Date or such other date as MIEH and Reach Energy may agree. If the 10<sup>th</sup> day is not a Business Day, then the Completion Date will be on the next day which is a Business Day
- "CPF" : Central processing facility
- "Development Fields" : The two discovered fields, namely, the North Kariman oil field and Yessen oil field which have been under pilot production since June 2012 and April 2013, respectively

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**DEFINITIONS (Cont'd)**

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"Dissenting Shareholder"	: A shareholder who votes against the Proposed Acquisition at our coming EGM to consider the Proposals
"E&P"	: Exploration and production of crude oil and natural gas
"Effective Date"	: 30 September 2015
"EGM"	: Extraordinary General Meeting
"EIA"	: The United States' Energy Information Administration
"Emir-Oil"	: Emir-Oil Limited Liability Partnership, a limited liability partnership registered in Kazakhstan which holds the entire subsoil use rights (100% working interest) in the Emir-Oil Concession Block
"Emir-Oil Concession Block"	: 850.3 km <sup>2</sup> onshore contracted area located in the Mangystau Oblast in the southwestern region of Kazakhstan, consisting of the Producing Fields and Exploration Area collectively
"EPS"	: Earnings per share
"Equity Guidelines"	: Equity Guidelines issued by the SC
"Exploration Area"	: The contract area covering approximately 804.8 km <sup>2</sup> within the Emir-Oil Concession Block
"Exploration Contract"	: The subsoil use contract on exploration for hydrocarbon raw materials between MOE and Emir-Oil involving the Exploration Area
"Fairness Opinion Letter"	: The letter on the fairness of the Purchase Consideration dated 10 October 2016 prepared by FHCA
"FHCA"	: FHMH Corporate Advisory Sdn Bhd, being the independent expert appointed by our Company to provide an opinion on the fairness of the Purchase Consideration
"FPE"	: Financial period ended
"Frost & Sullivan"	: Frost & Sullivan GIC Malaysia Sdn Bhd, being the independent market researcher appointed by our Company to prepare the independent market research report
"FYE"	: Financial year ended
"HLIB"	: Hong Leong Investment Bank Berhad
"Hong Kong"	: The Hong Kong Special Administrative Region of the People's Republic of China
"Hong Kong Stock Exchange"	: The Stock Exchange of Hong Kong Limited
"IFRS"	: International Financial Reporting Standards
"Independent Technical Expert and Valuation Report"	: Independent technical expert and valuation report of the Emir-Oil Concession Block dated 30 September 2016 prepared by RPS
"Independent Upside Summary Report"	: Independent upside potential summary report of the Emir-Oil Concession Block dated 20 September 2016 prepared by RPS

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**DEFINITIONS (Cont'd)**

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"Initial Investor"	: Investor who invested in our Company prior to the IPO, namely Daya Materials Berhad
"IPO"	: Initial public offer of Reach Energy Shares
"IRR"	: Internal rate of return
"Islamic Trust Account"	: An Islamic trust account maintained by the custodian, Amanah Raya Trustees Berhad, to hold and deal with part of the IPO trust proceeds (being 94.75% of the gross proceeds raised by our Company pursuant to the IPO, including accrued interest to date) on behalf of our Company
"Issue Price"	: Issue price of the Placement Shares for the Proposed Placement
"Joint Principal Advisers"	: HLIB and Maybank IB, collectively
"Kazakhstan"	: Republic of Kazakhstan
"KTG"	: KazTransGas Aimak Gas JSC
"KTO"	: KazTransOil JSC
"Liquidation Amount"	: Amount held in the Islamic Trust Account, net of any taxes payable and expenses relating to the Liquidation Distribution
"Liquidation Distribution"	: Liquidation of our Company and the return of the Liquidation Amount to relevant shareholders upon the expiry of the Permitted Timeframe if the Qualifying Acquisition is not completed by then
"Listing Date"	: 15 August 2014, being the date when the Reach Energy Shares and Warrants were listed and quoted on the Main Market of Bursa Securities
"Listing Requirements"	: Main Market Listing Requirements of Bursa Securities
"Longstop Date"	: 5 September 2016, being six months from the date of the SPA, or such later date as the parties to the SPA may agree. The longstop date was subsequently extended to 10 November 2016 pursuant to and subject to the conditions set out in SPA Amendment No. 1
"LPD"	: 30 September 2016, being the latest practicable date prior to the printing of this Circular
"M&A"	: Memorandum and Articles of Association
"Main Market"	: Main Market of Bursa Securities
"Management Team"	: The management team of our Company, comprising Ir. Shahul Hamid bin Mohd Ismail, Azmi bin Tan Sri Arshad, Abd Rahim bin Shamsudin, Dr Robert King Park, Ir. Syed Salim bin Syed Abu Bakar and Ronald Lee Schakosky
"Market Day"	: A day when Bursa Securities is open for trading in securities
"Maybank IB"	: Maybank Investment Bank Berhad

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## DEFINITIONS (Cont'd)

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“Maximum Scenario” or “No Dissenting Shareholder Scenario”	: Assuming no Dissenting Shareholders and none of the outstanding Warrants are exercised prior to the Proposed Placement but assuming full exercise of the outstanding Warrants after the Proposed Placement
“Maximum Share Repurchase”	: The repurchase by our Company of 25% of the total value of the Reach Energy Shares held by the Dissenting Shareholders (other than the Reach Energy Shares held by the Management Team and persons connected to them as well as by the Initial Investor before the IPO)
“MFRS”	: Malaysian Financial Reporting Standards
“MIEH”	: MIE Holdings Corporation, a company incorporated in the Cayman Islands and listed on the Main Board of the Hong Kong Stock Exchange
“MIEH Group”	: MIEH and its subsidiaries, collectively
“MIEH Shares”	: Ordinary shares of USD0.001 each in MIEH
“Minimum Scenario” or “25% Dissenting Shareholders Scenario”	: Assuming Maximum Share Repurchase and none of the outstanding Warrants are exercised before and after the Proposed Placement
“MOE” or “Competent Body”	: Ministry of Energy of the Republic of Kazakhstan ( <i>formerly known as Ministry of Oil and Gas of the Republic of Kazakhstan and earlier, Ministry of Energy and Mineral Resources of the Republic of Kazakhstan</i> )
“NA”	: Net assets
“Net Contribution Amount”	: The amount equal to the Relevant Percentage of (i) the aggregate amount of all payments made by MIEH or its affiliates (excluding the Palaeontol B.V. Group) to the Palaeontol B.V. Group; or (ii) amount received by MIEH or its affiliates (excluding the Palaeontol B.V. Group) from the Palaeontol B.V. Group, respectively, since the Effective Date up to the Completion Date
“Net Working Capital”	: The amount equal to the Relevant Percentage of the sum of the following items as on the Effective Date: (a) Inventories (+) (b) Trade receivables (+) (c) Current portion of prepayment and other receivables (+) (d) Trade payables (-) (e) Current portion of accruals and other payables (-) (f) Cash and cash equivalents (+)
“NPV”	: Net present value
“O&G”	: Oil and gas
“OPEC”	: Organization of Petroleum Exporting Countries
“OPEX”	: Operating expenditure
“Palaeontol B.V.”	: Palaeontol B.V., a company incorporated in the Netherlands and is a wholly-owned subsidiary of Palaeontol COOP
“Palaeontol B.V. Board”	: Board of Directors of Palaeontol B.V.

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**DEFINITIONS (Cont'd)**

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“Palaeontol B.V. Group”	: Palaeontol B.V. and its subsidiary, Emir-Oil, collectively
“Palaeontol COOP”	: Palaeontol Coöperatief U.A., a cooperative organised and existing under the laws of the Netherlands and is an indirect wholly-owned subsidiary of MIEH
“Permitted Timeframe”	: 36 months from the Listing Date
“Placement Shares”	: New Reach Energy Shares to be issued pursuant to the Proposed Placement
“Producing Fields”	: The four existing O&G producing fields with a total contract area of approximately 45.5 km <sup>2</sup> , namely, Aksaz condensate-rich gas field, Dolinnoe oil field, Emir oil field and Kariman oil field pursuant to the Production Contracts
“Production Contracts”	: The hydrocarbon production contracts between MOE and Emir-Oil for the performance of the production of hydrocarbons from Aksaz condensate-rich gas field, Dolinnoe oil field, Emir oil field and Kariman oil field with a total contract area of approximately 45.5 km <sup>2</sup>
“Proposals”	: Proposed Acquisition and Proposed Placement, collectively
“Proposed Acquisition”	: Proposed acquisition by Reach Energy, through its wholly-owned subsidiary, Reach Energy Ventures, of 60% equity interest in Palaeontol B.V. and 60% of the Shareholder Loans for a total cash consideration of USD154,889,000, subject to adjustments, which represents our Qualifying Acquisition
“Proposed Placement”	: Proposed placement of new Reach Energy Shares to raise gross proceeds of up to RM180.0 million
“Prospects”	: The prospects which have been identified for future exploration, appraisal, development and production. Currently, six Prospects have been identified outside the acreage of the Producing Fields (namely, Borly, Aidai, Begesh, East Saura, North Aidai, and Tanirbergen) and four Prospects have been identified which are surrounding the Producing Fields
“Prospectus”	: Prospectus dated 24 July 2014 issued by our Company in relation to the IPO
“Purchase Consideration”	: A cash consideration of USD154,889,000, subject to the adjustments in accordance with the terms of the SPA
“Qualifying Acquisition”	: The initial acquisition of the business(es) by a SPAC, which has an aggregate fair market value equal to at least 80% of the aggregate amount then standing in the balance of the Islamic Trust Account and is in line with the business strategy disclosed in the Prospectus
“Reach Energy” or “Company”	: Reach Energy Berhad
“Reach Energy Group” or “Group”	: Reach Energy and Reach Energy Ventures, collectively
“Reach Energy Holdings”	: Reach Energy Holdings Sdn Bhd, being our substantial shareholder and person connected to the Management Team

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**DEFINITIONS (Cont'd)**

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"Reach Energy Share" or "Share"	: Ordinary share of RM0.01 each in Reach Energy
"Reach Energy Ventures"	: Reach Energy Ventures Sdn Bhd, a company incorporated in Malaysia which is our wholly-owned subsidiary, that will undertake the Proposed Acquisition
"Record Date"	: 28 October 2016, being the date of the Record of Depositors used for verifying shareholders' rights to attend and vote at our coming EGM
"Record of Depositors"	: A record of securities holders established by Bursa Depository under the rules of Bursa Depository
"Region of Focus"	: Asia Pacific region with established hydrocarbon basins that Reach Energy intends to focus on which covers specifically Malaysia, Indonesia, Australia, Myanmar, Thailand, the Philippines and Vietnam
"Relevant Percentage"	: 60%
"RPS"	: RPS Energy Consultants Limited, being the independent technical and asset valuation expert appointed by our Company to prepare the Independent Technical Expert and Valuation Report and the Independent Upside Summary Report
"Sale Shares"	: 10,800 ordinary shares of Palaeontol B.V. constituting 60% of the equity interest in the issued and paid-up capital in Palaeontol B.V.
"SC"	: Securities Commission Malaysia
"SHA"	: The shareholders' agreement dated 11 April 2016 between Reach Energy, Reach Energy Ventures, MIEH, Palaeontol COOP and Palaeontol B.V. which will come into effect on the Completion Date
"Shareholder Loans"	: The loans from MIEH (as lender) to Palaeontol B.V. (as borrower) comprising of principal loan amounts and accrued interest as at the Completion Date which are outstanding pursuant to the following agreements: <ul style="list-style-type: none"><li>(a) the shareholder loan agreement dated 18 March 2014 on the loan provided by MIEH effective from 25 July 2012 for a principal amount equal to USD60,000,000 and accruing interest at a rate of 7.855% per annum;</li><li>(b) the shareholder loan agreement dated 18 March 2014 to fund the loans acquired by Palaeontol B.V. from BMB Munai, Inc effective from 14 September 2011, for an aggregate amount equal to USD140.17 million, being the aggregate of:<ul style="list-style-type: none"><li>(1) USD106.24 million and KZT203.86 million in each case accruing interest at a rate of 4.855% per annum; and</li><li>(2) USD32.05 million and KZT73.64 million in each case accruing interest at a rate of 0% per annum;</li></ul></li></ul>

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**DEFINITIONS (Cont'd)**

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- (c) the shareholder loan agreement dated 18 March 2014 on the loan provided by MIEH effective from 23 December 2012 for a principal amount equal to USD100,000,000 and accruing interest at a rate of 7.855% per annum;
  - (d) the shareholder loan agreement dated 18 March 2014 on the loan provided by MIEH effective from 24 November 2011 for a principal amount equal to USD20,000,000 and accruing interest at a rate of 11.855% per annum; and
  - (e) the shareholder loan agreement dated 18 March 2014 on the loan provided by MIEH effective from 27 June 2012 for a principal amount equal to USD20,000,000 and accruing interest at a rate of 7.855% per annum
- "SPA" : The tripartite conditional sale and purchase agreement dated 5 March 2016 between Reach Energy, Palaeontol COOP and MIEH in relation to the Proposed Acquisition
- "SPA Amendment No. 1" : The agreement dated 5 September 2016 between Reach Energy, MIEH and Palaeontol COOP to vary certain terms of the SPA
- "SPA Amendment No. 2" : The agreement dated 7 October 2016 between Reach Energy, MIEH and Palaeontol COOP to vary the conditions for the extension of the Longstop Date set out in the SPA Amendment No. 1
- "SPAC" : Special Purpose Acquisition Company as defined in the Equity Guidelines
- "SPV" : A wholly-owned special purpose vehicle incorporated by our Company pursuant to the SPA, being Reach Energy Ventures
- "Unconditional Date" : The date all the conditions precedent set out in the SPA are fulfilled or waived
- "USA" : United States of America
- "Vendors" : Palaeontol COOP and MIEH, collectively
- "VWAMP" : Volume weighted average market price
- "Warrants" : Free detachable warrant(s) in our Company issued to Reach Energy Holdings, Initial Investor and investors who had subscribed for Reach Energy Shares in conjunction with the IPO which are listed and traded on the Main Market of Bursa Securities

**Currencies**

- "KZT" : Kazakhstan Tenge
- "RM" and "sen" : Ringgit Malaysia and sen, respectively
- "USD" : United States Dollar



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## DEFINITIONS (Cont'd)

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### Exchange Rates

In this Circular, translation of certain foreign currency amounts to RM amounts or other foreign currency amounts or vice versa were made as follows, unless otherwise indicated:

USD1.00 : RM4.1355 (based on the middle rate as published/made available by Bank Negara Malaysia at 5.00 p.m. on the LPD)

KZT1.00 : RM0.0123 (as at the LPD, and as extracted from Bloomberg)

All references to the time of day in this Circular are references to Malaysian time.

All references to "**our Company**" or "**Reach Energy**" in this Circular are to Reach Energy Berhad and references to "**our Group**" or "**Reach Energy Group**" are to our Company and our subsidiary collectively. All references to "**we**", "**us**", "**our**" and "**ourselves**" are to our Company, and save where the context requires, will include our subsidiary.

All references to "**you**" or "**your**" in this Circular are to the shareholders of our Company.

Words importing the singular only will include the plural and vice versa and words importing the masculine gender will, where applicable, include the feminine and neuter genders and vice versa. References to persons will include corporations, limited liability partnerships and other entities having legal personality.

Any reference to any act, written law, ordinance, enactment or guideline (whatever the jurisdiction) in this Circular is a reference to that act, written law, ordinance, enactment or guideline (whatever the jurisdiction) as amended or re-enacted from time to time.

Certain amounts and percentage figures included in this Circular have been subject to rounding adjustments. Any discrepancy between the figures shown and figures published by our Company such as half-yearly results and annual reports, are due to rounding.

All references to the time of day in this Circular are references to Malaysian time, unless otherwise stated.

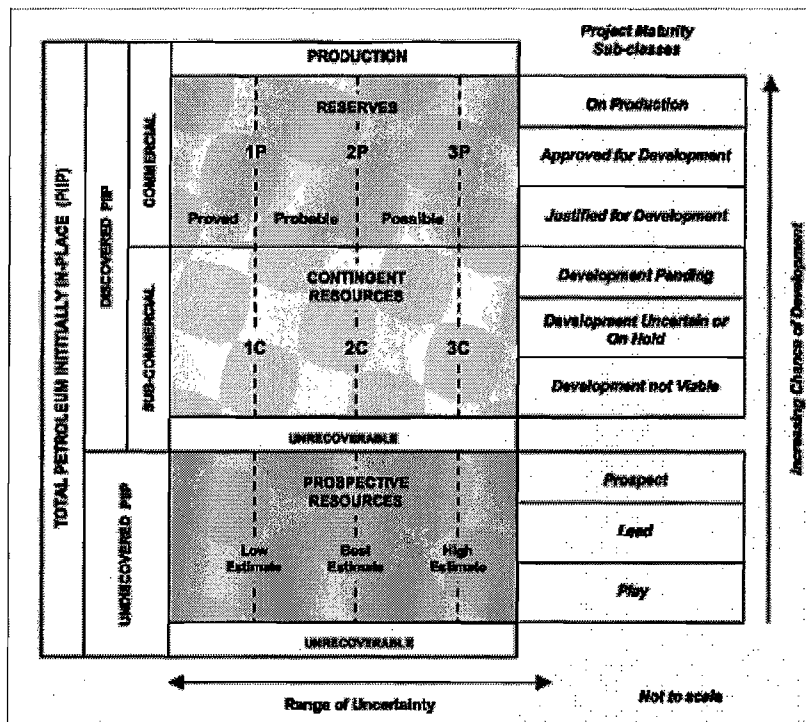
All statements other than statements of historical facts included in this Circular are or may be forward-looking. Forward-looking statements include but are not limited to those using words such as "seek", "expect", "anticipate", "estimate", "believe", "intend", "project", "plan", "strategy", "forecast" and similar expressions or future or conditional verbs such as "will", "would", "should", "could", "may" and "might". These statements reflect our current expectations, beliefs, hopes, intentions or strategies regarding the future and assumptions in light of currently available information. Such forward-looking statements are not guarantees of future performance or events and involve known or unknown risks and uncertainties. Accordingly, actual results may differ from those described in such forward-looking statements. Shareholders should not place undue reliance on such forward-looking statement and we do not undertake any obligation to update publicly or revise any forward-looking statements.

Our Board's expectations of the benefits to be derived from the Proposals are forward-looking in nature, and are thus subject to uncertainties and contingencies. Although our Board holds that its expectations are reasonable at this point in time given the prevailing circumstances, there can be no certainty that such expectations will materialise.

## GLOSSARY OF TECHNICAL TERMS

### Introduction: Petroleum resource volumes classification

O&G assets can be summarised and classified according to the certainty of Reserves and Resources as illustrated and explained below based on the Petroleum Resources Management System (PRMS) approved by the Society of Petroleum Engineers/ World Petroleum Council/ American Association of Petroleum Geologists/ Society of Petroleum Evaluation Engineers Committee in March 2007. The estimation of petroleum resource quantities involves the interpretation of volumes and values that have an inherent degree of uncertainty. These quantities are associated with development projects at various stages of design and implementation.



The "Range of Uncertainty" reflects a range of estimated quantities potentially recoverable from an accumulation by a project, while the vertical axis represents the "Chance of Commerciality", that is, the chance that the project that will be developed and reach commercial producing status.

(Source: Guidelines for Application of the Petroleum Resources Management System, November 2011)

- "1C" : Low estimate of Contingent Resources
- "2C" : Best estimate of Contingent Resources
- "3C" : High estimate of Contingent Resources
- "3D seismic" : A seismic exploration method which provides a three-dimensional seismic image of the subsurface being investigated
- "1P" : Proved Reserves
- "2P" : Proved plus probable Reserves
- "3P" : Proved, probable plus possible Reserves

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## GLOSSARY OF TECHNICAL TERMS (Cont'd)

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"API"	: American Petroleum Institute
"bbl"	: Barrel of oil
"bbl/d"	: Barrels of oil per day
"Best Estimate"	: Best Estimate of resources, having at least a 50% probability level (P50) that the quantity of resources actually recovered will equal or exceed this Best Estimate
"boe"	: Barrels of oil equivalent, being a term used to summarise the amount of energy that is equivalent to the amount of energy found in a barrel of crude oil
"Brent oil price"	: A major trading classification of sweet light crude oil and is the leading global price benchmark for Atlantic basin crude oils
"Bscf"	: Billion standard cubic feet
"Contingent Resources"	: Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects, but which are not currently considered to be commercially recoverable due to one or more contingencies
"hydrocarbon"	: An organic compound consisting only of carbon and hydrogen. The majority of hydrocarbons found naturally occur in crude oil, and natural gas where decomposed organic matter provides an abundance of carbon and hydrogen
"km"	: Kilometres
"km <sup>2</sup> "	: Square kilometres
"LPG"	: Liquefied petroleum gas
"MMbbl"	: Million barrels of oil
"MMboe"	: Million barrels of oil equivalent
"Mscf"	: Thousand standard cubic feet
"MMscf"	: Million standard cubic feet
"Mscfd"	: Thousand standard cubic feet per day
"MMscfd"	: Million standard cubic feet per day
"MMstb"	: Million stock tank barrels
"pilot production"	: Extended well production test in order to collect data upon discovery of any wells and after receiving the necessary approvals from the MOE with a view to determine the reservoir performance before making a formal application to the MOE for approval to commence full-scale field development. This pilot production is only applicable to discovery fields in areas without a production contract. In Kazakhstan, the pilot production could continue for long period until gas processing and utilisation facilities are installed to avoid continuous flaring of associated gas

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## GLOSSARY OF TECHNICAL TERMS (Cont'd)

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- "Proved Reserves" : Proved Reserves are those quantities of petroleum, which by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations
- "Probable Reserves" : Probable Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves
- "Possible Reserves" : Possible Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Probable Reserves
- "Prospective Resources" : Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated chance of discovery and a chance of development
- "recovery factor" : The proportion of the oil or gas initially in place that is estimated to be recoverable from the field by specific processes or projects, expressed as a fraction or percentage. This includes hydrocarbons used for fuel, flare and export
- "Reserves" : Those quantities of petroleum (oil or gas) anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: they must be discovered, recoverable, commercial, and remaining (as of the evaluation date) based on the development project(s) applied
- "reservoir" : A porous and permeable underground formation containing an individual and separate natural accumulation of producible hydrocarbons (oil and/or gas) which is confined by impermeable rock or water barriers and is characterized by a single natural pressure system
- "seismic" : An exploration method in which strong low-frequency sound waves are utilised on land or in water to identify and investigate subsurface rock structures that may contain hydrocarbons
- "scf" : Standard cubic feet
- "stb" : Stock tank barrels
- "stb/d" : Stock tank barrels per day
- "Tscf" : Trillion standard cubic feet

### Natural Gas Conversion Ratio

In this Circular, the natural gas conversion ratio is as follows:

6,000 scf : 1 boe

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## EXECUTIVE SUMMARY

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This is an executive summary highlighting the salient information relating to the Proposals. The information is derived from and should be read in conjunction with the full text of this Circular. You are advised to read and understand the contents of this Circular before voting on the resolutions pertaining to the Proposals at our coming EGM.

### 1. OVERVIEW OF THE PROPOSALS

#### 1.1 Proposed Acquisition

The Proposed Acquisition will entail Reach Energy Ventures acquiring 60% equity interest in Palaeontol B.V. and 60% of the Shareholder Loans from MIEH for a total cash consideration of USD154,889,000, subject to adjustments.

MIEH has been funding the development of the Emir-Oil Concession Block through shareholder loans to Palaeontol B.V.. The shareholder loans are to be repaid by Palaeontol B.V. with interest accrued thereon to MIEH. After the Proposed Acquisition, 60% of the Shareholder Loans with interest accrued thereon will be payable to Reach Energy Ventures, instead of MIEH. As at the Effective Date, the amount owing by Palaeontol B.V. to MIEH is USD288.5 million. At 60%, being the portion of the Shareholder Loans to be assigned to Reach Energy Ventures, the amount is USD173.1 million.

Palaeontol B.V. is an investment holding company and is the sole interest holder of Emir-Oil which holds the entire subsoil use rights (100% working interest) in the Emir-Oil Concession Block.

The Emir-Oil Concession Block is located onshore in the Mangystau Oblast (situated in the southwestern region of Kazakhstan), about 40 km northeast of the City of Aktau which is Kazakhstan's largest sea-port on the Caspian Sea coast. The Emir-Oil Concession Block has a total contract area of approximately 850.3 km<sup>2</sup>, comprising the following:

- (i) four Producing Fields namely, Aksaz condensate-rich gas field, Dolinnoe oil field, Emir oil field and Kariman oil field with a total contract area of approximately 45.5 km<sup>2</sup>; and
- (ii) an Exploration Area with a total contract area of approximately 804.8 km<sup>2</sup>. The following discovered fields and prospects are located in the Exploration Area:
  - (a) two Development Fields (namely, the North Kariman oil field and Yessen oil fields) which have been under pilot production since June 2012 and April 2013, respectively; and
  - (b) six Prospects (namely, Borly, Aidai, Begesh, East Saura, North Aidai and Tanirbergen) which have been identified outside the Producing Fields for future exploration, appraisal, development and production. Additionally, four Prospects have also been identified which are surrounding the Producing Fields.



## EXECUTIVE SUMMARY (Cont'd)

A summary of the components of the Emir-Oil Concession Block is as follows:

Field/Area	Type of field	Production Commencement Year <sup>(1)</sup>	Type of contract	Duration (years)	Commencement date	Expiry date	Area (km <sup>2</sup> )
<b>Producing Fields:</b>							
- Kariman	Oil	2006	Production Contract	25	9 September 2011	9 September 2036	12.24
- Dolinnoe	Oil	2004	Production Contract	25	9 September 2011	9 September 2036	18.24
- Aksaz	Condensate - rich gas	2005	Production Contract	25	9 September 2011	9 September 2036	11.48
- Emir	Oil	2004	Production Contract	17	1 March 2013	1 March 2030	3.53
<b>Exploration Area</b>	-		Exploration Contract	2	9 January 2015	9 January 2017 <sup>(2)</sup>	804.81
<b>Total (approximately)</b>							<b>850.30</b>

**Notes:**

- (1) Production commenced prior to the execution of the Production Contracts by virtue of pilot production under the Exploration Contract.
- (2) The Exploration Contract is renewable upon expiry, subject to the terms and conditions to be negotiated with the MOE. Since the granting of the Exploration Contract in June 2000 for a five-year term, it has been extended for five times as follows:

<b>Extension of the Exploration Contract</b>	<b>Term</b>	<b>Expiry date</b>
Extension 1 - Addendum No. 2 dated 10 September 2004	2 years	9 July 2007
Extension 2 - Addendum No. 4 dated 23 February 2007	2 years	9 July 2009
Extension 3 - Addendum No. 5 dated 24 June 2008	3 years and 6 months	9 January 2013
Extension 4 - Addendum No. 10 dated 8 September 2012	2 years	9 January 2015
Extension 5 - Addendum No. 11 dated 26 December 2014	2 years	9 January 2017

Emir-Oil has submitted its application to the MOE on 5 February 2016 to initiate the process to further extend the term of the Exploration Contract for a period of four years. The application is currently being processed by the MOE. Emir-Oil expects to execute the addendum for the extension of the Exploration Contract by end 2016.

**Valuation of the Emir-Oil Concession Block and fairness opinion**

Based on RPS's estimates as set out in the Independent Technical Expert and Valuation Report, as of 1 July 2016, the 2P Reserves of the Producing Fields and Development Fields are 70.0 MMstb of oil and 116.3 Bscf of gas (which is equivalent to total 2P Reserves of 89.4 MMboe). RPS's estimation of the NPV of the 2P Reserves of the Emir-Oil Concession Block Reserves ranges between USD315 million and USD412 million (or equivalent to between approximately RM1,303 million and RM1,704 million), using the discounted cash flow method ("**DCF Method**") of valuation and benchmarking with relevant historical transactions in Kazakhstan as an alternative method of valuation. The key valuation assumptions used by RPS in arriving at the discounted cash flow valuation of the Emir-Oil Concession Block are set out in Section 2.1.5 of this Circular.

Our Company had appointed FHCA to provide our shareholders with a fairness opinion on the Purchase Consideration. FHCA had used the discounted free cash flow to equity methodology ("**Discounted FCFE Methodology**") as the primary methodology to assess the fairness of the Purchase Consideration. FHCA had also applied the comparable transaction analysis and adjusted revalued net asset valuation ("**RNAV**") methodology ("**Adjusted RNAV Methodology**") as the secondary and tertiary methodologies respectively to assess the fairness of the Purchase Consideration. The conclusion of FHCA's analysis are as follows:

- (i) based on the Discounted FCFE Methodology:
  - (a) the Purchase Consideration represents a discount of 34.1% and 24.7% based on the valuation of 60% equity interest in Palaeontol B.V. of USD235.2 million and USD205.8 million with an illiquidity discount of 20% and 30% respectively; and
  - (b) the Adjusted Purchase Consideration (Maximum) represents a discount of 25.2% and 14.5% based on the valuation of 60% equity interest in Palaeontol B.V. of USD235.2 million and USD205.8 million with an illiquidity discount of 20% and 30% respectively.
- (ii) based on the sensitivity analysis conducted on three key independent parameters, namely forecast and projected oil prices, CAPEX and discount rates which have significant impact on the cash flows of the Palaeontol B.V. Group, the valuation of Reach Energy's 60% equity interest in Palaeontol B.V. ranges from USD202.4 million to USD238.2 million. Both the Purchase Consideration of USD154.9 million and the Adjusted Purchase Consideration (Maximum) of USD175.9 million are lower than the range of values derived from the said sensitivity analysis;
- (iii) based on the comparable transaction analysis, the adjusted price per boe of 2P Reserves, with adjustment made to price per boe after taking into consideration the fluctuation in oil prices throughout the years and the impact of the price sensitivity of the different transactions if they were undertaken in the current market environment, of recent completed comparable transactions involving Kazakhstan O&G companies ranges from USD1.28 to USD7.34 per boe whilst the simple average and median are USD2.80 per boe and USD3.40 per boe respectively, excluding the inputs from the acquisition of the Kashagan Consortium as the percentage of acquisition was too small and the 2P reserves are significantly larger than the other asset acquisitions in the comparable transaction analysis; and the input from the acquisition of Caspian Investment as the adjusted price per boe was significantly higher compared to other acquisitions in the comparable transaction analysis. The Purchase Consideration per boe of 2P Reserves of USD2.89 per boe and the Adjusted Purchase Consideration (Maximum) per boe of 2P Reserves of USD3.28 per boe are within the range of recent completed comparable transactions, higher than the simple average but lower than the median of recent completed comparable transactions;
- (iv) based on the Adjusted RNAV Methodology, the Purchase Consideration and the Adjusted Purchase Consideration (Maximum) are at a discount of 34.4% and 25.5% respectively to the adjusted RNAV; and
- (v) the Emir-Oil Concession Block currently comprises active producing oil fields with established infrastructure, logistics and facilities in place. Therefore, the development risks associated with the Emir-Oil Concession Block are mitigated to an extent.

Premised on the above, FHCA is of the opinion that the Purchase Consideration is **fair**.

## **1.2 Proposed Placement**

The Proposed Placement will entail the issuance of new Reach Energy Shares to raise gross proceeds of up to RM180.0 million to address the potential cash shortfall in the event our Company utilises the monies in the Islamic Trust Account to fund the Maximum Share Repurchase.

Under the 25% Dissenting Shareholder Scenario, the proceeds from the Proposed Placement of up to RM180.0 million are intended to be used mainly to settle the Remaining Completion Amount and partial payment of the Deferred Consideration. The final size of the Proposed Placement will depend on the amount represented by the Shares held by the Dissenting Shareholders required to be repurchased by us.

Under the No Dissenting Shareholder Scenario, our Company will have sufficient funds in the Islamic Trust Account to settle the entire Adjusted Purchase Consideration. Under the terms of the SPA, our Company has the flexibility to settle the Deferred Consideration within 12 months from the completion of the Proposed Acquisition without any interest charges. Due to such deferred payment arrangement, we intend to use the remaining trust monies for our CAPEX requirement in 2016 of about USD17.2 million (or equivalent to about RM71.1 million), being the amount attributable to our Company's 60% equity interest in Palaeontol B.V.. Accordingly, our Company intends to raise only up to RM68.0 million to address the short term cash flow requirement of our enlarged Group and partially pay the Deferred Consideration.

The Placement Shares will be placed to third party investor(s) to be identified at a later date and who must be person(s) and/or party(ies) who falls under Schedules 6 and 7 of the CMSA. The precise terms and conditions such as the identity of the placees and number of Placement Shares allocated can only be determined and finalised later when the Proposed Placement is implemented.

The placees have not been identified at this juncture. Should the Placement Shares be placed to a director, major shareholder or person connected with a director or major shareholder ("**Interested Person**"), specific shareholders' approval will be obtained. Further, the Interested Person must abstain from voting on the resolution approving the allocation and issuance of the Placement Shares to him at a general meeting of our Company and will abstain from deliberating and voting on the resolution relating to the allocation and issuance of the Placement Shares to him at the board meeting, if any.

The Proposed Placement is conditional upon the Proposed Acquisition but not vice versa, and will only be implemented after the completion of the Proposed Acquisition.

## **2. INFORMATION ON THE EMIR-OIL CONCESSION BLOCK**

### **2.1 Location and geology**

The Emir-Oil Concession Block is located in the Mangystau Oblast about 40 km northeast of the City of Aktau which is Kazakhstan's largest sea-port on the Caspian Sea coast. The hydrocarbon Reserves of the Emir-Oil Concession Block are located within the articulation zone of the proven oil field region in the prolific Mangyshlak Basin adjacent to other producing fields such as Zhetybay, Uzen and Tenge.

## EXECUTIVE SUMMARY (Cont'd)

### 2.2 Reserves

The table below sets out the 1P, 2P and 3P oil and natural gas Reserves estimated by RPS in the Producing Fields and Development Fields and the portion attributable to our Company post completion of the Proposed Acquisition based on Reserves estimates as of 1 July 2016:

	Gross (100%)			Attributable to our Company post completion of the Proposed Acquisition (60%)		
	1P	2P	3P	1P	2P	3P
	Oil Reserves (MMstb)	24.6	70.0	116.1	14.8	42.0
Gas Reserves (Bscf)	17.7	116.3	184.1	10.6	69.8	110.4
Total Reserves (MMboe)	27.6	89.4	146.8	16.6	53.6	88.1

The breakdown of the gross (100%) 2P Reserves for the Producing Fields and Development Fields in accordance with the phases of expansion of surface infrastructure in the Emir-Oil Concession Block as explained in Section 3.6 of this Circular, is set out below:

	Phase 1			Phase 2 <sup>(3)</sup>	Total
	Developed Producing Reserves <sup>(1)</sup>	Developed Non-Producing Reserves <sup>(1)</sup>	Undeveloped Reserves <sup>(2)</sup>	Undeveloped Reserves <sup>(2)</sup>	
<b>2P oil Reserves (MMstb)</b>					
Aksaz	0.744	-	-	2.627	3.371
Dolinnoe	2.147	2.162	0.815	4.852	9.977
Emir	0.709	-	0.711	2.106	3.527
Kariman North	10.989	7.321	3.154	18.258	39.723
Kariman	1.622	-	1.121	3.365	6.108
Yessen	-	3.637	-	3.672	7.309
<b>Total</b>	<b>16.212</b>	<b>13.120</b>	<b>5.802</b>	<b>34.881</b>	<b>70.016</b>
<b>2P gas Reserves (Bscf)</b>					
Aksaz	5.816	-	-	20.793	26.609
Dolinnoe	13.162	15.215	5.742	33.918	68.038
Emir	0.104	-	0.104	0.309	0.518
Kariman North	4.924	3.280	1.363	7.770	17.336
Kariman	0.484	-	0.335	1.005	1.824
Yessen	-	0.975	-	0.978	1.953
<b>Total</b>	<b>24.490</b>	<b>19.471</b>	<b>7.543</b>	<b>64.773</b>	<b>116.278</b>

Notes:

- (1) Developed Reserves are expected quantities to be recovered from existing wells and facilities. Developed producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate. Developed non-producing Reserves include shut-in and behind-pipe Reserves. Behind-pipe Reserves are expected to be recovered from zones in existing wells which will require additional completion work or future re-completion prior to start of production.

## EXECUTIVE SUMMARY (Cont'd)

- (2) Undeveloped Reserves are expected to be recovered: (1) from new wells on undrilled acreages, (2) from deepening existing wells to a different reservoir, or (3) where a relatively large expenditure is required to (aa) recomplate an existing well or (bb) install production or transportation facilities for primary or improved recovery projects.
- (3) If market conditions deteriorate or if there is a delay in obtaining the required approvals, the implementation plan for Phase 2 may be deferred. Any significant deferment of Phase 2 may result in a revision of the reported Reserves.

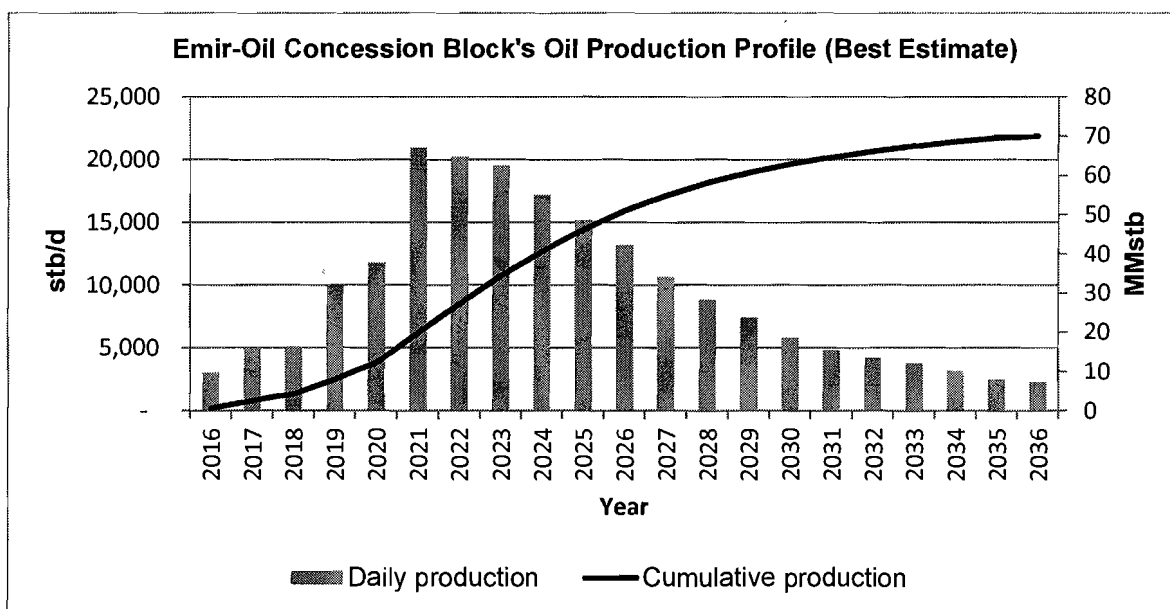
### 2.3 O&G quality

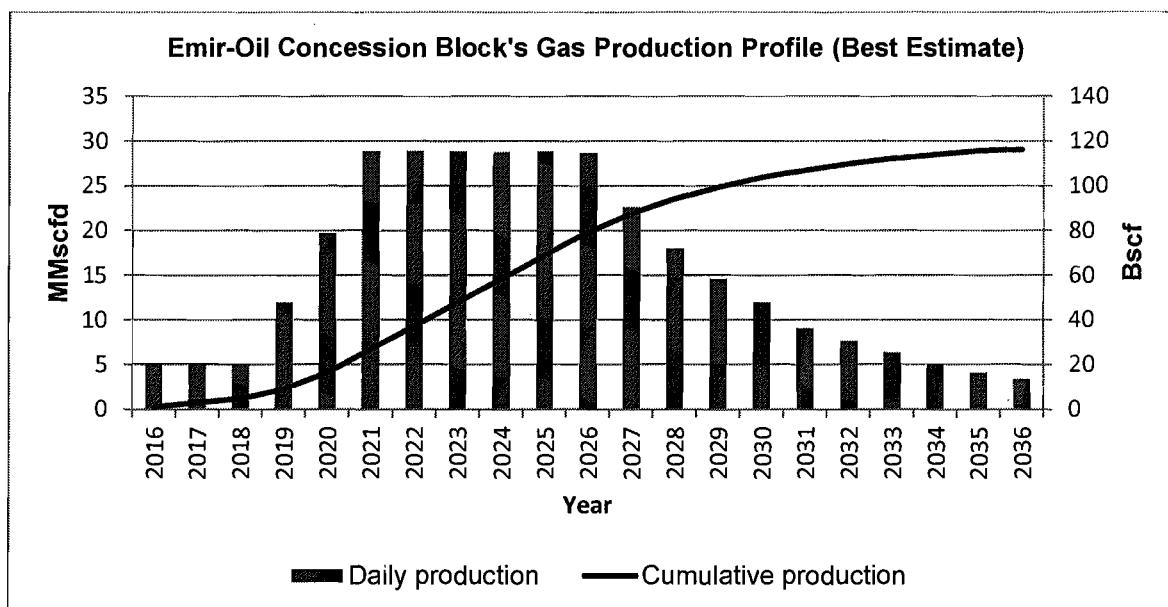
The crude oil produced from the Emir-Oil Concession Block is sweet and light with API gravity ranging from 36 to 55 degrees. Generally, this type of crude oil has the best commercial value.

Aksaz is essentially a condensate-rich gas field with condensate-to-gas ratio ranging from 66 to 185 stb per MMscf. The gas produced has very low carbon dioxide content and no hydrogen sulphide has been reported.

### 2.4 Production volume

Based on RPS's estimates as set out in the Independent Technical Expert and Valuation Report, the O&G production profiles of the Emir-Oil Concession Block (based on Best Estimate) are set out below:





### 3. USE OF PROCEEDS

For illustrative purposes, assuming the indicative Issue Price of RM0.59 per Placement Share, the proceeds to be raised from the Proposed Placement under the 25% Dissenting Shareholders Scenario and No Dissenting Shareholder Scenario are to be utilised in the following manner:

Details of utilisation	Estimated timeframe for utilisation (from the date of listing of the Placement Shares)	25% Dissenting Shareholders Scenario	No Dissenting Shareholder Scenario
		(RM million)	(RM million)
Payment of the Remaining Completion Amount <sup>(1)</sup>	Within 6 months	122.0	-
Partial payment of the Deferred Consideration <sup>(2)</sup>	Within 12 months	34.0	25.6
Working capital <sup>(3)</sup>	Within 12 months	-	21.4
Defray estimated expenses relating to the Proposals <sup>(4)</sup>	Within 2 months	24.0	21.0
<b>Total</b>		<b>180.0</b>	<b>68.0</b>

Notes:

(1) The Remaining Completion Amount of USD29.5 million refers to the Upfront Consideration of USD149.5 million (computed based on 85% of the Adjusted Purchase Consideration (Maximum) of USD175.9 million to be paid on Completion) less the completion payment of USD120.0 million.

- (2) The Deferred Consideration of USD26.4 million refers to the remaining 15% of the Adjusted Purchase Consideration (Maximum) of USD175.9 million which has no fixed tenure for payment but will be charged with interest at the rate of 10% and 14% if payment of the Deferred Consideration is made 12 months after the Completion but before 24 months after the Completion and if payment of the Deferred Consideration is made 24 months after the Completion respectively. It is the intention of our Company to pay the balance of the Deferred Consideration (i.e. being the amount not settled by the placement proceeds) via internally generated funds and/or proceeds from future equity/debt fund raising exercise by our Company, within 24 months after the Completion, depending on the cash flow position of our Company. As long as the Deferred Consideration remains not fully settled, the outstanding amount of the Deferred Consideration is subject to the interest associated with the payment schedule of the Deferred Consideration as mentioned above.
- (3) Under the No Dissenting Shareholder Scenario, we have earmarked RM21.4 million for working capital to finance the day-to-day operations of our enlarged Group such as payroll, operating expenses and project enhancement including appointing experts to undertake market studies and further evaluation on the potential of the O&G fields located within the onshore contract area in Kazakhstan (if required). This will provide us with the available cash and flexibility (in terms of timing) to undertake the market studies as and when required. Under the 25% Dissenting Shareholders Scenario, given the placement proceeds are allocated mainly for the payment of the Remaining Completion Amount and the Deferred Consideration, we have not earmarked the proceeds for working capital. If required, we will fund the working capital from future equity/debt fund raising exercise and/or internally generated funds. Alternatively, we may reallocate the proceeds allocated for the partial payment of the Deferred Consideration to fund the working capital.
- (4) Comprise mainly of professional fees, placement commission which is calculated based on the proceeds to be raised and fees to the relevant authorities in relation to the Proposals. If the actual expenses relating to the Proposals are lower than the estimated amount, the excess will be allocated to partial payment of the Deferred Consideration and/or working capital, where applicable. The total expenses for the Proposed Acquisition are estimated at RM18.0 million. In the event the Proposed Placement is not implemented, such expenses will be funded via our Company's existing internal funds.

The allocation of proceeds to be raised from the Proposed Placement may vary depending on the movement in foreign exchange.

The amount of proceeds to be raised from the Proposed Placement also cannot be determined at this juncture as it would depend on, among others, the amount represented by our Shares held by the Dissenting Shareholders required to be repurchased by our Company, if any, the final size of the Proposed Placement and the final Issue Price.

Pending utilisation of the proceeds for the purposes as set out above, the proceeds will be placed in profit bearing Islamic account with financial institutions or short-term money market instruments as our Board in its absolute discretion deems fit.

#### **4. RATIONALE AND BENEFITS OF THE PROPOSALS**

The Producing Fields within the Emir-Oil Concession Block are already in production and with established infrastructure of gas pipeline, gas processing plant, oil processing, oil storage and transportation facilities in place. Hence, the Proposed Acquisition is expected to immediately contribute positively to the revenue of our Company. The Emir-Oil Concession Block is in the early stage of its producing life with secured contracts and having the potential for achieving peak production in the future. The strategic location of the Emir-Oil Concession Block in the heart of the prolific Mangyshlak Basin of Western Kazakhstan near the Caspian Sea offers high potential opportunity for our Company to extend its exploration and production activities into the other hydrocarbon areas in the vicinity of the Emir-Oil Concession Block.

#### **4.1 PROPOSED ACQUISITION**

Our Board is of the view that the Proposed Acquisition represents an attractive investment opportunity for us for the following reasons:

- (i) the Emir-Oil Concession Block is in the early stage of their producing life with secured contracts and having the potential for achieving peak production in the future;
- (ii) offers an opportunity for our Company to capitalise and benefit from the continued growth of the Emir-Oil Concession Block due to significant developed Reserves and favourable geological conditions in Western Kazakhstan;
- (iii) several Prospects have been identified within the Exploration Area and surrounding the Producing Fields. The un-risked Best Estimate Prospective Resource<sup>a</sup> was estimated at 255.7 MMstb of oil and this is expected to provide future revenue to our Company over a sustainable period if the prospects are successful O&G discoveries;
- (iv) our Company had embarked on the Proposed Acquisition during the recent low oil price environment. When comparing with completed O&G transactions in Kazakhstan since 2013, the Purchase Consideration per boe of 2P Reserves and the Adjusted Purchase Consideration (Maximum) per boe of 2P Reserves of USD2.89 per boe<sup>b</sup> and USD3.28<sup>c</sup> per boe respectively are within the range of recent comparable transactions, higher than the simple average but lower than median of recent comparable transactions, as set out in Section 5.1 of this Circular; and
- (v) the Emir-Oil Concession Block's location, with close proximity to the country's export and distribution infrastructure and being only 40 km northeast of Aktau is ideal to access vital ground, marine and air links for its operations.

#### **4.2 PROPOSED PLACEMENT**

Our Board is of the view that the Proposed Placement will provide our shareholders with the following key benefits:

- (i) the Proposed Placement will enable our Company to raise the much-needed funds, as and when required in an expeditious manner and at the same time, manage our capital base after taking into account our Group's financial performance, especially since the Proposed Placement may be implemented in tranches over a period of time as opposed to a pro-rata issuance of securities via a rights issue;
- (ii) the Proposed Placement will enable our Company to settle the Remaining Completion Amount and part of the Deferred Consideration and not incur interest on such amount as provided for in the SPA; and
- (iii) the Proposed Placement will enable our Company to raise funds for working capital which is expected to contribute positively to the future earnings of our Group.

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<sup>a</sup> Un-risked Prospective Resources refers to those quantities of petroleum which are estimated on a given date to be potentially recoverable from the undiscovered accumulation.

<sup>b</sup> Computed by dividing the Purchase Consideration of USD154.9 million with net 2P Reserves of the Producing Fields and Development Fields as at 1 July 2016 attributable to Reach Energy of 53.6 MMboe.

<sup>c</sup> Computed by dividing the Adjusted Purchase Consideration (Maximum) of USD175.9 million with net 2P Reserves of the Producing Fields and Development Fields as at 1 July 2016 attributable to Reach Energy of 53.6 MMboe.



**5. PROSPECTS OF THE PALAEONTOL B.V. GROUP AND POTENTIAL OF THE EMIR-OIL CONCESSION BLOCK**

After completion of the Proposed Acquisition, with effective control of Emir-Oil which holds the entire subsoil use rights (100% working interest) of the Emir-Oil Concession Block, our Company intends to pursue various future value-adding opportunities which focus on maximising production (subject to prevailing oil price environment), optimising CAPEX and cost control. Such measures include continuing with the existing successful field development plans and application of new technologies so as to optimise near-term production growth rate and maximise returns to our shareholders.

Based on the negotiated price of USD308.0 million for 100% equity interest of Palaeontol B.V. as well as the transaction structure of the Proposed Acquisition including the payment schedule of the Purchase Consideration, the project IRR of the Emir-Oil Concession Block, as estimated by RPS, is 18.7%. This negotiated price only takes into account the 2P Reserves of the Emir-Oil Concession Block and does not consider the Prospective Resources of the Exploration Area of 804.8 km<sup>2</sup> and other potential upsides which our Company can add value. Notwithstanding, we have identified several measures/initiatives which are expected to enhance the value and Reserves potential of the Emir-Oil Concession Block, the details of which are set out in Section 7.3 and the Independent Upside Summary Report as set out in Appendix VII of this Circular.

The primary opportunities which our Company expects to realise within the next three years to further improve the project IRR of the Emir-Oil Concession Block to more than 20%, being one of the selection criteria for our Qualifying Acquisition, are as follows:

<b>Initiative / factor</b>	<b>Description of initiative / factor</b>	<b>Timing</b>	<b>Rationale for the initiative / factor</b>
(i) LPG extraction	Development of a LPG value chain with the inclusion of an LPG extraction facility in the construction of the new CPF	January 2019 onwards	<p>There is good potential for the development of a LPG value chain as the Emir-Oil Concession Block is endowed with high quality gas rich in condensate and LPG yield. The inclusion of an LPG extraction facility in the construction of the new CPF would enable better value to be extracted from the Producing Fields which are rich with natural gas and have high potential for extracting LPG. This will enable us to realise the potential increase in gas sales from LPG sales. The LPG extraction facility has already been installed and is awaiting commissioning once the O&amp;G tie-in pipelines are completed in 2018.</p> <p>It is intended that the produced LPG will be sold on an ex-plant<sup>d</sup> basis from the new CPF via road tankers arranged by the licensed traders mainly for export.</p>

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<sup>d</sup> Ex-plant is where the seller makes the product available to the buyer at the seller's plant and the buyer is responsible to pay for the transportation of the product from the seller's plant.

**EXECUTIVE SUMMARY (Cont'd)**

Initiative / factor	Description of initiative / factor	Timing	Rationale for the initiative / factor
(ii)Transportation tariff	Reduction in transportation tariff by USD2.00 from USD10.60 per barrel to USD8.60 per barrel due to alternative crude oil export route under an all pipeline option via the Uzen - Atyrau – Samara pipeline system	Early 2019 onwards	<p>According to Frost &amp; Sullivan, Kazakhstan's LPG production is expected to increase in line with expanded O&amp;G operations in the country, particularly the recovery of associated gas and deeper oil refining. Total LPG consumption in Kazakhstan is projected to reach 1,692.0 thousand tonnes by 2020 and a significant volume of LPG is also forecasted to be exported mainly to Europe, where LPG demand for the export market is estimated to grow at around 1.0% annually between 2016 and 2020. In view of the projected outlook for LPG, we believe that we would be able to secure a sales contract for the LPG extracted from the Emir-Oil Concession Block and will pursue this after the completion of the Proposed Acquisition.</p> <p>As of to-date, the LPG facilities comprising the LPG extraction plant, LPG storage tanks and LPG loading facility have been completed. As such, we do not require further capital investment to supply the LPG in the future. However, there may be some investment required to handle greater LPG sales volumes in the future, if required. No further approval is required as the LPG extraction facility has already been approved as part of the CPF project.</p> <p>Upon completion of the CPF in 2016 and the oil and gas pipelines in 2018, oil will be transported by pipeline to the Aktau terminal and thereafter shipped across the Caspian Sea to the port of Makhachkala in Russia, before onward delivery via pipeline to the Black Sea port of Novorossiysk (in Russia) for loading into vessels arranged by the buyer.</p> <p>Our Company has identified an initiative which will result in the reduction in transportation tariff by USD2.00 commencing from early 2019 onwards. The reduction is primarily due to an alternative crude oil export route with the availability of an all pipeline route from the CPF to the Novorossiysk export terminal via the Uzen - Atyrau – Samara pipeline system owned by KTO. With that, oil will no longer be shipped across the Caspian Sea for export.</p>

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**EXECUTIVE SUMMARY (Cont'd)**


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<b>Initiative / factor</b>	<b>Description of initiative / factor</b>	<b>Timing</b>	<b>Rationale for the initiative / factor</b>
			<p>The approval to construct the 25-km oil pipeline from the CPF to tie-in to the large state-owned trunkline of KTO has already been granted by the Kazakhstan Government. The details of this "all pipeline" export route is subject to further discussion with KTO upon completion of the oil pipeline from the CPF to the KTO trunkline.</p> <p>The CAPEX for the 25-km oil pipeline already forms part of the Palaeontol B.V. Group's existing CAPEX plan.</p>
(iii) Well cost	Reduction of USD1.05 million per development well from the drilling cost of USD6.25 million which was adopted in the Independent Technical Expert and Valuation Report	Can be immediately implemented. However, it can only be realised when drilling of development wells resumes from 2018 onwards	<p>We will focus on increasing oil production by using current well counts to perform optimal workover programmes and also reduce drilling cost and optimally phase the O&amp;G facility upgrade projects.</p> <p>The recent drop in oil prices has resulted in a reduction in CAPEX for capital equipment and oil services as suppliers are forced to reduce costs. Further reduction in drilling costs is possible by using turnkey contracts and better management of the drilling duration.</p> <p>No additional CAPEX or approval is required to implement this initiative.</p>

RPS's evaluation indicates that the aforementioned three initiatives would increase the project IRR of the Emir-Oil Concession Block to 22.9%, if successfully implemented, as outlined in the Independent Upside Summary Report as set out in Appendix VII of this Circular.

We have also identified other initiatives and factors that may further enhance the value and Reserves potential of the Emir-Oil Concession Block, the details of which are set out in Section 7.3 and the Independent Upside Summary Report as set out in Appendix VII of this Circular.

**6. APPROVALS REQUIRED**

The Proposals are subject to the following being obtained:

- (i) the approval of the SC for the Proposals which was obtained via its letter dated 24 August 2016, subject to the following conditions:

	<b>Condition imposed</b>	<b>Status of compliance</b>
(a)	HLIB, Maybank IB and Reach Energy to fully comply with the requirements of the SC's Equity Guidelines, as applicable, pertaining to the implementation of the Proposals; and	Noted.
(b)	HLIB, Maybank IB and Reach Energy to fully comply with the Listing Requirements, as applicable, pertaining to the implementation of the Proposals and the issuance of the circular to shareholders of Reach Energy	Noted.

In addition, the SC has also via its letter dated 14 July 2016, approved the reliefs sought in relation to compliance with certain paragraphs of the Listing Requirements and the Equity Guidelines. The details of the reliefs sought are as follows:

	<b>Reference</b>	<b>Details of relief granted</b>
(a)	Paragraph 29, Appendix 10B of the Listing Requirements	Relief to allow a modified directors' report in relation to Paragraphs 15.01(a), 15.01(b), 15.01(d), 15.01(e) and 15.01(f) of Division 1, Part I of the Prospectus Guidelines
(b)	Paragraph 6(b), Appendix 2 of the Equity Guidelines	Relief to allow modified confirmation letters from the directors of Palaeontol B.V.

- (ii) the approval of Bursa Securities for the listing of and quotation for up to 305,084,746 Placement Shares on the Main Market of Bursa Securities which was obtained via its letter dated 12 October 2016, subject to, among others, the following conditions:

	<b>Condition imposed</b>	<b>Status of compliance</b>
(a)	the Proposed Placement to be implemented only after the completion of the Proposed Acquisition;	Noted.
(b)	Reach Energy, HLIB and Maybank IB must fully comply with the relevant provisions under the Main Market Listing Requirements pertaining to the implementation of the Proposed Placement;	Noted.
(c)	Reach Energy, HLIB and Maybank IB to inform Bursa Securities upon the completion of the Proposed Placement;	To be complied.
(d)	Reach Energy to furnish Bursa Securities with a certified true copy of the resolution passed by the shareholders approving the Proposals prior to the listing and quotation of the Placement Shares; and	To be complied.

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**EXECUTIVE SUMMARY (Cont'd)**

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<b>Condition imposed</b>	<b>Status of compliance</b>
(e) Reach Energy to furnish Bursa Securities with a written confirmation of its compliance with the terms and conditions of Bursa Securities' approval once the Proposed Placement is completed.	To be complied.
(iii) the approval of the Committee on Regulation of Natural Monopolies and Protection of Competition of the Ministry of National Economy of the Republic of Kazakhstan for the acquisition of the Sale Shares on the terms of the SPA, which was obtained on 18 July 2016;	
(iv) the approval of the MOE for the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares, which was obtained on 29 June 2016;	
(v) either (a) the MOE's official waiver of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares or (b) an official response from the MOE that a waiver of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares is not required.	
<p>The MOE had, via its letter dated 26 July 2016, confirmed that a waiver of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares is not required on the basis that such subsoil use rights are not included in the 'List of Subsoil Plots, Deposits Having Strategic Significance', approved by the Decree of the Government of the Republic of Kazakhstan No. 1137 dated 4 October 2011;</p>	
(vi) MIEH procuring the (a) approval from the shareholders of MIEH at a general meeting, and to the extent required; and (b) consents, waivers, permissions and approvals in relation to the transaction from the Hong Kong Stock Exchange and the Securities and Futures Commission of Hong Kong.	
<p>MIEH had on 20 June 2016, obtained its shareholders' approval for the Proposed Acquisition;</p>	
(vii) your approval for the Proposals at our coming EGM; and	
(viii) any other relevant authorities and/or parties, if required.	



**REACH ENERGY BERHAD**  
(Company No. 1034400-D)  
(Incorporated in Malaysia under the Act)

**Registered Office**

Level 8, Symphony House  
Pusat Dagangan Dana 1  
Jalan PJU 1A/46  
47301 Petaling Jaya  
Selangor Darul Ehsan

13 October 2016

**Board of Directors**

Izlan bin Izhah	<i>(Chairman / Senior Independent Non-Executive Director)</i>
Ir. Shahul Hamid bin Mohd Ismail	<i>(Managing Director)</i>
Nik Din bin Nik Sulaiman	<i>(Independent Non-Executive Director)</i>
Aonghus Joseph O'Carroll	<i>(Independent Non-Executive Director)</i>

**To: Our Shareholders**

Dear Sir/Madam,

- (I) PROPOSED ACQUISITION**
- (II) PROPOSED PLACEMENT**

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**1. INTRODUCTION**

On 5 March 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company has on 5 March 2016 entered into the SPA with Palaeontol COOP and MIEH for the Proposed Acquisition. In conjunction with the Proposed Acquisition, the following will also be entered into:

- (i) a deed of transfer between our Company (or the SPV), Palaeontol COOP and Palaeontol B.V. whereby Palaeontol COOP will transfer the Sale Shares to our Company (or the SPV) on the Completion Date;
- (ii) a deed of assignment of debt between our Company (or the SPV), MIEH and Palaeontol B.V. whereby MIEH will assign to us (or the SPV) all its rights to the Shareholder Loans in proportion to the Relevant Percentage; and
- (iii) a SHA to be executed within seven days of the date the SPV is duly incorporated and will be no later than the Completion Date.

On 1 April 2016, we announced that we had on the same date acquired two ordinary shares of RM1.00 each representing 100% equity interest of Reach Energy Ventures. Reach Energy Ventures will be the SPV to facilitate the Proposed Acquisition.

On 11 April 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company and Reach Energy Ventures had on the same date entered into the SHA with Palaeontol B.V., Palaeontol COOP and MIEH.

On 23 May 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company proposed to undertake a placement of new Reach Energy Shares to raise gross proceeds of up to RM180.0 million.

On 16 June 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company has been notified by MIEH that the first exploration well located in the Aidai block, namely Aidai-1 yielded positive results during the initial testing phase, which had confirmed the presence of O&G bearing reservoirs in Triassic formation.

On 20 June 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company has been notified by MIEH that it has on the same date obtained the approval of its shareholders for the disposal of 60% equity interest in Palaeontol B.V. and the assignment and transfer of the Shareholder Loans in proportion to the Relevant Percentage by MIEH to our Company, being one of the conditions precedent to be fulfilled by MIEH on or before the Longstop Date under the SPA.

On 4 July 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company has been notified by MIEH that it has procured the approval of the MOE for the transfer of 60% issued share capital of Palaeontol B.V. on 29 June 2016, being one of the conditions precedent to be fulfilled by MIEH on or before the Longstop Date under the SPA.

On 19 July 2016, HLIB and Maybank IB announced, on behalf of our Board, that Reach Energy Ventures has on 18 July 2016 received the approval of the Committee on Regulation of Natural Monopolies and Protection of Competition of the Ministry of National Economy of Kazakhstan for the acquisition of the Sale Shares, being one of the conditions precedent to be fulfilled by our Company on or before the Longstop Date under the SPA.

On 24 August 2016, HLIB and Maybank IB announced, on behalf of our Board, that the SC has, via its letter dated 24 August 2016, approved the Proposals under Section 214(1) of the CMSA subject to the conditions as set out in Section 12 of this Circular.

On 5 September 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company had on 5 September 2016, entered into the SPA Amendment No. 1 to extend the Longstop Date to 10 November 2016 as well as amend certain terms of the SPA, namely the date of the hydrocarbon extraction contract for the Emir oil field between the Kazakhstan and Emir-Oil due to a typographical error in the SPA and the definition of the Completion Payment to ensure consistency with BNM's new method of determining the spot exchange rate between RM and USD.

On 7 October 2016, HLIB and Maybank IB announced, on behalf of our Board, that our Company had on 7 October 2016, entered into the SPA Amendment No. 2 to vary the conditions for the extension of the Longstop Date set out in the SPA Amendment No. 1.

On 12 October 2016, HLIB and Maybank IB announced, on behalf of our Board, that Bursa Securities had, via its letter dated 12 October 2016 resolved to approve the listing of and quotation for the Placement Shares subject to the conditions as set out in Section 12 of this Circular.

The purpose of this Circular is to provide you with relevant information on the Proposals and to seek your approval for the resolutions pertaining to the Proposals to be tabled at our coming EGM. The notice of EGM together with the Form of Proxy are enclosed in this Circular.

**YOU ARE ADVISED TO READ AND CONSIDER THE CONTENTS OF THIS CIRCULAR TOGETHER WITH THE ATTACHED APPENDICES CAREFULLY BEFORE VOTING ON THE RESOLUTIONS PERTAINING TO THE PROPOSALS TO BE TABLED AT OUR COMING EGM.**

## **2. DETAILS OF THE PROPOSALS**

### **2.1 Details of the Proposed Acquisition**

The Proposed Acquisition will entail Reach Energy Ventures acquiring 60% equity interest in Palaeontol B.V. and 60% of the Shareholder Loans from MIEH for a total cash consideration of USD154,889,000, subject to adjustments. The salient terms of the SPA, SPA Amendment No. 1 and SPA Amendment No. 2 are set out in Appendix I of this Circular.

MIEH has been funding the development of the Emir-Oil Concession Block through shareholder loans to Palaeontol B.V.. The shareholder loans are to be repaid by Palaeontol B.V. with interest accrued thereon to MIEH. After the Proposed Acquisition, 60% of the Shareholder Loans with interest accrued thereon will be payable to Reach Energy Ventures, instead of MIEH. As at the Effective Date, the amount owing by Palaeontol B.V. to MIEH is USD288.5 million. At 60%, being the portion of the Shareholder Loans to be assigned to Reach Energy Ventures, this translates to USD173.1 million.

Palaeontol B.V. is an investment holding company and is the sole interest holder of Emir-Oil which holds the entire subsoil use rights (100% working interest) in the Emir-Oil Concession Block. Further information of the Palaeontol B.V. Group is set out in Appendix III of this Circular.

The Emir-Oil Concession Block is located onshore in the Mangystau Oblast (situated in the southwestern region of Kazakhstan), about 40 km northeast of the City of Aktau which is Kazakhstan's largest sea-port on the Caspian Sea coast. The Emir-Oil Concession Block has a total contract area of approximately 850.3 km<sup>2</sup>, comprising the following:

- (i) four Producing Fields namely, Aksaz condensate-rich gas field, Dolinnoe oil field, Emir oil field and Kariman oil field with a total contract area of approximately 45.5 km<sup>2</sup>; and
- (ii) an Exploration Area with a total contract area of approximately 804.8 km<sup>2</sup>. The following discovered fields and prospects are included in the Exploration Area:
  - (a) two Development Fields (namely, the North Kariman oil field and Yessen oil field) which have been under pilot production since June 2012 and April 2013, respectively; and
  - (b) six Prospects (namely, Borly, Aidai, Begesh, East Saura, North Aidai and Tanirbergen) which have been identified outside the Producing Fields for future exploration, appraisal, development and production. Additionally, four Prospects have been identified which are surrounding the Producing Fields.

Since the award of the Exploration Contract on 9 June 2000, Zhanaozenskiy Remontno-Mekhanicheskiy Zavod LLP. (being the former holder of the Exploration Contract) and Emir-Oil have been successful in expanding the Emir-Oil Concession Block from 202.6 km<sup>2</sup> to 850.3 km<sup>2</sup> and converting discovered fields within the exploration area into production contracts through the periodically renewed Exploration Contract.



Under the terms of the Exploration Contract, Emir-Oil has the right to sell all oil and natural gas produced in the contracted area during the term of the Exploration Contract. Emir-Oil also has the exclusive right to apply for and negotiate a production contract once Emir-Oil has proved the existence of a commercial discovery (i.e. a discovery of a sufficient quantity of O&G to make it commercially feasible to pursue execution of, or transition to, a commercial production contract with the government) and received approval on its development plan. As of to-date, Emir-Oil had successfully converted four Producing Fields within the Exploration Area to commercial production.

Emir-Oil has initiated the regulatory process to incorporate two Development Fields (i.e. North Kariman oil field and Yessen oil field) into the Production Contracts for Kariman oil field and Dolinnoe oil field respectively, which could potentially increase the contract area of the Producing Fields. In this respect, Emir-Oil has already submitted an application to the Geological Department (Western Region) of the Committee of Geological & Subsoil Use ("**Geological Department**"), Ministry of Investment & Development, Kazakhstan in February 2016 to incorporate North Kariman oil field into the Production Contract for Kariman oil field ("**North Kariman Application**"). The application to incorporate Yessen oil field into the Production Contract for Dolinnoe oil field has been submitted to the Geological Department, Ministry of Investment & Development, Kazakhstan in July 2016 ("**Yessen Application**"). As at the LPD, the approvals on the North Kariman Application and Yessen Application are still pending.

A summary of the components of the Emir-Oil Concession Block is as follows:

<u>Field/Area</u>	<u>Type of field</u>	<u>Production commencement year<sup>(1)</sup></u>	<u>Type of contract</u>	<u>Duration (years)</u>	<u>Commencement date</u>	<u>Expiry date</u>	<u>Area (km<sup>2</sup>)</u>
<b>Producing Fields:</b>							
- Kariman	Oil	2006	Production Contract	25	9 September 2011	9 September 2036	12.24
- Dolinnoe	Oil	2004	Production Contract	25	9 September 2011	9 September 2036	18.24
- Aksaz	Condensate-rich gas	2005	Production Contract	25	9 September 2011	9 September 2036	11.48
- Emir	Oil	2004	Production Contract	17	1 March 2013	1 March 2030	3.53
<b>Exploration Area</b>	-		Exploration Contract	2	9 January 2015	9 January 2017 <sup>(2)</sup>	804.81
<b>Total (approximately)</b>							<b><u>850.30</u></b>

Notes:

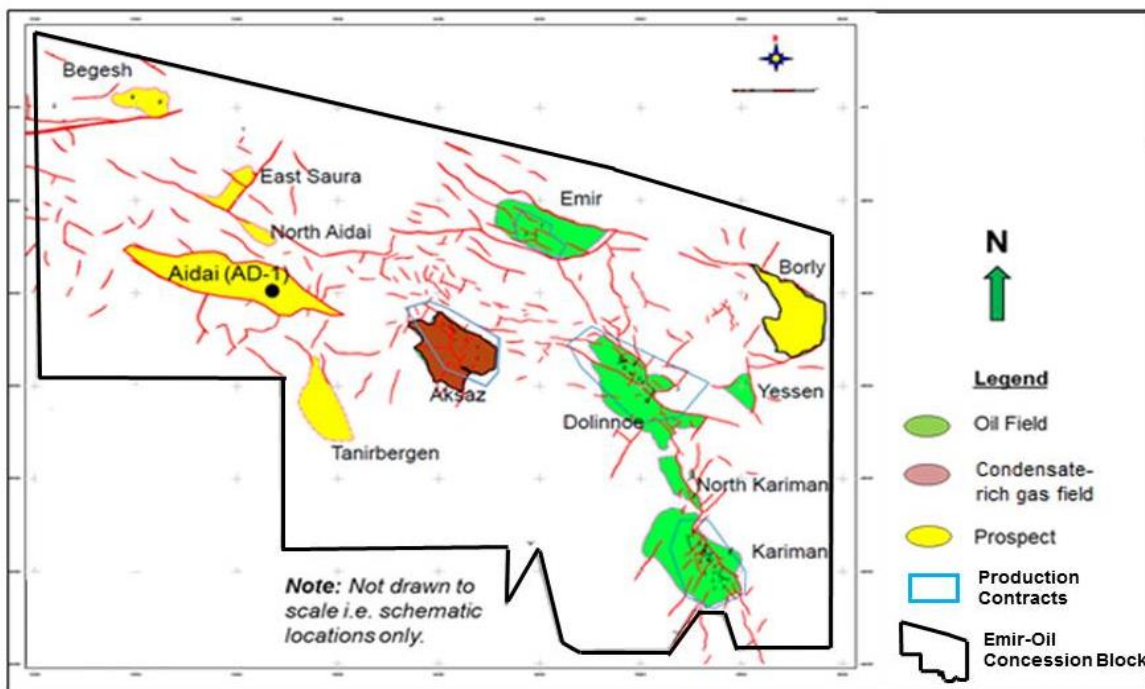
(1) Production commenced prior to the execution of the Production Contracts by virtue of pilot production under the Exploration Contract.

- (2) The Exploration Contract is renewable upon expiry, subject to the terms and conditions to be negotiated with the MOE. Since the granting of the Exploration Contract in June 2000 for a five-year term, it has been extended five times as follows:

<u>Extension of the Exploration Contract</u>	<u>Term</u>	<u>Expiry date</u>
Extension 1 – Addendum No. 2 dated 10 September 2004	2 years	9 July 2007
Extension 2 – Addendum No. 4 dated 23 February 2007	2 years	9 July 2009
Extension 3 - Addendum No. 5 dated 24 June 2008	3 years and 6 months	9 January 2013
Extension 4 - Addendum No. 10 dated 8 September 2012	2 years	9 January 2015
Extension 5 – Addendum No. 11 dated 26 December 2014	2 years	9 January 2017

Emir-Oil has submitted its application to the MOE on 5 February 2016 to initiate the process to further extend the term of the Exploration Contract for a period of four years. The application is currently being processed by the MOE. Emir-Oil expects to execute the addendum for the extension of the Exploration Contract by end 2016.

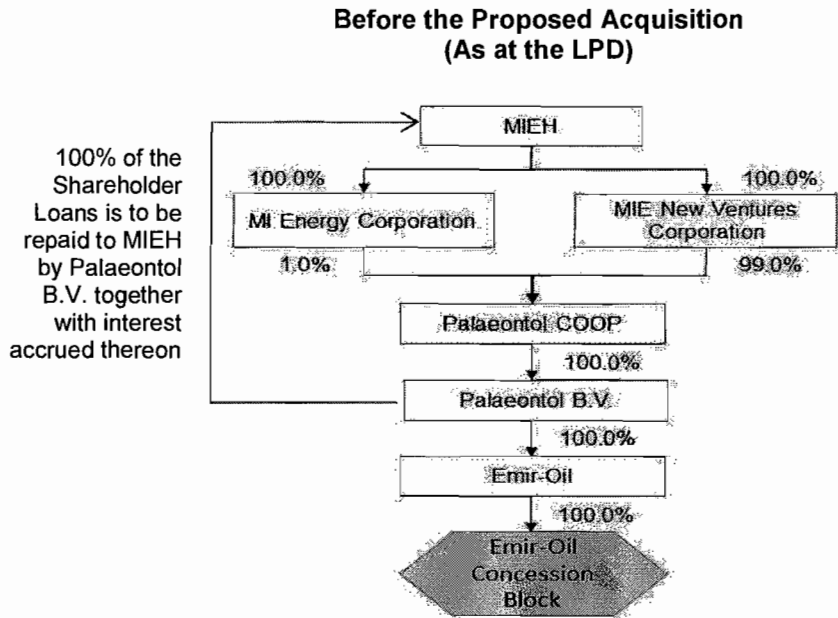
The map below shows the outlines of the Emir-Oil Concession Block:



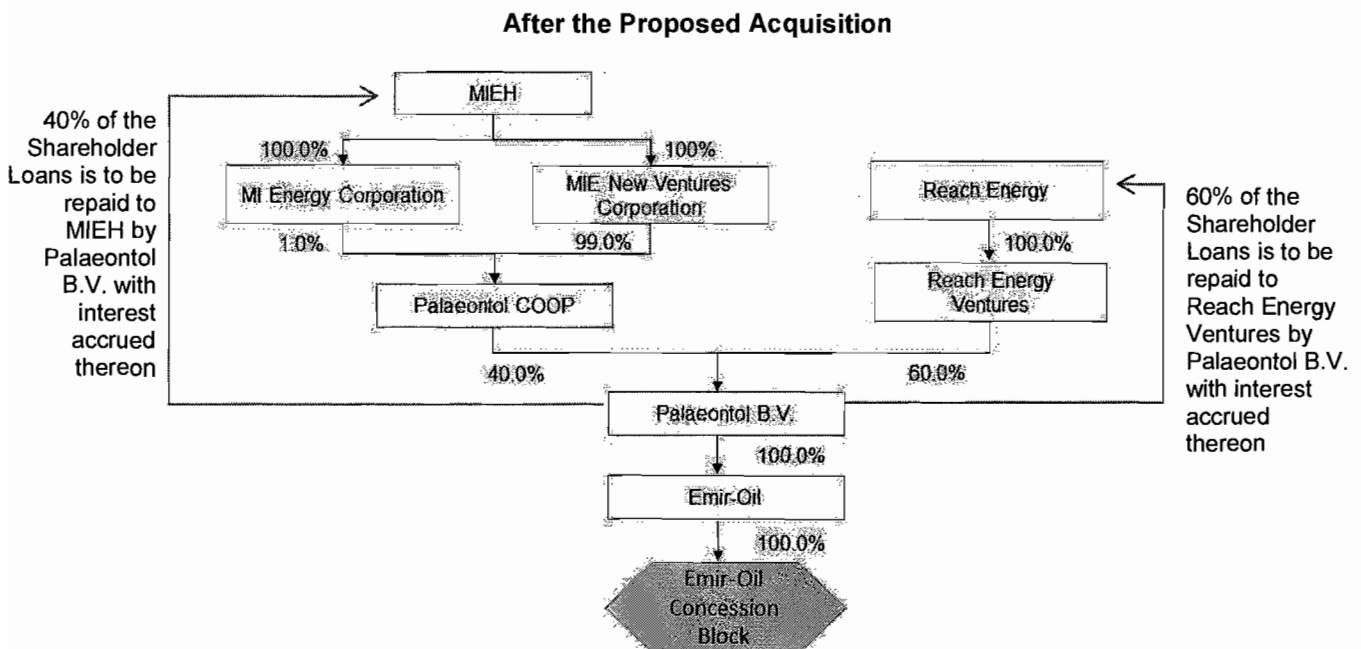
Further information of the Emir-Oil Concession Block is set out in Section 3 of this Circular.

## 2.1.1 Corporate structure

Upon completion of the Proposed Acquisition, our Company will have majority ownership and control over the Emir-Oil Concession Block via our 60% equity interest in Palaeontol B.V.. The remaining 40% equity interest in Palaeontol B.V. will continue to be held by Palaeontol COOP. The corporate structure of Palaeontol B.V. before and after the Proposed Acquisition is set out below:



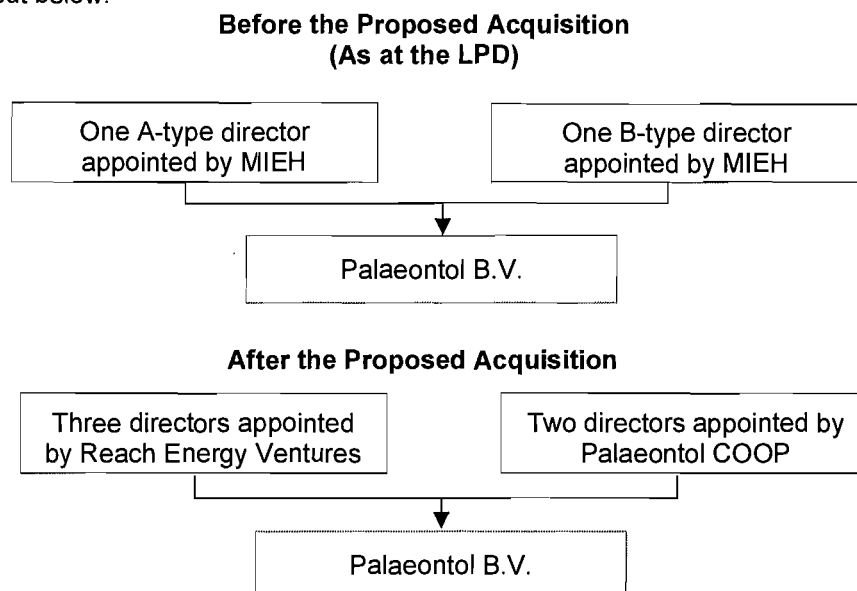
Note:  
MIEH has been funding the development of the Emir-Oil Concession Block through shareholder loans to Palaeontol B.V..



## 2.1.2 Management control

The SHA provides that, unless agreed otherwise, the Palaeontol B.V. Board will have five directors. Reach Energy Ventures will nominate three directors with one of them being appointed as the chairman, and Palaeontol COOP will nominate the remaining two directors.

Accordingly, the board structure of Palaeontol B.V. before and after the Proposed Acquisition is set out below:



The management board of Emir-Oil will also have five members, of which three members are to be appointed by Reach Energy Ventures and two to be appointed by Palaeontol COOP. The chairman for the management board of Emir-Oil will be one of the members of the management board to be appointed by Reach Energy Ventures. It is envisaged that Ir. Shahul Hamid bin Mohd Ismail, who is a key member of our Management Team and our Managing Director would be nominated to the Palaeontol B.V. Board and the management board of Emir-Oil. The remaining members of the Palaeontol B.V. Board and the management board will be decided closer to the completion of the Proposed Acquisition.

Under the SHA, all matters, except for the Reserved Matters (as defined in Appendix II of this Circular), shall be approved by a simple majority of the board. Since we will have majority board members on both Palaeontol B.V. and Emir-Oil, we are able to control the outcome of matters deliberated at board level that only require approval by simple majority. The Reserved Matters pertain to strategic and financial matters of the Palaeontol B.V. Group will be jointly decided between Reach Energy Ventures and Palaeontol COOP, but in the event parties are still unable to resolve any dispute relating to any of the Reserved Matters after having exhausted the avenues provided for in the SHA, Reach Energy Ventures may, at its absolute discretion, elect to either:

- (1) refer the dispute to be resolved by arbitration in Singapore administered by the Singapore International Arbitration Centre in accordance with the Arbitration Rules of the Singapore International Arbitration Centre; or

- (2) serve a notice in writing on Palaeontol COOP ("**Call Option Notice**"), requiring Palaeontol COOP to sell all the shares in Palaeontol B.V. held by Palaeontol COOP ("**COOP Shares**") at the sale price to be determined in accordance with the provisions of the SHA ("**Deadlock Call Option**"), as follows:
- (a) the Call Option Notice shall set out the proposed purchase price for the COOP Shares and the transfer of the shareholders loans (relating to the COOP Shares);
  - (b) in the event that Palaeontol COOP notifies Reach Energy Ventures that the proposed sale price is not acceptable or if Palaeontol COOP does not respond within 20 Business Days of receipt of the Call Option Notice, the sale price of the COOP Shares and the transfer of the shareholders loans (relating to the COOP Shares) shall be determined by one of the big four accounting firms in accordance with the provision of the SHA;
  - (c) the sale and purchase of the COOP Shares and the transfer of the shareholders loans (relating to the COOP Shares) pursuant to the Call Option Notice shall be subject to the approval of all relevant regulatory authorities and applicable laws; and
  - (d) the parties shall complete the sale and purchase of the COOP Shares and the transfer of the shareholders loans (relating to the COOP Shares) at the registered office of Palaeontol B.V. on the 30<sup>th</sup> Business Day after the date of exercise of the Deadlock Call Option or the date all relevant regulatory approvals and compliance with applicable laws have been obtained or provision of the completion statement (for the adjustment of any working capital or contributions prior to completion of the sale and purchase of the COOP Shares), whichever is later.

At the management level of Emir-Oil (which acts as the operator of the Emir-Oil Concession Block), Reach Energy Ventures will appoint the general director of Emir-Oil ("**General Director**") and Palaeontol COOP will appoint the finance and commercial manager of Emir-Oil ("**Finance and Commercial Manager**").

The General Director's roles and responsibilities are as follows:

- (a) authority on all issues related to Emir-Oil which have been delegated to him in accordance with the laws of Kazakhstan, such as dealing with the stakeholders of Emir-Oil including government officials, relevant ministries and local governmental agencies in Kazakhstan;
- (b) exercises daily management, organisational, operational and monitoring of Emir-Oil's activity on the basis of and within the framework of the charter of Emir-Oil and the laws of Kazakhstan, such as day-to-day operations, well performance, finance matters which are within the approved limits of authority and compliance with regulatory requirements; and
- (c) making decisions on the number of wells to drill, the location, timing and method of drilling, further development of the fields, reservoir management, negotiating contracts with suppliers and customers, and act as the liaison with the relevant authorities on health, safety and environment matters as well as monthly sales volume for domestic and export.

On the other hand, the Finance and Commercial Manager is in charge of finance and commercial matters accordance with the job scope and delegation of authorities approved by the Palaeontol B.V. Board. Although the Finance and Commercial Manager makes proposals, endorsements or recommendations on finance and commercial matters independently, for decisions/matters that are beyond any approved limits of authority, the Finance and Commercial Manager will refer the matters to the General Director for consideration and approval. Other management personnel at or above manager level ("**Senior Managers**") will be appointed such that the composition of the Senior Managers represents the shareholdings of Reach Energy Ventures and Palaeontol COOP.

We will have management control of Emir-Oil since we will be appointing a new General Director, who will be managing and controlling the day-to-day operations of Emir-Oil after the completion of the Proposed Acquisition. Besides, the General Director is the only position which is legally permitted to act on behalf of Emir-Oil without a power of attorney in the spheres of the authority within the framework of the charter of Emir-Oil and the Laws of Kazakhstan.

Ir. Shahul Hamid bin Mohd Ismail is intended to be appointed as the proposed new General Director of Emir-Oil. Abd Rahim bin Shamsudin, our Vice President of Petroleum Engineering, is proposed as the Head of Production and will assist Ir. Shahul Hamid bin Mohd Ismail in the day-to-day operations of Emir-Oil. Ir. Syed Salim bin Syed Abu Bakar, our Vice President of Operations will be proposed to be appointed as one of the Senior Managers of Emir-Oil and will also assist in the operations of Emir-Oil and be involved in operation maintenance and facility upgrade. These three members of our management team will be based in city of Aktau. Their appointments will be subject to them obtaining the relevant approvals such as working visas from the local authorities in Kazakhstan.

Azmi bin Tan Sri Arshad, our Chief Financial Officer will assist Ir. Shahul Hamid bin Mohd Ismail in the day-to-day operations of our Company. Both Dr Robert King Park, our Vice President of Geosciences and Ronald Lee Schakosky, our Vice President of Business Development are to provide the technical and geological and geophysical (G&G) expertise for Emir-Oil, as and when required.

### 2.1.3 Selection criteria of our Qualifying Acquisition

Since the IPO, our Company had evaluated numerous assets, focusing mainly on those located within the Region of Focus. However, our Company was not able to pursue many of these assets which were shortlisted, in particular those located within the Region of Focus as either the assets did not meet our risk management requirements (covering the technical, regulatory, commercial and financial aspects) or parties failed to agree on the valuation of the assets, including the initial assessment of the 2P Reserves.

After careful evaluation by our Management Team and taking into consideration the characteristics of the Emir-Oil Concession Block and its upside potential, Emir-Oil was subsequently selected and although it is located outside the Region of Focus, we are of the view that the Emir-Oil Concession Block is a superior candidate to other candidates evaluated and we believe it will provide an opportunity for us to meet our long-term goals of investing in and operating a balanced portfolio of production, development and exploration assets. Kazakhstan is a well-established hydrocarbon territory with concession fiscal regime for O&G exploration and production. Many well-known international O&G companies have been operating in Kazakhstan.

The Emir-Oil Concession Block meets the criteria as set out in our Prospectus as follows:

Criteria	Description	Remark
Type of assets	<p><u>Water depth</u> Onshore or offshore (with focus on shallow water depth not exceeding 120 metres)</p> <p><u>Characteristics</u></p> <ul style="list-style-type: none"> <li>▪ Mature producing fields</li> <li>▪ Commercially viable with upside technical production and Reserves potential which allows production enhancement and addition of Reserves through further appraisal and re-development</li> <li>▪ For non-producing assets – Low to moderate risk assets with early production potential and includes hydrocarbon fields in advanced stages of development planning, with a field development plan approved (or with high confidence will be approved) by the relevant regulators, and able to generate revenue within two years</li> </ul>	<p>Met. The Emir-Oil Concession Block is onshore and it comprises:</p> <ul style="list-style-type: none"> <li>▪ Producing Fields that are in their prime and early stage of production with significant 2P Reserves. High potential of further Reserves upgrade through further exploitation;</li> <li>▪ Development Fields which are currently under pilot production. As at the LPD, Emir-Oil has initiated the regulatory process to incorporate two Development Fields i.e. North Kariman oil field and Yessen oil fields into the Production Contracts for Kariman oil field and Dolinnoe oil field respectively. This could potentially increase the contract area of the Producing Fields; and</li> <li>▪ Substantial Prospective Resources in the Emir-Oil Concession Block where ten Prospects have been identified.</li> </ul>

Criteria	Description	Remark
<b>Ownership/ Operatorship role</b>	<p>For asset acquisition<sup>(1)</sup>:</p> <ul style="list-style-type: none"> <li>▪ At least 33% working interest</li> <li>▪ Operatorship</li> </ul> <p>Note: (1) As mentioned in our Prospectus, an asset acquisition refers to a specific oil and gas block or field.</p>	<p>Met. Upon completion of the Proposed Acquisition, our Company, via our 60% equity interest in Palaeontol B.V., will have majority ownership and effective control in Emir-Oil that acts as the operator of the Emir-Oil Concession Block.</p> <p>The net 2P Reserves attributable to our Company, upon completion of the Proposed Acquisition, are 53.6 MMboe, based on RPS's estimates as at 1 July 2016 as stated in the Independent Technical Expert and Valuation Report.</p>
<b>Region of Focus</b>	<p>Opportunities outside Region of Focus will only be pursued if:</p> <ul style="list-style-type: none"> <li>▪ the returns are attractive and the target assets meet our selection criteria</li> <li>▪ there is established O&amp;G infrastructure in the area</li> <li>▪ there is acceptable sovereign risk to enable field production within a maximum period of two years from the Qualifying Acquisition</li> </ul>	<p>Met. The Emir-Oil Concession Block meets our selection criteria. The Emir-Oil Concession Block has established infrastructure in place comprising of gas pipeline, gas processing plant, oil processing, oil storage and transportation facilities. In addition, upon completion of the Proposed Acquisition, our Company will generate immediate revenue as the Emir-Oil Concession Block is already in production.</p>
<b>Attractive valuation</b>		
➤ 2P Reserves	<p>For asset acquisition – 2P Reserves in excess of 10 MMboe</p>	<p>Met. Based on RPS's estimates as at 1 July 2016 as stated in the Independent Technical Expert and Valuation Report, the 2P Reserves of the Producing Fields and Development Fields are 70.0 MMstb of oil and 116.3 Bscf of gas (which is equivalent to total 2P Reserves of 89.4 MMboe).</p>



Criteria	Description	Remark
➤ IRR	<p>Assets in Region of Focus:</p> <ul style="list-style-type: none"> <li>Minimum project IRR of 15% (excluding transaction costs)</li> </ul> <p>Asset outside Region of Focus:</p> <ul style="list-style-type: none"> <li>Minimum project IRR of 20% (excluding transaction costs)</li> </ul>	<p>To be met. The Emir-Oil Concession Block is located in Kazakhstan which is outside the Region of Focus. Based on the negotiated price of USD308 million, being 100% equity interest of Palaeontol B.V., and the transaction structure including the payment schedule of the Purchase Consideration, the project IRR, as estimated by RPS, is 18.7%. This negotiated price only takes into account the Reserves of the Emir-Oil Concession Block and does not consider the Prospective Resources of the Exploration Area of 804.8 km<sup>2</sup> and any potential upsides. RPS has reviewed the upside potential of the Emir-Oil Concession Block based on the measures and initiatives proposed to be undertaken by the Management Team as set out in Section 7.3 of this Circular and has assessed that the project IRR to be in excess of 20% based on such measures and initiatives. Further details of the upside potential as assessed by RPS are set out in Section 7.3 and Appendix VII of this Circular.</p>
<b>Technical and operational aspects</b>	To consider and evaluate the extent of operational, technical and geological risks in respect of the O&G assets	Met. The Emir-Oil Concession Block is located onshore and about 40 km northeast of the City of Aktau and is within the proven oil field region in the prolific Mangyshlak Basin adjacent to other producing fields such as Zhetybay, Uzen and Tenge. The Mangyshlak Basin is part of the four main hydrocarbon provinces of Kazakhstan. Based on our due diligence, the operational, technical and geological risks in respect of the Emir-Oil Concession Block are low and manageable given the conventional nature of the asset and is currently producing.
<b>Environmental and social consideration</b>	To be conscious of the environmental and social concerns regarding the O&G industry and will take into account local regulations regarding emission restrictions, hydrological impacts, local health and safety requirements as well as socio-economic obligations	Met. Based on our legal due diligence, there are no material adverse findings in connection with non-compliance by Emir-Oil of local regulations regarding emission restrictions, hydrological impacts, local health and safety requirements as well as socio-economic obligations.

The Proposed Acquisition fulfils our selection criteria as set out above and offers a good return on investment from the existing O&G production, upside potential and further development opportunities in the Emir-Oil Concession Block. The Proposed Acquisition will also allow our Company to collaborate with MIEH, an established O&G player listed on the Main Board of the Hong Kong Stock Exchange and benefit from their experience gained in successfully developing the Emir-Oil Concession Block since 2011 when MIEH acquired Emir-Oil via Palaeontol B.V.. Under MIEH's ownership, the production of the Emir-Oil Concession Block increased from 2,104 bbl/d in 2011 to a peak of 5,201 bbl/d in 2014 but subsequently, the oil production was curtailed in 2015 due to low oil price environment. Further details on the production volume of the Emir-Oil Concession Block are set out in Section 3.5 of this Circular.

## 2.1.4 Basis and justification for the Purchase Consideration

Reach Energy and the Vendors have agreed that the enterprise value (before adjustment of Net Working Capital) as at the Effective Date of 100% of the Palaeontol B.V Group is USD308,000,000. Based on 60% equity interest of Palaeontol B.V. to be acquired by our Company, this translates to USD184,800,000. The enterprise value of the Palaeontol B.V. Group and the Purchase Consideration had been derived as follows:

	<b>USD'000</b>
Enterprise value (before adjustment of Net Working Capital)	308,000
Less: Net Working Capital*	(49,852)
Equity value (100%)	<u>258,148</u>
<b>Purchase Consideration (60% of equity value)</b>	<b><u>154,889</u></b>

Note:

\* The Net Working Capital comprises of current assets and current liabilities as follows:

<u>Current assets</u>	<u>Current liabilities</u>
<ul style="list-style-type: none"><li>• Inventories consists primarily of crude oil in oil tanks and in transit</li><li>• Prepayments and other receivables relate mainly to value-added tax recoverable, advances to suppliers and other tax recoverable</li><li>• Trade receivables attributable to sales to Euro-Asian Oil, our major customer</li><li>• Cash and cash equivalents are primarily maintained in USD and KZT and mainly comprise of cash in hand and deposits held in banks</li></ul>	<ul style="list-style-type: none"><li>• Trade payables attributable to purchases, services and other services rendered from various suppliers, contractors and consultants</li><li>• Accruals and other payables refer to withholding and other tax payables, staff salary and welfare payables and other accruals and payables</li></ul>

There were no adverse findings on the current assets or current liabilities of the Palaeontol B.V. Group as at the Effective Date based on the financial due diligence undertaken by KPMG Tax & Advisory LLC.

The Purchase Consideration of USD154,889,000 is the aggregate consideration for the acquisition of the Sale Shares and the Shareholder Loans in proportion to the Relevant Percentage, consisting of:

- (i) the purchase price of USD1.00 in respect of the sale and purchase of the Sale Shares ("**Purchase Price**"); and
- (ii) the shareholder loan consideration which as at the Effective Date will be USD154,888,999, being the Purchase Consideration less the Purchase Price, in respect of the acquisition of 60% of the Shareholder Loans from MIEH. As at the Effective Date, the amount owing by Palaeontol B.V. to MIEH is USD288.5 million. At 60%, being the portion of the Shareholder Loans to be assigned to Reach Energy Ventures, this translates to USD173.1 million.

At the Completion Date, the Purchase Consideration will be adjusted as follows:

- (i) either:
  - (a) increased by an amount equal to the Net Contribution Amount which will not exceed an aggregate amount of USD21,000,000, if such amount is positive; or
  - (b) decreased by an amount equal to the Net Contribution Amount, if such amount is negative; and
- (ii) increased by the Relevant Percentage of any amounts recovered by the Palaeontol B.V. Group from Aral Petroleum Capital LLP before the Completion Date in connection with the Aral Loan<sup>1</sup>.

(collectively referred to as "**Adjusted Purchase Consideration**")

Notwithstanding the adjustment described above, the Adjusted Purchase Consideration will not be greater than USD175,889,000, unless otherwise agreed by MIEH and Reach Energy in the case of exceptional or extra items of expenditure for the Palaeontol B.V. Group. The exceptional or extra items of expenditure referred to is non-exhaustive and it may comprise of exceptional expenses in relation to environmental issues, litigation issues, unexpected acceleration of payment terms from contractors as well as government work requests, if any which could arise after the signing of the SPA. Notwithstanding the occurrence of such exceptional or extra items of expenditure, any increase in the Adjusted Purchase Consideration must be mutually agreed between the parties.

Our Board is of the view that the Purchase Consideration is justifiable after taking into consideration, among others, the following:

- (i) substantial reported 2P Reserves of the Producing Fields and Development Fields as at 1 July 2016 as assessed by RPS equivalent to 89.4 MMboe, of which 53.6 MMboe is attributable to our Company upon completion of the Proposed Acquisition;
- (ii) several Prospects have been identified within the Exploration Area and surrounding the Producing Fields. The un-risked Best Estimate Prospective Resources<sup>2</sup> was estimated at 255.7 MMstb of oil (*Source: Independent Technical Expert and Valuation Report*);
- (iii) a discounted cash flow analysis of the 2P Reserves attributable to the Producing Fields and Development Fields based on assumptions with respect to production, operating expenses, capital expenditure, future realised oil price and taxes/duties payable as assessed by RPS ranging between USD315 million and USD412 million;

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<sup>1</sup> Aral Petroleum Capital LLP is an E&P company with operations in Kazakhstan and a non-trade debtor of Emir-Oil. The Aral Loan was provided by Emir-Oil to Aral Petroleum Capital LLP as advance to a business associate. In November 2015, Aral Petroleum Capital LLP had sought protection from its trade creditors under the Law of the Republic of Kazakhstan On Rehabilitation and Bankruptcy through implementation of rehabilitation procedures. In view of the uncertainty in recovering the Aral Loan, our Company and MIEH have agreed under the SPA to exclude the Aral Loan from the Net Working Capital. However, if any amounts of the Aral Loan is recovered before the Completion Date, the parties agreed to adjust the Purchase Consideration accordingly at the Completion.

<sup>2</sup> Un-risked Prospective Resources refers to those quantities of petroleum which are estimated on a given date to be potentially recoverable from the undiscovered accumulation.

- (iv) The Purchase Consideration per boe of 2P Reserves and the Adjusted Purchase Consideration (Maximum) per boe of 2P Reserves of USD2.89 per boe<sup>3</sup> and USD3.28 per boe<sup>4</sup> respectively are within the range, higher than the simple average but lower than the median of recent completed comparable transactions in Kazakhstan as set out in Section 5.1 of this Circular;
- (v) the long-term prospects of the O&G sector as well as earnings and cash flow generation potential of the Emir-Oil Concession Block as set out in Section 7.3 of this Circular; and
- (vi) rationale and benefits of the Proposed Acquisition as set out in Section 5 of this Circular.

#### **2.1.5 Valuation of the Emir-Oil Concession Block and fairness opinion**

Our Company had appointed RPS to conduct a reserves assessment and valuation of the Emir-Oil Concession Block, focusing on the Producing Fields and Development Fields. The scope of work includes the following:

- (i) review of the geological, geophysical and petrophysical data of the Emir-Oil Concession Block that are used to estimate the range of petroleum initially in-place volumes;
- (ii) address the range of uncertainty associated with the mapping and geometry of the structure and sedimentology of the petroleum-bearing reservoirs;
- (iii) analyse the performance of the producing fields and made forecasts relating to the estimated Low, Best and High future production, costs, prices and cash flow;
- (iv) estimate the volume of the 1P, 2P and 3P Reserves contained in the Emir-Oil Concession Block; and
- (v) estimate a range of fair valuation for the 1P and 2P Reserves contained in the Emir-Oil Concession Block using the DCF Method and benchmarking with relevant historical transactions in Kazakhstan.

As of 1 July 2016, the 2P Reserves of the Producing Fields and Development Fields as assessed by RPS are 70.0 MMstb of oil and 116.3 Bscf of gas (which is equivalent to total 2P Reserves of 89.4 MMboe).

In deriving the valuation of the Emir-Oil Concession Block's 2P Reserves, RPS has used the DCF Method. The key valuation assumptions used by RPS in arriving at the valuation of the Emir-Oil Concession Block are set out below:

- (i) the effective date for the valuation is 1 July 2016 (all future cash flows are discounted to 1 July 2016);
- (ii) annual inflation rate of 2% has been assumed from 2017 onwards and is applied to both costs and revenues;

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<sup>3</sup> Computed by dividing the Purchase Consideration of USD154.9 million with net 2P Reserves of the Producing Fields and Development Fields as at 1 July 2016 attributable to Reach Energy of 53.6 MMboe.

<sup>4</sup> Computed by dividing the Adjusted Purchase Consideration (Maximum) of USD175.9 million with net 2P Reserves of the Producing Fields and Development Fields as at 1 July 2016 attributable to Reach Energy of 53.6 MMboe.

- (iii) RPS's Base Case Brent price forecast in money of the day ("MOD") as at third quarter of 2016 as shown in the table below:

Base Price Case	
	USD/bbl
Second half of 2016	50.3
2017	53.0
2018	59.0
2019	66.0
2020	72.0
2021	78.0
2022	83.0
2023	88.0
2024	92.0
2025	95.6
2026	97.5
2027 onwards	+ 2% p.a.

RPS's price forecasts are constructed by reviewing the macro economic outlook as provided by the International Monetary Fund, reviewing the supply, demand and inventory assessment as provided by the EIA and the International Energy Agency, reviewing the current financial markets and sentiment from the EIA and RPS's perspectives and reviewing the price forecasts made by other companies.

- (iv) sales gas price to be USD0.77/Mscf based on the latest gas sales agreement provided by MIEH;
- (v) 15% of the crude oil to be sold domestically and 85% of crude oil to be exported; and
- (vi) estimated CAPEX and OPEX as set out in Section 2.1.9 of this Circular.

Based on the assumptions above, RPS has derived the following NPV for the 2P Reserves attributable to MIEH using different discount rates assumptions:

**NPVs of the 2P Reserves of the Emir-Oil Concession Block attributed to MIEH**

Discount rate	10%	12%	13%	15%	17%
USD' million	511	442	412	360	315

Although it is standard practice in O&G evaluations to present NPV at a 10% discount rate, however RPS had considered a reasonable range of discount rates to be between 12% and 15% for a deal to be closed in Kazakhstan, after taking into account the associated country risk. In applying the 12% and 15% discount rates to the valuation, the NPV of the 2P Reserves of the Emir-Oil Concession Block attributed to MIEH ranges between USD442 million and USD360 million. However, recent market conditions would suggest that slightly higher discount rates should be applied to account for the additional market risk i.e. potential higher cost of borrowing. **Hence, RPS has applied discount rates of 13% and 17% to the valuation such that the NPV of the 2P Reserves of the Emir-Oil Concession Block ranges between USD412 million and USD315 million.**

Further details of the asset valuation as well as the Reserves evaluation of the Emir-Oil Concession Block are set out in Appendix VI of this Circular.

Our Company had appointed FHCA to provide our shareholders with a fairness opinion on the Purchase Consideration. FHCA had used the Discounted FCFE Methodology as the primary methodology to assess the fairness of the Purchase Consideration. FHCA had also applied the comparable transaction analysis and Adjusted RNAV Methodology as the secondary and tertiary methodologies respectively to assess the fairness of the Purchase Consideration. The conclusion of FHCA's analysis is as follows:

- (i) based on the Discounted FCFE Methodology:
  - (a) the Purchase Consideration represents a discount of 34.1% and 24.7% based on the valuation of 60% equity interest in Palaeontol B.V. of USD235.2 million and USD205.8 million with an illiquidity discount of 20% and 30% respectively; and
  - (b) the Adjusted Purchase Consideration (Maximum) represents a discount of 25.2% and 14.5% based on the valuation of 60% equity interest in Palaeontol B.V. of USD235.2 million and USD205.8 million with an illiquidity discount of 20% and 30% respectively.
- (ii) based on the sensitivity analysis conducted on three key independent key parameters, namely forecast and projected oil prices, CAPEX and discount rates which have significant impact on the cash flows of the Palaeontol B.V. Group, the valuation of Reach Energy's 60% equity interest in Palaeontol B.V. ranges from USD202.4 million to USD238.2 million. Both the Purchase Consideration of USD154.9 million and the Adjusted Purchase Consideration (Maximum) of USD175.9 million are lower than the range of values derived from the said sensitivity analysis;
- (iii) based on the comparable transaction analysis, the adjusted price per boe of 2P Reserves, with adjustment made to price per boe after taking into consideration the fluctuation in oil prices throughout the years and the impact of price sensitivity of the different transactions if they were undertaken in the current market environment, of recent completed comparable transactions involving Kazakhstan O&G companies ranges from USD1.28 to USD7.34 per boe whilst the simple average and median are USD2.80 per boe and USD3.40 per boe respectively, excluding the inputs from the acquisition of the Kashagan Consortium as the percentage of acquisition was too small and the 2P reserves are significantly larger than the other asset acquisitions in the comparable transaction analysis; and the input from the acquisition of Caspian Investment as the adjusted price per boe was significantly higher compared to other acquisitions in the comparable transaction analysis. The Purchase Consideration per boe of 2P Reserves of USD2.89 per boe and the Adjusted Purchase Consideration (Maximum) per boe of 2P Reserves of USD3.28 per boe are within the range of recent completed comparable transactions, higher than the simple average but lower than the median of recent completed comparable transactions;
- (iv) based on the Adjusted RNAV Methodology, the Purchase Consideration and the Adjusted Purchase Consideration (Maximum) are at a discount of 34.4% and 25.5% respectively to the adjusted RNAV; and
- (v) the Emir-Oil Concession Block currently comprises active producing oil fields with established infrastructure, logistics and facilities in place. Therefore, the development risks associated with the Emir-Oil Concession Block are mitigated to an extent.

Premised on the above, FHCA is of the opinion that the Purchase Consideration is **fair**. Further details of FHCA's opinion on the fairness of the Purchase Consideration are set out in Appendix VIII of this Circular.

## 2.1.6 Mode of funding and source of funds

The Adjusted Purchase Consideration will be satisfied entirely in cash and will be satisfied in the following manner:

- (i) 85% of the Adjusted Purchase Consideration will be paid on the Completion Date ("**Upfront Consideration**"). However, if there are Dissenting Shareholders who request that our Company repurchases their Reach Energy Shares, our Company has the right to defer the payment of part of the Upfront Consideration. The completion payment payable at Completion ("**Completion Payment**") will then be:

$$\text{Completion Payment} = \text{USD120 million} + (25\% \text{ of the amount in the Islamic Trust Account net of taxes} - \text{amount payable to the Dissenting Shareholders})$$

provided always the Completion Payment cannot be more than the Upfront Consideration.

The difference between the Upfront Consideration and Completion Payment ("**Remaining Completion Amount**") will be paid according to the payment terms as disclosed in item (f) of Appendix I of this Circular; and

- (ii) The remaining 15% of the Adjusted Purchase Consideration ("**Deferred Consideration**") is to be paid according to the payment terms as disclosed in item (e) of Appendix I of this Circular.

The Upfront Consideration will be funded via our IPO proceeds, which is presently held in the Islamic Trust Account. As at the LPD, the amount held in the Islamic Trust Account (net of taxes payable) is approximately RM759.3 million (or equivalent to USD183.6 million) and the amount held outside the Islamic Trust Account (comprising remaining proceeds raised from the IPO which is not placed under the Islamic Trust Account as well as proceeds raised from Reach Energy Holdings and the Initial Investor) is approximately RM9.3 million. The amount held outside the Islamic Trust Account of approximately RM9.3 million comprises RM2.4 million, being the remaining proceeds raised from the IPO (after netting off among others, listing expenses for the IPO, Qualifying Acquisition expenses as well as administrative and operating expenses) and RM6.9 million, being the remaining proceeds raised from Reach Energy Holdings and the Initial Investor (after netting off the listing expenses for the IPO and the remuneration of the Management Team).

The Purchase Consideration of USD154,889,000 or RM640,543,460 represents 84.4% of the amount held in the Islamic Trust Account (net of taxes payable). For information purpose, at the time the SPA was entered into, the exchange rate was USD1.00:RM4.12. Based on the Purchase Consideration of USD154,889,000 (or the equivalent of RM638,142,680), it represented 84.0% of the amount held in the Islamic Trust Account (net of taxes payable) of RM759.3 million.

There is no fixed tenure for payment of the Deferred Consideration but interest will be charged as follows:

<u>Payment term</u>	<u>Interest rate (per annum)</u>
If payment of the Deferred Consideration is made within 12 months of the Completion Date	Nil
If payment of the Deferred Consideration is made 12 months after the Completion Date but before 24 months after the Completion Date	10% (commencing from 13 <sup>th</sup> month)
If payment of the Deferred Consideration is made 24 months after the Completion Date	14% (commencing from 25 <sup>th</sup> month and in addition to interest accrued from preceding period)

The Deferred Consideration will be partly funded via proceeds from the Proposed Placement whilst the balance (i.e. being the amount not settled by the placement proceeds) will be funded via internally generated funds and/or proceeds from future equity/debt fund raising exercises by our Company. It is the intention of our Company to pay the balance of the Deferred Consideration within 24 months after the Completion Date, depending on the cash flow position of our Group.

### 2.1.7 Liabilities to be assumed and encumbrances

Other than the customary operational liabilities, there are no other liabilities, including contingent liabilities and guarantees, to be assumed by our Company or Reach Energy Ventures pursuant to the Proposed Acquisition. The Sale Shares will be acquired by Reach Energy Ventures free from all encumbrances, together with all rights, interest, benefits and entitlement attaching thereto as at completion of the SPA.

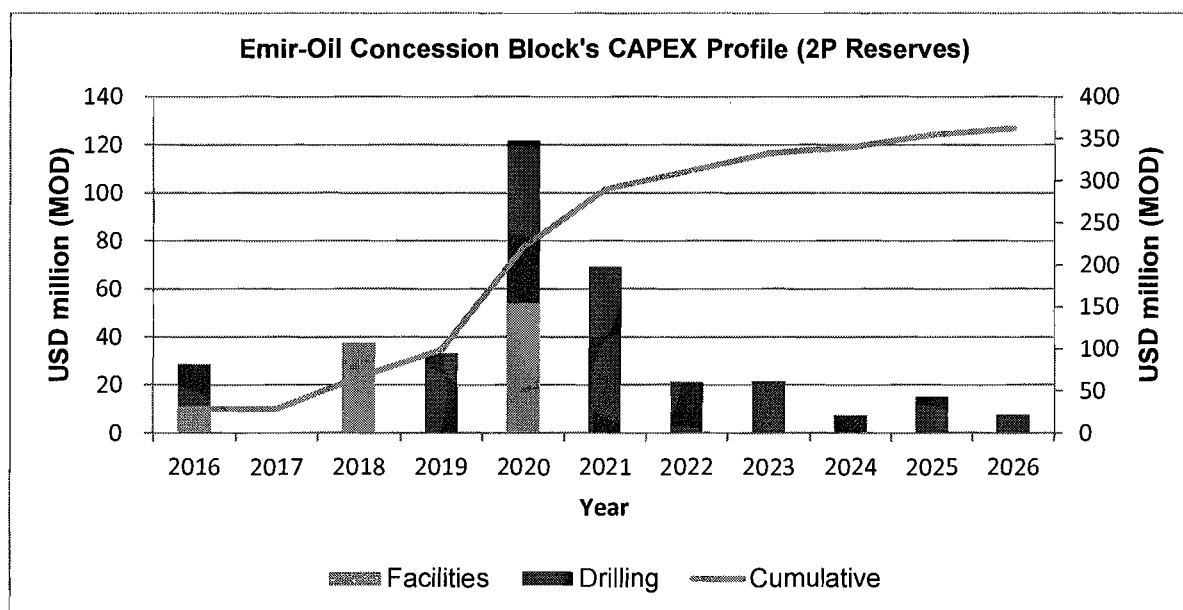
### 2.1.8 Estimated additional financial commitment

The Producing Fields are currently in production and as such, there are no financial commitments required from us to put these fields on-stream.

However, after the completion of the Proposed Acquisition, Reach Energy, being one of the shareholders of Palaeontol B.V. will provide financial support for the continuing viability of the Palaeontol B.V. Group and the ability of Palaeontol B.V. Group to continue as a going concern<sup>5</sup> as well as the development of the Emir-Oil Concession Block, if required, in the form of shareholder loan(s), to the extent of our proportionate ownership in the Palaeontol B.V. Group. The extent of the financial support from the shareholders of Palaeontol B.V. will depend on the cashflows generated from the operations of Emir-Oil and the ability to negotiate and modify the payment terms with trade creditors.

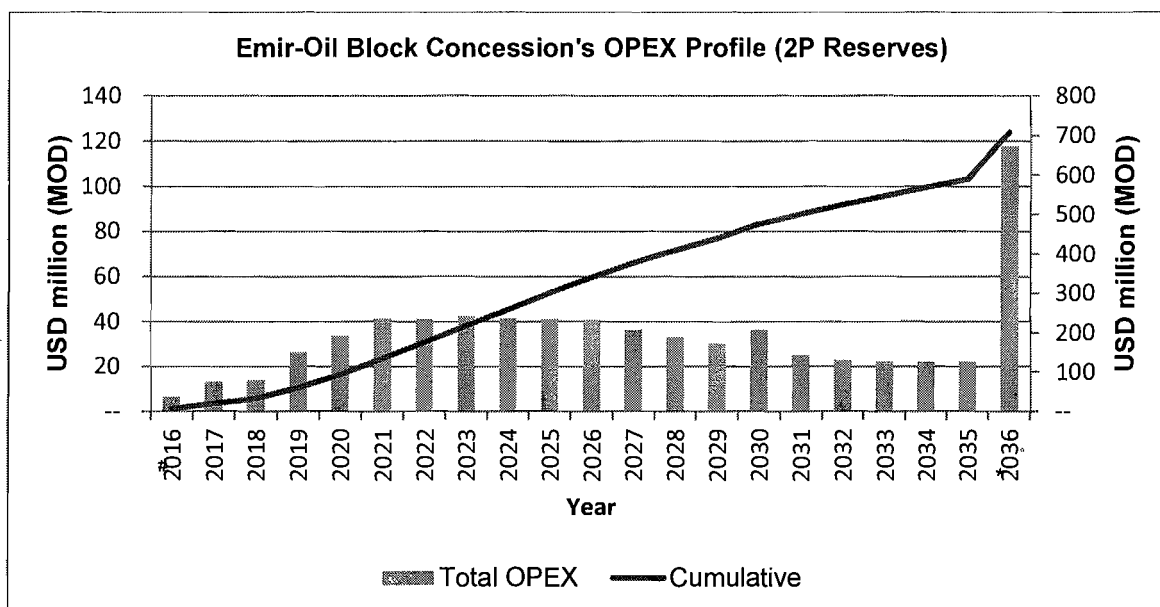
### 2.1.9 Estimated CAPEX and OPEX for the Emir-Oil Concession Block

The estimated 2P Reserves annual CAPEX and OPEX of the Emir-Oil Concession Block are illustrated below:



<sup>5</sup> As at 30 June 2016, the current liabilities of the Palaeontol B.V. Group exceeded its current assets by USD53.2 million, which is mainly due to the construction of the new CPF, drilling of wells and interests payable on the shareholder loans. If the trade payables arising from the construction of the new CPF and drilling services as well as interests payable on the shareholder loans were excluded, the working capital deficit as at 30 June 2016 will reduce to USD16.9 million.





Notes:

# Represents the OPEX for second half of 2016

\* In 2036, the OPEX increase mainly comprises of abandonment cost, which is estimated at 10% of the CAPEX incurred. This will be incurred at the end of the Emir-Oil Concession Block term.

(Source: Independent Technical Expert and Valuation Report)

The estimated 2P Reserves annual CAPEX of the Emir-Oil Concession Block, segregated by fields are as follows:

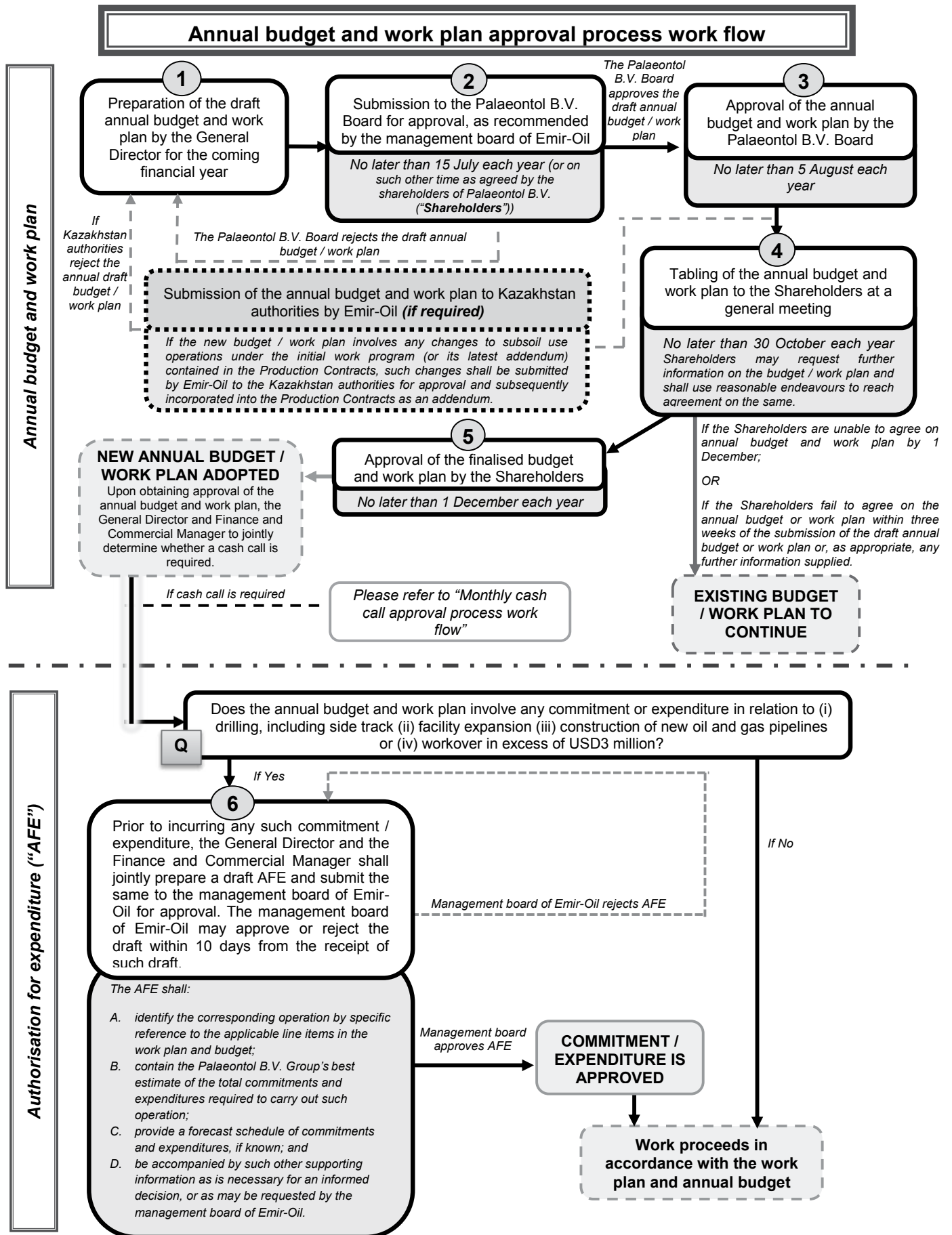
Fields	CAPEX projection for 2016 to 2026 (USD million) (MOD)
Kariman	143.6
Dolinnoe	72.7
Aksaz	62.6
Emir	36.1
North Kariman	31.0
Yessen	16.3
<b>Total</b>	<b>362.4</b>

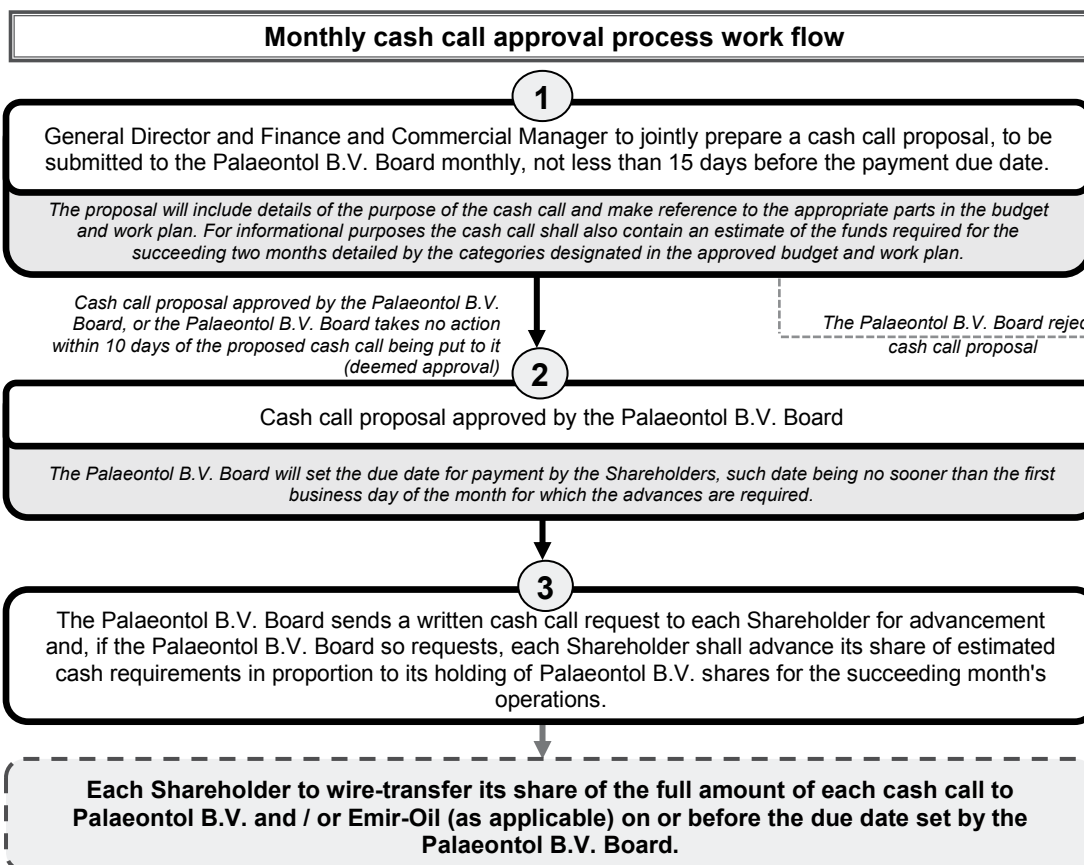
We anticipate that the CAPEX for the Emir-Oil Concession Block is approximately USD28.6 million for 2016. We do not expect to incur any CAPEX for 2017. On the other hand, the OPEX requirement is estimated to be approximately USD6.3 million and USD13.1 million for second half of 2016 and full year of 2017, respectively.

Accordingly, based on 60% working interest in the Emir-Oil Concession Block, our CAPEX for 2016 is USD17.2 million (or equivalent to RM71.1 million) whilst our OPEX for second half of 2016 and full year of 2017 is USD3.8 million and USD7.9 million (or equivalent to RM15.7 million and RM32.7 million), respectively.

Our Company intends to fund the CAPEX for 2016 mainly via the remaining amount in the Islamic Trust Account (after deducting the Upfront Consideration and the payment to Dissenting Shareholders, if any). CAPEX for 2018 onwards is expected to be funded from the internally generated funds of Emir-Oil, from the operating cash flows of the Emir-Oil Concession Block. However, if the oil price remains at the current level in the near to medium term, our Company may fund such CAPEX requirement from proceeds raised via future equity/debt fund raising exercises, if required. The OPEX is also expected to be funded from the internally generated funds of Emir-Oil, from the operating cash flows of the Emir-Oil Concession Block.

The annual budget and work plan (including any annual work program and budget under any contracts) is one of the Reserved Matters set out in the SHA and the proposed approval process for annual budget and work plan is set out below:





## 2.2 Details of the Proposed Placement

The Proposed Placement will entail the issuance of new Reach Energy Shares to raise gross proceeds of up to RM180.0 million to address the potential cash shortfall in the event our Company utilises the monies in the Islamic Trust Account to fund the Maximum Share Repurchase.

Under the 25% Dissenting Shareholders Scenario, the proceeds from the Proposed Placement of up to RM180.0 million are intended to be used mainly to settle the Remaining Completion Amount and partial payment of the Deferred Consideration. The final size of the Proposed Placement will depend on the amount represented by the Shares held by the Dissenting Shareholders required to be repurchased by us.

Under the No Dissenting Shareholder Scenario, our Company will have sufficient funds in the Islamic Trust Account to settle the entire Adjusted Purchase Consideration. Under the terms of the SPA, our Company has the flexibility to settle the Deferred Consideration within 12 months from the completion of the Proposed Acquisition without any interest charges. Due to such deferred payment arrangement, we intend to use the remaining trust monies for our CAPEX requirement in 2016 of about USD17.2 million (or equivalent to about RM71.1 million), being the amount attributable to our Company's 60% equity interest in Palaeontol B.V. Accordingly, our Company intends to raise only up to RM68.0 million to address the short term cash flow requirement of our enlarged Group and partially pay the Deferred Consideration.

Based on the issued and paid-up share capital of our Company of RM12,778,224.25 comprising 1,277,822,425 Shares as at the LPD, the maximum number of Placement Shares to be issued is up to 305,084,746, representing 22.9% of our enlarged issued and paid-up share capital under the 25% Dissenting Shareholders Scenario. The actual number of Placement Shares to be issued would depend upon the final size of the Proposed Placement and the final Issue Price.

The Proposed Placement is conditional upon the Proposed Acquisition but not vice versa, and will only be implemented after the completion of the Proposed Acquisition.

### **2.2.1 Placement arrangement**

The Placement Shares will be placed to third party investor(s) to be identified at a later date and who must be person(s) and/or party(ies) who falls under Schedules 6 and 7 of the CMSA. The precise terms and conditions such as the identity of the placees and number of Placement Shares allocated can only be determined and finalised later when the Proposed Placement is implemented.

The placees have not been identified at this juncture. Should the Placement Shares be placed to a director, major shareholder or person connected with a director or major shareholder ("**Interested Person**"), specific shareholders' approval will be obtained. Further, the Interested Person must abstain from voting on the resolution approving the allocation and issuance of the Placement Shares to him at a general meeting of our Company and will abstain from deliberating and voting on the resolution relating to the allocation and issuance of the Placement Shares to him at the board meeting, if any.

Subject to prevailing market conditions, the Proposed Placement may be implemented in tranches within six months from the date of approval of Bursa Securities for the listing of and quotation for the Placement Shares on the Main Market of Bursa Securities or any extended period as may be approved by Bursa Securities taking into consideration the then prevailing market conditions and the size of the Proposed Placement to be implemented.

### **2.2.2 Basis and justification for the Issue Price**

The Issue Price will be fixed at a date to be determined by our Board and announced later ("**Price-Fixing Date**") at the time of implementation of the Proposed Placement which will only be after the completion of the Qualifying Acquisition.

The Issue Price shall be determined by our Board after taking into consideration the prevailing market conditions and the rationale as set out in Section 5.2 of this Circular. In any case, the Issue Price will be fixed at a discount of not more than 15% to the five-day VWAMP of Reach Energy Shares immediately preceding the Price-Fixing Date, but shall in no event be lower than the par value of Reach Energy Shares of RM0.01 each.

For illustrative purposes only, assuming a 15% discount to the five-day VWAMP of Reach Energy Shares up to and including 6 May 2016, being the latest practicable date prior to the announcement of the Proposed Placement of RM0.69, the indicative Issue Price would be approximately RM0.59.

### **2.2.3 Ranking of the Placement Shares**

The Placement Shares shall, upon allotment and issuance, rank pari passu in all respects with the then existing Reach Energy Shares, except that the Placement Shares will not be entitled to any dividends, rights, allotments and/or any other distributions that may be declared by our Company, the entitlement date of which is prior to the date of allotment of the Placement Shares.

For avoidance of doubt, the Placement Shares will not be entitled to the monies in the Islamic Trust Account.

### **2.2.4 Listing of and quotation for the Placement Shares**

The Placement Shares will be listed and quoted on the Main Market of Bursa Securities.

## 2.2.5 Dilution to our shareholders

The Proposed Placement will dilute the shareholdings of our shareholders, the quantum of which would depend on, among others, the actual number of the Placement Shares, the Issue Price and the number of Warrants exercised by the Warrant holders. As such, we are unable to determine the quantum of the dilution at this juncture.

For illustrative purposes only, if a shareholder holds 1% shareholding in our Company prior to the implementation of the Proposed Placement, the said shareholder's shareholding in our Company will be diluted as illustrated under the scenarios set out below:

	<b>Assuming full exercise of the Warrants</b>		
	<b>Assuming none of the Warrants are exercised</b>	<b>1% Warrants held by the said shareholder are exercised</b>	<b>Warrants held by the said shareholder is sold instead of being exercised</b>
<b>25% Dissenting Shareholders Scenario:</b> Assuming our Company issues 305,084,746 new Reach Energy Shares at an indicative issue price of RM0.59 to raise gross proceeds of RM180.0 million	0.96%	0.98%	0.49%*
<b>No Dissenting Shareholder Scenario:</b> Assuming our Company issues 115,254,237 new Reach Energy Shares at an indicative issue price of RM0.59 to raise gross proceeds of RM68.0 million	0.92%	0.96%	0.48%*

Note:

\* For avoidance of doubt, without the Proposed Placement and assuming all the Warrants are exercised, for a shareholder with 1% shareholding in our Company but does not hold any Warrant, his shareholding will be diluted to 0.55% and 0.50% under the 25% Dissenting Shareholders Scenario and No Dissenting Shareholder Scenario, respectively.

Using similar assumptions as above, the impact on the shareholdings of the Management Team held via Reach Energy Holdings and the Initial Investor in our Company are as follows:

		<b>Assuming full exercise of the Warrants</b>		
		<b>Assuming none of the Warrants are exercised</b>	<b>Both Reach Energy Holdings and the Initial Investor exercise the Warrants held by them<sup>(3)</sup></b>	<b>Both Reach Energy Holdings and the Initial Investor sell the Warrants held by them instead of exercising the Warrants<sup>(3)</sup></b>
<b>25% Dissenting Shareholders Scenario:</b>				
Assuming our Company issues 305,084,746 new Reach Energy Shares at an indicative issue price of RM0.59 to raise gross proceeds of RM180.0 million				
(A)	Reach Energy Holdings <sup>(1)</sup>	19.17%	19.58%	9.79%
(B)	Initial Investor <sup>(2)</sup>	1.67%	1.70%	0.85%
<b>No Dissenting Shareholder Scenario:</b>				
Assuming our Company issues 115,254,237 new Reach Energy Shares at an indicative issue price of RM0.59 to raise gross proceeds of RM68.0 million				
(A)	Reach Energy Holdings <sup>(1)</sup>	18.35%	19.14%	9.57%
(B)	Initial Investor <sup>(2)</sup>	1.60%	1.66%	0.83%

**Notes:**

- (1) Holds 20% equity interest in our Company as at the LPD.
- (2) Holds 1.74% equity interest in our Company as at the LPD.
- (3) Assuming after the expiry of moratorium period.

### 3. BACKGROUND INFORMATION ON THE EMIR-OIL CONCESSION BLOCK

#### 3.1 Overview of Kazakhstan concession fiscal regime

Exploration and production of O&G in Kazakhstan is governed by two types of contracts, namely the production sharing agreement (“PSA”) and a concession contract with excess profit tax. Under a concession contract, tax is levied progressively on income that remains after corporate income tax is paid, while PSA contains a tax-stability clause, which means that changes in the tax regime are not applied to such contract. Only a limited number of PSAs were signed prior to 2009. Since January 2009, new PSA contracts are not allowed in Kazakhstan. In addition, the Government of Kazakhstan began to revise all subsoil contracts (including PSA contracts), following the introduction of the Code of the Republic of Kazakhstan on Taxes and other Mandatory Payments to the Budget (“Tax Code”) in 2009. PSAs signed prior to 2009 are supposed to remain valid for projects deemed geologically complex or strategically important, such as Tengiz, Kashagan and Karachaganak.

The Exploration Contract and Production Contracts are under the concession fiscal regime, the terms of which are summarised in the table below:

<b>Tax</b>	<b>Description</b>
Signature bonus	The signature bonus is a lump-sum payment paid by a subsurface user for the right to use the subsurface, while the commercial discovery bonus is a one-off payment paid by subsurface users when a commercial discovery is made on the contract territory.
Mineral extraction tax	The mineral extraction tax has replaced royalty payments. The mineral extraction tax rate for upstream companies was increased from a range of 2.0% to 8.0% to a range of 5.0% to 18.0% since 2009 depending on the level of production. The tax rate is reduced by 50.0% if the production is sold domestically in Kazakhstan.
Rent tax on export	Rent tax on export applies to subsoil users selling crude oil and gas condensate to export markets. Rent tax rates for export of crude oil and gas condensate are based on global crude oil prices and may vary from 7.0% if the global oil price is above USD40.0 per bbl to 32.0% if the global oil price is above USD180.0 per bbl.
Export duty	In March 2016, Kazakhstan introduced a floating rate of export duty on oil pegged to the global oil price to support the O&G industry given the fluctuating global oil prices. Export duty is exempted when the global oil price is below USD25.0 per bbl. If the oil price exceeds USD25.0 per bbl, the rate is determined in accordance with the special approved scale ranging from USD10.0 per tonne (if the oil price is above USD25.0 per bbl) to USD236.0 per tonne (if the oil price is above USD185 per bbl). Kazakhstan reached an agreement with the World Trade Organisation to reserve the right to levy export duties and increase duties on oil and oil products.
Property tax	Property tax is payable on O&G assets which are granted with production contracts at a rate of 1.5% based on the average balance of the O&G properties.
Excess profits tax	Excess profits tax is a tax levied on additional revenues earned by subsurface users in excess of the rates determined by the Tax Code. It is calculated annually and based on a progressive sliding scale with a maximum tax rate of 60.0%.

<b>Tax</b>	<b>Description</b>
Corporate income tax	Presently, the corporate income tax rate in Kazakhstan is 20.0%.
Value added tax	Crude oil, natural gas and gas condensate sold within the territory of Kazakhstan are subject to 12.0% value added tax.

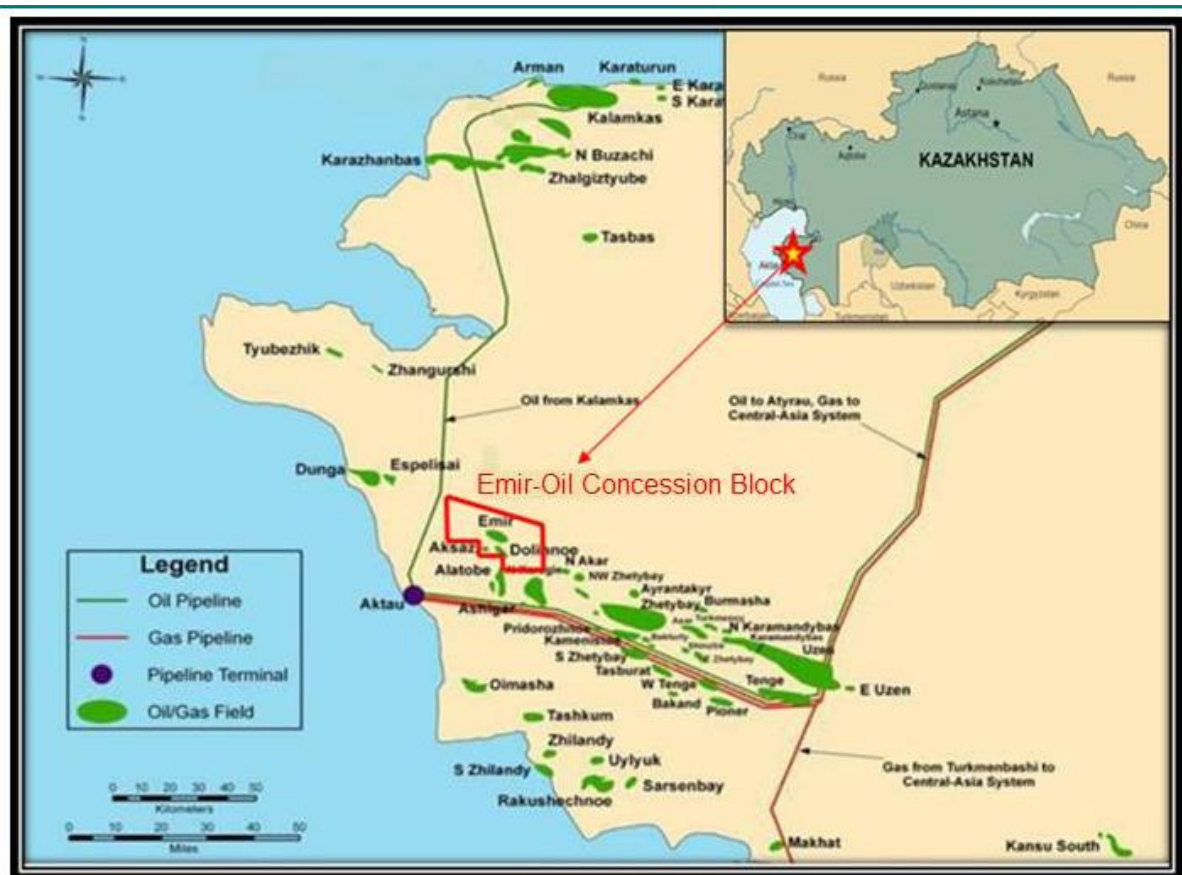
(Source: Frost & Sullivan)

The salient terms of the Production Contracts and Exploration Contract are set out in Appendix IV of this Circular.

### 3.2 Location and geology

The Emir-Oil Concession Block is located in the Mangystau Oblast about 40 km northeast of the City of Aktau which is Kazakhstan's largest sea-port on the Caspian Sea coast. The hydrocarbon Reserves of the Emir-Oil Concession Block are located within the articulation zone of the proven oil field region in the prolific Mangyshlak Basin adjacent to other producing fields such as Zhetybay, Uzen and Tenge. The Mangyshlak Basin is part of the four main hydrocarbon provinces of Kazakhstan, a country ranked amongst the top 12 hydrocarbon Reserves holders globally (Source: Frost & Sullivan).

The location of the Emir-Oil Concession Block is shown in the map below:





The Emir-Oil Concession Block is covered with 826 km<sup>2</sup> of moderate to good quality 3D seismic data acquired and reprocessed in recent years. The understanding of structural geology and hydrocarbon habitat of the area is well established. The hydrocarbon filled structures are mostly aligned with the main northwest-southeast major trending fault system which is interpreted as reverse fault across the block.

### 3.3 Reserves

The table below sets out the 1P, 2P and 3P oil and natural gas Reserves estimated by RPS in the Producing Fields and Development Fields and the portion attributable to our Company post completion of the Proposed Acquisition based on Reserves estimates as of 1 July 2016:

	Gross (100%)			Attributable to our Company post completion of the Proposed Acquisition (60%)		
	1P	2P	3P	1P	2P	3P
Oil Reserves (MMstb)	24.6	70.0	116.1	14.8	42.0	69.7
Gas Reserves (Bscf)	17.7	116.3	184.1	10.6	69.8	110.4
Total Reserves (MMboe)	27.6	89.4	146.8	16.6	53.6	88.1

The breakdown of the gross (100%) 2P Reserves of the Producing Fields and Development Fields in accordance with the phases of expansion of surface infrastructure in the Emir-Oil Concession Block as explained in Section 3.6 of this Circular, is set out below:

	Phase 1			Phase 2 <sup>(3)</sup>	Total
	Developed Producing Reserves <sup>(1)</sup>	Developed Non- Producing Reserves <sup>(1)</sup>	Undeveloped Reserves <sup>(2)</sup>	Undeveloped Reserves <sup>(2)</sup>	
<b>2P oil Reserves (MMstb)</b>					
Aksaz	0.744	-	-	2.627	3.371
Dolinnoe	2.147	2.162	0.815	4.852	9.977
Emir	0.709	-	0.711	2.106	3.527
Kariman North	10.989	7.321	3.154	18.258	39.723
Kariman	1.622	-	1.121	3.365	6.108
Yessen	-	3.637	-	3.672	7.309
<b>Total</b>	<b>16.212</b>	<b>13.120</b>	<b>5.802</b>	<b>34.881</b>	<b>70.016</b>
<b>2P gas Reserves (Bscf)</b>					
Aksaz	5.816	-	-	20.793	26.609
Dolinnoe	13.162	15.215	5.742	33.918	68.038
Emir	0.104	-	0.104	0.309	0.518
Kariman North	4.924	3.280	1.363	7.770	17.336
Kariman	0.484	-	0.335	1.005	1.824
Yessen	-	0.975	-	0.978	1.953
<b>Total</b>	<b>24.490</b>	<b>19.471</b>	<b>7.543</b>	<b>64.773</b>	<b>116.278</b>

Notes:

- (1) Developed Reserves are expected quantities to be recovered from existing wells and facilities. Developed producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate. Developed non-producing Reserves include shut-in and behind-pipe Reserves. Behind-pipe Reserves are expected to be recovered from zones in existing wells which will require additional completion work or future re-completion prior to start of production.
- (2) Undeveloped Reserves are expected to be recovered: (1) from new wells on undrilled acreages, (2) from deepening existing wells to a different reservoir, or (3) where a relatively large expenditure is required to (aa) recomplete an existing well or (bb) install production or transportation facilities for primary or improved recovery projects.
- (3) If market conditions deteriorate or if there is a delay in obtaining the required approvals, the implementation plan for Phase 2 may be deferred. Any significant deferment of Phase 2 may result in a revision of the reported Reserves.

### 3.4 O&G quality

The crude oil produced from the Emir-Oil Concession Block is sweet and light with API gravity ranging from 36 to 55 degrees. Generally, this type of crude oil has the best commercial value.

Aksaz is essentially a condensate-rich gas field with condensate-to-gas ratio ranging from 66 to 185 stb per MMscf. The gas produced has very low carbon dioxide content and no hydrogen sulphide has been reported.

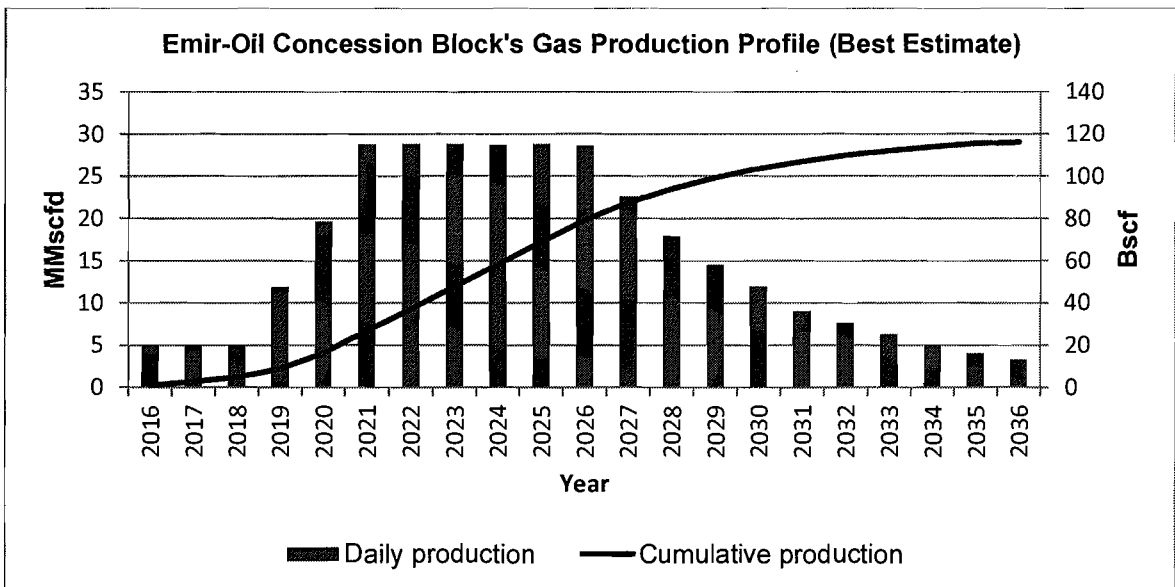
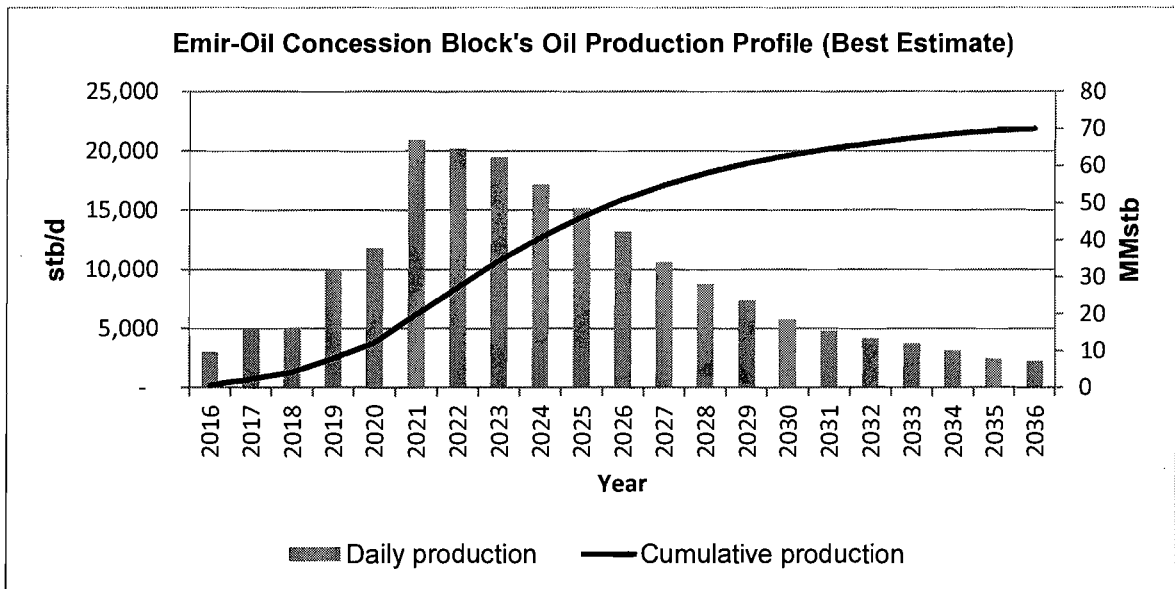
### 3.5 Production volume

The production volume of the Emir-Oil Concession Block for the past four FYEs 31 December 2012 to 2015 and FPE 30 June 2016 are as follows:

	FYE 31 December				FPE 30 June
	2012	2013	2014	2015	2016
<b>Average daily net production</b>					
Crude oil (bbl/d)	2,787	4,320	5,201	3,412	3,296
Gas (MMscfd)	4.50	5.00	5.88	5.89	5.71

The production has been increasing from 2012 to 2014 since MIEH acquired Emir-Oil in 2011 via Palaeontol B.V.. However, in 2015, the average daily net production was curtailed to 3,412 bbl/d of oil due to the prevailing low oil price environment. Historically, about 80% of the crude oil produced is exported.

Based on RPS's estimates as set out in the Independent Technical Expert and Valuation Report, the O&G production profiles of the Emir-Oil Concession Block (based on Best Estimate) are set out below:



### 3.6 Processing and storage facilities

Crude oil produced from the Emir-Oil Concession Block is currently sold to international and domestic markets. Currently, produced crude oil from Kariman oil field and North Kariman oil field is piped via existing oil pipelines from North Kariman oil field to Kariman oil field and subsequently to Dolinnoe oil field. The produced crude oil is then gathered at a collection point at Dolinnoe oil field together with produced crude oil from Dolinnoe oil field before it is trucked to Mangyshlak Processing Plant, being the leased oil processing and storage facilities located approximately 34.4 km away and adjacent to Mangyshlak train station. Produced condensate from Aksaz condensate-rich gas field is piped to Emir-Oil owned gas processing plant ("**Gas Processing Plant**") at Aksaz condensate-rich gas field and then trucked about 26.7 km away to the leased oil processing and storage facilities. Produced crude oil from Emir oil field and Yessen oil field is trucked directly from the oil fields to the leased oil processing and storage facilities.

For the export market, crude oil is transported from the leased oil processing and storage facilities through the railway system to Aktau port. From Aktau port, the oil is then shipped across the Caspian Sea to the port of Makhachkala in Russia, before onward delivery via pipeline to the Black Sea port of Novorossiysk (in Russia) for loading into vessels arranged by buyer. Crude oil for domestic market is typically sold at the leased oil processing and storage facilities after being loaded into the rail wagons arranged by the buyer.

Currently, gas produced from the Emir-Oil Concession Block is sold to domestic market via existing gas pipelines which is owned by Emir-Oil to the City of Aktau. The oil and associated gas from North Kariman oil field is piped to the gathering station located at Kariman oil field where oil, gas and water are separated. The North Kariman associated gas, together with the gas produced from the Kariman oil field, is then piped to Dolinnoe oil field for additional compression before being piped to the Gas Processing Plant. Gas produced from Dolinnoe oil field is piped to the Gas Processing Plant via a separate gas pipeline.

Currently, the oil processing and storage facilities are on lease to Emir-Oil by Term-Oil LLP where the rental rate of the leased oil processing and storage facilities amounts to KZT12.7 million (or equivalent to approximately RM0.16 million) per month. Emir-Oil's share of the oil processing capacity is 6,458 bbl/d of oil with oil storage capacity of 54,100 bbl. Emir-Oil has its own gas processing plant and the current gas processing capacity of Emir-Oil is 5.5 MMscfd of gas.

However, Emir-Oil's O&G production is constrained by the oil processing facility capacity on lease to Emir-Oil and existing gas processing plant owned by Emir-Oil. Hence, in its effort to optimise revenue and operating costs, MIEH has invested in building good surface infrastructure with a well-defined upgrade plan to cater for the increase in O&G production volumes, including the construction of a new CPF<sup>6</sup> (which will contain both O&G processing facilities) over two phases of expansion.

Under Phase 1, the new CPF will have O&G processing capacities of 12,000 bbl/d for oil and 21.2 MMscfd for gas. The new CPF is currently in advanced stage of construction and is scheduled for completion by end of 2016. As at the LPD, the overall project completion of the CPF was approximately 70%.

Phase 1 also includes a 25-km oil pipeline and a 35-km gas pipeline from the new CPF connecting directly to the large state-owned trunklines of KTO and KTG (being our major gas customer), respectively as well as new oil pipelines to connect Yessen oil field to Dolinnoe oil field and thereafter to the new CPF and a new oil pipeline to connect Emir oil field to the new CPF. The approval to construct the 25-km oil pipeline and 35-km gas pipeline has been obtained from the Government of Kazakhstan. Emir-Oil has also received the consent from KTO and KTG to tie-in the oil and gas pipelines to the trunklines of KTO and KTG. Inter-field pipelines were approved as part of the Phase 1 project within the Emir-Oil Concession Block.

The 25-km oil pipeline, 35-km gas pipeline and new oil pipelines connecting to the new CPF are expected to be constructed and completed in 2018. Once the installations of the pipelines are completed, oil will be piped through the 25-km oil pipeline from the CPF to the trunkline of KTO which currently connects to Aktau port for onward delivery to export and domestic markets. Whereas, gas will be sold through the 35-km gas pipeline from the CPF to the gas trunkline owned by KTG and this is expected to result in increased gas sales volume.

The new CPF will commence operations once the pipelines are ready, which is expected to be at the end of 2018. Upon the full commissioning of the new CPF, Emir-Oil will retire and decommission the existing gas processing plant located in the Aksaz condensate-rich gas field.

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<sup>6</sup> O&G extracted from the wells are transported by pipelines to this CPF. At the CPF, the water and gas are separated from the oil before the oil is sent to the oil pipeline for export or domestic sale. For gas, the condensate, heavy components and any impurities, and condensed water are removed from the gas before sending to the gas pipeline for sale.

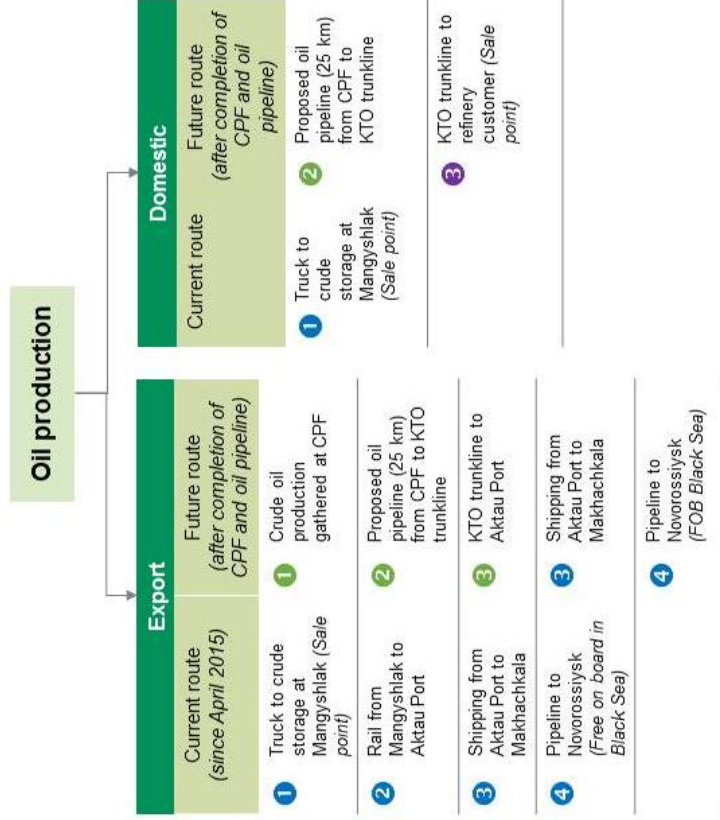
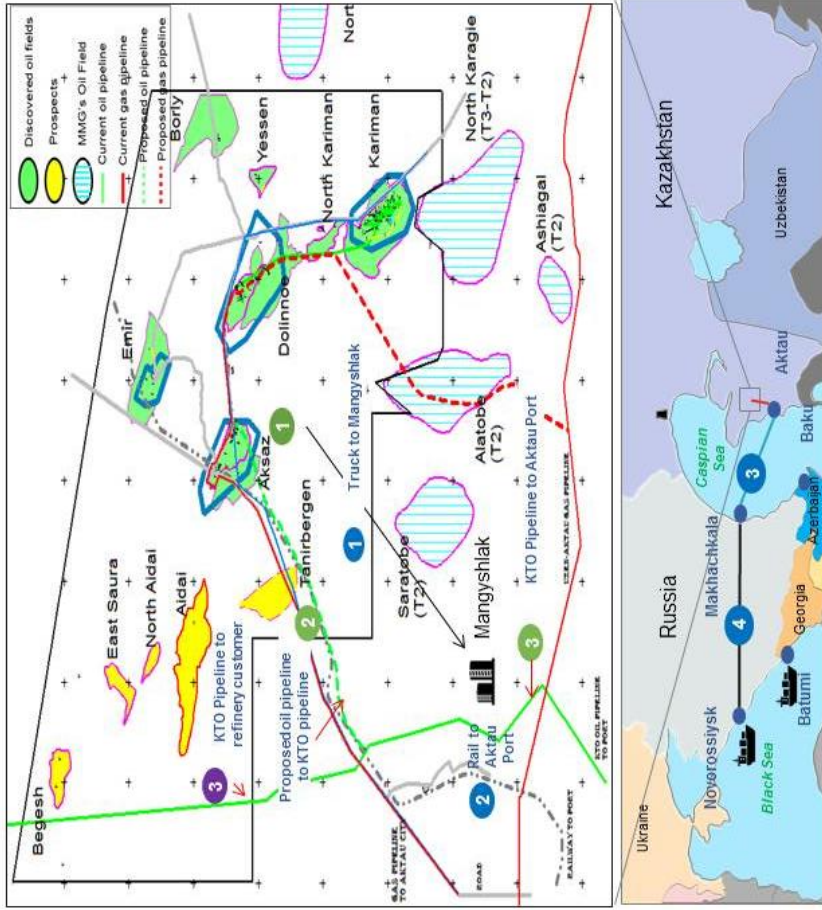
Phase 2 involves upgrading of the corresponding surface infrastructure of the CPF and is targeted for commencement of construction in 2019 to increase O&G processing capacities to 23,000 bbl/d for oil and 31 MMscfd for gas, respectively. The surface infrastructure currently being built under Phase 1 has provided the necessary reserved expansion interfaces for Phase 2 construction.

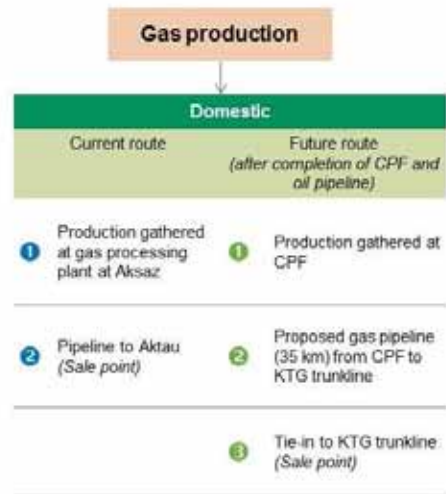
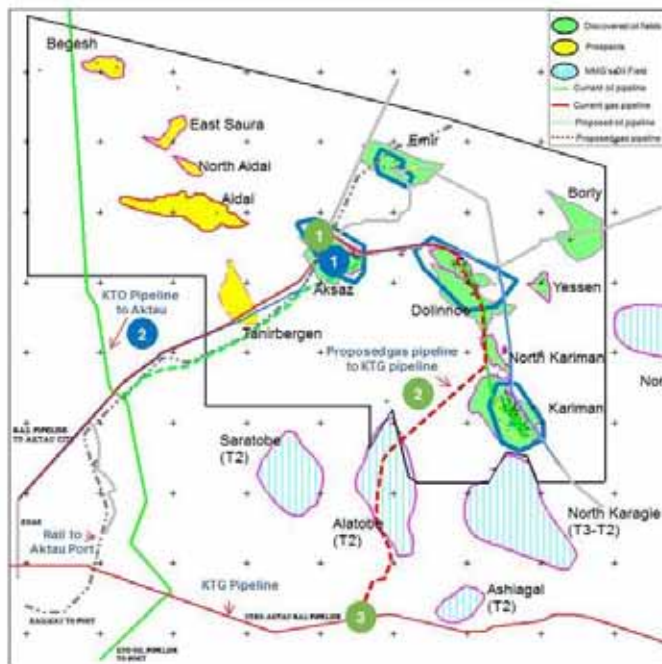
Further upgrading of the surface infrastructure could be considered once additional Reserves in the Emir-Oil Concession Block are proven in the future.

The carefully phased out modular expansion of the O&G processing facilities is a prudent field development approach in optimising investment returns.

The new CPF is expected to result in savings in the operating expenses of USD4 to USD5 per barrel, mainly from the reduction of trucking and railway costs.

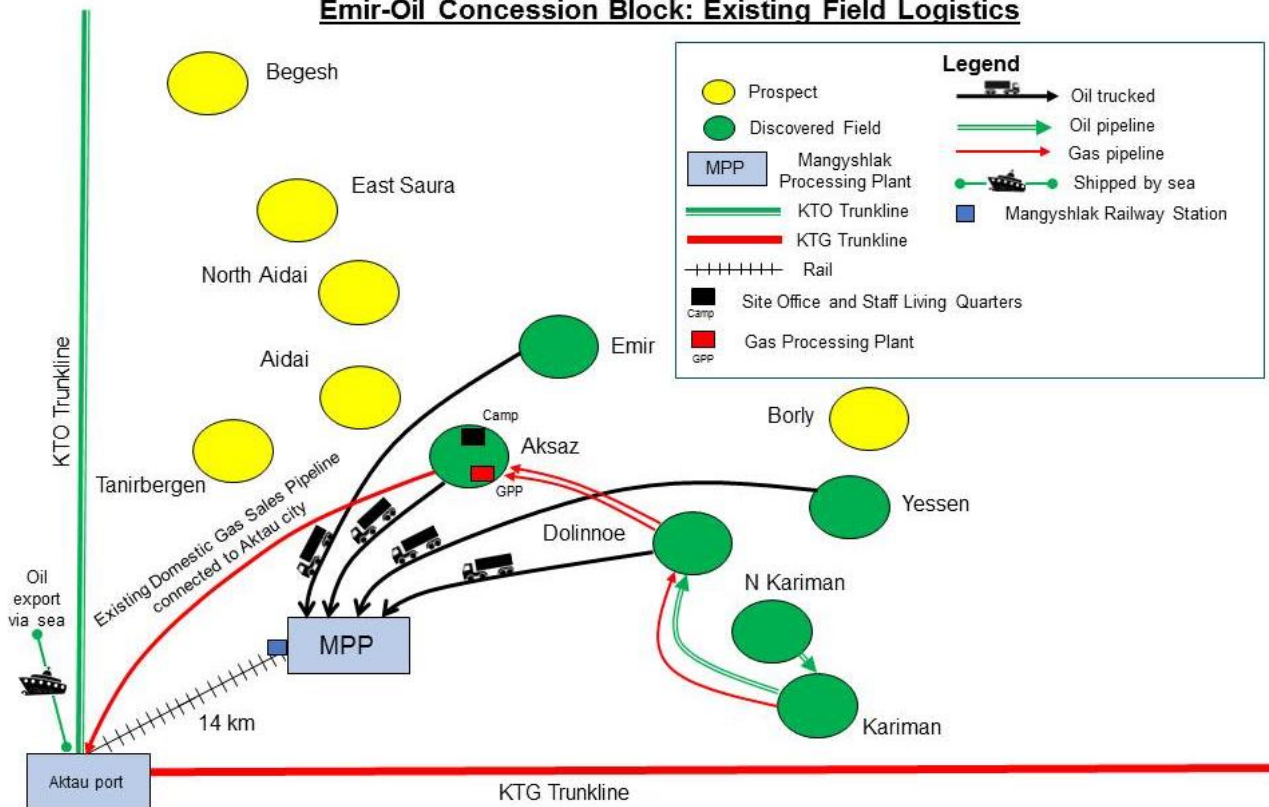
The diagrams below illustrate the current and future O&G evacuation infrastructure and logistics:



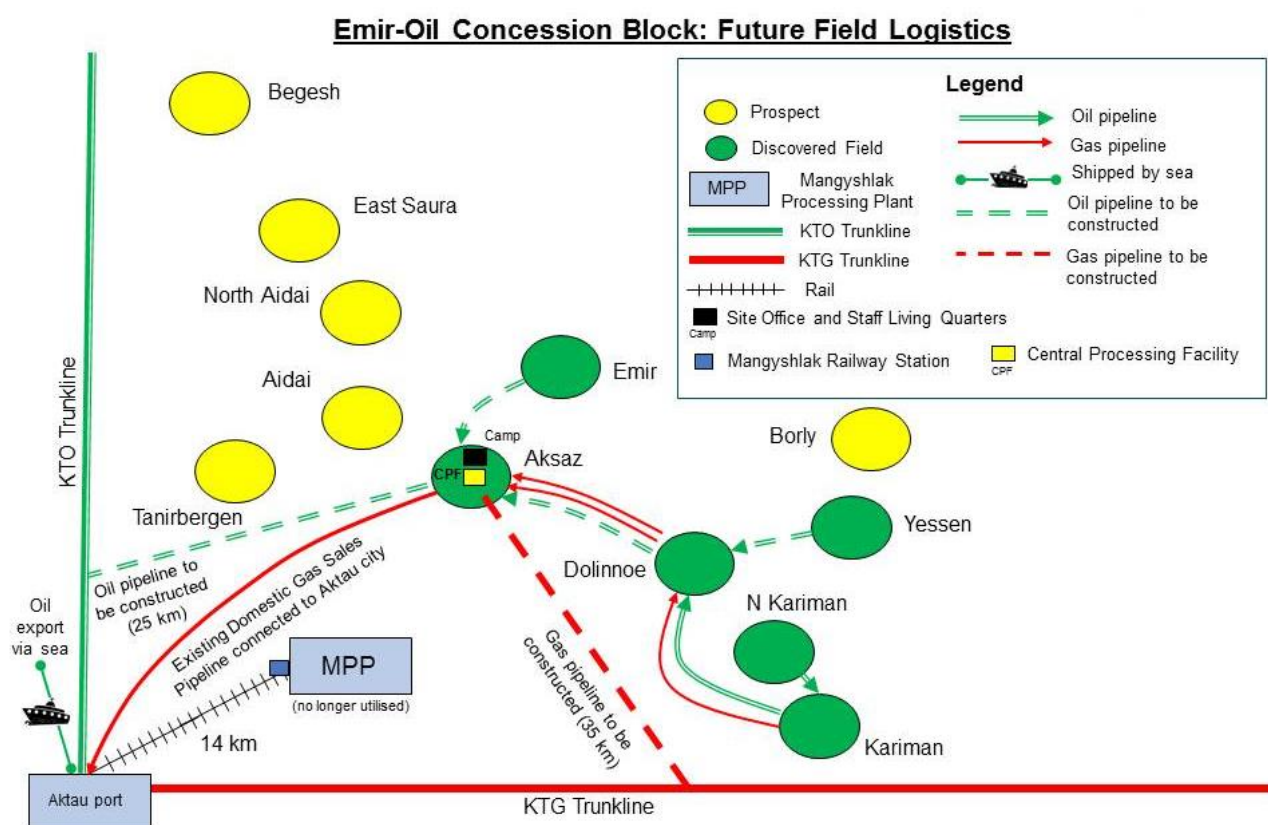


The existing logistics from the Producing Fields and Development Fields to Aktau Port (for oil) or Aktau city (for gas) are shown in the diagram below:

**Emir-Oil Concession Block: Existing Field Logistics**



The future logistics from the Producing Fields and Development Fields to the new CPF connected to the KTO trunkline (for oil) or KTG trunkline (for gas) are shown in the diagram below:



### 3.7 Key operating data

The sales and production volume of the Producing Fields as well as the financial performance of the Palaeontol B.V. Group for the past three FYEs 31 December 2013 to 2015 and FPE 30 June 2016 are as follows:

	FYE 31 December			FPE 30 June 2016
	2013	2014	2015	
<b>Sales volume</b>				
Crude oil (MMbbl)	1.56	1.88	1.09	0.66
- Export sales	1.28	1.44	0.96	0.62
- Domestic sales	0.28	0.44	0.13	0.04
Gas (MMscf)	1,661.58	1,954.38	2,001.15	945.28
<b>Net annual production volume</b>				
Crude oil (MMbbl)	1.58	1.90	1.25	0.60
Gas (MMscf)	1,812.44	2,146.48	2,150.78	1,039.16
Total (MMboe)	1.88	2.26	1.61	0.77
<b>Average daily net production</b>				
Crude oil (bbl)	4,320	5,201	3,412	3,296
Gas (MMscf)	5.00	5.88	5.89	5.71



	FYE 31 December			FPE 30 June
	2013	2014	2015	2016
<b>Financial indicators of operating performance</b>				
Average realised oil price (USD per barrel)	79.64	63.31	43.95	35.03
- Export sales	87.80	70.63	48.41	36.44
- Domestic sales	41.57	39.68	12.02	11.60
Lifting cost <sup>7</sup> (USD per barrel)	5.18	4.85	3.66	2.35
Export sales & transportation commission discount (USD per barrel)	20.76	20.98	<sup>(a)</sup> 5.56	5.40
OPEX (USD'000) <sup>(b)</sup>	34,279	32,903	25,863	10,396
OPEX per boe (USD) <sup>(c)</sup>	18.21	<sup>(d)</sup> 14.57	<sup>(e)</sup> 16.08	13.45

Notes:

- (a) As a result of the new agreement effective February 2015, the new export transportation and marketing commissions payable to Euro-Asian Oil SA (formerly known as Titan Oil Trading GmbH) ("**Euro-Asian Oil**") has reduced to USD5.56 per barrel. However, an additional distribution expense averaging at USD7.80 per barrel has been incurred under the new oil sales agreement.
- (b) OPEX is the expenses incurred by Emir-Oil to extract O&G from the Emir-Oil Concession Block until the delivery of the O&G to its customers, which includes the lifting cost. OPEX comprises purchases, services and other direct costs, geological and geophysical expenses, distribution expense, employee compensation costs and general and administrative expenses. Other expenses such as taxes, non-cash items (such as assets impairment as well as depreciation, depletion and amortisation) and foreign exchange gain/loss have not been included as they are not expenses related to the operations of the Palaeontol B.V. Group.
- (c) Computed by dividing OPEX with total O&G production volume for the year.
- (d) The decrease in OPEX per boe for the FYE 31 December 2014 is mainly due to the decrease in purchases, services and other direct costs as well as the higher O&G production volume for the year.
- (e) The increase in OPEX per boe for the FYE 31 December 2015 is due to the additional distribution expense incurred as a result of change in sales delivery terms in 2015, which resulted in the Palaeontol B.V. Group incurring higher transportation and distribution costs under OPEX. Consequently, this has also resulted in a lower net discount given to the off-taker as explained in item (a) above.

Please refer to Appendix XI of this Circular for the management's discussion and analysis of financial condition, results of operations and prospects of the Palaeontol B.V. Group.

<sup>7</sup> Lifting cost includes directly controllable costs to produce a barrel of oil. Other production costs such as safety fee, environment expenses, technical & research expenses and overhead have not been included above since they are not directly attributable to the production of a barrel of oil.

The table below sets out Emir-Oil's production well status as at 31 December 2013, 31 December 2014, 31 December 2015 and 30 June 2016:

	As at 31 December			As at 30 June
	2013	2014	2015	2016
<b>No. of production wells</b>				
- Producing	16	22	16	16
- Shut-in*	23	23	32	34

Note:

\* Wells are shut-in for control of O&G production. The oil production is limited by the existing gas processing capacities and thus, a number of higher gas producing wells have been shut-in. In addition, oil production was curtailed in 2015 due to low oil prices.

For the past three FYEs 31 December 2013 to 2015 and up until FPE 30 June 2016, MIEH incurred a total CAPEX of approximately USD199.8 million for well drilling and the construction of the surface infrastructure such as pipelines, gas processing plant, transportation facilities and the new CPF.

### 3.8 Major customers

The Palaeontol B.V. Group's major customers (being those individually contributing 10% or more of the revenue of the Palaeontol B.V. Group) for the past three FYEs 31 December 2013 to 2015 and FPE 30 June 2016 are as follows:

Major customer	Years of relationship	2013		FYE 31 December 2014		2015	
		USD'000	(% of revenue)	USD'000	(% of revenue)	USD'000	(% of revenue)
<i>Crude Oil</i>							
Euro-Asian Oil	10	112,759	89.2	101,639	83.7	46,269	93.0
Trade Com Oil LLP	2	4,420	3.5	16,953	14.0	-	-
<i>Gas</i>							
KTG <sup>(1)</sup>	3	2,225	1.8	2,219	1.8	1,892	3.8
Major customer	Years of relationship	FPE 30 June 2016					
		USD'000	(% of revenue)				
<i>Crude Oil</i>							
Euro-Asian Oil	10	22,667	95.1				
Trade Com Oil LLP	2	-	-				
<i>Gas</i>							
KTG <sup>(1)</sup>	3	731	3.1				

Note:

(1) Being the sole gas customer of the Palaeontol B.V. Group.

For the FYEs 31 December 2013 to 2015 and FPE 30 June 2016, revenue from oil sold to Euro-Asian Oil accounted for more than 80% of the Palaeontol B.V. Group's revenue. The oil sales agreements between Emir-Oil and Euro-Asian Oil are negotiated between the parties on an annual basis and is renewed annually. There is no minimum obligation/off-take (both financial and non-financial) terms under the oil sales agreements for the past three FYEs 31 December 2013 to 2015. However, the oil sales agreements state the maximum quantity of crude oil that Euro-Asian Oil undertakes to pay and accept in a particular year. Save for the maximum quantity of crude oil undertaken to be paid and accepted by Euro-Asian Oil, there are no other restrictions/covenants imposed under the oil sales agreements.

Should the Palaeontol B.V. Group lose Euro-Asian Oil as a customer, such loss will have a material adverse effect on its operations in the short-term. Based on current demand for crude oil and the fact that alternate purchasers are readily available, the Palaeontol B.V. Group believes, however, that such loss would not materially adversely affect its operations in the long-term.

For the FYEs 31 December 2013 to 2015 and FPE 30 June 2016, revenue from gas sold to KTG accounted for between 1.8% and 3.8% of the Palaeontol B.V. Group's revenue. Produced gas is sold to KTG and the 2016 gas sales contract stipulates that the buyer takes around 4.65 million cubic meters per month (being 5.4 MMscfd). The gas sales contract is re-negotiated on an annual basis. However, the Palaeontol B.V. Group believes that it can extend/renew the sales contract given that under the Law on Gas and Gas Supply approved by the Government of Kazakhstan in early 2012, KTG has been provided with the priority right to purchase and transport all associated gas produced in Kazakhstan.

### 3.9 Major suppliers

The Palaeontol B.V. Group's major suppliers (being those individually contributing 10% or more of the purchases of the Palaeontol B.V. Group) for the past three FYEs 31 December 2013 to 2015 and FPE 30 June 2016 are as follows:

Major supplier	Years of relationship	Products supplied/ Services rendered	FYE 31 December			FPE 30
			2013 (% of purchases)	2014 (% of purchases)	2015 (% of purchases)	June 2016 (% of purchases)
OS Technology Services LLP	3	Drilling services	33.2	20.8	58.4	-
Sinopec Service Kazakhstan Ltd (中石化服务哈萨克斯坦有限公司)	3	Drilling services	18.4	14.5	5.8	50.6
Xibu Drilling Engineering Co Ltd (西部钻探工程有限公司)	7	Drilling services	11.3	13.4	8.4	-
China Oil HBP Science & Technology Co Ltd (华油惠博普科技股份有限公司)	2	Equipment for the CPF	-	13.3	-	-
China Railway Kazakhstan Co Ltd (中铁哈萨克斯坦有限公司)	3	Construction of the CPF	-	25.3	-	-

#### 4. USE OF PROCEEDS

For illustrative purposes, assuming the indicative Issue Price of RM0.59 per Placement Share, the gross proceeds to be raised from the Proposed Placement under the 25% Dissenting Shareholders Scenario and No Dissenting Shareholder Scenario are to be utilised in the following manner:

Details of utilisation	Estimated timeframe for utilisation (from the date of listing of the Placement Shares)	25% Dissenting Shareholders Scenario (RM million)	No Dissenting Shareholder Scenario (RM million)
Payment of the Remaining Completion Amount <sup>(1)</sup>	Within 6 months	122.0	-
Partial payment of the Deferred Consideration <sup>(2)</sup>	Within 12 months	34.0	25.6
Working capital <sup>(3)</sup>	Within 12 months	-	21.4
Defray estimated expenses relating to the Proposals <sup>(4)</sup>	Within 2 months	24.0	21.0
<b>Total</b>		<b>180.0</b>	<b>68.0</b>

Notes:

- (1) The Remaining Completion Amount of USD29.5 million refers to the Upfront Consideration of USD149.5 million (computed based on 85% of the Adjusted Purchase Consideration (Maximum) of USD175.9 million to be paid on Completion) less the completion payment of USD120.0 million.
- (2) The Deferred Consideration of USD26.4 million refers to the remaining 15% of the Adjusted Purchase Consideration (Maximum) of USD175.9 million which has no fixed tenure for payment but will be charged with interest at the rate of 10% and 14% if payment of the Deferred Consideration is made 12 months after the Completion but before 24 months after the Completion and if payment of the Deferred Consideration is made 24 months after the Completion respectively. It is the intention of our Company to pay the balance of the Deferred Consideration (i.e. being the amount not settled by the placement proceeds) via internally generated funds and/or proceeds from future equity/debt fund raising exercise by our Company, within 24 months after the Completion, depending on the cash flow position of our Company. As long as the Deferred Consideration remains not fully settled, the outstanding amount of the Deferred Consideration is subject to the interest associated with the payment schedule of the Deferred Consideration as mentioned above.
- (3) Under the No Dissenting Shareholder Scenario, we have earmarked RM21.4 million for working capital to finance the day-to-day operations of our enlarged Group such as payroll, operating expenses and project enhancement including appointing experts to undertake market studies and further evaluation on the potential of the O&G fields located within the onshore contract area in Kazakhstan (if required). This will provide us with the available cash and flexibility (in terms of timing) to undertake the market studies as and when required. Under the 25% Dissenting Shareholder Scenario, given the placement proceeds are allocated mainly for the payment of the Remaining Completion Amount and the Deferred Consideration, we have not earmarked the proceeds for working capital. If required, we will fund the working capital from future equity/debt fund raising exercise and/or internally generated funds. Alternatively, we may reallocate the proceeds allocated for the partial payment of the Deferred Consideration to fund the working capital.

- (4) Comprise mainly of professional fees, placement commission which is calculated based on the proceeds to be raised and fees to the relevant authorities in relation to the Proposals. If the actual expenses relating to the Proposals are lower than the estimated amount, the excess will be allocated to partial payment of the Deferred Consideration and/or working capital, where applicable. The total expenses for the Proposed Acquisition are estimated at RM18.0 million. In the event the Proposed Placement is not implemented, such expenses will be funded via our Company's existing internal funds.

The allocation of proceeds to be raised from the Proposed Placement may vary depending on the movement in foreign exchange.

The amount of proceeds to be raised from the Proposed Placement also cannot be determined at this juncture as it would depend on, among others, the amount represented by our Shares held by the Dissenting Shareholders required to be repurchased by our Company, if any, the final size of the Proposed Placement and the final Issue Price.

Pending utilisation of the proceeds for the purposes as set out above, the proceeds will be placed in profit bearing Islamic account with financial institutions or short-term money market instruments as our Board in its absolute discretion deems fit.

## **5. RATIONALE AND BENEFITS OF THE PROPOSALS**

### **5.1 Proposed Acquisition**

The Proposed Acquisition is pivotal as it will be the first hydrocarbon asset to be owned by our Company. Since the Producing Fields within the Emir-Oil Concession Block are already in production and with established infrastructure of gas pipeline, gas processing plant, oil processing, oil storage and transportation facilities in place, the Proposed Acquisition is expected to immediately contribute positively to the revenue of our Company. The Emir-Oil Concession Block is in the early stage of its producing life with secured licences and having the potential for achieving peak production in the future. Furthermore, additional O&G Reserves and substantial Prospective Resources are expected to provide stable recurring revenue to our Company over a sustainable future.

The Proposed Acquisition also presents a unique opportunity for us to further tap into Kazakhstan's O&G sector with a strong operating platform. The strategic location of the Emir-Oil Concession Block in the heart of the prolific Mangyshlak Basin of Western Kazakhstan near the Caspian Sea offers high potential opportunity for our Company to extend our exploration and production activities into the other hydrocarbon areas in the vicinity of the Emir-Oil Concession Block. This is expected to enhance our Group's profitability and market profile in the future.

Our Board is of the view that the Proposed Acquisition represents an attractive investment opportunity for us for the following reasons:

#### **(i) Investment in a balanced portfolio of O&G fields**

The Emir-Oil Concession Block provides an opportunity for our Company to accomplish our strategy of investing in a balanced portfolio of O&G fields covering the wider spectrum of upstream O&G production, development and exploration activities. Upon completion of the Proposed Acquisition, our Company will assume effective control of Emir-Oil which owns and operates four Producing Fields that are in their prime and early stage of production and two Development Fields which are under pilot production. This essentially will provide immediate revenue to our enlarged Group. Further production enhancement opportunities (i.e. acid stimulation, acid fracturing, horizontal drilling, well workovers, etc.) have been identified which are immediately implementable upon completion of Phase 1 of the new CPF project to improve oil recovery and increase production and revenue, subject to prevailing oil price environment.

North Kariman oil field and Yessen oil field are currently under pilot production, indicating commercially producible Reserves. The reserve potential for both fields are being evaluated to assess their commerciality. The plan is to extend the current Kariman production licence area to the north to include North Kariman oil field and to extend the current Dolinnoe production licence area to the east to include Yessen oil field. In addition, the Emir-Oil Concession Block also has many prospects with exploration/appraisal, development and production opportunities to be further exploited.

**(ii) Significant developed Reserves in favourable geological conditions**

The Emir-Oil Concession Block is located in the prolific Mangyshlak Basin, Western Kazakhstan in close vicinity to the Caspian Sea as well as the country's export and distribution infrastructure centred around Aktau. The hydrocarbon accumulation of the Emir-Oil Concession Block is situated within the articulation zone of proven oil field region and adjacent to other producing fields such as Zhetybay, Uzen and Tenge oil fields. The main producing zone of the Emir-Oil Concession Block is the middle Triassic carbonates with upside from upper Triassic and Jurassic sandstones.

Oil was first discovered in 1994 in Dolinnoe-1 well, followed by the discovery of gas in Aksaz in 1995 and oil discoveries in Emir and Kariman in 1996 and 2006 respectively. Full field production for Aksaz, Dolinnoe and Kariman commenced only in September 2011 while field production for Emir started in March 2013. Based on the geological data, field development plan and production performance, the Emir-Oil Concession Block has significant 2P Reserves. As of 1 July 2016, the 2P Reserves of the Producing Fields and Development Fields as assessed by RPS are 70.0 MMstb of oil and 116.3 Bscf of gas (which is equivalent to total 2P Reserves of 89.4 MMboe) in the Producing Fields and Development Fields.

The Proposed Acquisition offers an opportunity for our Company to capitalise and benefit from the continued growth of the Emir-Oil Concession Block in Western Kazakhstan.

**(iii) High Reserves upgrade potential from Prospective Resources**

As of 1 July 2016, the total 3P Reserves in the Emir-Oil Concession Block was 116.1 MMstb of oil and 184.1 Bscf of gas (total equivalent to 146.8 MMboe). The possible (P3) Reserves is estimated at 57.4 MMboe. Besides the substantial P3 Reserves, a number of prospects have been identified from 3D seismic interpretation. The un-risked Best Estimate Prospective Resources was estimated at 255.7 MMstb of oil (*Source: Independent Technical Expert and Valuation Report*). In addition, potential areas of field and reservoir extension will provide an opportunity for our Company to increase the O&G Reserves within the Emir-Oil Concession Block. Step-out appraisal-cum-development wells have been proposed to confirm the Reserves extension. If successful, these will significantly increase the 2P Reserves.

**(iv) Attractive valuation of the Proposed Acquisition**

Our Company had embarked on the Proposed Acquisition during the recent low oil price environment. In the first quarter of 2016, the price of Brent crude oil had fallen to as low as USD26.01 per barrel on 20 January 2016, its lowest since 2004 (*Source: EIA*). Since then, Brent oil price had recovered approximately 85.5% as at the LPD. The low oil prices had allowed our Company to negotiate with the Vendors for a competitive acquisition price and favourable terms for the Proposed Acquisition.

When compared with completed O&G transactions in Kazakhstan since 2013, the Purchase Consideration per boe of 2P Reserves and the Adjusted Purchase Consideration (Maximum) per boe of 2P Reserves of USD2.89 per boe and USD3.28 per boe respectively are within the range of recent completed comparable transactions, higher than the simple average but lower than the median of recent completed comparable transactions, as shown in the table below:

Date	Target	Acquirer	Seller	Acquisition price USD' million	2P Reserves /MMboe	% acquired	Price/boe USD <sup>(1)</sup>	Average price/bbl for the month of acquisition (USD)	Geography of oil field	Adjusted price/boe USD <sup>(5)</sup>	Crude type
July 2013	Kashagan Consortium	Kazmunaigas JSC	ConocoPhillips	5,400.0	18,100.0	8.4%	3.55	107.9	Offshore	1.51	Light
April 2013	Kara-ana, Eastern Kokarna and Matin	Geo-Jade Petroleum Corporation	JSC Maten Petroleum	525.8	73.0	95.0%	7.58	102.2	Onshore	3.40	Light
April 2014	Caspian Investment	China Petroleum and Chemical Corporation	Lukoil PJSC	1,087.0	63.0 <sup>(2)</sup>	50.0%	17.25	107.8	Offshore	7.34	Light
May 2014	Kozhan oil field	Geo-Jade	International Mineral Resources II B.V.	340.5	110.9	100.0%	3.07	109.5	Onshore	1.28	Light
January 2015	Karaturun Morskoi and Karaturun Vostochinyi fields	Sumatec Resources Berhad	Borneo Energy Oil and Gas Sdn Bhd	265.9	68.8 <sup>(2)</sup>	100.0%	3.86	47.8	Offshore	3.71	Light
October 2015	Kashagan Consortium	National Welfare Fund Samruk-Kazyna	Kazmunaigas JSC	4,700.0	18,100.0	8.4%	3.09	48.4	Offshore	2.92	Light
<b>Simple average</b>										<u><sup>(6)</sup>2.80</u>	
<b>Median</b>										<u><sup>(6)</sup>3.40</u>	
March 2016	Emir-Oil Concession Block	Reach Energy	MIEH	154.9 <sup>(3)</sup>	89.4	60.0%	2.89	<sup>(7)</sup> 45.84	Onshore		Light
				175.9 <sup>(4)</sup>	89.4	60.0%	3.28				

Notes:

- (1) Price/boe was calculated based on the respective total acquisition price/(2P reserves x percentage acquired)
- (2) The 63.0 million boe refers to Lukoil's portion only.
- (3) Based on the Purchase Consideration before any adjustments thereon.
- (4) Based on the Purchase Consideration plus the agreed maximum amount of the Net Contribution Amount of USD21,000,000.
- (5) Adjusted price/boe was arrived at based on the following formula:

*(price/boe x average price/bbl in August 2016) (i.e. being the full month of the date of opinion of the Fairness Opinion Letter)/ Average price/bbl in the month of acquisition.*

The purpose of the adjustment is to take into consideration the fluctuation in oil prices during the years when the comparable transactions were undertaken and to consider the impact of the prevailing oil prices on the different transactions had they been undertaken under current market conditions. A similar adjustment was not made to the price/boe of the Proposed Acquisition as the transaction is current and the price/boe of the Proposed Acquisition is based on the terms of the SPA.

- (6) For the purpose of computing the simple average and median price/boe of the recent comparable transactions, we have excluded the inputs from the acquisition of the Kashagan Consortium as the percentage of acquisition was too small and the 2P reserves are significantly larger than the other asset acquisitions in the comparable transaction analysis; and the input from the acquisition of Caspian Investment as the adjusted price per boe was significantly higher compared to other acquisitions in the comparable transaction analysis. As such, the computation of the simple average and median are made up of the remaining three asset acquisitions in the comparable transaction analysis table.
- (7) Average price/barrel for the month of August 2016.

*(Source: Fairness Opinion Letter)*



When the current oil market over-supply situation eventually rebalances and the oil price stabilises, our Company is confident that the Proposed Acquisition will significantly benefit our Company and our shareholders. This is because E&P companies such as Emir-Oil are producing O&G from high-quality onshore assets in a country with favourable climate for foreign direct investments in O&G. They are expected to have a competitive advantage due to their low unit production cost and large reserves base.

**(v) Successful track record for production growth with well-defined upgrading plans to increase field productivity**

Prior to 2015, crude oil production from the Emir-Oil Concession Block increased significantly from 2,104 bbl/d in 2011 to 5,201 bbl/d in 2014. The increase in production is mainly attributable to the drilling of additional wells, well workovers<sup>8</sup>, side-tracks<sup>9</sup> and various improved oil recovery applications such as acid stimulation and acid fracturing.

To further improve well productivity, Emir-Oil has embarked on horizontal well drilling. Kariman-113 was the first horizontal well drilled in this block which was completed and put into production in 2013. The said well was initially tested at approximately 1,500 bbl/d and based on the well performance, more horizontal wells are being drilled.

As at 31 December 2015, 16 wells were producing, out of which four wells namely, Kariman-113, Kariman-13, North Kariman-1 and North Kariman-2 contributed approximately 70% of the total daily production of the Emir-Oil Concession Block with an average oil production of 600 bbl/d per well. These wells are flowing on natural flow and thus higher production potentials are expected from the new wells to be drilled.

The current O&G processing capacities is 6,458 bbl/d of oil through leased facilities and 5.5 MMscfd of gas through Emir-Oil owned facilities. Wells are shut-in for control of O&G production. The oil production is limited by the existing gas processing capacities and thus, a number of higher gas producing wells have been shut-in. In addition, oil production was curtailed in 2015 due to low oil prices environment. The new CPF Phase 1 is being implemented to increase the O&G processing capacities. With ongoing production, development and appraisal activities in the Emir-Oil Concession Block, oil production is expected to increase significantly.

**(vi) Large and growing O&G industry with supportive infrastructure in Kazakhstan**

Kazakhstan has the largest proved oil reserves base in the Caspian Sea. According to the EIA, Kazakhstan has proved crude oil reserves of 30 billion bbls as at January 2015 and is the second largest endowment in Eurasia after Russia, and the 12<sup>th</sup> largest in the world in 2015.

According to BP Statistical Review, Kazakhstan vastly increased its proved oil reserves from 9.0 million bbl registered in 2004 to 30.0 billion bbl in 2015. The significant growth in the country's proved reserves is explained by a number of discoveries since 2000. For example, Kashagan is estimated to hold 38.0 billion bbl of oil reserves with 10.0 billion bbl being recoverable as well as 35.3 Tscf of gas reserves.

*(Source: Frost & Sullivan)*

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<sup>8</sup> An oil well intervention involving invasive techniques for the purpose of repair or restoring the productivity of the existing completed well.

<sup>9</sup> A secondary wellbore drilled away from the original hole with an intention to explore the geologic and petroleum feature nearby.

Kazakhstan's oil and gas pipeline systems are operated by subsidiaries of KazMunaiGas, the state-owned O&G company in Kazakhstan. Due to Kazakhstan's landlocked position and the continued use of Soviet-era infrastructure, much of Kazakhstan's O&G export infrastructure is integrated with major Caspian region oil and natural gas export routes that interlink the region. Since independence, Kazakhstan has successfully expanded and diversified its export capabilities.

The Emir-Oil Concession Block location, within close proximity to the country's export and distribution infrastructure and being only 40 km northeast of Aktau is ideal to access vital ground, marine and air links for its operations.

## **5.2 Proposed Placement**

Our Board is of the view that the Proposed Placement will provide our shareholders with the following key benefits:

- (i) the Proposed Placement will enable our Company to raise the much-needed funds, as and when required in an expeditious manner and at the same time, manage our capital base after taking into account our Group's financial performance, especially since the Proposed Placement may be implemented in tranches over a period of time as opposed to a pro-rata issuance of securities via a rights issue;
- (ii) the Proposed Placement will enable our Company to settle the Remaining Completion Amount and part of the Deferred Consideration and not incur interest on such amount as provided for in the SPA; and
- (iii) the Proposed Placement will enable our Company to raise funds for working capital which is expected to contribute positively to the future earnings of our Group.

Although the Proposed Placement may dilute the existing shareholders' shareholdings, our Company is of the view that the Proposed Placement is the most appropriate avenue to raise funds as opposed to a rights issue due to the following:

- (i) shorter implementation timeline for the Proposed Placement;
- (ii) the ability to tranche the Proposed Placement at issue price(s) based on prevailing market conditions; and
- (iii) as the Proposed Placement can be implemented in tranches, our Company would have better flexibility to plan the timing of implementation of the Proposed Placement to match the timing of funds required after taking into consideration prevailing market conditions than as compared to a rights issue which must be implemented at one go.

## 6. BACKGROUND INFORMATION ON THE VENDORS

### 6.1 Information on Palaeontol COOP

Palaeontol COOP was incorporated in the Netherlands under the laws of the Netherlands as a cooperative on 8 February 2011.

The principal activity of Palaeontol COOP is investment holding.

As at the LPD, the members of Palaeontol COOP are as follows:

<u>Name</u>	<u>%</u>
MIE New Ventures Corporation <sup>(1)</sup>	99.00
MI Energy Corporation <sup>(1)</sup>	1.00

Note:

(1) MIE New Ventures Corporation and MI Energy Corporation are wholly-owned by MIEH.

As at the LPD, the directors of Palaeontol COOP are MIE New Ventures Corporation and United International Management B.V..

### 6.2 Information on MIEH

#### 6.2.1 Corporate information

MIEH was incorporated in the Cayman Islands under the laws of the Cayman Islands on 20 March 2008. MIEH was listed on the Main Board of the Hong Kong Stock Exchange on 14 December 2010 and has a market capitalisation of Hong Kong Dollar 2.26 billion as at the LPD.

The authorised share capital of MIEH is USD100,000,000 comprising 100,000,000,000 MIEH Shares whilst its issued and paid-up share capital is USD2,938,596.8 comprising 2,938,596,793 MIEH Shares.

The principal activity of MIEH is investment holding whilst its subsidiaries are principally engaged in the exploration, development, production and sale of crude oil and other petroleum products in China, Kazakhstan and the USA.

The MIEH Group is an independent upstream O&G company. The MIEH Group operates the Daan and Moliqing oil fields in the Songliao Basin under various separate production sharing contracts with PetroChina Company Limited, the largest oil company in China. The MIEH Group holds 51% equity interest in Sino Gas & Energy Limited that operates Linxing and Sanjiaobei unconventional gas assets located in the Ordos Basin under two separate production sharing contracts in China. The MIEH Group also invested in the Niobrara shale oil project (with associated shale gas) in Colorado, USA through its wholly-owned subsidiary, Condor Energy Technology LLC. In addition, the MIEH Group consistently pursues other O&G exploration, development and production opportunities internationally, both independently and in partnership with other major and independent oil companies.

As at the LPD, the substantial shareholders of MIEH are as follows:

Name	Capacity/ Nature of interest	Number of shares/ underlying shares interested	%
Zhao Jiangbo (“Mrs. Zhang”)	Interest of controlled corporation	1,626,455,234 (L) <sup>(1)(2)</sup>	55.35
	Family interest	5,087,000 (L) <sup>(3)</sup>	0.17
	Parties acting in concert	7,287,000 (L) <sup>(3)</sup>	0.25
		211,855,234 (S) <sup>(2)</sup>	7.21
Champion International Energy Limited	Beneficial interest	399,070,000 (L) <sup>(1)</sup>	13.58
Orient International Energy Limited	Beneficial interest	399,070,000 (L) <sup>(1)</sup>	13.58
Power International Energy Limited	Beneficial interest	141,460,000 (L) <sup>(1)</sup>	4.81
New Sun International Energy Limited	Beneficial interest	475,000,000 (L) <sup>(1)</sup>	16.16
Sunrise Glory Holdings Limited	Interest of controlled corporation	1,414,600,000 (L) <sup>(1)</sup>	48.14
Far East Energy Limited (“FEEL”)	Beneficial interest	211,855,234 (L) <sup>(2)</sup>	7.21
	Interest of controlled corporation	1,414,600,000 (L) <sup>(1)</sup>	48.14
	Parties acting in concert	12,374,000 (L) <sup>(4)</sup>	0.42
		211,855,234 (S) <sup>(2)</sup>	7.21
Celestial Energy Limited (“Celestial”)	Beneficial interest	211,855,234 (L) <sup>(5)</sup>	7.21
		211,855,234 (S) <sup>(2)</sup>	7.21
	Parties acting in concert	1,426,974,000 (L) <sup>(6)</sup>	48.56
Ho Chi Sing	Interest of controlled corporation	211,855,234 (L) <sup>(5)</sup>	7.21
		211,855,234 (S) <sup>(2)</sup>	7.21
	Parties acting in concert	1,426,974,000 (L) <sup>(6)</sup>	48.56
Citigroup Inc.	Beneficial interest	168,334,690 (L) <sup>(7)</sup>	5.73
		24,381,793 (P) <sup>(7)</sup>	0.83

Notes:

\* The letter “L” denotes the person’s long position in the shares of MIEH. The letter “S” denotes the person’s short position in the shares of MIEH. The letter “P” denotes lending pool in the shares of MIEH.

- (1) Each of Champion International Energy Limited, Orient International Energy Limited, Power International Energy Limited and New Sun International Energy Limited is a wholly-owned subsidiary of Sunrise Glory Holdings Limited, which is in turn wholly-owned by FEEL, the ultimate holding company. FEEL owns, through each of Champion International Energy Limited, Orient International Energy Limited, Power International Energy Limited and New Sun International Energy Limited, an aggregate of 1,414,600,000 shares. FEEL is 9.99%, 80% and 10% held by Mr. Zhang Ruilin (“Mr. Zhang”), Mrs. Zhang and Mr. Zhao Jiangwei (“Mr. Zhao”), respectively. Mrs. Zhang, through her controlling interest in FEEL, is deemed to be interested in 1,414,600,000 shares held by FEEL through its subsidiaries.

- (2) Pursuant to the put and call option agreement entered into between Mr. Zhang, Mr. Zhao, Mrs. Zhang and Celestial, (i) a put option was granted by FEEL to Celestial to sell up to 211,855,234 shares; and (ii) a call option was granted by Celestial to FEEL to purchase up to 84,742,094 shares, on and subject to the terms and conditions therein ("**2014 Option Agreement**"). FEEL is interested in a long position of 211,855,234 shares underlying such options granted under the 2014 Option Agreement. Pursuant to its obligation to deliver 211,855,234 shares under the 2014 Option Agreement, Celestial has a short position of 211,855,234 shares. As FEEL is a party acting in concert with Celestial, it is deemed interested in such short position of Celestial. By virtue of her controlling interest in FEEL, Mrs. Zhang is therefore, deemed interested in such long position of 211,855,234 shares as well as the short position of 211,855,234 shares of Celestial, in both of which FEEL is interested.
- (3) As spouse of Mr. Zhang, Mrs. Zhang is deemed interested in the 100,000 shares held by Mr. Zhang and the 4,987,000 underlying shares in which Mr. Zhang is interested by virtue of the share options of the company granted to him on 20 September 2011 and 21 March 2014, respectively. Pursuant to the acting in concert agreement entered into between Mr. Zhao, Mrs. Zhang and Mr. Zhang under which they agreed to act in concert in relation to all matters that require the decisions of the shareholders of FEEL. Mrs. Zhang is also deemed interested in the 2,300,000 shares held by Mr. Zhao and the 4,987,000 underlying shares in which Mr. Zhao is interested by virtue of the share option and awarded shares of the company granted to him on 20 September 2011 and 21 March 2014, respectively.
- (4) By virtue of being parties acting in concert with Mr. Zhang and Mr. Zhao, FEEL is deemed interested in (a) the 100,000 shares and (by virtue of the share options of the company granted to Mr. Zhang on 20 September 2011 and 21 March 2014, respectively) the 4,987,000 underlying shares; and (b) the 2,300,000 shares and (by virtue of the share options and awarded shares of the company granted to Mr. Zhao on 20 September 2011 and 21 March 2014, respectively) the 4,987,000 underlying shares.
- (5) Celestial beneficially owns 211,855,234 shares. Mr. Ho Chi Sing is the sole shareholder of Celestial and is therefore deemed interested in such shares held by Celestial.
- (6) As party acting in concert with FEEL, Celestial is therefore deemed interested in a long position of an aggregate of 1,426,974,000 shares and underlying shares in which FEEL is interested and deemed interested.
- (7) Among 168,334,690 ordinary shares held by Citigroup Inc., 143,952,897 ordinary shares are directly held by Citigroup Global Markets Limited in the capacity of investment manager, and 24,381,793 ordinary shares are directly held by Citibank N.A. in the capacity of approved lending agent.

Citigroup Global Markets Limited is wholly-owned by Citigroup Global Markets Europe Limited, which in turn is controlled by Citigroup Global Markets (International) Finance AG, Citigroup Global Markets International LLC and Citigroup Financial Products Inc. Both Citigroup Global Markets (International) Finance AG and Citigroup Global Markets International LLC are also wholly-owned by Citigroup Financial Products Inc. Citigroup Financial Products Inc. is wholly-owned by Citigroup Global Markets Holdings Inc., which in turn is wholly owned by Citigroup Inc. Citigroup Inc. is therefore deemed to be interested in 143,952,897 ordinary shares. On the other hand, Citibank N.A. is wholly-owned by Citicorp Holdings Inc., which is in turn wholly-owned by Citigroup Inc. Citigroup Inc. is therefore deemed to be interested in 24,381,793 ordinary shares. Hence, Citigroup Inc. is deemed to be interested in an aggregate of 168,334,690 ordinary shares.

The directors of MIEH as at the LPD are Mr. Zhang, Mr. Zhao, Andrew Sherwood Harper, Tian Hongtao, Xie Na, Mei Jianping, Jeffrey Willard Miller and Guo Yanjun.

## 6.2.2 Background information on the acquisition of Emir-Oil by MIEH

On 14 February 2011, MIEH and Palaeontol B.V. entered into a participation interest agreement (“**2011 Purchase Agreement**”) with BMB Munai, Inc. to acquire 100% of the share capital of Emir-Oil and intercompany loans payable by Emir-Oil for a purchase consideration of USD170 million (subject to adjustments), which was determined after arm’s length negotiations between Palaeontol B.V., MIEH and BMB Munai, Inc. and with reference to numerous considerations, including without limitation, the then production rate, cash flow and historical financial information of Emir-Oil, and in particular, the economic value of the O&G reserves within the Emir-Oil Concession Block under the Exploration Contract. Pursuant to the 2011 Purchase Agreement, one of the conditions for completion of the transaction is for Emir-Oil to obtain the production contracts for three identified fields, namely Aksaz, Dolinnoe and Kariman.

The seller, BMB Munai, Inc., had on 9 September 2011, obtained the Aksaz gasfield Production Contract, Dolinnoe oilfield Production Contract and Kariman oilfield Production Contract, each for a period of 25 years. After the three Production Contracts were awarded, the transaction between MIEH, Palaeontol B.V. and BMB Munai, Inc. was completed on 19 September 2011. The acquisition of Emir-Oil was completed for USD159.6 million in cash, after certain adjustments were made at completion in accordance with the provisions of the 2011 Purchase Agreement.

Since the acquisition of Emir-Oil in 2011 up until 30 June 2016, MIEH has extended USD137.1 million in the form of shareholder loans to Palaeontol B.V. Group. The said shareholder loans and internally generated funds were used to fund the CAPEX incurred for the past four FYEs 31 December 2012 to 2015 and FPE 30 June 2016 of USD247.2 million mainly for the following:

- (i) drilling of producing and exploration wells

As at 31 December 2010, Emir-Oil had already drilled 24 wells within the Emir-Oil Concession Block (*Source: MIEH’s circular to shareholders dated 19 April 2011*). As at 30 June 2016, Emir-Oil has 50 wells drilled. The average daily net production of the Emir-Oil Concession Block has also increased from 2,104 bbl/d in 2011 to a peak of 5,201 bbl/d in 2014.

- (ii) construction of surface infrastructure

To optimise revenue and operating costs, MIEH had in 2014 commenced the construction of a new CPF to cater for the increase in O&G processing capacity from the current oil processing capacity of 6,458 bbl/d to 12,000 bbl/d and gas processing capacity from the current 5.5 MMscfd to 21.2 MMscfd. This is part of a well-defined upgrade plan of the surface infrastructure to cater for the increase in O&G production volumes which is to be undertaken over phases of expansion, as further described in Section 3.6 of this Circular. Upon completion of the surface infrastructure, oil produced from the Emir-Oil Concession Block will be transported using pipelines only, instead of the current mode of transportation of truck, rail and pipeline. As at the LPD, Emir-Oil has incurred CAPEX of approximately USD46 million for the construction of the CPF.

## 7. INDUSTRY OVERVIEW AND PROSPECTS

### 7.1 Overview and prospects of the global O&G industry

The global consumption of petroleum and other liquid fuels grew by 1.4 million bbl/d year-on-year and averaged 93.8 million bbl/d in 2015, according to the estimation provided by EIA. EIA forecasts that global consumption of petroleum and other liquid fuels is expected to grow to 95.3 million bbl/d in 2016 and 96.8 million bbl/d in 2017. Frost & Sullivan forecasts that the global consumption of petroleum and other liquid fuels to increase to 98.3 million bbl/d by 2020 at a CAGR of 0.9% from 93.8 million bbl/d in 2015.

The global production of petroleum and other liquids in 2015 was estimated to be 95.7 million bbl/d. According to EIA, the global production of petroleum and other liquid fuels is expected to increase to 96.1 million b/d in 2016 and 96.6 million bbl/d in 2017.

As at 2015, the OPEC countries accounted for 40.0% of the global petroleum and other liquids production at 95.6 million bbl/d. As the collaborative production cut among OPEC countries and other major producers is not expected to occur until the end of 2017, OPEC countries are likely to increase production of petroleum and other liquids in the short-term to retain market share. EIA forecasts production of crude oil by OPEC countries to increase from 38.2 million bbl/d in 2015 to 40.2 million bbl/d in 2017 at a CAGR of 2.5%. Meanwhile, production in non-OPEC countries is anticipated to decline at a CAGR of -0.9% from 57.4 million bbl/d in 2015 to 56.4 million bbl/d in 2017. In the longer term, global production of petroleum and other liquid fuels is estimated to increase from 95.7 million bbl/d in 2015 to 98.3 million bbl/d in 2020 at a CAGR of 0.5%.

There was 1.84 million bbl/d surplus oil globally in 2015 and this builds up on the surplus oil of 2014 leading to a supply glut situation. Persistent oversupply of oil resulted in the downward pressure of oil prices, with Brent oil prices plunged sharply from USD99.0/bbl in 2014 to USD52.3/bbl in 2015.

Continuing growth in global oil inventories and uncertainty over future global demand growth continued to exert downward pressure on oil prices during January 2016. Brent crude oil spot prices decreased to a monthly average of USD31.0/bbl in January 2016, the lowest monthly average price since December 2003. As at August 2016, Brent was priced at USD44.6/bbl.

The Organisation for Economic Co-operation and Development (“OECD”) Countries commercial crude oil and other liquid fuels inventories totalled 3.0 billion bbl at the end of 2015. This is equivalent to roughly 66 days stock at current consumption levels. Based on EIA forecasts, the OECD inventories are expected to rise to 3.1 billion bbls by the end of 2016 and likely to moderate further to 3.0 billion bbls by the end of 2017.

After growing by an estimated 1.9 million b/d in 2015, growth in global oil inventories is expected to slow to 0.8 million b/d in the first quarter of 2016.

On the prices of crude oil, Brent prices are forecast to average USD52.4/bbl in 2017. Frost & Sullivan anticipates the recovery of Brent oil prices to begin in 2017 with a consistent recovery upwards trend to reach an average of USD59.0/bbl in 2018, during which the market is likely to experience small inventory draws to result in slow price recovery. Declines in production and modest growth in demand for oil are expected to be the key drivers for the recovery of oil prices. Frost & Sullivan estimates the average annual price of Brent crude and Urals to reach USD68.0/bbl and USD66.7/bbl respectively in 2020.

Technologies developments such as horizontal drilling, vertical drilling and hydraulic fracking have enabled the extraction of oil from oil Reserves not exploitable previously. However, these advanced techniques are expensive and need oil prices to stay above USD50/bbl to be viable. With oil prices below USD50.0/bbl, production from fields using expensive techniques is expected to decline giving opportunities for oil from conventional fields to gain market share.

Crude oil from conventional sources is cheaper to produce compared to unconventional sources as there is no need for special equipment or techniques for oil extraction. At selling prices below USD50.0/bbl, pressure increases on the producers to lower costs of production. It is difficult to halt production as considerable investments have been made to bring the projects into production stage. Unless costs are brought down, producers may have to sell at a loss. As such, there is a need for producers to increase their efficiency and reduce their costs of production in response to prolonged duration of weak oil prices.

Companies producing oil from high-quality assets in politically stable countries are expected to have the competitive advantage of lower production costs per boe extracted.

*(Source: Frost & Sullivan)*

## 7.2 Overview of the O&G industry in Kazakhstan

At a proven level of crude oil Reserves of 30 billion bbl, Kazakhstan has the second largest oil Reserves in Eurasia after Russia, and ranks the twelfth largest in the world. As at 2015, the country has around 172 oil fields and 42 gas fields, with the larger fields concentrated around the western region surrounding the Caspian Sea. This gives the fields an advantage as they are within close proximity to the country's export and distribution infrastructure.

Oil production in Kazakhstan is estimated at 701.0 million in 2015. The expansion of Kazakhstan's oil production is driven by two major onshore fields - Tengiz and Karachaganak. According to the Energy Intelligence, Tengiz and Karachaganak accounted for 48.0% of the country's oil production in 2014. Kashagan is also anticipated to play a major role in the country's oil production when it becomes operational in 2017. The key to sustained growth of oil production in Kazakhstan includes continued development of its large oil fields and expansion of its oil exporting infrastructure.

Kazakhstan consumed around 148.8 million bbl and over 80.0% of the oil produced was exported in 2014. Though domestic consumption is expected to grow in the coming years, Kazakhstan is likely to have surplus oil production and is expected to remain as an oil exporting country.

Kazakhstan exports light, sweet crude oil. Kazakhstan crudes are mainly sold to European countries and the People's Republic of China. The four main export oil grades are the CPC Blend, Tengiz, Karachaganak condensate and Kumkol. With the start of production at the Kashagan field in 2017, the Kashagan grade will also form part of the export mix.

In terms of natural gas, Karachaganak and Tengiz are also the two largest natural gas fields. The country's gas reserves are estimated to be 53.0 Tscf as at 2014. Kazakhstan's largest oil fields contain substantial volumes of natural gas, most of which are reinjected into oil reservoirs to improve oil recoveries. According to the KazEnergy Association, 80.0% of Kazakhstan's natural gas reserves are associated gas. About 40.0% of associated gas output is re-injected into the reservoirs to maintain pressure in the reservoir to improve oil extraction. Once the oil has been recovered to an optimal level, natural gas that has been reinjected can be extracted at a later stage for commercial purposes.

Kazakhstan's O&G fields are well connected to regional and international markets via a network of trans-regional pipelines. The four main trans-regional oil pipelines connecting Kazakhstan crude to the regional markets are:

- (a) Caspian Pipeline Consortium;
- (b) Kazakhstan-China Pipeline;
- (c) Atyrau-Samara Pipeline; and
- (d) Baku-Tbilisi-Ceyhan Pipeline ("BTC") - Kazakhstan ships oil by tanker via the Caspian Sea to Baku in Azerbaijan, from which Kazakhstan oil is loaded into the BTC pipeline.

The subsidiaries of the state-owned KazMunaiGas operate the oil and gas pipelines in Kazakhstan. Owing to Kazakhstan's landlocked position and continued use of former Soviet Union infrastructure, much of Kazakhstan's oil export infrastructure is integrated with major Caspian oil and natural gas export routes that interlink the region. Since independence in 1991, Kazakhstan has successfully expanded and diversified its export capabilities.

*(Source: Frost & Sullivan)*



### 7.3 Prospects of the Palaeontol B.V. Group and potential of the Emir-Oil Concession Block

After completion of the Proposed Acquisition, with effective control of Emir-Oil which holds the entire subsoil use rights (100% working interest) of the Emir-Oil Concession Block, our Company intends to pursue various future value-adding opportunities which focus on maximising production (subject to prevailing oil price environment), optimising CAPEX and cost control. Such measures include continuing with the existing successful field development plans and application of new technologies so as to optimise near-term production growth rate and maximise returns to our shareholders.

Based on the negotiated price of USD308.0 million for 100% equity interest of Palaeontol B.V. as well as the transaction structure of the Proposed Acquisition including the payment schedule of the Purchase Consideration, the project IRR of the Emir-Oil Concession Block, as estimated by RPS, is 18.7%. This negotiated price only takes into account the 2P Reserves of the Emir-Oil Concession Block and does not consider the Prospective Resources of the Exploration Area of 804.8 km<sup>2</sup> and other potential upsides which our Company can add value.

We have identified several measures/initiatives which are expected to enhance the value and Reserves potential of the Emir-Oil Concession Block, the details of which are set out in the Independent Upside Summary Report in Appendix VII of this Circular. The primary opportunities which our Company expects to realise within the next three years to further improve the project IRR of the Emir-Oil Concession Block to more than 20%, being one of the selection criteria for our Qualifying Acquisition, are as follows:

<b>Initiative / factor</b>	<b>Description of initiative / factor</b>	<b>Timing</b>	<b>Rationale for the initiative / factor</b>
(i) LPG extraction	Development of a LPG value chain with the inclusion of an LPG extraction facility in the construction of the new CPF	January 2019 onwards	<p>There is good potential for the development of a LPG value chain as the Emir-Oil Concession Block is endowed with high quality gas rich in condensate and LPG yield. The inclusion of an LPG extraction facility in the construction of the new CPF would enable better value to be extracted from the Producing Fields which are rich with natural gas and have high potential for extracting LPG. This will enable us to realise the potential increase in gas sales from LPG sales. The LPG extraction facility has already been installed and is awaiting commissioning once the O&amp;G tie-in pipelines are completed in 2018.</p> <p>It is intended that the produced LPG will be sold on an ex-plant<sup>10</sup> basis from the new CPF via road tankers arranged by the licensed traders mainly for export.</p>

<sup>10</sup> Ex-plant is where the seller makes the product available to the buyer at the seller's plant and the buyer is responsible to pay for the transportation of the product from the seller's plant.

Initiative / factor	Description of initiative / factor	Timing	Rationale for the initiative / factor
(ii) Transportation tariff	Reduction in transportation tariff by USD2.00 from USD10.60 per barrel to USD8.60 per barrel due to alternative crude oil export route under an all pipeline option via the Uzen - Atyrau – Samara pipeline system	Early 2019 onwards	<p>According to Frost &amp; Sullivan, Kazakhstan's LPG production is expected to increase in line with expanded O&amp;G operations in the country, particularly the recovery of associated gas and deeper oil refining. Total LPG consumption in Kazakhstan is projected to reach 1,692.0 thousand tonnes by 2020 and a significant volume of LPG is also forecasted to be exported mainly to Europe, where LPG demand for the export market is estimated to grow at around 1.0% annually between 2016 and 2020. In view of the projected outlook for LPG, we believe that we would be able to secure a sales contract for the LPG extracted from the Emir-Oil Concession Block and will pursue this after the completion of the Proposed Acquisition.</p> <p>As of to-date, the LPG facilities comprising the LPG extraction plant, LPG storage tanks and LPG loading facility have been completed. As such, we do not require further capital investment to supply the LPG in the future. However, there may be some investment required to handle greater LPG sales volumes in the future, if required. No further approval is required as the LPG extraction facility has already been approved as part of the CPF project.</p> <p>Upon completion of the CPF in 2016 and oil and gas pipelines in 2018, oil will be transported by pipeline to the Aktau terminal and thereafter shipped across the Caspian Sea to the port of Makhachkala in Russia, before onward delivery via pipeline to the Black Sea port of Novorossiysk (in Russia) for loading into vessels arranged by the buyer.</p> <p>Our Company has identified an initiative which will result in the reduction in transportation tariff by USD2.00 commencing from early 2019 onwards. The reduction is primarily due to an alternative crude oil export route with the availability of an all pipeline route from the CPF to the Novorossiysk export terminal via the Uzen - Atyrau – Samara pipeline system owned by KTO. With that, oil will no longer be shipped across the Caspian Sea for export.</p>

<b>Initiative / factor</b>	<b>Description of initiative / factor</b>	<b>Timing</b>	<b>Rationale for the initiative / factor</b>
			<p>The approval to construct the 25-km oil pipeline from the CPF to tie-in to the large state-owned trunkline of KTO has already been granted by the Kazakhstan Government. The details of this "all pipeline" export route is subject to further discussion with KTO upon completion of the oil pipeline from the CPF to the KTO trunkline.</p> <p>The CAPEX for the 25-km oil pipeline already forms part of the Palaeontol B.V. Group's existing CAPEX plan.</p>
(iii) Well cost	Reduction of USD1.05 million per development well from the drilling cost of USD6.25 million which was adopted in the Independent Technical Expert and Valuation Report	Can be immediately implemented. However, it can only be realised when drilling of development wells resumes from 2018 onwards	<p>We will focus on increasing oil production by using current well counts to perform optimal workover programmes and also reduce drilling cost and optimally phase the O&amp;G facility upgrade projects.</p> <p>The recent drop in oil prices has resulted in a reduction in CAPEX for capital equipment and oil services as suppliers are forced to reduce costs. Further reduction in drilling cost is possible by using turnkey contracts and better management of the drilling duration.</p> <p>No additional CAPEX or approval is required to implement this initiative.</p>

RPS's evaluation indicates that the aforementioned three initiatives would increase the project IRR of the Emir-Oil Concession Block to 22.9%, if successfully implemented, as outlined in the Independent Upside Summary Report as set out in Appendix VII of this Circular.

We have also identified other initiatives and factors that may further enhance the value and Reserves potential of the Emir-Oil Concession Block as follows:

<b>Initiative / factor</b>	<b>Description of initiative / factor</b>	<b>Timing</b>	<b>Rationale for the initiative / factor</b>
(i) Waterflood program	Implementation of a secondary recovery mechanism to increase the oil production rate and the recoverable oil by injecting water into the reservoir, via water injection wells, in order to increase the reservoir pressure and to displace the oil	To be implemented from 2022 onwards	<p>After an initial review by RPS of the various options, drilling horizontal wells etc., it became clear that waterflooding the oil reservoirs would result in significant incremental oil volumes. Waterflooding is a standard secondary recovery process used in the oil industry to increase oil recovery. We expect to incur an estimated total incremental CAPEX of USD275 million (covering producers and injectors drilling and facilities upgrade) and incremental operation expenditure of USD90 million to implement the waterflood program from 2023 to 2036.</p> <p>The implementation of the waterflood program would require the prior approval of the MOE and pilot testing.</p>

<b>Initiative / factor</b>	<b>Description of initiative / factor</b>	<b>Timing</b>	<b>Rationale for the initiative / factor</b>
(ii) Export crude oil mix	Export a higher proportion of crude oil	Immediate	Crude oil which is exported is sold at higher prices compared to crude oil sold domestically. Emir-Oil exported an average of approximately 82%, 77%, 88% and 94% of the proportion of oil produced to the international market in 2013, 2014, 2015 and first half of 2016 respectively, whilst RPS had assumed that 85% of crude oil is exported in the Independent Technical Expert and Valuation Report. In the Independent Upside Summary Report, RPS used 89% as the export crude oil mix.
(iii) Gas price	Increase in gas price to USD2.50 from USD0.77 per Mscf which was adopted in the Independent Technical Expert and Valuation Report	2020 onwards	We expect higher gas prices based on increasing gas volumes. Due to the completion and operation of the new CPF facility with oil and gas pipelines, this will increase the O&G processing capacity. This in turn would allow gas to be sold at higher volumes into the domestic and export markets resulting in expected higher gas prices. The main buyers via KTG pay higher gas prices for higher daily gas volume supplied. We believe that we would be able to secure a gas sales contract and will pursue this after the completion of the Proposed Acquisition.
(iv) Oil price	Upside potential assuming a Brent long term oil price of USD95 per barrel	Immediate	In the Independent Technical Expert and Valuation Report, RPS had used a Brent long term oil price of USD80 per barrel (Base Case) whilst in the Independent Upside Summary Report RPS has assumed the Brent long term oil price to be USD95 per barrel which is based on the high price case used for price sensitivity purposes in the Independent Technical Expert and Valuation Report.
(v) Well abandonment cost	Upside potential assuming that well abandonment cost is 1% of total CAPEX, instead of 10%	2036	In the Independent Technical Expert and Valuation Report, RPS had assumed well abandonment cost to be 10% of total CAPEX based on market conditions as of 1 July 2016, where the price of O&G was depressed. However, in the Independent Upside Summary Report, based on historical information available to RPS, the well abandonment cost is assumed to be approximately 1% of total CAPEX only.  Approval from the relevant authorities is required to implement this initiative.

<b>Initiative / factor</b>	<b>Description of initiative / factor</b>	<b>Timing</b>	<b>Rationale for the initiative / factor</b>
(vi) Prospect wells, namely Dolinnoe and Yessen	Potential discovery of hydrocarbons from the Dolinnoe and Yessen prospect wells	End 2016	<p>Emir-Oil has already commenced the implementation of the approved drilling works on the Dolinnoe and Yessen prospect wells which are the two committed exploratory wells under the Exploration Contract. The drilling works for the Dolinnoe-8 and Yessen-3 prospect wells have commenced in June 2016.</p> <p>The drilling costs for the Dolinnoe-8 and Yessen-3 prospect wells already forms part of the Emir-Oil Concession Block's existing CAPEX plan for 2016.</p>
(vii) Borly structure	Potential discovery of hydrocarbons from the development of the Borly structure	2021 onwards	<p>RPS has in the Independent Upside Summary Report reported on the upside based on potential discovery of hydrocarbons from the development of the Borly structure.</p> <p>Approval from the relevant authorities and further studies and budget allocation are required to implement this initiative.</p>
(viii) Prospective resources	Potential discovery of hydrocarbons from the Prospects	2022 onwards	<p>Emir-Oil has identified several prospects for future exploration, appraisal, development and production. Currently, nine Prospects have been identified, namely, Aksaz, Borly Prospect, Dolinnoe, Emir, Kariman, Begesh, East Saura, North Aidai and Tanirbergen. The un-risked Best Estimate Prospective Resources which refers to those quantities of petroleum which are estimated on a given date to be potentially recoverable from the undiscovered accumulation was estimated at 255.7 MMstb of oil.</p> <p>Approval from the relevant authorities and further studies and budget allocation are required to implement this initiative.</p>
(ix) Production beyond 2036	Potential extension of licence period beyond 2036	2036 onwards	<p>RPS has in the Independent Upside Summary Report reported on the upside based on the potential extension of production beyond 2036.</p> <p>Approval from the relevant authorities and further studies and budget allocation are required to implement this initiative.</p>

Please refer to Appendix VII of this Circular for further details of the Independent Upside Summary Report.

## **8. RISK FACTORS**

### **8.1 Risks relating to the Proposed Acquisition**

#### **8.1.1 Acquisition risk**

The Proposed Acquisition is expected to enhance our earnings in the long term. However, there can be no assurance that we can realise the anticipated benefits of the Proposed Acquisition or we will be able to generate sufficient revenue to offset the CAPEX and OPEX to be incurred for the Emir-Oil Concession Block. There can also be no assurance that our Company will be able to maintain or improve the production level of the Emir-Oil Concession Block. The integration of Palaeontol B.V. and Emir-Oil under our Company will require, among others, the integration of operations, administrative functions, sales and marketing, information and software systems, management and other employees, uniform standards, controls and policies which may not be successful.

Our enlarged Group will assume the operational liabilities and obligations of the Palaeontol B.V. Group at the Relevant Percentage pursuant to the Proposed Acquisition. These assumed liabilities include, subject to certain exceptions, obligations and liabilities under health, safety and environmental laws caused by, arising from, incurred in connection with or relating in any way to the ownership of Emir-Oil.

In mitigating such risk, our Company have undertaken due diligence and assessment of the Palaeontol B.V. Group and the Emir-Oil Concession Block in order to be able to address and mitigate such risk. Based on the said due diligence exercise undertaken by our foreign legal counsel, namely SIGNUM Law Firm, we have been made aware of the following non-compliances with contractual obligations under the Exploration Contract and Production Contracts:

- (i) Emir-Oil has not complied with the requirement under the Exploration Contract to submit a formal document confirming the forecast of the long-term environmental impact of its operations. However, we have been informed by MIEH that an environmental impact report is one of the documents required by the MOE for the application of an extension of the term of the Exploration Contract. Since the expiry of the first five-year term of the Exploration Contract on 9 July 2005, the term of the Exploration Contract has been extended five times with the last renewal obtained on 9 January 2015. The environmental impact report was also one of the documents prepared and approved by the Environment Protection Department of the Mangystau Oblast and the same was submitted to the MOE for the extension of the term of the Exploration Contract expiring on 9 January 2017;
- (ii) Emir-Oil has not complied with the requirement under the Production Contracts to develop a formal program on nationalisation of personnel for annual replacement of foreign personnel with local personnel as required under the four Production Contracts. However, we have been informed by Emir-Oil that the program on nationalisation of personnel has now been prepared. In addition, the current manpower of Emir-Oil has a high level of nationalisation of over 95% which meets the requirement under the laws of Kazakhstan; and
- (iii) Emir-Oil has not complied with the requirement under the Production Contracts to maintain certain internal/administrative documentation including correspondences as well as contracts concluded in writing, in both Russian and Kazakh.

SIGNUM Law Firm has advised that the above non-compliances would give rise to the risk of a potential fine of 150 monthly calculation indices ("MCI")<sup>11</sup> (based on the effective MCI as at the date of the non-compliance) but does not give rise to a right for the MOE to immediately terminate the Exploration Contract and/or the Production Contracts. In this regard, MIEH has also provided warranties that the Palaeontol B.V. Group has conducted and is conducting its business substantially in accordance with all applicable laws and has given specific indemnities under the SPA, including among others, the following:

- (i) cost and expenses to be incurred in preparing and submitting to the MOE the document confirming the forecast of the long-term environmental impact in connection with the Exploration Contract including any fines and penalties imposed by the MOE for prior non-submission; and
- (ii) cost and expenses to be incurred in preparing and submitting to the MOE the program on nationalisation of manpower with schedule for replacement of foreign employees with local employees as required under each of the Production Contracts including any fines and penalties imposed by the MOE for prior non-submission.

In addition to the above, MIEH has also given the following specific indemnities under the SPA:

- (i) under-fulfilment by Emir-Oil prior to the Completion of its minimum financial commitments and minimum work commitments under the Exploration Contract and Production Contracts; and
- (ii) liabilities relating to late payment interest or other late-payment penalties in connection with payments to the suppliers of Emir-Oil which are overdue prior to Completion.

However, the warranties and the specific indemnities by MIEH (including the foregoing) only survive a period of 24 months from Completion, except for those stated otherwise. Our Company is also subject to certain limitations on the indemnities from MIEH. Generally, the maximum warranty and indemnity claim amount (including the above mentioned indemnities) is limited to 45% of the Purchase Consideration, except for those stated otherwise. In addition, our Company is not entitled to make a claim in connection with a breach of warranty, unless each individual warranty claim exceeds USD250,000 and the aggregate amount of all claims exceeds USD2,800,000.

Our Company cannot assure you that any unknown liabilities will be discovered within the 24 months warranty and indemnity period following Completion or that the amount is recovered from the Vendors pursuant to a warranty or indemnity claim will be sufficient to cover the liabilities we assume or other losses incurred in connection with or following the Proposed Acquisition. Our Company may also face significant exposure from unknown liabilities for which we have not obtained any indemnity from the Vendors. If any other liabilities are discovered after 24 months from Completion or if losses exceed the limitations, such liabilities or losses may materially and adversely affect our Group's business, financial condition and results of operation.

### 8.1.2 Completion risk

Completion of the Proposed Acquisition is conditional upon, among others, the fulfilment of the conditions precedent as stated in the SPA. If any of the conditions precedent is not fulfilled, the SPA may be terminated and we will not be able to complete the Proposed Acquisition. In addition, as the Vendors have fulfilled all the conditions precedent that they are responsible to fulfill by the Longstop Date, in the event our Company is unable to fulfil the remaining condition precedent of the SPA which we are responsible for (in relation to the approval of the Proposed Acquisition by our shareholders at our coming EGM) then MIEH shall have a right to terminate the SPA.

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<sup>11</sup> MCI is a monthly calculation index used in Kazakhstan for calculating pensions, allowances and other social payments and also for incremental fines and calculating taxes and other payments. It is determined each year by the "Law On the Budget of the Republic of Kazakhstan".

In addition, as a condition to the extension of the Longstop Date agreed in the SPA Amendment No. 2, MIEH is entitled to terminate the SPA by written notice to our Company in the event that MIEH is not satisfied with the progress of the issuance of our Company's circular for approval of the Proposed Acquisition or if MIEH is not satisfied with the progress towards the convening of an EGM by our Company for approval of the Proposed Acquisition. Such right is subject to the condition that the last date on which MIEH may exercise its right to terminate the SPA pursuant to the terms of the SPA Amendment No. 2, shall be on the date falling four clear Business Days prior to our Company's EGM for approval of the Proposed Acquisition namely 28 October 2016.

Further, if all conditions precedent of the SPA are fulfilled and our Company fails to fulfil our obligations under the SPA on the Completion Date, MIEH may terminate the SPA and claim against our Company for any loss or damage suffered up to an amount of USD8.0 million.

We will undertake all reasonable measures to ensure the successful completion of the Proposed Acquisition and fulfil the remaining condition precedent as stipulated in the SPA.

## **8.2 Risks relating to our industry**

Upon completion of the Proposed Acquisition, the business operations of our enlarged Group will be subject to risks inherent in the O&G upstream sector.

### **8.2.1 Fluctuation in results of operations due to movement in O&G prices**

The financial performance and growth of Emir-Oil is dependent on prevailing O&G prices which in turn are affected by a variety of factors which include, among others, global O&G supply and demand, changes in economic conditions and other geopolitical factors which are beyond our control. Currently, global crude oil prices are at the low end and volatile. There can be no assurance that the fluctuations in O&G prices will not materially affect the business, revenue, results of operations and prospects of the Palaeontol B.V. Group.

We will continuously monitor the O&G prices and proactively undertake measures such as engaging in hedging transactions and maintaining low cost operations, where possible, to prepare us for any adverse fluctuations in O&G prices.

### **8.2.2 Risk in Reserves estimates**

The process of estimating the quality and quantity of Reserves is dynamic, requiring interpretation of technical seismic data and many assumptions. Consequently, the Reserve estimates are subject to revisions as additional data become available during the exploration and production life of a reservoir. Any material deviations from these technical interpretations and assumptions could significantly affect the estimated quantities of Reserves reported. Due to inherent uncertainties, the Reserve estimates concluded may be inaccurate. These factors may materially and adversely affect the business, financial condition, results of operations, and prospects of the Palaeontol B.V. Group if drilling activities do not yield oil or natural gas in quantities that are commercially viable.

Nevertheless, we have engaged RPS to assess the Reserves in the Producing Fields and Development Fields, while MIEH has similarly engaged an international independent technical expert, Chapman Petroleum Engineering Ltd from Canada for their annual reporting of Reserves to the Hong Kong Stock Exchange. We will also continuously look for opportunities to upgrade Reserves by undertaking specific studies and additional field appraisal and exploration programs.



### 8.2.3 Political, economic and regulatory conditions

Changes in political, economic and regulatory conditions in the Netherlands and Kazakhstan may materially and adversely affect the business, results of operations and prospects of the Palaeontol B.V. Group. These include but are not limited to, adverse sovereign actions affecting the confidence of foreign investors, changes in political leadership, social unrest, terrorism and unfavourable changes in government policies including the introduction of new rules and regulations as well as changes in interest rate, taxation, policy on repatriation of profits and removal of subsidies or incentives. Our Company is also exposed to the interpretation and enforcement of the laws in the Netherlands and Kazakhstan.

As Emir-Oil's assets are located in southwestern Kazakhstan, its business is exposed to adverse developments affecting this region which include among others, changes in governmental regulation, capacity constraints with respect to storage facilities, transportation systems and pipelines, curtailment of production, natural disasters or adverse weather conditions.

Any deterioration to the diplomatic relationship between the Malaysian Government and Kazakhstan Government may result in adverse sovereign action taken against foreign investors by the Kazakhstan Government which include, among others, an upliftment in withholding tax, a more stringent policy on repatriation of profits, an increase in corporate tax rate on an entity owned by foreign investors or removal of subsidies or incentives which could have a material adverse impact on our return on investment and in turn, materially and adversely affect the business, prospects, financial condition and results of operation of the Palaeontol B.V. Group. Such adverse sovereign action could also affect the confidence of foreign investors and may eventually deter foreign investments into Kazakhstan.

However, this is not uncommon in the global O&G sector and as a prudent operator, our Company will work closely with our partner, MIEH, to proactively monitor any changes in the political, economic and regulatory conditions in Kazakhstan. Furthermore, Malaysia and Kazakhstan have good diplomatic relations and cross investment is highly promoted. As set out in Section 9.1 of this Circular, investors have the right to repatriate profits and income from Kazakhstan (in the form of dividends, interest, royalties or other service charges and fees) subject to compliance with relevant regulations.

### 8.2.4 Failure to comply with the laws of Kazakhstan in relation to the O&G industry

The O&G industry in general is subject to extensive government policies and regulations. Investments in the subsoil use sector are governed by the Law of Kazakhstan No. 291-IV dated 24 June 2010 *On subsurface and subsurface use* ("**Law on Subsurface and Subsurface Use**").

The Law on Subsurface and Subsurface Use provides the Kazakhstan Government with a statutory priority right and right to grant consent, exercisable in the event of transfer of subsurface use right under the subsurface use contract and/or an interest in a subsurface user and/or legal entity that has the right to directly or indirectly make decisions and/or exert influence on decisions adopted by a subsoil user.

Pursuant to the Production Contracts and Exploration Contract, there are local content requirements imposed on Emir-Oil where preference is to be given to local companies when producing goods, works and services for subsoil use operations. Non-compliance with the local content requirements may result in penalties being imposed on Emir-Oil by the relevant authorities.

Based on the foregoing, in the event of any material non-compliance with the laws of Kazakhstan, the business, financial condition, results of operation and prospects of the Palaeontol B.V. Group could be materially and adversely affected.

### **8.2.5 Financial position and business operations of Emir-Oil may be affected by changes in the tax regime of Kazakhstan**

On 1 January 2009, the Tax Code came into effect, introducing a new tax regime including taxes which are applicable to subsoil users in Kazakhstan.

In Kazakhstan, the generally applicable fiscal regime that applies to production contracts in the O&G industry consists of, among others, corporate income tax, rent tax on export, bonuses and mineral extraction tax. O&G production activities are ring-fenced from downstream activities and other production activities (i.e. separation between production contracts) for tax purposes.

Notwithstanding the enactment of the Tax Code by the Government of Kazakhstan, the tax laws and regulation of Kazakhstan are still in development stage and is therefore subject to further amendments. As an example, the Kazakhstan Government has recently announced that it will replace the value added tax (“VAT”) regime with sales tax but pending final decision to be made for such implementation as highlighted in the Expert’s Opinion On Policies On Foreign Investments, Taxation and Repatriation of Profits of the Netherlands and Kazakhstan as set out in Appendix XII of this Circular. Significant changes in the tax regimes of Kazakhstan may have a materially adverse effect on our Company’s results of operations and cash flows. In addition, non-compliance of tax legislations may have consequences which are disproportionate to its violation.

As it is critical to acknowledge that there may be changes in the tax legislation of Kazakhstan, our Board will continue to engage its Kazakhstan tax adviser to provide advice on all relevant tax requirements in Kazakhstan.

### **8.2.6 Increase in amount of crude oil required to be sold to local refinery at lower prices compared to export prices**

Oil producers in Kazakhstan are required to supply a certain amount of their production to domestic refineries at prices that are substantially lower than the prices that may be charged for export sales. Under the Production Contracts, Emir-Oil is required to sell up to 30% of crude oil produced from the the Emir-Oil Concession Block to domestic refineries. However, domestic demand has been low due to limited domestic refining capacity and most of the refined oil products are imported from Russia. For the past three FYEs 31 December 2013 to 2015 as well as FPE 30 June 2016, the Palaeontol B.V. Group’s domestic sales of crude oil accounted for 17.7%, 23.5%, 12.3% and 5.7% of its production volume, respectively. In addition, the average prices for domestic sales over the period from January 2013 to June 2016 represented an average discount of about 57% compared to the average prices for export sales over the same period.

There can be no guarantee that, in any new production contract to be granted in the future, the MOE will not increase the amount of crude oil produced which must be supplied to domestic refineries at prices which are substantially lower, which could have a material and adverse effect on the business, financial condition, results of operations and prospects of the Palaeontol B.V. Group.

## **8.3 Risks relating to our business and operations**

### **8.3.1 Termination of the Exploration Contract and the Production Contracts**

The Exploration Contract and the Production Contracts can be extended upon expiry, subject to the fulfilment of the minimum work programme, availability of commercial Reserves and the approval of the MOE. There can be no assurance that the Exploration Contract and the Production Contracts will be renewed upon expiry. The Exploration Contract and Production Contracts can also be suspended and/or terminated on the occurrence of certain events as stipulated in the Exploration Contract and the Production Contracts and under the relevant laws of Kazakhstan.

The Exploration Contract has been extended five times since it was granted in 2000. Our foreign legal counsel, namely SIGNUM Law Firm, has advised that the numerous extensions of the period of the Exploration Contract does not impact the likelihood of the renewal of the Exploration Contract. With respect to the extension of the exploration period, the Exploration Contract entitles the subsoil user to extend the term of the contract twice irrespective of commercial discovery. Nevertheless, once commercial discovery has been made, Law on Subsurface and Subsurface Use explicitly provides that the subsoil user shall be entitled to extend the exploration contract for a period which is required for its appraisal. Law on Subsurface and Subsurface Use does not provide for any limit as to the number of times the period of exploration contract may be extended once a commercial discovery has been made.

If the Exploration Contract and the Production Contracts are suspended, terminated and/or not renewed, the operations of Emir-Oil may be affected and this would materially and adversely affect the business, financial position, results of operations and prospects of the Palaeontol B.V. Group.

We will closely monitor the requirements of the Exploration Contract and the Production Contracts and ensure compliance in all respects.

### **8.3.2 Exposure to development, production and construction risks**

The results of further development and production activities may not be certain and may produce less O&G than estimated and not achieve sufficient revenues to generate positive cash flows. O&G production is largely exposed to drilling hazards and environmental damage which could increase the cost of operations and adverse field operating conditions may affect production from successful wells. In addition, the development and production operations involve risks including oil spills, blowouts, explosions, natural disasters, fire, formations with abnormal pressure and abrupt change to water cut, each of which could result in substantial damage to oil wells, production facilities, the environment or in personal injury, as well as damage to Emir-Oil and our Company's reputation. In addition, there can also be no assurance that the Development Fields and Exploration Area can be commercialised into producing fields. The results of exploratory and development drillings are uncertain and may involve unprofitable efforts, which may arise from dry or unproductive wells.

Production risk could arise from factors such as delays in obtaining relevant approvals or consents from the authorities for the renewal of the Production Contracts and/or Exploration Contract or other matters, inadequate storage or transportation capacity or equipment failure as a result of extreme weather conditions. Emir-Oil is not insured against all risks and there can be no assurance that losses and liabilities arising from any uninsured or insured events could materially and adversely affect the Palaeontol B.V. Group's results of operations and financial condition.

The construction of the new CPF is also subject to risks of delay and cost overrun and there can be no assurance that any technical difficulties that may arise during the construction and testing of the new CPF will be resolved in a timely or cost-effective manner.

The new CPF (including O&G processing facilities) is being developed over two phases. Phase 1 of the CPF is scheduled for completion by end of 2016 and will commence operations once the pipelines are ready, which is expected to be at the end of 2018. Phase 2 is targeted for commencement of construction in 2019 and is expected to be completed by end of 2020. As Phase 2 has been taken into account in the design and implementation of Phase 1, Emir-Oil will only be required to seek approval for, among others, installing an additional modular facility to cater for the increase in capacity for Phase 2, additional new oil and gas pipelines and drilling of additional wells to implement Phase 2. Furthermore, the fields are located onshore, as opposed to offshore, which provides flexibility in terms of the timing to commence Phase 2 in line with improving market conditions based on RPS's long-term oil price forecast in the Independent Technical Expert and Valuation Report. However, if the market conditions deteriorate or if there is any delay in obtaining the required approvals, the implementation of Phase 2 may be deferred. Any significant deferment of Phase 2 may result in a revision of the reported Reserves.

For well-established onshore locations like the Emir-Oil Concession Block coupled with Emir-Oil's experienced site staff, the operational risks as described above are rare based on Emir-Oil's experience to date. Emir-Oil's interactions with the authorities have also been smooth and timely. Our Company will leverage on our team's experience and expertise, Emir-Oil's team as well as our partner, MIEH, to proactively mitigate these risks. Furthermore, if market conditions remain or improve, Emir-Oil can accelerate the implementation of Phase 2.

### **8.3.3 Foreign exchange translation risk**

The majority of the revenue of the Palaeontol B.V. Group is denominated in USD, while production, purchases and other expenses are transacted in KZT. The reporting currency of our Company is in RM. Hence, fluctuations in foreign exchange rates could have an adverse effect on the financial results of our enlarged Group with the consolidation of the financial results of the Palaeontol B.V. Group into the financial statements of our Company.

However, this is not uncommon in the global O&G sector as most transactions are conducted in USD.

### **8.3.4 Failure to retain and recruit skilled personnel and professional staff as well as stricter local content requirements**

The success of our enlarged Group depends, to a significant extent, upon the expertise and experience of our management and skilled personnel. From time to time, there is a high demand for skilled personnel, in particular for certain areas where the O&G industry is less developed. The inability to retain and recruit suitable and sufficient skilled personnel may impede our ability to expand our business and as a consequence, may cause delays in completing production projects.

In addition, following the stricter local content requirements, as from 2010, the percentage of employees of Kazakhstan nationality in Emir-Oil was increased from 70% to 90%. During the same period, Emir-Oil achieved the percentage of 90% of Kazakhstan nationals under the Production Contracts and 95% of Kazakhstan nationals under the Exploration Contract for the respective management positions. In order to comply with contractual obligations on local content requirements with respect to the personnel, Emir-Oil must maintain these percentages. The envisaged total number of employees of Emir-Oil post completion of the Proposed Acquisition is 213, of which 204 will comprise of Kazakhstan nationals with the remaining being foreign nationals. In view thereof, the number of employees of Emir-Oil of Kazakhstan nationality will be more than 90% of the total number of employees.

## **9. POLICIES ON FOREIGN INVESTMENTS, TAXATION AND REPATRIATION OF PROFIT**

### **9.1 Kazakhstan**

A summary of Kazakhstan's general policy in relation to foreign investments, taxation and repatriation of profits from a Kazakhstan company is as follows:

#### **(i) Foreign investments**

The relationships connected with investments in Kazakhstan, legal and economic frameworks for stimulating investment, guarantees of the protection of investors' rights in the making of investments in Kazakhstan, state support measures, and the procedure for resolution of the disputes involving investors, are regulated by the *Commercial Code of Kazakhstan* No. 375-V dated 29 October 2015 ("**Commercial Code**").

Investors are entitled to invest in any objects and types of business activities, except for cases provided for by the laws of Kazakhstan which, in the interests of national security, may determine the types of activities and/or territories for which the investment activities are limited or prohibited. Investors are granted full and unconditional protection of their rights and interests, which is provided by the Constitution of Kazakhstan, the Commercial Code and other normative legal acts of Kazakhstan and international treaties ratified by Kazakhstan.

Investments in the subsoil use sector are governed by the Law on Subsurface and Subsurface Use. As a general rule, changes and/or supplements to the terms of the subsoil use contracts are permitted by agreement of the parties. However, the Law on Subsurface and Subsurface Use provides that, if a subsoil user's actions during the mining operations in respect of subsoil areas and fields of strategic importance, lead to a change in the economic interests of the Government of Kazakhstan or endangers national security, the competent authority may require changes and/or amendments of the contract to restore the economic interests of the Government of Kazakhstan.

With regard to changes in the tax legislation, the general rule is that the fulfilment of tax obligations within the subsoil use contract is carried out in accordance with the current tax legislation. Exceptions can only be set in relation to the stability of the tax regime for already concluded production sharing agreements.

Kazakhstan has signed a number of treaties with foreign states on mutual protection and support for foreign investment, according to which it undertook to give full support to investors and not to take actions aimed at terminating or complicating investment activities. As a general rule, international treaties signed and ratified by Kazakhstan prevail over national legislation. For the period from 1992 onwards, Kazakhstan has signed a total of 48 bilateral intergovernmental and inter-state agreements on promotion and mutual protection of investments and one multilateral intergovernmental agreement (with the Eurasian Economic Community Member States).

The Energy Charter Treaty ("ECT") was signed by Kazakhstan in December 1994 and entered into force in April 1998. The ECT is a legally binding multilateral agreement. With regards to the subsoil use sector, Kazakhstan has ratified the ECT and thus has committed itself to "encourage and create stable, equitable, favourable and transparent conditions for investors to make investments", who are parties to the Energy Charter.

## **(ii) Taxation**

Corporate income tax applies to the taxable income of legal entities who are residents of Kazakhstan. Corporate income tax is calculated at a rate of 20% of taxable income, subject to certain adjustments.

Losses, except losses arising from activity with non-depreciable assets, securities, shares and other financial instruments, shall be carried forward for the next ten years inclusively to be deducted from the taxable income of these tax periods.

The standard VAT rate is 12% on taxable turnover. However certain transactions may be subject to VAT at 0% or even exempted altogether.

Social tax at a rate of 11% is imposed on the employer's expenses that are paid to resident workers and foreign personnel in the form of income.

Property tax at a rate of 1.5% is imposed on the average book value of taxable property rights as determined by the accounting records. Taxable property rights include buildings, structures related to those (including oil and gas properties).

Corporate income tax is withheld at source on certain income of non-residents, such as capital gains, dividends and interest, from sources in Kazakhstan and which are not related

to a permanent establishment in Kazakhstan. The rate of withholding tax varies depending upon the types of income specified in the Kazakhstan tax code.

Special payments and taxes of subsurface users include the following:

- (a) Signature bonus;
- (b) Commercial discovery bonus;
- (c) Compensation for historic costs;
- (d) Mineral extraction tax ("MET");
- (e) Excess profit tax;
- (f) Rent tax on exported crude oil and gas condensate; and
- (g) Crude oil export duty.

**(iii) Repatriation of profits**

Pursuant to the Law of Kazakhstan No. 57-III dated 13 June 2005 *On Currency Regulation And Currency Control* ("**Law on Currency Regulation**"), non-residents shall be entitled without restriction to receive and transfer dividends, interest and other income received on contributions (deposits), securities, borrowing and other currency operations with residents carried out in accordance with this Law on Currency Regulation.

The profit after corporate income tax will be distributed among the shareholders as dividends. The dividends paid to a non-resident of Kazakhstan shall be taxed at the source of payment at the rate of 15%. Pursuant to the Netherlands-Kazakhstan tax treaty, the withholding tax rate on dividends paid to a resident of the Netherlands can be reduced to 5% if the beneficial owner of the dividends is a Dutch company that owns at least 10% of the capital of the Kazakhstan company paying the dividends.

## **9.2 The Netherlands**

A summary of the Netherlands' general policy in relation to foreign investments, taxation and repatriation of profits from a Dutch company is as follows:

**(i) Foreign investments**

There are no specific policies in relation to foreign investments limiting the use of a Dutch holding company.

**(ii) Taxation**

Dutch corporate income tax is levied on the worldwide income of entities that are incorporated under Dutch law. Dutch entities are considered Dutch residents for Dutch corporation tax purposes. The corporate income tax rates are 20% on profits up to Euro 200,000, and 25% on the excess of Euro 200,000.

The income of a Dutch company that qualifies for the participation exemption (dividends and capital gains from qualifying shareholdings) are exempted from corporate income tax. Capital losses are generally not tax deductible.

In general, losses incurred in a certain year may be set off against profits of a previous year and the following nine years. However, restrictions apply to holding and financing companies for the set off of their losses. A holding/financing company is defined as a company that at least 90% of its activities consist of holding shares in other companies (participations) and/or directly/indirectly involved in the financing of related parties throughout at least almost the whole of the year (90% of the year).

**(iii) Repatriation of profits**

The Netherlands does not have currency controls that limit the payment of dividends or interest.

Pursuant to the Malaysia-Netherlands tax treaty, dividends paid by a Dutch company to a Malaysian company are exempted from withholding tax at source in the Netherlands. Under Dutch civil law, before making dividend distributions the Dutch company must meet the 'equity test' and 'dividend distribution test'.

The interest paid by a Dutch company to a Malaysian company would not be subject to Dutch tax provided that the Malaysian company is an active operating company in Malaysia and meets a level of substance in Malaysia that is in accordance with the basic substance requirements listed under Dutch domestic law.

Please refer to the Expert's Opinion Report on Policies on Foreign Investments, Taxation and Repatriation of Profits of Kazakhstan and the Netherlands in Appendix XII of this Circular for further details.

**10. EFFECTS OF THE PROPOSALS**

The effects of the Proposals on our Company's issued and paid-up share capital, NA per Share and gearing, substantial shareholders' shareholdings and earnings and EPS have been illustrated based on the following scenarios:

**Minimum Scenario** : Assuming Maximum Share Repurchase and none of the outstanding Warrants are exercised before and after the Proposed Placement

**Maximum Scenario** : Assuming no Dissenting Shareholders and none of the outstanding Warrants are exercised prior to the Proposed Placement but assuming full exercise of the outstanding Warrants after the Proposed Placement

For the purposes of illustrating the effects of the Proposals, we have also assumed the Issue Price to be RM0.59, which represents a discount of approximately 15% to the five-day VWAP of Reach Energy Shares up to and including 6 May 2016, being the latest practicable date prior to the announcement of the Proposed Placement of RM0.69.

Our Board wishes to emphasise that the pro forma effects of the Proposals on our issued and paid-up share capital, NA per Share and gearing, substantial shareholders' shareholdings, and earnings and EPS have been presented solely for illustrative purposes based on the above assumptions and scenarios. It should not be regarded as an indication or reference to the final Issue Price which will be determined by our Board and announced closer to the implementation of the Proposed Placement.

## 10.1 Issued and paid-up share capital

The Proposed Acquisition will not have any effect on the issued and paid-up share capital of our Company. For illustrative purposes, the pro forma effect of the Proposed Placement on the issued and paid-up share capital of our Company is as follows:

	Minimum Scenario		Maximum Scenario	
	No. of Reach Energy Shares	Amount RM	No. of Reach Energy Shares	Amount RM
As at the LPD	1,277,822,425	12,778,224	1,277,822,425	12,778,224
To be repurchased by Reach Energy	(249,814,750)	(2,498,147)	-	-
	1,028,007,675	10,280,077	1,277,822,425	12,778,224
To be issued pursuant to the Proposed Placement	305,084,746	3,050,847	115,254,237	1,152,542
	1,333,092,421	13,330,924	1,393,076,662	13,930,766
To be issued assuming full exercise of the Warrants	-	-	1,277,822,225	12,778,222
<b>Enlarged issued and paid-up share capital</b>	<b>1,333,092,421</b>	<b>13,330,924</b>	<b>2,670,898,887</b>	<b>26,708,988</b>



## 10.2 NA per Reach Energy Share and gearing

Based on the latest audited consolidated statements of financial position of Reach Energy as at 29 February 2016 and on the assumption that the Proposals had been effected on that date, the pro forma effects of the Proposals on the NA per Share and gearing of our Group is as follows:

### Minimum Scenario

	Audited as at	Pro forma I		Pro forma II
	29 February 2016*	Proposed Acquisition	After the Proposed Acquisition	After Pro forma I and the Proposed Placement
	RM'000	RM'000	RM'000	RM'000
Share capital <sup>(1)</sup>	22,035	442,103	442,103	( <sup>(3)</sup> 646,611)
Capital redemption reserve	-	446	446	446
Other reserves	45,772	183,878	183,878	183,878
(Accumulated losses)/Retained earnings	(43,237)	( <sup>(2)</sup> 8,342)	( <sup>(2)</sup> 8,342)	(38,850)
<b>Shareholders' funds/NA</b>	<b>24,570</b>	<b>618,085</b>	<b>618,085</b>	<b>792,085</b>
Non-controlling interest	-	(15,117)	(15,117)	(15,117)
Total equity	24,570	602,968	602,968	776,968
Number of Reach Energy Shares in issue ('000)	1,277,822	1,028,008	1,028,008	1,333,092
NA per Reach Energy Share <sup>(5)</sup> (RM)	0.02	0.60	0.60	0.59
Total external borrowings	( <sup>(4)</sup> N/A)	( <sup>(4)</sup> N/A)	( <sup>(4)</sup> N/A)	( <sup>(4)</sup> N/A)
Gearing ratio <sup>(6)</sup> (times)	( <sup>(4)</sup> N/A)	( <sup>(4)</sup> N/A)	( <sup>(4)</sup> N/A)	( <sup>(4)</sup> N/A)

Notes:

\* We had on 29 April 2016 announced our audited financial statements for the FPE 29 February 2016.

- (1) Comprising total share capital and premium after setting off proceeds of Shares allocated to warrant reserves and proceeds of Shares allocated to financial liability.
- (2) After deducting estimated expenses relating to the Proposed Acquisition of RM18.0 million.
- (3) After deducting estimated expenses relating to the Proposed Placement of RM6.0 million.
- (4) Not applicable.
- (5) Calculated as NA divided by the total number of Reach Energy Shares in issue.
- (6) Calculated as total external borrowings divided by shareholders' funds/NA.

**Maximum Scenario**

	Audited as at 29 February 2016*	Pro forma I After the Proposed Acquisition	Pro forma II After Pro forma I and the Proposed Placement	Pro forma III After Pro forma II and assuming full exercise of the Warrants
	RM'000	RM'000	RM'000	RM'000
Share capital <sup>(1)</sup>	22,035	582,698	(3)659,223	1,847,498
Other reserves	45,772	229,908	229,908	-
(Accumulated losses)/Retained earnings	(43,237)	(2)(5,695)	(17,220)	(17,220)
<b>Shareholders' funds/NA</b>	<b>24,570</b>	<b>806,911</b>	<b>871,911</b>	<b>1,830,278</b>
Non-controlling interest	-	(15,117)	(15,117)	(15,117)
Total equity	24,570	791,794	856,794	1,815,161
Number of Reach Energy Shares in issue ('000)	1,277,822	1,277,822	1,393,077	2,670,899
NA per Reach Energy Share <sup>(5)</sup> (RM)	0.02	0.63	0.63	0.69
Total external borrowings	(4)N/A	(4)N/A	(4)N/A	(4)N/A
Gearing ratio <sup>(6)</sup> (times)	(4)N/A	(4)N/A	(4)N/A	(4)N/A

Notes:

\* We had on 29 April 2016 announced our audited financial statements for the FPE 29 February 2016.

- (1) Comprising total share capital and premium after setting off proceeds of Shares allocated to warrant reserves and proceeds of Shares allocated to financial liability.
- (2) After deducting estimated expenses relating to the Proposed Acquisition of RM18.0 million.
- (3) After deducting estimated expenses relating to the Proposed Placement of RM3.0 million.
- (4) Not applicable.
- (5) Calculated as NA divided by the total number of Reach Energy Shares in issue.
- (6) Calculated as total external borrowings divided by shareholders' funds/NA.

Please refer to the pro forma consolidated statements of financial position of our Company as at 29 February 2016 together with the Reporting Accountants' letter thereon in Appendix IX of this Circular for further details.

### 10.3 Substantial shareholders' shareholdings

The Proposed Acquisition will not have any effect on our substantial shareholders' shareholdings in our Company as it does not involve the issuance of new Reach Energy Shares. The pro forma effects of the Proposed Placement on our substantial shareholders' shareholdings in our Company as at 28 September 2016 are as follows:

#### Minimum Scenario

	As at 28 September 2016			Pro forma   After Maximum Share Repurchase		
	Direct			Indirect		
	No. of Reach Energy Shares held	%	No. of Reach Energy Shares held	No. of Reach Energy Shares held	%	No. of Reach Energy Shares held
Reach Energy Holdings	255,600,200	20.00	-	255,600,200	24.86	-
Ir. Shahul Hamid Bin Mohd Ismail	766,000	0.06	(1)255,600,200	766,000	0.07	(1)255,600,200
Tan Sri Dr. Azmil Khalili Bin Dato' Khalid	43,531,400	3.41	(2)71,376,400	43,531,400	4.23	(2)71,376,400
Puan Sri Nik Fuziah Binti Tan Sri Dr. Nik Hussein	40,000,000	3.13	(3)74,907,800	40,000,000	3.89	(3)74,907,800
Lembaga Tabung Haji	102,225,000	8.00	-	102,225,000	9.94	-
Credit Suisse Securities (Europe) Limited	95,363,900	7.46	-	95,363,900	9.28	-
Credit Suisse Group AG	-	-	(4)100,753,100	-	-	(4)100,753,100
Pacific Alliance Asia Opportunity Fund L.P.	75,135,300	5.88	-	75,135,300	7.31	-
Pacific Alliance Investment Management Limited	-	-	(5)75,135,300	-	-	(5)75,135,300
Pacific Alliance Group Asset Management Limited	-	-	(6)75,135,300	-	-	(6)75,135,300
PAG Holdings Limited	-	-	(7)115,592,700	-	-	(7)115,592,700
Pacific Alliance Group Limited	-	-	(8)115,592,700	-	-	(8)115,592,700

**Pro forma II**  
**After Pro forma I and the Proposed Placement**

	Direct		Indirect	
	No. of Reach Energy Shares held	%	No. of Reach Energy Shares held	%
Reach Energy Holdings	255,600,200	19.17	-	-
Ir. Shahul Hamid Bin Mohd Ismail	766,000	0.06	<sup>(1)</sup> 255,600,200	19.17
Tan Sri Dato' Dr. Azmil Khalili Bin Dato' Khalid	43,531,400	3.27	<sup>(2)</sup> 71,376,400	5.35
Puan Sri Nik Fuziah Binti Tan Sri Dr. Nik Hussein	40,000,000	3.00	<sup>(3)</sup> 74,907,800	5.62
Lembaga Tabung Haji	102,225,000	7.67	-	-
Credit Suisse Securities (Europe) Limited	95,363,900	7.15	-	-
Credit Suisse Group AG	-	-	<sup>(4)</sup> 100,753,100	7.56
Pacific Alliance Asia Opportunity Fund L.P.	75,135,300	5.64	-	-
Pacific Alliance Investment Management Limited	-	-	<sup>(5)</sup> 75,135,300	5.64
Pacific Alliance Group Asset Management Limited	-	-	<sup>(6)</sup> 75,135,300	5.64
PAG Holdings Limited	-	-	<sup>(7)</sup> 115,592,700	8.67
Pacific Alliance Group Limited	-	-	<sup>(8)</sup> 115,592,700	8.67

**Maximum Scenario**

	As at 28 September 2016			Pro forma I After the Proposed Placement			
	Direct	Indirect		Direct		Indirect	
	No. of Reach Energy Shares held	%	No. of Reach Energy Shares held	%	No. of Reach Energy Shares held	%	
Reach Energy Holdings	255,600,200	20.00	-	-	255,600,200	18.35	-
Ir. Shahul Hamid Bin Mohd Ismail	766,000	0.06	(1)255,600,200	20.00	766,000	0.05	(1)255,600,200
Tan Sri Dr. Azmil Khalili Bin Dato' Khalid	43,531,400	3.41	(2)71,376,400	5.58	43,531,400	3.12	(2)71,376,400
Puan Sri Nik Fuziah Binti Tan Sri Dr. Nik Hussein	40,000,000	3.13	(3)74,907,800	5.86	40,000,000	2.87	(3)74,907,800
Lembaga Tabung Haji	102,225,000	8.00	-	-	102,225,000	7.34	-
Credit Suisse Securities (Europe) Limited	95,363,900	7.46	-	-	95,363,900	6.85	-
Credit Suisse Group AG	-	-	(4)100,753,100	7.88	-	-	(4)100,753,100
Pacific Alliance Asia Opportunity Fund L.P.	75,135,300	5.88	-	-	75,135,300	5.39	-
Pacific Alliance Investment Management Limited	-	-	(5)75,135,300	5.88	-	-	(5)75,135,300
Pacific Alliance Group Asset Management Limited	-	-	(6)75,135,300	5.88	-	-	(6)75,135,300
PAG Holdings Limited	-	-	(7)115,592,700	9.05	-	-	(7)115,592,700
Pacific Alliance Group Limited	-	-	(8)115,592,700	9.05	-	-	(8)115,592,700

**Pro forma II**  
**After Pro forma I and assuming full exercise of the Warrants**

	Direct		Indirect	
	No. of Reach Energy Shares held	%	No. of Reach Energy Shares held	%
Reach Energy Holdings	511,200,200	19.14	-	-
Ir. Shahul Hamid Bin Mohd Ismail	1,766,000	0.07	<sup>(1)</sup> 511,200,200	19.14
Tan Sri Dr. Azmil Khalili Bin Dato' Khalid	43,531,400	1.63	<sup>(2)</sup> 111,376,400	4.17
Puan Sri Nik Fuziah Binti Tan Sri Dr. Nik Hussein	80,000,000	3.00	<sup>(3)</sup> 74,907,800	2.80
Lembaga Tabung Haji	125,053,100	4.68	-	-
Credit Suisse Securities (Europe) Limited	95,363,900	3.57	-	-
Credit Suisse Group AG	-	-	<sup>(4)</sup> 100,753,100	3.77
Pacific Alliance Asia Opportunity Fund L.P.	75,135,300	2.81	-	-
Pacific Alliance Investment Management Limited	-	-	<sup>(5)</sup> 75,135,300	2.81
Pacific Alliance Group Asset Management Limited	-	-	<sup>(6)</sup> 75,135,300	2.81
PAG Holdings Limited	-	-	<sup>(7)</sup> 115,592,700	4.33
Pacific Alliance Group Limited	-	-	<sup>(8)</sup> 115,592,700	4.33

Notes:

- (1) Deemed interest by virtue of his interest in Reach Energy Holdings pursuant to Section 6A(4)(c) of the Act.
- (2) Deemed interest by virtue of his interest in MTD Capital Bhd pursuant to Section 6A(4)(c) of the Act which holds 31,376,400 Reach Energy Shares and by virtue of his spouse, Puan Sri Nik Fuziah Binti Tan Sri Dr. Nik Hussein who holds 40,000,000 Reach Energy Shares.
- (3) Deemed interest by virtue of her interest in MTD Capital Bhd pursuant to Section 6A(4)(c) of the Act which holds 31,376,400 Reach Energy Shares and by virtue of her spouse, Tan Sri Dr. Azmil Khalili Bin Dato' Khalid who holds 43,531,400 Reach Energy Shares.
- (4) Deemed interest by virtue of Credit Suisse Group AG being the ultimate holding company of Credit Suisse Securities (Europe) Limited and Credit Suisse Securities (USA) LLC.

- (5) Deemed interest by virtue of Pacific Alliance Investment Management Limited being the investment advisor of Pacific Alliance Asia Opportunity Fund L.P. ("**PAX**").
- (6) Deemed interest by virtue of Pacific Alliance Group Asset Management Limited being the general partner of PAX.
- (7) Deemed interest by virtue of PAG Holdings Limited being the ultimate holding company of the general partner and investment advisor of PAX, PAG-P Asia Fund L.P. and PAG Asia Alpha L.P..
- (8) Deemed interest by virtue of Pacific Alliance Group Limited being the intermediate holding company of the general partner and investment advisor of PAX, PAG-P Asia Fund L.P. and PAG Asia Alpha L.P..



#### **10.4 Earnings and EPS**

The Proposed Acquisition is expected to contribute positively to the earnings and EPS of our enlarged Group in the long-term as the Producing Fields and Development Fields within the Emir-Oil Concession Block are already producing with Proven Reserves. The effects of the Proposed Acquisition on our enlarged Group will depend on, among others, the future performance of the Emir-Oil Concession Block and crude oil prices.

The Proposed Placement is not expected to have any material effect on the earnings of our enlarged Group for the financial year ending 31 December 2016 because the Proposed Placement may only be implemented in tranches within six months from the date of approval of Bursa Securities for the listing of and quotation for the Placement Shares on the Main Market of Bursa Securities and the proceeds to be raised from the Proposed Placement are expected to be utilised within 12 months from the listing of the Placement Shares.

However, the EPS of our Group may be diluted as a result of the increase in the number of Reach Energy Shares in issue after the issuance of the Placement Shares.

#### **10.5 Convertible securities**

As at the LPD, our Company has 1,277,822,225 outstanding Warrants and the exercise price of the Warrants is RM0.75.

Pursuant to the deed poll constituting the Warrants, the Proposals will not have any effect on the exercise price and/or the number of outstanding Warrants of our Company.

#### **10.6 Dividend policy**

In our Prospectus, we had stated that we do not intend to pay any dividends prior to the completion of our Qualifying Acquisition but it is our intention to pay dividends to our shareholders in the future post-Qualifying Acquisition where such dividend to be proposed and declared will depend on, among others, our Company's financial performance, cash flow requirements for operations, financing commitments and CAPEX, availability of adequate distributable reserves and any other factors considered relevant by our Board. It was also stated in our Prospectus that the declaration of interim dividends and the recommendation of final dividends are subject to the discretion of our Board and any final dividend for the year is subject to our shareholders' approval.

Since our Board now has visibility of the capital requirements of our enlarged Group following the Proposed Acquisition, our Board intends to adopt the following approach with regards to our Company's dividend policy which is a policy of active capital management.

As part of our Company's dividend policy, our Company targets a dividend payout ratio of at least 30% of our enlarged Group's cash generated from operations after setting aside necessary funding for CAPEX and working capital requirements in each calendar year, beginning FYE 31 December 2017, subject to compliance with the Act, confirmation of our Board and to any applicable law, licence and contractual obligations and provided that such distribution would not be detrimental to our enlarged Group's cash needs or to any plans approved by our Board. As our Company is a holding company, our income upon completion of the Proposed Acquisition, and therefore our ability to pay dividends, is dependent upon dividends and other distributions that we receive from the Palaeontol B.V. Group. The ability of the Palaeontol B.V. Group to pay dividends or make other distributions to us in the future will depend upon its operating results, CAPEX plans, financial condition, working capital requirements and other factors that the Palaeontol B.V. Board deem relevant. Dividends may only be paid out of distributable reserves and under certain circumstances, legal and contractual restrictions may limit our ability to obtain cash from the Palaeontol B.V. Group. Our Board believes that we would be able to fulfill our dividend policy, subject to compliance with the Act, without causing any major impact to our enlarged Group's ability to settle our liabilities as and when they fall due.

As we may fund the Deferred Consideration and CAPEX via proceeds from future fund raising exercises, we expect to be able to pay dividends for the financial years ending 31 December 2017 and 2018 respectively using cash surplus from our internally generated funds, subject to compliance with the Act.

We wish to re-iterate that the declaration of interim dividends and the recommendation of final dividends is subject to our Board's discretion and any final dividend for the year is subject to our shareholders' approval. However, such payments to our shareholders will depend upon a number of factors, including our enlarged Group's financial performance, cash flow requirements for operations, financing commitments and CAPEX, availability of adequate distributable reserves and any other factors considered relevant by our Board.

You should note that the dividend policy as described above merely describes our Company's present intention and shall not constitute legally binding statements in respect of our Company's future dividends that are subject to modification at our Board's discretion.

## 11. HISTORICAL SHARE PRICES

The monthly high and low market prices of Reach Energy Shares as traded on the Main Market of Bursa Securities for the past 12 months are set out below:

	<b>High RM</b>	<b>Low RM</b>
<b>2015</b>		
October	0.650	0.605
November	0.645	0.625
December	0.635	0.610
<b>2016</b>		
January	0.640	0.625
February	0.655	0.630
March	0.690	0.650
April	0.695	0.675
May	0.695	0.675
June	0.685	0.675
July	0.685	0.670
August	0.705	0.680
September	0.725	0.685
Last transacted price of Reach Energy Shares on 4 March 2016, being the last date of trading prior to the date of the announcement of the Proposed Acquisition		0.660
Last transacted price of Reach Energy Shares on 20 May 2016, being the last date of trading prior to the date of the announcement of the Proposed Placement		0.690
Last transacted price of Reach Energy Shares as at the LPD		0.705

*(Source: Bloomberg)*

## 12. APPROVALS REQUIRED

The Proposals are subject to the following being obtained:

- (i) the approval of the SC for the Proposals which was obtained via its letter dated 24 August 2016, subject to the following conditions:

<b>Condition imposed</b>	<b>Status of compliance</b>
(a) HLIB, Maybank IB and Reach Energy to fully comply with the requirements of the SC's Equity Guidelines, as applicable, pertaining to the implementation of the Proposals; and	Noted.
(b) HLIB, Maybank IB and Reach Energy to fully comply with the Listing Requirements, as applicable, pertaining to the implementation of the Proposals and the issuance of the circular to shareholders of Reach Energy	Noted.

In addition, the SC has also via its letter dated 14 July 2016, approved the reliefs sought in relation to compliance with certain paragraphs of the Listing Requirements and the Equity Guidelines. The details of the reliefs sought are as follows:

<b>Reference</b>	<b>Details of relief granted</b>
(a) Paragraph 29, Appendix 10B of the Listing Requirements	Relief to allow a modified directors' report in relation to Paragraphs 15.01(a), 15.01(b), 15.01(d), 15.01(e) and 15.01(f) of Division 1, Part I of the Prospectus Guidelines
(b) Paragraph 6(b), Appendix 2 of the Equity Guidelines	Relief to allow modified confirmation letters from the directors of Palaeontol B.V.

- (ii) the approval of Bursa Securities for the listing of and quotation for up to 305,084,746 Placement Shares on the Main Market of Bursa Securities which was obtained via its letter dated 12 October 2016, subject to, among others, the following conditions:

<b>Condition imposed</b>	<b>Status of compliance</b>
(a) the Proposed Placement to be implemented only after the completion of the Proposed Acquisition;	Noted.
(b) Reach Energy, HLIB and Maybank IB must fully comply with the relevant provisions under the Main Market Listing Requirements pertaining to the implementation of the Proposed Placement;	Noted.
(c) Reach Energy, HLIB and Maybank IB to inform Bursa Securities upon the completion of the Proposed Placement;	To be complied.
(d) Reach Energy to furnish Bursa Securities with a certified true copy of the resolution passed by the shareholders approving the Proposals prior to the listing and quotation of the Placement Shares; and	To be complied.

<b>Condition imposed</b>	<b>Status of compliance</b>
(e) Reach Energy to furnish Bursa Securities with a written confirmation of its compliance with the terms and conditions of Bursa Securities' approval once the Proposed Placement is completed.	To be complied.
(iii) the approval of the Committee on Regulation of Natural Monopolies and Protection of Competition of the Ministry of National Economy of the Republic of Kazakhstan for the acquisition of the Sale Shares on the terms of the SPA, which was obtained on 18 July 2016;	
(iv) the approval of the MOE for the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares, which was obtained on 29 June 2016;	
(v) either (a) the MOE's official waiver of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares or (b) an official response from the MOE that a waiver of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares is not required.	
	The MOE had, via its letter dated 26 July 2016, confirmed that a waiver of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through the sale and transfer of the Sale Shares is not required on the basis that such subsoil use rights are not included in the 'List of Subsoil Plots, Deposits Having Strategic Significance', approved by the Decree of the Government of the Republic of Kazakhstan No. 1137 dated 4 October 2011;
(vi) MIEH procuring the (a) approval from the shareholders of MIEH at a general meeting, and to the extent required; and (b) consents, waivers, permissions and approvals in relation to the transaction from the Hong Kong Stock Exchange and the Securities and Futures Commission of Hong Kong.	
	MIEH had on 26 July 2016, obtained its shareholders' approval for the Proposed Acquisition;
(vii) your approval for the Proposals at our coming EGM; and	
(viii) any other relevant authorities and/or parties, if required.	

The Proposed Placement is conditional upon the Proposed Acquisition but not vice versa, and will only be implemented after the completion of the Proposed Acquisition. The Proposals are not conditional upon any other corporate exercise/scheme of our Company.

### **13. TENTATIVE TIMETABLE FOR IMPLEMENTATION OF THE PROPOSALS**

The tentative timeline in relation to the Proposed Acquisition is set out below:

<b>Event</b>	<b>Tentative timeline</b>
EGM for the Proposals	4 November 2016
Completion of the Proposed Acquisition	15 November 2016

The Proposed Placement will only be implemented after the completion of the Proposed Acquisition and is expected to be completed within six months from the date of Bursa Securities' approval for the listing of and quotation for the Placement Shares.

### **14. OTHER CORPORATE PROPOSALS ANNOUNCED BUT NOT YET COMPLETED**

Save for the Proposals, there is no other corporate proposal which has been announced by our Company but has yet to be completed as at the LPD.

### **15. INTERESTS OF THE DIRECTORS, MAJOR SHAREHOLDERS AND/OR PERSONS CONNECTED TO THEM**

None of our Directors, major shareholders and/or persons connected to them have any interest, direct or indirect, in the Proposals.

Pursuant to Paragraph 6.40 of the Equity Guidelines, the Management Team and persons connected to them (as defined in the Equity Guidelines) (including but not limited to Reach Energy Holdings) must not vote on the resolution pertaining to the Proposed Acquisition to be tabled at our coming EGM.

### **16. DIRECTORS' RECOMMENDATION**

Our Board, after having considered all aspects of the Proposals (including the basis and justification for the Purchase Consideration, the rationale and benefits of the Proposals, the prospects of the Palaeontol B.V. Group and the potential of the Emir-Oil Concession Block, and effects of the Proposals), is of the opinion that the Proposals are in the best interest of our Company and accordingly, recommends that you vote in favour of the resolutions pertaining to the Proposals to be tabled at our coming EGM.

### **17. VOTING ON THE PROPOSED ACQUISITION**

In accordance with Article 47C(4) of our M&A, as the Proposed Acquisition is intended to constitute the Qualifying Acquisition pursuant to our Company's status as a special purpose acquisition company, the Proposed Acquisition will be subject to the prior approval of a majority in number of the holders of Reach Energy Shares representing at least 75% of the total value of issued Reach Energy Shares held by all holders of Reach Energy Shares present and voting either in person or by proxy at our coming EGM, provided always that the Management Team and persons connected to them (as defined in the Equity Guidelines) (including but not limited to Reach Energy Holdings) shall not be permitted to vote on such resolution. The voting will be by way of poll and the details of all votes cast shall be duly recorded by the Company Secretary.

Each Reach Energy Share that you own in your name entitles you to 1 vote (in terms of value) at our coming EGM.

There are two ways to vote at our coming EGM:

- (i) you can attend our EGM and vote in person. Our Company will give you a voting slip upon registration. However, if your Shares are held in the name of your broker, bank or a nominee for which you are the beneficial owner, you must obtain a Form of Proxy from the broker, bank or your nominee to appoint you as their proxy. This is to ensure that your broker, bank or nominee has not already voted on your Shares at our coming EGM; or
- (ii) you can appoint a proxy to vote for and on your behalf. Your appointed proxy, whose name is listed on the Form of Proxy, will be provided with a voting slip at our coming EGM and will vote on your behalf in accordance with your instructions on the Form of Proxy. If you have not given any instructions on the Form of Proxy, your proxy is entitled to vote for or against the resolution pertaining to the Proposed Acquisition or abstain from voting at his/her/their discretion. Votes received after the resolution has been voted upon at our coming EGM will not be counted.

To determine who will be entitled to attend our coming EGM, in accordance with Articles 51(5) and 51(6) of our M&A and Section 34(1) of the Securities Industry (Central Depositories) Act 1991, our Company will request Bursa Depository to issue a Record of Depositors as at the Record Date and only depositors whose names appear on the Record of Depositors will be entitled to attend our coming EGM.

## 18. QUALIFYING ACQUISITION SHARE REPURCHASE

In accordance with Article 47C(6) of our M&A, **if you vote against the Proposed Acquisition, you shall be entitled to require our Company to purchase the Reach Energy Shares held by you ("Relevant Shares") ("QA Share Repurchase") and receive payment for your Relevant Shares PROVIDED ALWAYS THAT the Proposed Acquisition is duly approved at our coming EGM and completed within the Permitted Timeframe and PROVIDED FURTHER THAT the Management Team and persons connected to them (as defined in the Equity Guidelines) (including but not limited to Reach Energy Holdings) and the Initial Investor shall not be entitled to participate in the QA Share Repurchase. For the avoidance of doubt, if the Proposed Acquisition is not approved at our coming EGM and completed within the Permitted Timeframe, the QA Share Repurchase will not take place.**

### 18.1 Procedures for Share Repurchase

If you intend to exercise your rights to require our Company to repurchase your Relevant Shares which are standing to the credit of your CDS account for which you are the owner of the Relevant Shares as at the Record Date, you are required to strictly observe the following requirements and procedures. **You must not sell or otherwise deal with, and must continue to own, your Relevant Shares through the date of our coming EGM (including any adjournment thereof) until the day your Relevant Shares are transferred to the Share Custodian's CDS account in accordance with Section 18.2 of this Circular.**

A request form which requires our Company to repurchase your Relevant Shares is enclosed with this Circular ("**Request Form**"). You can also obtain a copy of the Request Form from our share registrar's office during normal business hours from 9:00 a.m. to 6:00 p.m. on Mondays to Fridays (excluding public holidays in Malaysia). The details of our share registrar are as follows:

Symphony Share Registrars Sdn. Bhd.  
Level 6 Symphony House, Pusat Dagangan Dana 1,  
Jalan PJU 1A/46,  
47301 Petaling Jaya,  
Selangor Darul Ehsan  
Telephone No. 603-7841 8000/603-7849 0777 (Helpdesk)  
Facsimile No. 603-7841 8151/8152

**If you are attending our coming EGM in person, please follow the following steps:**

Prior to our EGM:

- (i) You must complete and sign the Request Form.

During our EGM:

- (i) A voting slip will be provided to you upon registration at our coming EGM.
- (ii) You must complete the voting slip by voting against the resolution in the appropriate box and sign the voting slip pertaining to the Proposed Acquisition.
- (iii) You must lodge the completed and signed Request Form with our share registrar together with the voting slip at our coming EGM.

**If you are appointing a proxy to vote at our coming EGM (with your instructions on the Form of Proxy to vote AGAINST), please follow the following steps:**

Prior to our EGM:

- (i) You must complete and sign the Request Form. Your appointed proxy must have your completed and signed Request Form during our coming EGM.
- (ii) You must complete and sign the Form of Proxy by voting against the resolution pertaining to the Proposed Acquisition.
- (iii) The completed Form of Proxy must be deposited at our share registrar's office no later than 48 hours before the time fixed for our coming EGM (including any adjournment thereof).

During our EGM:

- (i) A voting slip will be provided to your appointed proxy upon registration.
- (ii) Your appointed proxy must complete the voting slip by signing the voting slip pertaining to the Proposed Acquisition.
- (iii) Your proxy must lodge the completed and signed Request Form with our share registrar together with the voting slip at our coming EGM.

**If you are appointing a proxy to vote at our coming EGM (without your instructions on the Form of Proxy), please follow the following steps:**

Prior to our EGM:

- (i) You must complete and sign the Request Form. Your appointed proxy must have your duly completed and signed Request Form during our coming EGM.
- (ii) You must complete and sign the Form of Proxy.
- (iii) The completed Form of Proxy must be deposited at our share registrar's office no later than 48 hours before the time fixed for our coming EGM (including any adjournment thereof).

During our EGM:

- (i) A voting slip will be provided to your appointed proxy upon registration.
- (ii) Your appointed proxy must complete the voting slip by voting against the resolution in the appropriate box and sign the voting slip pertaining to the Proposed Acquisition.
- (iii) Your proxy must lodge the completed and signed Request Form with our share registrar together with the voting slip at our coming EGM.

**If you are appointing the Chairman as your proxy to vote at our coming EGM (with or without your instructions on the Form of Proxy), please follow the following steps:**

No later than 48 hours before the time fixed for our coming EGM (including any adjournment thereof), you must deposit **BOTH** the completed and signed Form of Proxy (with your instruction to vote AGAINST the resolution) and the Request Form at our share registrar's office in order for you to be entitled to exercise your rights to require our Company to repurchase your Relevant Shares.

Please note that if you have not indicated your instructions on the Form of Proxy AND have not deposited the completed and signed Request Form at our share registrar's office no later than 48 hours before the time fixed for our coming EGM (including any adjournment thereof), this will be deemed as an instruction to vote FOR the resolution on your behalf, and our Company will not repurchase any of your Relevant Shares.

However, if you have not indicated your instructions on the Form of Proxy but HAVE deposited the duly completed and signed Request Form in accordance with the instructions in this Circular, this will be deemed as an instruction to vote AGAINST the resolution on your behalf, and our Company will proceed to repurchase your Relevant Shares in accordance with the procedures and requirements stated in this Circular.

**For the avoidance of doubt, our Company will not be obliged to process your request for repurchase of your Relevant Shares UNLESS the Proposed Acquisition is approved at our coming EGM and completed within the Permitted Timeframe as well as the above procedures and requirements are strictly complied with and such QA Share Repurchase is also subject to verification by our share registrar that you have voted against the resolution pertaining to the Proposed Acquisition at our coming EGM and are fully entitled to exercise such QA Share Repurchase option. Any request for your Relevant Shares to be repurchased by our Company is irrevocable and, once made, cannot be withdrawn.** The lodgment of the Request Form in the manner described above constitute a valid and binding contract between you and our Company to repurchase your Relevant Shares and you must not subsequently sell or otherwise deal with any of your Relevant Shares as doing so will constitute a breach of your obligation and our Company reserves the right to claim against you for any loss or damage suffered by our Company as a result of your breach.

If subsequent to a proxy appointment, you wish to attend and vote in person at our coming EGM, you are required to attend our coming EGM in person and execute a written revocation of the proxy appointment in the same manner as the original proxy appointment. For the avoidance of doubt, the written revocation must be received by our share registrar prior to the commencement of our coming EGM in order to be effective.

## **18.2 Transfer of Relevant Shares**

Provided that you have strictly complied with all the relevant procedures and requirements set out in this Circular and/or in the Request Form, our Company will transfer your Relevant Shares out from your CDS account and will credit your Relevant Shares into the Share Custodian's CDS account maintained with Bursa Depository.

## **18.3 Method of satisfaction**

The satisfaction of the consideration for the repurchase of your Relevant Shares by our Company will be effected by our Company within seven Market Days after the Qualifying Acquisition has been fully and duly completed.



The consideration for the QA Share Repurchase shall be equivalent to a pro-rata portion of the amount then held in the Islamic Trust Account (**net of any taxes payable and expenses related to the QA Share Repurchase**), calculated on the following basis:

$$X = \frac{Y}{Z}$$

Where:

- X** = Amount per Share payable to the Dissenting Shareholder
- Y** = Amount then held in Islamic Trust Account (net of any taxes payable and expenses related to the QA Share Repurchase)
- Z** = Total number of Shares excluding Shares held by the Management Team, persons connected to the Management Team (as defined in the Equity Guidelines) (including but not limited to Reach Energy Holdings) and the Initial Investor (except in relation to Shares purchased by the Initial Investor after the date of listing or pursuant to the public issue for the initial public offering of Reach Energy ("**Public Issue**") ("**Eligible Repurchase Shares**"). As at the LPD, the total number of Eligible Repurchase Shares is approximately 999,259,000

If it is discovered that you have sold or otherwise dealt with your Relevant Shares after you have lodged the Request Form in the manner set out above, you shall not be entitled to the consideration for the QA Share Repurchase. If any such consideration has been paid to you, you must refund the money in full and until refund, shall hold the money on trust for our Company.

The estimated timeframe for Completion to take place is as below:

<b>Timeframe</b>	<b>Events</b>
T (Unconditional Date)	Shareholders' approval of the resolution pertaining to the Proposed Acquisition at our coming EGM (assuming that shareholders' approval is the last conditions precedent to be fulfilled) or the day on which the last conditions precedent is fulfilled
T + 10 days <sup>(1)</sup> or such other date as our Company and the Vendors may agree	Completion takes place and our Company and Vendors to perform all their obligations at Completion

Note:

- (1) If the 10<sup>th</sup> day is not a Business Day, then Completion will be on the next day which is a Business Day.

All Relevant Shares repurchased by our Company from Dissenting Shareholders will be cancelled by our Company.

The satisfaction of the consideration for the repurchase of the Relevant Shares will be effected, pursuant to Article 47C(6) and Article 130 of our M&A, by way of cheque(s) or direct deposit into bank account based on your eDividend record stated in the ROD.

#### **18.4 Non-completion of the Proposed Acquisition and Qualifying Acquisition**

If the Proposed Acquisition is not approved at our coming EGM, our Company intends to identify another Qualifying Acquisition ("**New Qualifying Acquisition**") since we have until 15 August 2017 to complete the New Qualifying Acquisition. As the New Qualifying Acquisition would be subject to the approvals of the approving authority(ies) and our shareholders, our Company will endeavour to identify and execute the definitive agreement(s) pertaining to the New Qualifying Acquisition by first quarter of 2017 in order to complete the New Qualifying Acquisition within the Permitted Timeframe. If we are unable to identify the New Qualifying Acquisition by first quarter of 2017, we endeavour to commence the process to refund the monies to our relevant shareholders thereafter. The commencement of such process may be subject to, among others, our shareholders' approval as well as obtaining the necessary approvals/clearance.

If our Qualifying Acquisition is not completed by 15 August 2017, your Relevant Shares will be transferred out to the Share Custodian's CDS account based on details stated in the Record of Depositors as at the Record Date at your own risk.

#### **19. TERMS AND PROCEDURES FOR LIQUIDATION DISTRIBUTION**

Pursuant to Article 47C(7) of our M&A:

If our Qualifying Acquisition is not completed by 15 August 2017 or our Company is delisted by Bursa Securities before our Company completes our Qualifying Acquisition, the following will take effect:

- (a) Our Company will be dissolved, wound up and liquidated under the Act (where the requisite approvals of the members for the voluntary liquidation and the appointments of the liquidator in accordance with the Act have been obtained) in accordance with all applicable laws and regulations;
- (b) The liquidation process will be commenced by our Directors as soon as practicable within 60 days from 15 August 2017. The first step in the liquidation process, as prescribed under the provisions of the Act, is to convene an EGM of the members to resolve to wind up our Company. Upon the passing of a special resolution for the winding up of our Company, a liquidator will be appointed to take charge of the liquidation process. The liquidator will be vested with powers under the Act to take full control of our Company and our assets and shall take all such steps as are required under the Act, within the time frame required, with a view to collect and realise all the assets, settle all creditors' claims and distribute the surplus assets to our shareholders in accordance with their respective entitlements;
- (c) The amount then held in the Islamic Trust Account shall be distributed to the holders of the Reach Energy Shares at the material time on a pro-rata basis as soon as practicable in accordance with the provisions of the Act and other applicable laws and regulations PROVIDED ALWAYS THAT the Management Team and persons connected to them (as defined in the Equity Guidelines) (including but not limited to Reach Energy Holdings) and the Initial Investor (pursuant to the Initial Investor moratorium and non-entitlement obligations) shall not be entitled to and shall not participate in the liquidation distribution of the amount then held in the Islamic Trust Account (net of any taxes payable and direct expenses related to the liquidation distribution), except in relation to Shares purchased by them after the date of listing of Reach Energy and the Shares purchased by persons connected to the Management Team and the Initial Investor pursuant to the Public Issue.

The liquidation distribution shall be calculated on the following basis:

$$A = \frac{B}{C}$$

where:

- A = Amount per Share payable to our shareholder
- B = Amount then held in the Islamic Trust Account (net of any taxes payable and direct expenses related to the liquidation distribution).
- C = Total number of issued Shares, excluding the number of Reach Energy Shares held by the Management Team, persons connected to them and the Initial Investor (except in relation to Shares purchased by them after the date of listing of Reach Energy and the Shares purchased by persons connected to the Management Team and the Initial Investor pursuant to the Public Issue).

The above liquidation terms and procedures will also apply in a situation where our Qualifying Acquisition has been approved by you but our Qualifying Acquisition is not completed by 15 August 2017.

## 20. EGM

An EGM, the notice of which is set out in this Circular, will be held at Banquet Hall, Level 1, TPC Kuala Lumpur (formerly known as Kuala Lumpur Golf & Country Club (KLGCC)), 10, Jalan 1/70D, Bukit Kiara, 60000 Kuala Lumpur, Malaysia on Friday, 4 November 2016 at 3.30 p.m. or any adjournment thereof, for the purpose of considering and, if thought fit, passing with or without modifications, the resolutions to give effect to the Proposals.

You are entitled to attend and vote at our coming EGM or appoint a proxy to vote for and on your behalf. In such event, the Form of Proxy should be lodged at our share registrar's office at Level 6, Symphony House, Pusat Dagangan Dana 1, Jalan PJU 1A/46, 47301 Petaling Jaya, Selangor Darul Ehsan no later than 48 hours before the time fixed for our EGM or any adjournment thereof. The last day and time for you to lodge the Form of Proxy is on Wednesday, 2 November 2016 at 3.30 p.m.. The lodging of the Form of Proxy will not preclude you from attending and voting in person at our EGM should you subsequently wish to do so.

## 21. FURTHER INFORMATION

You are advised to refer to the attached appendices for further information.

Yours faithfully,  
For and on behalf of the Board of  
**REACH ENERGY BERHAD**

**IZLAN BIN IZHAB**  
*Chairman/ Senior Independent Non-Executive Director*

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**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2**


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*(The abbreviations used in this Appendix shall have the same meaning as those defined in the SPA unless otherwise defined)*

**SPA****Overview**

Under the SPA, MIEH agrees to sell (by requiring Palaeontol COOP to sell) the Sale Shares to Reach Energy (or the SPV as Reach Energy may direct). The Sale Shares will be sold free from all encumbrances and together with all rights, title and benefits attaching to the Sale Shares. These include without limitation, all bonuses, rights, dividends and other distributions declared, paid or made in respect of the Sale Shares on or after the Completion Date.

At Completion, MIEH will assign and transfer to Reach Energy (or the SPV as Reach Energy may direct) and Reach Energy or SPV will accept the assignment and transfer of the Shareholder Loans in proportion to the Relevant Percentage at the same time with the sale and transfer of the Sale Shares from Palaeontol COOP to Reach Energy (or to the SPV).

The Sale Shares represent 60% of the issued share capital of Palaeontol B.V..

**Consideration and basis of determination**

- (a) Our Company, MIEH and Palaeontol COOP have agreed that the enterprise value of 100% (before taking into account the downward adjustment arising from the negative Net Working Capital) of the Palaeontol B.V. Group is USD308,000,000 as at the Effective Date which translates to USD184,800,000 based on the Relevant Percentage of the Enterprise Value.

Receivables related to the Aral Loan and payables to ACAP Limited are excluded from the Net Working Capital.

- (b) Subject to the adjustment mechanism described below, the aggregate consideration for the Sale Shares and the assignment of the Shareholder Loans in proportion to the Relevant Percentage less the negative Net Working Capital of USD29,911,000 (based on the unaudited consolidated management accounts of the Palaeontol B.V. Group as at the Effective Date) is USD154,889,000.

- (c) At Completion, the Purchase Consideration will be adjusted as follows:

(i) either:

(a) if such amount is positive, increased by the Net Contribution Amount which will not exceed an aggregate amount of USD21,000,000; or

(b) if such amount is negative, decreased by an amount equal to the Net Contribution Amount; and

(ii) increased by the Relevant Percentage any amounts recovered from Aral Petroleum Capital LLP before to the Completion Date in connection with the Aral Loan,

provided always that the Purchase Consideration after the adjustment described above ("**Adjusted Purchase Consideration**") will not be greater than USD175,889,000 (unless otherwise agreed by MIEH and Reach Energy in the case of exceptional or extra items of expenditure for the Palaeontol B.V. Group).

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**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2 (Cont'd)**


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- (d) The Adjusted Purchase Consideration will consist of:
- (i) the Purchase Price; and
  - (ii) the Shareholder Loan Consideration, in respect of the assignment and transfer of the Shareholder Loans in proportion to the Relevant Percentage.

- (e) A portion of the Adjusted Purchase Consideration will be payable on the Completion Date ("**Upfront Consideration**") and the Deferred Consideration will be paid to MIEH as follows:

- (i) within 24 months after the Completion Date subject to the following interest charges:

<u>Payment Term</u>	<u>Interest rate (per annum)</u>
If payment of the Deferred Consideration is made within 12 months of the Completion Date	Nil
If payment of the Deferred Consideration is made 12 months after the Completion Date but before 24 months after the Completion Date	10% (commencing from 13 <sup>th</sup> month)
If payment of the Deferred Consideration is made 24 months after the Completion Date	14% (commencing from 25 <sup>th</sup> month and in addition to interest accrued from preceding period )

- (ii) if the Deferred Consideration is not paid within 24 months after the Completion Date, the following will apply and until full payment of the Deferred Consideration:

- (A) MIEH, Reach Energy and their respective affiliates will ensure that the Palaeontol B.V. Group defers any discretionary CAPEX (except for CAPEX required for the committed work obligations under the Production Contracts and Exploration Contract) so that the Palaeontol B.V. Group is able to free its cash flow for cash distribution (either by dividends, repayment of shareholders loan or other means) to its shareholders;
- (B) any cash distributions by the Palaeontol B.V. Group to Reach Energy (or its affiliates) will first be used to ensure that the cash and cash equivalent in the then most recent announced quarterly balance sheet in Reach Energy's quarterly report ("**Reach Energy Cash Position**") is not less than USD10,000,000 and thereafter the remaining cash distribution will be used firstly, to pay any accrued unpaid interest relating to the Deferred Consideration; and then to repay the remainder principal amount of the Deferred Consideration; and
- (C) Reach Energy will use its best efforts to raise the maximum amount of funds (whether by way of debt or equity fund raising) for repayment of the Deferred Consideration. This obligation is subject to the following:
  - (1) if the net proceeds raised is less than USD1,000,000 then such amount will not be used for repayment of the Deferred Consideration; and
  - (2) the net proceeds raised will first be used to ensure that the Reach Energy Cash Position is no less than USD10,000,000 and thereafter the remaining net proceeds raised (over and above Reach Energy Cash Position of USD10,000,000) will be used for repayment of the Deferred Consideration.

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**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2 (Cont'd)**


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(f) Within five days of satisfaction of the Conditions Precedent to be fulfilled by Reach Energy, Reach Energy has a right to defer payment of part of the Upfront Consideration. At Completion, Reach Energy will pay the sum equal to (A) USD120,000,000 plus (B) 25% of the amount in the Islamic Trust Account (net of taxes) on the Completion Date less the amount from the Islamic Trust Account which will be required to be paid out to Dissenting Shareholders that have requested that Reach Energy repurchase their voting securities provided that such amount will not be more than the Upfront Consideration ("**Completion Payment**"). The amount equal to the Upfront Consideration less the Completion Payment ("**Remaining Completion Amount**") will be paid to MIEH as follows:

(i) within six months after the Completion Date subject to the following interest charges:

<u>Payment Term</u>	<u>Interest rate (per annum)</u>
If payment of the Remaining Completion Amount is made within six months of the Completion Date	Nil
If payment of the Remaining Completion Amount is made six months after the Completion Date but before 18 months after the Completion Date	10% (commencing from seventh month)
If payment of the Remaining Completion Amount is made 18 months after the Completion Date	14% (commencing from 19 <sup>th</sup> month and in addition to interest accrued from preceding period)

(ii) if the Remaining Completion Amount is not paid within six months after the Completion Date, the following will apply until full payment of the Remaining Completion Amount:

(A) MIEH, Reach Energy and their respective affiliates will ensure that the Palaeontol B.V. Group defers any CAPEX (except for CAPEX required for the committed work obligations under the Production Contracts and Exploration Contract) so that the Palaeontol B.V. Group is able to free its cash flow for cash distribution (either by dividends, repayment of shareholders loan or other means) to its shareholders;

(B) any cash distributions by the Palaeontol B.V. Group to Reach Energy (or its affiliates) will first be used to ensure that the Reach Energy Cash Position is not less than USD10,000,000 and thereafter the remaining cash distribution will be used firstly, to pay any accrued unpaid interest relating to the Remaining Completion Amount; and then to repay the remainder principal amount of the Remaining Completion Amount; and

(C) Reach Energy will use its best efforts to raise the maximum amount of funds (whether that be by way of debt or equity fund raising) for repayment of the Remaining Completion Amount. This obligation is subject to the following:

(1) if the net proceeds raised is less than USD1,000,000 then such amount will not be used for repayment of the Remaining Completion Amount; and

(2) the net proceeds raised will first be used to ensure that Reach Energy Cash Position is no less than USD10,000,000 and thereafter the remaining net proceeds raised (over and above Reach Energy Cash Position of USD10,000,000) will be used for repayment of the Remaining Completion Amount.

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**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2 (Cont'd)**

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If Reach Energy (or its affiliate) directly or indirectly transfers any of the Sale Shares to any third party before full payment of the Deferred Consideration (or, as the case may be, the Remaining Completion Amount) has been made, Reach Energy will pay to MIEH a sum equal to the outstanding Deferred Consideration (or, as the case may be, the Remaining Completion Amount) (including interest thereon) from the amount received by Reach Energy (or its affiliate) from the transfer of such Sale Shares. This payment will be for the purposes of full settlement of the Deferred Consideration (or, as the case may be, the Remaining Completion Amount) owing from Reach Energy to MIEH.

For the avoidance of doubt, the Deferred Consideration (or, as the case may be, the Remaining Completion Amount) can be repaid at any time after the Completion Date.

**Conditions Precedent**

Completion is conditional on the following conditions ("**Conditions Precedent**") being satisfied on or before six months from the date of the SPA (or such later date as the parties may agree) ("**Longstop Date**"):

- (1) MIEH:
  - (A) having obtained the approval of the MOE for the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract through sale and transfer of the Sale Shares;
  - (B) having obtained either (i) an official waiver by the MOE of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract or (ii) an official response from the MOE that a waiver of all its pre-emption rights in connection with the indirect transfer of subsoil use rights under the Production Contracts and Exploration Contract is not required; and
  - (C) having received (i) approval from shareholders of MIEH at a general meeting, and (ii) to the extent required, consents, waivers, permissions and approvals in relation to the Proposed Acquisition from the Hong Kong Stock Exchange and the Securities and Futures Commission of Hong Kong;
  
- (2) Reach Energy:
  - (A) having received the approval of the SC for the Proposed Acquisition;
  - (B) having procured shareholder approval for the Proposed Acquisition; and
  - (C) having received the approval from the Committee of the Republic Kazakhstan for Regulation of Natural Monopolies and Competition Protection for the acquisition of the Sale Shares on the terms of the SPA.

None of the Conditions Precedent are waivable unless (i) such Condition Precedent(s) is or are capable of being waived by applicable law or the applicable rules and regulations of a stock exchange which MIEH or Reach Energy is subject to; and (ii) mutually agreed by both MIEH and Reach Energy.

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**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2 (Cont'd)**


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If one or more of the Conditions Precedent:

- (1) remains un-satisfied on the Longstop Date and has not been waived on or before that date; or
- (2) becomes impossible to satisfy on or before the Longstop Date and, if it is a Conditions Precedent which can be waived, has not been waived within five days of such Conditions Precedent becoming impossible to satisfy. In such case, such party responsible for fulfilling the Conditions Precedent will immediately inform the other party the occurrence of such impossibility and in such case the other party will not be required to fulfil the Conditions Precedent which it is responsible to satisfy on or before the Longstop Date;

either party may give notice to the other party that it wishes to terminate the SPA:

- (a) if it is a termination pursuant to (1) above, the party who has failed to satisfy all or any of the Conditions Precedent which such party is responsible to satisfy by the Longstop Date will pay to the other party a fixed amount of USD1,500,000 only as liquidated damages (the "**Break Fee**") provided that the other party has satisfied the Conditions Precedent which it is responsible to satisfy by the Longstop Date; and
- (b) if it is a termination pursuant to (2) above, the party who has failed to satisfy all or any of the Conditions Precedent which such party is responsible to satisfy because it becomes impossible to satisfy on or before the Longstop Date, such party will pay to the other party the Break Fee and the other party will not be required to fulfil any of the remaining Conditions Precedent which it is responsible to satisfy,

provided that no Break Fee is payable for a failure to satisfy the Conditions Precedent set out in (2)(C) above.

If, following satisfaction or waiver of all the Conditions Precedent, any of the completion obligations of MIEH and the Palaeontol COOP are not complied with by MIEH on or before the Completion Date and Reach Energy chooses to terminate the SPA, Reach Energy will have the right to claim against MIEH any loss or damage suffered by Reach Energy provided that the maximum aggregate liability of MIEH will not exceed USD8,000,000.

If, following satisfaction or waiver of all the Conditions Precedent, any of the completion obligations of MIEH and Reach Energy are not complied with by Reach Energy on or before the Completion Date and MIEH chooses to terminate the SPA, MIEH will have the right to claim against Reach Energy any loss or damage suffered by MIEH provided that the maximum aggregate liability of Reach Energy will not exceed USD8,000,000.

Reach Energy will provide to MIEH the on demand bank guarantee for the amount of USD1,500,000 ("**Bank Guarantee**") within seven business days from the date of the SPA. The Bank Guarantee will be used to satisfy in full the Break Fee and/or in part any payment, liability or obligation of Reach Energy in the case of a termination by MIEH for a failure by Reach Energy to comply with the completion obligations after satisfaction or waiver of all the Conditions Precedent under the SPA.

### **Warranties**

MIEH has provided warranties in the SPA in relation to:

- (i) MIEH's capacity and authority to enter into and perform its obligations under the SPA;
- (ii) MIEH's solvency;
- (iii) Palaeontol COOP's capacity and authority to enter into and perform its obligations under the SPA;
- (iv) Palaeontol COOP's solvency;
- (v) The ownership of the Sale Shares;
- (vi) The information regarding Palaeontol B.V. as laid out in the SPA;



**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2 (Cont'd)**

- (vii) The information regarding Emir-Oil as laid out in the SPA;
- (viii) The share capital of Palaeontol B.V. and Emir-Oil;
- (ix) Options over unissued shares and securities;
- (x) The payment of dividends and other distributions of profits being made in accordance with the law and the respective constitutional documents of Palaeontol B.V. and Emir-Oil;
- (xi) The business name of Palaeontol B.V. and Emir-Oil;
- (xii) Compliance with laws;
- (xiii) The accounts of Palaeontol B.V. and Emir-Oil respectively being properly prepared in accordance with the IFRS and giving a true and fair view of the affairs of Palaeontol B.V. and Emir-Oil;
- (xiv) The legal and beneficial ownership of the rights and obligations under the Production Contracts and Exploration Contract;
- (xv) The financial indebtedness and encumbrances of Palaeontol B.V. and Emir-Oil;
- (xvi) The borrowings and loans taken or provided by Palaeontol B.V. and Emir-Oil;
- (xvii) The ownership of land and obligations under any leases relating to Palaeontol B.V. and Emir-Oil;
- (xviii) Any litigation matters and court proceedings which Palaeontol B.V. and Emir-Oil are a party to, including outstanding judgment, decree, ruling, injunction, order award or arbitral award or decision of a court, tribunal, arbitrator or governmental agency;
- (xix) Related party transactions relating to Palaeontol B.V. and Emir-Oil;
- (xx) The information provided in the disclosure letter from MIEH to Reach Energy;
- (xxi) Compliance of Palaeontol B.V. and Emir-Oil with its tax obligations;
- (xxii) Matters relating to the employees of Palaeontol B.V. and Emir-Oil including payments made and owed to its employees (including salaries, wages, and remuneration);
- (xxiii) That neither Palaeontol B.V. nor Emir-Oil own any intellectual property rights;
- (xxiv) The participation of Palaeontol B.V. and Emir-Oil in any agency, distributorship, marketing, purchasing, manufacturing or licensing agreement or arrangement other than in the ordinary course of its business; and
- (xxv) That the business of Palaeontol B.V. and Emir-Oil has been carried on in the ordinary and usual course since the Effective Date and that neither company shall dispose of or acquire any land, taken any financial facility, entered into any capital expenditure commitment, assumed, guaranteed or endorsed the obligations of any person, or cancelled or waived any indebtedness owed to Palaeontol B.V. and Emir-Oil.

Reach Energy has provided warranties in the SPA in relation to:

- (i) Reach Energy's capacity and authority to enter into and perform its obligations under the SPA;
- (ii) Reach Energy's solvency; and
- (iii) The amount of money in the Islamic Trust Account as at 29 February 2016.

**Completion**

Completion will take place on the tenth day following the satisfaction or waiver of all the Conditions Precedent or at such other time as MIEH and Reach Energy will agree or at such other time as MIEH and Reach Energy will agree. If the tenth day is not a business day, then Completion will be on the next day which is a business day.

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**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2 (Cont'd)**


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**SPA AMENDMENT NO. 1**

Under the SPA Amendment No. 1, Reach Energy, Palaeontol COOP and MIEH have agreed to extend the Longstop Date to 10 November 2016 as well as amend certain terms of the SPA namely:

- (i) the date of the hydrocarbon extraction contract for the Emir Field between Kazakhstan and Emir-Oil due to a typographical error in the SPA; and
- (ii) the definition of the "Completion Payment" in the SPA to ensure consistency with BNM's new method of determining the spot exchange rate between RM and USD.

**Extension of Longstop Date**

The Longstop Date is extended to 10 November 2016 and is subject to the following:

- (i) MIEH shall be entitled to terminate the SPA by written notice to Reach Energy in the event that it is not satisfied with the progress of the issuance of the Company's Circular or if MIEH is not satisfied with the progress towards the convening of the Company's EGM for approval of the Proposed Acquisition;
- (ii) MIEH shall not be entitled to terminate the SPA prior to 1 October 2016; and
- (iii) MIEH shall not be entitled to terminate the SPA after 7 October 2016.

In consideration of MIEH and Reach Energy agreeing to the extension of the Longstop Date, the following is agreed:

- (i) Reach Energy shall pay to MIEH a sum of USD1.5 million ("**Agreed Sum**") no later than 5.00 p.m. (Hong Kong) time on 7 September 2016;
- (ii) upon MIEH's receipt of the Agreed Sum, MIEH shall immediately deliver the Bank Guarantee to Reach Energy or to such other person directed by Reach Energy.

*Status update: On 7 September 2016, the Agreed Sum has been duly paid and we have received the Bank Guarantee on 10 September 2016;*

- (iii) in the event the Agreed Sum is not received by MIEH by 5.00 p.m. (Hong Kong) time on 7 September 2016, MIEH shall be entitled to immediately call on the Bank Guarantee;
- (iv) at Completion, the Adjusted Purchase Consideration shall be reduced by the Agreed Sum (or the amount of the Bank Guarantee if the Agreed Sum is not received by MIEH). For the avoidance of doubt, the Agreed Sum (or the amount of the Bank Guarantee if the Agreed Sum is not received by MIEH) shall be deducted from the portion of the Adjusted Purchase Consideration payable by Reach Energy on the Completion Date;
- (v) in the event that the condition set out in the SPA in relation to the approval of the Proposed Acquisition by shareholders of Reach Energy at an EGM to be convened remains unfulfilled after the Extended Longstop Date, any party may terminate the SPA by providing written notice to the other parties provided always that no further Break Fee shall be payable by Reach Energy; and
- (vi) where Reach Energy has duly paid the Agreed Sum (or MIEH has called on the Bank Guarantee) but Completion does not occur, MIEH shall be entitled to keep the Agreed Sum or the amount kept under the Bank Guarantee (as the case may be).

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**SALIENT TERMS OF THE SPA, SPA AMENDMENT NO. 1 AND SPA AMENDMENT NO. 2 (Cont'd)**

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**SPA AMENDMENT NO. 2**

Under the SPA Amendment No. 2, Reach Energy, Palaeontol COOP and MIEH have agreed to vary the conditions for the extension of the Longstop Date set out in the SPA Amendment No. 1.

Pursuant to the SPA Amendment No. 2, the extension of the Longstop Date until 10 November 2016 is subject to the following:

- (i) MIEH shall be entitled to terminate the SPA by written notice to Reach Energy in the event that it is not satisfied with the progress of the issuance of the Company's circular in relation to the Proposed Acquisition or if MIEH is not satisfied with the progress towards the convening of the Company's EGM for approval of the Proposed Acquisition.
- (ii) The last date on which MIEH may exercise its right to terminate the SPA shall be on the date falling four clear Business Days prior to the Company's EGM for approval of the Proposed Acquisition.
- (iii) The rights of MIEH to terminate the SPA shall immediately cease and have no effect in the event that MIEH provides a written waiver of such rights to the Company.

Except as varied by the terms of the SPA Amendment No. 2 above, the SPA and the SPA Amendment No. 1 will remain in full force and effect.

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**SALIENT TERMS OF THE SHA**

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*(The abbreviations used in this Appendix shall have the same meaning as those defined in the SHA unless otherwise defined)*

**Overview**

The SHA has been entered into on 11 April 2016 between MIEH, Palaeontol COOP, Reach Energy, Reach Energy Ventures and Palaeontol B.V. and makes provision for the management and administration of Palaeontol B.V.'s affairs and business. The SHA will come into effect upon Completion.

**Business of Palaeontol B.V.**

The objective of Palaeontol B.V.'s business, through Emir-Oil, is the exploration, production and exploitation of hydrocarbon resources in Kazakhstan, including but not limited to the business of production of oil under the Production Contracts and Exploration Contract.

**Board of directors and management**

The SHA provides that, unless agreed otherwise, the Palaeontol B.V. Board will have five directors. Reach Energy Ventures will have the right to nominate three directors, whereas Palaeontol COOP will have right to nominate two directors. In the case where the shareholders of Palaeontol B.V. agree that the Palaeontol B.V. Board will have three directors, Reach Energy Ventures will have the right to nominate two directors, whereas the Palaeontol COOP will have right to nominate one director. Directors of Palaeontol B.V. can only be removed by Palaeontol B.V.'s general meeting at the request of the appointing shareholders. The Palaeontol B.V. Board will have one chairman who will be a director elected from the directors appointed at the nomination of Reach Energy Ventures. The chairman will not have a casting vote<sup>^</sup>.

**Management of Emir-Oil**

The shareholders of Palaeontol B.V. and Palaeontol B.V. will procure that the composition of the management board of Emir-Oil will be in proportion to the respective shareholding percentage of Reach Energy Ventures and Palaeontol COOP (and any other shareholder subsequent to the Completion Date) in Palaeontol B.V.. The management board of Emir-Oil will have five members, among which, three will be appointed by Reach Energy Ventures and two will be appointed by Palaeontol COOP. The management board of Emir-Oil will have one chairman who will be elected from the members appointed by Reach Energy Ventures. The chairman will not have a casting vote<sup>^</sup>.

**Appointment of key personnel**

Reach Energy Ventures has the right under the SHA to appoint the General Director so long as Reach Energy Ventures remains the single largest shareholder in Palaeontol B.V. and Reach Energy Ventures has obtained the approval of the management board of Emir-Oil before such appointment (whose approval will not be unreasonably withheld).

Palaeontol COOP will have the right to appoint the Finance and Commercial Manager of Emir-Oil who will be in charge of finance and commercial matters subject to Palaeontol COOP being the second largest shareholder in Palaeontol B.V.; and provided such Finance and Commercial Manager is not a member of the management board of Emir-Oil, the approval of the management board of Emir-Oil (whose approval will not be unreasonably withheld). The Finance and Commercial Manager will report to the General Director.

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<sup>^</sup> A casting vote is an extra vote by the chairman. Under the terms of the SHA, each member of the board including the chairman shall be entitled to one vote and the chairman will not have the extra vote to break the tie in situations when the votes are equal on each side.

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**SALIENT TERMS OF THE SHA (Cont'd)**

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**Reserved matters**

Certain matters require the approval of shareholders holding at least 75% of the shares in Palaeontol B.V. ("**Reserved Matters**"). The Reserved Matters include:

- approving of the budgets and work plans (including any annual work program and budget under any contracts);
- changing any budgets and/or work plans where to make such changes would incur any CAPEX exceeding by 10% over the amount for that item in the approved budget or work plan;
- entering into O&G sales arrangements;
- cancelling, extending or transferring hydrocarbon licenses or applying for new licenses;
- submitting reserve reports or development plans to the government or releasing the reserve reports for listing compliance purpose;
- entering into a major contract, liability or commitment which exceeds certain monetary thresholds;
- amending constitutional documents of Emir-Oil or Palaeontol B.V.;
- amending the SHA;
- paying dividends to shareholders or the granting or repaying shareholders' loans or interests;
- proposing for winding-up or liquidation; and
- transferring shares of Emir-Oil.

**Deadlock**

If shareholders of Palaeontol B.V. fail to agree on any of the Reserved Matters, either shareholder may refer the matter to the respective chief executive officers of Reach Energy and MIEH (the "CEOs"). If the dispute is not resolved by the CEOs within three months, the shareholders of Palaeontol B.V. will agree to engage an independent expert to render an opinion in relation to such dispute. If the shareholders of Palaeontol B.V. cannot agree on which expert to engage, Reach Energy Ventures will be entitled to appoint an independent expert from a list of two independent experts provided by Palaeontol COOP and if Reach Energy Ventures fails to choose the expert within ten days from receipt of such list, Palaeontol COOP will be entitled to appoint an expert from the same list.

Where any independent expert has rendered his opinion, but the shareholders are still unable to resolve the dispute, Reach Energy Ventures may, at its sole discretion, elect to either to submit the matter to arbitration at the Singapore International Arbitration Centre or serve a notice in writing on Palaeontol COOP requiring Palaeontol COOP to sell all the shares in Palaeontol B.V. held by Palaeontol COOP at the sale price to be determined in accordance with the provisions of the SHA.

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**SALIENT TERMS OF THE SHA (Cont'd)**

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**Budgets, work plans and account***Annual budgets and work plans*

The annual budget and work plan of Emir-Oil will be first approved by the Palaeontol B.V. Board and once approved by the Palaeontol B.V. Board the annual budget and work plan will then be tabled before the shareholders of Palaeontol B.V. for approval. Before Emir-Oil incurs commitment or expenditure for certain expenditures (in relation to drilling, facility expansion, construction of pipelines and workover exceeding USD3 million), an authorisation for expenditure will first be delivered to the management board of Emir-Oil for its approval.

**Funding of Palaeontol B.V.**

Funding requirements pursuant to the budgets and work plans which have been duly approved by the shareholders will be determined jointly by the General Director and the Finance and Commercial Manager and thereafter approved by the Palaeontol B.V. Board. Upon approval by the Palaeontol B.V. Board a cash call to each of the shareholders will be issued by the Palaeontol B.V. Board and the shareholders will advance funds in proportionate to their shareholding in Palaeontol B.V..

**Transfer of shares***Restriction on share transfers*

Shareholders of Palaeontol B.V. will not, other than in accordance with the provisions of the articles of Palaeontol B.V., the SHA and other relevant agreements, sell, assign, transfer, create or permit to subsist any trust, confer any option, right or interest, enter into any agreement, arrangement or understanding in respect of the voting rights or dividends or other rights or payments, create, transfer or decrease any economic interest in or otherwise dispose of any shares or any interest in or rights attaching to any shares of Palaeontol B.V..

*Permitted transfers*

Any shareholder of Palaeontol B.V. may at any time transfer shares of Palaeontol B.V. to its affiliates, provided that the transferee first enters into a deed of accession.

*Right of pre-emption and tag-along rights*

Each shareholder of Palaeontol B.V. may transfer some or all of their shares to any third party purchaser (not being a transfer to an affiliate) provided that the transferor will offer to all other shareholders the shares proposed to be sold to the third party purchaser in accordance with the terms of the SHA. The non-selling shareholder(s) will have the right either (a) to purchase all the shares (or the number of shares in proportionate to their existing shareholding if more than one existing shareholders are to accept the offer) proposed to be sold on the same terms offered by the third party purchaser or at the price determined in accordance with the SHA; or (b) to require the third party purchaser to purchase up to the pro rata portion of the shares held by it.

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**SALIENT TERMS OF THE SHA (Cont'd)**

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**Default and termination***Events of Default*

Events of default ("**Events of Default**") include the failure to provide funding and other shareholder duly gives notice that it wishes the failure to be an Event of Default; insolvency of the shareholder; material breach of the SHA; events otherwise stipulated to be an Event of Default in the articles of Palaeontol B.V. or in the SHA; a change of control of a shareholder of Palaeontol B.V. other than in the case of a change of control of a shareholder of Reach Energy or MIEH. The defaulting shareholder will be deemed to offer to all other shareholders all of its shares in Palaeontol B.V. at a price determined in accordance with the SHA.

*Termination events*

The SHA may be terminated until the earlier of the following:

- (a) dissolution of Palaeontol B.V.;
- (b) holding by one shareholder of 100% of the shares of Palaeontol B.V.; or
- (c) the agreement of all the parties to the SHA that it be terminated.

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**INFORMATION ON THE PALAEONTOL B.V. GROUP**


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**1. INFORMATION ON PALAEONTOL B.V.****1.1 History and business**

Palaeontol B.V. was incorporated on 11 February 2011 as a limited liability company under the laws of the Netherlands. Palaeontol B.V. is an investment holding company and is the sole participant of Emir-Oil which is principally engaged in the exploration, development, production and sale of crude oil and other petroleum products in Kazakhstan.

**1.2 Share capital**

The details of the authorised and issued and paid-up share capital of Palaeontol B.V. as at the LPD are as follows:

	No. of shares	Par value (Euro)	Total (Euro)
Authorised	90,000	1.00	90,000
Issued and fully paid-up	18,000	1.00	18,000

**1.3 Substantial shareholders**

As at the LPD, the shareholders of Palaeontol B.V. and their respective shareholdings in the company are as follows:

Name	Place of incorporation	Direct		Indirect	
		No. of Palaeontol B.V. shares held	%	No. of Palaeontol B.V. shares held	%
Palaeontol COOP	Netherlands	18,000	100.00	-	-
MIE New Ventures Corporation	Cayman Islands	-	-	17,820	99.00
MI Energy Corporation	Cayman Islands	-	-	180	1.00
MIEH	Cayman Islands	-	-	<sup>(1)</sup> 18,000	100.00

Note:

(1) Indirect shareholding via MIE New Ventures Corporation and MI Energy Corporation.



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**INFORMATION ON THE PALAEOONTOL B.V. GROUP (Cont'd)**


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**1.4 Directors**

The Directors and their respective shareholdings in Palaeontol B.V., as at the LPD are as follows:

Name	Place of incorporation	Designation	Direct		Indirect	
			No. of Palaeontol B.V. shares held	%	No. of Palaeontol B.V. shares held	%
MIE New Ventures Corporation	Cayman Islands	A-type director	-	-	17,820	99.00
United International Management B.V.	Netherlands	B-type director	-	-	-	-

United International Management B.V. ("**United International**") is a Dutch resident director of Palaeontol B.V.. Pursuant to the management agreement concluded with Palaeontol B.V. dated 24 July 2013, United International is responsible for, among others, the following:

- (i) preparing and effecting all Palaeontol B.V.'s requisite filings with the appropriate Trade Register and the Dutch Central Bank;
- (ii) opening bank accounts for Palaeontol B.V. and managing such accounts;
- (iii) keeping Palaeontol B.V.'s corporate files up-to-date with respect to the articles of association, copies of resolutions, minutes of shareholders' meetings etc.; and
- (iv) preparing the annual accounts in accordance with the laws of the Netherlands.

Whilst there are no specific requirements under the Dutch company Law that a Dutch entity must appoint a resident director, in order to obtain a Dutch tax residency certificate, minimum Dutch substance requirements need to be met, to illustrate that effective management and control of the company is based in Netherlands. In order to satisfy the minimum Dutch substance requirements, one of the requirements is that at least 50% of the statutory board members that are authorised to represent the company must comprise of local residents. After completion of the Proposed Acquisition, MIEH intends to maintain United International as one of its nominees on the Palaeontol B.V. Board and our Company intends to appoint two Dutch resident directors as our nominees on the Palaeontol B.V. Board.

**1.5 Subsidiaries and associated companies**

As at the LPD, Palaeontol B.V. has only one wholly-owned subsidiary, which is Emir-Oil, and does not have any associated company.

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**INFORMATION ON THE PALAEONTOL B.V. GROUP (Cont'd)**

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**2. INFORMATION ON EMIR-OIL****2.1 History and business**

Emir-Oil was initially registered with Almaty Justice Department, Kazakhstan on 20 March 2002 as a limited liability partnership under the Law of the Republic of Kazakhstan No. 220-I dated 22 April 1998 "On Limited Liability and Additional Liability Partnerships".

Emir-Oil is principally engaged in the exploration, development, production and sale of crude oil and other petroleum products in Kazakhstan. MIEH via its subsidiary, Palaeontol B.V. acquired the entire equity interest in Emir-Oil from BMB Munai Inc., and completed its acquisition on 19 September 2011.

Emir-Oil is currently the licence owner for the Exploration Contract and Production Contracts for the Emir-Oil Concession Block.

**2.2 Charter capital**

As at the LPD, the paid up charter capital contribution of Emir-Oil is KZT82,300.

**2.3 Substantial shareholders**

As at the LPD, Emir-Oil is 100% owned by Palaeontol B.V..

**2.4 Directors**

As at the LPD, the sole director of Emir-Oil is Mr. Ma Chunming who is a citizen of the People's Republic of China.

**2.5 Subsidiaries and associated companies**

As at the LPD, Emir-Oil does not have any subsidiary or associated company.

**3. SUMMARY OF FINANCIAL INFORMATION**

A summary of the financial information of the Palaeontol B.V. Group for the past three FYEs 31 December 2013 to 2015 as well as FPE 30 June 2015 and FPE 30 June 2016 is as follows:

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**INFORMATION ON THE PALAEOANTOL B.V. GROUP (Cont'd)**


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	<-----Audited----->			Unaudited	Audited
	FYE 31 December 2013	FYE 31 December 2014	FYE 31 December 2015	FPE 30 June 2015	FPE 30 June 2016
	USD'000	USD'000	USD'000	USD'000	USD'000
Revenue	126,443	121,452	49,767	29,989	23,831
Profit/(Loss) from operations	21,992	27,841	(40,549)	(1,855)	(49,362)
Profit/(Loss) before taxation	14,101	14,579	(55,926)	(8,610)	(56,751)
Income tax (expense)/credit	4,653	(3,380)	9,775	1,464	7,401
Profit/(Loss) after taxation	<u>18,754</u>	<u>11,199</u>	<u>(46,151)</u>	<u>(7,146)</u>	<u>(49,350)</u>
Earnings before interest, taxes, depreciation, impairment and amortisation ("EBITDIA") <sup>(1)</sup>	37,086	43,829	23,482	4,661	7,451
Operating profit margin (%)	17.39	22.92	(81.48)	(6.19)	(207.13)
Profit/(loss) after taxation margin (%)	14.83	9.22	(92.73)	(23.83)	(207.08)
Shareholders' funds/NA	83,830	114,580	68,496	107,476	19,164
Number of shares in issue	18,000	18,000	18,000	18,000	18,000
NA per share (USD)	4.66	6.37	3.81	5.97	1.06
Total external borrowings	-	-	-	-	-
Gearing ratio (times) <sup>(2)</sup>	-	-	-	-	-
Total Shareholder Loans <sup>(3)</sup>	206,300	244,649	288,760	253,238	308,739
Total Shareholder Loans over EBITDIA ratio <sup>(4)</sup>	5.56	5.58	12.30	27.17	20.72

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**INFORMATION ON THE PALAEONTOL B.V. GROUP (Cont'd)**


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Notes:

(1) The table below sets out a reconciliation of PAT/(LAT) to EBITDIA:

	<-----Audited----->			Unaudited	Audited
	FYE 31 December			FPE 30 June	
	2013	2014	2015	2015	2016
	USD'000	USD'000	USD'000	USD'000	USD'000
PAT/(LAT)	18,754	11,199	(46,151)	(7,146)	(49,350)
Finance income	(385)	(265)	(142)	(73)	(58)
Finance costs	8,276	13,527	15,519	6,828	7,447
Income tax expense/(credit)	(4,653)	3,380	(9,775)	(1,464)	(7,401)
Depreciation, depletion and amortisation	15,094	15,988	21,172	6,516	12,520
Asset impairment loss	-	-	42,859	-	44,293
<b>EBITDIA</b>	<b>37,086</b>	<b>43,829</b>	<b>23,482</b>	<b>4,661</b>	<b>7,451</b>

(2) Computed based on total external borrowings divided by NA. Palaeontol B.V. does not have any external borrowings. Its capital expenditure and working capital has been funded by MIEH via the Shareholder Loans instead of equity.

(3) The Shareholder Loans are recorded for the FYE 31 December 2013 to 2015 and FPE 30 June 2016, as extracted from the audited financial statements of the Palaeontol B.V. Group of the respective years/period at amortised costs under the accounting standard requirement.

(4) Computed based on EBITDIA divided by total Shareholder Loans. EBITDIA for the FPE 30 June 2015 and FPE 30 June 2016 are based on annualised performance results as computed below:

	FPE 30 June	
	2015	2016
	USD'000	USD'000
PAT/(LAT)	(14,292)	(98,700)
Finance income	(146)	(116)
Finance costs	13,656	14,894
Income tax expense/(credit)	(2,928)	(14,802)
Depreciation, depletion and amortisation	13,032	25,040
Asset impairment loss	-	88,586
<b>EBITDIA</b>	<b>9,322</b>	<b>14,902</b>

The Palaeontol B.V. Group has not adopted any accounting policies which are peculiar because of the nature of business and/or the industry which it is involved in. There were no audit qualifications reported in the audited consolidated financial statements of Palaeontol B.V. for the FYEs 31 December 2013 to 2015 and FPE 30 June 2016.

Please refer to Appendix XI of this Circular for the management's discussion and analysis of financial condition, results of operations and prospects of the Palaeontol B.V. Group.

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT**


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**PRODUCTION CONTRACTS**

The Government of Kazakhstan has granted the Competent Body the right to conclude and fulfil the Production Contracts.

References to the Competent Body means the central executive authority exercising rights on behalf of Kazakhstan related to the conclusion and fulfilment of contracts for Exploration, Production and combined Exploration and Production, except for contracts for the exploration for and production of widespread minerals as defined by the Government of Kazakhstan, unless otherwise established by the laws of Kazakhstan and the acts of the President of Kazakhstan. For the time being in force, the Competent Body is the Ministry of Energy of Kazakhstan.

The Competent Body held direct negotiations on 17 May 2011, in accordance with the Subsurface Use Law with Emir-Oil. It was resolved that Emir-Oil would be granted the right to enter into the Aksaz Production Contract, Dolinnoe Production Contract and Kariman Production Contract. Subsequently, Emir-Oil was granted the right to enter into the Emir Production Contract in 2012.

The Competent Body and Emir-Oil (collectively "**the Parties**", and "**Party**" means either of them individually) have agreed that the Production Contracts will govern their mutual rights and obligations during the course of petroleum production at the Producing Fields. The Competent Body and Emir-Oil have agreed as follows:

**I. General terms**

1. Effective term – According to Section 3(1) of the Production Contracts, the effective term of the Production Contracts is as follows, unless Emir-Oil or the Competent Body terminates its force earlier according to the terms of the Production Contracts:

<u>Production Contracts</u>	<u>Duration</u> (years)	<u>Commencement date</u>	<u>Expiry date</u>
Aksaz Production Contract	25	9 September 2011	9 September 2036
Dolinnoe Production Contract	25	9 September 2011	9 September 2036
Kariman Production Contract	25	9 September 2011	9 September 2036
Emir Production Contract	17	1 March 2013	1 March 2030

2. Amendments – There have been no amendments to the Aksaz Production Contract, Dolinnoe Production Contract and Emir Production Contract since its first execution. There has been one amendment to the Kariman Production Contract since its first execution in 2011.

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

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**II. Parties' general rights and obligations**

1. Emir-Oil's Rights – Emir-Oil's rights are as follows:
  - 1.1 to produce oil within the geographical boundaries of the allocated acreage as stated in the contract ("**Contract Territory**") on an exclusive basis;
  - 1.2 to independently take production-related actions within the provided Contract Territory in accordance with the documents substantiating and establishing the technical conditions and technological indicators of the exploration for, assessment and development of deposits of useful minerals taking into account environmental, sanitary-epidemiological and industrial safety requirements and the assessment of the economical feasibility of implementing, which must take into account the capabilities and proposals of Kazakhstani producers of goods, work and services ("**Design Documents**") and the conditions specified by the Production Contracts;
  - 1.3 to use at its own discretion of its operations, including the use of raw minerals, unless otherwise established in the Production Contracts or the laws of Kazakhstan;
  - 1.4 to construct industrial or civil infrastructure facilities required for the work on oil production within the Contract Territory and as needed at other sites provided to Emir-Oil in accordance with the established procedure, as well as to use public facilities and infrastructure on a contractual basis, within and outside the Contract Territory;
  - 1.5 to initiate negotiations on extending the period of validity of the Production Contracts or on amending or supplementing it, on the grounds and in accordance with the procedure established by the Law of the Republic of Kazakhstan On the Subsoil and Subsoil Use ("**the Law**");
  - 1.6 to engage Contractors to perform certain types of work related to oil production;
  - 1.7 to transfer rights or portions of rights to other entities, subject to the compliance with the provisions established by the Law;
  - 1.8 to terminate operations associated with oil production under the conditions established in the Law or the Production Contracts;
  - 1.9 taking into consideration limitations imposed by current legislation, to export produced hydrocarbons; relocated them by any legal means; have free access to railroads, roads, air and other means of transportation, directly or indirectly owned or controlled by the government or third parties, on commercially sound conditions and by commercially sound prices and on conditions, not less favourable than the ones, offered to any other third parties, conducting subsoil use operations on the state territory; and
  - 1.10 to establish joint ventures with third parties, regardless of their proprietary form, in order to provide financing, taking into consideration the limitations, imposed in accordance with the current legislation, complying with the procedures, outlined in the state legislation.

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**


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2. Emir-Oil's Obligations – Emir-Oil's obligations are as follows:
- 2.1 to select the most effective oil production methods and technologies on the basis of positive subsurface use practice;
- 2.2 to ensure the safety of human life and health and environmental safety during the production operations;
- 2.3 to observe the conditions of the Memorandum of Understanding in relation to the implementation of the Transparency Initiative for Extractive Industry Activities in Kazakhstan;
- 2.4 to make no impediments for other persons from moving freely within the limits of the Contract Territory, use public facilities and utility infrastructure unless such activity is connected with particular security conditions and unless such activities are interfering with the production operations;
- 2.5 to make contributions to the local budget for the social-economic development of Mangystau Oblast and for the development of its infrastructure in the amounts of:

<b>Production Contracts</b>	<b>Amount</b>
Aksaz Production Contract	KZT 10,973,000 per annum
Dolinnoe Production Contract	KZT 21,946,500 per annum
Kariman Production Contract	KZT 21,946,500 per annum
Emir Production Contract	USD40,000 per annum via transferring funds to the local budget of the Oblast in KZT, based on the exchange rate of the National Bank of the Republic of Kazakhstan.

- 2.6 to finance research and development activities within the state boundaries necessary for the fulfilment of the contract works in the amounts of:

<b>Production Contracts</b>	<b>Amount</b>
Aksaz Production Contract	(i) KZT 504,900 for 2011; (ii) KZT 1,211,900 per annum from 2012 to 2035; and (iii) KZT 706, 900 for 2036;
Dolinnoe Production Contract	(i) KZT 966,800 for 2011; (ii) KZT 2,320,400 per annum from 2012 to 2035; and (iii) KZT 1,353,600 for 2036;
Kariman Production Contract	(i) KZT 2,774,000 for 2011; (ii) KZT 6,657,600 per annum from 2012 to 2035; and (iii) KZT 3,883,600 for 2036;
Emir Production Contract	At a rate of 1% of total annual income

**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

- 2.7 to present reports confirmed in an auditor's report in accordance with the requirements of the Transparency Initiative for Extractive Industry Activities in the Republic of Kazakhstan, in accordance with the procedure approved by the Government;
  - 2.8 to register all previously drilled wells within the Contract Territory in the State Register of Mineral Reserves and to monitor them;
  - 2.9 to assume obligations on the processing (utilisation) of associated gas;
  - 2.10 to deliver crude oil in volume of up to 30% of the volume of produced oil to the State domestic market for processing;
  - 2.11 to ensure that at least 50% of scientific research and design and experimental activities should be conducted by Kazakh service providers, and that Kazakh content in scientific research and design and experimental activities should be not less than 50%; and
  - 2.12 to reinstate the land areas and other natural objects disturbed as a result of the production operations to a condition suitable for further use in accordance with the legislation of Kazakhstan.
3. The Rights of the Competent Body – The Competent Body's rights are as follows:
- 3.1 to represent Kazakhstan in negotiations with Emir-Oil with regards to the terms of the Production Contracts and in the process of its fulfilment;
  - 3.2 to conduct monitoring and supervision over the fulfilment of Emir-Oil of the terms of the Production Contracts;
  - 3.3 to conduct State supervision of the fulfilment of safety requirements established in the relevant technical regulations and other state legislation;
  - 3.4 to require information from Emir-Oil on the implementation of the Work Program;
  - 3.5 to have access to any work within the Contract Territory; and
  - 3.6 to unilaterally terminate the Production Contracts in cases provided for by the Law.
4. The Obligations of the Competent Body – The Competent Body's obligations are as follows:
- 4.1 to ensure execution and termination of the Production Contracts;
  - 4.2 not to violate the rights of Emir-Oil to independently carry out production operations within the provided Contract Territory when supervising the fulfilment of the terms of the Contract in accordance with the conditions established in the Design Documents and the Production Contracts; and
  - 4.2 to have other obligations in accordance with the Production Contracts.



**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)****III. Local content requirements****1. Supply and Services Requirements**

1.1 Under the Production Contracts, Emir-Oil is obliged to:

- (i) use, on a mandatory basis, materials and finished products produced within Kazakhstan under the condition that they correspond to the requirements of the tender and the Kazakhstan Legislation on technical regulation;
- (ii) involve Kazakh producers of goods, works and service providers when carrying out the production operations including the use of aircraft, railway engines and carriages, marine vessels and other types of transportation vehicles, if these services correspond to the standards, price and qualitative characteristics of the same type of works and services provided by the non-residents of Kazakhstan; and
- (iii) give preference to Kazakh workers when conducting production operations. The Kazakh staffing levels must not be lower than those provided in the tender application:

<b>No.</b>	<b>Category</b>	<b>Minimum percentage of Kazakhstani personnel (%)</b>
I.	Management Personnel	90
II.	Specialists with higher education and secondary professional education	95 (90% for Emir Production Contract)
III.	Skilled Workers	100

1.2 The minimum amount of Kazakh content for goods, works and services under the Production Contracts when conducting production operations are as follows:

**For Aksaz, Dolinnoe and Kariman Production Contracts:**

<b>Year</b>	<b>Goods</b>	<b>Works</b>	<b>Services</b>
2011	16%	60%	80%
2012	18%	65%	82.5%
2013	20%	70%	85%
2014	22%	75%	85%
2015	24%	80%	85%
2016	26%	85%	85%
2017	28%	85%	85%
2018	30%	85%	85%

**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

Year	Goods	Works	Services
2019	32%	85%	85%
2020	34%	85%	85%

The minimum amount of the Kazakh content shall be subject to review in 2020.

**For Emir Production Contract:**

Year	Goods	Works	Services
2012	16%	60%	80%
2013	18%	65%	82.5%
2014	20%	70%	85%
2015	22%	75%	85%
2016	24%	80%	85%
2017	26%	85%	85%
2018	28%	85%	85%
2019	30%	85%	85%
2020	32%	85%	85%
2021	34%	85%	85%

The minimum amount of the Kazakh content shall be subject to review in 2021.

2. Equal Pay Conditions – Emir-Oil further undertakes to provide equal conditions and remuneration for Kazakh personnel in comparison with foreign personnel, including personnel employed in contracted works.
3. Training Obligations – Emir-Oil is obliged to provide financing for training, raising the qualifications and re-training workers being citizens of Kazakhstan and involved in the fulfilment of the Production Contracts during the period of production, in the amount of at least 1% of the annual volume of investment.

**IV. Subcontracted work performance**

1. Emir-Oil has the right to engage contractors for the performance of certain types of work related to the performance of production operations, in accordance with the annual programme for the procurement of goods, work and services, and the approved budget.
2. Emir-Oil shall be liable to the Competent Body (local executive authority of the oblast, city of republican status or capital) for any failures by the contractors to fulfil their obligations under their contractor agreements.

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

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**V. Taxation**

1. The calculation of tax liabilities for taxes and other mandatory payments to the budget for activities conducted within the framework of the Production Contracts shall be carried out in accordance with the tax legislation in force as of the moment the obligations for their payment arose. Emir-Oil shall have separate fiscal accounting for calculation of the tax obligations for the activities under the Production Contracts non-contractual activities.
2. The reimbursement for historical costs shall be made in accordance with the terms and conditions specified in the current tax legislation.

**VI. Safety and environment**

1. Liquidation Fund – Upon the termination of the production operations, Emir-Oil shall decommission or deactivate the subsurface facilities where production operations were conducted, except for technological units at the subsurface facility (blocks, panels, working spaces and O&G wells of various types) which will be used for further subsurface operations in accordance with the Design Documents and the Work Program. The financing of the work related to decommissioning or deactivation of the facilities is provided from the liquidation fund. Contributions to the liquidation fund during production period shall be made by Emir-Oil annually in an amount of no less than 1% of the annual production costs into a special deposit account maintained with any bank in Kazakhstan.
2. Subsurface and Environment Protection – Emir-Oil's obligations in respect of subsurface and environmental protection include, but are not limited to, the following undertakings:
  - (i) to use the subsurface in accordance with Kazakhstan's environmental legislation;
  - (ii) to preserve the earth surface by applying special field development methods;
  - (iii) to prevent the industrial desertification of the land;
  - (iv) to apply preventive measures against the occurrence of hazardous industrial processes during the production operation;
  - (v) to protect the subsurface from flooding, fires and other emergency factors that could complicate the operation and development of the field;
  - (vi) to prevent pollution of the subsurface;
  - (vii) to adhere to the established procedure for suspending and terminating subsurface operations and for deactivation and liquidation of the facilities associated with the subsurface use operations;
  - (viii) to adhere to the ecological and sanitary-epidemiological requirements for storage and disposal of wastes;
  - (ix) to decrease the area of land disturbed and alienated prior to the start of road construction work following a rational plan, as well as through the use of other methods;
  - (x) to select the most effective methods and technologies for work performance based on standards accepted in international practice;
  - (xi) to ensure wastewater is not discharged into the subsurface unless it has been treated to standard levels; and

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**


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- (xii) to adhere to the standards of maximum permissible harmful impacts on water bodies established by the State Authority in the area of the use and protection of the water fund.
3. Safety Requirements – In carrying out production, Emir-Oil must adhere to the guidelines and standards for work safety provided for by the laws of Kazakhstan and ensure that measures be conducted for the prevention and rectification of accidents and occupational diseases among employees. It is prohibited to carry out production operations if they pose a danger to human life and health.

**VII. Liability of Emir-Oil for breach of terms of the Contract**

1. Emir-Oil is liable in the form of a penalty (fine or fee) for complete or partial failure to fulfil the following obligations undertaken by it:
- (i) for failure to fulfil the obligations with regard to Kazakhstani content in goods, work or services, the penalty shall amount to 30% of the amount of obligations unfulfilled during the reporting period;
  - (ii) for failure to fulfil the obligations for Kazakhstani content in staff, the penalty shall amount to 2000 monthly calculation indices (MCI); and
  - (iii) for failure to fulfil other financial liabilities (with the exception of tax obligations), the penalty shall amount to 30% of the total amount of obligations unfulfilled during the reporting period.

**VIII. Assignment, governing law, dispute settlement and termination**

1. Assignment – Emir-Oil has the right to transfer its rights under the Production Contracts or any part thereof to other entities under the conditions established by the Subsurface Use Law and the Production Contracts.
2. Governing Law – The Production Contracts is governed under the laws of Kazakhstan.
3. Jurisdiction – Disputes connected to the execution and termination of the Production Contracts shall be resolved through negotiation. If disputes connected to the execution of, changes to, or termination of the Production Contracts cannot be resolved through negotiations, the parties shall have the right to resolve such disputes in accordance with the laws of Kazakhstan and international treaties which have been ratified by Kazakhstan.
4. Termination – Early termination of the Production Contracts shall be allowed upon the agreement of the parties and in cases provided for by the Subsurface Use Law at the request of one of the parties.
- 4.1 The Competent Body has the right to unilaterally terminate the validity of the Production Contracts in the following situations:
- (i) where Emir-Oil does not rectify more than 2 violations of the obligations established by the Production Contracts or in the Design Documents within the time specified in a relevant notice of the Competent Body;
  - (ii) where Emir-Oil assigns its subsoil use rights and/or facilities related to such rights without permission from the Competent Body or the relevant local executive authority, except for cases where such permission is not required in accordance with the Subsurface Use Law.

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**


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- 4.2 the Competent Body has the right to unilaterally terminate the Production Contracts in cases where the actions of Emir-Oil when conducting subsurface use operations in relation to portions of the subsurface (fields) with a strategic value lead to changes in the State's economic interests resulting in a threat to national security.

**EXPLORATION CONTRACT**

The Competent Body and Zhanaozen'skiy Remontno-Mekhanicheskiy Zavod LLP ("Zhanaozen") (former contract holder) entered into the Contract for Exploration of Hydrocarbon Resources on 9 June 2000 ("Exploration Contract").

On 7 May 2002, Zhanaozen transferred its subsurface use right to Emir-Oil. With this transfer, the Competent Body and Emir-Oil (also known as the "Contractor") have agreed that the Exploration Contract will regulate their mutual rights and obligations when performing operations of Exploration of hydrocarbons within the territory provided by the License series AI No.1552 dated 30 April 1999 to use subsoil resources in the territory of Kazakhstan, issued by the Government of Kazakhstan to "Zhanaozen Remontno-Mekhanicheskiy Zavod" Limited Liability Partnership for performing exploration of raw hydrocarbon materials on "Aksaz-Dolinnoe-Emir" site located in the territory of Tubkaran region of Mangystau oblast of Kazakhstan ("License"). The salient terms of the Exploration Contract are as follows:

**I. General terms**

1. Effective Term - According to the Exploration Contract, the Exploration period is 5 years starting from the effective date of the Exploration Contract (9 July 2000 - 9 July 2005). According to the Exploration Contract, the period may be extended twice for 2 years each. The period was initially extended twice for 2 years each under Addendums No. 2 (until 9 July 2007) and No. 4 (until 9 July 2009). The Competent Body then adopted a decision to extend the period of the Exploration Contract as follows:
  - (a) up to 9 January 2013 in Addendum No. 5;
  - (b) up to 9 January 2015 in Addendum No. 10; and
  - (c) up to 9 January 2017 in Addendum No. 11.
2. Contract Territory - the contract area is 804.807 km<sup>2</sup>.
3. Amendments - There have been 11 amendments to the Exploration Contract since its first execution in 2000 as stated in paragraph 1 above.

**II. Parties' general rights and obligations**

1. Emir-Oil's Rights – the Contractor's rights are as follows:
  - 1.1 to carry out exploration activities within the Emir-Oil Concession Block on an exceptional basis;
  - 1.2 to independently conduct any subsoil use activities within the Emir-Oil Fields;
  - 1.3 to conduct operations including performing test productions of hydrocarbons and sale of extracted hydrocarbons;
  - 1.4 to establish joint ventures for the purpose of providing financing of exploration activities;
  - 1.5 to construct industrial and welfare facilities within the Emir-Oil Concession Block;

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

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- 1.6 to conduct negotiations on extension of the Exploration Contract validity period;
  - 1.7 to attract subcontractors to perform particular types of works related to exploration work within the Emir-Oil Concession Block;
  - 1.8 to assign its rights under the Exploration Contract to third parties;
  - 1.9 to export hydrocarbons at any time or from time to time;
  - 1.10 to propose amendments to the Exploration Contract;
  - 1.11 to freely obtain credit facilities in any currency in or outside of Kazakhstan to finance its activity in accordance with the Kazakhstan law; and
  - 1.12 to have bank accounts both in local and foreign currency with banks in or outside of Kazakhstan to obtain funds representing proceeds and revenues under the Exploration Contract in accordance with the constitution of Kazakhstan, international treaties and conventions ratified or adopted by Kazakhstan, acts of the President of Kazakhstan, the Parliament of Kazakhstan, the Government or other state authorities of Kazakhstan (collectively “**the Legislation**”).
2. Contractor’s Obligations – the Contractor’s obligations are as follows:
- 2.1 to select the most effective methods and technology when carrying out exploration activities based on the best practice of field development;
  - 2.2 not to impede other persons from moving freely within the Contract Territory, use public shared facilities and public utility lines or perform any types of works including exploration and production of mineral resources, other than raw hydrocarbon materials, stipulated in the License, unless such activity is associated with security conditions and interferes with the performance of exploration works;
  - 2.3 to comply with the Design Documents developed by Emir-Oil and which contains all required geological, technical and other data on planned geological and exploratory operations (“**Exploration Projects**”) that ensures personnel security and safety in accordance with the procedures established by law;
  - 2.4 to use equipment, materials and finished goods produced in Kazakhstan provided that it meets the tender and statutory requirements;
  - 2.5 to engage works and service providers of Kazakhstan to perform works and services provided they meet the standard, cost and quality requirements of the Contractor;
  - 2.6 to give preference to Kazakhstani personnel in the course of exploration and production of raw hydrocarbons provided they have the required experience and qualifications;
  - 2.7 to provide timely reports to the Competent Body and provide information on the progress of performance of exploration works for surveillance by the Competent Body;
  - 2.8 to forecast long-term environmental impact of its operations on the Exploration Contract execution and submit such forecasts to the Competent Body or state authorities responsible for environment protection at least once a year;

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

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- 2.9 to restore land–sites and other natural objects to a condition such that it is suitable for further use under the laws of Kazakhstan in the event of abandonment;
  - 2.10 to compensate for damages caused to the environment, personnel, other companies or people as a result of its activities;
  - 2.11 to keep technical documentation and information regarding exploration activities and administrative activity in Kazakh and Russian languages;
  - 2.12 to supply crude oil for processing to the territory of Kazakhstan and beyond its borders to the extents specified in the supply schedules approved by the authorized agency in the O&G area required for covering demands of domestic market for fuel, oil and lubricants if such necessity arise but at least than 35% of the produced volume;
  - 2.13 to furnish confidential information to third parties upon getting written consent from the Competent Body; and
  - 2.14 starting from 9 January 2015 until 9 January 2017, the Contractor shall allocate funds for social and economic development of Mangystau Oblast and development of its infrastructure of USD235,000 annually.
3. The Rights of Competent Body - The Competent Body's rights are as follows:
- 3.1 to represent Kazakhstan in negotiating the Exploration Contract or introducing any amendment/supplement;
  - 3.2 to require regular and selective reporting by the Contractor on performance of the Exploration Contract;
  - 3.3 to inspect the Contractor's performance of exploration; and
  - 3.4 to have access to any operations in the Contract Territory.
4. The Obligations of Competent Body - The Competent Body's obligations are as follows:
- 4.1 to ensure performance and termination of the Exploration Contract in accordance with the procedure and laws of Kazakhstan;
  - 4.2 to provide the Contractor with exclusive right to obtain hydrocarbon production right;
  - 4.3 to accept and consider the Contractor's proposals on amendments and additions to the Exploration Contract; and
  - 4.4 to provide assistance to the Contractor in interaction with the other state bodies of Kazakhstan and in obtaining all permissions, consents and approvals required for the Exploration Contract.

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**


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**III. Local content requirements**

1. Amount of Local Contents – The extent of Kazakh content for subsoil use activities under the Exploration Contract is as follows:

No.	Category	Minimum percentage of local content (%)
I.	Goods	20
II.	Work	60
III.	Services	60

2. Goods Requirements - The Contractor is required to use equipment, materials and finished products manufactured in Kazakhstan on condition that they conform to the tender requirements and comply with the legislation of Kazakhstan on technical regulation.

Kazakh content in goods is defined in Addendum 9 to the Exploration Contract as the percentage in value of the local content of materials used in the total cost of goods;

3. Services Requirements - The Contractor is required to engage Kazakh providers of works and services when holding subsoil use operations including use of air, railroad, water and other transport types, provided that such works and services conform to the standards, price and quality characteristics of the same type of works and services rendered by non-residents of Kazakhstan. When engaging contractors, the tender terms and conditions shall contain requirements for Kazakh Content in goods, works, services as well as Kazakh staff, including those involved in contractual works.

Kazakh content in work (services) is defined in Addendum 9 to the Exploration Contract as the combined total share of the value of Kazakh content in the goods used for performing works, in the agreement price and/or payment for the labour of employees being citizens of Kazakhstan, in the labour compensation fund of the work contractor (services provider) under the agreements for performing works or providing services, less the cost of goods used at performing the work and the prices of subcontract agreements;

4. Local Personnel – During the period of Exploration and Production of hydrocarbons, preference must be given to the engagement of Kazakhstan personnel. The percentages of local content for staff engaged shall be as follows:

No.	Category	Minimum percentage of Kazakhstani personnel (%)
I.	Management Personnel	95
II.	Specialists with higher education and secondary vocational education	90
III.	Qualified Workers	95

Kazakh content in staff is defined in Addendum 9 to the Exploration Contract as the number of Kazakhstan personnel in the overall staff number involved in executing the contract broken down into categories of labourers and employees;

5. Equal Pay Conditions – The Contractor shall ensure equal remuneration and compensation for both Kazakh personnel and expatriates including personnel involved in contractual works.



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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

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6. Training Obligation - During Exploration period for estimating reserves from 9 January 2015 till 9 January 2017, the Contractor shall annually allocate at least 1% of the total amount of investments for Exploration in the reporting year for training, skill improvement and retraining of employees being citizens of Kazakhstan involved in performing the Exploration Contract.

**IV. Work program**

1. Approval - The Contractor exclusively at its sole risk is obliged to fulfil the requirements and provisions of the approved annual work programs and budget during the entire Exploration Contract validity period. The Contractor may introduce changes and revisions to the annual work programs and budgets as agreed with Head Office "West-Kazakhstan Trans-Regional Department of Geology and Subsoil Use".
2. Amount - The Work Program for 2014 and the extended period from 9 January 2015 till 9 January 2017 to carry out exploration of raw hydrocarbons on "Aksaz-Dolinnoe-Emir" site located in Tubkaragan region of Mangystau Oblast is set forth in Addendum 11 of the Exploration Contract.

**V. Mandatory payments**

1. Statutory Provisions – With regard to the activity carried out under this Exploration Contract, the Contractor undertakes to pay Taxes and Payments in accordance with the Tax Code as well as regulatory legal acts which were passed on the basis of the Tax Code ("Tax Legislation") and provisions of this Exploration Contract.
2. Bonuses - The Contractor shall pay a signature bonus in the amount of USD200,000. The signature bonus shall be paid within 30 days from the effective date of the Exploration Contract.
3. Historical Costs - The Contractor shall provide for reimbursement of historical costs in the manner and within the time limits established by the Tax Legislation.
4. Liquidation Fund - The Contractor must contribute USD107,000 in 2015 and USD41,000 in 2016. Allocations to the liquidation fund shall be made on an annual basis to a special deposit account maintained with any bank within the territory of Kazakhstan and included into the expenses for exploration.

**VI. Safety and environment**

1. Environment Protection - The Contractor shall observe the legislation concerning subsoil and environmental protection and take all necessary measures for the purpose of:
  - 1.1 protection of life and health of inhabitants;
  - 1.2 provision of rational and integral subsurface use;
  - 1.3 preservation of the natural landscapes, biological diversity of natural environment and reclamation of disturbed lands and other geomorphological structures in the Contract Territory;
  - 1.4 preservation of properties of energy benchmarking of upstream subsoil to prevent earthquakes, landslides, floods and land subsidence;
  - 1.5 arrangement of sanitary protection zone in accordance with sanitary classifications and estimates of hazardous substance dissipation in the atmospheric air; and

**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

- 1.6 ensure compliance with the ground level concentrations of emitted hazardous substances not exceeding threshold level values for populated areas along the boundary of the sanitary protection zone taking into account background contamination.
2. Safety Requirements - In carrying out exploration works, the Contractor must implement sanitary and epidemiologic measures intended for maintaining sanitary and epidemiologic well-being of people, prevention of occupational diseases and injuries. It is prohibited to carry out exploration activities in the event that a threat emerges to the life and health of people.

**VII. Assignment, governing law, dispute settlement and termination**

1. Assignment – the Contractor has the right to assign its rights and obligations under the Exploration Contract to any third party subject to obtaining written permission of the Competent Body, except for the cases of transferring subsoil use rights under the Exploration Contract to its branches or subsidiaries and putting in pledge.
3. Governing Law - The Exploration Contract is governed under the laws of Kazakhstan, if not otherwise determined by international treaties in which Kazakhstan is a participant.
3. Jurisdiction - The parties to the Exploration Contract shall take all measures to settle all disputes and discrepancies arising from the Exploration Contract through negotiations. If the dispute cannot be settled within 30 days from the dispute, parties may refer to the judicial bodies of Kazakhstan or to the international judicial authorities.
4. Termination – The Competent Body has the right to suspend the Exploration Contract without fail in the following circumstances:
  - (i) there is direct threat to life and health of the people working or living in the area affected by the works related to the Exploration Contract;
  - (ii) the Contractor carries out an activity not provided for by the exploration project; and
  - (iii) the Contractor in the course of its activity violates the procedure for paying tax and other mandatory payments established by the Exploration Contract.

The Exploration Contract can be terminated before the expiry of the Exploration Contract under the following circumstances:

- (i) the Contractor refuses to eliminate the reasons which caused the adoption of the decision to suspend the Exploration Contract, or fails to eliminate these reasons within the terms established by the Competent Body;
- (ii) the Exploration Contract is early terminated;
- (iii) the Exploration Contract is acknowledged to be invalid according to the legislation on subsoil use;
- (iv) the violation of the legislation is judicially established while signing and registration of the Exploration Contract;
- (v) at transferring the rights under the Exploration Contract either partially or in full by the Contractor to a third party, which is in violation of the assignment clause stated above;

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**SALIENT TERMS OF THE PRODUCTION CONTRACTS AND EXPLORATION CONTRACT (Cont'd)**

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- (vi) if a fact of intentional presentation of false information on the results of the Exploration in the Contract Territory by the Contractor to the Competent Body or other state authority has been established through legal proceedings;
- (vii) if the Contractor repeatedly performs the actions which had earlier caused suspension of the Exploration Contract;
- (viii) the Contractor suspends operations under the exploration project for a period of over 180 days except for the event related to the circumstances of insuperable force (force majeure);
- (ix) the Contractor violates the provisions of confidentiality of information under this Exploration Contract; and
- (x) the Contractor unilaterally refuses to execute the Exploration Contract.

**EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN**



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Date: 15 SEP 2016

The Board of Directors  
**Reach Energy Berhad**  
D3-5-8, Block D3,  
Solaris Dutamas,  
No.1, Jalan Dutamas 1,  
50480 Kuala Lumpur,  
Malaysia.

Dear Sirs,

**Executive Summary of the Independent Market Research Report on the Global Oil & Gas Industry and the Oil & Gas Exploration and Production Industry in the Republic of Kazakhstan for Reach Energy Berhad ("REB" or "Company")**

We, Frost & Sullivan GIC Malaysia Sdn Bhd ("Frost & Sullivan"), have prepared the Executive Summary of the Independent Market Research report on the Global Oil & Gas Industry and the Oil & Gas Exploration and Production Industry in the Republic of Kazakhstan ("**Report**") for inclusion in the Circular to REB shareholders for the proposed acquisition by REB, through a special purpose vehicle namely Reach Energy Ventures Sdn Bhd, of 60% equity interest in Palaeontol B.V., an investment holding company and the sole participant of Emir-Oil LLP which owns entire subsoil use rights in an 850.3 square kilometre onshore hydrocarbon exploration and exploitation contracted area located in the Mangystau Oblast in the southwestern region of the Republic of Kazakhstan. This market research was completed in August 2016.

We are aware that this Report will be included in the Circular and we further confirm that we are aware of our responsibilities under Section 214 of the Capital Market and Services Act, 2007.

This research is undertaken with the purpose of providing an overview on the Global Oil & Gas Industry and analysis on the Oil & Gas Exploration and Production Industry in the Republic of Kazakhstan

We acknowledge that if we are aware of any significant changes affecting the content of this Report between the date hereof and the issue date of the Circular, we have an on-going obligation to either cause this Report to be updated for the changes and, where applicable, cause REB to issue a supplementary circular, or withdraw our consent to the inclusion of this Report in the Circular.

Frost & Sullivan has prepared this report in an independent and objective manner and has taken adequate care to ensure the accuracy and completeness of the report. We believe that this report presents a true and fair view of the industry within the limitations of, among others, secondary statistics and primary research, and does not purport to be exhaustive. Our research has been conducted with an "overall industry" perspective and may not necessarily reflect the performance of individual companies in the industry. Frost & Sullivan shall not be held responsible for the decisions and/or actions of the readers of this report. This report should also not be considered as a recommendation to buy or not to buy the shares of any company or companies as mentioned in this report or otherwise.

For and on behalf of Frost & Sullivan GIC Malaysia Sdn Bhd:

June Liang  
Senior Director  
Head of Business Advisory, Malaysia

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**EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN**  
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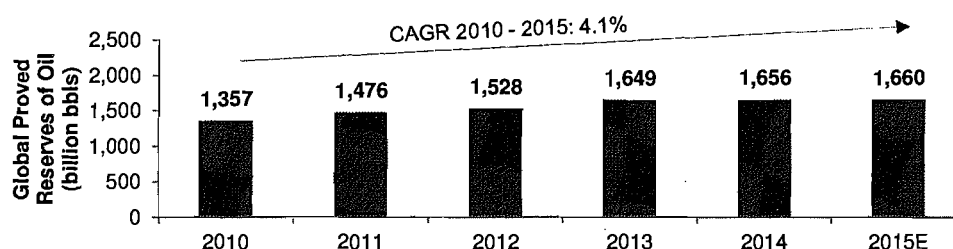
1 OVERVIEW OF GLOBAL OIL AND GAS (“O&G”) INDUSTRY

1.1 SUPPLY CONDITIONS

1.1.1 Global Reserves of Oil

The total world proved oil reserves<sup>1</sup> grew at a compound annual growth rate (“CAGR”) of 4.1% from 1,357 billion barrels (“bbls”) in 2010 to an estimated 1,660 billion bbls at the end of 2015. As at 2015, the level of proved oil reserves is estimated to be sufficient to meet around 50 years of global production at current production levels<sup>2</sup>.

Chart 1-1: Global Proved Reserves of Oil in billion bbls, 2010 – 2015E

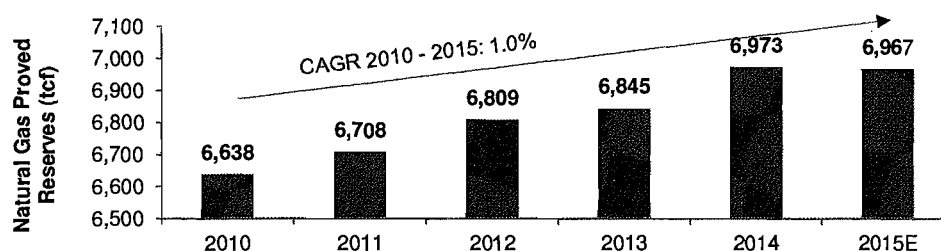


Source: Extracted from the IMR prepared by Frost & Sullivan for REB

The member countries of the Organisation of the Petroleum Exporting Countries (“OPEC”), account for 72.4% of the total global proved oil reserves amounting to 1,202.2 billion bbls as at end of 2015.

1.1.2 Global Reserves of Gas

Chart 1-2: Global Proved Reserves of Natural Gas in trillion cubic feet (“tcf”), 2010 – 2015E



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

Frost & Sullivan estimates that the proved natural gas reserves can last for some 57 years based on the current rate of production. According to the EIA, OPEC countries hold around 48.0% of the global gas reserves as at 2014. Russia, with 1,688 tcf of proved reserves, accounts for around 24.2% of the global proved reserves of natural gas.

<sup>1</sup> Proved reserves are those quantities of petroleum, which by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations.

<sup>2</sup> Frost & Sullivan’s calculation based on EIA data

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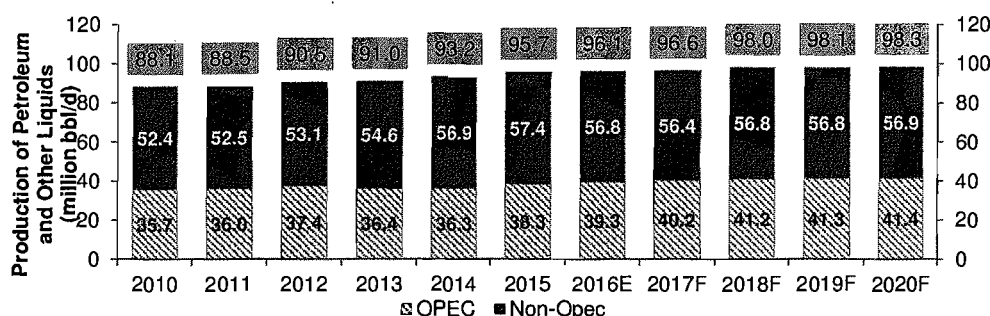
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### 1.1.3 Oil Production and Consumption

#### 1.1.3.1 Production of Oil

The rise in the global production of petroleum and other liquids is mainly attributed to the increase in oil production from non-OPEC countries, including the United States ("US"), Canada and Mexico, growing at a CAGR of 1.8% from 52.4 million bbl per day ("bbl/d") in 2010 to 57.4 million bbl/d in 2015. The surplus in oil supply of 1.84 million bbl/d globally in 2015 has been a continuing trend from 2014, leading to a supply glut situation and a steep decline in crude prices in 2015.

Chart 1-3: Production of Petroleum and Other Liquids in million bbl/d, 2010 – 2020F



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

As at 2015, the OPEC countries account for 40.0% of the global petroleum and other liquids production at 95.7 million bbl/d. As the collaborative production cut among OPEC countries and other major producers is not expected to occur until the end of 2017, OPEC countries are likely to increase production of petroleum and other liquids in the short-term to retain market share. In the longer term, global production of petroleum and other liquid fuels is estimated to increase from 95.7 million bbl/d in 2015 to 98.3 million bbl/d in 2020 at a CAGR of 0.5%.

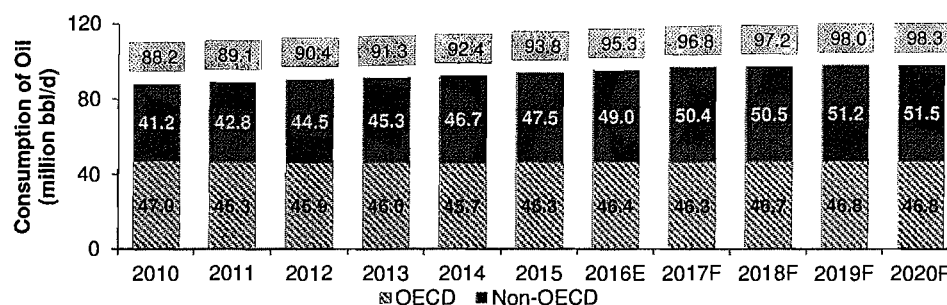
#### 1.1.3.2 Consumption of Petroleum and Other Liquids

According to EIA estimates, the global consumption of petroleum and other liquid fuels grew by 1.4 million bbl/d year-on-year and averaged 93.8 million bbl/d in 2015. The EIA forecasts that global consumption of petroleum and other liquid fuels is expected to grow to 95.3 million bbl/d in 2016 and 96.8 million bbl/d in 2017. Frost & Sullivan forecasts that the global consumption of petroleum and other liquid fuels to increase to 98.3 million bbl/d by 2020 at a CAGR of 0.9% from 93.8 million bbl/d in 2015.

EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN  
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Chart 1-4: Consumption of Petroleum and Other Liquids by million bbl/d, 2010 – 2020F

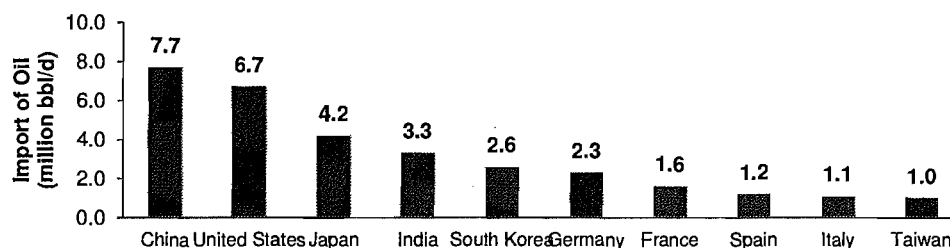


Source: Extracted from the IMR prepared by Frost & Sullivan for REB

### 1.1.3.3 Trade of Oil

In 2015, the global oil import amounted to 38.9 million bbl/d<sup>3</sup>, with the top 10 crude oil importing countries accounting for 81.5% of the global oil imports or 31.7 million bbl/d. China was the leading importer at 7.7 million bbl/d, accounting for 19.8% share of the global crude oil imports, followed by US and Japan at 17.2% and 10.8% respectively.

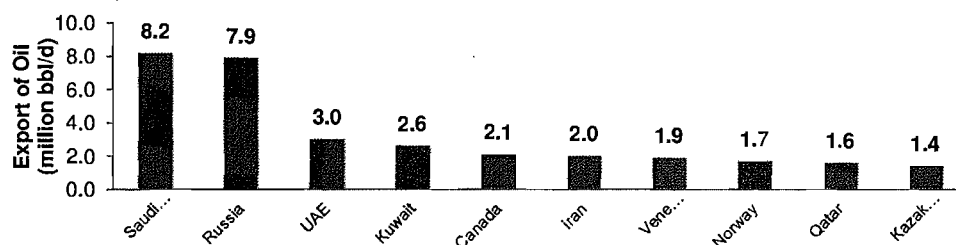
Chart 1-5: Top 10 Oil Importing Countries in million bbl/d, 2015



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

Net oil exports refer to the difference between net production and domestic consumption of crude oil. In 2015, Saudi Arabia was the leading net exporter of oil at 8.2 million bbl/d, followed by Russia at 7.9 million bbl/d and UAE at 3.0 million bbl/d.

Chart 1-6: Top 10 Net Oil Exporters in million bbl/d, 2015



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

<sup>3</sup> Includes production of crude oil (including lease condensates), natural gas plant liquids, biofuels, other liquids, and refinery processing gains. Source: EIA



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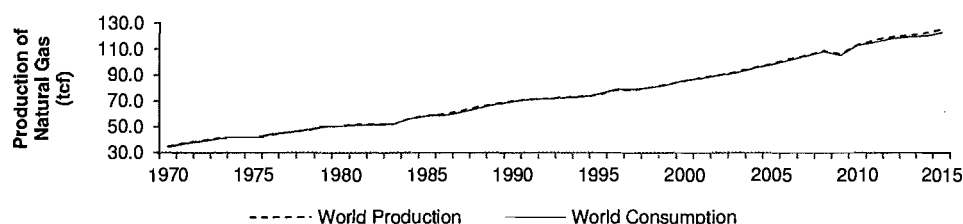
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### 1.1.4 Gas Production and Consumption

#### 1.1.4.1 Production of Gas

According to the BP Statistical Review of World Energy June 2016, the global natural gas production increased at a CAGR of 2.9% from 35.0 tcf in 1970 to 125.0 tcf in 2015. In comparison, the global natural gas consumption grew at a CAGR of 2.8% from 34.6 tcf in 1970 to 122.5 tcf in 2015.

**Chart 1-7: Global Production and Consumption of Natural Gas in tcf, 1970 – 2015**

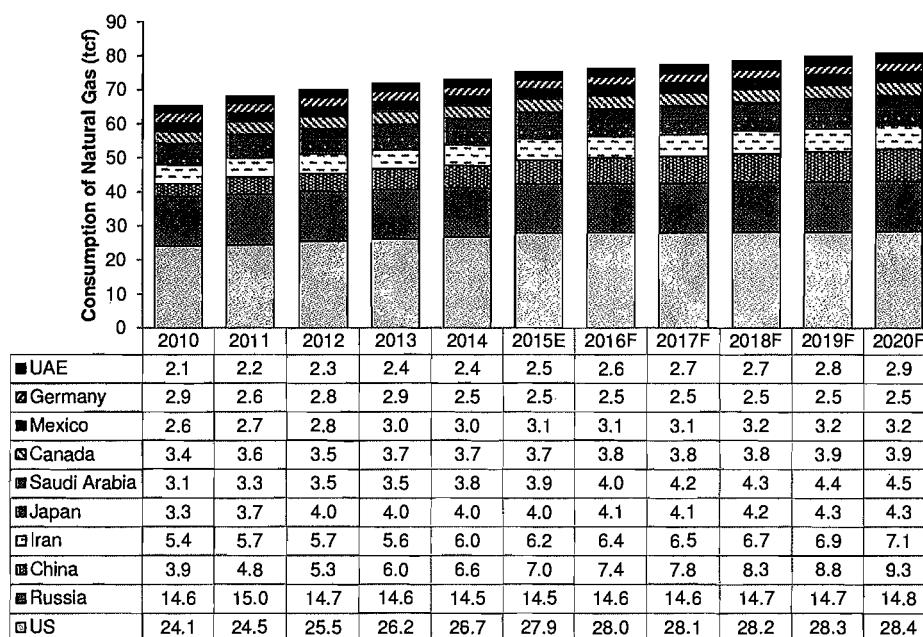


Source: Extracted from the IMR prepared by Frost & Sullivan for REB

#### 1.1.4.2 Consumption of Gas

In 2014, the top 10 countries for natural gas consumption cumulatively accounted for 73.2 tcf or 61.1% of the global natural gas consumption of 119.8 tcf. The US was the leader with 22.3% of global natural gas consumption at 26.7 tcf followed by Russia with a global share of 12.1% based on natural gas consumption of 14.5 tcf.

**Chart 1-8: Top 10 Natural Gas Consuming Countries in tcf, 2010 – 2020F**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

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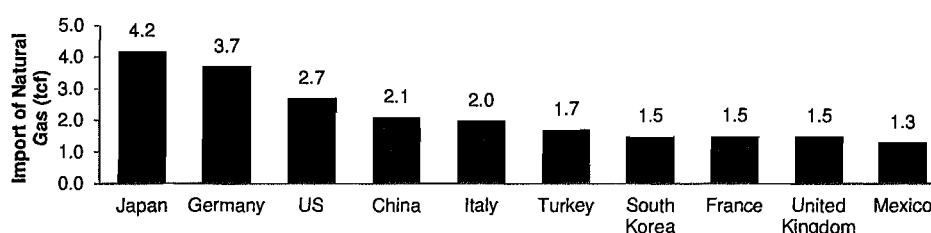
Natural gas consumption is being facilitated by the corresponding increase in LNG trade. The global LNG market<sup>4</sup> is poised for high growth with several liquefaction and regasification projects in construction or at the proposal stage. LNG supply is likely to grow at a CAGR of 7.8% from 31.46 bcf/d in 2013 to 53.22 bcf/d in 2020 with Asian markets expected to remain the largest destination for LNG supplies. LNG is forecasted to become the dominant form of traded gas by 2035.

Natural gas power projects are increasingly considered as a complementary and bridging resource towards a fast growing and sustainable renewable energy power scenario. The natural gas power projects are easier and quicker to implement compared to nuclear power projects. Natural gas is also a much cleaner resource than other fossil fuels, such as coal and oil.

#### 1.1.4.3 Trade of Natural Gas

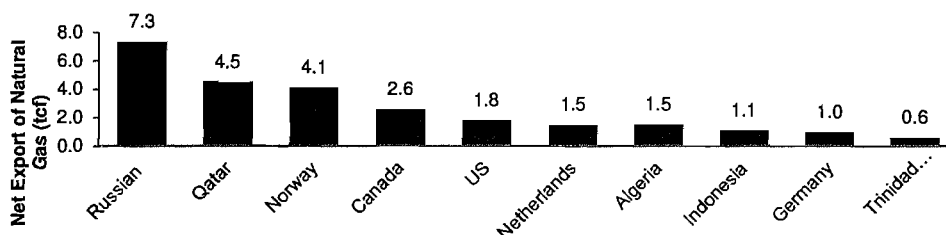
In 2015, the total import and export of natural gas stood at 36.8 tcf. The top 10 countries collectively accounted for 22.2 tcf or 60.3% of the global natural gas imports. Japan imported the largest volume of natural gas at 4.2 tcf or 11.4% share of the global natural gas imports followed by Germany and US at 3.7 tcf (10.1%) and 2.7 tcf (7.3%) respectively.

**Chart 1-9: Top 10 Natural Gas Importing Countries in tcf, 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

**Chart 1-10: Top 10 Natural Gas Net Exporting Countries in tcf, 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

In 2015, Russia was the leader with net exports of natural gas at 7.3 tcf or a global market share of 19.8%, followed by Qatar and Norway at 4.5 tcf (12.2%) and 4.1 tcf (11.1%) respectively.

<sup>4</sup> BP Energy Outlook 2035

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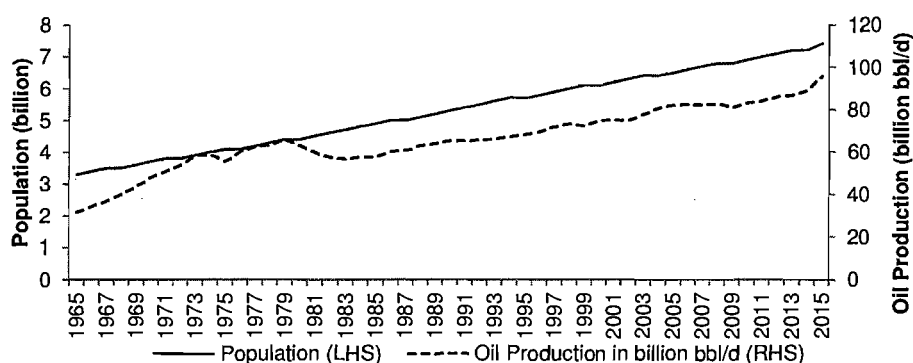
## 1.2 DEMAND CONDITIONS

### 1.2.1 Rising Global Energy Demand

#### Population Trends and Increasing Oil Production

The global population as at March 2016 is estimated to be 7.41 billion<sup>5</sup>. Asia accounts for around 57% of the global population. The two most populous countries in the world, namely China and India are in Asia. Africa, Europe, North America, South America and Oceania account for 15%, 10%, 7.5%, 5.4% and 5% respectively.

**Chart 1-11: Population vs Oil Production, 1965 – 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

The global population is expected to reach 8 billion by 2025 and 9.3 billion by 2050<sup>6</sup>. Increasing population is expected to increase the demand for energy, such as the need for more power generation capacity, expansion of transportation systems and materials, driving demand for petroleum products and consolidating the O&G's position as the primary fuel.

Demand for oil from the transportation sector is forecast to increase while demand from the power generation sector is expected to decline. Natural gas is likely to play a significant role in the power generation mix by 2040. According to the EIA<sup>7</sup>, its role in the primary energy mix is projected to increase from approximately 27.4% in 2013 to 28.9% by 2040.

#### Economic Activity – GDP Growth

Increasing economic activity is a driver for oil demand. According to EIA, growth in global consumption of petroleum and other liquid fuels between 2010 and 2015 is mainly driven by increased economic activities leading to higher oil demand by non-OECD countries. The economic growth forecast is anticipated to be positive from 2016 to 2020. Hence, oil demand is expected to grow from 2016 to 2020.

**Table 1-1: Real GDP Growth Rates**

Year	2014	2015	2016F	2017F	2018F	2019F	2020F
Global GDP Growth Rate (%)	2.6	2.4	2.9	3.1	3.1	3.3	3.4

Source: Extracted from the IMR prepared by Frost & Sullivan for REB

<sup>5</sup> United Nations

<sup>6</sup> United Nations

<sup>7</sup> Source: Based on the World Energy Outlook 2014 published by the EIA

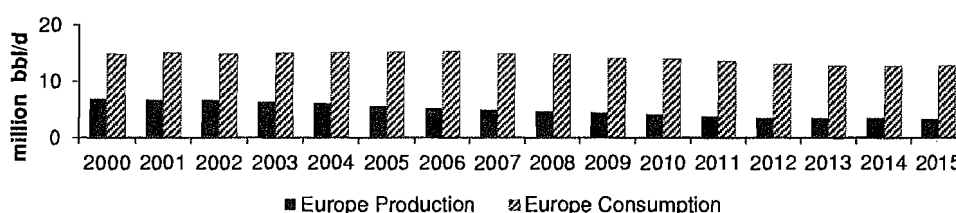
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### 1.2.2 Increasing Dependence of Europe on Oil Imports

Europe's production has been decreasing due to an increase in the number of mature oil fields. Escalating costs have reduced the viability of new E&P O&G projects in Europe. Europe imported nearly 75% of its oil requirements in 2015. The region also imports a substantial amount of its gas requirements making it a large energy importing area. Such heavy oil import reliance by Europe causes the region to be highly vulnerable to oil supply shocks and price volatilities. Russia and Central Asia, which are located closer to Europe, are better positioned compared to other producing regions to supply O&G to Europe.

**Chart 1-12: Production and Consumption of Oil by Europe in million bbl/d, 2000 – 2015**



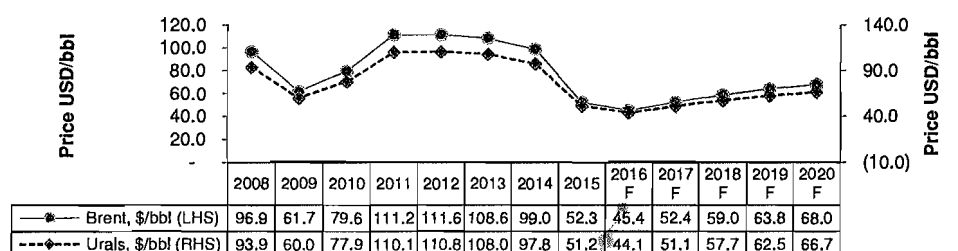
Source: Extracted from the IMR prepared by Frost & Sullivan for REB

## 1.3 PRICING ANALYSIS OF O&G

### 1.3.1 Historical and Forecast Pricing for Oil

Persistent oversupply of oil since early 2014 has resulted in the decline of oil prices, with Brent oil prices plunging sharply from USD99/bbl in 2014 to USD52.3/bbl in 2015. Frost & Sullivan forecasts the average Brent oil price for the second half of 2016 to be approximately USD52.0/bbl, or equivalent to approximately USD45.4/bbl for 2016.

**Chart 1-13: Annual Average of Brent Crude Spot Price and Urals Crude Price in USD/bbl, 2008 – 2020F**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

Brent prices are forecast to average USD59/bbl in 2018, during which small inventory draws and slow price recovery is expected to continue from 2017. Decline in production and modest growth in demand for oil are expected to be the key drivers for the recovery of oil prices. While recovery to peak prices of USD100/bbl of oil may be unlikely in the long term, Frost & Sullivan estimates that average annual prices are projected to range between USD75/bbl and USD80/bbl in the long term beyond 2025.

Urals Crude oil is an export oil mix consisting of heavy and high-grade oil of Urals with light oil of Western Siberia. Urals is known as the Russian Export Blend Crude Oil ("REBCO") on the New York Mercantile Exchange and has the ticker symbol "RE" and is traded in USD/bbl.

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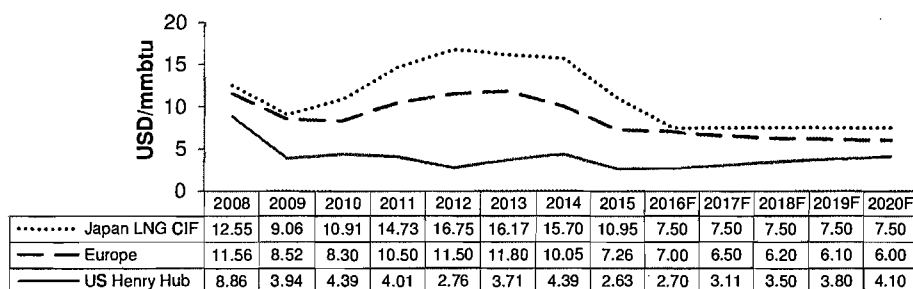
Pricing agencies determine the price of Urals crude by applying a suitable discount to the Brent crude price. The discount is determined based on the inputs of traders and refiners. The average price of the Urals dropped by almost 50.0% between 2013 and 2015, closely following the Brent crude trend.

### 1.3.2 Historical and Forecast Pricing for Gas

Natural gas pricing contracts are oil-linked, with its prices declining in tandem with declining oil prices. Between 2013 and 2015, the natural gas prices in different regions have:

- i. Japan LNG cif: dropped by 32.3% from USD16.17/mmbtu in 2013 to USD10.95/mmbtu in 2015
- ii. Europe: dropped by 38.5% from USD11.8/mmbtu in 2013 to USD7.26/mmbtu in 2015
- iii. US Henry Hub: increased from USD3.71/mmbtu in 2013 to USD4.39/mmbtu in 2014 due to higher US natural gas demand for heating purposes caused by colder-than-normal weather in the first quarter of 2014<sup>8</sup>. US Henry Hub dropped to USD2.63/mmbtu in 2015 due to increased supply of shale gas in the country.

**Chart 1-14: Prices of Natural Gas in USD/million btu, 2008 – 2020F**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

## 1.4 INDUSTRY OUTLOOK & PROSPECTS

In 2015, the prices of O&G continued its downward spiral from 2014. The annual average Brent oil prices dropped from USD99/bbl in 2014 to USD52.3/bbl in 2015. The monthly average in August 2016 stood at USD44.6/bbl.

In terms of oil production, the OPEC countries accounted for 40.0% of the global petroleum and other liquids production of 95.6 million bbl/d. With the collaborative production cut among the OPEC countries and other major producers not likely to happen until the end of 2017, OPEC countries are expected to increase the production of petroleum and other liquids in the short term to retain market share. During the forecast period up to 2020, Frost & Sullivan expects the global production of petroleum and other liquid fuels to increase from 95.6 million bbl/d in 2015 to 98.3 million bbl/d in 2020 at a CAGR of 0.6%.


Frost & Sullivan forecasts the global consumption of petroleum and other liquid fuels to increase further to 98.0 million bbl/d by 2020 at a CAGR of 0.9%. This is expected to be driven by factors such as rising global energy demand on the back of rising population and economic growths as well as increasing refining capacity in key O&G demand centres such as Asia Pacific and the Middle East. Frost & Sullivan also expects the European and Asia Pacific

<sup>8</sup> Source: EIA Short Term Energy Outlook January and February 2014, Frost & Sullivan analysis

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regions to become increasingly dependent on oil imports. This represents a favourable market opportunity for major oil exporting regions such as the Middle East and Central Asia.

## **2 ANALYSIS OF THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN**

### **2.1 INTRODUCTION**

Kazakhstan is the ninth largest country and the largest landlocked country in the world with a land area of over 2.7 million square km. Kazakhstan is the second largest oil producer among the former Soviet Union countries after Russia<sup>9</sup>. The share of O&G to Kazakhstan's GDP was 20.3% in 2014, which includes O&G activities such as extraction, processing, transportation and other related services.

The Government of Kazakhstan ("**Government**") plays a key role in managing and regulating the O&G industry in Kazakhstan. The Government determines licensing policy terms and grants exploration and production rights to oil companies. The Law on Subsoil Use governs activities in the O&G industry and includes provisions, which establish local content requirements for O&G contracts as well as the Government's right to pre-empt the sale of O&G assets.

Kazakhstan's oil production is mainly from two giant<sup>10</sup> O&G fields, namely the Tengiz Onshore O&G Field ("**Tengiz**") and the Karachaganak Onshore O&G Field ("**Karachaganak**"), that are being developed by consortium comprising a national O&G company and major international oil companies. Another giant oil field, the Kashagan Offshore O&G Field ("**Kashagan**"), is expected to be brought on stream in 2017 and likely to contribute significantly to Kazakhstan's oil production.

Apart from the three major fields as described above, Kazakhstan's oil producers can be grouped into the following categories:

- KazMunayGas' producing assets with daily production of more than 105.0 thousand bbl/d with the most significant being Emba, Zhetybai and Uzen fields operated by the company's wholly-owned upstream subsidiaries, namely UzenMunayGas and EmbaMunayGas.
- Medium-sized producers with daily production of between 35.0 thousand bbl/d and 105.0 thousand bbl/d, which include CNPC-AktobeMunayGas, Buzachi Operating, KarazhanbasMunay and KazGerMunay, among others.
- Small producers with daily production below 35.0 thousand bbl/d. As at 2014, there were 70 small oil producers in Kazakhstan.

KazMunayGas, the state-owned O&G company of Kazakhstan, was established in 2002 with the responsibility for upstream, midstream and downstream operations. KazMunayGas also assumed the function of regulating the O&G industry until the establishment of the Ministry of O&G in 2010, which was subsequently integrated into the Ministry of Energy<sup>11</sup> pursuant to the Government reorganisation in 2014. KazMunayGas represents the state's interest in the country's O&G industry and holds equity interests in all major O&G production projects. As at 2015, the proved O&G reserves of KazMunayGas amounted to 5,998.1 million barrels of oil equivalent ("**boe**")<sup>12</sup>.

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<sup>9</sup> Source: BP

<sup>10</sup> Giant O&G fields are those fields with at least 500 million bbl of ultimately recoverable oil.


<sup>11</sup> The Ministry of Energy is the primary body in charge of the entire energy sector, and consolidates the responsibilities previously exercised by the Ministry of O&G, the Ministry of Industry and New Technologies as well as the Ministry of Environment and Water Resources.

<sup>12</sup> Source: KazMunayGas

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As at 2015, there are 172 oil and 42 gas fields, including 80 that are being developed and registered in Kazakhstan.

More than 90.0% of proved oil reserves are located within the 15 largest oil fields in the country, namely Tengiz, Kashagan, Karachaganak, Uzen, Zhetybai, Zhanazhol, Kalamkas, Kenkiyak, Karazhanbas, Kumkol, North Buzachi, Alibekmola, Central and Eastern Prorva, Kenbai, Korolevskoye.

Kazakhstan has three major oil refineries, namely the Atyrau refinery, located in the western region, the Pavlodar refinery in the north and the Shymkent refinery situated in the southern region. In addition, there are 30 mini-refineries in the country that produce refined oil products mainly for export. According to the EIA, the majority of Kazakhstan's refined fuels production comprises distillate fuel oil (34.0%), residual fuel oil (21.0%), and motor gasoline (20.0%). As at August 2016, Kazakhstan has a refining capacity of 430,000 bb/d<sup>13</sup>.

Kazakhstan's oil pipeline system is operated by KazTransOil, formed in 1997 and wholly-owned by KazMunayGas. Kazakhstan's oil export infrastructure includes the Caspian Pipeline Consortium pipeline to the Black Sea port of Novorossiysk, the Kazakhstan-China pipeline to China and the Uzen-Atyrau-Samara pipeline to Russia. Uzen-Zhetybay-Aktau oil pipeline connects Buzachi field with Aktau city, where it connects to Uzen-Atyrau-Samara pipeline.

Kazakhstan is also a transit country for the Omsk-Pavlodar-Shymkent-Türkmenabat pipeline. The country also exports crude oil via rail and by barges via the Caspian Sea.

Most of the gas produced in Kazakhstan is associated gas that is produced together with oil. Gas reserves are mainly concentrated in four fields, namely Karachaganak, Tengiz, Imashevskoye and Kashagan. Tengiz has its own gas processing plant, while Karachaganak exports its gas to Russia for processing. Approximately 70.0% of gas processed in Russia is transported back to Kazakhstan to meet domestic demand. However, a significant proportion of the associated gas produced in Kazakhstan is either used at the respective project sites for electricity generation or re-injected into oil wells to boost oil recovery.

KazTransGas, a fully-owned subsidiary of KazMunayGas, is the national operator for Kazakhstan's single-buyer model responsible for the development of domestic gas market. The company operates natural gas transport via main gas pipelines, sells natural gas to domestic and export markets, develops, finances, constructs and maintains pipelines and gas storages<sup>14</sup>. The company also has the rights to pre-empt sale of associated gas. KazRosGaz, a joint venture company between KazMunayGas and Public Joint Stock Company Gazprom ("Gazprom"), is another gas transportation company that acts as an intermediary handling Karachaganak gas being processed at Russia's Orenburg plant.

Kazakhstan's largest gas storage facility is located at Bozoi and has a capacity of 123.6 billion cubic feet. It is used to meet peak storage demand in Tashkent of Uzbekistan to ensure a stable flow of Uzbek gas to southern Kazakhstan during the winter. There are also two storage facilities, at Akyrtobe and Poltoratskoye, with respective capacities of 7.1 billion cubic feet and 14.1 billion cubic feet respectively, which are connected to pipelines running to Tashkent and Kyrgyzstan.

The Central Asia-Center gas pipeline system runs via Turkmenistan, Uzbekistan, Kazakhstan and Russia. It comprises five parallel pipelines that are the main transport routes for Central Asian gas. From the Uzbekistan border, the pipeline system spans across the south west of Kazakhstan to a compressor station controlled by Gazprom at Aleksandrov Gai. The Central Asia-Center gas pipeline has an annual capacity of 1,942.3 billion cubic feet.

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<sup>13</sup> Source: KazMunayGas

<sup>14</sup> Source: KazTransGas

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## 2.2 MARKET SEGMENTATION AND VALUE CHAIN

The O&G industry in Kazakhstan comprises the upstream, midstream and downstream segments. KazMunayGas is involved in all upstream, midstream and downstream operations of the industry. The company participates directly in several major O&G development projects in the country, such as Karachaganak, Kashagan and Tengiz, and controls 65.0% of Kazakhstan's oil transport routes and all of its gas transport pipelines<sup>15</sup>. In the downstream segment, KazMunayGas operates the 100%-owned Atyrau refinery, 50.0%-owned Shymkent refinery and 58.0%-owned Pavlodar refinery.

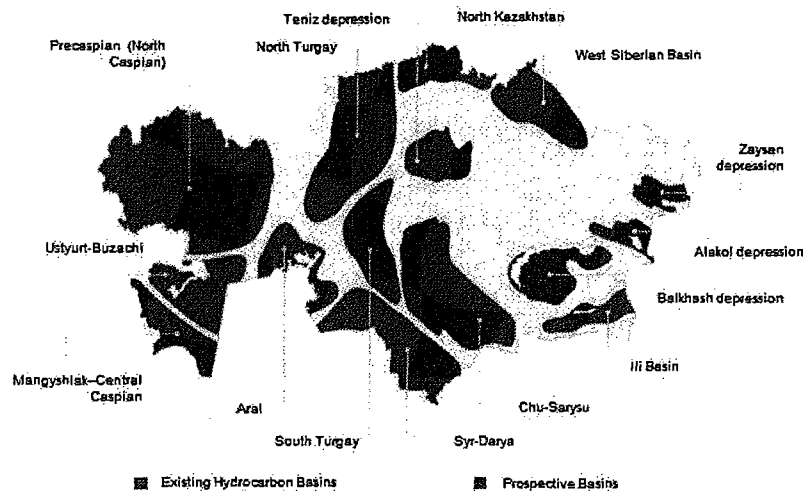
## 2.3 SUPPLY CONDITIONS

### 2.3.1 Reserves and Resources

Kazakhstan has the largest proved oil reserves base in the Caspian Sea. According to the EIA, Kazakhstan has proved crude oil reserves of 30 billion bbls as at end 2015 and is the second largest endowment in Eurasia after Russia, and the 12<sup>th</sup> largest in the world in 2015.

Yet-to-find ("YTF") or undiscovered resource<sup>16</sup> analysis carried out at the basin level suggests that Kazakhstan has a significant exploration potential across all of the existing O&G basins. As in the case of proved reserves, the Precaspian basin's YTF resources are estimated at around 36.0%, while the North Ustyurt and Turgay basins are estimated to hold between 22.0% and 27.0% of the basins' YTF resource each. The Mangyshlak-Central Caspian basin's YTF resources are estimated at 15.0% as at 2015<sup>17</sup>.

**Figure 2-1: Existing and Prospective Hydrocarbon Basins in Kazakhstan, 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

<sup>15</sup> Source: KazMunayGas

<sup>16</sup> YTF resource refers to reserves yet to be discovered. An exploration efficiency curve is the method employed to evaluate exploration maturity and the amount of YTF reserves in a basin, whereby incremental reserves are plotted against the number of wildcats drilled in chronological order.

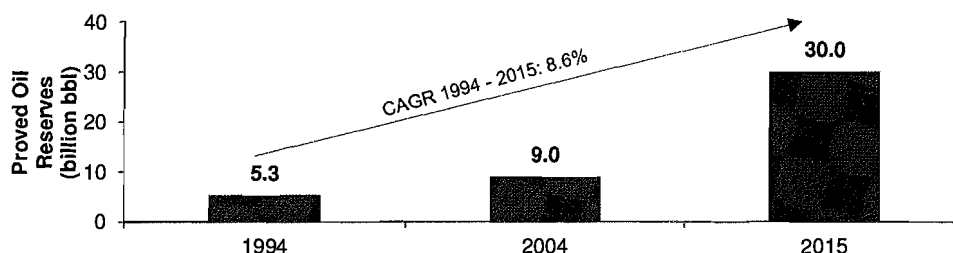
<sup>17</sup> Source: The KazEnergy Association



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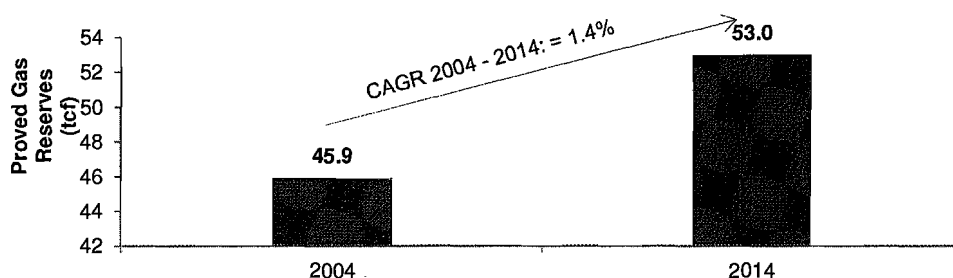
**Chart 2-1: Proved Oil Reserves in Kazakhstan, in billion bbl, 1994, 2004 and 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

Kazakhstan's largest oil fields contain substantial volumes of natural gas, most of which are reinjected into oil reservoirs to improve oil recoveries. According to the KazEnergy Association, 80.0% of Kazakhstan's natural gas reserves are associated gas. About 40.0% of associated gas output is reinjected into the reservoirs to maintain pressure in the reservoir to improve oil extraction<sup>18</sup>. Karachaganak and Tengiz are also the two largest natural gas fields. The country's gas reserves are estimated to be 53.0 tcf as at 2014.

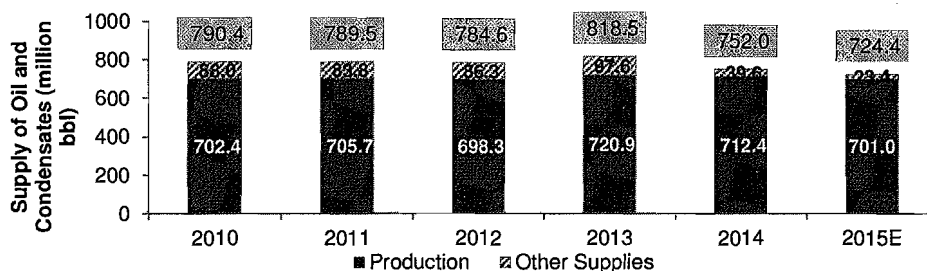
**Chart 2-2: Proved Gas Reserves in Kazakhstan, in tcf, 2004 and 2014**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

### 2.3.2 Production of O&G

**Chart 2-3: Total Supply of Oil and Condensates in Kazakhstan, in million bbl, 2010 – 2015E**



Note: Other supplies include imports of oil and condensates and volume in storage brought forward from the previous year.

Source: Extracted from the IMR prepared by Frost & Sullivan for REB

<sup>18</sup> Source: Gas Exporting Countries Forum

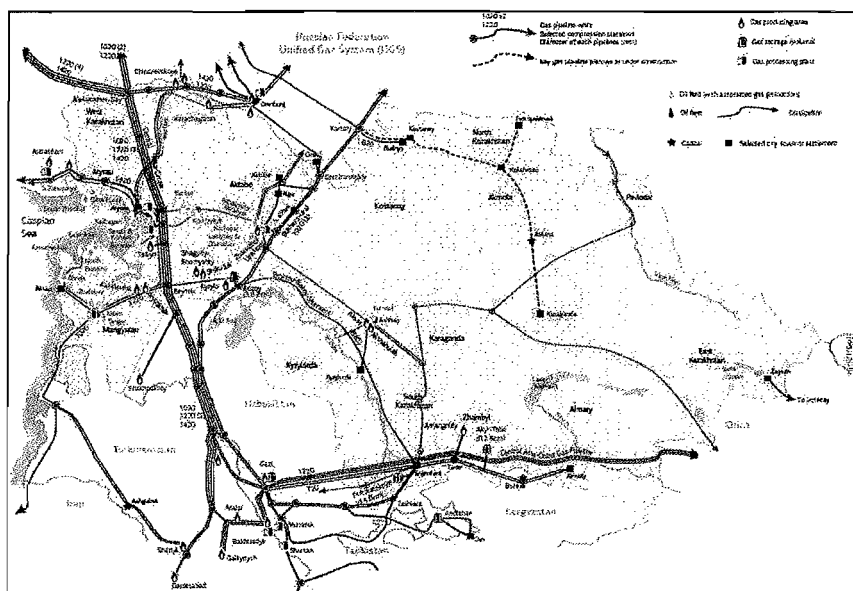
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According to the Energy Intelligence, Tengiz and Karachaganak accounted for 48.0% of the country's oil production in 2014. Kashagan is also anticipated to play a major role in the country's oil production when it becomes operational in 2017.

Oil is predominantly produced in the western parts of the country (Mangystau and Atyrau Regions) along the eastern littoral of the Caspian Sea. As at 2014, Mangystau and Atyrau Regions accounted for 43.0% of total oil production in the country.

**Figure 2-2: Map of Major O&G Deposits and Associated Infrastructure in Kazakhstan, 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

Kazakhstan's oil production growth has declined since 2011, mainly due to delays in the production at giant oil fields. The country's total production declined by 1.1% in 2012 mainly due to the drop in the production output from Tengiz, which had undergone capital maintenance works for field facilities. Oil production declined further in 2014, continuing in 2015 as Kashagan output remained shut-in<sup>19</sup> and Tengiz underwent another round of regular maintenance. The output delays at the major projects were mitigated by the growth in production from medium-sized and small producers. For example, in 2014, small producers contributed 12.4% to total oil production in Kazakhstan compared with 3.5% contribution to total oil production in 2000.

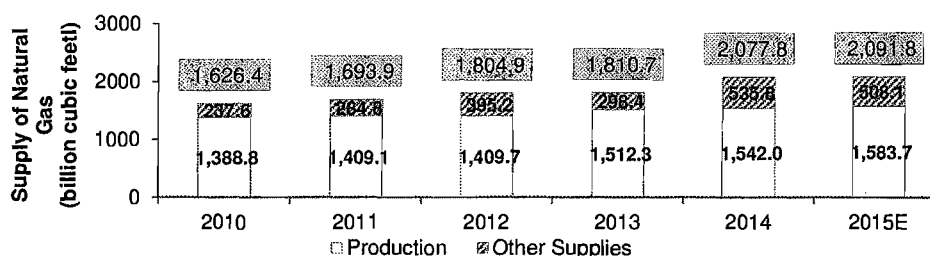
In 2015 the average domestic oil price (producer price at the wellhead) amounted to about 70.0% of export price (Ural Blend). Export prices are determined by daily quotations for the Urals Blend Mediterranean or Dated Brent prices. The Ministry of Energy determines the export quota for oil producers in Kazakhstan and administers the export quota system.

<sup>19</sup> Shut-in is a period in which an O&G well has available but unused capacity.

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**Chart 2-4: Total Supply of Natural Gas in Kazakhstan, in billion cubic feet, 2010 – 2015E**



*Note:* Other supplies include imports of natural gas and volume in storage brought forward from the previous year.

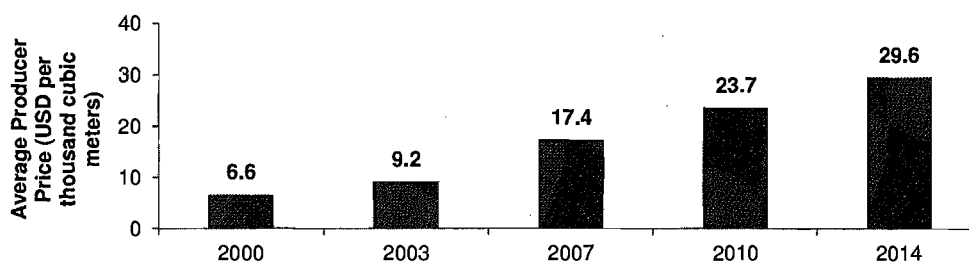
*Source:* Extracted from the IMR prepared by Frost & Sullivan for REB

Kazakhstan's annual natural gas production grew at a CAGR of 2.7% between 2010 and 2015. The country is a large producer of associated gas, which accounts for about 50.0% of total natural gas production. The country re-injects about 40.0% of its associated gas production to maintain reservoir pressure and sells only about 60.0% of its gross gas output, including for domestic use. According to the EIA, the reinjected natural gas accounts for most of the increase in the annual natural gas production, while gas production for sales has remained relatively stable.

Kazakhstan has a single-buyer model for domestic gas market. Under the Law on Gas and Gas Supply, the Government has the right to acquire raw and processed gas from the producers and KazTransGas is responsible for this role. According to the Law on Gas and Gas Supply, the price at which KazTransGas purchases gas from the producers includes the costs of gas producing, processing and transporting the gas to the point where the national operator assumes the ownership as well as a profit margin of no higher than 10.0%. The Ministry of Energy determines the amount of gas to be supplied to the domestic market by the producers.

According to the KazEnergy Association, as of 2014, the producer prices may vary considerably from USD21.9 per thousand cubic meters in West Kazakhstan Region to USD82.0 per thousand cubic meters in Zhambyl Region depending on the contract agreement with KazTransGas. Small producers of gas require minimal processing and thus able to obtain positive margin from the average producer prices in Kazakhstan. However, producers of associated gas require extensive gathering and processing, thus they may not be able to profit from sales of gas. Hence, most of the associated gas is re-injected.

**Chart 2-5: Average Producer Price for Natural Gas in Kazakhstan, in USD per thousand cubic meters, 2000, 2003, 2007, 2010 and 2014**



*Source:* Extracted from the IMR prepared by Frost & Sullivan for REB

The State Committee for Regulating Natural Monopolies and Competition Protection sets natural gas prices for domestic consumers and regulates domestic gas storage and transport tariffs. Natural gas prices for domestic consumers depend on the following factors:

- purchasing cost from gas producers;

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- gas transportation and procurement costs;
- geographic distances between consumers and domestic hydrocarbon resources;
- dependence on imports.

As such, consumer prices of gas vary within the country. For example, in western part, namely Atyrau, Aktobe and Mangystau regions, retail prices for natural gas ranged between USD2.0 and USD2.7 per hundred cubic meters. The price of natural gas in south Kazakhstan region was USD8.5 per hundred cubic meters while the country's average price was USD4.5 per hundred cubic meters, as at July 2016.

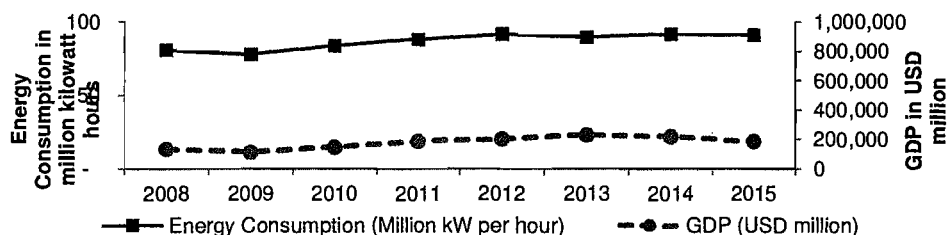
The export prices for gas are determined by the daily quotations from Zeebrugge Day-Ahead on the basis of information published in Platts European Gas Daily. Alternatively, daily quotations from Argus European Natural Gas may also be adopted for the determination of gas export prices.

## 2.4 DEMAND DRIVERS FOR ENERGY

### 2.4.1 Macro-economy of Kazakhstan

Kazakhstan's economy is highly energy intensive due to its economic structure being dominated by heavy industry and mineral extraction coupled with a continental climate, raising heating costs. Its large land area and relatively low population density also lead to increase in energy transport and distribution costs. According to the KazEnergy Association, 2,242.9 boe is required to generate USD1.0 million of GDP, making Kazakhstan one of the world's more energy intensive economies. Kazakhstan was ranked 25<sup>th</sup> in the world in terms of energy intensity for its economy in 2012<sup>20</sup>.

**Chart 2-6: Energy Consumption in Kazakhstan in million kilowatt hours, 2008 – 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

Recognising the country's economic over-reliance on oil and mining industries, the Government has embarked on an ambitious diversification programme that aims to develop targeted sectors such as transport, pharmaceuticals, telecommunications, petrochemicals and food processing<sup>21</sup>. In addition, the Government has made notable progress in reducing poverty, creating jobs, and sharing prosperity based on job creation and higher wages. Job creation has also led to upward social mobility and the rise of the middle class<sup>22</sup>. Between 2003 and 2013, about 1.5 million jobs were created in Kazakhstan. The country's economic expansion and development are expected to stimulate an increase in domestic energy consumption.

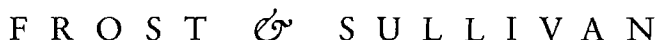
<sup>20</sup> Source: IEA

<sup>21</sup> Source: Central Intelligence Agency

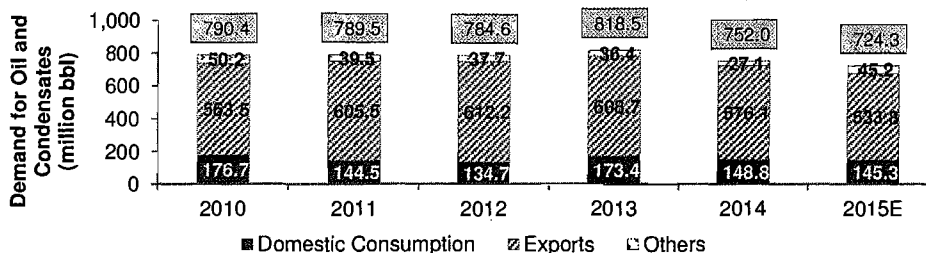
<sup>22</sup> Source: "Kazakhstan – Low Oil Prices, an Opportunity to Reform"

<http://www.worldbank.org/en/country/kazakhstan/publication/kazakhstan-economic-u> (accessed April 11, 2016).

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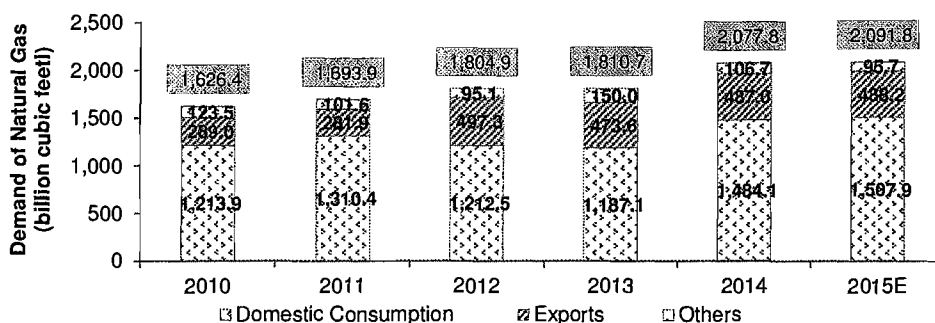
**Chart 2-7: Total Demand for Oil and Condensates Produced in Kazakhstan, in million bbl, 2010 – 2015E**



Note: Others include losses and volume in storage brought forward to the following year.

Source: Extracted from the IMR prepared by Frost & Sullivan for REB

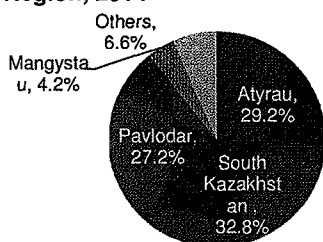
**Chart 2-8: Total Demand for Natural Gas Produced in Kazakhstan, in billion cubic feet, 2010 – 2015E**



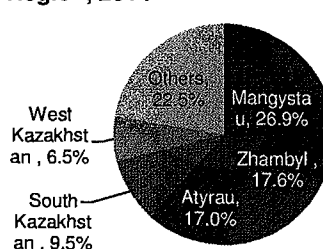
Note: Others include losses and volume in storage brought forward to the following year.

Source: Extracted from the IMR prepared by Frost & Sullivan for REB

**Chart 2-9: Breakdown of Oil Consumption by Region, 2014**



**Chart 2-10: Breakdown of Gas Consumption by Region, 2014**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB


**2.4.2 Rising Demand for O&G Exports from Kazakhstan**

Kazakhstan is a net energy exporter and the second largest oil exporter among the former Soviet Union countries after Russia. With a large production base and limited refining capacity,

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Kazakhstan is a significant exporter of crude oil and heavily reliant on oil export revenues. According to the KazEnergy Association, oil and condensates export revenues contribute 66.0% of total export revenues of the country as at 2014. At the same time, the Government ensures sufficient supplies of oil and oil products for domestic market by setting export quotas for oil producers.

Majority of oil produced in Kazakhstan is exported, as export prices tend to be higher than domestic prices. Kazakhstan has adopted a multi-directional strategy of export routes. The country's export infrastructure is well-developed and allows extracted oil to be transported to the Black Sea by pipelines, to the Mediterranean Sea by barge and pipeline, to Batumi and Georgia by barge and rail network and to China by pipeline. For producers, the proximity to main trunk pipelines or rail-loading points is crucial in minimising transportation costs<sup>23</sup>.

Kazakhstan's oil pipeline system is operated by KazTransOil. The company is the owner of the main network and the shareholder in several other pipelines that are owned and operated by consortia of investors. These pipelines include the Caspian Pipeline Consortium exporting oil through Russia to the global markets, the Atasu-Alashankou pipeline exporting oil to China, and the Kenkiyak-Atyrau pipeline serving the domestic market.

Tariffs for oil transportation via KazTransOil's pipelines are regulated by the Committee for Regulation of Natural Monopolies and Protection of Competition. The rates are based on the expected costs and shipment volumes and set as tonne per kilometre. As of 2016, pipeline tariff for export shipments has been set at USD17.6 per metric tonne per thousand kilometres, while pipeline tariff for domestic shipments is USD10.7 per metric tonne per thousand kilometres.

Kazakhstan's railroad network is controlled and operated by Kazakhstan Temir-Zholy, a state-owned railroad monopoly. Many private operators control rail car fleets and provide transportation services. Rail may be another option for producers when pipeline capacity is tight. Rail offers more flexibility for alternative routes and also preserves the quality of light crude.

The country's key seaport at Aktau is operated by the state with certain terminals being operated by private companies. Shipping via the Caspian Sea involves both state-owned and private companies.

Due to the country's landlocked location, export routes often involve transit through third party countries. According to the KazEnergy Association, in 2015, 76.0% of Kazakhstan's international crude exports transit in Russia by pipeline or rail. Kazakhstan's pipeline exports via Russia as transported either through the Caspian Pipeline Consortium terminating at the Black Sea or via the Russian pipeline system operated by Transneft.

Other principal non-Russian crude oil export routes are via pipeline to China as well as exports across the Caspian Sea to Azerbaijan and Iran. From Azerbaijan, oil is either transported by rail to Georgian ports at the Black Sea or into the Baku-Tbilisi-Ceyhan pipeline to Turkey's Ceyhan terminal on the Mediterranean Sea. Iranian swaps<sup>24</sup> via the ports of Aktau and Neka have not occurred between 2010 and 2015 due to international sanctions against Iran.

As at 2015, about 80.0% of the country's crude oil is exported to Europe, going around or across the Caspian Sea. About 8.0% is exported to China via the Kazakhstan-China pipeline running from Kazakhstan's Caspian shore to Xinjiang in China. In the same year, close to 70.0% of Kazakhstan's natural gas was exported to Russia and Ukraine.

The principal trunk gas pipelines in Kazakhstan are part of the Central Asia–Center transit system. Most of gas pipeline infrastructure (including the country's underground storage facilities) is owned and operated by KazTransGaz. Regional gas distribution and sales also are carried out by KazTransGas and its subsidiaries.

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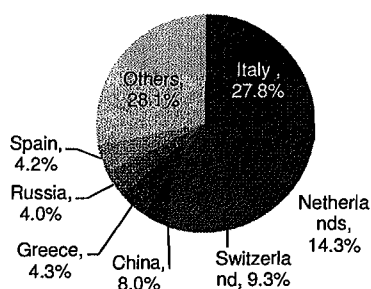
<sup>23</sup> Source: the KazEnergy Association

<sup>24</sup> Refers to a swap in which exchanged cash flows are dependent on the price of oil. It is usually used to hedge against the price of oil.

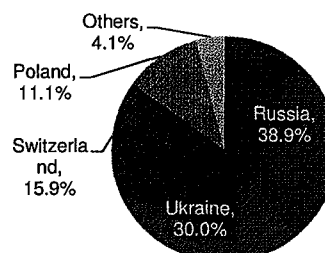
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**Chart 2-11: Breakdown of Oil Exports by Destination Countries, 2015**



**Chart 2-12: Breakdown of Natural Gas Export by Destination Countries, 2015**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

#### 2.4.3 The Government's Plans to Expand the Domestic Natural Gas Pipeline System

In Kazakhstan, gas is primarily produced in the west, northwest and southwest parts of the country. Due to an underdeveloped domestic pipeline system and widely dispersed population, many regions are not inter-connected to gas producing areas resulting in differences in terms of domestic gas production and access.

In 2014, the Government approved a USD3.6 billion general gasification scheme. The general gasification scheme is intended to increase gas production, consumption and transportation, including through building new pipelines, over the next 15 years<sup>25</sup>. As at 2015, 10 of 14 regions in the country have been gasified, mainly the western and southern regions. However, the northern, central and eastern regions remain without a steady supply of natural gas. The general gasification scheme is expected to drive the supply and consumption of natural gas in the country in the medium to long term.

#### 2.4.4 Expansion of O&G Infrastructure in Kazakhstan

Development of new oil pipelines is likely to have a considerable impact on oil production, particularly in Kashagan. For example, the development of the USD1.5 billion Eskene-Kuryk Pipeline with the length of 730km will carry oil from Kashagan and Tengiz fields to the port of Kuryk. Subsequently, oil will be shipped to Baku (Azerbaijan) and then pumped into the Baku-Tbilisi-Ceyhan pipeline, where it will access European and global markets. The project is funded by the Government and wholly owned by the state. The Caspian Pipeline Consortium, owned by Russia, KazMunayGas and Chevron, has announced the expansion of its oil pipeline's capacity from 706,000 bbl/d to 1.4 million bbl/d. The expansion project is estimated at USD5.4 billion and to be funded by the consortium. The expansion will allow Kazakhstan to send all volumes from the Tengiz field through the pipeline, freeing up capacity elsewhere. In 2013, KazTransOil commenced the USD68.7 million reconstruction project for capacity increase of Kalamkas-Karazhanbas-Aktau and Uzen-Zhetybay-Aktau oil pipelines in connection with expected oil exploration increase in Buzachi field.

<sup>25</sup> Source: The Astana Times

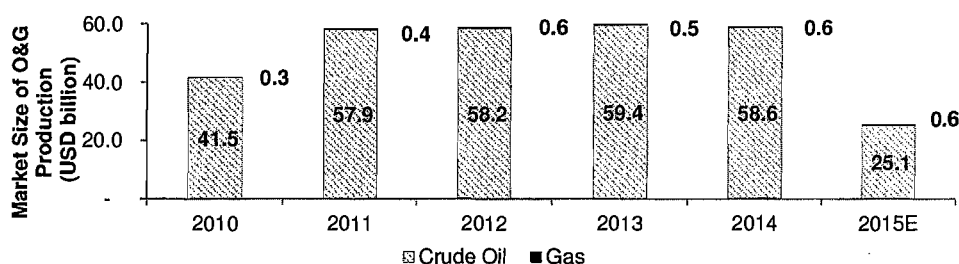
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## 2.5 INDUSTRY SIZE AND GROWTH TRENDS

The market size of the O&G industry in Kazakhstan is based on the total production value of crude oil and natural gas at transaction prices during the respective year between 2010 and 2014 expressed in millions of Kazakhstani tenge, as reported by the Agency of Statistics of the Republic of Kazakhstan. The average annual exchange rates reported by the National Bank of Kazakhstan for the respective years have been applied to convert production value to USD.

**Chart 2-13: Market Size of O&G Production Industry in Kazakhstan, in USD billion, 2010 – 2015E**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

The market size for oil production grew from USD41.5 billion in 2010 to USD58.6 billion in 2014 at a CAGR of 9.0%. However, it dropped to USD25.1 billion in 2015 due to the 40.0% depreciation of national currency against USD in 2014 as well as declining trend in oil production in view of volatile global oil prices.

## 2.6 PRODUCT SUBSTITUTES

According to the Ministry of Energy, Kazakhstan aims to increase the share of renewable energy in the overall energy mix to a minimum of 3.0% by 2020 and 50.0% by 2050. Nonetheless, fossil fuel is likely to remain the dominant energy source in Kazakhstan over the short and medium terms. The impact of the emergence of renewable energy in the country is likely to be low to moderate due to relatively high financing costs and an absence of uniform feed-in tariffs for electricity from renewable sources<sup>26</sup>.

## 2.7 RELIANCE AND VULNERABILITY TO IMPORTS

O&G products can be imported into Kazakhstan. This exposes the domestic Kazakhstan O&G industry to the risk of having to compete with cheaper O&G products imported from abroad. For example, in the first few months of 2015, cheap petroleum products of Russia entered the Kazakhstan domestic market resulting in depressed prices of O&G products in the country. This resulted in Kazakhstan having to restrict imports of petroleum products from Russia for 40 days in order to avoid oversupply situation in March 2015<sup>27</sup>. Regulation of cross-border of O&G products are also put in place through various customs duties and taxes.

O&G production is reliant on imports of capital equipment and external services required for exploration and development of major oil fields to a certain extent. Capital equipment is imported from original equipment manufacturers. The Government imposes stringent local content requirements for the procurement of goods, works and services under the Law on Subsoil and Subsoil Use. Since 2010, the Government requires O&G producers to source

<sup>26</sup> Source: United Nations

<sup>27</sup> Source: the Astana Times



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prescribed percentages of goods, works and services from local suppliers. The Programme on Local Content Development sets specific targets for local content for various industries. For example, the O&G producers are required to reach a local content of 72.5% in works and services and 16.0% in goods. By 2014, 54.0% of the goods, works and services for the O&G industry in Kazakhstan were sourced / procured locally<sup>28</sup>.

## 2.8 KEY GOVERNMENT POLICIES AND REGULATIONS

Since its independence in 1991, Kazakhstan has sought to attract foreign investors to develop the country's O&G resources by providing a stable and competitive business climate. However, after a decade of rising oil prices, the Government introduced a new Tax Code that would increase budget revenues. In January 2009, the new Tax Code became effective with stricter provisions than the previous tax legislation. In July 2010, the Law on Subsoil and Subsoil Use ("**the Subsoil Use Law**") was introduced and replaced three previous legislations, namely the Petroleum Law of 1995, the Subsurface Law of 1996, and the Production Sharing Agreement Law of 2005. In 2012, the Law on Gas and Gas Supply took effect setting the rules for gas utilisation and processing.

The Government exercises a high degree of influence over the O&G industry, given the strategic importance of the industry to Kazakhstan's economy. Nevertheless, operations and investment decisions are carried out by companies.

The O&G reserves under the ground are the properties of the state. O&G reserves are held separately from the land and the rights for O&G reserves are granted under a Concession agreement through a tendering process. A concessionaire bears the responsibility for costs of E&P activities and must pay Government petroleum taxes, as explained in Table 2-1 of this report. Any extracted O&G belong to the concessionaire as stipulated in the concession agreement.

The Ministry of Energy is responsible for developing and overseeing the O&G industry in Kazakhstan. It prepares tenders for the grant of rights to develop O&G fields, represents the state in negotiations as well as executes, approves, amends or terminates O&G contracts. The parliament of Kazakhstan reviews policies formulated and proposed by the Ministry of Energy and enacts relevant legislation.

Exploration and production of O&G in Kazakhstan is governed by two types of contracts, namely the production sharing agreement ("**PSA**") and a concession contract with excess profit tax. Under a concession contract, tax is levied progressively on income that remains after corporate income tax is paid, while PSA contains a tax-stability clause, which means that changes in the tax regime are not applied to such contract. Only a limited number of PSAs were signed prior to 2009. Since January 2009, new PSA contracts are not allowed in Kazakhstan. In addition, the Government began to revise all subsoil contracts (including PSA contracts), following the introduction of the Tax Code in 2009. PSAs signed prior to 2009 are supposed to remain valid for projects deemed geologically complex or strategically important, such as Tengiz, Kashagan and Karachaganak<sup>29</sup>.

Typically, exploration contracts are granted for a period up to six years, while production contracts are granted for a period of between 25 and 45 years. Both exploration and production contracts can be further extended by consent from MOE. Exploration and production rights can also be transferred by either assignment or alienation of interests. Companies involved in E&P must submit field development plans to the Government and furnish regular reports on their implementation, including discoveries and additional reserves.

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<sup>28</sup> Source: KazMunayGas

<sup>29</sup> Source: the KazEnergy Association

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The Subsoil Use Law is the principal legislation governing the O&G industry in Kazakhstan. The Subsoil Use Law regulates the entire upstream O&G activities, from the granting of subsoil use rights to the obligation and rights of subsoil users. The Subsoil Use Law also sets out the conditions for the sale and transfer of subsoil rights. Subsoil use rights are awarded by entering into a Concession contract with the Ministry of Energy.

The Subsoil Use Law along with the Local Content Law establishes strict local content requirements for O&G contracts. Local content is determined by the ratio of costs of goods that are verified as being Kazakh and number of Kazakh nationals employed. Some subsoil contracts are embedded with specific local content targets.

The Tax Code, introduced in 2009, includes multiple tax instruments. It lowered value-added tax from 16.0% to 12.0% and corporate income taxes from 30.0% to 20.0%, introduced bonuses, a mineral extraction tax, excess profits and rent taxes on the export of crude O&G condensate.

**Table 2-1: Fiscal Regime in Kazakhstan, 2016**

Tax	Description
Signature bonus	The signature bonus is a lump-sum payment paid by a subsurface user for the right to use the subsurface, while the commercial discovery bonus is a one-off payment paid by subsurface users when a commercial discovery is made on the contract territory <sup>30</sup> .
Mineral extraction tax	The mineral extraction tax replaced royalty payments. The mineral extraction tax rate for upstream companies was increased from a range of 2.0% to 8.0% to a range of 5.0% to 18.0% since 2009 depending on the level of production. The tax rate is reduced by 50.0% if the production is sold domestically in Kazakhstan.
Rent tax on the export	Rent tax on the export applies to subsoil users selling crude O&G condensate to export markets. Rent tax rates for export of crude O&G condensate are based on global crude oil prices and may vary from 7.0% if the global oil price is above USD40.0 per bbl to 32.0% if the global oil price is above USD180 per bbl.
Export Duty	In March 2016, Kazakhstan introduced a floating rate of export duty on oil pegged to the global oil price to support the O&G industry given the fluctuating global oil prices. Export duty is exempted when the global oil price is below USD25.0 per bbl. If the oil price exceeds USD25.0, the rate is determined in accordance with the special approved scale from USD10 per tonne if the oil price is above USD25 per bbl to USD236 per tonne if the oil price is above USD185 per bbl. Kazakhstan reached an agreement with the WTO to reserve the right to levy export duties and increase duties on oil and oil products.
Property Tax	Property tax is payable on O&G assets which are granted with production contracts at a rate of 1.5% based on the average balance of the O&G properties.
Excess profits tax	Excess profits tax is a tax levied on additional revenues earned by subsurface users in excess of the rates determined by the Tax Code. It is calculated annually and based on a progressive sliding scale with a maximum tax rate of 60.0%.
Corporate Income Tax	The Corporate Income Tax rate is 20.0% in Kazakhstan.
Value Added Tax	Crude oil, natural gas and gas condensate sold within the territory of Kazakhstan are subject to 12% value added tax.

<sup>30</sup> Source: "Taxation of subsurface users in Kazakhstan" <http://investkz.com/en/journals/76/623.html> (viewed on 20 April 2016)

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Source: Extracted from the IMR prepared by Frost & Sullivan for REB

**Table 2-2: Key Laws and Regulations related to the O&G industry in Kazakhstan**

Laws and Regulations	Description
The Subsoil Use Law	Regulates the entire upstream O&G activities. The Law grants the Government a right of pre-emption over shares in O&G projects.
The Law on Gas and Gas Supply	Sets conditions for the fulfilment of the domestic gas demand.
The Law on State Regulation of Production and Turnover	Establishes the requirement for upstream producers to supply a requisite amount of oil to the local market.
The Commercial Code of the Republic of Kazakhstan	Incorporates rules governing business and includes provisions on private business, investment, and government monitoring.

Source: Extracted from the IMR prepared by Frost & Sullivan for REB

In May 2015, the Government announced the “100 tangible steps” plan as the country's response to global and domestic economic challenges. The “100 tangible steps” plan covers the simplification of subsoil contracting procedures by using global best practices to attract international investors and producers to Kazakhstan's O&G sector.

## 2.9 COMPETITIVE LANDSCAPE

Many major oil companies from the US, Russia, China, EU and other countries have a presence in Kazakhstan mainly engaging in E&P activities while some are involved in refining activities. IOC involvement is extensive and generally involves a partnership with KazMunayGas. Key partners are Chevron, Eni and ExxonMobil. Russia's Lukoil and CNPC are also significant investors in Kazakhstan's O&G industry.

### 2.9.1 Key Industry Players and Profiles

Company	Year of Establishment in Kazakhstan	Description	Ownership	Estimated Oil and Condensates Production (bbl per annum)	Estimated Market Share based on Oil and Condensates Production (2014)
KazMunayGas	2002	<ul style="list-style-type: none"> <li>The national company for exploration, production, refining and transportation of hydrocarbons, representing the state in Kazakhstan's O&amp;G industry.</li> <li>A partner to IOCs in nearly all major upstream projects. Major directly owned stakes are: PetroKazakhstan (33.0%), Tengizchevroil (20.0%), Kashagan (16.8%), KazMunayTeniz (100.0%), Zhambai (50.0%), Kazakhoil-Akhtobe (50.0%), KazakhTurkMunay (51.0%) and MMG (50.0%).</li> <li>Holds total estimated reserves of</li> </ul>	100.0% state-owned	164,851,700	27.8%

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Company	Year of Establishment in Kazakhstan	Description	Ownership	Estimated Oil and Condensates Production (bbl per annum)	Estimated Market Share based on Oil and Condensates Production (2014)
		818.3 million tonnes.			
Chevron	1993	<ul style="list-style-type: none"> <li>Largest private oil producer in Kazakhstan.</li> <li>Holds 50.0% stake in Tengizchevroil, which operates the Tengiz and Korolev fields.</li> <li>Holds 18.0% stake in Karachaganak.</li> <li>Holds 15.0% stake in Caspian Pipeline Consortium crude oil export pipeline</li> <li>Holds a polyethylene pipe plant in Atyrau.</li> <li>Markets both Texaco and Chevron lubricants through two separate distributor networks.</li> </ul>	100.0% Chevron	87,235,000	14.7%
ExxonMobil	1993	<ul style="list-style-type: none"> <li>Continuous business involvement in the development, production and transportation of O&amp;G in Kazakhstan for over 20 years.</li> <li>Holds 25.0% stake in Tengizchevroil.</li> <li>Holds 17.0% stake in the North Caspian Operating Company, which operates Kashagan.</li> <li>Holds 7.5% stake in the Caspian Pipeline Consortium.</li> </ul>	100.0% ExxonMobil	na	na
Eni	1995	<ul style="list-style-type: none"> <li>Kazakhstan is one its the most important international businesses, accounting for a substantial part of the group's output growth.</li> <li>Holds 16.81% interest in the North Caspian Operating Company</li> <li>Holds 29.25% in the Karachaganak Venture</li> </ul>	100.0% Eni	18,980,000	3.2%
Lukoil	1995	<ul style="list-style-type: none"> <li>The largest Russian investor in Kazakhstan. The company's cumulative investment in Kazakhstan's economy is around USD7.0 billion.</li> <li>Holds 5.0% stake in Tengizchevroil</li> <li>Holds 12.5% stake in the Caspian Pipeline Consortium</li> <li>Joined the Karachaganak project in 1997 with 13.5% share.</li> <li>Holds 50.0% stake in Kumkol project, Kyzylorda region.</li> </ul>	100.0% Lukoil	59,250,000	10.0%

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Company	Year of Establishment in Kazakhstan	Description	Ownership	Estimated Oil and Condensates Production (bbl per annum)	Estimated Market Share based on Oil and Condensates Production (2014)
Royal Dutch Shell	na	<ul style="list-style-type: none"> <li>Royal Dutch Shell acquired BG Group in February 2016.</li> <li>Royal Dutch Shell is interested in expanding its presence in Kazakhstan.</li> <li>Holds 29.25% stake in the Karachaganak Venture</li> </ul>	100.0% Royal Dutch Shell	na	na

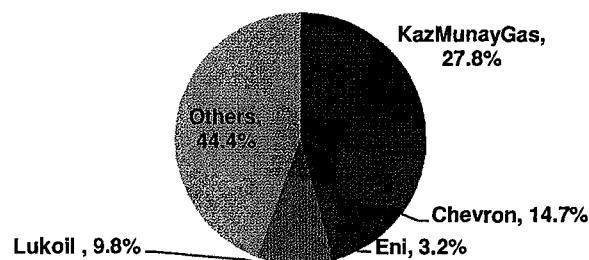
Source: Companies' Websites and Annual Reports, Frost & Sullivan

### 2.9.2 Market Share of Key Industry Players

As at 2014, there are 133 oil-producing companies in Kazakhstan<sup>31</sup>. These include foreign, private domestic and state-owned companies involved in consortia or joint ventures. In 2014, the country's total oil and condensates production reached 592.6 million bbl.

The O&G production remains highly concentrated in the Tengiz oil field that produced 35.9% of country's total oil production in 2014. The Tengiz project is operated by Tengizchevroil, a partnership formed in 1993 by the Republic of Kazakhstan and Chevron. Current partners are Chevron, KazMunayGas, ExxonMobil and Lukoil, the biggest O&G producers in the country.

**Chart 2-14: Market Shares of Major O&G Producers based on Oil and Condensates Production, in Kazakhstan, 2014**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

### 2.10 INDUSTRY PROSPECTS AND OUTLOOK

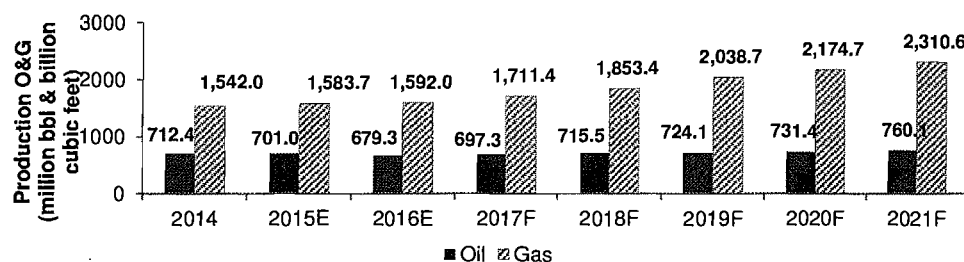
After 19 years of negotiations with the WTO, Kazakhstan finalised the terms of its membership, joining the organisation in 2015. The WTO framework serves to provide Kazakhstan with access to foreign markets for its exports, position the country to be a more attractive destination for foreign investments as well as enhance trade processes to become more efficient and transparent.

<sup>31</sup> Source: the KazEnergy Association

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**Chart 2-15: Production Forecast of O&G Industry in Kazakhstan, in million bbl and billion cubic feet, 2014 – 2021F**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

According to the KazEnergy Association, most of the incremental oil production growth within the Commonwealth of Independent States over the next two decades is expected to come from Kazakhstan.

Oil production is expected to increase notably between 2017 and 2018 with the production commencement at Kashagan and in 2021 with the completion of USD30.0 billion Tengiz expansion project. Oil production may be further increased by field development and expansion plans under consideration. For example, in 2015, Eni and KazMunayGas entered into an agreement to explore the Isatay block in the Caspian Sea, which has significant potential oil resources. Furthermore, the investment decision for the USD12.0 billion expansion project at Karachaganak will be finalised in 2018.

Gas production in Kazakhstan is forecast to continue its upward trend at a CAGR of 5.9% between 2014 and 2021. While most of the gas will continue to be re-injected in light of falling O&G prices, sales of natural gas will be driven by Khvalynskoye and Kashagan from 2017.

Key initiatives under the Government's gasification programmes are the construction of the Beineu-Bozoi-Shymkent pipeline as well as a connecting pipeline between Beineu-Bozoi-Shymkent pipeline and capital city Astana known as the Saryarka pipeline.

Principal developments driving oil production in Kazakhstan will continue to be Tengiz, Karachaganak, and Kashagan. Medium and small-sized projects are also expected to contribute to the total output moving forward. Gas production in the country is expected to remain tied to oil production trends in the long run.

### 3 OVERVIEW OF THE LPG MARKET VALUE CHAIN IN KAZAKHSTAN

#### 3.1 INTRODUCTION

Kazakhstan is a major producer of LPG, namely propane and butane or a mixture of both. In the past decade, LPG production in Kazakhstan has grown after the Government amended the Law on Petroleum 1995 in December 2004 that prohibits the flaring of associated gas. As a result of the amendment, LPG output in Kazakhstan is now mainly derived from associated gas processing accounting for approximately 84.0% of the total output, with the remaining 16.0% arising from oil refining activities<sup>32</sup>.

<sup>32</sup> Source: the KazEnergy Association

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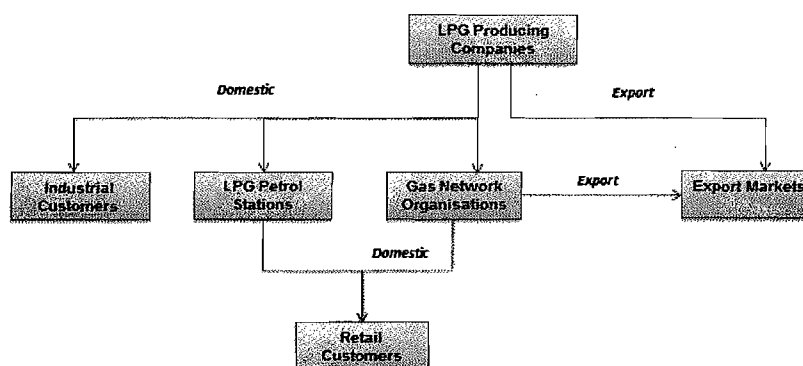
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### 3.2 SEGMENTATION OF THE LPG INDUSTRY IN KAZAKHSTAN

Figure 3-1: LPG Industry Value Chain in Kazakhstan, 2016



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

#### **LPG Producing Companies**

In Kazakhstan, LPG is produced at four gas processing plants ("GPPs"), four gas treatment units ("GTUs") and three oil refineries.

Gas processing operations of GPPs and GTUs accounted for 84.0% of total LPG output in 2015. The remaining 16.0% of Kazakhstan's LPG output is produced at three main oil refineries, namely Atyrau, Pavlodar, and Shymkent.

Tengizchevroil, a joint venture between Chevron, ExxonMobil, KazMunayGas and LukArco, operates the Tengiz and Korolevskoye oil fields. It is the largest producer of LPG accounting for more than 50.0% of the national output.

#### **Domestic Market**

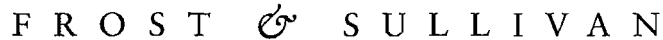
There is no single buyer model for the LPG market in Kazakhstan. The Law on Gas and Gas Supply 2012 restricts the number of intermediaries in the LPG market by prohibiting the resale of LPG to another wholesaler. Retail sales of LPG can only be carried out by the approved Gas Network Organisations, the owners of retail stations and LPG producers (in the case of direct sales to industrial customers). LPG producers are required to supply a stipulated amount of LPG (mandatory supply quota) to approved Gas Network Organisations in the respective region for onward sales to end users monthly. LPG transportation in the country is conducted either by rail or truck to the country's regions and cities. There is also a 207km propane pipeline for LPG transportation in the Atyrau region. In general, Gas Network Organisations are responsible for LPG transportation and storage. As of 2015, there are 73 Gas Network Organisations and 508 LPG filling stations ensuring the delivery of LPG to end users in the respective regions.

LPG is considered a good alternative to domestic natural gas supplies due to the underdeveloped gas pipeline infrastructure in Kazakhstan and consequential difficulties with the distribution of gas via the existing system. Unlike pipeline gas, LPG can be delivered throughout the entire territory of Kazakhstan in cylinders.

#### **Export Markets**

About two-thirds of LPG output is exported both overland as well as via seaborne transport. LPG output is primarily shipped to Europe by rail, such as the transportation of LPG from Tengiz to the Black Sea LPG terminal at Taman. The LPG is then shipped to Finland, Turkey, Tajikistan, Latvia, Estonia, Poland, Slovakia, Hungary, and Romania, among others.

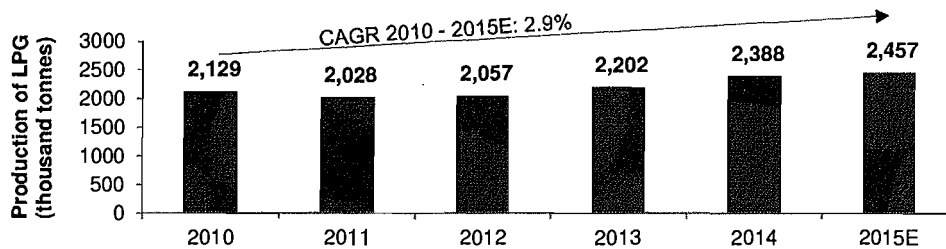
**EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN (Cont'd)**



**3.3 LPG SUPPLY IN KAZAKHSTAN**

Reduced gas flaring has largely driven growth since 2005 as well as oil and associated gas production from the country's upstream projects. Tengizchevroil is the largest producer of LPG accounting for over 50.0% of national output. Around 62.3% of LPG is produced in the Atyrau region, followed by the Aktobe and Pavlodar regions contributing 13.2% and 9.5% to the total production respectively. Kazakhstan's LPG production growth declined between 2011 and 2012 mainly due to stagnant oil and associated gas production as well as the drop in the production output from Tengiz, which underwent capital maintenance works for field facilities.

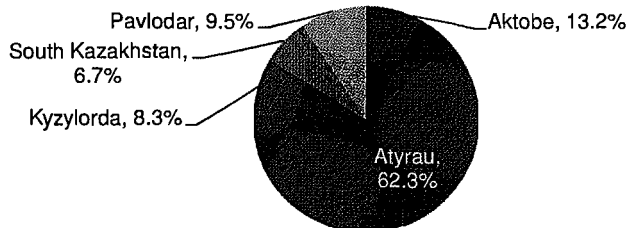
**Chart 3-1: LPG Production in Kazakhstan, 2010–2015E**



*Note: Karachaganak's gas flows to the Orenburg GPP in Russia for processing, where it yields LPG as a by-product. Upon processing, gas and LPG are delivered to consumers in Kazakhstan by KazRosGas. Since the LPG is not produced in Kazakhstan, the production volume is not included in Kazakhstan's total production volume. Production volume for a particular year also excludes the volume brought forward from the previous year.*

*Source: Extracted from the IMR prepared by Frost & Sullivan for REB*

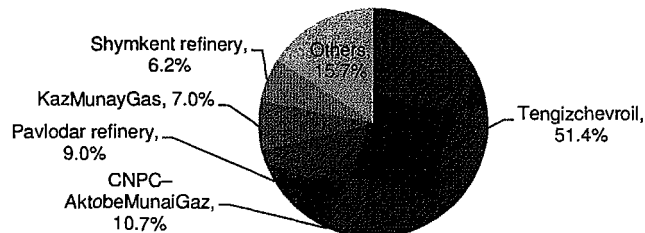
**Chart 3-2: Breakdown of LPG Production by Regions, 2014**



*Note: Data for 2015 is not publicly available at the time of the publication of this report.*

*Source: Extracted from the IMR prepared by Frost & Sullivan for REB*

**Chart 3-3: Market Shares of Major LPG Producers in Kazakhstan based on Production, 2014**



*Note: Data for 2015 is not publicly available at the time of the publication of this report.*

*Source: Extracted from the IMR prepared by Frost & Sullivan for REB*



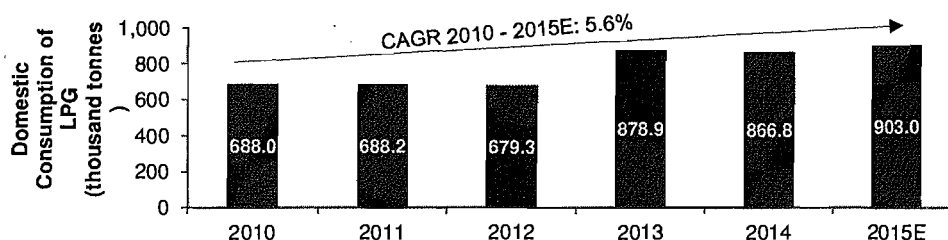
**EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN (Cont'd)**

F R O S T & S U L L I V A N

### 3.4 LPG DEMAND IN KAZAKHSTAN

In 2013, the Decree of the President of Kazakhstan approved "the Concept of transition of the Republic of Kazakhstan to the green economy", to be implemented by 2020. The Government's policy aims to expand domestic gas and LPG consumption due to their lower carbon footprint compared to coal and oil that dominate primary energy consumption in Kazakhstan according to the KazEnergy Association.

**Chart 3-4: LPG Domestic Consumption in Kazakhstan, 2010–2015E**

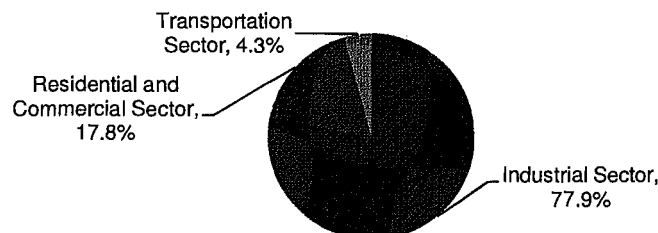


*Note: Consumption for a particular year excludes unused volume of LPG production brought forward to the following year.*

*Source: Extracted from the IMR prepared by Frost & Sullivan for REB*

Kazakhstan also imports certain volumes of LPG from Russia if there is a need to meet domestic demand. For example, LPG is derived from the processing of Karachaganak's gas in Orenburg GPP and then delivered to Kazakhstan by KazRosGas.

**Chart 3-5: Breakdown of LPG Usage in Kazakhstan, 2014**



*Note: Data for 2015 is not publicly available at the time of the publication of this report.*

*Source: Extracted from the IMR prepared by Frost & Sullivan for REB*

#### **Industrial Sector**

According to the KazEnergy Association, there is a growing trend of LPG usage in the petrochemical industry. Kazakhstan is constructing a major petrochemicals complex in the Atyrau region designed to produce up to 800,000 tpa of polypropylene. The project is expected to be commissioned in 2017. In addition, Kazakhstan is a noteworthy participant in the world steel and non-ferrous metals markets. The iron and steel industry of Kazakhstan fabricates approximately 12.5 % of domestic industrial output and ranks among the 30 largest steel-producing countries. As such, the expansion of the industrial sector in Kazakhstan is expected to stimulate LPG demand further.


#### **Residential and Commercial Sectors**

LPG is used for cooking and heating in the residential and commercial sectors. Given the underdevelopment of gas pipeline infrastructure in Kazakhstan, pipeline gas is available in only 10 of Kazakhstan's 14 regions. The other four regions, namely East Kazakhstan, North Kazakhstan, Karaganda and Akmola (including the capital city Astana), rely on bottled LPG for their gas needs.

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**EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN (Cont'd)**


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F R O S T  S U L L I V A N

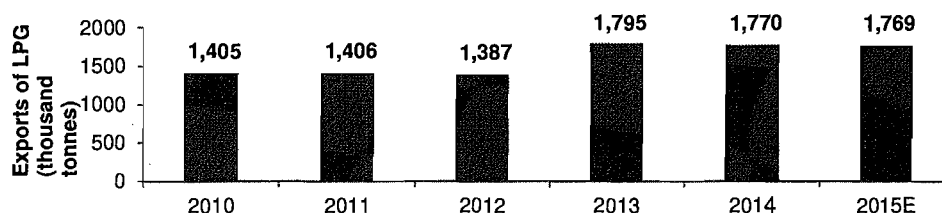
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**Transportation Sector**

The LPG filling stations dispensed 4.3% of total LPG consumption in Kazakhstan in 2014. LPG use in the transportation sector may help to diversify transportation fuel supply, reduce dependence on the imports of refined oil products<sup>33</sup>, monetise domestic associated gas resources as well as lower fuel costs for consumers. The use of cleaner alternative transportation fuel, such as LPG, also mitigates the detrimental impacts on the environment and air quality.

Kazakhstan's LPG exports are predominantly destined for Europe. However, in 2015, LPG export has shown a slight decline affected by falling global oil prices, global oil oversupply as well as the weakening economies of China and Europe.

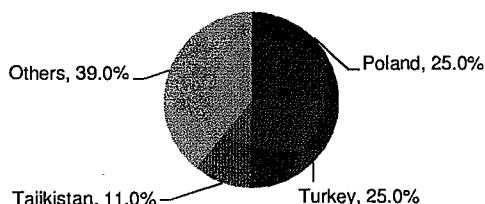
**Chart 3-6: LPG Exports from Kazakhstan, 2010–2015E**



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

LPG producers may sell LPG to Kazakhstan and export markets using rail and seaborne deliveries. Kazakhstan's railroad network is controlled and operated by Kazakhstan Temir-Zholy, a state-owned railroad monopoly. There are also private operators managing rail car fleets and providing transportation services. LPG is exported via rail deliveries to regions bordering Russia and other countries of the Commonwealth of Independent States. Seaborne deliveries are made by barge or sea vessels to the Black Sea and the Mediterranean Sea from the Black Sea terminals.

**Chart 3-7: Breakdown of LPG Exports by Countries, 2015**



Source: Source: Extracted from the IMR prepared by Frost & Sullivan for REB

### 3.5 LPG – PRICING TRENDS

The Ministry of Energy has developed a methodology for calculating the LPG wholesale price ceiling based on LPG quotations at the Belarus-Poland border (DAF Brest) adjusted for transportation costs from Kazakhstan and a coefficient based upon the ratio of gasified population in Kazakhstan to the total population in Kazakhstan for the prior year<sup>34</sup>.

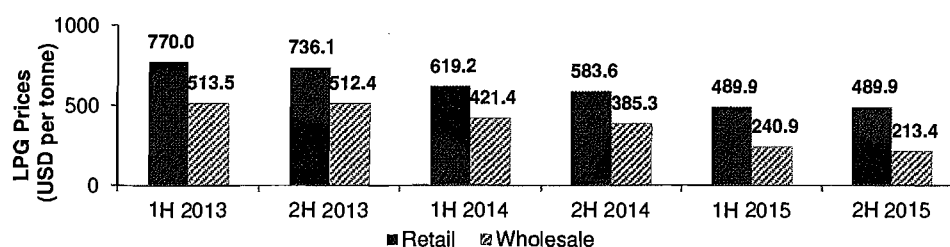
<sup>33</sup> Since the 2000s, the country's demand for gasoline and kerosene has been growing and met by increasing imports, predominantly from Russia.

<sup>34</sup> Source: the KazEnergy Association

EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN  
(Cont'd)

F R O S T & S U L L I V A N

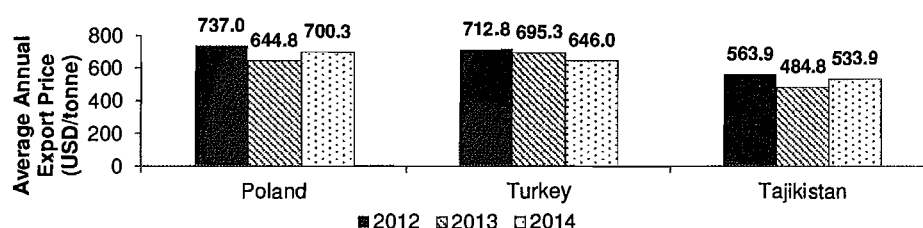
Chart 3-8: LPG Wholesale and Retail Prices in Kazakhstan, USD per tonne, 2013–2015E



Source: Extracted from the IMR prepared by Frost & Sullivan for REB

According to the KazEnergy Association, wholesale prices in the domestic market are generally less attractive for LPG producers compared to global market prices for exports. Hence, LPG producers are expected to continue exporting most of the output upon satisfying mandatory supply quotas to the domestic market. Export prices for LPG are determined by the market prices based on daily LPG price quotations published by Argus and/or Platts<sup>35</sup>.

Chart 3-9: Average Annual Export Price of LPG from Kazakhstan to Key Countries, 2012-2014



Notes:

- (1) Information for 2015 is not publicly available.
- (2) Based on the export value and volume of butane and propane from Kazakhstan recorded by UN Comtrade.

Source: Extracted from the IMR prepared by Frost & Sullivan for REB


### 3.6 PROSPECT AND OUTLOOK FOR THE LPG INDUSTRY IN KAZAKHSTAN

Kazakhstan's LPG production is expected to increase in line with expanded O&G operations in the country, particularly the recovery of associated gas and deeper oil refining. Tengizchevroil, the largest LPG producer in the country, plans to expand its oil production capacity from 581.0 thousand bbl/d in 2015 to 867 thousand bbl/d by 2027 under its Future Growth Project. The oil capacity expansion of the company is projected to drive the growth of the country's total LPG production.

Modernisation of O&G refineries in Kazakhstan is anticipated to increase total refining capacity as well as deepen their refining processes. As such, LPG production from the refineries is expected to grow moving forward.

<sup>35</sup> Source: Tengizchevroil

**EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN (Cont'd)**

F R O S T  S U L L I V A N

**Table 3-1: Projected LPG Consumption by Region in Kazakhstan, 2020**

Region/City	Projected LPG Consumption in 2020 (thousand tonnes)	% of Total
Akmola Region	40.5	2.4%
Aktobe Region	13.2	0.8%
Almaty Region	120.3	7.1%
Atyrau Region	938.5	55.5%
East Kazakhstan Region	102.8	6.1%
Almaty City	12.5	0.7%
Astana City	9.1	0.5%
Zhambyl Region	36.9	2.2%
West Kazakhstan Region	10.1	0.6%
Karaganda Region	105.4	6.2%
Kostanay Region	30.1	1.8%
Kyzylorda Region	32.2	1.9%
Mangystau Region	8.1	0.5%
Pavlodar Region	56.9	3.4%
North Kazakhstan Region	41.6	2.5%
South Kazakhstan Region	133.6	7.9%
<b>Total</b>	<b>1,692.0</b>	<b>100.0%</b>

Source: The Ministry of Energy; Frost & Sullivan

Domestic LPG consumption is expected to show an upward trend in line with several Government initiatives. For example, the Government plans to enact a law abolishing taxes for LPG users, as vehicles using LPG fuel are safe, economically sound and environment-friendly<sup>36</sup>. A significant volume of LPG is also forecasted to be exported mainly to Europe, where LPG demand for the export market is estimated to grow at around 1.0% annually between 2016 and 2020.

#### 4 PROSPECTS AND OUTLOOK FOR REB

REB intends to acquire 60% equity interest in Palaeontol B.V., an investment holding company and the sole participant of Emir-Oil LLP which owns the entire subsoil use rights (100% working interest) in an 850.3 square kilometres onshore hydrocarbon exploration and exploitation contracted area located in the Mangystau Oblast in the southwestern region of the Republic of Kazakhstan. The region of the contracted areas is in southwestern Kazakhstan and about 40 km northeast of the largest sea port in the Caspian coast, Aktau.


The global consumption of petroleum and other liquid fuels is forecasted by Frost & Sullivan to increase from 93.8 million bbl/d in 2015 to 98.3 million bbl/d by 2020 at a CAGR of 0.9%. Factors driving the increase include rising global energy demand on the back of population and economic growth as well as higher refining capacity in key O&G demand centres such as Asia and the Middle East. Frost & Sullivan also expects the European and Asia Pacific regions to become increasingly dependent on oil imports, representing favourable market opportunities for major oil exporting regions such as the Middle East and Central Asia.

<sup>36</sup> Source: "New Law and More Filling Stations Planned for Liquid Petroleum Gas Cars", the Astana Times, retrieved on 6 May 2016 from <http://astanatimes.com/2015/03/new-law-filling-stations-planned-liquid-petroleum-gas-cars/>

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**EXECUTIVE SUMMARY OF THE INDEPENDENT MARKET RESEARCH REPORT ON THE GLOBAL O&G INDUSTRY AND THE O&G EXPLORATION AND PRODUCTION INDUSTRY IN KAZAKHSTAN**  
*(Cont'd)*


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F R O S T  S U L L I V A N

According to Frost & Sullivan, the persistent oversupply of oil since early 2014 that led to declining oil prices over the past few years is gradually easing with increasing crude oil demand in coming years. Although major oil producers have not reduced production, Frost & Sullivan opines that the crude oil price is expected to bottom out in 2016 and recover towards USD68/bbl by 2020 and USD75-80/bbl in the longer term beyond 2025. Global E&P expenditure is also expected to bottom out in 2016 at USD518 billion before moving towards a slow recovery from 2017 onwards.

The O&G industry in Kazakhstan is a major contributor to the GDP of the country. Kazakhstan is a net energy exporter, with more than 60.0% of the country's crude oil being exported to Europe, across the Caspian Sea. With Kazakhstan joining the WTO as a member in 2015, access to foreign markets for O&G exports has also been broadened. Frost & Sullivan expects demand for oil from Kazakhstan to remain strong as European and Asian regions are expected to be increasingly dependent on oil imports to meet their energy demand. Its strategic location between Europe and China places Kazakhstan in an advantageous position for both cost and speed to serve these growing consumer markets.

In terms of the assets involved in REB's proposed acquisition, Frost & Sullivan notes the favourable position of the Emir-Oil Concession Block which is located near Aktau, the largest seaport on the Caspian coast. Currently, the oil processing and storage facilities are on lease to Emir-Oil by Term-Oil LLP. Emir-Oil's share of the oil processing capacity is 6,458 bbl/d of oil with oil storage capacity of 54,100 bbl. Emir-Oil has its own gas processing plant and the current gas processing capacity of Emir-Oil is 5.5 million standard cubic feet per day of gas.

The Phase 1 Central Processing Facility ("CPF") is currently under construction with a 25-km oil pipeline and a 35-km gas pipeline connecting the CPF to state-owned trunk pipelines of KazTransOil and KazTransGas Aimak Gas, respectively. Once completed, the new CPF will have O&G processing capacities of 12,000 bbl/d for oil and 21 million standard cubic feet per day for gas. These oil and gas pipelines will facilitate the evacuation of produced O&G from CPF directly to REB's customers, thereby reducing the crude oil transportation cost with increased oil and gas production outputs. Besides, the 25-km oil pipeline and a 35-km gas pipeline will facilitate the transportation of produced O&G from CPF directly to REB's major customers, thereby providing REB with favourable likelihood to reduce transportation costs and increase gas sales volume due to the [ease of transportation]. Besides, the Emir-Oil Concession Block is a substantially sized, high quality asset which currently comprises 4 producing fields with a total contract area of approximately 45.5 km<sup>2</sup> and 804.8 km<sup>2</sup> of exploration area. A number of prospects have been identified in this exploration area with high probability of geological success based on the surrounding proven oil production fields.

In addition, an LPG extraction facility is also planned in the CPF to extract LPG from the gas produced. Historically, about two-thirds of LPG production is exported, with Poland, Turkey and Tajikistan being the three largest LPG export destinations. Frost & Sullivan estimates that the average export price to these countries is at a premium of USD130.5 – USD296.6/tonne compared to the average domestic wholesale price in 2014. Besides, LPG transportation facilities are in place in Kazakhstan, where REB is able to export LPG via sea vessels to the Black Sea and the Mediterranean Sea from Aktau Port. There is also substantial yield of condensate in the gas produced that can be exported at premium price as feedstock to petrochemical industries.

A pure play E&P company such as REB is anticipated to be more efficient compared to IOCs or NOCs due to its smaller size and focus on the upstream segment. Furthermore, the Emir-Oil Concession Block is an onshore conventional oil field, which has a lower cost of production for REB compared to offshore or unconventional oil fields. Frost & Sullivan also observes that the light and sweet crude oil produced from the Emir-Oil Concession Block is of high commercial value. These factors do not only present an opportunity for REB to take advantage of the expected export demand for crude oil produced in Kazakhstan, but also provide resilience to REB in terms of profit realised per bbl during a period of low oil prices.

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INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT

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**INDEPENDENT TECHNICAL EXPERT  
AND VALUATION REPORT  
OF EMIR-OIL CONCESSION BLOCK,  
ONSHORE KAZAKHSTAN  
AS OF JULY 1, 2016**

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Prepared by:

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Report No: **ECV2198**

Version/Date: Rev-0 / September 30, 2016

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**


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**Document Status**

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**


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Project Ref: ECV2198

September 30, 2016

Dear Sirs,

**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT OF EMIR-OIL  
 CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016**

In response to Reach Energy Berhad's ("REB" or the "Company") request, RPS Energy Consultants Limited ("RPS") has completed a technical and commercial due diligence of the Emir-Oil Concession Block ("Asset" or the "Property") indirectly owned by MIE Holdings Corporation ("MIE") in relation to MIE's 100% working interest in Emir-Oil LLP ("Emir-Oil"). The Emir-Oil Concession Block, located onshore Kazakhstan (**Figure 1**) consists of 850.3 square kilometers ("km<sup>2</sup>") petroleum concession areas divided into four production and one exploration contract areas (**Figure 2**). Subsequently, RPS has undertaken an independent valuation and conducted a Reserves evaluation of the Emir-Oil Concession Block.

RPS undertook this audit following the signing of a Letter of Engagement under a Call Off Agreement dated January 30, 2015 and Call Off Order dated August 3, 2016.

**INTRODUCTION**

Reach Energy Berhad had on March 5, 2016 announced that the Company has entered into a tri-partite conditional sale and purchase agreement with Palaeontol Cooperatief U.A. ("Palaeontol COOP") and MIE to acquire 60% equity interest in Palaeontol B.V. (a wholly-owned subsidiary of Palaeontol COOP which in turn is an indirect wholly-owned subsidiary of MIE) and 60% of the shareholder loans in Palaeontol B.V. from MIE for a total cash consideration of USD154.9 million, subject to adjustments ("Proposed Acquisition"). Palaeontol B.V. is an investment holding company and is the sole interest holder of Emir-Oil.

Emir-Oil is currently the Operator of the Emir-Oil Concession Block with 100% working interest in the Property. The Asset is located in the onshore Mangyshlak Basin of Western Kazakhstan and covers an area of 850.3 km<sup>2</sup>, which contains the following:

- Four oil fields namely Aksaz, Dolinnoe, Kariman, and Emir which have been put into production under four separate subsoil use contracts for the production of hydrocarbons.
- In addition, the North Kariman-2 well has been producing since June 2012 on pilot oil production under an exploration contract. As the exploration contract is expiring in January 2017, the Operator has already submitted an application to apply to extend the current Kariman production contract area to the north to include North Kariman Field



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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**


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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT**

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

- A total of three wells have been drilled in the Yessen field where two are currently temporarily shut-in and a new exploration/appraisal well (Yessen-3) has been spudded on June 29, 2016 and is currently being drilled. The field has been on production since April 2013 on pilot oil production under the exploration contract. As the exploration contract is expiring in January 2017, the Operator has already submitted an application to apply to extend the Dolinnoe production license area to the east to include the Yessen Field.
- A total of six prospects have been identified by the Operator outside the current production contracts namely Borly, Begesh, East Saura, Aidai (AD-A1, AD-A2), North Aidai, and Tanirbergen. Additionally, four prospects have been mapped within and surrounding the current production contracts namely Aksaz, Dolinnoe, Emir and Kariman.

At the request of the Company, RPS has:

- Reviewed the geological, geophysical and petrophysical data of the Asset that are used to estimate the range of Petroleum Initially In-Place ("PIIP") volumes.
- Addressed the range of uncertainty associated with the mapping and geometry of the structure and sedimentology of the petroleum-bearing reservoirs, the petrophysical rock parameters and the fluid oil and gas properties of the Asset. This has permitted RPS to estimate a range of PIIP for each of the reservoirs within the Asset. The PIIP volumes have been used to benchmark the dynamic recoverable volumes in order to identify potential upsides in the further development of the Asset.
- Analysed the performance of the producing fields and made forecasts relating to the estimated Low, Best and High future production, costs, prices and cash flow.
- Estimated a range of fair valuation for the Asset using discounted cash flow method and benchmarking with relevant historical transactions in Kazakhstan, in accordance with the rules and regulations as set out in the Asset Valuation Guidelines issued under section 377 of the Capital Markets and Services Act 2007 ("CMSA") by the Securities Commission Malaysia ("SCM"). The basis of the valuation was to provide an estimate of the Fair Market Value of the Company's contemplated interest in the Emir-Oil Concession Block owned by MIE, through acquisition of an equity interest in Palaeontol B.V., a wholly-owned subsidiary of Palaeontol COOP, which in turn is an indirect wholly-owned subsidiary of MIE, including a portion of the shareholder loans in Palaeontol B.V. For the purpose of this report the Fair Market Value is defined as the price which the Asset would change hands between a willing-buyer and a willing-seller, neither being any compulsion to buy or to sell and both having reasonable knowledge of the relevant facts.

RPS has estimated the volumes of the Proved Reserves ("1P"), Proved plus Probable Reserves ("2P") and Proved plus Probable plus Possible Reserves ("3P") and a range of fair value for the 1P and 2P Reserves, for the Asset. These estimates were based on data and information available up to June 30, 2016. This report is based on production data available up to and including June 30, 2016, and has a Reference Date of July 1, 2016.

RPS has applied its expectation of the long term Brent Oil price by using RPS Energy's opinion of the future crude oil price at the Reference Date of July 1, 2016, which is based on a long term forward curve (year 2016 to year 2024) and US\$80 per barrel flat real (at 2% inflation per annum) thereafter.

The update was completed during a two-month period between July and August 2016.

A list of abbreviations and their definitions as used in this report is included in **Appendix I**. Volumes presented in this report have been estimated using the March 2007 SPE/WPC/AAPG/SPEE Petroleum Resources Management System ("SPE-PRMS") as the standard for classification and reporting (see **Appendix II**).

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**


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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT**

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

**SUMMARY**

RPS has previously evaluated the Asset in the report entitled "Independent Valuation Report of Emir-Oil Concession Block, Onshore Kazakhstan as of January 1, 2016" by RPS Energy Consultants Limited. This report used various data provided by the company including third party reserves reports prepared by Chapman Petroleum Engineering Ltd, the latest of which was the January 1, 2015 report entitled "Reserve and Economic Evaluation Oil and Gas Properties ADEK Block Republic of Kazakhstan Owned by MIE Holdings Corporation January 1, 2015" dated March 4, 2015 by Chapman Petroleum Engineering Ltd.

For this updated evaluation the Company provided RPS with the well production data in Excel file format. Additionally, the Company provided various third party reserves reports prepared by Chapman Petroleum Engineering Ltd. RPS derived its primary data source and formed its audit opinion based on the data associated with the report "Evaluation of Reserve and Prospective Resources Oil and Gas Properties, ADEK Block (Licence Area), Mangistau Oblast, Republic of Kazakhstan for MIE Holdings Corporation, December 31, 2015 (January 1, 2016), Chapman Petroleum Engineering Ltd.", dated March 9, 2016 by Chapman Petroleum Engineering Ltd (hereinafter referred to as the "Chapman Report"). However, the Chapman Report was only used as one of the sources of data and other data provided included production and exploration contracts, commercial data and economic models, selected well reports, well tests and PVT data, electric well logs LAS files, selected wells petrophysical interpretations and other relevant subsurface data. RPS has used these data as a source of information to form its audit opinion and derive at its interpretation and conclusions

This due diligence was based on technical data, future development plans and resource estimates provided by REB to RPS. RPS's approach in conducting this study has been to focus on validating MIE's evaluations in regards to the key discipline areas (geology, geophysics, reservoir and production engineering). Emphasis was placed on the performance of currently producing wells, workover and infill activities planned for those fields, and reviewing the near-term development and exploration programmes within the Asset. The aim was to perform an independent review that is sufficiently detailed to form a robust estimation of the future production and near-term exploration potential of the Asset.

The Reserves for the Asset is based on the performance of current fields' production, and the Operator's further work plans and programmes to increase hydrocarbon recovery.

The fields' production forecasts have been used in a cash flow model with the estimated forecasted Capital Expenditures ("Capex") and Operating Expenses ("Opex"). By modelling the fiscal terms of the production contracts, the production profiles are truncated where Opex exceeds revenues and/or at the end of the Asset period expiry dates. A summary of the Reserves and Valuation of the Asset is presented in **Table 1** to **Table 6**. The valuation was conducted for compliance with SPE-PRMS and the VALMIN<sup>1</sup> code guidelines.

Oil volumes are reported in Millions of stock tank barrels ("MMstb"). All volumes are reported as gross (100%) interest, net working interest, and MIE's ("Contractor's") net entitlement, and all are situated entirely within the contract boundary of the Asset.

Based on the audit, it is RPS's opinion that the estimates of total remaining recoverable hydrocarbon volumes form a reasonable representation of the future operation of the Asset. The reported hydrocarbon resources are estimates based on professional judgment and are subject to future revisions, upward or downward, as a result of future planned operations or as additional information become available.

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<sup>1</sup> Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets (The Valmin Code 2015 Edition), Prepared by The VALMIN Committee, a joint committee of the Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**


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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT**

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

The data set included geological, geophysical and engineering data together with reports, presentations and financial information pertaining to the contractual and fiscal terms applicable to the Asset. In carrying out this review, RPS has relied solely upon this information.

**VALUATION**

RPS has used the discounted cash flow method at various discount rates to establish the range of NPV values for the Emir-Oil Concession Block. In addition, RPS derived the appropriate discount rates to arrive at a fair market value range of the Asset by comparing comparable recent transactions in Kazakhstan.

It is a standard practice in oil and gas evaluations to present NPV at a 10% discount rate (**Table 4**). Nevertheless, RPS has considered a reasonable range for discount rates to be between 12% and 15% for a deal to be closed in Kazakhstan, after taking into account the associated country risk. However, recent market conditions would suggest that slightly higher discount rates should be applied to account for the additional market risk. Hence, RPS has applied 13% and 17% discount rates to the current valuation (**Table 5** and **Table 6**).

**RPS concludes that the Net Present Values attributed to the Emir-Oil Concession Block range between US\$ 315 million and US\$ 412 million.**

**QUALIFICATIONS**

RPS is an independent consultancy specializing in petroleum reservoir evaluation and economic analysis, with notable experience in the evaluation of oil and gas properties. Except for the provision of professional services on a fee basis, RPS does not have a commercial arrangement with any other person or company involved in the Asset that is the subject of this report.

The lead professionals involved in this work are RPS Employees and hold degrees in geology, geophysics, petroleum engineering and related subjects; and have relevant experience in the practice of geology, geophysics or petroleum engineering.

Mr Gordon Taylor, Managing Director, Consulting for RPS Energy, has reviewed this report. He holds a B.Sc. Geological Sciences and M.Sc. Geotechnical Engineering from Birmingham University, United Kingdom. Mr Taylor is a Chartered Geologist and Chartered Engineer with over 35 years experience in the upstream oil and gas sector, working in the UK and internationally. At RPS, Mr Taylor has been involved in projects ranging from basin-scale exploration through to field development, reserves reporting, valuations and mergers and acquisition ("M&A") advisory, in the North Sea, India, Southeast Asia and other parts of the world including North and South Americas, and the Atlantic Margin. Mr Taylor is a Fellow of The Geological Society and Chartered Geologist ("C.Geol"), Member and Chartered Engineer ("C.Eng") of the Institute of Materials, Mining and Metallurgy, Member of the American Association of Petroleum Geologists ("AAPG"), Certified Petroleum Geologist ("CPG") of the Professional Affairs Division of the AAPG, and Member of the Society of Petroleum Engineers.

In preparing this report, RPS relied upon factual information including ownership, technical, well and seismic data, contracts, and other relevant data supplied by REB. The work was undertaken by a team of professional petroleum engineers, geoscientists and petroleum economists. We have used standard petroleum engineering techniques in estimating the Reserves. These techniques combine geological and production data with detailed information concerning fluid characteristics and reservoir pressures. We have estimated the degree of uncertainty inherent in the measurements and interpretation of the data, and have calculated a range of Reserves. We have taken the working interest that MIE has in the Asset as presented by MIE. We have not investigated, nor do we make any warranty as to the MIE's interest in the Asset.

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT**

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

**BASIS OF OPINION**

The evaluation presented in this report reflects our informed judgment, based on accepted standards of professional investigation, but is subject to generally recognized uncertainties associated with the interpretation of geological, geophysical and engineering data. The evaluation has been conducted within our understanding of petroleum legislation, taxation and other regulations that currently apply to the Asset. However, RPS is not in a position to attest to the Asset title, financial interest relationships or encumbrances related to the Asset. Our estimates of Reserves and Resources are based on data made available to us for this purpose. We have accepted, without independent verification, the accuracy and completeness of these data.

The report represents RPS's best professional judgment and should not be considered a guarantee, or prediction of results. It should be understood that any evaluation, particularly one involving future performance and development activities may be subject to significant variations over short periods of time as new information becomes available. This report relates specifically and solely to the subject Asset and is conditional upon various assumptions that are described herein. This report must, therefore, be read in its entirety. This report was provided for the sole use of REB, its advisors and the Securities Commission Malaysia ("SCM") on a fee basis.

RPS has given its written consent to the issue of this document with its name included within it; and with inclusion of the results presented therein and references thereto in submissions by REB to the SCM, and inclusion of this report in the circular to the shareholders of REB. Prior to the issuance of this report or sections of this report to a third party, RPS requests that we are able to view the said release in order to check its wording and context. Specifically, excerpts may only be reproduced or published (as required for regulated securities reporting purposes) with the express written permission of RPS.

RPS accepts responsibility for the interpretations and professional opinions contained in this report; as set out in this part of this document; and to the best of our knowledge and belief RPS has taken all reasonable care to ensure that such is the case. The information contained in this report is in accordance with the facts and does not omit anything likely to affect the importance of such information.

Yours faithfully,

**RPS Energy Consultants Limited**

A handwritten signature in black ink, appearing to read 'Gordon R Taylor'.

Gordon R Taylor, CEng, CGeol

**Managing Director, Consulting**

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INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT *(Cont'd)*

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INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT  
OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**


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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT**

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

**Table 1 – Oil and Gas Reserves for the Emir-Oil Concession Block as of July 1, 2016**

	<b>Gross 100% License Basis<sup>1</sup></b>			<b>MIE's Net Working Interest Basis<sup>2</sup></b>		
	<b>1P</b>	<b>2P</b>	<b>3P</b>	<b>1P</b>	<b>2P</b>	<b>3P</b>
<b>Oil Reserves (MMstb)</b>	24.6	70.0	116.1	24.6	70.0	116.1
<b>Gas Reserves (Bscf)</b>	17.7	116.3	184.1	17.7	116.3	184.1
	<b>MIE's Net Entitlement Basis<sup>3</sup></b>					
	<b>1P</b>	<b>2P</b>	<b>3P</b>			
<b>Oil Reserves (MMstb)</b>	24.6	70.0	116.1			
<b>Gas Reserves (Bscf)</b>	17.7	116.3	184.1			

**Notes:**

- 1) Gross Concession Reserves (100% basis) after economic limit test.
- 2) MIE's working interest share of gross field Reserves after economic limit test.
- 3) The fiscal regime applicable for the Asset is Royalty and Tax regime. Royalty is treated as tax, and therefore, the attributable net share is reported as Gross volumes including Royalty.

## INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)



INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT  
OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

**Table 2 – Proved plus Probable Oil Reserves for the Emir-Oil Concession Block  
as of July 1, 2016  
Gross 100% License Basis<sup>1</sup> (MMstb)**

Field	Phase 1 <sup>1</sup>			Phase 2 <sup>1</sup>	Phase 1 and 2 <sup>1</sup>			Total <sup>1</sup>
	Developed Producing	Developed Non-Producing	Undeveloped	Undeveloped	Developed Producing	Developed Non-Producing	Undeveloped	
Aksaz	0.744			2.627	0.744		2.627	3.371
Dolinnoe	2.147	2.162	0.815	4.852	2.147	2.162	5.668	9.977
Emir	0.709	0.000	0.711	2.106	0.709	0.000	2.818	3.527
Kariman	10.989	7.321	3.154	18.258	10.989	7.321	21.413	39.723
North Kariman	1.622	0.000	1.121	3.365	1.622	0.000	4.486	6.108
Yessen		3.637	0.000	3.672	0.000	3.637	3.672	7.309
<b>TOTAL</b>	<b>16.212</b>	<b>13.120</b>	<b>5.802</b>	<b>34.881</b>	<b>16.212</b>	<b>13.120</b>	<b>40.682</b>	<b>70.016</b>

**Notes:**

- 1) Gross Concession Reserves (100% basis) after economic limit test.
- 2) Note that if market conditions deteriorate or if there is delay in obtaining the required approvals, the implementation plan for Phase 2 may be deferred. Any significant deferment of Phase 2 may result in a revision of the reported Reserves

**Table 3 – Proved plus Probable Gas Reserves for the Emir-Oil Concession Block  
as of July 1, 2016  
Gross 100% License Basis<sup>1</sup> (Bscf)**

Field	Phase 1 <sup>1</sup>			Phase 2 <sup>1</sup>	Phase 1 and 2 <sup>1</sup>			Total <sup>1</sup>
	Developed Producing	Developed Non-Producing	Undeveloped	Undeveloped	Developed Producing	Developed Non-Producing	Undeveloped	
Aksaz	5.816	-	-	20.793	5.816	-	20.793	26.609
Dolinnoe	13.162	15.215	5.742	33.918	13.162	15.215	39.660	68.038
Emir	0.104	-	0.104	0.309	0.104	-	0.414	0.518
Kariman	4.924	3.280	1.363	7.770	4.924	3.280	9.132	17.336
North Kariman	0.484	-	0.335	1.005	0.484	-	1.340	1.824
Yessen		0.975	-	0.978	-	0.975	0.978	1.953
<b>TOTAL</b>	<b>24.490</b>	<b>19.471</b>	<b>7.543</b>	<b>64.773</b>	<b>24.490</b>	<b>19.471</b>	<b>72.317</b>	<b>116.278</b>

**Notes:**

- 1) Gross Concession Reserves (100% basis) after economic limit test.
- 2) Note that if market conditions deteriorate or if there is delay in obtaining the required approvals, the implementation plan for Phase 2 may be deferred. Any significant deferment of Phase 2 may result in a revision of the reported Reserves

## INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)



INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT  
OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

Table 4 – Summary of Net Present Values of Reserves as of July 1, 2016

(Base Case Price at 10% Discount Rate)

	NPV @ 10% (US\$ MM)		NPV @ 10% (RM MM) <sup>1</sup>	
	Net to MIE		Net to MIE	
	IP	2P	IP	2P
<b>Emir-Oil Concession Block</b>	134	511	537	2,055

**Note:**  
1) Unless otherwise stated, the exchange rate of US\$1.00:RM4.0225, being Bank Negara Malaysia's middle rate as at 5.00 p.m. on 30<sup>th</sup> June, 2016, is used throughout this Valuation Report for purposes of translation of US\$ into Ringgit Malaysia ("RM") currency.

Table 5 – Summary of Net Present Values of Reserves as of July 1, 2016

(Base Case Price at 13% Discount Rate)

	NPV @ 13% (US\$ MM)		NPV @ 13% (RM MM) <sup>1</sup>	
	Net to MIE		Net to MIE	
	IP	2P	IP	2P
<b>Emir-Oil Concession Block</b>	118	412	475	1,658

**Note:**  
1) Unless otherwise stated, the exchange rate of US\$1.00:RM4.0225, being Bank Negara Malaysia's middle rate as at 5.00 p.m. on 30<sup>th</sup> June, 2016, is used throughout this Valuation Report for purposes of translation of US\$ into Ringgit Malaysia ("RM") currency.

Table 6 – Summary of Net Present Values of Reserves as of July 1, 2016

(Base Case Price at 17% Discount Rate)

	NPV @ 17% (US\$ MM)		NPV @ 17% (RM MM) <sup>1</sup>	
	Net to MIE		Net to MIE	
	IP	2P	IP	2P
<b>Emir-Oil Concession Block</b>	100	315	402	1,267

**Note:**  
1) Unless otherwise stated, the exchange rate of US\$1.00:RM4.0225, being Bank Negara Malaysia's middle rate as at 5.00 p.m. on 30<sup>th</sup> June, 2016, is used throughout this Valuation Report for purposes of translation of US\$ into Ringgit Malaysia ("RM") currency.

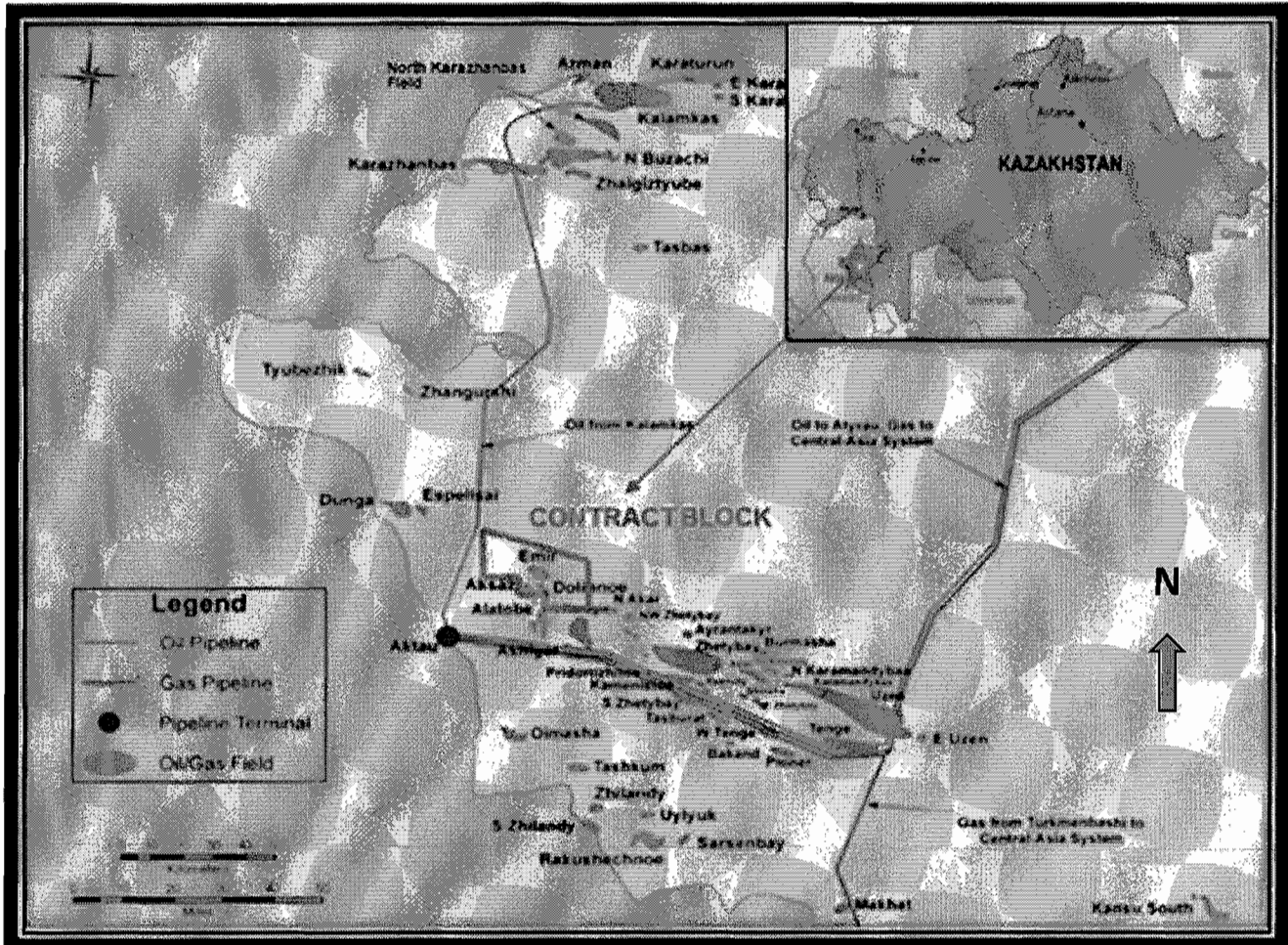


INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)



INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT  
OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

Figure 1 - Asset Location Map

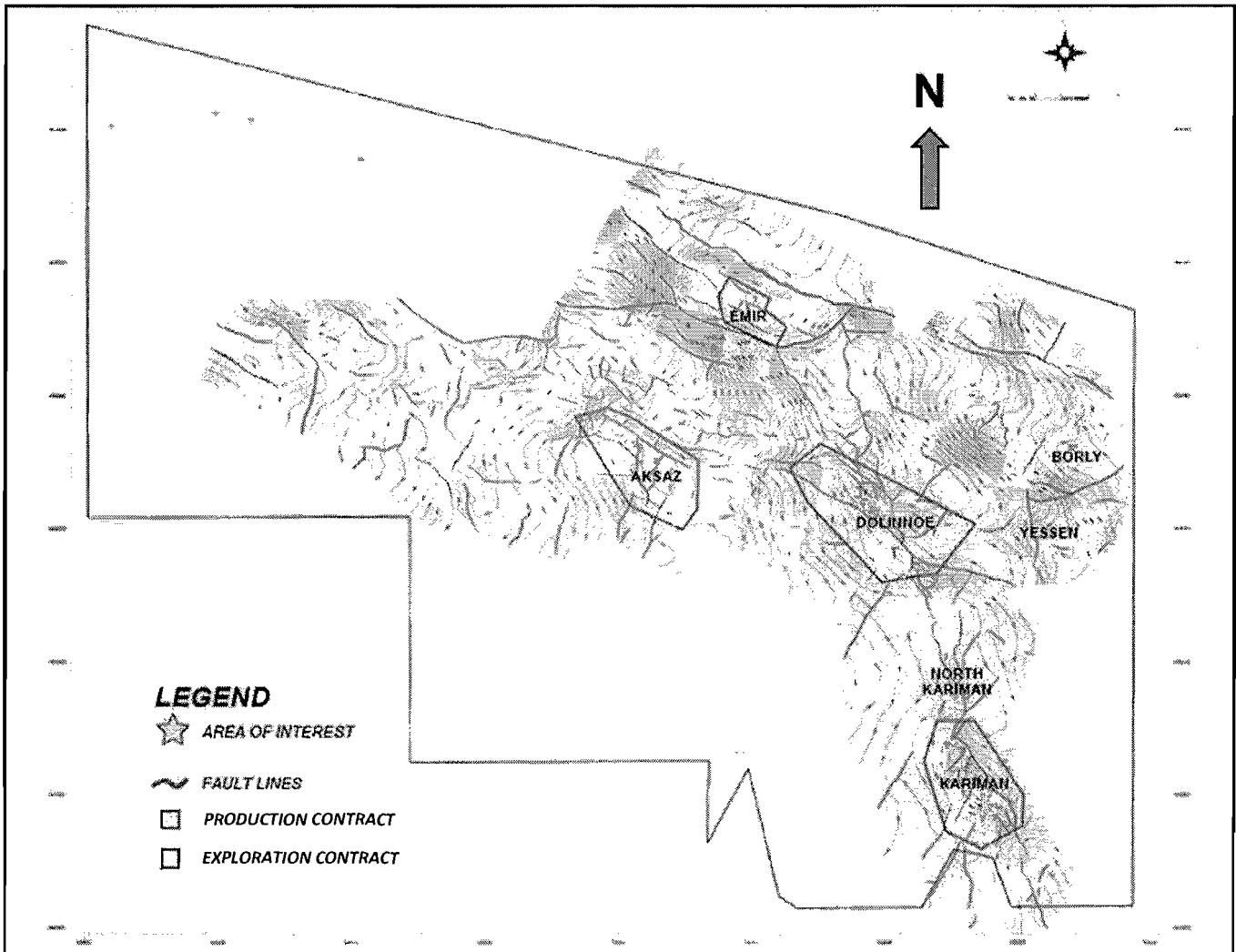


INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)



INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT  
OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

Figure 2– Asset Production Contracts and Exploration Contract Map



**Source Modified from:** Reserve and Economic Evaluation Oil and Gas Properties ADEK Block Republic of Kazakhstan Owned By MIE Holdings Corporation January 1, 2015; report dated March 4, 2015 by Chapman Petroleum Engineering Ltd.

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INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT *(Cont'd)*

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INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT  
OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

**END OF REPORT**



**INDEPENDENT TECHNICAL EXPERT  
REPORT  
OF EMIR-OIL CONCESSION BLOCK,  
ONSHORE KAZAKHSTAN  
AS OF JULY 1, 2016**

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**INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)**


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*The opinions and interpretations presented in this report represent our best technical interpretation of the data made available to us. However, due to the uncertainty inherent in the estimation of all sub-surface parameters, we cannot, and do not guarantee the accuracy or correctness of any interpretation and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.*

*Except for the provision of professional services on a fee basis, RPS Energy Consultants Limited does not have a commercial arrangement with any other person or company involved in the interests that are the subject of this report.*

## INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)



## INDEPENDENT TECHNICAL EXPERT REPORT

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

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## INDEPENDENT TECHNICAL EXPERT REPORT

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

### I Introduction

In response to Reach Energy Berhad's ("REB" or the "Company") request, RPS Energy Consultants Limited ("RPS") has completed a technical and commercial due diligence of the Emir-Oil Concession Block ("Asset" or the "Property") indirectly owned by MIE Holdings Corporation ("MIE") in relation to MIE's 100% working interest in Emir-Oil LLP ("Emir-Oil"). The Emir-Oil Concession Block, located onshore Kazakhstan consists of 850.3 square kilometers ("km<sup>2</sup>") petroleum concession areas divided into four production and one exploration contract areas. Subsequently, RPS has undertaken an independent valuation and conducted a Reserves evaluation of the Emir-Oil Concession Block.

RPS undertook this audit following the signing of a Letter of Engagement under a Call Off Agreement dated January 30, 2015 and Call Off Order dated August 3, 2016.

RPS has previously evaluated the Asset in the report entitled "Independent Valuation Report of Emir-Oil Concession Block, Onshore Kazakhstan as of January 1, 2016" by RPS Energy Consultants Limited, hereinafter referred to as the "RPS 2016 January Report". This report used various data provided by the company including third party reserves reports prepared by Chapman Petroleum Engineering Ltd, the latest of which was the January 1, 2015 report entitled "Reserve and Economic Evaluation Oil and Gas Properties ADEK Block Republic of Kazakhstan Owned by MIE Holdings Corporation January 1, 2015" dated March 4, 2015 by Chapman Petroleum Engineering Ltd (hereinafter referred to as the "Chapman 2015 Report").

For this updated evaluation the Company provided RPS with the well production data in Excel file format. Additionally, the Company provided various third party reserves reports prepared by Chapman Petroleum Engineering Ltd. RPS derived its primary data source and formed its audit opinion based on the data associated with the report "Evaluation of Reserve and Prospective Resources Oil and Gas Properties, ADEK Block (Licence Area), Mangistau Oblast, Republic of Kazakhstan for MIE Holdings Corporation, December 31, 2015 (January 1, 2016), Chapman Petroleum Engineering Ltd.", dated March 9, 2016 by Chapman Petroleum Engineering Ltd (hereinafter referred to as the "Chapman Report"). However, the Chapman Report was only used as one of the sources of data and other data provided included production and exploration contracts, commercial data and economic models, selected well reports, well tests and PVT data, electric well logs LAS files, selected wells petrophysical interpretations and other relevant subsurface data. RPS has used these data as a source of information to form its audit opinion and derive at its interpretation and conclusions

#### I.1 Overview of the Asset

The Emir-Oil Concession Block ("Asset"), located onshore Kazakhstan being reviewed and audited by RPS consists of the following: Kariman oil field Production Contract, Dolinnoe oil field Production Contract, Aksaz gas-condensate field Production Contract, Emir oil field Production Contract, North Kariman oil field Discovery, Yessen oil field Discovery, and the prospects under the exploration contract. The Kariman, Dolinnoe, North Kariman and Aksaz fields are currently on production. The Asset location map is included in **Figure I-1**.

The Asset production contracts and exploration contract map is shown in **Figure I-2**, and the summary of contracts for each field is provided in **Table I-1**.

## INDEPENDENT TECHNICAL EXPERT AND VALUATION REPORT (Cont'd)



## INDEPENDENT TECHNICAL EXPERT REPORT

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

Table 1-1 – Overview of Emir-Oil Concession Production and Exploration Contracts

Contract Names	Acreage (km <sup>2</sup> )	Contract Type	Effective Date	Duration (Years)	MIE's Net Working Interest
Kariman	12.24	Production	09 Sep 2011	25	100%
Dolinnoe	18.24	Production	09 Sep 2011	25	
Aksaz	11.48	Production	09 Sep 2011	25	
Emir	3.53	Production	01 Mar 2013	17	
Exploration	804.81	Exploration	The contract was extended for two years from 9 January 2015 to 9 January 2017.		

Aksaz gas field was discovered in 1995 and began production in 2005. As of June 30, 2016, a total of seven wells have been drilled in the field, of which three are producing and four are shut-in. Current production is approximately 168 stb/day of condensate, and the cumulative condensate production as of June 30, 2016 is 979 Mstb.

Dolinnoe field was discovered in 1994 and began production in 2004. As of June 30, 2016, a total of ten wells have been drilled in the field, with five wells producing and four suspended and a new exploration/appraisal well (Dolinnoe-8) has been spudded on June 29, 2016 and is currently being drilled. Current production is approximately 465 stb/day of oil, and the cumulative oil production as of June 30, 2016 is 1,923 Mstb.

Emir oil field was discovered in 1996 and put into production in 2004. As of June 30, 2016, four wells have been drilled with none currently producing. The cumulative oil production as of June 30, 2016 is 21 Mstb.

Kariman oil field was discovered in 2006 and began production in 2006. As of June 30, 2016, a total of 22 wells have been drilled in the field of which four are currently on production and 18 shut-in. Current production is approximately 1,927 stb/day of oil, and the cumulative oil production as of June 30, 2016 is 7,306 Mstb.

North Kariman-2 well has been producing since June 2012 on pilot oil production under an exploration contract. The produced oil is piped into the current production system. As the exploration contract is expiring in January 2017, the Operator has submitted an application to apply to extend the current Kariman production contract area to the north to include North Kariman Field. As of June 30, 2016, a total of two wells have been drilled in the field and one is currently producing. Current production is approximately 482 stb/day of oil, and the cumulative oil production as of June 30, 2016 is 621 Mstb.

As of June 30, 2016, a total of three wells have been drilled in the field where two are currently temporarily shut-in and a new exploration/appraisal well (Yessen-3) has been spudded on June 29, 2016 and is currently being drilled. The field has been on production since April 2013 on pilot oil production under the exploration contract. As the exploration contract is expiring in January 2017, the Operator has submitted an application to apply to extend the Dolinnoe production license area to the east to include the Yessen Field. As of June 30, 2016, a total of three wells have been drilled in the field where two are currently temporarily shut-in and a new exploration/appraisal well (Yessen-3) has been spudded on June 29, 2016 and is currently being drilled. The cumulative oil production for the field is 40 Mstb.

The Operator does not record the produced gas volumes for all the above fields consistently. There were only some periods where the produced gas was recorded. However, there were also lapsed



## INDEPENDENT TECHNICAL EXPERT REPORT

OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016

periods where the produced gas was not recorded. Therefore, RPS is unable to report the cumulative gas volumes, which have been produced from the aforementioned fields.

Currently the Operator rents the surface crude oil storage and processing facilities. The oil storage facilities were expanded in 2010 resulting in the current storage capacity of 54,100 barrels and a processing capacity of 7,540 bbl oil per day. However, the Operator's share of processing capacity is only 6,458 bbl of oil per day. Crude oil is currently transported to the nearby oil storage and processing facilities by truck, and then transported by train to the point of sale at Mangyshlak Train Station. Euro-Asian Oil is the current purchaser of oil and the final price is settled on a FOB (Free On Board) basis with the sales volume and price determined monthly as the export volume needs to be approved and verified by the Kazakhstan government. Oil price is indexed to Brent crude price and the price is on a discounted basis to account for transportation. The Operator is constructing a new central processing facility ("CPF") with an oil processing capacity of 12,000 bbl of oil per day; and a 25 km oil transportation pipeline will be built from the CPF to KazTransOil ("KTO") Oil Pipeline. Once the upgrade is completed, oil transportation will be purely based on pipelines.

Gas processing facilities were initially established between 2008 and 2009 with processing capacity of 100,000 m<sup>3</sup>/d or 3.5 MMscf/d. In 2009 the plant capacity was increased to current level of 140,000 m<sup>3</sup>/d or sales gas at 4.9 MMscf/d (5.5 MMscf/d for raw gas), of which 105,000 m<sup>3</sup>/d (3.7 MMscf/d) and 35,000 m<sup>3</sup>/d (1.2 MMscf/d) is for Aksaz and Dolinnoe (including Kariman) fields, respectively. Produced gas is sold to KazTransGas Aimak JSC. The gas sales contract including the gas price and offtake volumes have historically been agreed on an annual basis. RPS's valuation assumes sales gas price to be US\$0.77/Mscf for the rest of 2016 based on the latest gas sales agreement for 2016 provided by MIE. The 2016 sales contract stipulates that the buyer takes 4.65 million m<sup>3</sup>/month, about 152,000 m<sup>3</sup>/d or around 5.4 MMscf/d. RPS notes that the gas sales contract is renewed annually.

As the oil production is constrained by the limited gas handling facilities, the Operator intends to upgrade the gas processing facilities by building a central processing facility with gas processing capacity of 600,000 m<sup>3</sup>/d or 21.2 MMscf/d. In addition, a 35 km natural gas transportation pipeline from the CPF to KazTransGas Aimak Gas Pipeline is planned, and that will result in increased gas sales volumes.

### 1.2 Site Visit

RPS has not undertaken any site visit to the Emir-Oil Concession Block. Bureau Veritas Kazakhstan Industrial Services LLP was engaged by Reach Energy Berhad to conduct an independent facilities review, and a site inspection visit was conducted on April 28 - 30<sup>th</sup>, 2016. The RPS team gathered the data for the Independent Valuation Report of the Emir-Oil Concession Block As of January 1<sup>st</sup>, 2016 ("IVR") from the third party reserves reports prepared by Chapman Petroleum Engineering Ltd, virtual data room ("VDR"), physical data room in Beijing, and also discussed with MIE on the current and future plans of the Emir-Oil Concession Block.

### 1.3 Health Safety and Environment ("HSE")

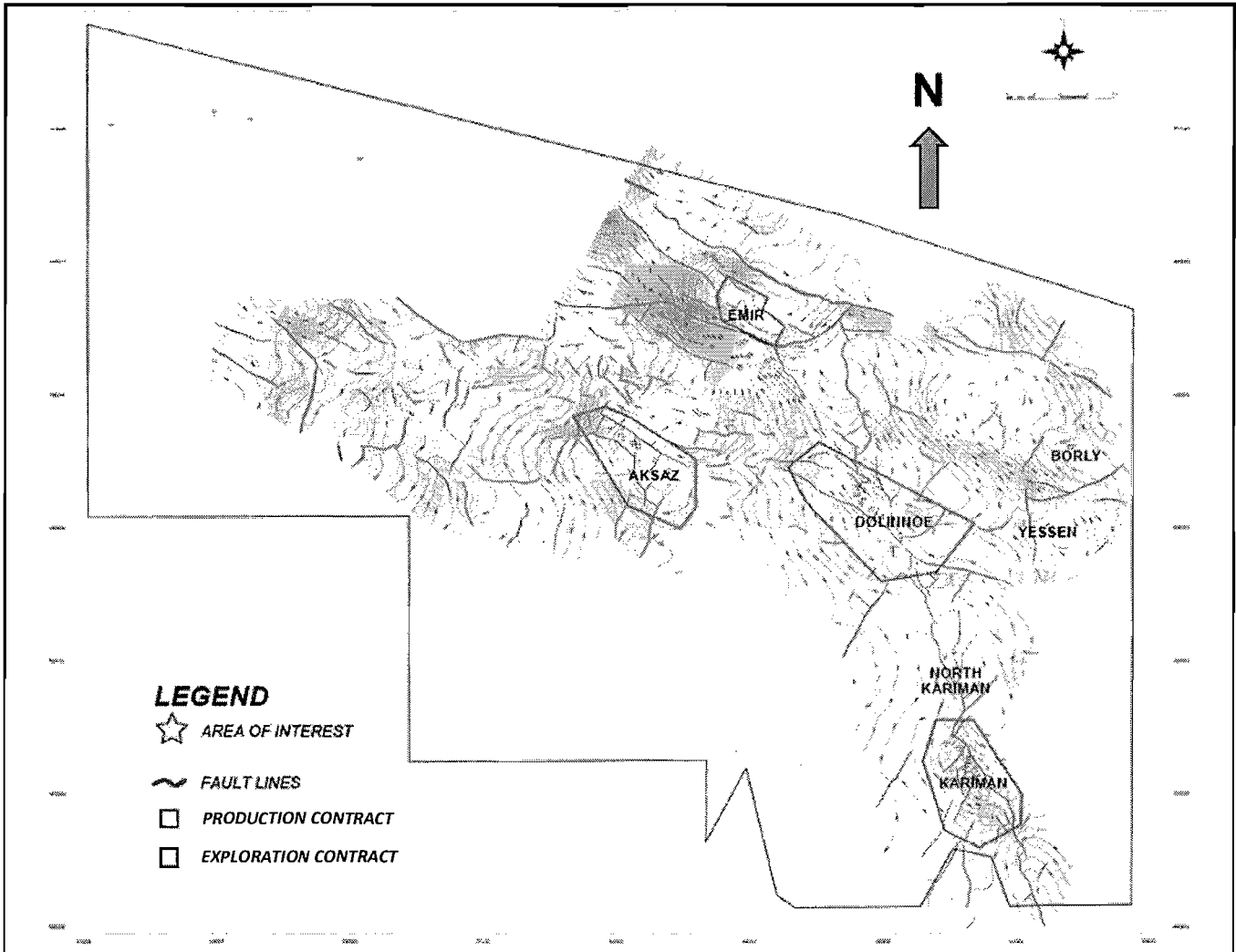
REB has conducted a site operations visit to the Emir-Oil facilities in January 2016. Based on REB's desktop review and their site visit inspection, REB is of the opinion that the facilities are being managed, operated and maintained in accordance to standard oil and gas industry practices. In REB's opinion, the overall HSE practices in Emir-Oil are well structured and implemented. The HSE practices have been maintained to industry standards and adhere to the regulations imposed by the Ministry of Energy ("MOE") Kazakhstan. Based on REB's observation, Emir-Oil's personnel who handle HSE matters are competent. During the site visit, REB also felt that there was clear evidence that the personnel, contractors, communities and local authorities are satisfied with Emir-Oil activities, and its contributions to local aspirations. The Operator's staffing of some 210 personnel is highly localised with competent Kazakh staff.







INDEPENDENT TECHNICAL EXPERT REPORT  
OF EMIR-OIL CONCESSION BLOCK, ONSHORE KAZAKHSTAN AS OF JULY 1, 2016



**Source Modified from:** *Evaluation of Reserves and Prospective Resources Oil and Gas Properties ADEK Block Republic of Kazakhstan Owned By MIE Holdings Corporation January 1, 2016; report dated March 9, 2016 by Chapman Petroleum Engineering Ltd.*

Figure 1-2 – Asset Production Contracts and Exploration Contract Map

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## INDEPENDENT TECHNICAL EXPERT REPORT

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## 2 Geoscience

### 2.1 Geology and Geophysics Summary

#### 2.1.1 Regional Geological Setting

The Asset is situated in the onshore western Kazakhstan in the South Mangyshlak Basin (**Figure 2-1**). The South Mangyshlak Basin is part of the larger Middle Caspian Basin<sup>1</sup>. It covers an area of approximately 30,000 square miles (77,700 km<sup>2</sup>) with about 14,000 square miles (36,260 km<sup>2</sup>) mostly located onshore western Kazakhstan. The Kazakhstan portion of the South Mangyshlak Basin is bordered on the north by the Mangyshlak foldbelt, which separates it from the North Ustyurt Basin. It is bounded on the west by the Caspian Sea, on the east by the Uzbekistan border, and on the south by the Karabogaz regional basement high and the Turkmenistan border. The Emir-Oil Concession Block, which is located at the edge of the Mangistau Ustyurt Central High (**Figure 2-2**), contains several producing oil fields and a gas-condensate field (**Figure 2-3**).

The South Mangyshlak Basin contains a series of oil and gas fields located primarily in the Middle Jurassic age, including the giant Uzen and Zhetybay fields. Subsequent exploration has discovered a number of additional medium and small oil and gas fields in Triassic rocks. The Triassic formations in the Mangyshlak Basin are highly deformed. The collision of the Mangyshlak and Ustyurt plates resulted in tangential compression and led to the formation of a series of linear mega-anticlines and mega-synclines.

The oil and gas fields in the Emir-Oil Concession Block are located in the articulation zone where the Beke-Bashkuduk High and Karagy Saddle (**Figure 2-2**) transits into the Zhetbay-Uzen tectonic zone (**Figure 2-4**). **Figure 2-2** illustrates the regional Mangyshlak basin structural cross section.

The hydrocarbon filled structures are mostly aligned with the main northwest-southeast ("NW-SE") major trending fault system (**Figure 2-3** and **Figure 2-4**), interpreted as a main thrust (reverse) fault within the Emir-Oil Concession Block area.

The main producing layers are the Middle Triassic T2A, T2B, and T2C carbonate/dolomite reservoirs (**Figure 2-5** to **Figure 2-7**). The regional hydrocarbon stratigraphic column within the area can be referenced in **Figure 2-8** and **Figure 2-9**.

The prevailing view is that the majority of the hydrocarbons in the South Mangyshlak Basin were generated from Triassic source rocks (Timurziev, 1986) although the source rocks in the basin have not been fully geochemically studied. The stratigraphic column of this basin (**Figure 2-8**) shows that age of the shale source rocks ranges from Early to possibly Middle Triassic. The major areas of source rocks in the basin; and therefore, the prospective areas are located in the Bekebashkuduk Anticline and Zhetybay Terrace in the northeast part, and the onshore portion of the Peschanomys Uplift in the western portion of the basin.

Structurally, the Emir-Oil Concession Block is situated in the moderately prospective Zhetbay-Uzen Terrace (**Figure 2-2**), which should make it more conducive to receive hydrocarbons generated and expelled from the deeper part of the South Mangyshlak Basin.

#### 2.1.2 Data, Wells and 3D Seismic Database

Reach Energy Berhad ("REB" or the "Company") provided RPS with the well production data in Excel file format. Additionally, the Company provided various third party reserves reports prepared by Chapman Petroleum Engineering Ltd.

<sup>1</sup> Information source: "Technically Recoverable Shale Oil and Shale Gas Resources: Kazakhstan", U.S. Energy Information Administration, US Department of Energy, Washington, DC 20585, September 2015.

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RPS derived its primary data source and formed its audit opinion on the data associated with the report "Evaluation of Reserve and Prospective Resources Oil and Gas Properties, ADEK Block (Licence Area), Mangistau Oblast, Republic of Kazakhstan for MIE Holdings Corporation, December 31, 2015 (January 1, 2016) by Chapman Petroleum Engineering Ltd. (hereinafter referred to as "Chapman Report").

Other data provided included production and exploration contracts, commercial data and economic models, selected well reports, well tests and PVT data, electric well logs LAS files, selected wells petrophysical interpretations and other relevant subsurface data.

RPS has used these data as a source of information to form its audit opinion and derive at its interpretation and conclusions.

### 2.1.3 2013 3D Seismic Reprocessing, Interpretation and Maps

MIE Holdings Corporation ("MIE" or the "Seller") provided two GeoGraphix workstations with the existing 2013 merged 3D seismic reprocessed cube and interpretations by the Bureau of Geophysical Prospecting Inc. ("BGP"), during the Physical Data Room ("PDR") in Beijing for five days from November 9 to 13, 2015. It is common practice in most upstream divestment competitive process that potential buyers are only given access to workstation during the PDR.

RPS reviewed the BGP's 3D seismic and mapping results in the PDR, and relied on these as the basis for defining the area estimates for each of the field's reservoir layers for the in-place volumes probabilistic Monte Carlo simulation run inputs. RPS was allowed to make screen captures of the BGP's maps and the selected 3D seismic lines across the fields for reporting purposes. The digital 3D seismic SEG-Y data and the GeoGraphix project could not be made available by MIE for further evaluation in RPS's office. However, given that Chapman has been conducting MIE's Reserves and Resources evaluation for several years, and has performed the geological and geophysical ("G&G") interpretations from first principles, RPS believes that the technical audit is sufficient to determine the Petroleum Initially In-Place ("PIIP") for the purposes of the Asset's Reserves evaluation.

Notwithstanding that these information were not made available to RPS, RPS has taken an approach of performing an independent technical audit employing different methodologies to derive the PIIP so that RPS can satisfy itself that the PIIP and resultant Reserves determined from RPS's independent evaluation and audit, would still produce a reasonable range of PIIP and Reserves estimates for the Asset.

RPS considers that the key subsurface data reviewed during the PDR provides sufficient basis for auditing the reasonableness of the interpretations for the purpose of due diligence of the volumetric assessments and to allow for subsequent modifications and adjustments where considered appropriate.

### 2.1.4 New Infill 3D Seismic, Reprocessing, Merging and Interpretation Status

A total of 255 km<sup>2</sup> of new infill 3D seismic surveys in Blocks A, B and C (**Figure 2-10**), have been merged and reprocessed with the 571 km<sup>2</sup> 3D seismic data (originally reprocessed in 2013) into one "Mega Cube" of 826 km<sup>2</sup> to map the prospective areas. BGP was contracted by the Operator to reprocess and interpret the Mega Cube 3D seismic.

The 571 km<sup>2</sup> 3D seismic data originally reprocessed in 2013 were consisted of data acquired in 2003, 2005, 2009 and 2012 3D surveys.

**Figure 2-10** shows the Mega Cube 3D surveys covering almost the entire Emir-Oil Concession Block with the merged 3D surveys totalling approximately 826 km<sup>2</sup> area.



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### 2.1.5 Structural Interpretation Review

RPS noted that the depth maps provided in the PDR are similar to the maps used in the Chapman Report. These maps were derived from BGP's interpretations of the 2013 reprocessed 3D seismic data. The 3D seismic data quality ranges from moderate to good across the fields.

The Operator provided comprehensive 3D seismic processing and interpretation reports in Chinese and Russian languages. These reports provided some comfort level that the Operator has undertaken a sufficiently rigorous approach to define: the structural configuration, well ties, time-to-depth conversion, and defining the reservoirs architecture of each field in the Emir-Oil Concession Block.

The Operator has conducted a seismo-stratigraphic study utilising 3D seismic and well data to create a regional framework structural correlation across the fields and prospects in the Emir-Oil Concession Block. Seven reservoir rock sequences (SQ1 to SQ7) and their environments of deposition are identified in **Figure 2-11**. The regional geological horizons Top J1, Top T3, Top T2, Top T2A, Top T2B, Top T2C and Bottom T2 were correlated using well data and mapped using the 3D seismic throughout the concession block.

Synthetic seismograms were generated for 32 wells with sonic logs, and five wells with Vertical Seismic Profile ("VSP"), and checkshot survey data. The wells with VSP data are: Aksaz-3, Borly-2, Dolinnoe-5, Emir-6 and Kariman-3. **Table 2-1** shows the listing of wells with sonic log and VSP data used by the Operator for generating synthetic seismograms.

Example synthetic seismograms generated by the Operator for wells Emir-6 and Dolinnoe-110 are included in **Figure 2-12** and **Figure 2-13**. As can be seen in these figures, the well ties to the 3D seismic data are reasonably good.

**Table 2-1 – Wells with Sonic Log and VSP Data for Generating Synthetic Seismograms**

32 Wells with Sonic Log (DT)	5 Wells with VSP Data
Aksaz-3, Aksaz-4, Aksaz-6, Aksaz-106, Aksaz-2, Dolinnoe-5, Dolinnoe-1, Dolinnoe-2, Dolinnoe-3, Dolinnoe-6, Dolinnoe-7, Dolinnoe-110, Dolinnoe-112, Kariman-3, Kariman-1, Kariman-2, Kariman-4, Kariman-5, Kariman-6, Kariman-7, Kariman-8, Kariman-10, Kariman-11, Kariman-119, Kariman-118, Kariman-121, Kariman-114, NK-2, Emir-6, Emir-2, Borly-2, Yessen-1.	Aksaz-3, Borly-2, Dolinnoe-5, Emir-6 and Kariman-3.

**Figure 2-14** illustrates the 3D seismic time cross section through the Kariman, North Kariman, Yessen and Borly wells. **Figure 2-15** shows the stratigraphic correlation through the Kariman, North Kariman, Dolinnoe, Yessen and Borly wells.

The Operator conducted a rigorous and complex 3D seismic time-to-depth conversion methodology and workflows. In summary, time-to-depth conversion was accomplished by analysing and modelling the stacking velocities data of each of the interpreted layers. The horizon control method was used by interpreting horizons, interpolating the data on the spectrum of velocity fields, obtaining the summation of velocities, adjusting the angle of the velocity-stack, transforming the velocity summation of the root mean square velocities using the Dix<sup>2</sup> formula to calculate the interval velocities, by

<sup>2</sup> For Dix formula, please refer to: Dix, C. H. "Seismic Velocities from Surface Measurements," Geophysics 20, No. 1 (January 1955) pp 68-86, or [http://www.glossary.oilfield.slb.com/Terms/d/dix\\_formula.aspx](http://www.glossary.oilfield.slb.com/Terms/d/dix_formula.aspx)



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forming the grids and smoothing to build the field of average velocities for structural mapping. The modelled velocity fields were then calibrated against the well control points for final depth conversion of the mapped reservoir layers.

Based on the Operator's detailed 3D seismic processing and structural interpretation reports, RPS is of the opinion that the resultant final reservoir depth structure maps provided by MIE in the PDR are adequate and sufficient for the purpose of determining the range of P90 Low to P10 High Area Estimates, for inputs into the probabilistic Monte Carlo in-place volumetric simulation runs.

RPS did not use the Gross Rock Volume ("GRV") data for the in-place Monte Carlo simulation inputs, since there is no consistent well petrophysical analysis of the reservoir properties, which conform to the exact formation "top-to-top correlation" as shown in **Figure 2-11**. However, there was consistent well-by-well log analysis over the specified reservoir intervals for each field as per the Chapman Report. This data was then combined with the reservoir depth structure maps provided in the PDR to define the P90 Low, P50 Best and P10 High Estimate Areas for inputs into the PIIP probabilistic Monte Carlo simulation runs.

### 2.2 Petrophysics

Based on the completeness and availability of the data provided by the Seller such as electric well logs LAS files, core photos and descriptions, well reports, mud logs, the Seller's petrophysical results and relevant petrophysical data, the following wells were selected by RPS for random petrophysical audit review. Previously, in the RPS 2016 January Report, RPS performed petrophysical audits on the Dolinnoe-112, Kariman-114 and Borly-2ST1 wells. For this audit RPS included the Aksaz-106, Yessen-6, Kariman-119, and Yessen-1 as additional wells for the audit. Hence, the well audited and described in the report are as follows:

- Aksaz-106.
- Borly-2ST1.
- Dolinnoe-112.
- Emir-6.
- Kariman-114.
- Kariman-119.
- Yessen-1.

The selection of the above wells was based on auditing at least one well from each field and two wells from the largest field (Kariman). Aksaz-106 well was selected as it is the only well available with LAS files from the Aksaz field. Borly-2ST1 was selected in order to try and determine the petrophysical uncertainties surrounding this well, as it did not flow any measurable hydrocarbon volumes to surface. The Dolinnoe-112 well was selected as this well is situated in the second largest oil field in the block. For the Emir Field, Emir-6 was used for the petrophysical audit. Additionally, the Kariman-114 and -119 wells were selected because the wells are located in the Kariman Field, which is currently the largest oil field in the Emir-Oil Concession Block. Finally, Yessen-1 was chosen for the Yessen Field, as it is the only available well with LAS files for the Yessen Field.

Although RPS only performed thorough and independent petrophysical analysis evaluation on seven of the 12 wells with LAS files in the supplied data set, RPS did review all the petrophysical analysis results conducted by Chapman and the Operator to satisfy itself that the petrophysical ranges observed from the Chapman log analysis results were deemed sufficient to define the reasonableness of the reservoir property ranges for inputs to the PIIP Monte Carlo probabilistic simulation runs.

The methodology adopted by RPS to audit Chapman's petrophysical results is briefly described below. Clay Volume ("VCL") is estimated using the GR linear equation:



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Porosity ("PHIT") is estimated from Density log (single mineral) and density/neutron cross plot method (multiple minerals):

where the matrix density  $DEN_{ma}$  (single or multiple lithology) is 2.65 g/cc for sandstone, 2.71 g/cc for limestone, and 2.85 g/cc for dolomite. The PEF curve<sup>3</sup> was used for estimating lithology proportions in good borehole conditions, Mudlog of each well was also used for the evaluation and the flushed zone fluid density  $DEN_f$  was set to 1.0 g/cc.

Formation temperature was obtained from the well reports.

Water Saturation ("Sw") is based on Archie equation:

$$Sw = (a \times R_w / (PHIT^m \times R_t))^{1/n}$$

where  $R_w$  was derived from Pickett plot of each well. Due to lack of Special Core Analysis ("SCAL") data, the standard values of  $a=1$ ,  $m=2$  and  $n=2$  were applied in the above equations.

For reservoir parameters uncertainty analysis, a VCL cutoff of 0.50 was applied to the audited wells. Porosity cut off values of 0.10 and 0.08 were used to account for the range of uncertainty. RPS utilised a  $Sw$  cutoff values of 0.40 and 0.50 corresponding to porosity cut offs of 0.10 and 0.08, respectively. Pickett Plots of each well (for example, Borly-2ST1 in **Figure 2-16**) were used for deriving formation water salinities. The derived water salinities for the audited wells are as follows:

- Borly-2ST1 is 120,000 ppm NaCl equivalent.
- Dolinnoe-112 is 11,000 ppm NaCl equivalent.
- Kariman-114 is 43,000 ppm NaCl equivalent.
- Aksaz-106 is 43,000 ppm NaCl equivalent.
- Emir-6 is 100,000 ppm NaCl equivalent.
- Kariman-119 is 43,000 ppm NaCl equivalent (from RPS previous work for well Kariman-114).
- Yessen-1 is 43,000 ppm NaCl equivalent.

### 2.2.1 Aksaz-106

Based on water salinity and petrophysical cut-offs in **Table 2-2**, the results of RPS's petrophysical interpretations are shown in

**Table 2-3** and **Table 2-4**. **Figure 2-17** illustrates RPS's petrophysical analysis results and the Computer Processed Image ("CPI") plot for the Aksaz-106 well.

<sup>3</sup> A log of photoelectric absorption properties.





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**Table 2-2 – Aksaz-106 Water Salinity and Petrophysical Cut-offs**

Aksaz-106	Set 1	Set 2
Water Salinity (ppm)	43,000	43,000
VCL cut-off (fraction)	0.50	0.50
PHIT cut-off (fraction)	0.10	0.08
Sw cutoff (fraction)	0.40	0.50

**Table 2-3 – Aksaz-106 Petrophysical Analysis Results (Set-1)**

Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	M	m	fraction	m	fraction	m
T2A	4135.63	4216.56	80.95	0.00	0.00	0.00	0.00	0.00
T2B	4216.56	4260.73	44.15	0.00	0.00	0.00	0.00	0.00
T2C	4260.73	4284.63	23.90	0.55	0.02	0.55	0.02	0.06
<b>Channel Averages:</b>								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
T2A	4135.63	4216.56						
T2B	4216.56	4260.73						
T2C	4260.73	4284.63	0.17	0.12	0.17	0.12	0.05	

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Table 2-4 – Aksaz-106 Petrophysical Analysis Results (Set-2)

Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fraction	m	fraction	m
T2A	4135.63	4216.56	80.95	0.10	0.00	0.10	0.00	0.01
T2B	4216.56	4260.73	44.15	0.00	0.00	0.00	0.00	0.00
T2C	4260.73	4284.63	23.90	1.30	0.05	1.30	0.05	0.12
<b>Channel Averages:</b>								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
T2A	4135.63	4216.56	0.46	0.08	0.46	0.08	0.30	
T2B	4216.56	4260.73						
T2C	4260.73	4284.63	0.20	0.10	0.20	0.10	0.07	

For reference purposes, the Aksaz Field T2C depth structure map from the Chapman Report is shown in **Figure 2-18** indicating the well location, and the Chapman CPI plot is included in **Figure 2-19** and the mud log is illustrated in **Figure 2-20**, Chapman's petrophysical evaluation was based on:

- Russian GIS log runs in the shallow formations and Baker Atlas logs over the Triassic.
- The Chapman digital log analysis was made using HDS software over the Upper and Lower Triassic reservoirs.
- The Gamma Ray was used as a shale indicator in the Modified Simandoux water saturation equation with a carbonate selection for a, m, and n.
- Sw cut-off was 40% along with a shale volume cut-off of 30%.

Chapman reported the net pay for the well as 34.0 ft (or 10.36 m) for the T2C reservoir, which is considerably higher than RPS's estimate of 1.3 m from **Table 2-4**. Unlike RPS, Chapman do not impose a porosity cut-off in their evaluation of net pay. Hence, RPS re-ran the Aksaz-106 evaluation using the same cut-off properties as Chapman. In this case RPS calculates significantly more net pay for the T2C reservoir, with the reservoir having 49.37 ft (15.05 m) net pay. Hence, by using Chapman's cut-off properties RPS derives similar results to Chapman. It should be noted; however, that the mud log (4190-4290m MD) from the well shows poor reservoir quality and the well has not been put on production due to low productivity, indicating that Chapman's results are optimistic.

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Table 2-5 – Aksaz-106 Petrophysical Analysis Results (Chapman Cut-offs)

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2A	4135.63	4216.56	80.95	1.95	0.02	1.05	0.01	0.04
T2B	4216.56	4260.73	44.15	16.95	0.38	7.40	0.17	0.24
T2C	4260.73	4284.63	23.90	18.95	0.79	15.05	0.63	0.62
<b>Channel Averages:</b>								
Zone	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay			
	fr	fr	fr	fr	fr			
T2A	0.24	0.05	0.25	0.06	0.35			
T2B	0.18	0.04	0.12	0.04	0.23			
T2C	0.16	0.04	0.15	0.05	0.16			

## 2.2.2 Borly-2ST1

The Borly Structure had already been drilled by two wells (Borly-2 and Borly-2ST1). The Borly-2 reportedly encountered some hydrocarbon shows in the Triassic reservoirs between the interval of 2916.7 – 2994.6 m MDKB.

The Operator re-entered the Borly-2 well in 2012 and sidetracked this well as Borly-2ST1. The Triassic reservoirs were tested but did not flow any commercial hydrocarbon to surface despite being acid-frac and Nitrogen gas lifted.

Based on water salinity and petrophysical cut-offs in **Table 2-6**, the results of RPS's petrophysical interpretations are shown in **Table 2-7** and **Table 2-8**.

**Figure 2-19** depicts RPS's petrophysical analysis results and CPI plot for the Borly-2ST1 well.

Table 2-6 – Borly-2ST1 Water Salinity and Petrophysical Cut-offs

Borly-2ST1	Set 1	Set 2
Water Salinity (ppm)	120,000	120,000
VCL cut-off (fraction)	0.50	0.50
PHIT cut-off (fraction)	0.10	0.08
SW cutoff (fraction)	0.40	0.50

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Table 2-7 – Borly-2STI Petrophysical Analysis Results (Set-1)

Zone	Summaries:							
Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fraction	m	fraction	m
<b>T2 UPPER</b>	2794.00	2915.00	121.00	10.85	0.09	7.70	0.06	0.53
<b>T2A</b>	2915.00	2953.00	38.00	4.35	0.11	4.10	0.11	0.23
<b>T2B</b>	2953.00	3001.00	48.00	3.25	0.07	3.25	0.07	0.15
<b>T2C</b>	3001.00	3051.00	50.00	0.00	0.00	0.00	0.00	0.00
<b>T1</b>	3051.00	3130.00	79.05	2.30	0.03	1.75	0.02	0.16
Channel Averages:								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
<b>T2 UPPER</b>	2794.00	2915.00	0.44	0.16	0.43	0.18	0.31	
<b>T2A</b>	2915.00	2953.00	0.38	0.11	0.38	0.11	0.19	
<b>T2B</b>	2953.00	3001.00	0.41	0.11	0.41	0.11	0.25	
<b>T2C</b>	3001.00	3051.00	-	-	-	-	-	
<b>T1</b>	3051.00	3130.00	0.43	0.19	0.42	0.21	0.25	

Table 2-8 – Borly-2STI Petrophysical Analysis Results (Set-2)

Zone	Summaries:							
Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fraction	m	fraction	m
<b>T2 UPPER</b>	2794.00	2915.00	121.00	15.95	0.13	10.85	0.09	0.65
<b>T2A</b>	2915.00	2953.00	38.00	16.00	0.42	16.00	0.42	0.73
<b>T2B</b>	2953.00	3001.00	48.00	24.00	0.50	24.00	0.50	0.87
<b>T2C</b>	3001.00	3051.00	50.00	5.20	0.10	2.80	0.06	0.07
<b>T1</b>	3051.00	3130.00	79.05	4.50	0.06	2.20	0.03	0.18
Channel Averages:								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
<b>T2 UPPER</b>	2794.00	2915.00	0.43	0.14	0.42	0.16	0.33	
<b>T2A</b>	2915.00	2953.00	0.34	0.09	0.34	0.09	0.26	
<b>T2B</b>	2953.00	3001.00	0.41	0.09	0.41	0.09	0.32	
<b>T2C</b>	3001.00	3051.00	0.44	0.09	0.43	0.09	0.45	
<b>T1</b>	3051.00	3130.00	0.44	0.14	0.42	0.19	0.27	

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For reference purposes, the Borly T2 Upper depth structure map from Chapman Report is shown in **Figure 2-28** indicating the well locations, and the Chapman CPI plot is included in **Figure 2-29**. Chapman's petrophysical evaluation was based on:

- Russian GIS log runs in the shallow formations and Baker Atlas logs over the carbonate.
- The Chapman digital log analysis was made using HOS software over the carbonate reservoirs.
- The Gamma Ray was used as a shale indicator in the Modified Simandoux water saturation equation with a carbonate selection for a, m, and n (1, 2, 2).
- Sw cut-off was 50% along with a shale volume cut-off of 50%.

Chapman reported the total net pay for the well is 185.87 m compared with the RPS's estimate of between 16.8 m to 55.85 m.

No further petrophysical work was done for this well based on poor well test results.

### 2.2.3 Dolinnoe-112

Based on water salinity and petrophysical cut-offs in **Table 2-9**, the results of RPS's petrophysical interpretations are shown in (**Table 2-10**) and **Table 2-11**. **Figure 2-21** illustrates RPS's petrophysical analysis results and the Computer Processed Image ("CPI") plot for the Dolinnoe-112 well.

**Table 2-9 – Dolinnoe-112 Water Salinity and Petrophysical Cut-offs**

Dolinnoe-112	Set 1	Set 2
Water Salinity (ppm)	11,000	11,000
VCL cut-off (fraction)	0.50	0.50
PHIT cut-off (fraction)	0.10	0.08
Sw cutoff (fraction)	0.40	0.50

**Table 2-10 – Dolinnoe-112 Petrophysical Analysis Results (Set-1)**

Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fraction	m	fraction	m
T2B	3494.00	3558.00	64.00	8.90	0.14	7.55	0.12	0.67
T2C	3558.00	3679.00	121.05	39.40	0.33	33.10	0.27	2.34
<b>Channel Averages:</b>								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
T2B	3494.00	3558.00	0.07	0.14	0.06	0.14	0.26	
T2C	3558.00	3679.00	0.08	0.12	0.09	0.12	0.31	

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Table 2-11 – Dolinnoe-112 Petrophysical Analysis Results (Set-2)

Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fraction	m	fraction	m
T2B	3494.00	3558.00	64.00	10.60	0.17	10.40	0.16	0.83
T2C	3558.00	3679.00	121.05	53.10	0.44	50.20	0.41	3.16
Channel Averages:								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
T2B	3494.00	3558.00	0.07	0.13	0.07	0.13	0.29	
T2C	3558.00	3679.00	0.09	0.12	0.09	0.12	0.33	

For reference purposes, the Dolinnoe Field T2B depth structure map from the Chapman Report is shown in **Figure 2-22** indicating the well location, and the Chapman CPI plot is included in **Figure 2-23**. Chapman's petrophysical evaluation was based on:

- Russian GIS log runs in the shallow formations and Baker Atlas logs over the Triassic.
- The Chapman digital log analysis was made using HDS software over the Upper and Lower Triassic reservoirs.
- The Gamma Ray was used as a shale indicator in the Dual water saturation equation with a carbonate selection for a, m, and n.
- Sw cut-off was 40% along with a shale volume cut-off of 30%.

Chapman reported the net pay for the well is 175.3 ft (or 53.5 m) for the T2B reservoir and 155.7 ft (or 47.4 m) for the T2C unit. This compares to RPS's values from **Table 2-11** of 34.1 ft (or 10.40 m) and 164.7 ft (or 50.20 m) for the T2B and T2C reservoirs, respectively.

Chapman's cutoff values were also applied to compare the results (**Table 2-12**).

Table 2-12 – Dolinnoe-112 Petrophysical Analysis Results (Chapman Cut-offs)

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2B	3494.00	3558.00	64.00	30.25	0.47	30.25	0.47	0.92
T2C	3558.00	3679.00	121.05	100.40	0.83	47.40	0.39	2.97
Channel Averages:								
Zone	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay			
	fr	fr	fr	fr	fr			
T2B	0.12	0.06	0.12	0.06	0.36			
T2C	0.12	0.08	0.09	0.11	0.31			

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## 2.2.4 Emir-6

Based on water salinity and petrophysical cut-offs in **Table 2-13**, the results of RPS's petrophysical interpretations are shown in **Table 2-14** and **Table 2-15**. **Figure 2-31** illustrates RPS's petrophysical analysis results and the Computer Processed Image ("CPI") plot for the Emir-6 well.

**Table 2-13 – Emir-6 Water Salinity and Petrophysical Cut-offs**

Emir-6	Set 1	Set 2
Water Salinity (ppm)	100,000	100,000
VCL cut-off (fraction)	0.50	0.50
PHIT cut-off (fraction)	0.10	0.08
Sw cutoff (fraction)	0.40	0.50

**Table 2-14 – Emir-6 Petrophysical Analysis Results (Set-1)**

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m MD	m MD	m	m	fr	m	fr	m
T2A	2905.18	3004.78	99.56	12.86	0.13	12.70	0.13	1.04
T2B	3004.78	3052.85	48.13	1.16	0.02	1.16	0.02	0.09
T2C	3052.85	3085.92	33.03	6.31	0.19	5.78	0.17	0.48
Channel Averages:								
Zone	Top	Base	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m MD	m MD	fr	fr	fr	fr	fr	
T2A	2905.18	3004.78	0.33	0.11	0.33	0.11	0.26	
T2B	3004.78	3052.85	0.33	0.10	0.33	0.10	0.26	
T2C	3052.85	3085.92	0.18	0.12	0.19	0.12	0.29	

**Table 2-15 – Emir-6 Petrophysical Analysis Results (Set-2)**

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m MD	m MD	m	m	fr	m	fr	m
T2A	2905.18	3004.78	99.56	36.11	0.36	35.88	0.36	2.44
T2B	3004.78	3052.85	48.13	8.78	0.18	8.78	0.18	0.58
T2C	3052.85	3085.92	33.03	8.24	0.25	7.70	0.23	0.60
Channel Averages:								
Zone	Top	Base	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m MD	m MD	fr	fr	fr	fr	fr	
T2A	2905.18	3004.78	0.34	0.10	0.33	0.10	0.30	
T2B	3004.78	3052.85	0.22	0.09	0.22	0.09	0.27	
T2C	3052.85	3085.92	0.19	0.11	0.19	0.11	0.30	

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Chapman's cutoff values were also applied to compare the results (Table 2-16).

Table 2-16 – Emir-6 Petrophysical Analysis Results (Chapman Cut-offs)

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2B	3004.78	3052.85	48.13	8.78	0.18	8.78	0.18	0.62
T2C	3052.85	3085.92	33.03	8.32	0.25	8.09	0.24	0.66
<b>Channel Averages:</b>								
Zone	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay			
	fr	fr	fr	fr	fr			
T2B	0.19	0.09	0.19	0.09	0.22			
T2C	0.18	0.11	0.19	0.11	0.27			

## 2.2.5 Kariman-114

Based on water salinity and petrophysical cut-offs in Table 2-17, the results of petrophysical interpretations are shown in Table 2-18 and Table 2-19. Figure 2-24 illustrates RPS's petrophysical analysis results and CPI plot for the Kariman-114 well.

Table 2-17 – Kariman-114 Water Salinity and Petrophysical Cut-offs

Kariman-114	Set 1	Set 2
Water Salinity (ppm)	43,000	43,000
VCL cut-off (fraction)	0.50	0.50
PHIT cut-off (fraction)	0.10	0.08
SW cutoff (fraction)	0.40	0.50

Table 2-18 – Kariman-114 Petrophysical Analysis Results (Set-1)

Zone	Summaries:							
Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fraction	m	fraction	m
T2B	3476.00	3505.00	29.00	18.85	0.65	15.45	0.53	1.82
T2C	3505.00	3610.00	105.05	17.40	0.17	6.05	0.06	0.77
<b>Channel Averages:</b>								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
T2B	3476.00	3505.00	0.08	0.16	0.07	0.17	0.23	
T2C	3505.00	3610.00	0.21	0.17	0.17	0.20	0.21	



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Table 2-19 – Kariman-114 Petrophysical Analysis Results (Set-2)

Zone	Summaries:							
Zone	Top MD	Base MD	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fraction	m	fraction	m
T2B	3476.00	3505.00	29.00	21.70	0.75	20.35	0.70	2.06
T2C	3505.00	3610.00	105.05	21.65	0.21	8.35	0.08	0.92
Channel Averages:								
Zone	Top MD	Base MD	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fraction	fraction	fraction	fraction	fraction	
T2B	3476.00	3505.00	0.09	0.16	0.09	0.16	0.26	
T2C	3505.00	3610.00	0.22	0.16	0.17	0.19	0.27	

For reference purposes, the Kariman Field T2A depth structure map from Chapman Report is shown in **Figure 2-25** indicating the well location, and the Chapman CPI plot is included in **Figure 2-26**. Chapman's petrophysical evaluation was based on:

- Russian GIS log runs in the shallow formations and Baker Atlas logs over the Triassic.
- The Chapman digital log analysis was made using HOS software over the Upper and lower Triassic reservoirs.
- For Kariman-114, the Gamma Ray was used as a shale indicator in the Dual water saturation equation with a carbonate selection for a, m, and n.
- Sw cut-off was 40% along with a shale volume cut-off of 50%.

Chapman reported the total net pay for the well is 81.3 ft (or 24.78 m) for the T2B unit and 74.0 ft (22.55 m) for the T2C reservoir. This compares to RPS's values from **Table 2-19** of 66.8 ft (or 20.35 m) and 27.4 ft (or 8.35 m) for the T2B and T2C reservoirs, respectively.

Chapman's cutoff values were also applied to compare the results (**Table 2-20**).

Table 2-20 – Kariman-114 Petrophysical Analysis Results (Chapman Cut-offs)

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2B	3476.00	3505.00	29.00	27.45	0.95	24.05	0.83	2.17
T2C	3505.00	3610.00	105.05	52.80	0.50	22.30	0.21	1.34
Channel Averages:								
Zone	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay			
	fr	fr	fr	fr	fr			
T2B	0.10	0.13	0.09	0.14	0.25			
T2C	0.22	0.09	0.24	0.14	0.31			

## 2.2.6 Kariman-119

Based on water salinity and petrophysical cut-offs in **Table 2-21**, the results of petrophysical interpretations are shown in

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Table 2-22 and Table 2-23. Figure 2-34 illustrates RPS's petrophysical analysis results and CPI plot for the Kariman-119 well.

Table 2-21 – Kariman-119 Water Salinity and Petrophysical Cut-offs

Kariman-119	Set 1	Set 2
Water Salinity (ppm)	43,000	43,000
VCL cut-off (fraction)	0.50	0.50
PHIT cut-off (fraction)	0.10	0.08
SW cutoff (fraction)	0.40	0.50

Table 2-22 – Kariman-119 Petrophysical Analysis Results (Set-1)

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2A	3345.36	3421.97	76.66	0.15	0.00	0.00	0.00	0.00
T2B	3421.97	3460.24	38.25	17.53	0.46	12.65	0.33	1.65
T2C	3460.24	3509.74	49.53	13.41	0.27	5.64	0.11	0.72
Channel Averages:								
Zone	Top	Base	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fr	fr	fr	fr	fr	
T2A	3345.36	3421.97	0.49	0.10				
T2B	3421.97	3460.24	0.09	0.15	0.09	0.16	0.19	
T2C	3460.24	3509.74	0.18	0.16	0.15	0.18	0.27	

Table 2-23 – Kariman-119 Petrophysical Analysis Results (Set-2)

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2A	3345.36	3421.97	76.66	1.52	0.02	0.61	0.01	0.03
T2B	3421.97	3460.24	38.25	23.16	0.61	17.22	0.45	1.92
T2C	3460.24	3509.74	49.53	19.05	0.38	8.23	0.17	0.92
Channel Averages:								
Zone	Top	Base	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fr	fr	fr	fr	fr	
T2A	3345.36	3421.97	0.40	0.09	0.36	0.09	0.36	
T2B	3421.97	3460.24	0.09	0.13	0.09	0.14	0.22	
T2C	3460.24	3509.74	0.19	0.14	0.15	0.16	0.31	

Chapman's cutoff values were also applied to compare the results (Table 2-24).

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**Table 2-24 – Kariman-119 Petrophysical Analysis Results (Chapman Cut-offs)**

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2B	3421.97	3460.24	38.25	36.42	0.95	26.82	0.70	2.46
T2C	3460.24	3509.74	49.53	48.01	0.97	28.65	0.58	1.75
Channel Averages:								
Zone	VCL_net	PHIE_net	VCL_pay	PHIE_pay	SW_pay			
	fr	fr	fr	fr	fr			
T2B	0.13	0.11	0.14	0.12	0.20			
T2C	0.23	0.08	0.21	0.10	0.37			

**2.2.7 Yessen-1**

Based on water salinity and petrophysical cut-offs in **Table 2-25**, the results of petrophysical interpretations are shown in **Table 2-26** and **Table 2-27**. **Figure 2-36** illustrates RPS's petrophysical analysis results and CPI plot for the Yessen-1 well.

**Table 2-25 – Yessen-1 Water Salinity and Petrophysical Cut-offs**

Yessen-1	Set 1	Set 2
Water Salinity (ppm)	43,000	43,000
VCL cut-off (fraction)	0.50	0.50
PHIT cut-off (fraction)	0.10	0.08
SW cutoff (fraction)	0.40	0.50

**Table 2-26 – Yessen-1 Petrophysical Analysis Results (Set-1)**

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2A	3301.31	3405.50	104.15	25.20	0.24	11.80	0.11	1.42
T2B	3405.50	3449.30	43.80	8.60	0.20	7.90	0.18	0.97
T2C	3449.30	3514.97	65.70	5.25	0.08	5.25	0.08	0.64
Channel Averages:								
Zone	Top	Base	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fr	fr	fr	fr	fr	
T2A	3301.31	3405.50	0.36	0.13	0.26	0.15	0.18	
T2B	3405.50	3449.30	0.19	0.13	0.20	0.14	0.10	
T2C	3449.30	3514.97	0.12	0.14	0.12	0.14	0.13	

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Table 2-27 – Yessen-1 Petrophysical Analysis Results (Set-2)

Zone	Top	Base	Gross	Net	NTG	Pay	PTG	HCPV
	m	m	m	m	fr	m	fr	m
T2A	3301.31	3405.50	104.15	48.05	0.46	28.75	0.28	2.42
T2B	3405.50	3449.30	43.80	14.70	0.34	14.60	0.33	1.42
T2C	3449.30	3514.97	65.70	9.35	0.14	8.65	0.13	0.89
Channel Averages:								
Zone	Top	Base	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay	
	m	m	fr	fr	fr	fr	fr	
T2A	3301.31	3405.50	0.37	0.11	0.34	0.12	0.30	
T2B	3405.50	3449.30	0.16	0.12	0.16	0.12	0.16	
T2C	3449.30	3514.97	0.16	0.12	0.14	0.12	0.15	

Chapman's cutoff values were also applied to compare the results (Table 2-28).

Table 2-28 – Yessen-1 Petrophysical Analysis Results (Chapman Cut-offs)

Zone	Top	Base	Gross	Net	NTG	Pay	HCPV
	m	m	m	m	fr	m	m
T2B	3405.50	3449.30	43.80	42.45	0.97	37.50	2.95
T2C	3449.30	3514.97	65.70	55.80	0.85	34.90	1.82
Channel Averages:							
Zone	VCL_net	PHIT_net	VCL_pay	PHIT_pay	SW_pay		
	fr	fr	fr	fr	fr		
T2B	0.20	0.08	0.20	0.09	0.16		
T2C	0.25	0.06	0.21	0.07	0.25		

### 2.2.8 Petrophysical Audit Summary

Wells Dolinnoe-112, Kariman-114 and Borly-2 petrophysical evaluation was reviewed by RPS in 2015.

Wells Aksaz-106, Emir-6, Kariman-119 and Yessen-1 petrophysical evaluation was reviewed by RPS in 2016 based on the available open hole logs, mud logs and Chapman Report..

Petrophysics work mainly focused on the interval that covers the T2 reservoir unit, where the logs show hydrocarbon bearing formations.

Porosity was derived from the density and density/neutron cross plot methods by using and varying matrix density according to the formation lithological changes and their combinations. However, as no core analysis data of the wells was provided, the calculated porosity was unable to be calibrated against core porosity.

Water saturation was calculated from Archie's equation, and the petrophysical parameters a, m and n values were set to the standard a=1, m=2 and n=2 as there was no SCAL data available for calibration.

RPS used two sets of reservoir parameter cut-off values to calculate the sums and averages in order to cover the possible range of uncertainties. RPS's and Chapman's average formation porosity and water saturation values are generally in agreement. However, as no Chapman's digital CPI curves (interpreted logs) were available, comparison was made only based on reports summary tables.

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Pay thickness (unit in meter) from RPS high estimates (from cutoffs Set-2) is generally lower than Chapman's results (no porosity cutoff was applied) in these wells. RPS also used Chapman's cut-off values (only Vshale and Sw were used) for calculating sums and averages, that is without a porosity cut-off. In this case, RPS can achieve a reasonable match with Chapman's numbers if we use the same cut offs as Chapman, except for Dolinnoe-112 T2B (we believe there is an error in Chapman's report for this well; hence, the mismatch).

In well Borly-2ST1, pay thickness from using porosity cutoff and without porosity cutoff are significantly different as open hole logs and mudlogs show that in the T1 to T2 formations, the quality of Borly-2 borehole is very poor. The lithology of the formations is mainly clay and marl stones (Figure 2-30). Therefore, in Borly-2ST1 the formation bound water would be much higher than in the Dolinnoe-112 and Kariman wells in the T1 to T2 formations. Although both the Chapman's and RPS's petrophysical analysis results identified some net pay zones from electric well logs analysis, both the T2B and T2C limestone reservoirs did not flow any hydrocarbon to surface when tested. The Operator subsequently acid-frac the reservoirs and attempted to lift the fluid to surface using Nitrogen gas-lifting. However, only water and mud filtrate was produced to surface.

## 2.3 Petroleum Initially In-Place Estimates

### 2.3.1 Major Fields STOIP and GIIP Audit Calculation Methodology

RPS probabilistic Stock Tank Oil Initially In-Place ("STOIP"), Gas Initially In-Place ("GIIP"), and Condensate Initially In-Place ("CIIP") volumes were generated using REP™ v5.31b02 software. The focus was to audit and verify the STOIP volumes in the major oil fields (Kariman, Dolinnoe and Yessen), which Chapman had estimated to contain approximately 84% of the Asset's Best Estimate STOIP volumes.

Additionally, RPS also performed independent GIIP and CIIP Monte Carlo probabilistic volumetric calculations for the Aksaz gas-condensate field. The in-place volumes were simulated using probabilistic techniques (20,000 iterations) in the REP™ software utilising the following input parameters:

- P90 Low to P10 High Estimate Areas range from RPS's independent review and planimetry of the depth structure maps for each reservoir layer in each field as provided in the Beijing PDR. As the primary drive mechanism for all the fields is volumetric depletion drive, there is no observed Oil-Water-Contact ("OWC") or Gas-Water-Contact ("GWC") from the data supplied by the Seller.
- Therefore, for the P90 Low Area Estimate, the area is being limited to the fault blocks with confirmed oil and/or gas well penetrations, Oil-Down-To ("ODT") or Gas-Down-To ("GDT") contours. Where there were uncertainties regarding the reservoir heterogeneity and lateral continuity, the P90 Low Area limit was confined by the development wells drainage spacing planned by the Operator.
- For the P10 High Area Estimate, the area is taken or extrapolated to the Lowest Closing Contour ("LCC"), and/or Structural Spill Point ("SSP"), subject to the maximum reservoir limit within the production contract boundary area for each field. This also takes into account certain specific reservoir layers, where the P10 High Estimate Areas appear to be controlled by the combination of both structural and stratigraphic trapping mechanism.
- The P50 Best Estimate Area is generally determined from the P50 outcome from the lognormal distribution curve, except for several limited reservoir layers, where the P90 Low and P50 Best Areas were used as inputs for the probabilistic runs.
- The "Shape Factor" outlined in the tables in the following section means the geometric shape factor. This is introduced to account for the dipping structure of the field, and the interaction of the dipping strata (reservoir layers) with ODT and/or GDT, and the wedge effects. The



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shape factors have been set at 80.3%, 85% and 90% respectively, for the P90 Low, P50 Best and P10 High Estimates. These values ensure that the maximum shape factor will never exceed 100% on the lognormal distribution curve.

- Other reservoir parameters that is: net pay thickness (“net pay”), porosity, water saturation (“Sw”), oil formation volume factor (“FVF”), Gas Expansion Factor (“GEF”) and Condensate to Gas Ratio (“CGR”), range of uncertainties were assessed from the Chapman well evaluation results. As noted above, there are no porosity cut-offs applied to define net pay and as a consequence reservoir properties are averaged over the total reservoir zone.
- As the input for reservoir thickness is net pay thickness, the Net-To-Gross (“NTG”) ratio was set to 100% for all cases.
- Independent review and calculations of reservoir parameter ranges were audited and spot-checked by RPS using the relevant data provided by the Seller and found the Chapman petrophysical evaluation to be satisfactory.

RPS reviewed Chapman’s petrophysical analysis results for all wells in each field as tabulated in the Chapman Report. The Chapman log analysis results were tabulated and grouped by each individual reservoir layer in each field. From these comprehensive data, the following were determined:

- The average reservoir property for net pay thickness, porosity and Sw were used as the Best Estimate properties.
- To obtain the range, the standard deviation of the well population sample values observed in each reservoir layer property was multiplied by 0.5, and then subtracted or added to the Best Estimate property to obtain the P90 Low Estimate and P10 High estimate inputs. This approach was applied to the reservoir layer net pay thickness, porosity and Sw estimates.
- For example, if the observed net pay thickness standard deviation of well population samples in the Kariman Field T2B reservoir was 30.4 ft, the range was determined as  $\pm 0.5 \times 30.4 \text{ ft} = \pm 15.2 \text{ ft}$ . Thus, if the Kariman T2B reservoir average net pay thickness is 79.5 ft, the P90 Low Estimate net pay was 64.3 ft and the P10 High Estimate net pay was 94.7 ft, respectively. This was done to capture the net pay thickness uncertainties resulting from using different petrophysical cut-off parameters. A similar approach was taken for the porosity and Sw ranges.
- The P90 Low and P10 High Estimate inputs for the FVF, GEF and CGR were assessed independently by RPS from the Chapman Report and other data provided by MIE.
- Reservoir properties normal distribution reliability, sensibility check and quality control were performed in the REP™ software to ensure that the Min and Max values did not result in negative, or unreasonably high numbers on the normal distribution curve.

Each field in-place Monte Carlo simulation inputs/outputs and probabilistic volumetric results are presented in the following sub-sections. The map screen captures from the Beijing physical data room are included in each of the fields section. Example 3D seismic dip line and strike line across each field are also included in the relevant field section.