



**ALVOPETRO ENERGY LTD.**

ANNUAL INFORMATION FORM  
FOR THE YEAR ENDED DECEMBER 31, 2018

DATED MARCH 21, 2019

## TABLE OF CONTENTS

DEFINITIONS AND ABBREVIATIONS.....	2
ABBREVIATIONS AND CONVERSION .....	3
NON-GAAP MEASURES .....	3
NOTES ON RESERVES DATA AND OTHER OIL AND NATURAL GAS INFORMATION .....	4
FORWARD-LOOKING STATEMENTS .....	6
ALVOPETRO ENERGY LTD. ....	8
GENERAL DEVELOPMENT OF THE BUSINESS .....	8
DESCRIPTION OF THE BUSINESS.....	9
PRINCIPAL PROPERTIES.....	11
STATEMENT OF RESERVES DATA.....	14
INDUSTRY CONDITIONS .....	23
RISK FACTORS .....	26
DIVIDENDS.....	35
DESCRIPTION OF CAPITAL STRUCTURE .....	35
DIRECTORS AND OFFICERS .....	36
CONFLICTS OF INTEREST .....	38
LEGAL PROCEEDINGS AND REGULATORY ACTIONS.....	38
AUDIT COMMITTEE .....	38
INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS.....	39
AUDITORS, TRANSFER AGENT AND REGISTRAR .....	40
INTERESTS OF EXPERTS .....	40
ADDITIONAL INFORMATION.....	40
SCHEDULE A FORM 51-101F2 REPORT ON RESERVES DATA BY INDEPENDENT QUALIFIED RESERVES EVALUATOR.....	41
SCHEDULE B – FORM 51-101F3 REPORT OF MANAGEMENT AND DIRECTORS ON OIL AND GAS DISCLOSURE .....	42
SCHEDULE C – ALVOPETRO ENERGY LTD. AUDIT COMMITTEE MANDATE .....	43

## DEFINITIONS AND ABBREVIATIONS

Unless the context indicates otherwise, the following terms shall have the meanings set out below when used in this Annual Information Form. Certain other terms and abbreviations used herein, but not defined herein, are defined in NI 51-101 or the COGE Handbook and, unless the context otherwise requires, shall have the same meanings herein as in NI 51-101 or the COGE Handbook.

**"ABCA"** means the *Business Corporations Act*, R.S.A. 2000, c. B-9;

**"AIF"** or **"Annual Information Form"** means this annual information form;

**"Alvopetro"**, **"the Corporation"** or **"the Company"** means Alvopetro Energy Ltd., a corporation existing under the laws of the Province of Alberta;

**"ANP"** means Agência Nacional do Petróleo, Gás Natural e Biocombustíveis, or National Agency of Petroleum, Natural Gas and Biofuels, an agency of the Brazilian government;

**"Arrangement"** means the arrangement pursuant to Section 193 of the ABCA involving Petrominerales, Pacific Rubiales Energy Corp., Alvopetro and the shareholders of Petrominerales;

**"Board"** or **"Board of Directors"** means the board of directors of Alvopetro as it may be comprised from time to time;

**"COGE Handbook"** means the Canadian Oil and Gas Evaluation Handbook maintained by the Society of Petroleum Evaluation Engineers (Calgary chapter) as amended from time to time;

**"Common Shares"** means the common shares in the capital of Alvopetro;

**"NI 51-101"** means National Instrument 51-101 - *Standards of Disclosure for Oil and Gas Activities*;

**"Petrominerales"** means Petrominerales Ltd.;

**"Shareholders"** means the holders from time to time of Common Shares, collectively or individually, as the context requires;

**"GLJ Report"** means the independent engineering report dated March 7, 2019 and effective December 31, 2018 prepared by GLJ evaluating the oil, NGLs and natural gas reserves attributable to the Corporation;

**"GLJ"** means GLJ Petroleum Consultants, independent oil and natural gas reservoir engineers;

**"Tax Act"** means the *Income Tax Act*, R.S.C. 1985, c.1 (5<sup>th</sup> Supp.) and the regulations made thereunder, as now in effect and as they may be promulgated or amended from time to time;

**"TSXV"** means the TSX Venture Exchange; and

**"United States"** or **"U.S."** means the United States of America, its territories and possessions, any state of the United States, and the District of Columbia;

Words importing the singular number only include the plural, and vice versa, and words importing any gender include all genders. **Except as otherwise indicated, all dollar amounts set forth in this Annual Information Form are in United States dollars and references to \$ are to United States dollars.** References to C\$ are to Canadian dollars

## ABBREVIATIONS AND CONVERSION

In this Annual Information Form, the abbreviations set forth below have the following meanings:

<b>Oil and Natural Gas Liquids</b>		<b>Natural Gas</b>	
bbl	barrel	Mcf	thousand cubic feet
bbls	barrels	MMcf	million cubic feet
Mbbls	one thousand barrels	Mcf/d	thousand cubic feet per day
MMbbls	one million barrels	MMcf/d	million cubic feet per day
bbls/d	barrels per day	MMBTU	million British Thermal Units
Bopd	barrels of oil per day	Mboe	thousands of barrels of oil equivalent
NGL	natural gas liquids	MMboe	millions of barrels of oil equivalent
		Bcf	billion cubic feet

The following table sets forth certain standard conversions from Standard Imperial Units to the International System of Units (or metric units).

<b>To Convert From</b>	<b>To</b>	<b>Multiply By</b>
Mcf	Cubic metres	28.174
Cubic metres	Cubic feet	35.494
Bbls	Cubic metres	0.159
Cubic metres	Bbls	6.293
Feet	Metres	0.305
Metres	Feet	3.281
Miles	Kilometres	1.609
Kilometres	Miles	0.621
Acres	Hectares	0.405
Hectares	Acres	2.50
Gigajoules	MMbtu	0.950
MMbtu	Gigajoules	1.0526

### Other

API	American Petroleum Institute
°API	an indication of the specific gravity of crude oil measured on the API gravity scale. Liquid petroleum with a specified gravity of 28° API or higher is generally referred to as light crude oil
BOE or boe	barrel of oil equivalent on the basis of 1 boe to 6 Mcf of natural gas
boe/d	barrel of oil equivalent per day
Mcfe	thousand cubic feet of gas equivalent on the basis of 6 Mcfe to 1 barrel of oil
m <sup>3</sup>	cubic metre
C\$	Canadian dollars
M\$	Thousands of U.S. or United States dollars
R\$	Brazilian real
\$	U.S. or United States dollars

### NON-GAAP MEASURES

This AIF contains the term “netback” which is not defined by International Financial Reporting Standards (“IFRS”) and therefore may not be comparable to performance measures presented by others. In this AIF, “netback” is calculated by deducting royalties and production taxes and production costs, including transportation costs, from prices received, excluding the effects of hedging. Management believes that in addition to net income (loss), netbacks are a useful supplemental measure as they assist in the determination of the Corporation's operating performance. Readers should be cautioned, however, that this measure should not be construed as an alternative to either net income (loss) or net cash from (used in) operating activities, which are determined in accordance with IFRS, as indicators of the Corporation's performance. For more information with respect to financial measures which have not been defined by GAAP, including reconciliations to the closest comparable GAAP measure, see the “Non-GAAP Measures” section of the Corporation's management discussion and analysis accompanying its most recent audited annual financial statements which are available on SEDAR.

## NOTES ON RESERVES DATA AND OTHER OIL AND NATURAL GAS INFORMATION

### Caution Respecting Reserves Information

The determination of oil and natural gas reserves involves the preparation of estimates that have an inherent degree of associated uncertainty. Categories of reserves have been established to reflect the level of these uncertainties and to provide an indication of the probability of recovery. The estimation and classification of reserves requires the application of professional judgment combined with geological and engineering knowledge to assess whether or not specific reserves classification criteria have been satisfied. Knowledge of concepts including uncertainty and risk, probability and statistics, and deterministic and probabilistic estimation methods is required to properly use and apply reserves definitions.

**The recovery and reserve estimates of oil, NGL and natural gas reserves provided herein are estimates only. Actual reserves may be greater than or less than the estimates provided herein. The estimated future net revenue from the production of the Corporation's natural gas and petroleum reserves does not represent the fair market value of the Corporation's reserves.**

### Caution Respecting BOE

In this AIF, the abbreviation boe means barrel of oil equivalent on the basis of 1 boe to 6 Mcf of natural gas when converting natural gas to boes. Boes may be misleading, particularly if used in isolation. A boe conversion ratio of 6 Mcf to 1 boe is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. Given that the value ratio of oil compared to natural gas based on currently prevailing prices is significantly different than the energy equivalency conversion ratio of 6 Mcf to 1 boe, utilizing a conversion ratio of 6 Mcf to 1 boe may be misleading as an indication of value.

### Definitions

Certain terms used in this AIF in describing reserves and other oil and natural gas information are defined below. Certain other terms and abbreviations used in this AIF, but not defined or described, are defined in NI 51-101 or the COGE Handbook and, unless the context otherwise requires, shall have the same meanings herein as in NI 51-101 or the COGE Handbook.

#### *Reserves*

Reserves are estimated remaining quantities of oil and natural gas and related substances anticipated to be recoverable from known accumulations, as of a given date, based on: (a) analysis of drilling, geological, geophysical and engineering data; (b) the use of established technology; and (c) specified economic conditions, which are generally accepted as being reasonable and shall be disclosed. Reserves are classified according to the degree of certainty associated with the estimates as follows:

**"proved reserves"** are those reserves that can be estimated with a high degree of certainty to be recoverable. It is likely that the actual remaining quantities recovered will exceed the estimated proved reserves.

**"probable reserves"** are those additional reserves that are less certain to be recovered than proved reserves. It is equally likely that the actual remaining quantities recovered will be greater or less than the sum of the estimated proved plus probable reserves.

**"possible reserves"** are those additional reserves that are less certain to be recovered than probable reserves. It is unlikely that the actual remaining quantities recovered will exceed the sum of the estimated proved plus probable plus possible reserves.

The qualitative certainty levels referred to in the definitions above are applicable to "individual reserves entities" (which refers to the lowest level at which reserves calculations are performed) and to "Reported Reserves" (which refers to the highest-level sum of individual entity estimates for which reserves estimates are presented). Reported Reserves should target the following levels of certainty under a specific set of economic conditions:

- at least a 90 percent probability that the quantities actually recovered will equal or exceed the estimated proved reserves;

- at least a 50 percent probability that the quantities actually recovered will equal or exceed the sum of the estimated proved plus probable reserves; and
- a least a 10% probability that the quantities actually recovered will equal or exceed the sum of the estimated proved plus probable plus possible reserves.

Each of the reserves categories (proved, probable and possible) may be divided into developed and undeveloped categories as follows:

**“developed reserves”** are those reserves that are expected to be recovered from existing wells and installed facilities or, if facilities have not been installed, that would involve a low expenditure (e.g., when compared to the cost of drilling a well) to put the reserves on production. The developed category may be subdivided into producing and non-producing as follows:

**“developed producing reserves”** are those reserves that are expected to be recovered from completion intervals open at the time of the estimate. These reserves may be currently producing or, if shut-in, they must have previously been on production, and the date of resumption of production must be known with reasonable certainty.

**“developed non-producing reserves”** are those reserves that either have not been on production, or have previously been on production, but are shut-in, and the date of resumption of production is unknown.

**“undeveloped reserves”** are those reserves expected to be recovered from known accumulations where a significant expenditure (for example, when compared to the cost of drilling a well) is required to render them capable of production. They must fully meet the requirements of the reserves classification (proved, probable, possible) to which they are assigned.

In multi-well pools, it may be appropriate to allocate total pool reserves between the developed and undeveloped categories or to sub-divide the developed reserves for the pool between developed producing and developed non-producing. This allocation should be based on the estimator's assessment as to the reserves that will be recovered from specific wells, facilities and completion intervals in the pool and their respective development and production status.

#### *Interests in Reserves, Production, Wells and Properties*

**“gross”** means: (a) in relation to an issuer's interest in production or reserves, its "company gross reserves", which are its working interest (operating or non-operating) share before deduction of royalties and without including any royalty interests of the issuer; (b) in relation to wells, the total number of wells in which an issuer has an interest; and (c) in relation to properties, the total area of properties in which an issuer has an interest.

**“net”** means: (a) in relation to an issuer's interest in production or reserves its working interest (operating or non-operating) share after deduction of royalty obligations, plus its royalty interests in production or reserves; (b) in relation to an issuer's interest in wells, the number of wells obtained by aggregating the issuer's working interest in each of its gross wells; and (c) in relation to an issuer's interest in a property, the total area in which the issuer has an interest multiplied by the working interest owned by the issuer.

**“working interest”** means the percentage of undivided interest held by an issuer in the oil and/or natural gas or mineral lease granted by the mineral owner, which interest gives the issuer the right to "work" the property (lease) to explore for, develop, produce and market the leased substances.

#### *Description of Exploration and Development Wells and Costs*

**“development costs”** means costs incurred to obtain access to reserves and to provide facilities for extracting, treating, gathering and storing the crude oil and natural gas from the reserves. More specifically, development costs, including applicable operating costs of support equipment and facilities and other costs of development activities, are costs incurred to: (a) gain access to and prepare well locations for drilling, including surveying well locations for the purpose of determining specific development drilling sites, clearing ground, draining, road building, and relocating public roads, gas lines and power lines, to the extent necessary in developing the reserves; (b) drill and equip development wells, development type stratigraphic test wells and service wells, including the costs of platforms and of well equipment such as casing, tubing, pumping equipment and wellhead assembly; (c) acquire, construct and install production facilities such as flow lines,

separators, treaters, heaters, manifolds, measuring devices and production storage tanks, natural gas cycling and processing plants, and central utility and waste disposal systems; and (d) provide improved recovery systems.

**“development well”** means a well drilled inside the established limits of an oil or gas reservoir, or in close proximity to the edge of the reservoir, to the depth of a stratigraphic horizon known to be productive.

**“exploration costs”** means costs incurred in identifying areas that may warrant examination and in examining specific areas that are considered to have prospects that may contain oil and natural gas reserves, including costs of drilling exploratory wells and exploratory type stratigraphic test wells. Exploration costs, which include applicable operating costs of support equipment and facilities and other costs of exploration activities, are: (a) costs of topographical, geochemical, geological and geophysical studies, rights of access to properties to conduct those studies, and salaries and other expenses of geologists, geophysical crews and others conducting those studies (collectively sometimes referred to as “geological and geophysical costs”); (b) costs of carrying and retaining unproved properties, such as delay rentals, taxes (other than income and capital taxes) on properties, legal costs for title defence, and the maintenance of land and lease records; (c) dry hole contributions and bottom hole contributions; (d) costs of drilling and equipping exploratory wells; and (e) costs of drilling exploratory type stratigraphic test wells.

**“exploration well”** means a well that is not a development well, a service well or a stratigraphic test well.

**“service well”** means a well drilled or completed for the purpose of supporting production in an existing field. Wells in this class are drilled for the following specific purposes: gas injection (natural gas, propane, butane or flue gas), water injection, steam injection, air injection, salt water disposal, water supply for injection, observation or injection for combustion.

**“stratigraphic test well”** means a drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Ordinarily, such wells are drilled without the intention of being completed for hydrocarbon production. They include wells for the purpose of core tests and all types of expendable holes related to hydrocarbon exploration. Stratigraphic test wells are classified as: (a) “exploratory type” if not drilled into a proved property; or (b) “development type”, if drilled into a proved property. Development type stratigraphic wells are also referred to as “evaluation wells”.

## **FORWARD-LOOKING STATEMENTS**

Certain statements or disclosures contained in this Annual Information Form constitute forward-looking statements. The use of any of the words “anticipate”, “believe”, “continue”, “estimate”, “expect”, “forecast”, “intend”, “may”, “will”, “plan”, “project”, “should”, “believe” and similar expressions are intended to identify forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking statements. The Corporation believes the expectations reflected in those forward-looking statements are reasonable, but no assurance can be given that these expectations will prove to be correct. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties. Such forward-looking statements included in this Annual Information Form should not be unduly relied upon. These statements speak only as of the date of this Annual Information Form.

In particular, this Annual Information Form may contain forward-looking statements and information pertaining to the following:

- the size of, and future net revenues from, oil and natural gas reserves of the Corporation;
- the anticipated outcomes of regulatory determinations and timing of receipt of regulatory approvals;
- expectations regarding the ability to raise capital;
- the performance characteristics of the Corporation’s oil and gas properties and projected/future oil and natural gas production levels;
- projections of market prices and costs;
- supply and demand for oil and natural gas;
- timing of development of undeveloped reserves;
- planned capital expenditures, the timing thereof and the method of funding;
- activities to be undertaken in various areas, including the fulfillment of exploration work commitments
- estimated abandonment and reclamation costs;
- Alvo Petro’s expectations regarding the development and production potential of its properties;

- expectations with respect to the expiration of rights to explore, develop and exploit Alvopetro's properties and the Corporation's ability to obtain contract extensions or fulfill the required contractual obligations to retain such rights;
- intentions with respect to compliance with environmental requirements;
- intentions with respect to the implementation of programs that support an environmental management system and attempts to manage and mitigate the environmental impact of Alvopetro's operations; and
- treatment under governmental regulatory regimes and tax and royalty laws.

With respect to forward looking statements contained in this Annual Information Form, the Corporation has made assumptions regarding:

- the ability of the Company to secure financing sources to fund planned expenditures;
- estimated future oil and natural gas production levels;
- the success of the Corporation's operations and exploration and development activities;
- prevailing weather conditions, commodity prices and exchange rates;
- the timing and amount of capital expenditures;
- the timing and receipt of government approvals and permits, where required;
- compliance with and liabilities under environmental laws and regulations;
- general economic and financial market conditions;
- the ability of the Corporation to secure necessary personnel, equipment and services;
- government regulation in the areas of taxation, royalty rates and environmental protection; and
- the success of exploration and development activities.

The actual results, performance or achievements of the Corporation may differ materially from those anticipated in these forward-looking statements as a result of the risk factors set forth below and elsewhere in this Annual Information Form:

- volatility in market prices for oil and natural gas;
- volatility in exchange rates;
- risks inherent in oil and natural gas operations;
- uncertainties associated with estimating oil and natural gas reserves;
- the uncertainty of Alvopetro's ability to attract debt or equity financing as needed;
- failure to obtain required approvals and permits from regulatory authorities, or failure to obtain such permits in a timely manner;
- failure to implement projects on schedule may impact cash flows and financial resources;
- inability to secure labour, services or equipment on a timely basis or on favourable terms;
- competition for, among other things, capital, acquisitions of reserves, undeveloped lands and skilled personnel;
- unfavourable weather conditions;
- impacts relating to general economic conditions in Canada, Brazil, the United States, and global markets;
- failure to obtain industry partners and other third party consents and approvals when required;
- failure to commercialize discoveries;
- the impact of amendments to applicable tax legislation, including the Tax Act and Brazilian tax legislation, on Alvopetro;
- changes in or the introduction of new government regulations, in particular related to hydraulic fracturing and stimulation, relating to Alvopetro's business;
- incorrect assessments of the value of acquisitions and exploration and development programs;
- geological, technical, drilling, completion and processing challenges;
- ability to manage expiries and other commitments and to successfully obtain extensions, suspensions or approvals from the ANP as may be needed to manage our assets;
- the outcome of litigation brought against the Corporation or other disputes involving the Corporation;
- changes in legislation, including changes in incentive programs relating to the oil and gas industry; and
- the other factors discussed under the heading "Risk Factors".

Statements relating to "reserves" are deemed to be forward-looking statements, as they involve the implied assessment, based on certain estimates and assumptions that the resources and reserves described can be profitably produced in the future.



Readers are cautioned that the foregoing lists of factors are not exhaustive. The forward-looking statements contained in this Annual Information Form are expressly qualified by this cautionary statement. The Corporation does not undertake any obligation to publicly update or revise any forward-looking statements other than as required under applicable securities laws.

## ALVOPETRO ENERGY LTD.

### Introduction

Alvopetro is a resource company engaged in the exploration, development and production of hydrocarbons in Brazil.

On December 4, 2013, Alvopetro was listed on the TSXV under the symbol “ALV” and on December 5, 2013, the Common Shares commenced trading. On January 15, 2019 Alvopetro’s common shares commenced trading on the OTCQX® Best Market, a U.S. market operated by OTC Markets Group (OTCQX: OTCM), under the symbol “ALVOF”.

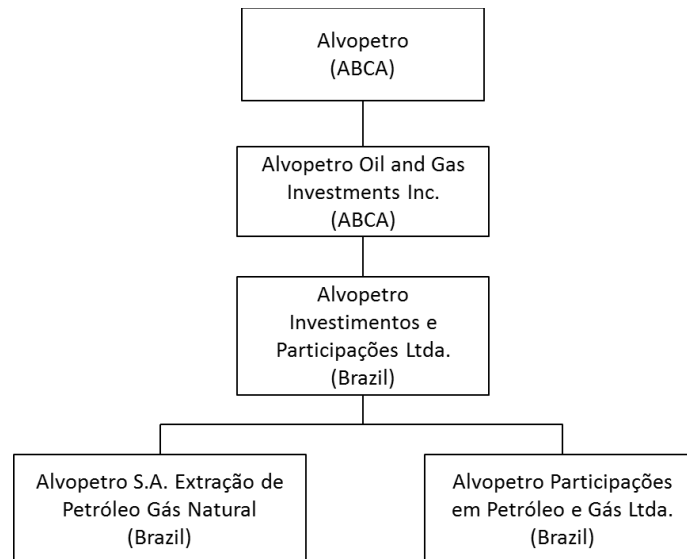
### Name, Address and Incorporation

Alvopetro was incorporated under the ABCA on September 25, 2013 as “1774501 Alberta Ltd.” On November 19, 2013, Alvopetro amended its articles to change its name to “Alvopetro Energy Ltd.” On January 1, 2014 the Corporation amalgamated with 1765823 Alberta Ltd., a wholly-owned subsidiary, by way of articles of amalgamation and continued under the name “Alvopetro Energy Ltd.”

The principal business office of Alvopetro is located at Suite 1700, 525 – 8<sup>th</sup> Avenue SW, Calgary, Alberta, T2P 1G1 and the registered office of Alvopetro is located at Suite 4000, 421 – 7<sup>th</sup> Avenue S.W., Calgary, Alberta, T2P 4K9.

### Intercorporate Relationships

The organizational structure of Alvopetro is as set out below. Alvopetro holds a 100% voting interest, either directly or indirectly, in each of its subsidiaries.



### GENERAL DEVELOPMENT OF THE BUSINESS

### History

Alvopetro was incorporated under the ABCA on September 25, 2013 as “1774501 Alberta Ltd.” for the sole purpose of participating in the Arrangement between Alvopetro, Pacific Rubiales Energy Corp., Petrominerales and the shareholders of Petrominerales. The Arrangement was completed on November 28, 2013. Under the terms of the Arrangement, Pacific Rubiales Energy Corp. acquired all of the outstanding shares of Petrominerales and the then shareholders of Petrominerales received, for each share of Petrominerales held, \$11.00 in cash and one Common Share. With the closing of the Arrangement,

Alvopetro became a standalone resource company holding all of the Brazilian assets owned by Petrominerales prior to closing of the Arrangement.

The following is a summary of significant events in the general development of the business of Alvopetro during the last three financial years ending December 31, 2016, December 31, 2017 and December 31, 2018.

In 2017 the Company drilled and tested the 198(A1) well which is part of the Caburé natural gas field. The Company had previously discovered its Caburé natural gas field with the 197(2) well which was drilled in 2014 and tested in 2015 as discussed further in *"Principal Properties"*.

Efforts in 2018 were focused on commercializing the Caburé natural gas field through: completion of the mandatory unitization process in April 2018 with the finalization of the Unit Operating Agreement ("UOA"), the unit development plan and related agreements; execution of a long-term gas sales agreement ("GSA") with Bahiagás, the Bahia state natural gas distribution company, in May 2018; and execution of the facility construction and operating agreement ("Gas Treatment Agreement" with Enerflex Ltd. ("Enerflex") in September 2018. See the discussion under "Natural Gas Assets" in *"Principal Properties"* for further details.

In 2018, the Company tested the 183(1) well, which is part of the Gomo gas project as discussed further in *"Principal Properties"*.

Following the execution of the UOA and the GSA, the Corporation was assigned natural gas reserves on the Caburé natural gas field and the Gomo gas discovered from the Company's 183(1) and 197(1) wells in an independent reserve assessment by GLJ with an effective date of May 31, 2018 (the "Interim GLJ Report"). The reserve assessment was updated by GLJ as at December 31, 2018 and also included the Corporation's oil fields. See *"Statement of Reserves Data"* in this AIF for a summary of reserves attributable to the properties of the Corporation as at December 31, 2018.

Alvopetro did not complete any significant acquisitions during any of the years ended December 31, 2016, 2017 or 2018.

### **Private Placement**

On October 16, 2018, Alvopetro completed a private placement (the "Private Placement") raising gross proceeds of \$4.0 million (\$3.8 million net). Under the terms of the subscription agreements, investors subscribed for units (collectively, the "Units" and each individually, a "Unit") at a price of \$1.40 per Unit (C\$1.80 per Unit). Each Unit consisted of four Common Shares in the capital of the Corporation and one warrant to acquire one common share at an exercise price of \$0.50 per share (C\$0.64 per share) until December 15, 2019. The Corporation issued 2,876,000 Units (11,504,000 Common Shares and 2,876,000 Warrants). Three insiders of the Corporation participated in the private placement subscribing for a total of 215,000 Units for aggregate subscription proceeds of \$387,000. That portion of the Private Placement is a "related party transaction" as defined under Multilateral Instrument 61-101 ("MI 61-101").

Fees from the Private Placement included \$0.2 million in cash outlays for brokerage commissions and legal fees. In addition, Alvopetro issued 700,000 warrants (the "Broker Warrants") plus 100,000 warrants (the "Advisor Warrants") to brokers and advisors who assisted with the Private Placement. Each Broker and Advisor Warrant is exercisable into one common share of Alvopetro at a price of \$0.50 per common share until October 16, 2020.

## **DESCRIPTION OF THE BUSINESS**

### **Business**

As of the date of this annual information form, Alvopetro carries on the exploration for, and the acquisition, development and production of, hydrocarbons in the Recôncavo basin onshore Brazil. As at December 31, 2018, Alvopetro held interests in the Caburé and Gomo natural gas assets, two oil fields (Bom Lugar and Mãe-da-lua) and seven other exploration assets (Blocks 182, 169, 255, 57, 62, 71, and 145) comprising 65,151 gross (55,138 net) acres in the Recôncavo basin onshore Brazil. Subsequent to December 31, 2018, Alvopetro relinquished blocks 62, 71 and 145, reducing its acreage to 44,293 gross acres (41,580 net).

## Strategy

Alvopetro's strategy is to unlock the on-shore natural gas potential in the state of Bahia, building off the development of our Caburé and Gomo natural gas assets and the construction of strategic midstream infrastructure. We are creating an upstream/midstream hybrid corporate vehicle to provide sustainable returns to our shareholders while reinvesting in a disciplined manner in our high impact upstream assets. Our plan is to create a disciplined long-term return model where approximately half of our net cashflows are distributed to stakeholders as dividends to our shareholders and interest and principle repayments to capital providers.

## Specialized Skill and Knowledge

Exploration for and development of petroleum resources require specialized skills and knowledge, including in the areas of petroleum engineering, geophysics, and geology. The Corporation may face challenges in attracting and retaining employees to meet these needs. See "*Risk Factors*".

## Competitive Conditions

The oil and gas industry is highly competitive, both with respect to the acquisition of prospective oil and gas properties and reserves as well as in attracting financing sources for the acquisition of new reserves or the development of existing reserves. Alvopetro's competitive position depends on its geoscience and engineering expertise, its financial resources, its ability to develop its properties and its ability to select, acquire and develop proved reserves. Alvopetro will compete with a substantial number of other companies having larger technical staff and greater financial and operational resources and access to capital. Many such companies not only engage in the acquisition, exploration, development and production of petroleum reserves, but also carry on refining operations and market refined products. This represents a significant risk for the Company. See "*Risk Factors*" in this Annual Information Form for further information.

## Cycles

Alvopetro business is generally not cyclical, however Alvopetro's revenues are reliant on international commodity prices, which have fluctuated widely during recent years and are determined by worldwide supply and demand factors, including weather and general economic conditions. Although Alvopetro's business is not seasonal, seasonality may determine the timing of operations and weather delays may affect the speed of completion of operations.

## Employees

As of the date hereof, Alvopetro has three officers who are employed by Alvopetro. Alvopetro and its subsidiaries employ 31 employees, of which 23 employees are based in Brazil with the remainder in Calgary, Canada. Alvopetro may require additional employees and third party consultants and contractors based on future operational and administrative demands.

## Foreign Operations

All of Alvopetro's operations are in Brazil. International operations are subject to political, economic and other uncertainties, including but not limited to corruption, revolution, border disputes, expropriation, nationalization of assets by the Brazilian government, renegotiations or modification of existing contracts, import, export and transportation regulations and tariffs, taxation policies, including royalty and tax increases and retroactive tax claims, exchange controls, limits on allowable levels of production, currency fluctuations, labour disputes and other uncertainties arising out of foreign government sovereignty over Alvopetro's international operations. Alvopetro's operations may also be adversely affected by applicable laws and policies of Brazil which could have a negative impact on Alvopetro. The Corporation's international operations may also be adversely affected by laws and policies of Canada as they pertain to oil and gas development, foreign trade, taxation and investment. See "*Risk Factors*" in this Annual Information Form for further details.

## Environment, Health and Safety Policies and Procedures

Alvopetro and others in the oil and gas industry are subject to various levels of government regulation relating to the protection of the environment. Alvopetro's main environmental strategies include the preparation of comprehensive environmental impact assessments and assembling project-specific environmental management plans. Alvopetro encourages local community engagement in environmental planning in order to create a positive relationship between our business, our

stakeholders and those who are impacted by our business. Alvopectro believes that its operations comply in all material respects with applicable environmental law.

Alvopectro is committed to meeting its responsibilities to protect the environment wherever it operates and will take such steps as required to ensure compliance with environmental legislation. Monitoring and reporting programs for environment, health and safety ("EH&S") performance in day-to-day operations, as well as inspections and assessments, are designed to provide assurance that environmental and regulatory standards are met. Alvopectro maintains an active comprehensive integrity monitoring and management program for surface piping, facilities, and storage tanks. Contingency plans are in place for a timely response to an environmental event and abandonment, remediation and reclamation programs are in place and utilized to restore the environment. Alvopectro has abandoned and reclaimed several wells and sites with no issues encountered to date. Alvopectro performs a detailed due diligence review as part of acquisition processes to determine whether the acquired assets are in compliance with regulatory and environmental requirements and assesses any liabilities with respect thereto.

Management of Alvopectro are responsible for reviewing Alvopectro's strategies and policies regarding health, safety and the environment, including Alvopectro's emergency response plan. Management of Alvopectro reports to the Board on a quarterly basis with respect to EH&S matters, including: (i) compliance with all applicable laws, regulations and policies with respect to EH&S; (ii) emerging trends, issues and regulations related to EH&S that are relevant to Alvopectro; (iii) the findings of any significant reports by regulatory agencies, external EH&S consultants or auditors concerning performance in EH&S; (iv) any necessary corrective measures taken to address issues and risks with regards to performance in the areas of EH&S that have been identified by management, external auditors or by regulatory agencies; and (v) the results of any review with management, outside accountants, external consultants and legal advisors of the implications of major corporate undertakings such as the acquisition or expansion of facilities or decommissioning of facilities.

### **Trends in Environmental Regulation**

Alvopectro believes that it is reasonably likely that the trend towards stricter standards in environmental legislation and regulation will continue. Alvopectro anticipates increased capital and operating expenditures as a result of increasingly stringent laws relating to the protection of the environment. No assurance can be given that environmental laws will not result in a curtailment of production or a material increase in the costs of production, the development or exploration activities, or otherwise adversely affect Alvopectro's financial condition, capital expenditures, results of operations, competitive position or prospects.

An injunction was issued by a Brazilian Federal Court in November 2014, as part of a legal proceeding filed by the Federal Prosecutor's Office against the ANP, the Federal Government and all operators of 12<sup>th</sup> Bid Round concession contracts, including Alvopectro. This injunction was aimed at preventing the ANP and operators from conducting unconventional operations on blocks acquired in ANP's 12th Bid Round until further studies are carried out by ANP of the possible environmental impact of drilling of unconventional resources. Alvopectro filed a successful petition with the Brazilian Federal Court, and as result, in January 2015, the Brazilian Federal Court clarified that Alvopectro could carry out all conventional activities relating to its 12th Brazil Bid Round Blocks. However, any unconventional operations continue to be prohibited on these blocks. Alvopectro has work commitments outstanding on two 12<sup>th</sup> Bid Round Blocks (Block 169 and 255). Due to this ongoing injunction against unconventional activities, in December 2017 the Corporation filed a request with the ANP to cancel the Blocks 169 and 255 concession contracts, including the outstanding work commitments, and refund the bid round bonuses paid on each of these blocks.

### **PRINCIPAL PROPERTIES**

As at December 31, 2018, Alvopectro held interests in the Caburé and Gomo natural gas assets, two oil fields (Bom Lugar and Mãe-da-lua) and seven other exploration assets (Blocks 182, 169, 255, 57, 62, 71, and 145) comprising 65,151 gross (55,138 net) acres in the Recôncavo basin onshore Brazil.

The Recôncavo Basin is a 10,200 square kilometre onshore basin, centred 85 kilometres north of the City of Salvador in northeast Brazil, in the province of Bahia. Oil production in Brazil first began in the Recôncavo Basin in 1939. To date, over 6,700 wells have been drilled in the Basin, with reported cumulative production exceeding 1.6 billion barrels of light oil. Current production is reported to be over 31,000 barrels of oil equivalent per day. The majority of the basin's production comes from the Sergi, Agua Grande, Candeias and Marfim Formations.

## Natural Gas Assets

Alvopetro holds interests in two main natural gas assets within Brazil: the Caburé natural gas field and the Gomo natural gas project.

### Caburé natural gas field:

Alvopetro discovered its Caburé gas field with the 197(2) well which was drilled in 2014 and tested in 2015. The 197(2) well was previously part of Block 197, awarded in the 9th Brazil Bid Round. Alvopetro filed a declaration of commerciality for the 197(2) gas discovery commencing the Development and Production Phase, which extends to December 5, 2043, and “ring-fenced” the gas discovery from the remainder of Block 197. In early 2017, Alvopetro drilled and tested the 198(A1) well on Block 198, a 12th Brazil Bid Round Block, which is adjacent to the Caburé field and forms part of this gas discovery. Alvopetro also filed a declaration of commerciality with respect to this well and this portion of the field was named Caburé Leste. The Caburé Leste field is also in the Development and Production Phase with an expiry date of May 12, 2044. The remaining acreage of Block 198 was relinquished to the ANP in May 2017. The Caburé and Caburé Leste Fields are collectively referred to as the Caburé field or Caburé natural gas field throughout this annual information form and comprise 4,826 acres.

The Caburé natural gas field also extends across two adjacent blocks owned by a third party (Blocks 211 and 212). Under Brazilian legislation, petroleum accumulations straddling two or more licensed blocks must undergo unitization (pooling) in order to promote efficient and fair exploration and development. In April 2018, Alvopetro and the adjacent resource owner finalized the terms of the UOA, the unit development plan and all related agreements, with Alvopetro’s share being 49.1% and Alvopetro’s 50.9% partner being named initial operator. The agreed unit development plan includes the construction of low and high-pressure production facilities, tie-in of existing wells, and drilling of up to four new development wells with a planned gross field production plateau rate of 15.9 mmcfpd (450,000 m3/d) when Alvopetro commences production allocations. As of December 31, 2018, all low-pressure facilities had been constructed and two of the four existing wells had been completed, tied-in and placed on early production.

Under the terms of the UOA, each party will be entitled to nominate for its working interest share of field production and for any natural gas not nominated by the other party. Each party receives 100% of the revenues associated with their natural gas nominations/deliveries representing a portion of that party’s share of proved and probable (“2P”) reserves. Once a party produces its share of 2P reserves, it will no longer be entitled to further production allocations. Under the terms of the UOA, Alvopetro’s partner is entitled to 100% of the early field production (allocated against their share of 2P reserves). In the third quarter of 2018, the field commenced production at the maximum early field production rate of 5.3 mmcfpd (150,000 m3/d), all of which is attributable to Alvopetro’s partner. In exchange for the entitlement to the early field production, Alvopetro’s partner agreed to initially fund virtually all of the unit development capital. Alvopetro will reimburse the partner for its share of the initial unit capital, when it commences production allocations from the unit or in March 2020, whatever comes first.

In addition to costs associated with drilling and testing the 197(2) and 198(A1) wells, costs incurred to date on the Caburé field include a portion of historical costs including bid round bonuses and seismic work as well as Alvopetro’s share of joint unit development costs and initial pipeline and permitting costs associated with midstream infrastructure to be built for this field.

### Gomo natural gas project:

Alvopetro’s Gomo gas project extends across Blocks 183 and 197 and includes the 183(1) well (which was drilled in 2014 and tested in the first quarter of 2018) and the 197(1) well (which was drilled and tested in 2014).

Block 183 is a 9th Brazil Bid Round Block and was acquired through a farm-in agreement signed in May 2013. Alvopetro drilled one well, 183(1), on this block in October 2014 and tested the well in 2018. The portion of Block 183 attributable to 183(1) is currently in the Development Assessment (“PAD”) phase which extends to December 31, 2019 and the remainder of the block is in the second exploration phase (with a commitment to drill one well) but in suspension due to lack of an environmental permit. Following receipt of the permit, Alvopetro will have 517 days prior to phase expiry to drill the well. Alvopetro plans to complete a stimulation of the 183(1) well in 2019 with an 8-kilometre transfer pipeline to be installed in 2020 to tie the well into our 11-kilometre pipeline to be built from the Caburé unit facilities. Following completion of the stimulation, Alvopetro expects the PAD phase will be extended past December 31, 2019.

On Block 197, Alvopetro discovered the Caburé natural gas field as discussed above. Costs to date on the remainder of the block include drilling and testing the 197(1) well in 2014, as well as historical costs including seismic costs associated with 5.9 km<sup>2</sup> of 3D seismic and 122.3 km of 2D seismic incurred prior to 2014 and prior acquisition costs including bid round bonuses. This block is currently in the PAD phase. Work outstanding under the PAD includes a stimulation of the 197(1) well. In 2017, the ANP approved the suspension of the PAD due to the lack of an environmental permit for stimulation of the 197(1) well. Additional work on Block 197 will be undertaken pending the results of the stimulation and long-term production testing on the 183(1) well.

Gas commercialization:

In May 2018, Alvopetro entered into the GSA with Bahiagás. The GSA provides for the sale of 5.3 mmcfpd (150,000 m<sup>3</sup>/d) on a firm basis and up to 12.4 mmcfpd (350,000 m<sup>3</sup>/d) on an interruptible basis, adjustable by Alvopetro annually. The natural gas price to be received under the GSA is set semi-annually (in February and August) using a trailing weighted average basket of benchmark prices including US Henry Hub and UK National Balancing Point gas prices and Brent crude oil prices, with a floor of \$5.00/mmbtu and a ceiling of \$8.50/mmbtu (both subject to United States inflation). The GSA has take-or-pay provisions and supply failure penalties to ensure performance by both parties. Firm gas deliveries under the GSA (the "Firm Start Date") will be established following receipt of all regulatory permits by both Alvopetro and Bahiagás. The original Firm Start Date of January 1, 2020 has been extended since neither Alvopetro or Bahiagás had the required permits by December 1, 2018. Despite this extension, both Alvopetro and Bahiagás have indicated it is their intention to be in a position to start natural gas deliveries in January 2020 as originally planned. The GSA allows for interruptible volumes to commence in advance of the Firm Start Date upon mutual consent by both parties.

Alvopetro executed the Gas Treatment Agreement with Enerflex in September 2018. Under the terms of the Gas Treatment Agreement, Enerflex will construct, own and operate a natural gas processing facility (the "Facility") for Alvopetro and will provide all operations and maintenance of the Facility, warranting the delivery schedule and on-stream performance of the Facility. Alvopetro will pay an integrated service fee of \$2.9 million over the 10-year-term of the agreement once the Facility is operational. Commissioning of the gas plant is contractually scheduled for January 1, 2020. In addition to the Facility, Alvopetro will construct an 11-kilometre pipeline from the Caburé unit facilities to the Facility. The pipe was ordered in 2018 and delivered to the field staging area in February 2019. Alvopetro also plans to tie-in the Gomo natural gas project (183-1 well) to the midstream development via an 8-kilometre transfer pipeline in 2020 following the stimulation of the 183(1) well planned for the second quarter of 2019.

## Oil Fields

Bom Lugar:

Alvopetro's Bom Lugar oil field, consisting of 2,238 gross acres, had average daily production for the year ended December 31, 2018 of 10 bbls/d. Following a workover and other maintenance in the fourth quarter of 2018, the Company shut-in the one producing well on this field and plans to abandon the well in 2019 due to wellbore problems. The field consists of one shut-in well, one suspended well, and one active water disposal (injector) well. The field has a production battery which is equipped with testing, water separation and trucking facilities. Alvopetro has two oil development prospects included in the GLJ Report, the first of which is expected to be drilled in 2020.

Mãe-da-lua:

The Company's Mãe-da-lua field consists of 432 gross acres. The producing well on this field was drilled to a total measured depth of 2,095 metres in 2015 and commenced production on December 19, 2015. For the year ended December 31, 2017, the well averaged production of 9 bbls/day. The field has a production battery which is equipped with testing, water separation and trucking facilities. The Company has a stimulation planned on the producing well on this field in 2020.

## Other Exploration Blocks

Block 182:

Work completed to date on Block 182 includes 20.9 km<sup>2</sup> of 3D seismic, 5.9 km of 2D seismic and one exploration well that was drilled to 1,400 metres on the block boundary in November 2012. Block 182 is currently in the PAD phase. In 2018 the

ANP approved a suspension to the PAD phase due to the lack of an environmental permit. Under the terms of the suspension the new PAD deadline will expire 278 days following receipt of the permit.

#### *Blocks 169 & 255*

Blocks 169 and 255 were awarded to Alvopectro in the 12th Brazil Bid Round and contracts were executed in May 2014. Given the current injunction against unconventional operations and the lack of regulations for hydraulic fracturing, in December 2017, Alvopectro filed a request with the ANP to cancel these concession contracts and the associated work commitments and refund the original bid round bonuses paid.

#### *Block 57*

Block 57 was awarded in the 13<sup>th</sup> Brazil Bid Round. Alvopectro is the operator and holds a 65% working interest. In November 2018, Alvopectro applied for an extension to the phase expiry relating to the timing of receipt of the environmental permit for a well to be drilled on this block. Alvopectro plans to drill this well (the 57(A1) well) in 2019.

#### *Blocks 62, 71 and 145*

Alvopectro held a 65% participating interest in Blocks 62, 71 and 145 as at December 31, 2018. In 2018, Alvopectro satisfied the work commitments outstanding on these blocks, subject to ANP approval, and in January 2019 the blocks were relinquished.

### **STATEMENT OF RESERVES DATA**

In accordance with NI 51-101, Alvopectro engaged GLJ to prepare the GLJ Report. The GLJ Report was an evaluation of all reserves of Alvopectro as at December 31, 2018, including our Caburé natural gas field, the Gomo natural gas from the drainage areas around our 183(1) and 197(1) wells, as well as our Bom Lugar and Mãe-da-lua oil fields. The GLJ Report is dated March 7, 2019 with an effective date of December 31, 2018 and a preparation date of February 26, 2019.

The tables below are a summary of the reserves attributable to the properties of the Corporation and the net present value of future net revenue attributable to such reserves as evaluated in the GLJ Report based on forecast price and cost assumptions. The tables summarize the data contained in the GLJ Report and, as a result, may contain slightly different numbers than such report due to rounding. Also, due to rounding, certain columns may not add exactly.

The net present value of future net revenue attributable to reserves is stated without provision for interest costs and general and administrative costs, but after providing for estimated royalties, production costs, development costs, other income, future capital expenditures, well abandonment and reclamation costs for only those wells assigned reserves and material dedicated gathering systems and facilities. It should not be assumed that the undiscounted or discounted net present value of future net revenue attributable to reserves estimated by GLJ represent the fair market value of those reserves. Other assumptions and qualifications relating to costs, prices for future production and other matters are summarized herein. The recovery and reserve estimates of oil reserves provided herein are estimates only. Actual reserves may be greater than or less than the estimates provided herein.

The GLJ Report is based on certain factual data supplied by the Corporation and GLJ's opinion of reasonable practice in the industry. The extent and character of ownership and all factual data pertaining to petroleum properties and contracts (except for certain information residing in the public domain) were supplied by the Corporation to GLJ. GLJ accepted this data as presented and neither title searches nor field inspections were conducted.

## Summary of Oil and Gas Reserves – Forecast Prices and Costs<sup>(1), (2), (3)</sup>

### Company Total

	Light & Medium Oil		Conventional Natural Gas		Natural Gas Liquids		Oil Equivalent	
	Company Gross (Mbbbl)	Company Net (Mbbbl)	Company Gross (MMcf)	Company Net (MMcf)	Company Gross (Mbbbl)	Company Net (Mbbbl)	Company Gross (Mboe)	Company Net (Mboe)
<b>Proved</b>								
Producing	3	2	-	-	-	-	3	2
Developed Non-Producing	24	20	-	-	-	-	24	20
Undeveloped	148	139	20,911	18,401	118	104	3,752	3,310
<b>Total Proved</b>	<b>175</b>	<b>162</b>	<b>20,911</b>	<b>18,401</b>	<b>118</b>	<b>104</b>	<b>3,779</b>	<b>3,333</b>
Probable	135	125	12,607	11,098	81	72	2,318	2,047
<b>Total Proved plus Probable</b>	<b>310</b>	<b>287</b>	<b>33,519</b>	<b>29,499</b>	<b>200</b>	<b>176</b>	<b>6,096</b>	<b>5,379</b>
Possible	290	270	16,839	14,804	113	99	3,209	2,837
<b>Total Proved plus Probable plus Possible</b>	<b>600</b>	<b>557</b>	<b>50,357</b>	<b>44,303</b>	<b>313</b>	<b>275</b>	<b>9,306</b>	<b>8,216</b>

### By Field

	Caburé Natural Gas Field		Gomo Gas Field		Bom Lugar Oil Field		Mãe-da-lua Oil Field		Total	
	Company Gross (Mboe)	Company Net (Mboe)	Company Gross (Mboe)	Company Net (Mboe)	Company Gross (Mboe)	Company Net (Mboe)	Company Gross (Mboe)	Company Net (Mboe)	Company Gross (Mboe)	Company Net (Mboe)
<b>Proved</b>										
Producing	-	-	-	-	-	-	3	2	3	2
Developed Non-Producing	-	-	-	-	-	-	24	20	24	20
Undeveloped	3,227	2,836	376	335	148	139	-	-	3,752	3,310
<b>Total Proved</b>	<b>3,227</b>	<b>2,836</b>	<b>376</b>	<b>335</b>	<b>148</b>	<b>139</b>	<b>27</b>	<b>23</b>	<b>3,779</b>	<b>3,333</b>
Probable	1,387	1,219	796	703	121	113	14	12	2,318	2,047
<b>Total Proved plus Probable</b>	<b>4,614</b>	<b>4,055</b>	<b>1,172</b>	<b>1,038</b>	<b>269</b>	<b>252</b>	<b>41</b>	<b>35</b>	<b>6,096</b>	<b>5,379</b>
Possible	1,584	1,392	1,335	1,174	274	257	16	14	3,209	2,837
<b>Total Proved plus Probable plus Possible</b>	<b>6,198</b>	<b>5,447</b>	<b>2,507</b>	<b>2,212</b>	<b>542</b>	<b>509</b>	<b>57</b>	<b>48</b>	<b>9,306</b>	<b>8,216</b>

## Summary of Before Tax Net Present Value of Future Net Revenue<sup>(1), (2), (3), (4)</sup>

### Company Total

M\$	Undiscounted	5%	10%	15%	20%
<b>Proved</b>					
Producing	(641)	(587)	(546)	(513)	(486)
Developed Non-Producing	199	195	184	169	154
Undeveloped	125,089	105,225	89,343	76,572	66,205
<b>Total Proved</b>	<b>124,647</b>	<b>104,834</b>	<b>88,981</b>	<b>76,228</b>	<b>65,872</b>
Probable	109,221	76,830	55,969	41,949	32,183
<b>Total Proved plus Probable</b>	<b>233,868</b>	<b>181,663</b>	<b>144,950</b>	<b>118,177</b>	<b>98,056</b>
Possible	176,700	101,048	64,635	44,317	31,873
<b>Total Proved plus Probable plus Possible</b>	<b>410,569</b>	<b>282,712</b>	<b>209,585</b>	<b>162,494</b>	<b>129,928</b>



## By Field

M\$	Undiscounted	5%	10%	15%	20%
<b>Proved</b>					
Caburé Natural Gas Field	115,615	97,823	83,605	72,108	62,708
Gomo Gas Field	5,638	4,304	3,256	2,477	1,900
Bom Lugar Oil Field	3,378	2,651	2,045	1,560	1,178
Mãe-da-lua Oil Field	16	55	75	83	85
<b>Total Proved</b>	<b>124,647</b>	<b>104,834</b>	<b>88,981</b>	<b>76,228</b>	<b>65,872</b>
<b>Proved Plus Probable</b>					
Caburé Natural Gas Field	184,030	147,011	119,532	98,732	82,702
Gomo Gas Field	40,331	27,043	19,294	14,470	11,271
Bom Lugar Oil Field	9,115	7,205	5,731	4,603	3,734
Mãe-da-lua Oil Field	393	404	394	373	349
<b>Total Proved Plus Probable</b>	<b>233,868</b>	<b>181,663</b>	<b>144,950</b>	<b>118,177</b>	<b>98,056</b>
<b>Proved Plus Probable Plus Possible</b>					
Caburé Natural Gas Field	268,328	200,635	154,413	121,885	98,358
Gomo Gas Field	121,266	65,744	42,261	30,240	23,124
Bom Lugar Oil Field	20,110	15,509	12,147	9,669	7,807
Mãe-da-lua Oil Field	865	824	764	700	639
<b>Total Proved Plus Probable Plus Possible</b>	<b>410,569</b>	<b>282,712</b>	<b>209,585</b>	<b>162,494</b>	<b>129,928</b>

Summary of After Tax Net Present Value of Future Net Revenue<sup>(1), (2), (3), (4)</sup>

M\$	Undiscounted	5%	10%	15%	20%
<b>Proved</b>					
Producing	(641)	(587)	(546)	(513)	(486)
Developed Non-Producing	199	195	184	169	154
Undeveloped	114,312	96,017	81,386	69,629	60,093
<b>Total Proved</b>	<b>113,870</b>	<b>95,625</b>	<b>81,025</b>	<b>69,286</b>	<b>59,760</b>
Probable	93,561	66,860	49,310	37,364	28,967
<b>Total Proved plus Probable</b>	<b>207,432</b>	<b>162,485</b>	<b>130,335</b>	<b>106,650</b>	<b>88,727</b>
Possible	138,895	81,570	52,792	36,328	26,099
<b>Total Proved plus Probable plus Possible</b>	<b>346,326</b>	<b>244,055</b>	<b>183,126</b>	<b>142,978</b>	<b>114,826</b>

**Notes:**

- (1) The tables above are a summary of the reserves of Alvo Petro and the net present value of future net revenue attributable to such reserves as evaluated in the GLJ Report based on forecast price and cost assumptions. The tables summarize the data contained in the GLJ Report and as a result may contain slightly different numbers than such report due to rounding. Also due to rounding, certain columns may not add exactly.
- (2) Company Gross reserves means the total working interest share of remaining recoverable reserves owned by Alvo Petro before deductions of royalties payable to others and without including any royalty interests owned by Alvo Petro.
- (3) There are currently four existing wells drilled within the unit area of the Caburé natural gas field and two wells drilled within the Gomo gas field. However, all reserves associated with these fields are classified as Proved Undeveloped or Probable Undeveloped due to the required construction of the pipeline and the gas processing facility.
- (4) The net present value of future net revenue attributable to Alvo Petro's reserves is stated without provision for interest costs and general and administrative costs, but after providing for estimated royalties and production taxes, production costs, development costs, other income, future capital expenditures, well abandonment and reclamation costs for only those wells assigned reserves and material dedicated gathering systems and facilities. The net present values of future net revenue attributable to the Alvo Petro's reserves estimated by GLJ do not represent the fair market value of those reserves. Other assumptions and qualifications relating to costs, prices for future production and other matters are summarized herein. The recovery and reserve estimates of the Company's reserves provided herein are estimates only and there is no guarantee that the estimated reserves will be recovered. Actual reserves may be greater than or less than the estimates provided herein.

### Summary of Before Tax Net Present Value of Future Net Revenue on a Unit Basis

	Unit Value <sup>(1)</sup> Before Income Tax Discounted at 10%/year	
	\$/boe	\$/Mcf
<b>Proved</b>		
Producing	(253.02)	(42.17)
Developed Non-Producing	9.00	1.50
Undeveloped	26.99	4.50
<b>Total Proved</b>	<b>26.70</b>	<b>4.45</b>
Probable	27.35	4.56
<b>Total Proved plus Probable</b>	<b>26.95</b>	<b>4.49</b>
Possible	22.78	3.80
<b>Total Proved plus Probable plus Possible</b>	<b>25.51</b>	<b>4.25</b>

(1) Unit values are based on Company Net Reserves.

### Net Present Value of Future Net Revenue by Product Type – Forecast Prices and Costs

	Future Net Revenue Before Income Taxes <sup>(3)</sup> (Discounted at 10% per year)		
	M\$	\$/boe	\$/Mcf
<b>Proved Producing</b>			
Light and Medium Crude Oil <sup>(1)</sup>	(546)	(253.02)	(42.17)
Conventional Natural Gas <sup>(2)</sup>	-	-	-
<b>Total: Proved Producing</b>	<b>(546)</b>	<b>(253.02)</b>	<b>(42.17)</b>
<b>Total Proved</b>			
Light and Medium Crude Oil <sup>(1)</sup>	2,454	15.18	2.53
Conventional Natural Gas <sup>(2)</sup>	86,527	27.29	4.55
<b>Total: Total Proved</b>	<b>88,981</b>	<b>26.70</b>	<b>4.45</b>
<b>Total Proved Plus Probable</b>			
Light and Medium Crude Oil <sup>(1)</sup>	5,897	20.55	3.43
Conventional Natural Gas <sup>(2)</sup>	139,053	27.31	4.55
<b>Total: Total Proved Plus Probable</b>	<b>144,950</b>	<b>26.95</b>	<b>4.49</b>
<b>Total Proved Plus Probable Plus Possible</b>			
Light and Medium Crude Oil <sup>(1)</sup>	11,917	21.39	3.56
Conventional Natural Gas <sup>(2)</sup>	197,669	25.81	4.30
<b>Total: Total Proved Plus Probable Plus Possible</b>	<b>209,585</b>	<b>25.51</b>	<b>4.25</b>

**Notes:**

- (1) Includes solution gas and other by-products
- (2) Including by-products but excluding solution gas.
- (3) Other company revenue and costs not related to a specific production group have been allocated proportionately to production groups. Unit values are based on Company Net Reserves.

### Total Future Net Revenue (Undiscounted) – Forecast Prices and Costs

(MUS, Undiscounted)	Revenue	Royalties	Operating Costs	Development Costs	Abandonment and Reclamation Costs	Future Net Revenue Before Income Taxes	Future Income Taxes	Future Net Revenue After Income Taxes
<b>Proved</b>								
Producing	138	22	118	-	638	(641)	-	(641)
Developed Non-Producing	1,444	230	569	435	11	199	-	199
Undeveloped	219,197	22,996	29,378	39,354	2,380	125,089	10,777	114,312
<b>Total Proved</b>	<b>220,779</b>	<b>23,248</b>	<b>30,066</b>	<b>39,789</b>	<b>3,029</b>	<b>124,647</b>	<b>10,777</b>	<b>113,870</b>
Probable	154,097	16,166	21,782	6,457	472	109,221	15,660	93,561
<b>Total Proved plus Probable</b>	<b>374,876</b>	<b>39,413</b>	<b>51,848</b>	<b>46,246</b>	<b>3,501</b>	<b>233,868</b>	<b>26,437</b>	<b>207,432</b>
Possible	239,128	25,114	30,680	5,984	651	176,700	37,805	138,895
<b>Total Proved plus Probable plus Possible</b>	<b>614,004</b>	<b>64,527</b>	<b>82,527</b>	<b>52,230</b>	<b>4,152</b>	<b>410,569</b>	<b>64,242</b>	<b>346,326</b>

## Pricing Assumptions – Forecast Prices and Costs

GLJ employed the following pricing and inflation rate assumptions as of December 31, 2018 in the GLJ Report in estimating reserves data using forecast prices and costs.

Year	Inflation %	Brent Blend Crude Oil FOB North Sea (\$/Bbl)	National Balancing Point (UK) (\$/mmbtu)	NYMEX Henry Hub Near Month Contract (\$/mmbtu)	Alvopetro-Bahiagas Gas Contract \$/mmbtu
2019	2.0	63.25	8.10	3.00	7.70
2020	2.0	68.50	7.90	3.15	7.93
2021	2.0	71.25	7.75	3.35	8.21
2022	2.0	73.00	7.60	3.50	8.44
2023	2.0	75.50	7.60	3.63	8.62
2024	2.0	78.00	7.60	3.70	8.83
2025	2.0	80.50	7.60	3.77	9.04
2026	2.0	83.41	7.75	3.85	9.26
2027	2.0	85.02	7.90	3.93	9.50
2028	2.0	86.66	7.90	4.00	9.70
2029	2.0	88.39*	8.06*	4.08*	9.87*

\*Escalated at a rate of 2.0% per year thereafter.

GLJ's oil price forecast in effect on December 31, 2018 for Brent crude formed the basis for the prices used in its evaluation of the Corporation's oil reserves. With respect to the Company's natural gas reserves, GLJ utilized price forecasts for Brent, National Balancing Point and Henry Hub to forecast the specific forecast gas price under Alvopetro's GSA.

### Reconciliation of Changes in Reserves

The following table summarized the changes in Gross Reserves from December 31, 2017 to December 31, 2018.

	Proved (Mboe)	Probable (Mboe)	Proved Plus Probable (Mboe)	Possible (Mboe)	Proved plus Probable plus Possible (Mboe)
<b>December 31, 2017</b>	-	697	697	172	869
Discoveries	3,603	2,183	5,786	2,920	8,706
Extensions	148	(115)	33	209	242
Improved Recovery	31	14	46	16	62
Technical Revisions	1	(271)	(270)	(59)	(328)
Disposition	-	(191)	(191)	(48)	(239)
Production	(5)	-	(5)	-	(5)
<b>December 31, 2018</b>	<b>3,779</b>	<b>2,317</b>	<b>6,096</b>	<b>3,210</b>	<b>9,306</b>

#### Notes:

(1) Based on the GLJ price forecast effective December 31, 2018.

### *Additional Information Relating to Reserves Data*

#### *Undeveloped Reserves*

The following table sets forth the Company's Gross Reserves for proved undeveloped reserves and probable undeveloped reserves, each by product type, attributed to our assets:

	Light and Medium Oil (MBbls)		Natural Gas (MMcf)		Natural Gas Liquids (Mbbbl)		Oil Equivalent (Mbbbl)	
	First Attributed	Total at Year-end	First Attributed	Total at Year-end	First Attributed	Total at Year-end	First Attributed	Total at Year-end
<b>Proved Undeveloped</b>								
2016	-	-	-	-	-	-	-	-
2017	-	-	-	-	-	-	-	-
2018	148	148	20,911	20,911	118	118	3,751	3,751
<b>Probable Undeveloped</b>								
2016	-	649	-	-	-	-	-	649
2017	-	666	-	-	-	-	-	666
2018	121	121	12,607	12,607	81	81	2,303	2,303

The Corporation's proved and probable undeveloped natural gas reserves and natural gas liquids reserves are attributable to the Caburé natural gas field and the Gomo natural gas project. There are currently four existing wells drilled within the unit area of the Caburé natural gas field and two wells drilled within the Gomo gas field. However, all reserves associated with these fields are classified as Proved Undeveloped or Probable Undeveloped due to the required construction of the pipeline and the gas processing facility. The Corporation's proved and probable undeveloped oil reserves are attributable to a new drilling location on the Bom Lugar field expected to be drilled in 2020.

#### *Significant Factors or Uncertainties Affecting Reserves Data*

The process of estimating reserves is complex. It requires significant judgments and decisions based on available geological, geophysical, engineering, and economic data. These estimates may change substantially as additional data from ongoing development activities and production performance becomes available and as economic conditions impacting oil and gas prices and costs change. The reserve estimates contained herein are based on current production forecasts, prices and economic conditions.

As circumstances change or additional data becomes available, reserve estimates can change. Estimates made are reviewed and revised, either upward or downward, as warranted by the new information. Revisions are often required due to changes in well performance, prices, economic conditions and governmental restrictions.

Although every reasonable effort is made to ensure that reserve estimates are accurate, reserve estimation is an inferential process. As a result, subjective decisions, new geological or production information and a changing environment may impact these estimates. Revisions to reserve estimates can arise from changes in year-end oil and natural gas prices and reservoir performance. Such revisions can be either positive or negative.

#### *Future Development Costs*

The table below sets out the total development costs deducted in the estimation in the GLJ Report of future net revenue attributable to proved reserves, proved plus probable reserves and proved plus probable plus possible reserves (using forecast prices and costs).

*Company Total*

Forecast Prices and Costs			
M\$, undiscounted	Proved Reserves	Proved Plus Probable Reserves	Proved Plus Probable Plus Possible Reserves
2019	5,040	5,040	5,040
2020	13,653	15,678	19,636
2021	2,167	2,167	2,167
2022	2,706	4,829	4,829
2023	6,731	6,731	6,731
Remaining Years	9,492	11,801	13,827
<b>Total Undiscounted</b>	<b>39,789</b>	<b>46,246</b>	<b>52,230</b>

*By Field*

M\$, Undiscounted	2019	2020	2021	2022	2023	Remaining	Total
<b>Proved</b>							
Caburé Natural Gas Field	4,340	8,146	1,730	1,730	6,276	8,555	30,777
Gomo Gas Field	700	1,989	437	976	455	937	5,494
Bom Lugar Oil Field	-	3,083	-	-	-	-	3,083
Mãe-da-lua Oil Field	-	435	-	-	-	-	435
<b>Total Proved</b>	<b>5,040</b>	<b>13,653</b>	<b>2,167</b>	<b>2,706</b>	<b>6,731</b>	<b>9,492</b>	<b>39,789</b>
<b>Proved Plus Probable</b>							
Caburé Natural Gas Field	4,340	8,146	1,730	1,730	6,276	9,890	32,112
Gomo Gas Field	700	3,274	437	3,099	455	1,911	9,876
Bom Lugar Oil Field	-	3,823	-	-	-	-	3,823
Mãe-da-lua Oil Field	-	435	-	-	-	-	435
<b>Total Proved Plus Probable</b>	<b>5,040</b>	<b>15,678</b>	<b>2,167</b>	<b>4,829</b>	<b>6,731</b>	<b>11,801</b>	<b>46,246</b>
<b>Proved Plus Probable Plus Possible</b>							
Caburé Natural Gas Field	4,340	8,146	1,730	1,730	6,276	10,380	32,602
Gomo Gas Field	700	3,274	437	3,099	455	3,477	11,412
Bom Lugar Oil Field	-	7,781	-	-	-	-	7,781
Mãe-da-lua Oil Field	-	435	-	-	-	-	435
<b>Total Proved Plus Probable Plus Possible</b>	<b>5,040</b>	<b>19,636</b>	<b>2,167</b>	<b>4,829</b>	<b>6,731</b>	<b>13,827</b>	<b>52,230</b>

Future development costs for Caburé are consistent amongst all three reserve categories and include costs for the 11-kilometre transfer pipeline construction in 2019, and payments for full field development in 2020. Under each reserve category, Alvo Petro has elected to reflect 100% of the contractual obligations as future cash outflows pursuant to the Gas Treatment Agreement with Enerflex, including all operating, capital and related financing costs for the full duration of the agreement. Future development costs for additional compression at the Caburé field are included in 2023. The future development costs for the Gomo field in the proved category are for the stimulation of the 183-1 well, and the pipeline and field facility development to tie-in the well to Alvo Petro's midstream assets. In the probable and possible categories, there are future development costs for the stimulation and tie-in of the 197-1 well, and future field compression. The future development costs for Bom Lugar in the proved category include costs for a directional wellbore and facilities upgrade. A second directional well is included in the future development costs for the possible category for Bom Lugar. Future development costs at Mãe-da-lua relate to a stimulation of the existing producing well, planned in 2020.

Alvo Petro requires financing to execute the development of the Caburé natural gas field and for the initial capital associated with the Gomo natural gas project. Financing alternatives include project financing, vendor financing, strategic partnerships, other debt issuances or additional equity issuances. The Company may also explore asset sales or farmouts to assist with funding. Development of the Bom Lugar and Mãe-da-lua fields as well as work commitments on our exploration blocks are expected to be funded from cash flow from the Caburé natural gas field; however, financing may also be required for this development to the extent Caburé production is delayed or future revenue from this field is less than anticipated. The cost

of the potential debt component for funding future development costs is expected to be minimal and to not materially impact the disclosed reserves or future net revenue.

## Other Oil and Gas Information

### *Oil and Gas Properties and Wells*

The following table summarizes Alvo Petro's gross and net wells as at December 31, 2018, which are shut-in or are producing, or which Alvo Petro considers to be capable of production, and all of which are located onshore:

	Gross		Net	
	Producing	Non-Producing	Producing	Non-Producing
Brazil				
Oil	1	1	1	1
Gas	2	4	1	3
<b>Total</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>4</b>

### *Properties with no Attributed Reserves*

The chart below sets forth Alvo Petro's minimum work commitments with respect to its properties with no attributed reserves (unproved properties) in Brazil as of the date of this AIF. Effective December 31, 2018, Alvo Petro had 46,431 gross and 36,418 net acres of unproved properties in Brazil. Subsequent to December 31, 2018, the Company relinquished Blocks 62, 71 and 145 (a total of 20,858 gross and 13,558 net acres). As of the date of this AIF, Alvo Petro has 25,573 gross (22,860 net) acres of properties with no attributed reserves or production.

Block	Gross Acres	Net Acres	Working Interest	Current Phase Expiry	Estimated Commitment <sup>(1)</sup> (M\$)
182	4,807	4,807	100%	Suspension in place	-
169	5,280	5,280	100%	Suspension in place <sup>(2)</sup>	981
255	7,734	7,734	100%	Suspension in place <sup>(2)</sup>	1,174
57	7,752	5,039	65%	Extension requested	38
<b>Total<sup>(3)</sup></b>	<b>25,573</b>	<b>22,860</b>			<b>2,193</b>

(1) The estimated commitments expressed above are based on costs to complete work units ("UTs") which represent the minimum work to be carried out under the terms of the existing exploration phase of the concession contracts. UTs may be satisfied through, among other things, drilling exploration wells and shooting or reprocessing seismic. UTs are not applicable in Development Assessment Plan ("PAD") phase; however, the Company must notify the ANP of its work plan to be completed during this phase. Blocks 182 is currently in the PAD phase.

(2) Due to an ongoing injunction against unconventional activities on all 12th Brazil Bid Round Blocks, in December 2017 the Company filed a request with the ANP to cancel the Block 169 and 255 concession contracts, including the commitment noted in the table above, and return the bid round bonuses paid. The blocks are in suspension as of the date of this annual information form, pending ANP's decision on this matter.

(3) Blocks 197 and 183 are excluded from the table above as reserves were assigned in the GLJ Report. There is a total of 11,224 acres (gross and net) on these two blocks. There is one work commitment outstanding on Block 183 for a total of \$0.9 million. See "Gomo Natural Gas Project" under "Principle Properties".

Assuming Alvo Petro is successful in obtaining the requests filed with the ANP as more particularly described in the "Exploration Block Activities" below, none of Alvo Petro's rights to explore, develop or exploit will, absent further action, expire within one year, as of December 31, 2018 other than those associated with Blocks 169 and 255. See also "Risk Factors" in this annual information form.

### *Additional Information Concerning Abandonment and Reclamation Costs*

The estimated costs used to calculate total future net revenue from proved plus probable reserves in the GLJ Report include abandonment and reclamation costs associated with existing and future wells with reserves assigned and material, dedicated gathering systems and facilities required to enable production of these wells, but do not include abandonment and reclamation costs for existing wells with no assigned reserves which are included and set forth in the financial statements of Alvo Petro. The estimated abandonment and reclamation costs (with respect to wells included in the GLJ report) used to calculate total future net revenue from proved plus probable reserves is \$3.5 million undiscounted, with \$0.1 million anticipated for 2019 and the remaining expected to be incurred in 2027 or later. See Note 8 of the Company's audited consolidated financial statements as at December 31, 2018 for further information.

### Costs Incurred

The following table summarizes capital expenditures and including capitalized general and administrative expenses related to Alvo Petro's activities for the year ended December 31, 2018:

<b>Year ended December 31, 2018 (M\$)</b>	
Property Acquisition Costs	
Proved Properties	-
Unproved Properties	-
Exploration Costs	2,217
Development Costs	3,127
<b>Total</b>	<b>5,344</b>

### Exploration and Development Activities

During the year ended December 31, 2018, the Corporation tested the 183(1) well (1.0 net) on Block 183, part of the Company's Gomo natural gas project. In addition, Alvo Petro's partner on the Caburé natural gas field completed and tied-in two (1.0 net) of the four existing wells (2.0 net) within the unit.

### Production Estimates

The following table discloses, for each product type, the total volume of production estimated in the GLJ Report in the estimates of future net revenue from gross proved and gross proved plus probable reserves disclosed above for 2019.

	Light & Medium Oil (Bbls/d)	Conventional Natural Gas (Mcf/d)	Natural Gas Liquids (Bbls/d)	Oil Equivalent (boe/d)
<b>Total Proved</b>				
Mãe-da-lua	7	-	-	7
Other properties	-	-	-	-
<b>Total: Total Proved</b>	<b>7</b>	<b>-</b>	<b>-</b>	<b>7</b>
<b>Total Proved plus Probable</b>				
Mãe-da-lua	7	-	-	7
Other properties	-	-	-	-
<b>Total: Total Proved Plus Probable</b>	<b>7</b>	<b>-</b>	<b>-</b>	<b>7</b>

Only the Company's Mãe-da-lua field is estimated to generate production in 2019. Natural gas production is forecast to commence in 2020 and accordingly the following table discloses, for each product type, the total volume of production estimated in the GLJ Report in the estimates of future net revenue from gross proved and gross proved plus probable reserves disclosed above for 2020:

	Light & Medium Oil (Bbls/d)	Conventional Natural Gas (Mcf/d)	Natural Gas Liquids (Bbls/d)	Oil Equivalent (boe/d)
<b>Total Proved</b>				
Caburé	-	10,434	56	1,794
Gomo	-	668	5	117
Bom Lugar	69	-	-	69
Mãe-da-lua	39	-	-	39
<b>Total: Total Proved</b>	<b>108</b>	<b>11,102</b>	<b>61</b>	<b>2,019</b>
<b>Total Proved plus Probable</b>				
Caburé	-	10,434	56	1,794
Gomo	-	1,334	11	233
Bom Lugar	122	-	-	122
Mãe-da-lua	50	-	-	50
<b>Total: Total Proved Plus Probable</b>	<b>172</b>	<b>11,767</b>	<b>66</b>	<b>2,200</b>

### Tax Horizon

The GLJ Report estimates that the Corporation will be taxable in 2020. Future taxability will depend on future activity levels and may be delayed subsequent to 2020 due to additional capital spending and other additional costs such as general and administrative costs not included in the GLJ Report but included in the computations of Corporation's taxable income. As of December 31, 2018, the Corporation has total tax pools in Brazil of \$76.7 million, which includes \$29.6 million of tax loss carryforwards which carryforward indefinitely but are limited to annual utilization of up to 30% of taxable income in subsequent periods.

### Production History

The following tables disclose, on a quarterly basis for the year ended December 31, 2018, information in respect of production, product prices received, royalties and production taxes, production expenses and resulting netback.

#### Average Daily Production Volume, Prices Received, Royalties Paid, Production Costs and Netback – Light & Medium Crude Oil:

	Three Months Ended			
	Mar. 31, 2018	Jun. 30, 2018	Sept. 30, 2018	Dec. 31, 2018
Average Daily Production Volume (bbl)	21	33	19	11
Sales price (\$ per bbl)	62.00	71.10	70.15	59.85
Transportation (\$ per bbl)	(2.14)	(1.65)	(1.68)	(0.97)
Net realized price (\$ per bbl)	59.86	69.45	68.47	58.88
Royalties and Production Taxes (\$ per bbl)	(6.95)	(6.25)	(7.30)	(9.65)
Production Expense (\$ per bbl)	(126.14)	(58.92)	(104.94)	(229.73)
<b>Operating Netback (\$ per bbl)<sup>(1)</sup></b>	<b>(73.23)</b>	<b>4.28</b>	<b>(43.77)</b>	<b>(180.50)</b>

#### Notes:

(1) Netback is calculated by deducting royalties and production taxes, production costs, and transportation costs, from prices received, excluding the effects of hedging.

## INDUSTRY CONDITIONS

### Brazil

Brazil, located on the east coast of South America, is a federal republic characterized by its large and growing domestic market, diversified economy and oil industry. Brazil has a population of over 200 million people and is the world's ninth largest economy with proven oil reserves of approximately 12.8 billion Bbls and proven gas reserves of approximately 370 billion m<sup>3</sup> (as of 2017 as reported by the ANP) as a result of exploration success and a regulatory framework that allows for private investment.

Exploration in Brazil began in the 1930s and the first commercial discovery was made in 1939 in the Recôncavo Basin in the State of Bahia. However, production output did not experience substantial growth until the late 1970s when the state oil company, *Petróleo Brasileiro SA* ("Petrobras"), extended its operations offshore. In the Campos Basin, offshore Brazil, a series of deep-water discoveries were made in the 1980s and 1990s. The discovery of the "pre-salt" reserves (a group of reservoirs older than the salt layer) in the Santos Basin followed those in the Campos Basin, and have become the focal point of current hydrocarbon development in Brazil. The pre-salt discoveries are credited with being the potential catalyst for making Brazil an increasingly important oil exporter. However, there are also other opportunities that extend beyond the shallow and deep waters' conventional potential, including the mature coastal basins that have yet to undergo next generation exploration and development methodologies. The onshore basin opportunities include new exploration models for additional trapping opportunities, unconventional or tight oil and gas plays and enhanced recovery methods in existing hydrocarbon pools.



## Brazil - Hydrocarbon Law & Concessions Regime

Until 1995, Brazilian oil and gas activities were monopolized by state-owned Petrobras. Constitutional Amendment No. 09 (1995) adjusted this monopoly by allowing that the Brazilian government could contract with state-owned and private companies to conduct many oil and gas activities. Today, state-owned or private company participation in these oil activities is regulated in large part by Federal Law No. 9,478 (1997) (the "Petroleum Law"). Under the "concession" regime regulated by the Petroleum Law, the ANP has conducted 13 bidding rounds to grant concession contracts ("Concession Contract") for onshore and offshore petroleum exploration and production blocks to concessionaries, and to grant production contracts.

In addition to the existing concession regime, newer Brazilian laws have confirmed a "production sharing contract" to be applied for future licensing of the defined pre-salt area and certain other areas to be deemed strategic by the government.

The primary regulatory agencies charged with regulating oil and gas activities in Brazil are:

- (a) the Conselho Nacional de Política Energética, or National Council of Energy Policy, an agency of the Brazilian government, having the main purposes of fostering rational use of Brazil's energy resources, ensuring proper functioning of the national fuels inventories system, reviewing energy matrixes for different regions of Brazil, and establishing guidelines;
- (b) the ANP, being the national regulator of the oil, gas and biofuels industries, is generally charged with regulating, contracting and supervising activities related to oil and natural gas, and establishing technical standards for various related activities; and
- (c) the Ministério de Minas e Energia, or Ministry of Mines and Energy, a Brazilian government ministry fostering investments in mining and energy related activities funding research and establishing government policies.

In addition to this regulatory framework, environmental regulations are applicable and certain licences and permits are required for the performance of oil and gas activities. Government environmental agencies are responsible for issuing such licences and permits and federal or state rules may apply depending on the activity to be carried out. As mentioned above, there are two different regulatory frameworks for the granting of exploration and production rights in Brazil: the concession regime and the production sharing contract regime. The exploration and production rights to be held by Alvo Petro fall under the concession regime.

Under the concession regime, oil and gas blocks are awarded by means of bidding rounds carried out by the ANP. The ANP has the authority to define which oil and gas blocks shall be tendered and to release general terms and conditions comprised in the tender documents. Such tender documents establish all technical, financial and legal documents and requirements that the would be concessionaire must present or satisfy in order to be qualified to participate in the bidding round under various categories of participation. The ANP's bid evaluation criteria are signature bonus, minimum exploration program, and local content. Federal, state and local governments are recompensed through "government takes", which are defined as all payments to be made by a concessionaire as a result of the activities of exploration and production of oil and natural gas. Government takes consist of:

- Signature Bonus: a lump-sum payable in a single instalment upon execution of the concession agreement;
- Royalties: financial compensation to be paid monthly by the concessionaries;
- Special Participation: extraordinary financial compensation payable in the event that high volumes of oil or natural gas are produced or a certain field otherwise enjoys high profitability; and
- Payment for area occupation or retention: consists of a yearly sum to be paid for the occupation or retention of oil prospecting areas. ANP sets the amounts to be paid in the bidding documents and concession agreements, but there are minimum and maximum standards established by law.

There is no restriction on direct or indirect foreign participation in exploration and production rights, provided that the foreign investor incorporates a company under the Brazilian law with head office and management in Brazil and complies with all technical, legal and financial requirements established by the ANP. No preference rule is established.

Operations are generally divided into two phases: exploration and production. The exploration phase can be 5 years for mature blocks or 8 years for frontier blocks. The exploration terms are outlined in each bid round instruction and for

Alvopetro's blocks are 5 years, consisting of two phases of three and two years. The minimum exploration program of the first exploration phase is the work program bid to win the block, and for the second phase the minimum work program is typically one exploration well.

In the case of a discovery in the exploration phase, the company must notify ANP and, to assess the discovery, submit a "Development Assessment" as part of the PAD phase that may include a specific request for a long-term production test, if required. Once the assessment is complete, the company submits a "Final Discovery Assessment Report" and then can declare "Commerciality". A Development Plan would then need to be submitted to the ANP within 6 months following commercial declaration. Once the ANP has accepted and approved the development plan, the operator is granted the area for production purposes with the remaining land returned to the ANP. The development and production phase is for 27 years after the declaration of commerciality but may be extended if approved by the ANP. At the end of the development and production phase, any required abandonment and reclamation will be carried out and the field will be returned to the ANP.

### **Local Content**

All Concession Contracts have local content requirements, which are determined during the bidding process for each block and assessed at end of the expiry phase of each block. If the committed level of local content is not met, the operator will be penalized. Penalties can be levied based on local content at the project level or at the expenditure level. Companies have to submit local content details as part of a regular quarterly report to the ANP. In 2018, the ANP introduced revised local content regulations which reduced the local content requirements for all blocks and fields held by Alvopetro to 50%. As at December 31, 2018, the Corporation's estimated local content penalties are estimated at \$0.06 million.

### **Brazil – Royalties and Production Taxes**

Royalties are chargeable on oil and gas production. The basic royalty payable under the Petroleum Law is 10%. This rate can be varied to a lower rate at the discretion of the ANP, but cannot be reduced below 5%. Reduced rates have occasionally been set during the initial licensing process. All of the Concession Contracts held by Alvopetro are subject to a base 10% royalty other than the Bom Lugar oil field which is subject to a base 5% royalty.

Royalties and production taxes include Brazil's Social Assistance Contribution ("COFINS") and Social Integration Program ("PIS") paid on revenues at a combined rate of 9.25%, offset by credits on available expenditures.

In addition, landowners are entitled to a percentage of the production from their lands, which may vary from 0.5% to 1%, to be defined by the ANP according to the Petroleum Law. All of the Concession Contracts held by Alvopetro are subject to a 1% landowner royalty other than the Bom Lugar oil mature field which is subject to a base 0.5% landowner royalty.

Certain third parties are entitled to a gross-overriding royalty on the Mãe-da-lua field, Block 182 and Block 197 (including the portion of the Caburé natural gas field attributable to Block 197). This gross-overriding royalty is 2.5% on gross revenues for these blocks, less Government royalties and taxes on revenue.

### *Special Participation*

The special participation, set forth in Item III, Article 45 of Brazil's Law 9,478, of 1997, constitutes an extraordinary financial compensation owed by concessionaires of exploration and production of crude oil and natural gas, like Alvopetro, in the case of a large volume of production or high earnings, in accordance with the criteria established in this decree, and shall be paid in regard to each field of a determined concession area, from the quarter-year in which the respective start-up production date occurs.

The thresholds and rates set out below apply to onshore blocks in Brazil. Production up to these thresholds is exempt from the special participation.

	<b>M<sup>3</sup>/Quarter</b> <b>(in equivalent oil cubic metres)</b>	<b>Boe/d</b>	<b>Special Participation</b>
Year 1	450,000	31,450	(RLP – RLP*450/VPF)*SP%
Year 2	350,000	24,461	(RLP – RLP*350/VPF)*SP%
Year 3	250,000	17,472	(RLP – RLP*250/VPF)*SP%
Year 4 and thereafter	150,000	10,483	(RLP – RLP*150/VPF)*SP%

**Where:**

- (1) RLP is Net profit per quarter
- (2) VPF is production per quarter, measured in thousands of cubic metres of equivalent oil for each field
- (3) SP% is the applicable special participation rate between 10% and 40% depending on the quarterly production volume, increasing at higher levels of production.

The net profit corresponding to each field of a given concession area equals the gross revenue from production from the field deducting the corresponding amount of the royalties, exploration investments, operational costs, depreciation and taxes directly related to the field operations, that have been actually disbursed during the concession agreement term, until it is assessed, and which have been determined according to the ANP rules, all divided by the volume of production produced. For the purposes of the calculations described under this “Special Participation” section, all amounts are computed in R\$.

When the net profit of a determined field is negative, it may be offset against the calculation of the special participation owed for that same field, for the following quarters.

In case of fields which extend over two or more concession areas, the assessment of the special participation shall be based on the net profit and the total production volume of the fields.

The Special Participation is not forecasted to apply to the future net revenues from any of Alvo Petro’s reserves in the GLJ Report.

**Brazil - Taxes**

The Corporation is under the actual tax regime in Brazil. The statutory tax rate applicable to corporate income is 34%. This is comprised of a basic 15% corporate income tax, plus 10% surtax and 9% social contribution tax. Tax losses may be carried forward indefinitely; however, any utilization of losses in a subsequent taxation year is limited to 30% of the taxable income in that period. As the Corporation is currently in an overall loss position, no current tax expense was realized in the 2018 taxation year. In 2018, the Corporation submitted an application to tax authorities within Brazil for Supertintendência de Desenvolvimento do Nordeste (“SUDENE”), a regional tax incentive offered for qualifying projects in Bahia State. This reduces the corporate income tax rate on income from eligible projects by 75%, resulting in an effective tax rate of 15.25% on eligible activities for a period of ten years. The Company expects the SUDENE rate to be applicable for its natural gas projects in Brazil as well as future development on existing oil fields.

There are also a number of other taxes and social contributions that are levied by federal, state and municipal authorities in Brazil on tangible and intangible investments made in connection with oil and gas projects. The two main forms of such levies are value-added (sales) taxes and import duties. The actual application of these levies is project and location specific.

**RISK FACTORS**

An investment in Alvo Petro should be considered highly speculative due to the nature of its activities and the stage of its development. Investors should carefully consider the following risk factors:

***Substantial Capital Requirements; Liquidity; Financing***

Prior to commercial production from Alvo Petro’s properties, which is subject to the risks described in this section, Alvo Petro anticipates making substantial capital expenditures for the acquisition, exploration, evaluation, delineation, development of and production from any potential project related to its properties. Significant capital expenditures will be required for the development of the Company’s Caburé natural gas field, for development of the Company’s Gomo natural gas project, to meet outstanding exploration work commitments, and for future development of the Company’s Bom Lugar and Mãe-da-lua

fields. These capital expenditures, along with the Company's ongoing general and administrative costs and operational expenditures are in excess of current cash balances. Future operations are dependent on the completion of a successful financing. There can be no assurance that debt or equity financing, or cash generated by operations will be available or sufficient to meet these and ongoing operational requirements or, if debt or equity financing is available, that it will be on terms acceptable to Alvopetro. The inability of Alvopetro to access sufficient capital for its operations could have a material adverse effect on Alvopetro's business, financial condition, results of operations and prospects, could result in the delay or indefinite postponement of further exploration, evaluation and development of Alvopetro's properties or the possible loss of its properties and could put at risk Alvopetro's ability to operate as a going concern. See Note 2 to the Corporation's audited consolidated financial statements for the year ended December 31, 2018 for additional information.

Capital requirements are subject to normal capital market risks, primarily the availability and cost of capital. The extent to which Alvopetro will need to access additional funding will be subject to normal capital market risks, primarily the availability and cost of capital. Continuing improvement and sustainability of the global financial markets will be critical in determining the availability and cost of the debt and equity financing that may be required for development of Alvopetro's properties.

Expectations for the future price of oil and gas will be an important factor in determining Alvopetro's ability to access debt financing at the time that this may become necessary.

### ***Legal and Regulatory Systems***

The Company is subject to extensive governmental and environmental approvals and regulations Brazil. Delays in obtaining regulatory approvals could result in project delays and our inability to meet contractual obligations and commitments. Changes to these regulations could increase the costs of conducting business. The Company is awaiting final installation permits for the pipeline and facility construction associated with its Caburé natural gas field. In addition, Bahiagas is also awaiting necessary permits for the construction of the new city gate and distribution pipeline to be built for receipt of natural gas from Alvopetro under the terms of the long-term GSA entered into in May 2018. Delays in receipt of permits by Alvopetro or Bahiagas may result in delays in the commencement of natural gas sales under the GSA which may delay cash flows to Alvopetro and may result in standby charges under the Enerflex Gas Treatment Agreement should Alvopetro be unable to deliver gas upon commencement of the Enerflex agreement in 2020.

Oil and gas operations (exploration, production, pricing, marketing and transportation) are subject to extensive controls and regulations imposed by various levels of government, which may be amended from time to time. Alvopetro's operations may also be subject to compliance with laws and regulations controlling the discharge of materials into the environment or otherwise relating to the protection of the environment. Although Alvopetro believes that its assets have been operated in compliance with current applicable environmental regulations, changes to such regulations may have a material adverse effect on Alvopetro.

### ***Reliance on Third Party Operators and Key Personnel***

To the extent that Alvopetro is not the operator of its properties, it may be unable to fully control the activities of such operators. Alvopetro's Caburé natural gas field is operated by Alvopetro's partner on this field. As Alvopetro is not the operator of this property, it is dependent on its partner for the timing and execution of key activities required on this field to ensure Alvopetro is able to meet production requirements under its GSA and generate future cash flows. Alvopetro is also dependent on its partner, to varying extents, to exercise best practices in terms of safety, employment law and insurance protection. To manage these risks, Alvopetro entered into a comprehensive unitization agreement which governs the responsibilities of the operator and non-operators in a fair and balanced approach.

All of Alvopetro's natural gas is expected to be processed through the Facility initially owned by Enerflex under the terms of the Gas Treatment Agreement. As the Facility is owned and operated by Enerflex, although Alvopetro has full control over the gas processed within the Facility, Alvopetro does not have full control over the detailed operations of the Facility. From time to time, the Facility may discontinue or decrease operations either as a result of normal servicing requirements or as a result of unexpected events. While the GSA allows for scheduled downtime and routine maintenance, should such downtime be unplanned or extend for longer than anticipated, this could have a material adverse impact on the Company's operations and could give rise to ship or pay penalties under the GSA if the Company is unable to meet its firm production requirements. The terms of the Gas Treatment Agreement include strict availability requirements and downtime credits to minimize Alvopetro's costs associated with reduced processing; however, such credits may not fully offset costs incurred by Alvopetro due to ship or pay obligations under the GSA.

Alvopetro's success depends, to a significant extent, upon management and key employees. The loss of any key employee could have a negative effect on Alvopetro. Attracting and retaining additional key personnel will assist in the expansion of Alvopetro's business. Should other oil and gas projects or expansions proceed in the same time frame as Alvopetro's projects, Alvopetro may compete with these other projects for experienced employees and contractors and such competition may result in increases to compensation paid to such personnel or to a lack of qualified personnel. There is no assurance that Alvopetro will successfully attract and retain personnel required to continue to expand its business and to successfully execute its business strategy.

### ***Reservoir Performance***

The GLJ Report was, and all of Alvopetro's future reserve evaluations are expected to be, prepared in accordance with NI 51-101. There are numerous uncertainties inherent in estimating quantities of reserves and funds flow to be derived therefrom, including many factors that are beyond the control of Alvopetro. The reserves information set forth in this Annual Information Form represents estimates only. The reserves from Alvopetro's properties have been independently evaluated by GLJ in the GLJ Report. The GLJ Report includes a number of inputs based on management's judgment and assumptions with respect to timing and execution of development plans. Additional factors affecting the ultimate recoveries from the evaluated properties include initial production rates, production decline rates, future commodity prices, marketability of production, and operating costs, royalties and other government levies that may be imposed over the producing life of the reserves. All judgments and assumptions were based on the best information available at the date the relevant evaluations were prepared and all are subject to change, some being beyond the control of Alvopetro. Actual production and funds flow derived therefrom will vary from these evaluations, and such variations could be material. These evaluations are based, in part, on the assumed success of exploitation activities intended to be undertaken in future years. The reserves and estimated funds flow to be derived therefrom contained in such evaluations will be reduced to the extent that such exploitation activities do not achieve the level of success assumed in the evaluations. Although management is of the opinion that Alvopetro can meet the firm sales commitments under the GSA solely with production from the Caburé natural gas field, in the event that actual production volumes are less than anticipated, the Company may be subject to supply failure penalties.

Under IFRS, impairment testing is performed at the cash generating unit level ("CGU"), with asset carrying values being compared to the recoverable amount which is the higher of the value-in-use and fair value less costs of disposal. Value in use is defined as the amount equal to the present value of future cash flows expected to be derived from the asset. When the asset carrying value (including goodwill) is more than the recoverable amount an impairment loss is recorded. A decline in the proved and probable reserve values of the oil and natural gas properties could result in the carrying value of the assets exceeding the recoverable amount, resulting in an impairment loss.

### ***Marketability of Production***

The marketability and ultimate commerciality of oil and gas discovered or acquired is affected by numerous factors beyond the control of Alvopetro. These factors include reservoir characteristics, market fluctuations, the proximity, capacity and price of oil and gas pipelines and processing equipment and government regulation.

The Company has entered into a long-term GSA with one counterparty. If this gas sales contract were terminated for any reason, Alvopetro may be unable to enter into a relationship with another purchaser for such gas on a timely basis or on similar terms. Alvopetro's results of operations and future cash flows are dependent on its ability to market its gas production and any change to price or volumes under its gas sales contract may impact future earnings.

### ***Dilution and Further Sales***

Alvopetro may issue additional Common Shares or other securities to finance its capital expenditures with respect to its properties, certain of Alvopetro's other capital expenditures, or for other reasons. The constating documents of Alvopetro permit it to issue an unlimited number of additional Common Shares and an unlimited number of Preferred Shares (as defined below) and such future issuances may be dilutive to shareholders.

### ***Early Stage of Exploration and Development Activities***

The business of Alvopetro should be considered speculative due to its present stage of development. There can be no assurance that Alvopetro will be able to generate and sustain revenue or net income in the future. The long-term commercial success of Alvopetro depends on its ability to find, acquire, develop and commercially produce hydrocarbon reserves. To

date, the activities relating to the majority of Alvopetro's assets have been exploratory, which increases the degree of risk substantially as compared to projects in the production stage.

The exploration and development of hydrocarbons involve a number of uncertainties that even thorough evaluation, experience and knowledge of the industry cannot eliminate. Alvopetro's exploration and possible development activities in Alvopetro's properties will depend in part on the evaluation of data obtained through geophysical testing and geological analysis. The results of such studies and tests are often subject to varying interpretations and no assurance can be given that such activities will produce hydrocarbons in commercial quantities. The exploration, evaluation and development activities that will be undertaken by Alvopetro are subject to greater risks than those normally associated with the acquisition and ownership of producing properties. Alvopetro's properties may fail to produce hydrocarbons in commercial quantities.

It is impossible to guarantee that the exploration programs on Alvopetro's properties will generate economically recoverable reserves. The commercial viability of a new hydrocarbon pool is dependent upon a number of factors which are inherent to reserves, such as hydrocarbon composition, associated non-hydrocarbon fluids and proximity and availability of infrastructure, as well as commodity prices which are subject to considerable volatility, regulatory issues such as price regulation, taxes, royalties, land tax, import and export regulations, and environmental protection issues. The individual impact generated by these factors cannot be predicted with any certainty but, when combined, may result in non-economical reserves. Alvopetro will remain subject to normal risks inherent to the oil and gas industry such as unusual and unexpected geological changes in the parameters and variables of the petroleum system and operations.

### ***Competition***

The oil and gas industry is highly competitive, both with respect to the acquisition of prospective oil and gas properties and reserves as well as in attracting financing sources for the acquisition of new reserves or the development of existing reserves. Alvopetro's competitive position depends on its geoscience and engineering expertise, its financial resources, its ability to develop its properties and its ability to select, acquire and develop proved reserves. Alvopetro will compete with a substantial number of other companies having larger technical staff and greater financial and operational resources and access to capital. Many such companies not only engage in the acquisition, exploration, development and production of petroleum reserves, but also carry on refining operations and market refined products. In Brazil particularly, Petrobras dominates the majority of the industry, including all aspects of oil and gas exploration, development, transportation and sales. Petrobras, and many other companies in Brazil, not only engage in the acquisition, exploration, development and production of oil and gas reserves, but also carry on refining operations and market refined products. Alvopetro competes with Petrobras and other major and independent oil companies and other industries supplying energy and fuel in the marketing and sale of oil and gas to transporters, distributors and end users, including industrial, commercial and individual consumers. Due to Petrobras' position in all aspects of Brazil's energy market, Alvopetro may encounter challenges with respect to transporting and marketing crude oil and natural gas. Access to pipelines and other transportation infrastructure may be limited and/or the terms on which such access is provided may not be favourable to the Company.

Alvopetro will also compete with other companies in attempting to secure drilling rigs and other equipment necessary for drilling and completion of wells. Such equipment may be in short supply from time to time. In addition, equipment and other materials necessary to construct production and transmission facilities may be in short supply from time to time.

### ***Commodity Price Fluctuations***

Commodity prices are unstable and are subject to fluctuation. Any material decline in prices could result in a reduction of Alvopetro's future revenue and overall value and could result in impairment. The economics of producing from some wells may change as a result of lower prices, which could result in a reduction in the volumes of Alvopetro's reserves. Alvopetro might also elect not to produce from certain wells at lower prices. All of these factors could result in a sustained and material decrease in Alvopetro's net production revenue causing a reduction in its acquisition and development activities. A substantial material decline in prices from historical average prices could reduce Alvopetro's ability to raise capital.

### ***Brazil Regulatory Risk Relating to Unconventional Activities and Hydraulic Fracturing***

The expanded use of hydraulic fracturing as a recovery technique employed in oil and natural gas drilling has given rise to increased public scrutiny over potential environmental impacts, particularly with respect to the potential impact on local aquifers. Alvopetro may need to utilize hydraulic fracturing in the wells it drills and completes. Alvopetro believes that the hydraulic fracturing that we may conduct, given the depth and location of the wells and our consistent utilization of good

oilfield practices, will be environmentally sound in general and would not give rise to concerns raised respecting local aquifers. Alvo Petro anticipates that there will be a trend towards changing and increased regulatory requirements concerning hydraulic fracturing in the future, in Brazil and internationally. Changes to, and the increase of, regulatory requirements may impact our business. Specifically, unconventional activities are currently prohibited on Alvo Petro's blocks acquired in the 12th Brazil Bid Round, including Blocks 169 and 255, as a result of an injunction issued by a Brazilian Federal Court in November 2014. Alvo Petro has not yet fulfilled the required minimum work commitments on Block 169 or Block 255 and, as a result, may adversely be affected if the injunction continues and Alvo Petro is unsuccessful with its request with the ANP to return these blocks, cancel the commitments outstanding and refund the bid bonuses paid.

### ***Minimum Work Commitments on Exploration Blocks***

Alvo Petro must fulfill certain minimum work commitments on projects in Brazil as outlined herein. There are no assurances that all of these commitments will be fulfilled within the time frames allowed. As such, Alvo Petro may lose certain exploration rights on the blocks affected and may be subject to certain financial penalties that would be levied by the applicable governmental authority. From time to time it is expected that Alvo Petro may request extensions or suspensions to the timeframe allotted for work commitments, there is no assurance that any such extensions or suspensions will be granted.

### ***Availability of Drilling Equipment and Access Restrictions***

Oil and gas exploration and development activities are dependent on the availability of drilling and related equipment in the particular areas where such activities will be conducted. Demand for such limited equipment or access restrictions may affect the availability of such equipment to Alvo Petro and may delay exploration and development activities. There can be no assurance that sufficient drilling and completion equipment, services and supplies will be available when needed. Shortages could: (i) delay Alvo Petro's exploration, development, and sales activities; (ii) have a material adverse effect on Alvo Petro's financial condition; and (iii) cause Alvo Petro to not meet the local content requirements of its concession contracts, incurring penalties.

### ***Permits, Licenses and Leases***

Alvo Petro's properties and activities on such properties are held in the form of permits, licenses and leases and working interests in permits, licenses and leases. If Alvo Petro or the holder of the permit, license or lease fails to meet the specific requirement of a permit, license or lease, the permit, license or lease may terminate or expire. There can be no assurance that any of the obligations required to maintain each permit, license or lease will be met. The termination or expiration of Alvo Petro's permits, licenses or leases or the working interests relating to a permit, license or lease may have a material adverse effect on Alvo Petro's results of operations and business.

Furthermore, the development of Alvo Petro's properties will require additional permits, licenses and regulatory approvals. If such permits, licenses or regulatory approvals are not obtained or if the conditions provided for in such permits, licenses and regulatory approvals are substantially different from the expectations of Alvo Petro, it may have a material adverse effect on Alvo Petro's results of operations and business.

### ***Price Volatility of Publicly Traded Securities***

In recent years, the securities markets in Canada and the United States have experienced a high level of price and volume volatility. The market price of securities of many companies, particularly those considered to be development stage companies, has experienced wide fluctuations in price which have not necessarily been related to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that continual fluctuations in price will not occur. It is likely that the market price for the Common Shares will be subject to market trends generally, notwithstanding the financial and operational performance of Alvo Petro. All of these factors may make it difficult for a shareholder to sell Common Shares at a price equal to or above the price at which the shares were purchased.

### ***Reserve Acquisition and Replacement***

Alvo Petro's future petroleum reserves, production, and funds flow to be derived therefrom are highly dependent on Alvo Petro successfully discovering or acquiring new reserves. Without the continual addition of new reserves, any existing reserves Alvo Petro may have at any particular time and the production therefrom will decline over time as such existing reserves are exploited. A future increase in Alvo Petro's reserves will depend not only on Alvo Petro's ability to develop any

properties it may have from time to time, but also on its ability to select and acquire suitable producing properties or prospects. There can be no assurance that Alvopectro's future exploration and development efforts will result in the discovery and development of additional commercial accumulations of oil.

### ***Alvopectro Might Encounter Operating Hazards***

Oil and gas exploration, development and production operations are subject to all the risks and hazards typically associated with such operations, including hazards such as fire, explosion, blowouts and oil spills, each of which could result in substantial damage to oil wells, production facilities, other property and the environment or in personal injuries or loss of life. Hazards such as unusual or unexpected geological formations, pressures or other conditions may be encountered in drilling and operating wells as Alvopectro will initially have interests in a limited number of properties, such risk is more significant than if spread over a number of properties. In accordance with industry practice, Alvopectro is not fully insured against all of these risks, nor are all such risks insurable. Although Alvopectro maintains liability insurance in an amount that it considers adequate and consistent with industry practice, the nature of these risks is such that liabilities could exceed policy limits, in which event Alvopectro could incur significant costs that could have a materially adverse effect upon its financial condition, resulting in a decline in the value of the securities of Alvopectro. Oil and gas production operations are also subject to all the risks typically associated with such operations, including premature decline of reservoirs and the invasion of water into producing formations.

### ***Environmental***

All phases of the oil and gas business present environmental risks and hazards and are subject to environmental regulation pursuant to a variety of international conventions and state and municipal laws and regulations. Environmental legislation provides for, among other things, restrictions and prohibitions on spills and releases or emissions of various substances produced in association with oil and gas operations. The legislation also requires that wells and facility sites be operated, maintained, abandoned and reclaimed to the satisfaction of applicable regulatory authorities.

Compliance with such legislation can require significant expenditures and a breach may result in the imposition of fines and penalties, some of which may be material. Environmental legislation is evolving in a manner expected to result in stricter standards and enforcement, larger fines and liability and potentially increased capital expenditures and operating costs. The discharge of oil, natural gas or other pollutants into the air, soil or water may give rise to liabilities to foreign governments and third parties and may require Alvopectro to incur costs to remedy such discharge. No assurance can be given that environmental laws will not result in a curtailment of production or a material increase in the costs of production, development or exploration activities or otherwise adversely affect Alvopectro's financial condition, results of operations or prospects. In addition, regulations relating to greenhouse gas emissions in Brazil or elsewhere in the world may have an effect on Alvopectro's costs or on levels of future demand for hydrocarbon-based products.

### ***Delay in Cash Receipts and Credit Worthiness of Counterparties***

Payment by purchasers of oil and natural gas to Alvopectro (and, by an operator to Alvopectro) may be delayed by restrictions imposed by lenders, delays in the sale or delivery of products, delays in the connection of wells to a gathering system, blowouts or the insolvency or financial impairment of any counterparty owing money to Alvopectro. Delays in collections or the inability to collect amounts owed to Alvopectro could have a material adverse effect on Alvopectro's financial position, liquidity and the ability to meet its financial obligations.

### ***Disruptions in Production***

Other factors affecting the production and sale of crude oil and natural gas that could result in decreases in profitability include: (i) expiration or termination of leases, permits or licences, or sales price redeterminations or suspension of deliveries; (ii) future litigation; (iii) the timing and amount of insurance recoveries; (iv) work stoppages or other labour difficulties; (v) maintenance activities; (vi) limitations on access to pipeline capacity; and (vii) changes in the market and general economic conditions. Weather conditions, equipment replacement or repair, fires, amounts of rock and other natural materials and other geological conditions can have a significant impact on operating results. There can be no assurance that union issues or similar issues will not affect Alvopectro's ability to produce or sell oil and gas in the future.



### ***Changes in Legislation***

It is possible that the Brazil or Canadian federal and provincial government or regulatory authorities could choose to change Brazil or Canadian income tax laws, royalty regimes, environmental laws or other laws applicable to oil and gas companies and that any such changes could materially adversely affect Alvopetro, its shareholders and the market value of the Common Shares.

### ***Foreign Currency and Fiscal Matters***

A significant portion of Alvopetro's operations and expenditures will be paid in foreign currencies. As a result, Alvopetro may be exposed to market risks resulting from fluctuations in foreign currency exchange rates. A material change in the value of any such foreign currency could result in a material adverse effect on Alvopetro's funds flow, revenues and net asset value. Currently, there are no significant restrictions on the repatriation of capital and distribution of earnings from Brazil to foreign entities. There can be no assurance, however, that restrictions on repatriation of capital or distributions of earnings from Brazil will not be imposed in the future. Amendments to current taxation laws and regulations that alter tax rates and/or capital allowances could have a material adverse impact on Alvopetro.

To the extent that revenues and expenditures denominated in or strongly linked to the U.S. dollar are not equivalent, Alvopetro is exposed to exchange rate risk. In addition, a significant portion of expenditures in Brazil are denominated in R\$, which are difficult to hedge.

### ***Political and Regulatory***

The oil and gas industry is subject to extensive government policies and regulations, which result in additional cost and risk for industry participants. Environmental concerns relating to the oil and gas industry's operating practices are in the global spotlight and this may result in more stringent government regulation. Alvopetro is uncertain as to the amount of operating and capital expenses that will be required to comply with enhanced environmental regulation in the future.

Alvopetro's projects are located in Brazil and consequently Alvopetro will be subject to certain risks, including possible political or economic instability. Alvopetro believes that the state and federal governments in Brazil support the exploration and development of its oil and gas properties by foreign companies. Nevertheless, there is no assurance that future political conditions will not result in the state or federal government adopting different policies respecting foreign development and ownership of oil and gas, environmental protection and labour relations. Exploration and production activities may be affected in varying degrees by political instability and government regulations relating to the industry.

Alvopetro's operations may also be adversely affected by laws and policies of Canada affecting foreign trade, taxation and investment. In the event of a dispute arising in connection with Alvopetro's foreign operations, Alvopetro may be subject to the exclusive jurisdiction of foreign courts or may not be successful in subjecting foreign persons to the jurisdictions of the courts of Canada or enforcing Canadian judgments in such other jurisdictions. Alvopetro may also be hindered or prevented from enforcing its rights with respect to a governmental instrumentality because of the doctrine of sovereign immunity. Accordingly, Alvopetro's exploration, development and production activities in the foreign jurisdictions in which it operates could be substantially affected by factors beyond Alvopetro's control, any of which could have a material adverse effect on Alvopetro.

### ***International Operations***

International operations are subject to political, economic and other uncertainties, including but not limited to, risk of terrorist activities, revolution, border disputes, expropriation, renegotiations or modification of existing contracts, import, export and transportation regulations and tariffs, taxation policies, including royalty and tax increases and retroactive tax claims, exchange controls, limits on allowable levels of production, currency fluctuations, labour disputes and other uncertainties arising out of foreign government sovereignty over Alvopetro's international operations. Alvopetro's operations may also be adversely affected by changes in applicable laws and policies of Brazil, which could have a negative impact on Alvopetro. The majority of Alvopetro's operations are conducted in Portuguese and the Company may enter into significant contracts in Portuguese which may give rise to uncertainties. The Company manages this risk through the employment and involvement of qualified personnel within Brazil in all local operations.

### ***Failure to Realize Anticipated Benefits of Acquisitions and Dispositions***

Alvopetro will make acquisitions and dispositions of businesses and assets in the ordinary course of business. Achieving the benefits of acquisitions depends in part on successfully consolidating functions and integrating operations and procedures in a timely and efficient manner as well as Alvopetro's ability to realize the anticipated growth opportunities and synergies from combining the acquired businesses and operations with those of Alvopetro. The integration of acquired businesses, properties and operations may require substantial management effort, time and resources and may divert management's focus from other strategic opportunities and operational matters. Management of Alvopetro will continually assess the value and contribution of services provided and assets required to provide such services. In this regard, management expects that non-core assets will be periodically disposed of, so that Alvopetro can focus its efforts and resources more efficiently. Depending on the state of the market for such non-core assets, certain non-core assets of Alvopetro, if disposed of, could realize less than their carrying value on the financial statements of Alvopetro.

### ***Hedging Activities***

Alvopetro may evaluate the use of and may employ exchange-traded or over-the-counter derivative structures to hedge commodity prices, interest rate and foreign exchange risk. Risks associated with such products include, but are not limited to, counterparty risk, settlement risk, liquidity risk and market risk which could impair or negate Alvopetro's hedging strategy and result in a negative impact on its earnings and funds flow.

Additionally, if oil and gas prices, interest rates or exchange rates increase above or decrease below those levels specified in any future hedging agreements, such hedging arrangements may prevent Alvopetro from realizing the full benefit of such increases or decreases.

Due to the uncertain worldwide economic environment, there can be no assurance that Alvopetro will be able to engage credit worthy counterparties in hedging activities.

### ***Title Matters***

The acquisition of title to oil and gas properties in Brazil is a detailed and time-consuming process. Alvopetro's properties may be subject to unforeseen title claims. While Alvopetro will diligently investigate title to all property and will follow usual industry practice in obtaining satisfactory title and, to the best of Alvopetro's knowledge, title to all of Alvopetro's properties are in good standing, this should not be construed as a guarantee of title. Title to Alvopetro's properties may be affected by undisclosed and undetected defects.

### ***Structure of Alvopetro***

From time to time, Alvopetro may take steps to organize its affairs in a manner that minimizes taxes and other expenses payable with respect to the operation of Alvopetro and its subsidiaries. If the manner in which Alvopetro structures its affairs is successfully challenged by a taxation or other authority, Alvopetro and Shareholders may be adversely affected.

### ***Uninsurable Risks***

In the course of exploration, development and production of oil and gas properties, certain risks, and in particular, blow-outs, pollution, craterings, fires and oil spills and premature decline of reservoirs and invasion of water into producing formations may occur all of which could result in personal injuries, loss of life and damage to property of Alvopetro and others. Hazards such as unusual or unexpected geological formations, pressures or other conditions may be encountered in drilling and operating wells as Alvopetro will initially have interests in a limited number of properties, such risk is more significant than if spread over a number of properties. It is not always possible to fully insure against such risks and Alvopetro may decide not to take out insurance against such risks as a result of high premiums or other reasons. Should such liabilities arise, they could reduce or eliminate any future profitability and result in increasing costs and a decline in the value of the securities of Alvopetro.

### ***Net Asset Value***

Alvopetro's net asset value will vary depending upon a number of factors beyond the control of Alvopetro's management, including oil and natural gas prices. The trading price of the Common Shares is also determined by a number of factors which

are beyond the control of management and such trading price may be greater than or less than the net asset value of Alvopetro.

### ***Management of Growth***

Alvopetro may be subject to growth-related risks including capacity constraints and pressure on its internal systems and controls. The ability of Alvopetro to manage growth effectively will require it to implement and improve its operations and financial systems and to expand, train and manage its employee base. The inability of Alvopetro to deal with this growth could have a material adverse impact on its business, operations and prospects.

### ***Corruption***

Alvopetro is governed by the laws of many jurisdictions, which prohibit bribery and other forms of corruption. It is possible that Alvopetro, or some of its employees or contractors, could be charged with bribery or corruption. Alvopetro has strict policies and procedures in place that prohibit activities such as these and will require all employees and contractors to read these policies and procedures and acknowledge their understanding and compliance on an annual basis. However, if Alvopetro is found guilty of such a violation, which could include a failure to take effective steps to prevent or address corruption by its employees or contractors, Alvopetro could be subject to onerous penalties. A mere investigation itself could lead to significant corporate disruption, high legal costs and forced settlements (such as the imposition of an internal monitor). In addition, bribery allegations or bribery or corruption convictions could impair Alvopetro's ability to work with governments or nongovernmental organizations. Such convictions or allegations could result in the formal exclusion of Alvopetro from a country or area, national or international lawsuits, government sanctions or fines, project suspension or delays, reduced market capitalization and increased investor concern.

### ***Transportation Costs***

Disruption in or increased costs of transportation services could make oil and gas a less competitive source of energy or could make Alvopetro's oil and gas less competitive than other sources. The industry depends on trucking, ocean-going vessel, pipelines, and barge transportation to deliver shipments, and transportation costs are a significant component of the total cost of supplying crude oil and natural gas. Disruptions of these transportation services because of weather-related problems, strikes, lockouts, delays, mechanical problems or other events could temporarily impair the ability to supply crude oil to customers and may result in lost sales. In addition, increases in transportation costs, or changes in transportation costs for oil and gas produced by competitors, could adversely affect profitability. To the extent such increases are sustained, Alvopetro could experience losses and may decide to discontinue certain operations forcing Alvopetro to incur closure and/or care and maintenance costs, as the case may be. Additionally, lack of access to transportation may hinder production from Alvopetro's business and Alvopetro may be required to use more expensive transportation alternatives.

### ***Failure to Maintain Listing of the Common Shares***

The Common Shares are currently listed for trading on the facilities of the TSXV. The failure of Alvopetro to meet the applicable listing or other requirements of the TSXV in the future may result in the Common Shares ceasing to be listed for trading on the TSXV, which would have a material adverse effect on the value of the Common Shares. While management makes every effort, there can be no assurance that the Common Shares will continue to be listed for trading on the TSXV.

### ***Forward-Looking Information May Prove Inaccurate***

Shareholders are cautioned not to place undue reliance on forward-looking information. By its nature, forward-looking information involves numerous assumptions, known and unknown risks and uncertainties, of both a general and specific nature, that could cause actual results to differ materially from those suggested by the forward-looking information or contribute to the possibility that predictions, forecasts or projections will prove to be materially inaccurate. Additional information on the risks, assumptions and uncertainties are found in this Annual Information Form under the heading "Forward Looking Statements".

## DIVIDENDS

Alvopetro has not declared or paid any dividends on the Common Shares since its incorporation. Any decision to pay dividends on the Common Shares will be made by the Board on the basis of Alvopetro's earnings, financial requirements and other conditions existing at such future time.

## DESCRIPTION OF CAPITAL STRUCTURE

### Common Shares

The Corporation is authorized to issue an unlimited number of Common Shares. Holders of Common Shares are entitled to one vote for each Common Share held on all votes taken at meetings of holders of Common Shares. The holders of Common Shares are entitled to receive such dividends as Alvopetro's directors may from time to time declare. Subject to certain terms and conditions, Alvopetro may issue Common Shares as payment of all or any portion of dividends declared on the Common Shares for those Shareholders who elect to receive share dividends instead of cash dividends. In the event of the winding up or dissolution of Alvopetro, whether voluntary or involuntary or for the purpose of a reorganization or otherwise or upon any distribution of capital, the holders of Common Shares are entitled to the surplus assets of Alvopetro and generally will be entitled to enjoy all of the rights attaching to shares of Alvopetro.

As at December 31, 2018, Alvopetro had 96,670,871 common shares outstanding.

### Preferred Shares

The Corporation is authorized to issue preferred shares ("Preferred Shares") in one or more series. The Board of Directors is authorized to fix the number of shares in each series and to determine the designation, rights, privileges, restrictions and conditions attached to the shares of each series. Preferred Shares are entitled to a priority over the Common Shares with respect to the payment of dividends and the distribution of assets upon the liquidation, dissolution or winding-up of the Corporation. Alvopetro has no Preferred Shares outstanding as at December 31, 2018.

### Market for Securities

The Common Shares are listed and posted for trading on the TSXV under the trading symbol "ALV" and have traded on such stock exchange since December 5, 2013. The following table sets forth the reported market price ranges and the trading volumes for the Common Shares for the periods indicated, as reported by the TSXV for the year ended December 31, 2018.

Month (2018)	Price Range (\$)		Total Aggregate Monthly Trading Volume
	High	Low	
January	0.18	0.16	1,965,044
February	0.18	0.15	1,082,405
March	0.16	0.11	1,460,255
April	0.15	0.11	3,099,561
May	0.40	0.14	2,171,791
June	0.54	0.28	1,671,976
July	0.49	0.38	739,099
August	0.49	0.40	1,013,835
September	0.47	0.42	287,809
October	0.52	0.44	449,575
November	0.60	0.41	515,460
December	0.48	0.37	462,170

On January 15, 2019 Alvopetro's common shares commenced trading on the OTCQX® Best Market, a U.S. market operated by OTC Markets Group (OTCQX: OTCM), under the symbol "ALVOF".

## DIRECTORS AND OFFICERS

The names, municipalities of residence, positions with Alvpetro and its subsidiaries and the principal occupations of the persons who serve as directors and executive officers of Alvpetro as of the date hereof are set out below.

Name and Municipality of Residence	Position Held <sup>(1)</sup>	Position Since	Principal Occupation During the Preceding Five Years
<b>John D. Wright</b> <sup>(3)/(4)</sup> Calgary, Alberta	Chairman	September 25, 2013	President, Analogy Capital Advisors Inc. since March 2017. From January 2017 to June 2017, Director, President and Chief Executive Officer of Ridgeback Resources Inc. (energy company). President, Chief Executive Officer and Director of Lightstream Resources Ltd. (energy company) from May 2011 to December 2016.
<b>Corey C. Ruttan</b> <sup>(3)</sup> Calgary, Alberta	Director, President and Chief Executive Officer	September 25, 2013	President and Chief Executive Officer of Alvpetro since November 2013. Prior thereto, President and Chief Executive Officer of Petrominerales Ltd. (energy company) from May 2010 to November 2013.
<b>Kenneth R. McKinnon</b> <sup>(2)/(4)</sup> Calgary, Alberta	Director	November 19, 2013	Partner at Citrus Capital Partners Ltd. (advisory and consulting firm) since January 2014. Vice President Legal and General Counsel of Critical Mass Inc. (website design company) from March 2000 to December 2014.
<b>Geir Ytreland</b> <sup>(3)</sup> Drobak, Norway	Director	November 19, 2013	Independent geologist. From 2012 to 2014, Principal Advisor at Gaffney, Cline & Associates, United Kingdom.
<b>Firoz Talakshi</b> <sup>(2)</sup> Calgary, Alberta	Director	November 19, 2013	From October 2012 to December 2018, Senior Advisor, KPMG International Corporate Tax, Calgary.
<b>Roderick L. Fraser</b> <sup>(2)/(4)</sup> New York City, NY and Salvador, Brazil	Director	December 16, 2013	From August 2014 to October 2017, Managing Director and Head of Oil and Gas for MUFG Union Bank. From June 2012 to August 2014, independent consultant acting as strategic advisor for large financial institutions.
<b>Alison Howard</b> Calgary, Alberta	Chief Financial Officer	November 28, 2013	Chief Financial Officer of Alvpetro since November 2013. From July 2011 to November 2013, Tax Manager and subsequently Tax Director of Petrominerales.
<b>Andrea Hatzinikolas</b> Calgary, Alberta	Vice President, Legal and Corporate	November 28, 2013	Vice President, Corporate and Legal of Alvpetro since November 2013. Prior thereto, Vice President, Business Development, General Counsel and Corporate Secretary of Petrominerales from May 2011 to November 2013.

### Notes:

- (1) Each Director will hold office until the next annual meeting of the shareholders of Alvpetro.
- (2) Member of the Audit Committee of the Board of Directors.
- (3) Member of the Reserves Committee of the Board of Directors.
- (4) Member of the Compensation Committee of the Board of Directors.

As of the date hereof, the directors and executive officers of Alvpetro, as a group, beneficially own, directly or indirectly, or exercise control or direction over 7,298,048 Common Shares or 7.5% of the number of Common Shares issued and outstanding.

### Corporate Cease Trade Orders

Until September 2011, Mr. John D. Wright was a director of Canadian Energy Exploration Inc. (“CEE”) (formerly TALON International Energy, Ltd.), a reporting issuer listed on the TSXV. A cease trade order (the “ASC Order”) was issued on May 7, 2008 against CEE by the Alberta Securities Commission (the “ASC”) for the delayed filing of CEE’s audited annual financial statements and management’s discussion and analysis for the year ended December 31, 2007 (“Annual Filings”). The Annual Filings were filed by CEE on SEDAR on May 8, 2008. As a result of the Order, the TSXV suspended trading in CEE’s shares on May 7, 2008. In addition, on June 4, 2009 the British Columbia Securities Commission (“BCSC”) issued a cease trade order

(the “**BCSC Order**”) against CEE for the failure of CEE to file its audited annual financial statements and management’s discussion and analysis for the year ended December 31, 2008 and its unaudited interim financial statements and management’s discussion and analysis for the three months ended March 31, 2009. CEE made application to the ASC and BCSC for revocation of the ASC Order and BCSC Order. The ASC and BCSC issued revocation orders dated October 14, 2009 and November 30, 2009, respectively, granting full revocation of compliance-related cease trade orders issued by the ASC and the BCSC in respect of CEE.

Except as otherwise disclosed herein, to the knowledge of the management of Alvopetro, no director or officer of Alvopetro is, or within the ten years before the date of this Annual Information Form has been, a director, chief executive officer or chief financial officer of any other issuer that:

- (a) was subject to an order that was issued while the director or officer was acting in the capacity as director, chief executive officer or chief financial officer; or
- (b) was subject to an order that was issued after the director or officer ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while the director was acting in the capacity as director, chief executive officer or chief financial officer.

### **Bankruptcies**

Mr. John D. Wright was a director of Spyglass Resources Corp. (“Spyglass”), a reporting issuer listed on the Toronto Stock Exchange, until his resignation on November 26, 2015, when Spyglass was placed into receivership by the Court of Queen’s Bench of Alberta following an application by its creditors.

Mr. John D. Wright was the President and Chief Executive Officer and a director of Lightstream Resources Ltd. (“Lightstream”), Mr. Corey C. Ruttan and Mr. Kenneth R. McKinnon were directors of Lightstream, and Ms. Andrea Hatzinikolas was an officer of Lightstream when it obtained creditor protection under the Companies’ Creditors Arrangement Act (Canada) (“CCAA”) on September 26, 2016. On December 29, 2016, as a result of the CCAA sales process, substantially all of the assets and business of Lightstream were sold to Ridgeback Resources Inc. (“Ridgeback”), a new company owned by former holders of Lightstream’s secured notes. Mr. Ruttan and Mr. McKinnon resigned as directors and Ms. Hatzinikolas resigned as Corporate Secretary of Lightstream upon formation of the new company. Mr. Wright resigned as an officer and director of Lightstream and was concurrently appointed President and Chief Executive Officer and a director of Ridgeback upon closing of the sale transaction.

Except as otherwise disclosed herein, to the knowledge of the management of Alvopetro, no director or officer of Alvopetro:

- (a) is, at the date of this Annual Information Form or has been within the ten years before the date of this Annual Information Form, a director or executive officer of any company that, while that person was acting in that capacity or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or
- (b) has, within the ten years before the date of this Annual Information Form, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or was subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, officer or shareholder.

### **Penalties or Sanctions**

Mr. Corey C. Ruttan entered into a settlement agreement with the ASC on May 3, 2002 in respect of an insider trading violation relating to trade made on May 17, 2000. Mr. Ruttan cooperated completely in resolving the matter with the regulators. The settlement resulted in Mr. Ruttan paying an administrative penalty of \$10,000, representing a return of profits, and the costs of the proceeding in the amount of \$3,925. For a period of one year, Mr. Ruttan agreed to cease trading in securities and to not act as a director or officer of a public company. These restrictions expired on May 3, 2003. Mr. Ruttan is a Chartered Professional Accountant in good standing.

Except as otherwise disclosed herein, to the knowledge of management of Alvopetro, no director or officer of Alvopetro has been subject to:

- (a) any penalties or sanctions imposed by a court relating to Canadian securities legislation or by a Canadian securities regulatory authority or has entered into a settlement agreement with the Canadian securities regulatory authority; or
- (b) any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable security holder in making an investment decision.

### **CONFLICTS OF INTEREST**

Certain directors and officers of Alvopetro are associated with other reporting issuers or other corporations which may give rise to conflicts of interest. In accordance with corporate laws, directors who have a material interest or any person who is a party to a material contract or a proposed material contract with Alvopetro are required, subject to certain exceptions, to disclose that interest and generally abstain from voting on any resolution to approve the contract. In addition, the directors are required to act honestly and in good faith with a view to the best interests of Alvopetro. From time to time, Alvopetro may jointly participate in exploration and development activities with one or more corporations with which a director or officer of Alvopetro may be involved. Some of Alvopetro's directors and officers are engaged and will continue to be engaged in the search of oil and gas interests on their own behalf and on behalf of other corporations, and situations may arise where the directors and officers will be in direct competition with Alvopetro. Some of the directors of Alvopetro have either other employment or other business or time restrictions placed on them and accordingly, these directors of Alvopetro will only be able to devote part of their time to the affairs of Alvopetro. In particular, certain of the directors and officers are involved in managerial and/or director positions with other oil and gas companies whose operations may, from time to time, provide financing to, or make equity investments in, competitors of Alvopetro. Conflicts, if any, will be subject to the procedures and remedies available under the ABCA. The ABCA provides that in the event that a director has an interest in a contract or proposed contract or agreement, the director shall disclose his interest in such contract or agreement and shall refrain from voting on any matter in respect of such contract or agreement unless otherwise provided by the ABCA.

### **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

As of the date of this Annual Information Form, there are no material legal proceedings to which Alvopetro is a party or in respect of which any of the assets of Alvopetro are subject, which is or will be material to Alvopetro, and Alvopetro is not aware of any such proceedings that are contemplated.

As of the date of this Annual Information Form, there have been: (i) no penalties or sanctions imposed against Alvopetro by a court relating to Canadian securities legislation or by a Canadian securities regulatory authority; (ii) no other penalties or sanctions imposed by a court or regulatory body against Alvopetro; and (iii) no settlement agreements Alvopetro entered into before a court relating to Canadian securities legislation or with a Canadian securities regulatory authority.

### **AUDIT COMMITTEE**

#### **General**

The Audit Committee is governed by its mandate which is attached hereto in Schedule C. This mandate provides that the Committee be comprised of at least three members of the Board, all of whom are considered independent and financially literate within the meaning of Multilateral Instrument 52-110 – Audit Committees.

The Corporation has established an Audit Committee comprised of three members: Firoz Talakshi (Chair), Kenneth R. McKinnon and Roderick L. Fraser. The following is a brief summary of the education or experience of each member of the Audit Committee that is relevant to the performance of his mandated responsibilities:

Name of Audit Committee Member	Relevant Education and Experience
<b><i>Firoz Talakshi</i></b>	<p>Mr. Talakshi's positions as Senior Advisor and, prior thereto, Partner with KPMG International Corporate Tax, Calgary have both developed and required the skills to analyze financial statements, to understand accounting principles and application of such and to understand internal controls with respect to financial reporting. In his positions with KPMG he gained a significant depth of understanding with respect to complex financial accounting and international tax issues.</p> <p>Mr. Talakshi was qualified as a Chartered Accountant in England and Wales in 1973 and is currently a member of the Chartered Professional Accountants of Alberta.</p>
<b><i>Kenneth R. McKinnon</i></b>	<p>Mr. McKinnon's understanding of audit committee roles and responsibilities has been obtained through various audit committee appointments, since 2000, for several reporting issuers: Touchstone Exploration Inc. (formerly Petrobank Energy and Resources Ltd.); Lightstream Resources Ltd.; and Petrominerales Ltd. Mr. McKinnon also held the position Vice President Legal and General Counsel of Critical Mass Inc., a website design company from March 2000 to December 2014.</p> <p>Mr. McKinnon holds a Bachelor of Commerce degree from the University of Calgary and a Bachelor of Law degree from Queens University. His ICD.D designation as a certified corporate director has further enhanced his understanding of accounting principles, internal controls and analyzing financial statements.</p>
<b><i>Roderick L. Fraser</i></b>	<p>Mr. Fraser has a significant breadth of experience in the energy industry, ranging from positions in operations to investment banking. He has held various positions with major international banks including Managing Director and Head of Oil &amp; Gas for MUFG Union Bank and Managing Director and Global Head of Oil and Gas, Standard Bank of South Africa. Much of his banking career has been spent supporting junior exploration and production and services companies develop and implement growth initiatives in emerging markets. These positions have provided Mr. Fraser with an understanding of accounting principles and significant experience in analyzing and evaluating financial statements. Mr. Fraser has also been contracted as an independent consultant for large financial institutions.</p> <p>Mr. Fraser is a petroleum engineer with over 35 years of experience in the oil and gas sector.</p>

### External Auditor Fees

Deloitte LLP was appointed auditors of the Corporation on September 29, 2013. For the year ending December 31, 2018, the following external audit fees were paid.

Year ended	Audit Fees	Audit Related Fees	Tax Fees	All Other Fees
2018	C\$62,201	Nil	Nil	Nil

The Audit Committee is required to pre-approve all non-audit services to be provided to the Corporation by the external auditors. The Audit Committee may delegate, to one or more members, the authority to pre-approve non-audit services, provided that the member(s) report to the Audit Committee at the next scheduled meeting and the member comply with such other procedures as may be established by the Audit Committee from time to time. In the most recent two years audit and audit related fees were paid for professional services rendered by the auditors for the audit of the annual financial statements and reviews of the quarterly financial statements.

At no time since the commencement of our most recently completed financial year, has a recommendation of the Audit Committee to nominate or compensate an external auditor not been adopted by the Board of Directors.

As a venture issuer within the meaning ascribed thereto in NI 52-110, the Corporation is relying upon the exemption in section 6.1 of NI 52-110.

### INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

Except as disclosed in this Annual Information Form, none of the directors or executive officers of Alvo Petro or any person or company that owns directly or indirectly, or exercises control or direction over, more than ten percent of the Common Shares, or any associate or affiliate of any of the foregoing persons or companies, has or has had any material interest, direct or indirect, in any past transaction or any proposed transaction that has materially affected or is reasonably expected to materially affect Alvo Petro.



**AUDITORS, TRANSFER AGENT AND REGISTRAR****Auditors**

The independent auditor of Alvopetro is Deloitte LLP, 700, 850 - 2nd Street S.W., Calgary, Alberta, T2P 0R8.

**Transfer Agent and Registrar**

TSX Trust Company, at its principal offices in Calgary, Alberta, is the registrar and transfer agent for the Common Shares.

**INTERESTS OF EXPERTS**

GLJ prepared the GLJ Report, the results of which are summarized in this Annual Information Form. As at the date of the GLJ Report, GLJ is independent within the meaning of National Instrument 51-101. GLJ and the engineers and geologists responsible for the preparation of the report, individually or as a group, have no interest, direct or indirect, nor do they expect to receive any interest, direct or indirect, in the properties or in the of Alvopetro.

Deloitte LLP is the independent auditor of Alvopetro and has confirmed that it is independent with respect to Alvopetro within the meaning of the Rules of Professional Conduct of the Chartered Professional Accountants of Alberta.

**ADDITIONAL INFORMATION**

Additional information concerning Alvopetro may be found under Alvopetro's profile on SEDAR at [www.sedar.com](http://www.sedar.com). Additional information, including information concerning directors' and officers' remuneration, principal holders of Alvopetro securities and securities authorized for issuance under equity compensation plans, will be contained in the information circular of Alvopetro in respect of the annual general and special meeting of holders of Common Shares which will be held later this year. Additional financial information is provided in Alvopetro's audited consolidated financial statements and management's discussion and analysis for the year ended December 31, 2018.

**SCHEDULE A FORM 51-101F2 REPORT ON RESERVES DATA BY INDEPENDENT QUALIFIED RESERVES  
EVALUATOR**

To the Board of Directors of Alvo Petro Energy Ltd. (the “Company”):

1. We have evaluated the Company’s reserves data as at December 31, 2018. The reserves data are estimates of proved reserves and probable reserves and related future net revenue as at December 31, 2018, estimated using forecast prices and costs.
2. The reserves data are the responsibility of the Company’s management. Our responsibility is to express an opinion on the reserves data based on our evaluation.
3. We carried out our evaluation in accordance with standards set out in the Canadian Oil and Gas Evaluation Handbook as amended from time to time (the “COGE Handbook”), maintained by the Society of Petroleum Evaluation Engineers (Calgary Chapter).
4. Those standards require that we plan and perform an evaluation to obtain reasonable assurance as to whether the reserves data are free of material misstatement. An evaluation also includes assessing whether the reserves data are in accordance with principles and definitions presented in the COGE Handbook.
5. The following table shows the net present value of future net revenue (before deduction of income taxes) attributed to proved plus probable reserves, estimated using forecast prices and costs and calculated using a discount rate of 10 percent, included in the reserves data of the Company evaluated for the year ended December 31, 2018, and identifies the respective portions thereof that we have evaluated and reported on to the Company’s board of directors:

Independent Qualified Reserves Evaluator or Auditor	Effective Date of Evaluation Report	Location of Reserves (Country or Foreign Geographic Area)	Net Present Value of Future Net Revenue (before income taxes (10% Discount Rate – USM\$))			
			Audited	Evaluated	Reviewed	Total
GLJ Petroleum Consultants	Dec. 31, 2018	Brazil	-	144,950	-	144,950

6. In our opinion, the reserves data evaluated by us have, in all material respects, been determined and are in accordance with the COGE Handbook, consistently applied. We express no opinion on the reserves data that we reviewed but did not audit or evaluate.
7. We have no responsibility to update our reports referred to in paragraph 5 for events and circumstances occurring after the effective date of our reports.
8. Because the reserves data are based on judgments regarding future events, actual results will vary and the variations may be material.

Executed as to our report referred to above:

GLJ Petroleum Consultants Ltd., Calgary, Alberta, Canada, March 7, 2019

Original Signed by Leonard L. Herchen, P. Eng.

Leonard L. Herchen, P. Eng.

Vice President

**SCHEDULE B – FORM 51-101F3 REPORT OF MANAGEMENT AND DIRECTORS  
ON OIL AND GAS DISCLOSURE**

*Terms to which a meaning is ascribed in National Instrument 51-101 - Standards of Disclosure for Oil and Gas Activities have the same meaning herein.*

Management of Alvo Petro Energy Ltd. (the “**Corporation**”) are responsible for the preparation and disclosure of information with respect to the Corporation’s oil and gas activities in accordance with securities regulatory requirements. This information includes reserves data, which are estimates of proved reserves and probable reserves and related future net revenue as at December 31, 2018, estimated using forecast prices and costs.

An independent qualified reserves evaluator has evaluated and reviewed the Corporation’s reserves data. The report of the independent qualified reserves evaluator is presented in Schedule “A” to the Annual Information Form of the Corporation for the year ended December 31, 2018 (the “**AIF**”).

The Reserves Committee of the Board of Directors of the Corporation has:

- (a) reviewed the Corporation’s procedures for providing information to the independent qualified reserves evaluator, GLJ Petroleum Consultants (“**GLJ**”);
- (b) met with GLJ to determine whether any restrictions affected the ability of GLJ to report without reservation; and
- (c) reviewed the reserves data with management and with GLJ.

The Reserves Committee of the Board of Directors has reviewed the Corporation’s procedures for assembling and reporting other information associated with oil and gas activities and has reviewed that information with management. The Board of Directors has, on the recommendation of the Reserves Committee, approved:

- (a) the content and filing with securities regulatory authorities of Form 51-101F1, incorporated into the AIF, containing reserves data and other oil and gas information;
- (b) the filing of Form 51-101F2, which is the report of GLJ on the reserves data; and
- (c) the content and filing of this report.

Because the reserves data are based on judgements regarding future events, actual results will vary and the variations may be material. However, any variations should be consistent with the fact that reserves are categorized according to the probability of their recovery.

*(signed) “Corey C. Ruttan”*

---

Corey C. Ruttan, President & Chief Executive Officer

*(signed) “Alison Howard”*

---

Alison Howard, Chief Financial Officer

*(signed) “John D. Wright”*

---

John D. Wright, Chairman and Director

*(signed) “Geir Ytreland”*

---

Geir Ytreland, Director & Chairman of the Reserves Committee

March 21, 2019

## SCHEDULE C – ALVOPETRO ENERGY LTD. AUDIT COMMITTEE MANDATE

### Role and Objective

The Audit Committee is a committee of the Board of Directors of Alvopetro Energy Ltd. (the “Corporation”) to which the Board has delegated its responsibility for oversight of the nature and scope of the annual audit, management’s reporting on internal accounting standards and practices, financial information and accounting systems and procedures, financial reporting and statements and recommending, for Board approval, the audited consolidated financial statements and other mandatory disclosure releases containing financial information of the Corporation.

The objectives of the Audit Committee are as follows:

1. to assist directors in fulfilling their legal and fiduciary obligations (especially for accountability) in respect of the preparation and disclosure of the financial statements of the Corporation and related matters;
2. to oversee the audit efforts of the external auditors of the Corporation;
3. to maintain free and open means of communication among the directors, the external auditors, the financial and senior management of the Corporation;
4. to satisfy itself that the external auditors are independent of the Corporation; and
5. to strengthen the role of the outside directors by facilitating in depth discussions between directors on the Committee, management and external auditors.

The function of the Committee is one of oversight of management and the external auditors in the execution of their responsibilities. Management is responsible for the preparation, presentation and integrity of the financial statements of the Corporation, maintaining appropriate accounting and financial reporting principles and policies and implementing appropriate internal controls and procedures. The external auditors are responsible for planning and carrying out a proper audit of the annual financial statements of the Corporation and reviewing the financial statements of the Corporation prior to their filing with securities regulatory authorities and other procedures.

### Composition of the Committee

1. The Audit Committee shall consist of at least three directors. The Board shall appoint one member of the Audit Committee to be the Chair of the Audit Committee.
2. Each director appointed to the Audit Committee by the Board must be independent. A director is independent if the director has no direct or indirect material relationship with the Corporation. A material relationship means a relationship which could, in the view of the Board, reasonably interfere with the exercise of the director's independent judgment. In determining whether a director is independent of management, the Board shall make reference to National Instrument 52-110 – *Audit Committees* or the then current legislation, rules, policies and instruments of applicable regulatory authorities.
3. Each member of the Audit Committee shall be “financially literate”. In order to be financially literate, a director must be, at a minimum, able to read and understand financial statements that present a breadth and complexity of accounting issues generally comparable to the breadth and complexity of issues expected to be raised by the Corporation's financial statements.
4. A director appointed by the Board to the Audit Committee shall be a member of the Audit Committee until replaced by the Board or until his or her resignation.

### Meetings of the Committee

1. The Audit Committee shall convene a minimum of four times each year at such times and places as may be designated by the Chair of the Audit Committee and whenever a meeting is requested by the Board, a member of the Audit Committee, the auditors, or a senior officer of the Corporation. Meetings of the Audit Committee shall correspond with the review of the quarterly financial statements and management discussion and analysis of the Corporation.

2. Notice of each meeting of the Audit Committee shall be given to each member of the Audit Committee. The auditors shall be given notice of each meeting of the Audit Committee at which financial statements of the Corporation are to be considered and such other meetings as determined by the Chair and shall be entitled to attend each such meeting of the Audit Committee.
3. Notice of a meeting of the Audit Committee shall:
  - (a) be given orally, or in writing, including by email;
  - (b) state the nature of the business to be transacted at the meeting in reasonable detail;
  - (c) to the extent practicable, be accompanied by copies of documentation to be considered at the meeting; and
  - (d) be given at least two days prior to the time stipulated for the meeting.
  - (a) A member may in any manner waive notice of the meeting. Attendance of a member at a meeting shall constitute waiver of notice of the meeting.
4. A quorum for the transaction of business at a meeting of the Audit Committee shall consist of a majority of the members of the Audit Committee.
5. A member or members of the Audit Committee may participate in a meeting of the Audit Committee by means of such telephonic, electronic or other communication facilities, as permits all persons participating in the meeting to communicate adequately with each other. A member participating in such a meeting by any such means is deemed to be present at the meeting.
6. In the absence of the Chair of the Audit Committee, the members of the Audit Committee shall choose one of the members present to be Chair of the meeting. In addition, the members of the Audit Committee shall choose one of the persons present to be the Secretary of the meeting.
7. The Chairman of the Board, senior management of the Corporation and other parties may attend meetings of the Audit Committee; however the Audit Committee (i) shall meet *in camera* with the external auditors independent of management as necessary, in the sole discretion of the Committee, but in any event, not less than quarterly; and (ii) may meet separately with management.
8. Minutes shall be kept of all meetings of the Audit Committee and shall be signed by the Chair and the Secretary of the meeting.

#### **Duties and Responsibilities of the Committee**

1. It is the responsibility of the Audit Committee to oversee the work of the external auditors, including resolution of disagreements between management and the external auditors regarding financial reporting. The external auditors shall report directly to the Audit Committee.
2. The Audit Committee shall, in the exercise of its powers, authorities and discretion so authorized, conform to any regulations or restrictions that may from time to time be made or imposed upon it by the Board or the legislation, policies or regulations governing the Corporation and its business.
3. It is the responsibility of the Audit Committee to satisfy itself on behalf of the Board that the Corporation's system of internal controls over financial reporting and disclosure controls and procedures are satisfactory for the purpose of:
  - (a) identifying, monitoring and mitigating the principal risks intended to be addressed by such controls and procedures;
  - (b) complying with the legal and regulatory requirements related to such controls and procedures;

and to review with the external auditors their assessment of the internal controls over financial reporting and the disclosure controls of the Corporation, their written reports containing recommendations for improvement, and management's response and any follow-up to any identified weaknesses.

4. It is the responsibility of the Audit Committee to review the annual financial statements of the Corporation and, if deemed appropriate, recommend the financial statements to the Board for approval. This process should include but be not to be limited to:
  - (a) reviewing and accepting/approving, if appropriate, the annual audit plan of the external auditors of the Corporation, including the scope of audit activities, and monitor such plan's progress and results during the year;
  - (b) reviewing changes in accounting principles, or in their application, which may have a material impact on the current or future years' financial statements;
  - (c) reviewing significant accruals, reserves or other estimates such as the ceiling test calculation;
  - (d) reviewing the methods used to account for significant unusual or non-recurring transactions;
  - (e) reviewing compliance with covenants under loan agreements;
  - (f) reviewing disclosure requirements for commitments and contingencies;
  - (g) reviewing adjustments raised by the external auditors, whether or not included in the financial statements;
  - (h) reviewing unresolved differences between management and the external auditors;
  - (i) obtain explanations of significant variances with comparative reporting periods;
  - (j) review of business systems changes and implications;
  - (k) review of authority and approval limits;
  - (l) review the adequacy and effectiveness of the accounting and internal control policies of the Corporation and procedures through inquiry and discussions with the external auditors and management;
  - (m) confirm through private discussion with the external auditors and the management that no management restrictions are being placed on the scope of the external auditors' work;
  - (n) review of tax policy issues; and
  - (o) review of emerging accounting issues that could have an impact on the Corporation.
5. It is the responsibility of the Audit Committee to review the interim financial statements of the Corporation and, if deemed appropriate, to recommend the financial statements to the Board for approval and to review all prospectuses, management discussion and analysis, annual information forms and all other public disclosure containing significant audited or unaudited financial information. The Audit Committee must be satisfied that adequate procedures are in place for the review of the Corporation's disclosure of all other financial information and shall periodically assess the accuracy of those procedures.
6. The Audit Committee shall have the authority to:
  - (a) inspect any and all of the books and records of the Corporation, its subsidiaries and affiliates;
  - (b) discuss with the management and senior staff of the Corporation, its subsidiaries and affiliates, any affected party and the external auditors, such accounts, records and other matters as any member of the Audit Committee considers necessary and appropriate;

- (c) engage independent counsel and other advisors as it determines necessary to carry out its duties; and
  - (d) to set and pay the compensation for any advisors employed by the Audit Committee.
7. With respect to the appointment of external auditors by the Board, the Audit Committee shall:
- (a) recommend to the Board the appointment of the external auditors;
  - (b) review the performance of the external auditors and make recommendations to the Board regarding the replacement or termination of the external auditors when circumstances warrant;
  - (c) oversee the independence of the external auditors by, among other things, if determined necessary, requiring the external auditors to deliver to the Audit Committee, on a periodic basis, a formal written statement delineating all relationships between the external auditors and the Corporation and its subsidiaries;
  - (d) recommend to the Board the terms of engagement of the external auditor, including the compensation of the auditors and that the external auditors shall report directly to the Committee; and
  - (e) when there is to be a change in auditors, review the issues related to the change and the information to be included in the required notice to securities regulators of such change.
8. The Audit Committee shall review annually with the external auditors their plan for their audit and, upon completion of the audit, their reports upon the financial statements of the Corporation and its subsidiaries.
9. The Audit Committee must pre-approve all non-audit services to be provided to the Corporation or its subsidiaries by external auditors. The Audit Committee may delegate, to one or more members, the authority to pre-approve non-audit services, provided that the member report to the Audit Committee at the next scheduled meeting and such pre-approval and the member comply with such other procedures as may be established by the Audit Committee from time to time.
10. The Audit Committee shall review adherence to the risk management policies and procedures of the Corporation (i.e. hedging, litigation and insurance), including an annual review of insurance coverage, and make appropriate recommendations to the Board with respect thereto.
11. The Audit Committee shall establish and maintain procedures for:
- (a) the receipt, retention and treatment of complaints received by the Corporation regarding accounting controls, or auditing matters; and
  - (b) the confidential, anonymous submission by employees of the Corporation of concerns regarding questionable accounting or auditing matters.
12. The Audit Committee shall review and approve the Corporation's hiring policies regarding employees and former employees of the present and former external auditors or auditing matters.
13. The Audit Committee shall periodically report the results of reviews undertaken and any associated recommendations to the Board.
14. The Audit Committee shall review and assess, on an annual basis, the adequacy of this Mandate.