

## ALVOPETRO ENERGY LTD.– SPECULATIVE BUY

### Closes US\$15 Million Credit Facility. First Caburé Natural Gas Production On Track for Q1/20

#### ACTION – Maintain Speculative Buy and \$1.15 Target Price

This morning, ALV announced that it has closed the previously announced US\$15 million (~C\$20 million) credit facility and provided an operational update. ALV plans to utilize the new credit facility to establish first production from the Caburé field, stimulate and tie-in the 183 (1) well which will test the Gomo resource play and fund other drilling opportunities. Upon completion of the Caburé project, ALV should be generating substantial free cash flow to fund additional growth in 2020. We maintain our **SPECULATIVE BUY** recommendation and \$1.15 target price.

#### DETAILS – Credit Facility To Fund Operations To First Cash Flow

**Caburé Unit Development (49.1% interest):** The remaining Caburé field development program includes drilling of up to four wells and the construction of high pressure facilities. The first two wells have been drilled, the third well is expected to spud later in October, with the remaining development program is targeted to be completed in January 2020.

**Midstream Infrastructure Project (100% interest):** Construction of the 11 km transfer pipeline commenced in May 2019 and remains on track to be completed in December 2019. Approximately 75% of the welding has been completed and 42% of the line has been installed and buried. Construction of the 18 MMcf/d midstream gas treatment facility is underway and first gas sales expected by the end of Q1/20. ALV will sell its natural gas to Bahia State natural gas distribution company according to a long-term natural gas sales agreement (“GSA”). The natural gas price is based upon the trailing weighted average of a basket of benchmark reference prices. Based on GLJ’s June 30, 2019 benchmark price forecasts, the 2020 forecast price is **US\$8.33/mcfe** which could generate an operating netback of US\$6.80/mcfe.

**Gomo Resource Update:** In 2014, ALV drilled the 183(1) well (100% W.I.) which encountered a total of 189 metres of potential net pay within two intervals in Gomo. In October 2019, ALV plans to stimulate the 183(1) well, followed by a 72-hour production test and a longer term pressure build up test. The company plans to construct an 8 km pipeline to the new transfer pipeline current under construction. ALV is targeting production of ~1.0 to 2.0 MMcf/d from this well.

#### IMPACT – Positive. ALV To Be Self-Funding Once Caburé Is On Stream

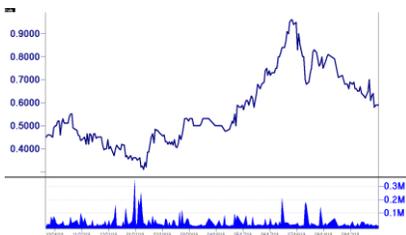
ALV plans to utilize the new credit facility to establish first production from the Caburé field, stimulate and tie-in the 183 (1) well, which will test the Gomo resource play and fund other drilling opportunities. Maintain **SPEC. BUY** and \$1.15 target price.

ALV - TSX - V **\$0.59**  
TARGET: **\$1.15**  
PROJ. RETURN: **95%**  
VALUATION: **0.75x NAVPS**

#### Share Data

Basic Shares O/S (mm): 96.6  
Diluted O/S (mm): 103.8  
Market Cap (\$mm): 57.0  
Enterprise Value (\$mm): 55.7  
Net Debt (W.C.) (C\$mm): (1.3)  
Next Reporting Date: November 2019  
\*As at: June 30, 2019

#### Thomson Chart – One Year



#### Corporate Profile

*Alvopetro Energy Ltd. holds a concentrated land base of exploration and development assets located onshore in northeastern Brazil. The current focus is on placing the Caburé natural gas field on production through the company’s new production facilities. Once on stream, expected in Q1/20, we expect significant cash flow to fund the exploration and development of the company’s large exploration prospect inventory.*

#### Upcoming Events

- Q3/19 financial and operational results (November 2019)
- First corporate natural gas production (Q1/20).

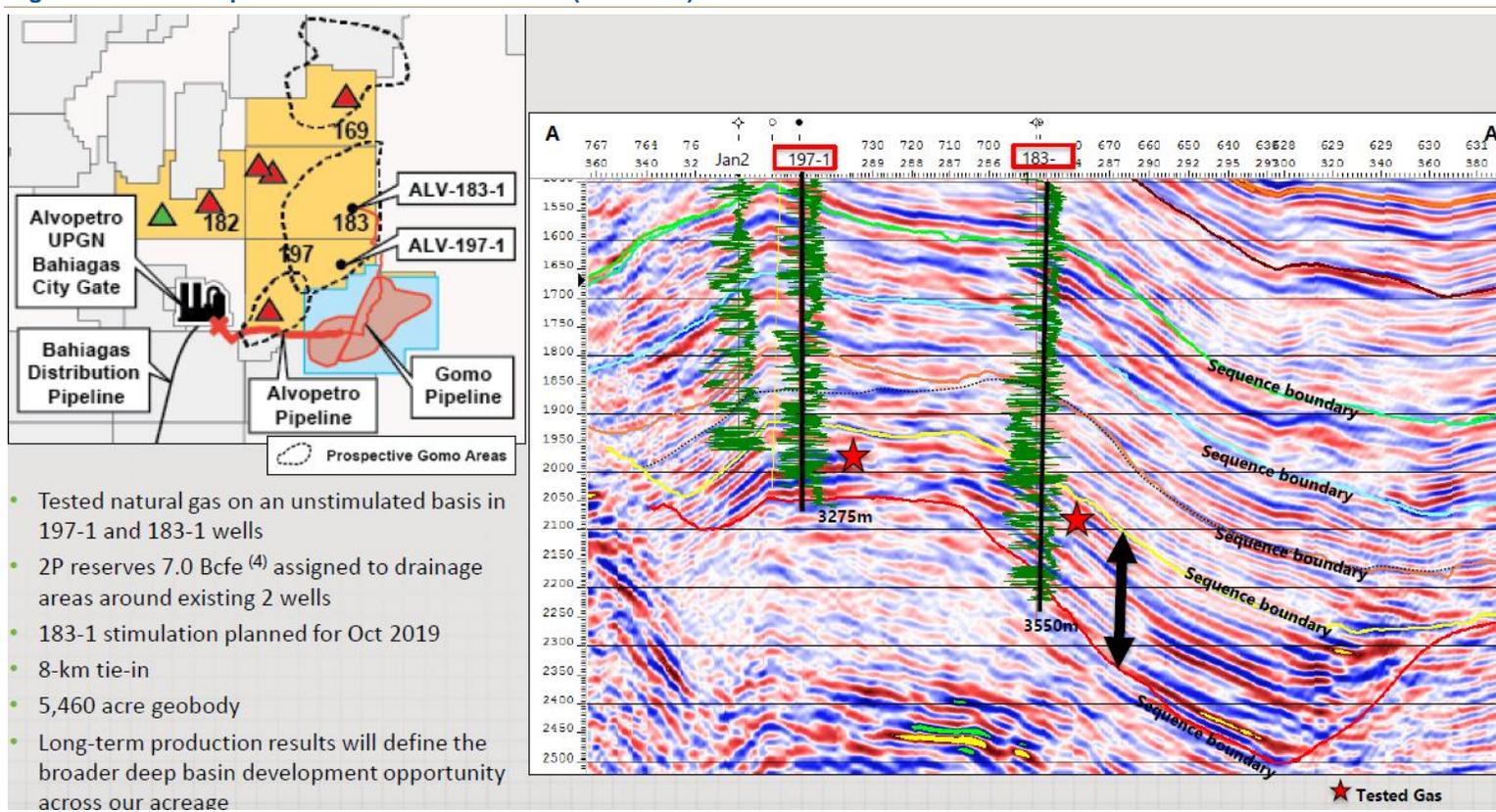
## GOMO RESOURCE PLAY

The Gomo is the primary source rock for the Recôncavo basin. AlvoPETRO is targeting the tighter sands within the shale (borderline conventional sands), not the shale itself. In 2014, AlvoPETRO completed a two well Gomo pilot, which defined a deep basin natural gas play over a large area (Figure 1). The wells were two of the deepest wells drilled in the basin.

The 197-1 well has 43 metres of net hydrocarbon plays and flowed 40 Mcf/d unstimulated. The 183(1) well encountered a much thicker section with a total of 189 metres of net pay in two plays within the Gomo (Figure 1). Upper Gomo had 96 metres of net oil pay, with an interval of 46m with 10% porosity. The Deep Gomo had 93 metres of net pay with 7% porosity. Later this month, ALV plans to stimulate the lower zone in the 183(1) well and if successful, the company will construct an 8 km pipeline to the new transfer pipeline and place the well on long term test.

With the completion of the Caburé production infrastructure targeted for Q1/20, ALV can now capitalize on the Gomo resource potential identified to-date. The 183-1 well will test a geobody that is estimated to have an aerial extent of 5,460 acres. If successful, full development could include up to 23 wells, with an estimated recoverable natural gas resources of 80 bcf.

**Figure 1: Gomo Deep Basin Natural Gas Resource (100% W.I.)**



Source: Company presentation, Mackie Research Capital

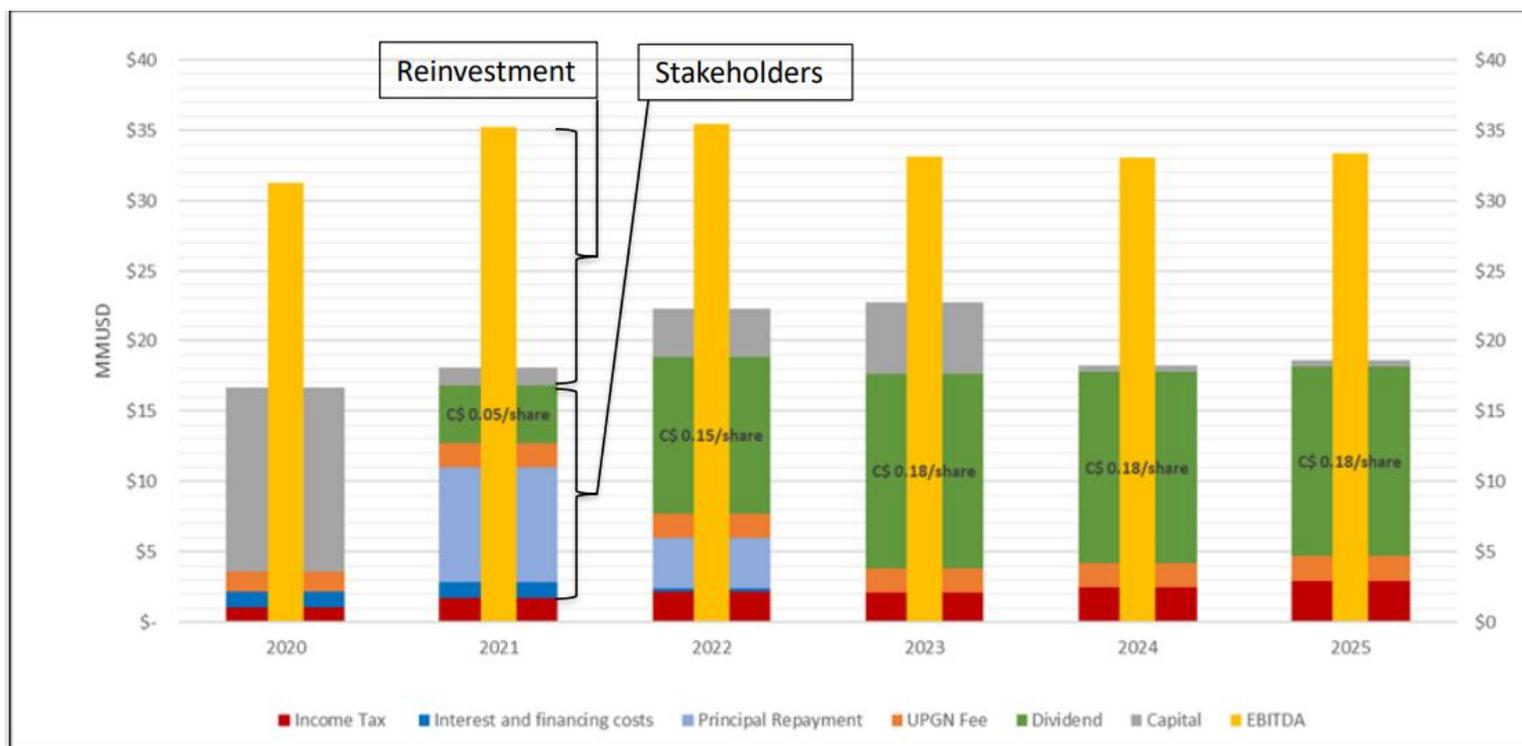
## LONG-TERM SALES AGREEMENT WITH ATTRACTIVE, PREDICTABLE PRICES

**Floor Price of US\$5.20 and Ceiling of US\$8.85, escalated based on US CPI:** In May 2018, ALV completed a long-term natural gas sales agreement with the Bahia state natural gas distribution company (“BahiaGas”). The natural gas price is set semi-annually and is based upon trailing weighted average of a basket of benchmark reference prices including the Henry Hub, the National Balancing Point, and the Brent crude oil price. The current floor price is US\$5.20/MMBtu with a ceiling of US\$8.85/MMBtu. Both the floor and ceiling will be escalated based on United States inflation (CPI). Based on GLJ’s June 30, 2019 benchmark price forecasts, the 2020 forecast price is US\$8.33/mcfe which could generate an operating netback of US\$6.80/mcfe

## SIGNIFICANT FREE CASH FLOW TO FUND OPERATIONS AND DIVIDENDS

**Cash Flow Generated from the Caburé Field to Fund Future Growth & Potential Dividend:** Starting in 2020, the Caburé field is expected to produce at plateau rate of 15.9 MMcf/d, of which ALV’s unit share (49.1%) is ~7.8 MMcf/d. ALV can take any gas volumes that its partner Imetame doesn’t use. At this time, Imetame has only nominated for 5.3 MMcf/d, leaving an additional 2.7 MMcf/d available to ALV (total of ~10.5 MMcf/d). Based upon the 2P reserves assigned to the Caburé field, EBITDA is anticipated to be of over US\$30 million in 2020 (Figure 3). With its significant free cash flow, ALV should be able to internally fund capital expenditure and commence paying a C\$0.05 per share dividend in 2021 which could increase to C\$0.18 per share in 2023 upon full repayment of its credit facility (Figure 2).

Figure 2: Forecasted EBITDA, Reinvestment and Potential Dividend Stream



- Significant cash generating capacity just from development of 2P reserves
- Funds returns to stakeholders (50%) and high impact upstream reinvestment (50%)
- Does not reflect any incremental upside from additional upstream investments

Assumptions: 12/31/18 GLJ 2P future net revenue (assumes annualized gas sales of 10.8 mmscfe/d), less forecast G&A; \$15 million credit facility with debt drawn of \$11 million and repayments starting in 2021; Dividends starting in 2021 = (EBITDA - Income Tax) \* 50% less interest, UPGN integrated service fee, and debt



Figure 3: Detailed Summary and Forecast

<b>Alvopetro Energy Ltd.</b>												<b>ALV</b>
<b>Share Data</b>		<b>Market Value</b>				<b>Stock Price</b>				<b>Target Price</b>		
Basic Shares (mm):	96.6	Market Cap. (mm):	\$57.0		Close:	\$0.59		Target:	\$1.15			
Diluted Shares (mm):	103.8	Enterprise Value (mm)	\$55.7		High:	\$0.99		Return:	94.9%			
Fully Diluted (mm):	115.9	Net Debt (W.C.) (mm):	(\$1.3)		Low:	\$0.30		Risked NAV:	0.75x			
<b>Production</b>		<b>2015A</b>	<b>2016A</b>	<b>2017A</b>	<b>2018A</b>	<b>Q1 19A</b>	<b>Q2 19A</b>	<b>Q3 19E</b>	<b>Q4 19E</b>	<b>2019E</b>	<b>2020E</b>	
Oil & Liquids	bbl/d	34	42	26	21	14	6	6	6	8	10	
Natural Gas	MMcf/d	-	-	-	-	-	-	-	-	-	7.5	
Boe/d	6:1	34	42	26	21	14	6	6	6	8	1,264	
<b>Cash Flow &amp; Earnings (US\$)</b>		<b>2015A</b>	<b>2016A</b>	<b>2017A</b>	<b>2018A</b>	<b>Q1 19A</b>	<b>Q2 19A</b>	<b>Q3 19E</b>	<b>Q4 19E</b>	<b>2019E</b>	<b>2020E</b>	
<b>Funds Flow</b>	<b>US\$ mm</b>	<b>(5.0)</b>	<b>(4.7)</b>	<b>(3.3)</b>	<b>(4.3)</b>	<b>(0.6)</b>	<b>(0.7)</b>	<b>(0.8)</b>	<b>(0.8)</b>	<b>(2.8)</b>	<b>14.5</b>	
Funds Flow /Share	US\$/share	(\$0.06)	(\$0.06)	(\$0.04)	(\$0.05)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.03)	\$0.15	
Funds Flow /FD Share	US\$/share	(\$0.06)	(\$0.05)	(\$0.04)	(\$0.05)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.03)	\$0.15	
Earnings	US\$ mm	(12.4)	(12.6)	(7.1)	(4.3)	(0.8)	(0.8)	(0.9)	(0.9)	(3.4)	5.8	
Earnings/FD Share	US\$/share	(\$0.14)	(\$0.14)	(\$0.08)	(\$0.05)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.01)	(\$0.03)	\$0.06	
<b>\$/Barrel of Oil Equivalent (US\$)</b>		<b>2015A</b>	<b>2016A</b>	<b>2017A</b>	<b>2018A</b>	<b>Q1 19A</b>	<b>Q2 19A</b>	<b>Q3 19E</b>	<b>Q4 19E</b>	<b>2019E</b>	<b>2020E</b>	
Revenue	US\$/boe	43.37	36.66	47.87	67.82	13.31	13.70	12.69	14.07	53.81	49.64	
Royalties	US\$/boe	3.08	3.84	5.28	7.19	7.14	7.33	6.66	7.39	7.13	5.94	
Operating & Trans Costs	US\$/boe	75.94	77.28	87.75	111.46	74.60	117.22	74.60	74.60	82.60	5.49	
Operating Netback											38.21	
Cash Flow Netback	US\$/boe	na	na	na	na	na	na	na	na	na	31.42	
<b>Valuation Metrics (C\$)</b>		<b>2015A</b>	<b>2016A</b>	<b>2017A</b>	<b>2018A</b>	<b>Q1 19A</b>	<b>Q2 19A</b>	<b>Q3 19E</b>	<b>Q4 19E</b>	<b>2019E</b>	<b>2020E</b>	
FD Cash-Flow Multiple											3.0x	
EV/DACF Multiple											3.7x	
EV/Production	C\$/mboe/d										44.0	
EV/boe Reserves	C\$/boe										\$ 9.13	
<b>Commodity Price</b>		<b>2015A</b>	<b>2016A</b>	<b>2017A</b>	<b>2018A</b>	<b>Q1 19A</b>	<b>Q2 19A</b>	<b>Q3 19E</b>	<b>Q4 19E</b>	<b>2019E</b>	<b>2020E</b>	
Brent	US\$/bbl	53.62	45.13	54.75	71.69	63.83	68.47	61.00	66.50	64.95	65.00	
Realized Oil Price	US\$/bbl	48.10	36.92	48.47	65.78	52.96	57.80	50.33	55.83	54.23	62.23	
Realized Natural Gas Price	C\$/Mcf	-	-	-	-	-	-	-	-	-	8.25	
Exchange Rate	1 US\$ = C\$	1.24	1.37	1.32	1.26	1.29	1.31	1.32	1.30	1.33	1.34	
<b>Capex and Capital Structure</b>		<b>2015A</b>	<b>2016A</b>	<b>2017A</b>	<b>2018A</b>	<b>Q1 19A</b>	<b>Q2 19A</b>	<b>Q3 19E</b>	<b>Q4 19E</b>	<b>2019E</b>	<b>2020E</b>	
Capex	US\$ mm	12.2	8.4	5.4	5.3	1.2	0.8	1.5	5.0	8.5	14.0	
Weighted Average Basic	mm	85.2	85.2	85.2	86.1	96.7	96.6	96.6	96.6	96.6	96.6	
Basis Shares (end of period)	mm	85.2	85.2	85.2	85.2	85.2	85.2	96.8	96.8	96.7	96.6	
Dilutive	mm	87.1	91.3	86.0	90.0	98.0	96.6	99.0	99.0	98.1	99.0	
Market Cap	C\$ mm	50.2	50.2	50.2	50.2	50.2	50.2	57.1	57.1	57.1	57.0	
Enterprise Value	C\$ mm	10.8	28.5	39.1	44.5	47.3	48.9	58.8	66.5	66.4	75.1	
Net Debt (W.C.)	C\$ mm	(39.4)	(21.7)	(11.1)	(5.8)	(2.9)	(1.3)	1.7	9.4	9.4	18.1	
Net Debt/Cash Flow		na	na	na	na	na	na	na	na	na	0.9x	
<b>NAV, Reserves and Concessions</b>												
<b>Net Asset Value Estimate</b>				<b>Reserve Estimate (December 31, 2018)</b>				<b>Exploration Acreage</b>				
	C\$mm	C\$/share		(mboe)	%			Gross	Net			
Reserves (P + P)	\$147	\$1.52		Proven	3,778	62%		Brazil	44,293	41,580		
Working Capital (Net Debt)	\$1	\$0.01		Probable	2,317	38%						
Net Asset Value Basic	\$148	\$1.53		2P	6,095	100%						
Dilution	\$2	\$0.02										
<b>Core NAV/FD Share</b>	<b>\$150</b>	<b>\$1.56</b>		<b>Reserve Life Index (years)</b>								
Price/Core NAV		0.38x		<b>Production</b>								
Exploration Drilling	\$0	\$0.00		<b>2020</b>								
<b>Risked NAV/FD share</b>	<b>\$150</b>	<b>\$1.56</b>		Proven	8.2							
Price/Risked NAV		0.38x		2P	13.2							

## RISKS TO TARGET

While this is not an exhaustive list, we view the following risks as being noteworthy to investors in Alvo Petro Energy Ltd.

**PRODUCTION CONCENTRATION RISK** | In the near term, nearly all of Alvo Petro's production will be derived from the Caburé natural gas field. Any production disruptions caused by natural disasters, labour strikes, or unscheduled maintenance of production facilities, or reservoir performance could impact the company's ability to achieve our targets and potentially impact valuation.

**FINANCIAL RISK** | With limited production, Alvo Petro will utilize its new credit facility to fund the capital costs associated with the Caburé natural gas field as well as other drilling opportunities. The facility is secured by all of Alvo Petro's assets.

**EXCHANGE RATE RISK** | Alvo Petro an international company, is exposed to currency fluctuations including the Brazilian real, the US dollar and Canadian dollar.

**EXPLORATION RISK** | Alvo Petro has an active exploration program. Exploration failure could have a material impact on our valuation.

**POLITICAL RISK** | Alvo Petro is an international oil and natural gas exploration and production with primary activities in Brazil and as a result is subject to political risks. The government extensively regulates the energy industry, with influence over exploration and production activities, prices, taxes, royalties and export restrictions. New regulations or modifications to existing regulations could adversely impact the company's profitability.

## RELEVANT DISCLOSURES APPLICABLE TO COMPANIES UNDER COVERAGE

1. None Applicable
2. Relevant disclosures required under IIROC Rule 3400 applicable to companies under coverage discussed in this research report are available on our web site at [www.mackieresearch.com](http://www.mackieresearch.com)

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