

Reserves & Resources Update

22 August 2019

Highlights:

- Whitebark net oil Reserves as at 30 June 2019 increased more than 50% since 30 June 2018:
- Additional Contingent Resources at Wizard Discovery add a further 1 million bbls (2C / 30 June – WI 30%).
- Post Farm In work (WI 50%) at Wizard Lake will increase net 2P+2C Reserves and Resources to 2 million bbls.
- No results from Rex 2 have been taken into consideration due to the 30 June 2019 evaluation date.

Whitebark Energy Ltd (ASX: WBE) (“Whitebark” or “the Company”) is pleased to provide an update on its reserve position for its Canadian operations as at 30 June 2019, independently assessed by McDaniels and Associates (McDaniels).

The oil Reserves update to 30 June 2019 represent 56% and 59% increase in 1P and 2P oil Reserves to 305 Mbbl and 519.5 Mbbl respectively. Gas Reserves and associated liquids have reduced during the same period by 44% due to a significant reduction in commodity prices. (Refer to Tables 1 and 4).

Wizard Lake field evaluation continues with early Resource assessment adding 1.015 million bbls (2C, WI 30%). At the end of the farm in period, subject to the terms of the Wizard Lake farm agreement should the company interest increases to 50%, the 2P+2C Reserves and Resources net to WBE increases to 2.004 million bbls (Refer to Table 2).

Whitebark Energy Managing Director David Messina said: “Whitebark is pleased with the recent success at Wizard Lake field where a significant increase in the Company’s Reserves and Resources has been achieved. Our early assessment of the gross potential of this field suggests that the ultimate size of the whole accumulation could be as large as 11.2 million boe (2P + 3C + 3U) (Refer Table 2).”

SUMMARY OF RESERVES

Table 1 – WBE Producing and Prospective Reserves at 30 June 2019

30 June 2019					
	Crude Oil	Natural Gas	Condensate	Natural Gas Liquids	Total
	Mbbl	MMcf	Mbbl	Mbbl	MBOE
1P					
Producing	97	2134	2	38	493
Non-Producing	1	35		1	8
Undeveloped	207	425		9	286
Total 1P	305	2594	2	48	787
2P	519.5	4723	3.3	88	1398
3P	<i>Only assessed for Wizard Field (See below)</i>				

Table 2 - Wizard Lake Reserves at 30 June 2019 and showing Increasing WI Farm In

Wizard Lake										
	WI	End June (30% WI)			End August (40% WI)			50% WI (Farm in Stage 2)		
		Oil	Gas	Total	Oil	Gas	Total	Oil	Gas	Total
		Mbbl	MMcf	MBOE	Mbbl	MMcf	MBOE	Mbbl	MMcf	MBOE
Reserves	1P	132	287	180	176	382	240	220	478	300
	2P	225	507	310	300	676	413	375	846	516
	3P	285	804	419	380	1072	559	475	1340	698
Contingent	1C	550	1202	750	733	1602	1000	917	2003	1250
	2C	1015	1595	1281	1353	2126	1708	1692	2658	2135
	3C	2071	2518	2491	2761	3358	3321	3452	4197	4151
Prospective Unrisked	1U	84	132	106	112	176	141	140	220	177
	2U	189	305	240	252	406	320	315	508	400
	3U	438	350	496	584	467	662	730	584	827

Note : 1P and 2P Reserves included in McDaniels Reserves estimate, 3P, Contingent and Prospective Reserves have been estimated internally – refer qualified reserve and resource evaluator statement.

Whitebark will increase its interest to 40 and then 50% in the entire Wizard Lake field under a Farm In agreement with our Canadian JV partner by the drilling of two wells (Rex-2 and 3), of which Rex-2 is the first. The Company will pay 100% of the well costs but receive 75% of well income until the carried costs have been recovered.¹

Prospective Resource Estimates Cautionary Statement

The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery, as well as a risk of development. Further exploration, appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

Table 3 - BOE Reserves Summary 2019

BOE Summary (WI 30%) – 30 June 2019			
Reserves	1P	2P	3P (inc Wizard lake)
	787	1398	1817
Contingent (Wizard lake only)	1C	2C	3C
	750	1281	2491
Prospective (Wizard lake only)	1U	2U	3U
	106	240	496

¹ Refer ASX Release 31 May 2019

Table 4 – WBE Changes in Reserves 2019 to 2018

	Jun-19					Jun-18					Change				
	Crude Oil	Natural Gas	Condensate	Natural Gas Liquids	Total	Crude Oil	Natural Gas	Condensate	Natural Gas Liquids	Total	Crude Oil	Natural Gas	Condensate	Natural Gas Liquids	Total
	Mbbl	MMcf	Mbbl	Mbbl	MBOE	Mbbl	MMcf	Mbbl	Mbbl	MBOE	Mbbl	MMcf	Mbbl	Mbbl	MBOE
1P															
Producing	97	2134	2	38	493	77	2517	1	77	574	20	-383	2	-38	-81
Non-Producing	1	35		1	8	5	1853	1	35	349	-4	-1818	-1	-34	-341
Undeveloped	207	425		9	286	113	397		22	201	94	27	0	-14	85
Total 1P	305	2594	2	48	787	194	4767	1	134	1124	110	-2173	1	-86	-337
2P	519.5	4723	3.3	88	1398	326.5	8441	1.6	301	2036	193	-3718	2	-213	-638

Note : Lower gas prices have reduced gas reserves and Rex-1 well has increased oil reserves.

Types of Permits

Description	Type	Number of blocks	Gross area acres
Crown (Twp50 Royalty & JV)	Licence	3	1920
Freehold Prairy Sky & Paramount	Lease	4	2560

Wizard Lake Contingent Resource Estimates

<p>Basis for confirming existence of a significant quantity of potentially moveable hydrocarbons and determination of a discovery.</p>	<p>The presence of a significant quantity of moveable hydrocarbons is established by the results of Rex-1 and 2. The discovery well, Rex-1, is currently producing oil at commercial rates into dedicated facilities constructed by the joint venture and Rex-2 is presently being completed for production. The presence of Reserves is confirmed by the McDaniels Reserve report which ascribes proven producing and proven undeveloped Reserves to the Wizard pool. The Reserve report only considers the amount of hydrocarbons presently tapped by Rex-1 and in potential wells location immediately adjacent (including Rex-2). It does not consider the full extent of the pool as confirmed by pre-existing but much older wells. These wells indicate the presence of a widespread channel sand running in a roughly N-S direction.</p>
<ul style="list-style-type: none"> Analytical procedures used to estimate the contingent resource Key contingencies prevent the contingent resources from being a classified as a reserve; and Any further appraisal drilling and evaluation work to be undertaken to assess the potential for commercial recovery, and to progress the project. 	<ul style="list-style-type: none"> The Contingent Resources are attributed to the part of the pool not included in the McDaniels estimates but nonetheless supported by well control and geologic mapping. The amount of Contingent Resources was estimated using a monte carlo approach to provide a probability distribution of the pool size. The pool has been penetrated by 33 vertical wells mainly drilled prior to 1960 when appropriate completion technology (horizontal fraced wells) was not available. No commercial flows were achieved from the early wells though strong shows and log signatures indicative of oil pay were encountered. While the past wells provide a valuable dataset that was used to estimate the range of reservoir parameters and define the areal extent of the channel sand and hence the pool, they have been recently are supplemented by the results of Rex-1 and 2 which drilled 1200m and 1500m of oil filled reservoir in horizontal wells. All parameters used to quantify the amount of Contingent Resources are assumed to follow a log normal distribution and estimates of P90 and P10 values for porosity, area, net pay, oil saturation and formation volume factor were chosen by peer review based on well control. A range of recovery factors was applied based on the results of recent horizontal wells in the vicinity. The Contingent Resources are considered to be part of Wizard discovered accumulation where project activities are ongoing. The Resources are expected to be developed in the foreseeable future but as yet development funds have not been committed – Development Pending. Future development work will proceed in a step wise manner as facilities are expanded and be timed to comply with tenure obligations and regulatory approvals concerning well spacing. As with all development programmes, the drilling plan will evolve as well results become available. As the pool is held within a fluivial channel complex some variability in reservoir quality is expected and may control the final placement of wells as the configuration of the pool is refined. If found to be applicable, some well locations may be addressed with 3D seismic.

Wizard Lake Prospective Resource Estimates

<ul style="list-style-type: none"> • Basis on which the prospective resources are estimated; and • Any further exploration activities, including studies, further data acquisition and evaluation work and exploration drilling to be undertaken and expected timing of those activities. 	<ul style="list-style-type: none"> • The Prospective Resources were estimated using a monte carlo approach to provide a probability distribution of the pool size. The prospect has been penetrated by 36 wells drilled prior to 1960 when completion technology (horizontal fraced wells) was not available. No commercial flows were achieved though strong shows and log signatures indicative of oil pay were encountered. The past wells provide a valuable dataset that was used to estimate the range of reservoir parameters and define the areal extent of the prospect. The feature is interpreted to be a crevasse splay associated with but independent of the main channel which houses the Wizard pool. All parameters associated with the splay are assumed to follow a log normal distribution and estimates of P90 and P10 values for porosity, area, net pay, oil saturation and formation volume factor were chosen by peer review based on representative well control. A range of recovery factors was applied based on the results of recent horizontal wells in similar reservoirs in the vicinity. • The prospect is adjacent to, and likely connected to the Wizard pool and is considered ready for drilling. The timing of the drilling is controlled by the Wizard Pool development plan which is expected to establish a drilling pad close to the prospect and thereby result in significantly reduced drilling costs and completion expenses. The related Wizard development activity is expected to take place during the next 18 months.
<p>Entity's assessment of the chance of discovery and chance of development associated with the estimates</p>	<p>As the prospect has already been drilled and previous wells have established the presence of oil, the likelihood of a horizontal well finding oil in the target zone is very high. The chief unknown is the recovery factor of the reservoir and whether it can yield oil at commercial rates. Given the existing well control and the success of nearby wells in similar rocks the chance of development is approximately 70% (high chance but based on a modest amount of supporting data on recovery factor)</p>

Key Assumptions and Notes

- 30 June 2019 1P and 2P reserves evaluation was prepared by McDaniels and Associates in accordance with definitions, standards and procedures contained in the Canadian Oil and Gas Evaluation Handbook and Standards of Disclosure for Oil and Gas Activities, published by the Society of Petroleum Evaluation Engineers (SPEE), a party to the Guidelines for Application of the Petroleum Resource Management System (PRMS – June 2018).
- Reserves are presented on a "company gross" basis, which is defined as Whitebark's working interest (non-operating) share.
- Petroleum Reserves are reported net of lease fuel up.
- Company Reserves based on McDaniel's forecast prices and costs. The forecast of commodity prices used in the McDaniel report can be found at www.mcdan.com. See also 'Price Forecast' below.

Rex Field Description

Name of Well and Type	Rex field ; Rex-1 and Rex-2 are horizontal wells
Location	Alberta Canada Wizard Area within T48R27W4
Working interest	Earning 50%; interest presently 30%
Reservoir Thickness	Vertical wells show 7-11m. As Rex-1&2 are horizontal wells the entire pay section was not penetrated
Formation	Cretaceous Mannville Formation, Rex unit
Rock Type	Fluvial-lacustrine sandstone
Depth	1410-30mss
Hydrocarbon phases recovered	Oil (15api) with associated gas (GOR approx. 2200 cft/bbl). Rex-1 extended testing; 100-270bopd. Rex-2 completion underway
Other fluids	Water recovered with WOR of 60-65%
Production	Rex-1 is on pump
Fracture stimulation stages	27-34 depending on length of well and 35 tonne of proppant each stage

Price Forecast

The following table summarizes McDaniel's commodity price forecast and foreign exchange rate and inflation rate assumptions as applied in the McDaniel report.

Year	Exchange Rate	WTI Crude Oil	Edmonton Light Crude Oil	Edmonton Butane	Natural gas Alberta AECO Spot
	\$US/\$Cdn	\$US/bbl	\$Cdn/bbl	\$Cdn/bbl	\$Cdn/MMBtu
2019	0.750	60.00	72.00	17.10	1.75
2020	0.775	63.80	76.30	30.70	2.15
2021	0.800	67.60	78.40	43.10	2.55
2022	0.800	71.60	83.30	51.90	3.00
2023	0.800	73.10	85.00	52.90	3.15

- Estimated future net revenues are stated without any provision for interest costs, other debt service charges or general and administrative expenses, and after deduction of royalties, operating costs, estimated well abandonment and reclamation costs and estimated future development costs.
- Estimated future net revenue, whether discounted or not, may not represent fair market value.
- Columns may not add due to rounding of individual items.
- Inflation rate is accounted for at 2% per year.
- Crude Oil: The crude oil reserves estimates presented were based on a review of the volumetric data and performance characteristics of the individual wells and reservoirs in question. Volumetric estimates of the original oil in-place were based on individual well petrophysical interpretations, geological studies of pool configurations, and in some cases on published estimates. In those cases where indicative oil production decline and/or increasing gas-oil and oil cut trends were evident, the remaining reserves were determined by extrapolating these trends to economic limiting conditions. Where definitive production information was not yet available, the reserves estimates were usually volumetrically determined using recovery factors based on analogy with similar wells or reservoirs or on estimates of recovery efficiencies. The cumulative production figures were taken from published sources or from records of the Company and estimated for those recent periods where such data were not available.
- Natural Gas and Products: The natural gas reserves estimates for non-associated gas and gas cap pools were based on a study of the volumetric data and performance characteristics of the individual wells and reservoirs in question. Volumetric estimates of the initial gas in-place were based on individual well petrophysical interpretations, geological studies of the pools and areas, and in some cases on published estimates. Material balance estimates of the initial gas in-place were employed where sufficient information was available for a reliable estimate. The reserves recoverable from the currently producing properties were estimated from studies of production performance characteristics and/or reservoir pressure histories. In those cases where indicative gas production decline and/or increasing oil-gas ratio and water-gas ratio trends were evident, the remaining reserves were determined by extrapolating these trends to economic limiting conditions. In cases of competitive drainage in multi-well pools the reserves were based on an analysis of the relevant factors relating to the future pool depletion by existing and possible future wells. The recovery factors for the non-producing properties were estimated from a consideration of test rates, reservoir pressures and by analogy with similar wells or reservoirs.
- Natural gas reserves estimates for solution gas production from producing crude oil properties were based on an analysis of producing gas-oil ratios and existing sales gas recoveries. Solution gas reserves were assigned to non-producing oil properties where there was a likelihood of those reserves being recovered and sold from existing facilities or facilities that are expected to be available in the near future. The natural gas products reserves estimates for the producing properties were based on historical and anticipated future recoveries of these products from the natural gas reserves. The natural gas products recoveries from the non-producing natural gas reserves were estimated from gas analyses, well test information and from analogy

with similar reservoirs. Natural gas products reserves were only assigned to non-producing properties in those cases where there was a likelihood that the gas production would be processed through existing facilities capable of extracting these products or where such a facility will be available in the near future.

- Undeveloped reserves are associated with undrilled locations within existing producing fields. Drilling of PUD locations will take place in accordance to good oilfield practice and are subject to normal regulatory and environmental approvals.
- All products have ready access to market through existing infrastructure.
- Operating costs were based on 2018 actuals.
- Conversion of gas to BOE is done on the basis of 6mcf = 1 BOE.
- Royalties are calculated in accordance to the Province of Alberta regulations.
- Well costs and associated depths, lengths and completion practices are ascribed to each well in according to their location in the field or accumulation and prevailing oil and gas field practices.
- All proposed wells are analysed for commercial viability and only those deemed commercial were included in the reserve estimates.
- The oil and gas assets are held under existing production licenses in the Province of Alberta, Canada.

See also cautionary statements below for further explanations and discussions.

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Reserve and Resources Estimates

The 30 June 2019 1P and 2P Reserves evaluation was prepared by McDaniels and Associates in accordance with definitions, standards and procedures contained in the Canadian Oil and Gas Evaluation Handbook and Standards of Disclosure for Oil and Gas Activities, published by the Society of Petroleum Evaluation Engineers (SPEE), a party to the Guidelines for Application of the Petroleum Resource Management System (PRMS - June 2018). The revisions and reclassifications to the 1P and 2P reserves is comprised primarily of revisions in forecast performance as a result of well recompletions, drilling of new wells and pipeline construction to add stranded production to the network. Changes in forward price estimates, production costs and recovery rates also dictated the need for revision and reclassification of reserves.

The Company has non-operating interests in oil and gas assets in Canada and is focused on horizontally exploiting conventional oil and gas reservoirs in west central Alberta. The PLJV business plan is to utilize its experience to drill, develop and acquire accretive assets with potential for horizontal multi-stage frac technology and exploit opportunities for secondary recovery.

Undeveloped reserves are associated with undrilled locations within existing producing fields that we anticipate we will develop in the next 12 months, subject to good oilfield practice. Drilling of PUD locations are subject to normal regulatory and environmental approvals. All products have ready access to market through existing infrastructure and acquired licenses are held by existing production.

The Wizard Lake 3P oil and gas Reserves and the Contingent and Prospective Resources information included in this report are based on, and fairly represent, information and supporting documentation prepared by Mr Keenihan. Mr Keenihan is a qualified reserves and resources evaluator in accordance with the requirements of ASX Listing Rule 5.41 and consents as to the form and context in which the estimated Wizard Lake 3P petroleum reserves, contingent resources and prospective resources and the supporting information are presented in this report.

A Note Regarding Forward Looking Information

This announcement includes certain statements related to our future business and financial performance and future events or developments involving Whitebark Energy Limited ('WBE' or 'the Company') that may constitute forward-looking statements. All statements, other than statements of historical fact, that refer to any future oil and gas production, resources or reserves, exploration results and events that the Company expects to occur are forward-looking statements. Although the Company believes that the expectations in those forward looking statements are based upon reasonable assumptions, such statements are not a guarantee of future performance and actual results or developments may differ materially from the outcomes anticipated. This may be due to several factors, including market prices, exploration and exploitation success, and the continued availability of capital and financing, plus general economic, market or business conditions. Investors are cautioned that any such statements are not guarantees of future performance, and actual results or performance may differ materially from those projected in the forward-looking statements. The Company does not assume any obligation to update or revise its forward-looking statements, whether as a result of new information, future events or otherwise.

The Qualified Reserves and Resources Evaluator Statement

The information in this report that relates to the P1 and P2 oil and gas Reserves was compiled by technical employees of McDaniels and Associates Ltd, a premier independent Canadian Petroleum Consulting Firm, and subsequently reviewed by Mr Stephen Keenihan BSc (Hons) Geology/Geophysics, both of whom have consented to the inclusion of such information in this report in the form and context in which it appears. Mr Keenihan is a director and share and option holder of the Company and has more than 40 years relevant experience in the petroleum industry and is a member of The Society of Petroleum Engineers (SPE), AAPG (American Association of Petroleum Geologists) and PESA (Petroleum Exploration Society Australia). The Reserves and Resources included in this report have been prepared using definitions and guidelines consistent with the June 2018 Society of Petroleum Engineers (SPE) / World Petroleum Council (WPC) / American Association of Petroleum Geologists (AAPG) / Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (PRMS).

GLOSSARY OF TERMS

Abbreviation	Definition
AECO	The Alberta natural gas price which is quoted in gigajoules (GJ) and is traded on the Natural Gas Exchange (NGX).
Edm	Edmonton
MBOE	Thousand Barrels of Oil Equivalent
MMCF	One million cubic feet of gas volume only.
MSTB	Thousand Stock Tank Barrels
P+P	Total Proved + Probable
BOE	Barrel of oil equivalent

Abbreviation	Definition
PDNP	Proved Developed Non-Producing
PDP	Proved Developed Producing
PRBDNP	Probable Developed Non-Producing
PRBDP	Probable Developed Producing
PRBPUD	Probable Undeveloped
PUD	Proved Undeveloped
TP	Total Proved
TPRB	Total Probable
WTI	West Texas Intermediate