

# GOOD OIL CONFERENCE

PERTH SEPTEMBER 2017

DAVID EVANS COO



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The reserves and resources assessment follows the guidelines set forth by the Society of Petroleum Engineers – Petroleum Resource Management System (SPE-PRMS).

The Reserves and Contingent Resources in this announcement relating to the Madden Gas Field and Madden Deep Unit to be acquired from Freeport McMoRan Inc. is based on an independent review and audit conducted by Netherland, Sewell & Associates, Inc. and fairly represents the information and supporting documentation reviewed. The review and audit was carried out in accordance with the SPE Reserves Auditing Standards and the SPE-PRMS guidelines under the supervision of Mr. Shane M. Howell and Mr. John R. Cliver, both Vice Presidents of Netherland, Sewell & Associates, Inc., an independent petroleum advisory firm. Mr. Howell is a Registered Professional Geologist in the State of Texas and Mr. Cliver is a Registered Professional Engineer in the State of Texas. Mr. Howell’s qualifications include Master of Science in Geological Sciences, San Diego State University and a Bachelor of Science in Geological Sciences, San Diego State University. Mr. Howell has more than 10 years of relevant experience. Mr. Cliver’s qualifications include a Masters of Business Administration from the University of Texas, Austin and a Bachelor of Science in Chemical Engineering from Rice University. Mr. Cliver has more than 10 years of relevant experience. Mr. Howell and Mr. Cliver meet the requirements of Qualified Petroleum Reserve and Resource Evaluator as defined in Chapter 19 of the ASX Listing Rules.

The Reserves and Contingent Resources in this announcement relating to the Grieve CO<sub>2</sub> EOR project, operated by Denbury Resources, is based on an independent review and audit conducted by VSO Petroleum Consultants, Inc. and fairly represents the information and supporting documentation reviewed. The review and audit was carried out in accordance with the SPE Reserves Auditing Standards and the SPE-PRMS guidelines under the supervision of Mr. Grant Olsen, a Director of VSO Petroleum Consultants, Inc., an independent petroleum advisory firm. Mr. Olsen is a Registered Professional Engineer in the State of Texas and his qualifications include a Bachelor of Science and Master of Science (both in Petroleum Engineering) from Texas A&M University. He has more than 10 years of relevant experience. Mr. Olsen is a member of the Society of Petroleum Engineers (SPE) and an Associate Member of the Society of Petroleum Evaluation Engineers. Mr. Olsen meets the requirements of Qualified Petroleum Reserve and Resource Evaluator as defined in Chapter 19 of the ASX Listing Rules and consents to the inclusion of this information in this report.

The information in this ASX release or presentation that relates to Reserve and Contingent Resources estimates for the Grieve CO<sub>2</sub> EOR project and the Reserve and Contingent Resource estimates for the newly acquired Madden Deep Gas Field and the Madden Deep Unit Singleton CO<sub>2</sub> EOR project have been compiled and prepared by Mr. David Evans, COO and Mr. Brian Dolan, COO-USA and VP-Engineering of Elk Petroleum Inc. who are both qualified persons as defined under the ASX Listing Rule 5.11 and both have consented to the use of the reserves figures in the form and context in which they appear in this presentation.

Mr. Evans is a full-time employee of the company. Mr. Evans earned a Bachelor of Science with Honours in Geology from the University of London, United Kingdom, a Post Graduate Diploma, Petroleum Exploration from Oxford Brookes University, United Kingdom and a Master of Applied Science, Geology from the University of Canberra and Australian National University in Canberra, ACT. Mr. Evans has more than 30 years of relevant experience. Mr. Evans has sufficient experience that is relevant to the company’s Reserves and Resources to qualify as a Reserves and Resources Evaluator as defined in the ASX Listing Rules. Mr. Evans consents to the inclusion in this presentation of the matters based on the information in the form and context in which it appears.

Mr. Dolan is a full-time employee of the company. Mr. Dolan earned a degree in Mechanical Engineering from the University of Colorado at Boulder. Mr. Dolan has more than 24 years of relevant experience. Mr. Dolan has sufficient experience that is relevant to the company’s Reserves and Resources to qualify as a Reserves and Resources Evaluator as defined in the ASX Listing Rules. Mr. Dolan consents to the inclusion in this presentation of the matters based on the information in the form and context in which it appears.

# Elk Corporate Overview

## Oil Development

- Elk is focused on redevelopment of historically producing conventional oil fields to produce significant remaining in place oil by applying enhanced oil recovery (“EOR”) methods
- Grieve CO<sub>2</sub> EOR project development 90% complete, forecast production late 2017/early 2018

## Natural Gas & CO<sub>2</sub> Production

- Madden/Lost Cabin Gas Field is a large conventional gas and CO<sub>2</sub> production asset with high quality, long-life reserves & production delivering free cash flow to Elk
- Current production rate is of 25.4 MMCF/day (4,240 BOE/day) net to Elk
- Strategic interest in material CO<sub>2</sub> production supports Elk’s CO<sub>2</sub> EOR strategic focus

## Proven Practices & Opportunity

- EOR is a well established low risk redevelopment methodology
- ~90% of CO<sub>2</sub> EOR projects developed in USA are technical and commercial successes
- Abundance of large mature conventional oil fields suitable for CO<sub>2</sub> EOR redevelopment

## Long term Profitable Production

- Typical CO<sub>2</sub> EOR projects have a 15+ year reserve life and annuity style cash flows
- Grieve-minimal ongoing capex and opex
- Madden/Lost Cabin operator forecast 50 year project life

## Cash Flow Positive

- Forecast 2017 project free cash flow of ~US\$6 million and forecast Elk consolidated project free cash flow of US\$20-US\$28 million<sup>(1)</sup> per annum for 2017-2023 period

# Key Management

## Brad Lingo, CEO

- Over 25 years experience in all phases of oil & gas
- Experienced ASX 200 “company builder”
- Former MD & CEO of Drillsearch Energy (2009 – 15)
- Currently Non-Executive Director of Oilex Ltd
- Previously Chairman at Mont Dor Petroleum (2013-15) and CEO of Sunshine Gas (2003-04)



## Alex Hunter, CFO

- Over 20 years experience with the last 10 in resources sector M&A and capital raising
- Former General Manager Business Development at Drillsearch Energy
- Led several corporate takeovers, post takeover integrations, asset acquisitions, divestments and farm-outs to rationalise and grow the business
- Previously worked in construction and infrastructure project management



## David Evans, COO

- Geologist—29 years upstream global oil & gas development, production and exploration experience
- Former CTO and acting COO Drillsearch
- Significant exposure to Brownfield redevelopments and EOR projects
- Vegas Egypt, Burren Energy PLC, Petro-Canada International,
- Cairn Energy/Command Petroleum, Roxar Limited, Baker Hughes

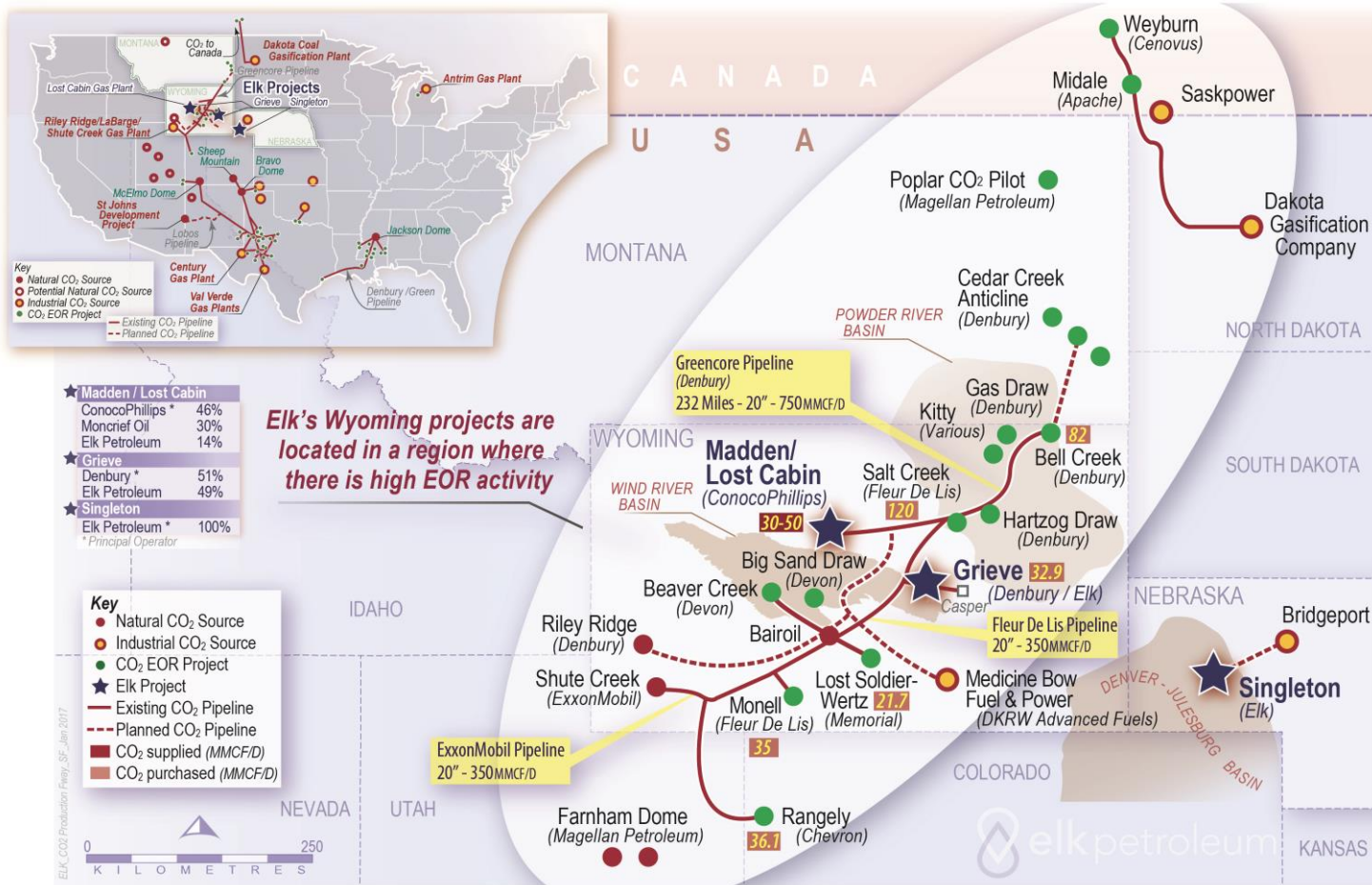


## Established Denver, CO operations team

- Scott Hornafius, President, Elk Petroleum USA
- Brian Dolan, Chief Operating Officer, Elk Pet USA
- Over 10-years Northern Rockies EOR experience



# Key Projects in Wyoming, USA



**Vast CO<sub>2</sub> reserves, extensive CO<sub>2</sub> infrastructure, multiple CO<sub>2</sub> EOR operating projects and numerous new projects for development**

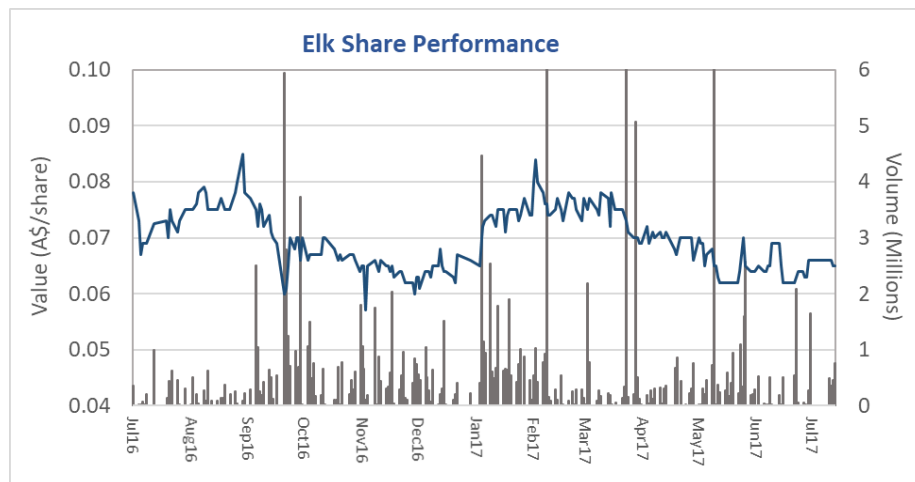
# Corporate Snapshot

Elk Reserves & Resources (1 January 2017)	MMBOE	
PDP (Proved Developed Producing Reserves)	11.9	
1P (Proved Reserves)	13.3	
2P (Proved + Probable Reserves)	20.5	
3P (Proved + Probable + Possible Reserves)	24.2	

Elk Production (Madden/Lost Cabin)	MMCF/Day	BOE/Day
MarQ2017	24.6	4,100
JunQ2017 <i>(production lower due to scheduled plant maintenance in May17)</i>	21.3	3,600
YTD 30 June 2017 (6 months)	22.9	3,800

Capital Structure	
Ordinary Shares	854.7 m
52-week Low-High (A\$/share)	0.056 - 0.085
Market cap @ \$0.079/share	A\$67 m
Unrestricted cash (31 Mar 2017)	A\$0.76 m
Restricted cash (31 Mar 2017)	A\$11.3 m



Major shareholders	
Republic Investment Management	19.3%
Rich Trend Ventures	5.6%
Robert Anthony Healy	6.3%
Begley Superannuation	2.7%
Ms Tracey Leanne Marshall	2.0%
Brad Lingo	1.5%

# What is CO<sub>2</sub> EOR?

## Primary Production



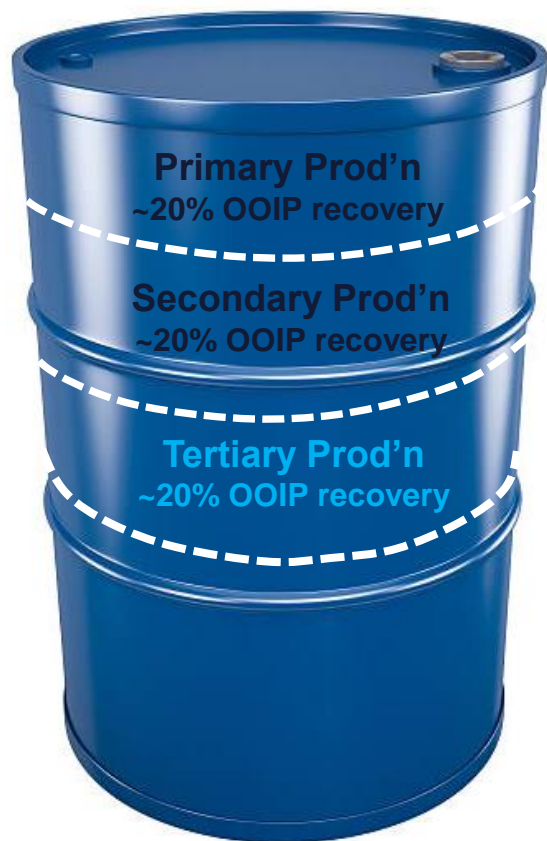
- Primary production phase wells are drilled into a reservoir and oil is produced using the original energy of the fluids under pressure in the reservoir
- Up to 20% of the original oil in place (OOIP) can be recovered
- At the end of primary production around 80% of the original oil in place can be left in the reservoir



## Secondary Production



- In the secondary production phase water is injected to repressurise the formation
- New water injection wells are drilled or converted from producing wells, and the injected fluid sweeps oil to the remaining producing wells
- Up to 20% of original oil in place can be recovered from secondary production
- At the end of secondary production around 60% of the original oil in place can be left in the reservoir



## Tertiary Production-Enhanced Oil Recovery (EOR)

- Carbon Dioxide Enhanced Oil Recovery (CO<sub>2</sub> EOR) is a method of Tertiary Production.
- CO<sub>2</sub> is injected into the reservoir using injector wells
- CO<sub>2</sub> has the unique ability to mix with oil to swell it, make it lighter, detach it from the rock surfaces, and cause the oil to flow more freely within the reservoir to producer wells
- CO<sub>2</sub>-EOR can produce up to 20% of oil originally in place

Source: Denbury Resources

## CO<sub>2</sub> EOR Screening Criteria

**Resource Target Size** – economics are usually challenged for oil reserves targets less than 10 Million barrels.

**Proximity to CO<sub>2</sub> source (pipeline)** - Length and diameter drive pipeline construction costs. Long distance pipeline requirements can be cost prohibitive.

**Cost of CO<sub>2</sub>** - Generally, the single largest project cost is the purchase of CO<sub>2</sub>. Costs vary based on whether the CO<sub>2</sub> input supply is owned (equity gas), or contracted from a natural source or contracted from an anthropogenic (industrial) source.

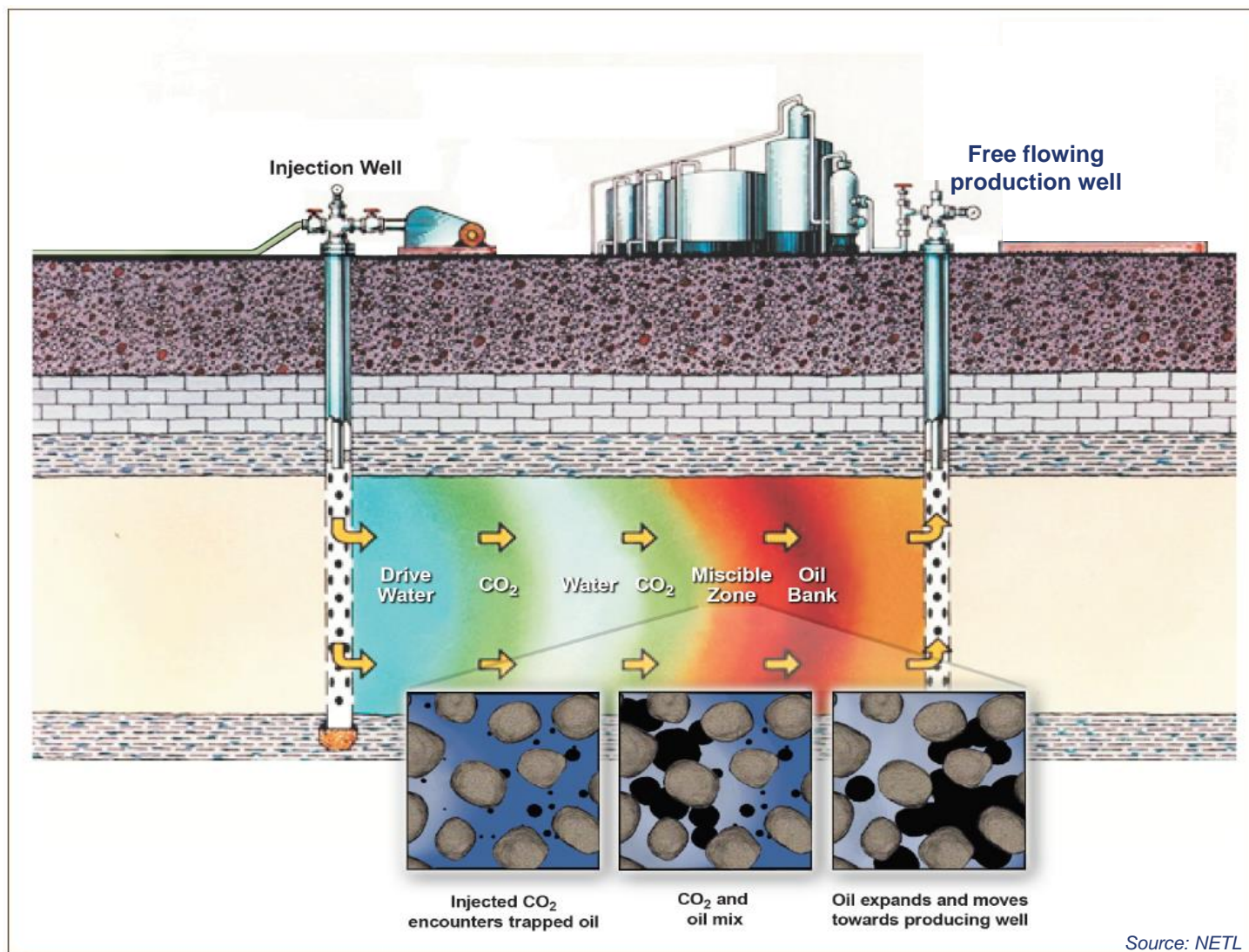
**Quantity of CO<sub>2</sub> available** – is there enough CO<sub>2</sub> supply to meet your needs? Initial CO<sub>2</sub> demand is often in excess of 30 MMcf/D.

**Existing infrastructure** – how many new wells will need to be drilled? How many old wells need to be plugged? Is there existing injection infrastructure in place from a water flood?

**Reservoir properties** – The quality of the reservoir, along with depth (and pressure) and oil gravity often determine how successful CO<sub>2</sub> will be in recovering incremental oil reserves. The following reservoir criteria summarize ranges of suitable conditions for potential CO<sub>2</sub> EOR projects:

Depth, ft	< 9,800 and >2,000
Temperature, °F	<250, but not critical
Pressure, psia	>1,200 to 1,500
Permeability, md	>1 to 5
Oil gravity, °API	>27 to 30
Viscosity, cp	≤10 to 12
Residual oil saturation after waterflood, fraction of pore space	>0.25 to 0.30

# How CO<sub>2</sub> EOR works





## CO<sub>2</sub> EOR oil production allows free flow at wellhead

- CO<sub>2</sub> EOR projects achieve minimum miscible pressure (MMP) of ~2,800 PSI by injection of CO<sub>2</sub> and water at high pressure
- At MMP, oil and water mix to create a more freely flowing production stream
- In fields pressured this way oil, water and CO<sub>2</sub> can flow freely at the wellhead without the need for pumps
- Imagine an aerosol spray or popped champagne bottle
- Significantly reduces operating costs and well workover costs
- CO<sub>2</sub> and water are separated at surface and reinjected

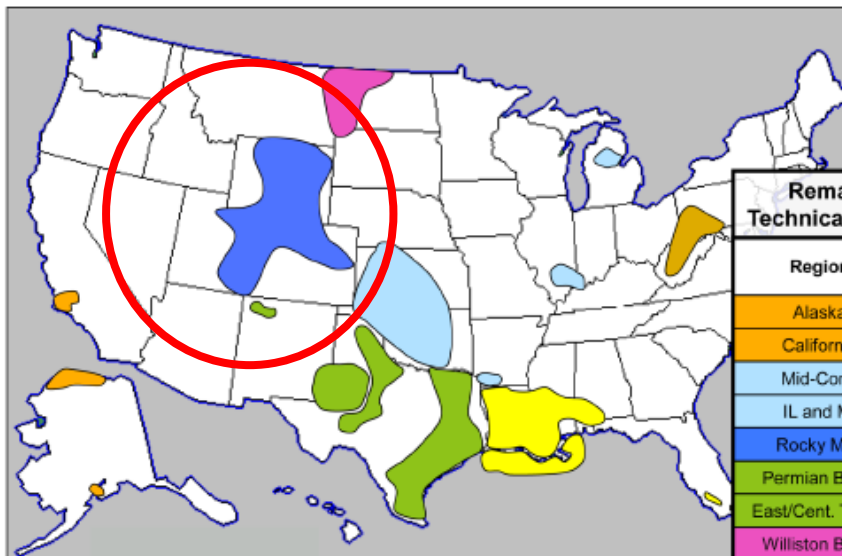


# Elk Strategy



# Remaining recoverable oil is Elk's opportunity

- 3.9 Billion barrels of oil recoverable in Rocky Mountain region (*NETL*)
- Buying and producing Rockies oil and CO2 projects is a significant and current opportunity for Elk
- Elk is highly focussed on:
  - CO2 EOR oil production,
  - CO2 sources and infrastructure opportunities
- Grieve and Madden/Lost Cabin are the foundation assets that will allow Elk to capitalise on existing opportunities
- Significant opportunities presently exist



Source: ARI, February 2009

Region	ROIP*	Technically Recoverable
Alaska	45.0	12.4
California	57.3	6.3
Mid-Cont.	65.6	10.6
IL and MI	11.5	1.2
Rocky Mts.	22.6	3.9
Permian Basin	61.7	15.9
East/Cent. Texas	73.6	17.6
Williston Basin	9.4	2.5
Gulf Coast	27.5	7.0
LA Offshore	15.7	5.8
Appalachia	10.1	1.6
<b>Total</b>	<b>400</b>	<b>84.8</b>

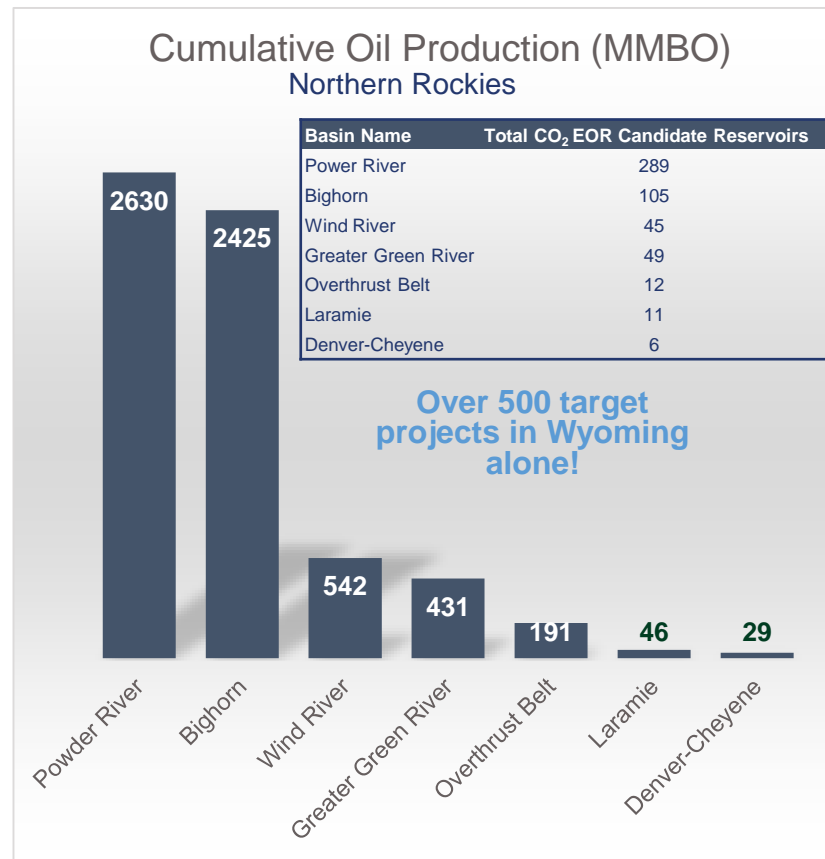
\* Remaining Oil in Place

**Producible if costs, oil price and risks justify investment**

Source: NETL

## CO<sub>2</sub> EOR – Material Energy Sector Business in USA and Rockies

- Wyoming is the 4<sup>th</sup> largest gas producing state and the 10<sup>th</sup> largest oil producing state in the USA
- Wyoming contains one of largest proven developed CO<sub>2</sub> reserves - 10 TCF - in US with resource potential of 100 TCF
- Favourable regulatory environment
- Over 500 target CO<sub>2</sub> EOR projects have been identified in Wyoming alone
- Many significant CO<sub>2</sub> EOR production project acquisition opportunities are available

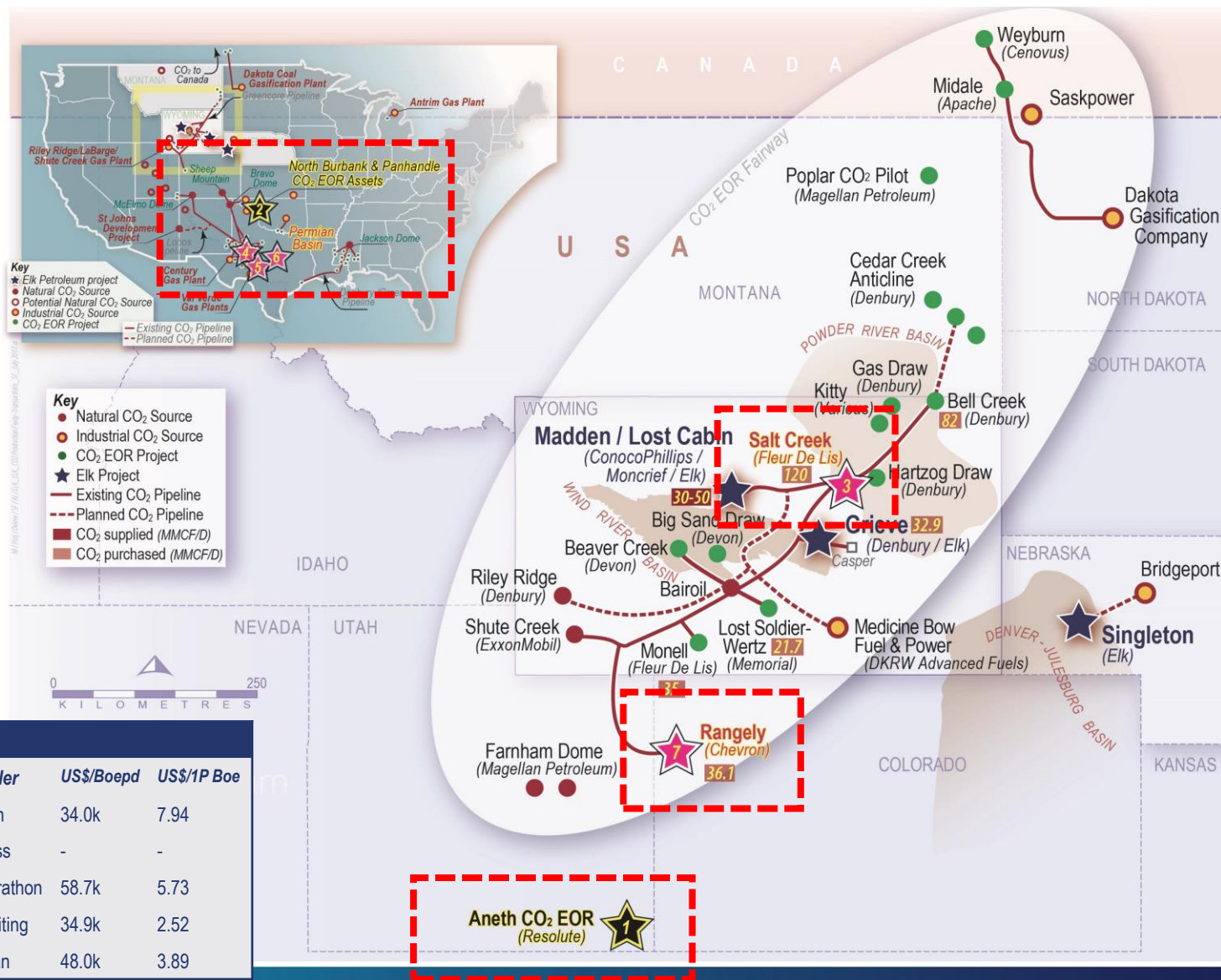


Source: SPE-122921-MS-Estimates of Potential CO<sub>2</sub> Demand for CO<sub>2</sub> EOR in Wyoming Basins

**Significant growth potential with deep pipeline of attractive projects**



# Rockies CO<sub>2</sub> EOR opportunities



# Foundations For Further Growth



## CO<sub>2</sub> Sources

- Direct investment in CO<sub>2</sub> supplies
- Control of CO<sub>2</sub> essential
- Competitive advantage
- Potential profit as 3<sup>rd</sup> party supplier
- Core focus moving forward



## EOR Project Fields

- Ownership & development of CO<sub>2</sub> EOR Projects
- Main financial engine room
- Small club of competitors
- Already a recognized player
- Long-term, low risk cash flows



## CO<sub>2</sub> & Production Infrastructure

- Oil & CO<sub>2</sub> pipelines, gas processing
- Grieve Oil Pipeline shows value of 3<sup>rd</sup> party revenues
- Potential additional value in CCS

# Grieve CO<sub>2</sub> EOR Project

# Grieve Project Overview

## Asset overview and ownership

- Elk 49% working interest and ~60% economic interest
- Denbury Resources 51% owner and operator

## Project construction nearing completion

- Fixed time and cost construction contract with Denbury
- ELK is funding US\$55m remaining construction works
- Completed senior debt and equity financing in mid 2016
- Project construction over 90% complete, production expected late 2017/early 2018

## Favourable economics

- Elk to receive 75% of the operating profit from 1st million barrels and 65% from 2nd million barrels
- Enhanced revenue stream from 100% Grieve Oil Pipeline
- Forecast annual project free cash flow for first 5-years averages US\$18-26 million pa<sup>(1,2,3)</sup>

## Grieve Project Economics (US\$)

Project life	20 years
Capex invested to date	\$157m
Remaining capex spend	\$17m
Development cost	\$7-10/bbl
Operating cost (First 5 years, including royalties and production taxes, real)	\$10-13/bbl
Profit margin (First 5 years, real) <sup>(1,2,3)</sup>	\$29-39/bbl
Total projected revenue (Project life, post royalties and production taxes) <sup>(1,2,3)</sup>	\$261-334m
First 5 years annual project free cash flow <sup>(1,2,3)</sup>	\$18-26m p.a.

## Grieve CO<sub>2</sub> EOR Project Reserves & Resources

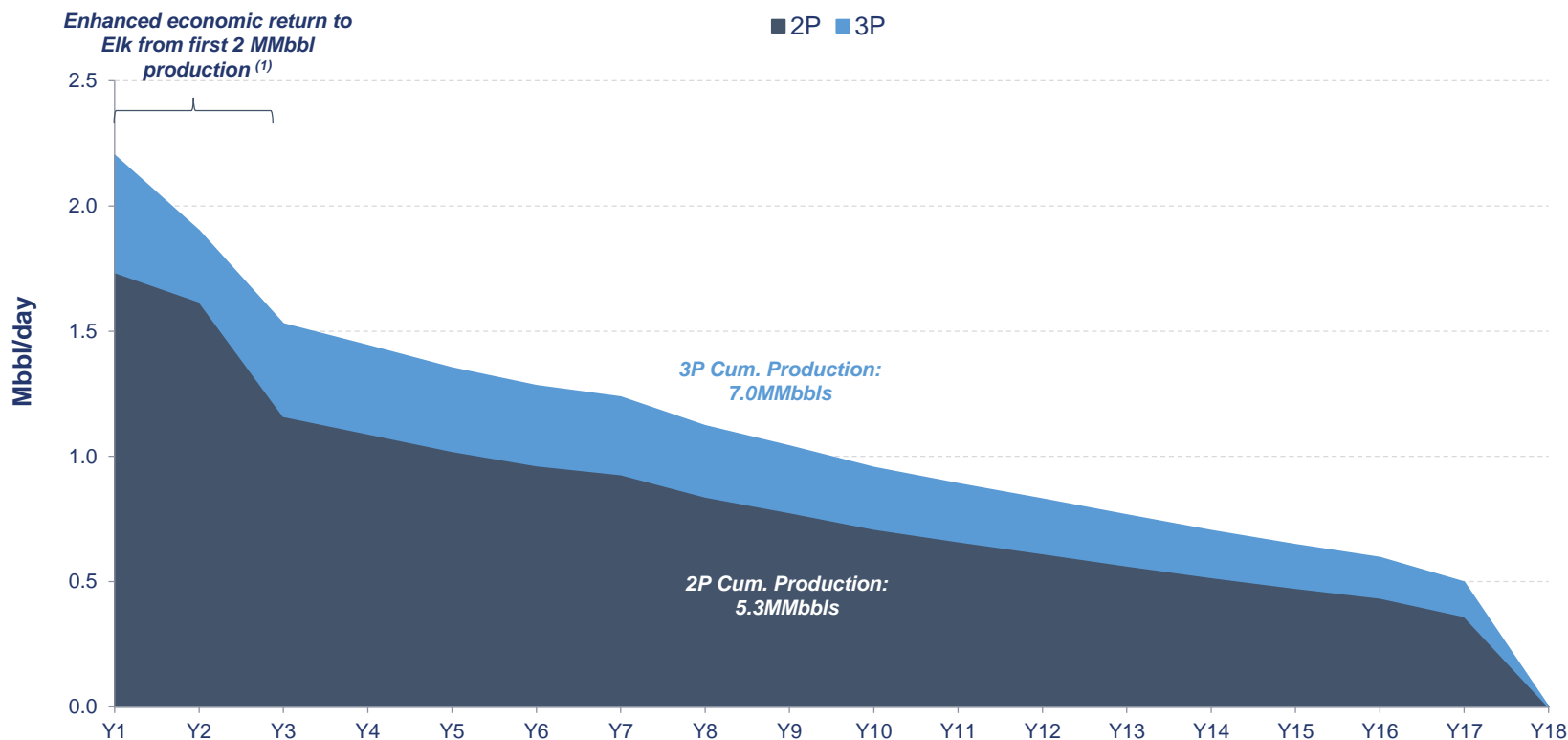
Scenario	(MMbbl)	
	Gross	Net
2P (Proved + Probable Reserves)	12.3	5.3
3P (Proved + Probable + Possible)	16.4	7.0
3C (Contingent Resources)	16.3	7.0



# Grieve Production Rate

*Elk's net share of average production over the first 5 years is estimated to be between 1.3 and 1.7 Kbbbl/day*

**Daily Production: 2P & 3P (Net to Elk, Post Royalties)<sup>(1,2,3)</sup>**

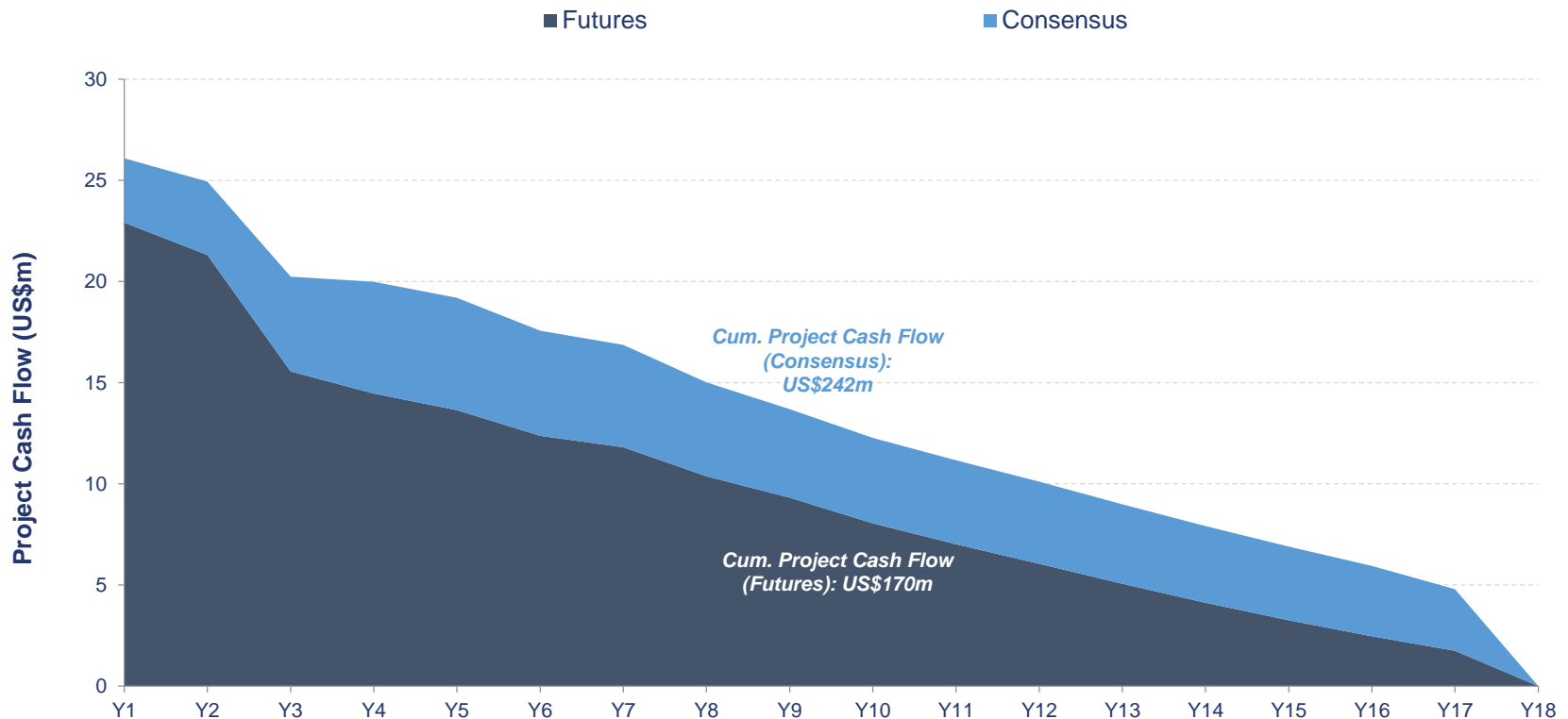


# Grieve Project Free Cash Flow

*The Grieve Project will generate strong and stable cash flows from first oil*

**Project Cash Flow (Net to Elk, US\$m, Nominal) <sup>(1)</sup>**

*Post Royalties, Production Taxes, Opex and Capex*



(1) Bloomberg Futures and Consensus Pricing as at 31 March 2017 (Source: Bloomberg)

# Madden/Lost Cabin Natural Gas & CO<sub>2</sub> Project



# Madden/Lost Cabin Project Overview

## Asset overview and ownership

- Madden/Lost Cabin is a conventional natural gas production asset with CO<sub>2</sub> and sulphur by-products
- Elk ~14% working interest
- 46% owned and operated by Conoco Philips

## Profitable production

- Elk's current production (30 June) ~25.4 MMSCF/day (4,240 BOE/day)
- YTD 30Jun17 production 22.9 MCF/d (3,800 boe/d)
- Lower production during May 2017 due to scheduled plant shut down and maintenance
- Forecast 2017 project free cash flow of ~US\$6 million net to Elk
- Reserves independently certified by Netherland Sewell & Associates
- Favourable operating costs of \$10/boe (\$1.6/mcf) and capital costs of \$1.6/boe (\$0.3/mcf)
- Moderate production maintenance capex through 2021 covered by operating cash flows

## Madden/Lost Cabin Project Economics (US\$)

Project life (PDP Reserves)	25 years	
2017-2021 capex (5 years)	\$1.6/boe	\$0.3/mcf
2017-2021 operating cost (5 years, including royalties, including production taxes, real)	\$10/boe	\$1.6/mcf
Profit margin 2017-2021 (5 years, real)	\$3-6/boe	\$0.6-0.8/mcf
Avg realised gas price 2017-21 <sup>(1)</sup>	\$16-17/boe	\$2.6-2.8/mcf
Total projected revenue (Project life, post royalties and production taxes) (PDP consensus)	\$207-229m	
First 5 years annual project free cash flow <sup>(1,2)</sup>	\$3-7m p.a.	

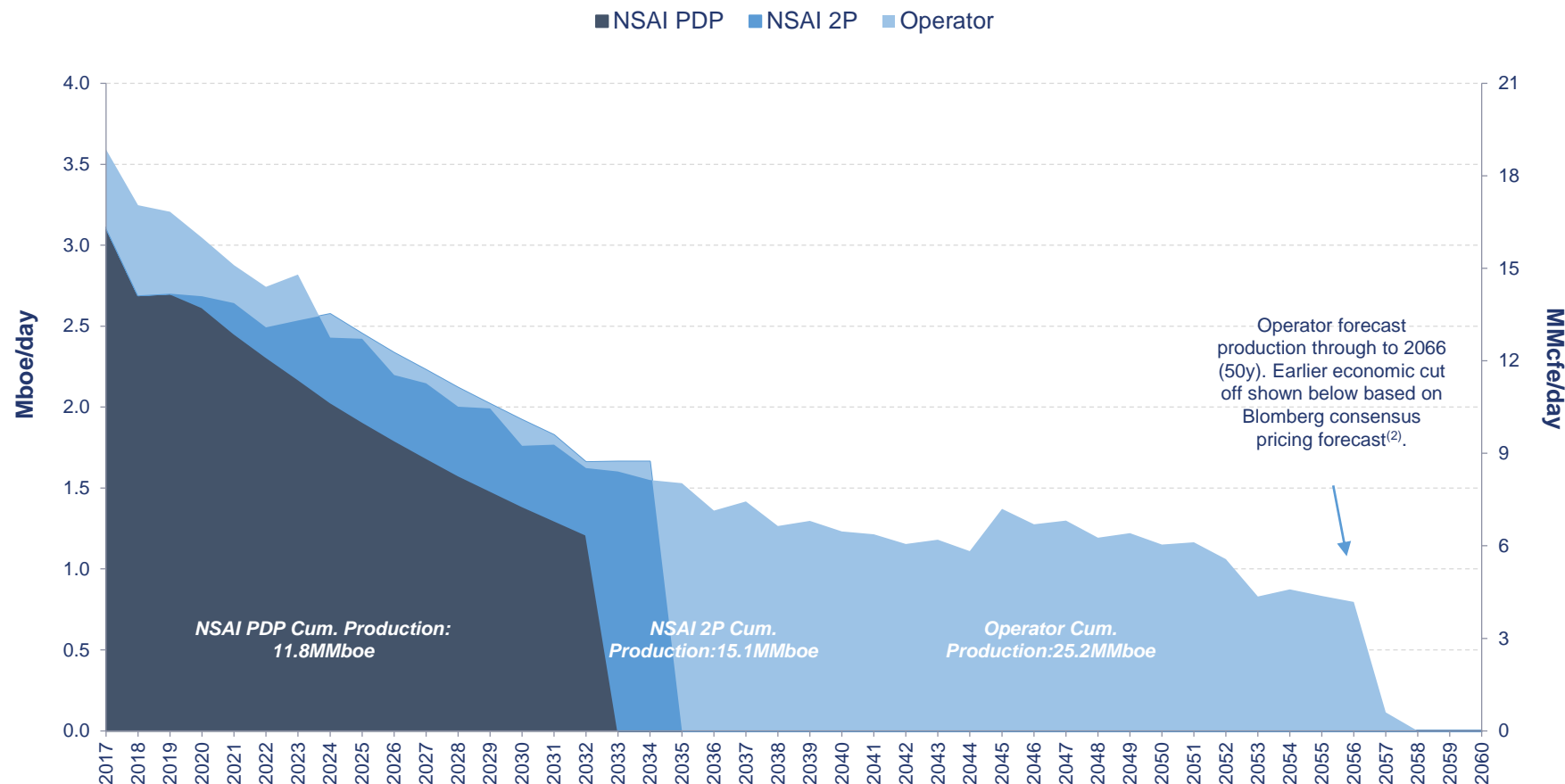
## Madden/Lost Cabin Project Reserves & Resources (Net to Elk)

	BCF	MMBOE
PDP (Proved Developed Producing)	71.3	11.9
1P (Proved Reserves)	79.5	13.3
2P (Proved + Probable Reserves)	91.3	15.2
3P (Proved + Probable + Possible)	103	17.2



# Madden/Lost Cabin Production Rate

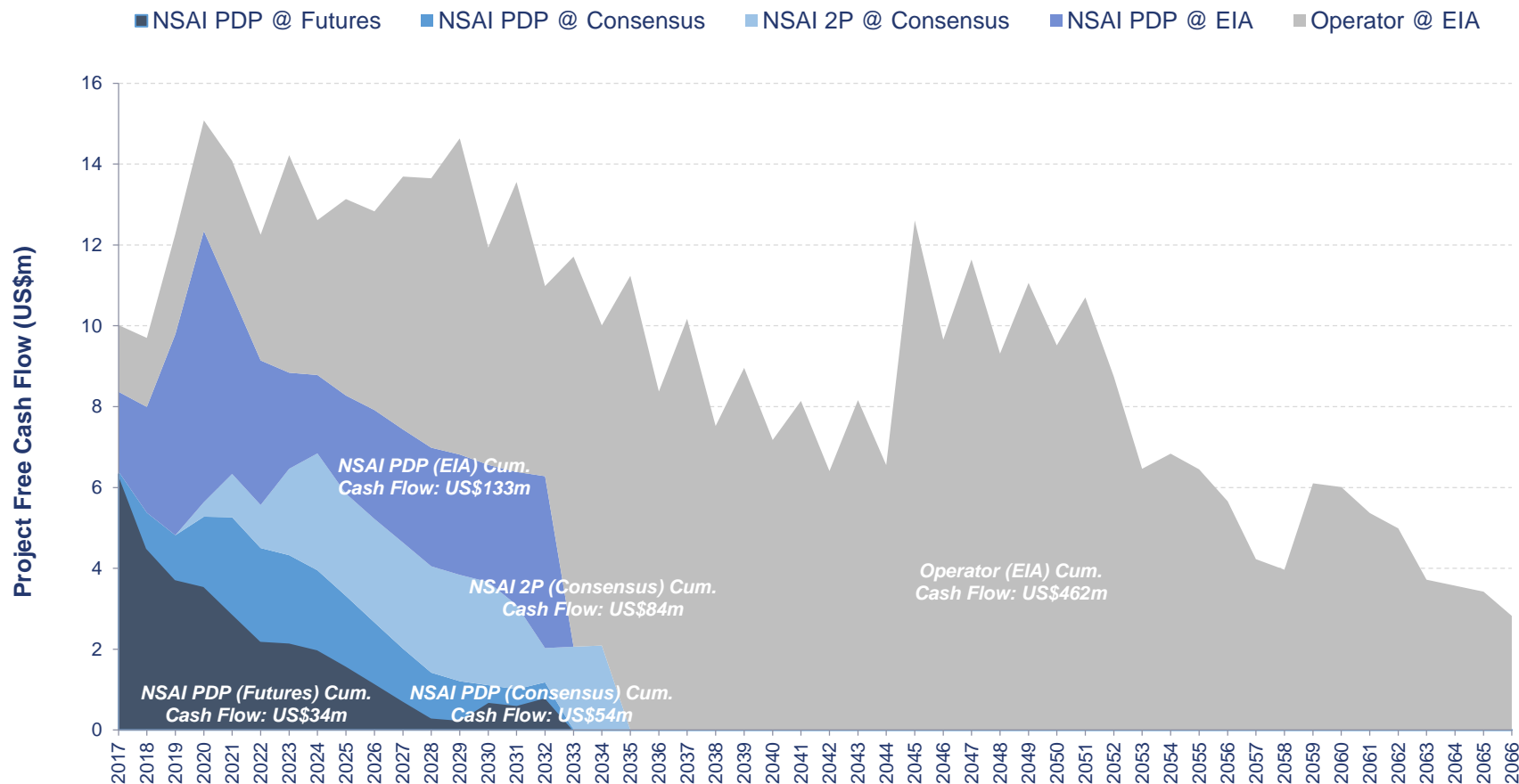
Daily Production Rate by Production Profile (Net to Elk, Post-royalty)<sup>(1,2)</sup>



# Madden/Lost Cabin Project Free Cash Flow

Annual Project Cash Flow by Pricing and Production Profile (Net to Elk)<sup>(1,2)</sup>

*Post Royalties, Production Taxes, Opex and Capex.*



(1) Includes bi-product economics and royalty credits

Source: NSAI Reserves Report (March 2017), CoP WI Operator Meeting (April 2016), Madden Financial Model (June 2017), Bloomberg (30 June 2017), EIA (Jan 2017), CRU Tampa (FOB, Dec 2016)

# Key Takeaways– Investing in Elk

- Only ASX-listed oil company focussed on enhanced oil recovery (EOR)
- Core projects located in the prolific Northern Rocky Mountain Oil Fairway in USA
- Madden/Lost Cabin delivers:
  - project free cash flow effective 1 January 2017
  - significant growth in long-life, low risk, high quality reserves & production
- Company's flagship Grieve Project is over 90% complete:
  - fully funded from combination of senior debt and new equity capital funding
  - expected first oil production late 2017/early 2018 delivering additional project free cash flow
- Elk is now a CO<sub>2</sub> supplier in its own right from Madden/Lost Cabin ownership interest
- Northern Rockies CO<sub>2</sub> EOR production fairway is extensive with additional projects in close proximity to CO<sub>2</sub> infrastructure and Elk's CO<sub>2</sub> reserves supporting additional growth

Elk Key Metrics	
2P Reserves (Net to Elk)	~20.5 mmboe
Reserve/Production Life ratio <sup>(1)</sup>	~21 years
Development cost (Grieve Only)	US\$7-10/bbl
Operating cost (First 5 years, excluding royalties, including production taxes, real)	US\$10-11/boe
Profit margin (First 5 years, real) <sup>(2,3)</sup>	US\$12-15/boe
Total projected revenues (Project life, post royalties and production taxes) <sup>(2,3)</sup>	US\$451-548m
First 5 years annual project free cash flow (Net to Elk) <sup>(2,3)</sup>	US\$22-30m p.a



# Thank You

Elk Petroleum Limited  
Exchange House  
Level 1, Suite 101  
10 Bridge Street  
Sydney NSW AUSTRALIA