**AFRICA ENERGY CORP** 

# Gas and Condensate Development in South Africa

March 2023



## **Corporate Profile**



- Independent oil and gas exploration company
- Backed by the Lundin Group
- 10% interest in Block 11B/12B<sup>(1)</sup>
- Two world-class gas and condensate discoveries
- Planning gas condensate development on Block 11B/12B

# Retail & Africa Oil Corp. Institutional 34% Lundin Family 6% Board & Management 4%\*

* Includes	shares held by Ashley Heppenstall and other
	advisors to the Board of Directors.

Corporate Snapshot			
AFE/AEC	C TSX-V/First North Ticker		
C\$0.17 SEK 1.32	Share Price at February 24, 2023		
<b>1,408</b> <sup>(1)</sup>	Common Shares (million)		
73.8	Stock Options (million)		
\$180	Market Cap (US\$ million)		
\$0	Debt at Sept 30, 2022 (US\$ million)		
\$7.1	Cash at Sept 30, 2022 (US\$ million)		
8	Number of Employees		

(1) Pending transaction with Arostyle may increase shares outstanding by 64.5 million.

Asset Fo	otprint	
• Mo	AFRICA ENERGY PEL 37  • Walvis Bay	Gaborone
	NAMIBIA	Bloemfontein
South Atlantic	2E	SOUTH AFRICA
Ocean	AFRENEI BLO 11B/	Mossel Bay

Equity Research					
Arctic Securities	Oslo	Daniel Stenslet			
<b>Carnegie Securities</b>	Oslo	Oddvar Bjørgan			
Fearnley Securities	Oslo	Sander Solheim Nilsen			
Pareto Securities	Oslo	Tom Erik Kristiansen			
SpareBank 1 Markets	Oslo	Teodor Sveen-Nilsen			

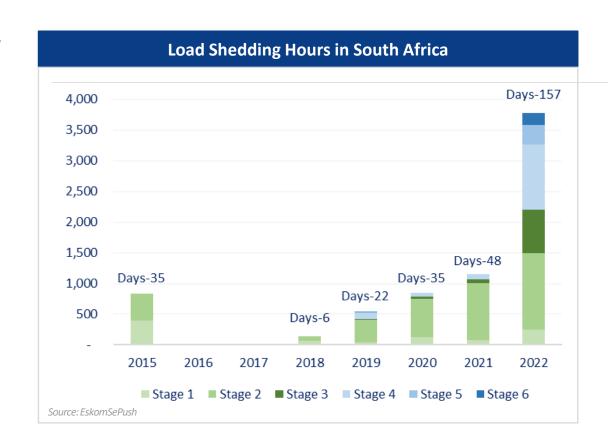
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# **South Africa State of Emergency Declared – Energy Crisis**



February 9, 2023, South African President Cyril Ramaphosa declared a national "state of disaster" over his country's crippling power shortages, saying they posed an existential threat to the economy and social fabric.

- Economic cost of load shedding \$1.3 billion in 2022
- At least 250 days expected in 2023
- Expected to remove 2% off economic growth in 2023
- Gas seen as transitional fuel towards netzero carbon emissions



# **South Africa Energy Crisis Solution**



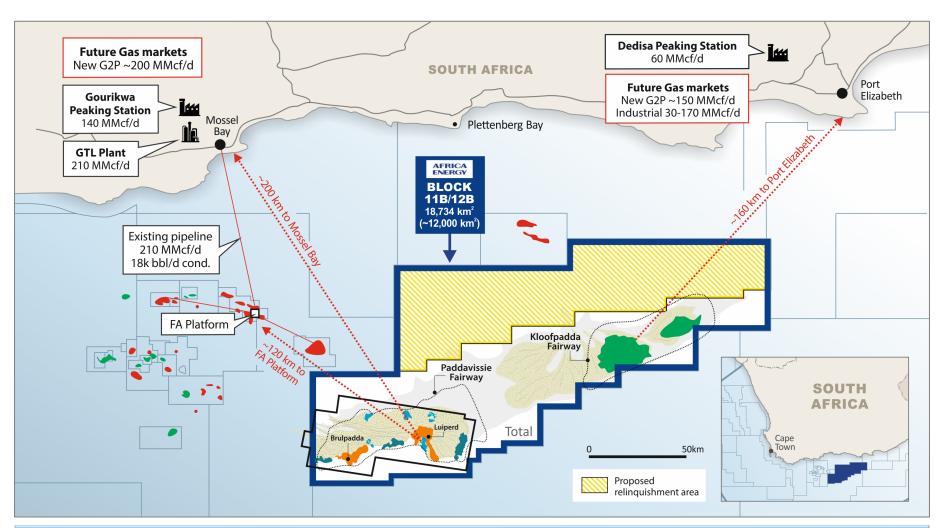
	Techno	ology	Capital cost	LCOE1	Build time	Build	Own	Operate	CO <sub>2</sub> Emissions
1	<u>^</u>	Gas	925-1300 \$/kW	7.1 – 10 US\$c/kWh for SA @US\$7/mmBTU <sup>2</sup> LNG spot @ ~US\$57	24-60 months	•	•	•	0.32-0.52 Mt/MWh
		BES	1947° \$/kW	25.23 US\$ c/kWh	12-24 months	<b>Ø</b>	<b>Ø</b>	<b>⊘</b>	None
Viability		Hydro PS	1727 <sup>4</sup> \$/kW	14.35 <sup>4</sup> US\$ c/kWh	8+ years	<b>⊘</b>	•	<b>Ø</b>	None
		Nuclear	12 800 \$/KW	20,4 US\$ c/kWh	12-15 years	×	8	<b>Ø</b>	None
	<del>1</del>	New coal	6 225 \$/kW	15,2 US\$ c/kWh	10-12 years	8	×	8	0.83-1.14 Mt/MWh

<sup>1.</sup> Capital cost includes EPC cost, capital cost during constriction, LCOE – levelized cost of energy; 2. CCGT – peaking is higher at 19.6c/kWh; 3. Calculated from JT35 energy cost assumptions for 100MW 4 hour plants 4. Calculated using JT35 energy modelling assumptions as a base; Higher limits of various sources illustrated where appropriate; Costs converted using R16/USD where appropriate Source: Lazard 2021 costs; Eskom Journey to 2035 assumptions

Eskom - Gas is the optimal solution from a technical, economic and environmental perspective

## **Block 11B/12B**Potential Domestic Gas Market





Focused on domestic solution; FLNG considered an alternative

Note: Future gas market potential includes Company estimates.

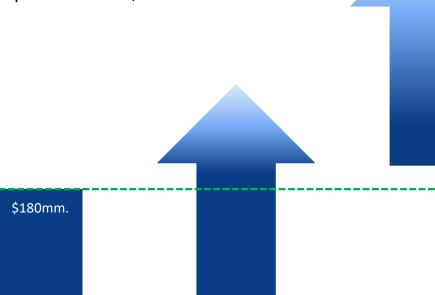
# **Block 11B/12B**Value Proposition



- South Africa solution to current energy crisis
- Fiscal terms in South Africa improve value per barrel
- TotalEnergies estimates greater than 1Bboe in Paddavissie Fairway
- Significant upside in eastern portion of block; oil possible

Market Cap.

 Current market capitalization of \$180 million is less than \$1.80/boe



Early Production

System

Full Field Development Exploration Upside – Eastern Portion of Block



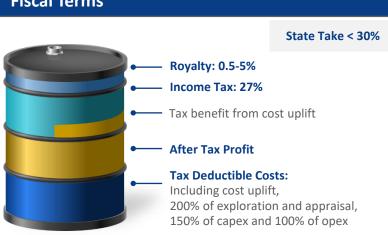
# **Appendix**

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## **South Africa Attractive Location and Fiscal Terms**

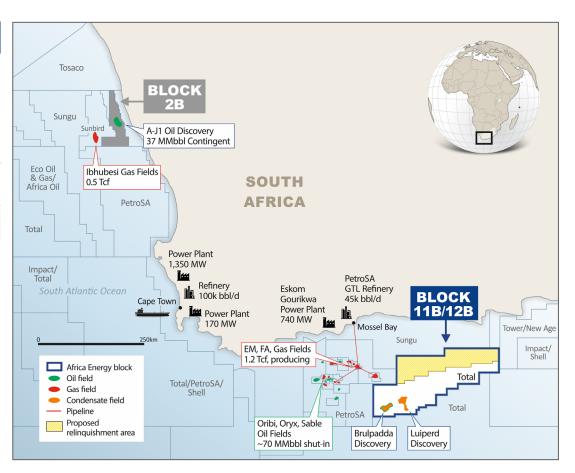






#### **State and Black Economic Empowerment (BEE) Participation:**

10% State back-in rights / 10% BEE participation rights<sup>(1)</sup>



## Existing discoveries and nearby infrastructure

(1) Draft Upstream Petroleum Resources Development Bill proposes an increase in State Participation from 10% to 20%.

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# **Block 11B/12B**Large Discoveries with De-Risked Upside

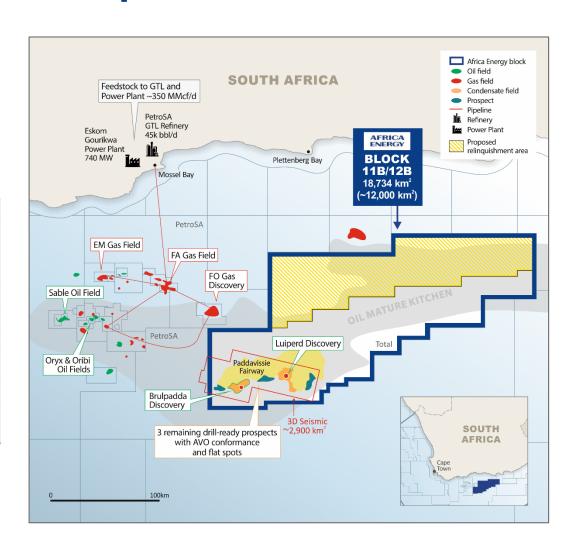


- Two major gas condensate discoveries
- Massive acreage position with significant upside
- Production Right application submitted
- Negotiating gas offtake terms

Asset Summary				
AEC effective interest	4.9% <sup>(1)</sup>			
Partners	TotalEnergies (operator with 45%), QatarEnergy (25%),			
	Canadian Natural Resources (20%)			
Basin	Outeniqua Basin			
Discovery wells	Brulpadda-1AX / Luiperd-1X + DST			
Water depth	1,432 m / 1,767 m			
Resources	> 1 Bboe <sup>(2)</sup>			
Play type	Submarine fan			
Current program	Production Right application and			
	Gas Commercialization			

<sup>(1)</sup> The Company has signed definitive agreements that, subject to approvals and completion, will increase the effective interest in Block 11B/12B to 10%.

<sup>(2)</sup> Resource numbers obtained from third-party public disclosure and have not been subject to independent audit by the Company.



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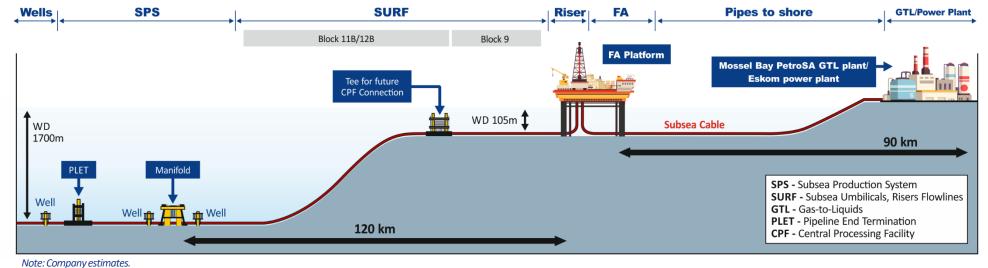
# **Block 11B/12B Proposed Fast-Track Development**



Planning Luiperd Early Production System (EPS) with existing nearby infrastructure

- Production Right (PR) application submitted in September 2022
- ➤ PR approval expected 12-18 months after submission
- Negotiating gas offtake terms in parallel with PR application process
- > Final Investment Decision (FID) expected shortly after PR approval
- First production expected 24-36 months after FID

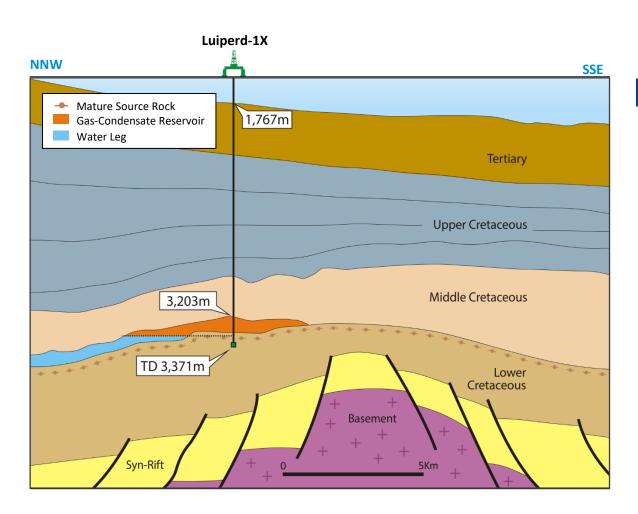




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# **Block 11B/12B Luiperd Gas Condensate Discovery**





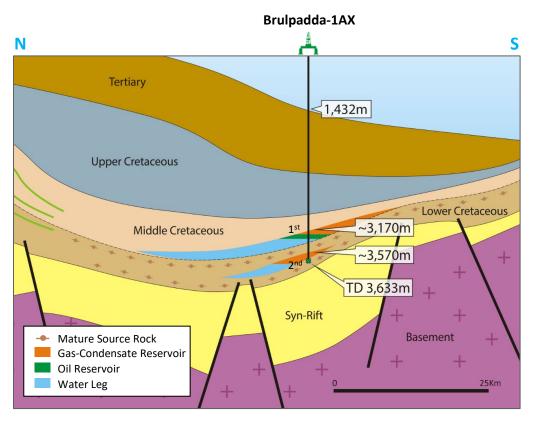
#### **Paddavissie Objective**

- 73 meters net gas condensate pay
- Gas down to bottom of reservoir
- Possible oil rim down-dip
- Significantly de-risks remaining three Paddavissie Prospects
- Drill stem test (DST) flowed 33 MMcfpd natural gas and 4,320 bpd condensate on 58/64" choke
- · Reservoir connectivity better than expected
- Absolute open flow (AOF) potential expected to be significantly higher than restricted DST flow rate
- Positive DST results improve development scenario

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# **South Africa Block 11B/12B Brulpadda Gas Condensate and Oil Discovery**

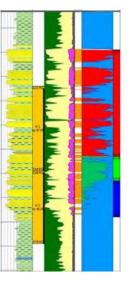




"...Total has opened a new world-class gas and oil play and is well positioned to test several follow-on prospects on the same block."

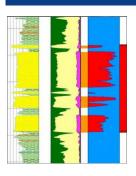
- Total press release, February 7, 2019.

## **Paddavissie Objective (Primary)**



- 34 meters net gas condensate pay plus oil pay
- High productivity anticipated given high net-to-gross and good quality of reservoirs
- Significantly de-risks remaining three Paddavissie Prospects

#### **Deep Objective (Secondary)**

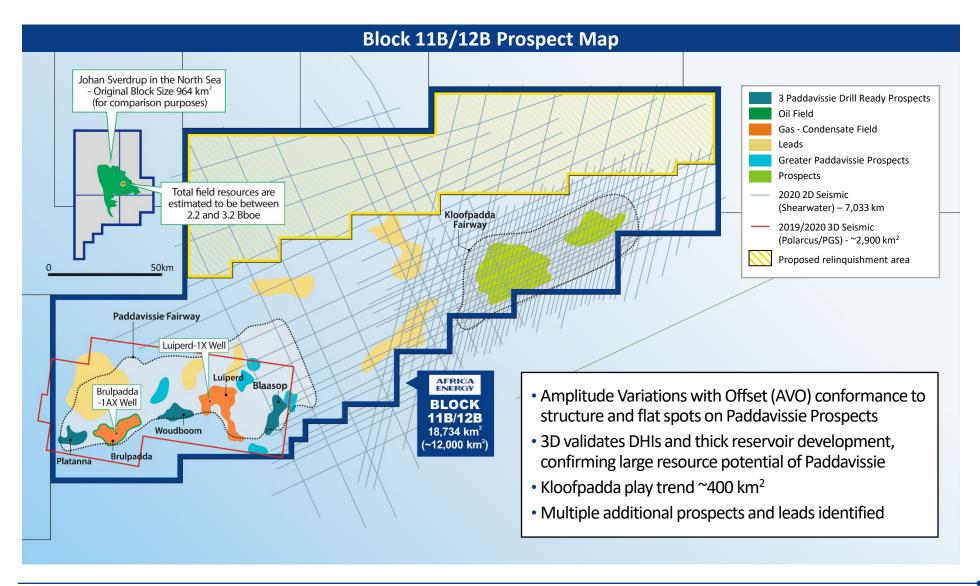


- 23 meters net gas condensate pay
- High productivity anticipated given high net-to-gross and good quality of reservoirs
- De-risks other prospects and leads
- No oil-water contact encountered

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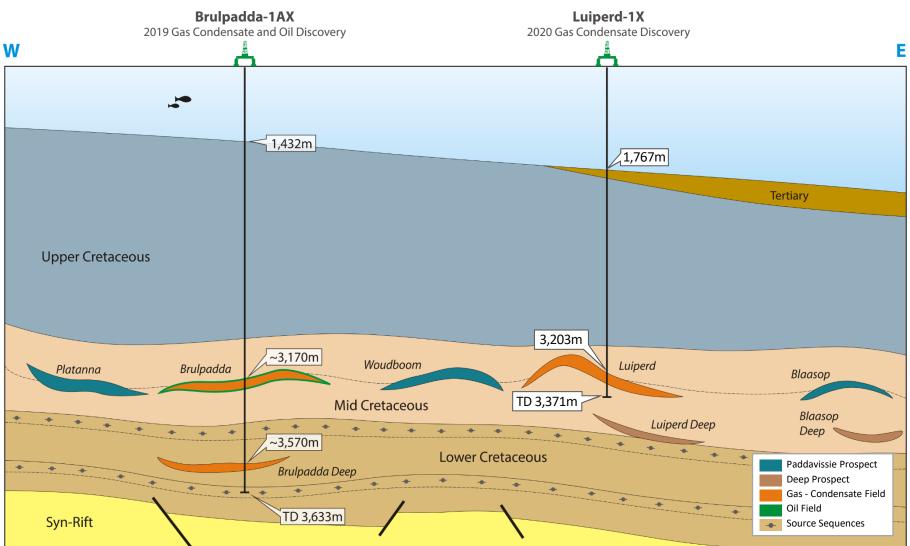
## Block 11B/12B Huge Block with Running Room





# **South Africa Block 11B/12B Paddavissie Fairway**



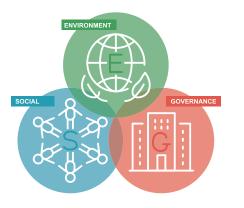


Not to scale

# **South Africa Block 11B/12B Key to the Energy Transition**

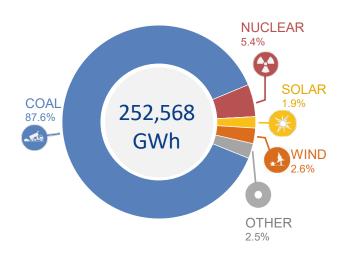
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- South Africa is a carbon-intensive economy and contributes approximately
   1% of annual global greenhouse gas (GHG) emissions
- Eskom currently relies on coal-fired power stations to produce approximately 90% of its electricity
  - infrastructure insufficient to meet demand, rolling blackouts
- Block 11B/12B gas could replace more than 2,300 MW of diesel-fired electricity generation (Gourikwa, Dedisa and Ankerlig)
  - reducing plant carbon emissions more than 50% while also eliminating sulphur oxide and nitrogen oxide emissions
- Restarting the gas-to-liquids (GTL) refinery in Mossel Bay with feedstock from Block 11B/12B could save approximately 1,200 direct jobs





#### **South Africa Power Generation Mix**





Sources: Eskom, IEA 2019 data (pie chart) and "South Africa's road to net zero emissions will be via gas," by Dr. Masangane, CEO of the Petroleum Agency of South Africa (PASA).

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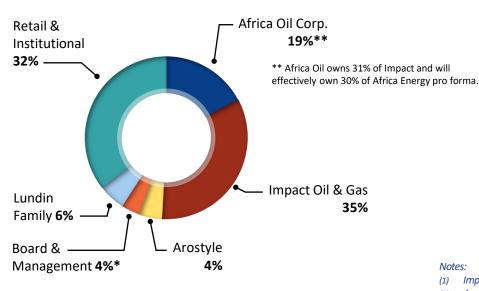
## South Africa Block 11B/12B Transactions More Than Double Effective Interest

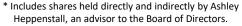


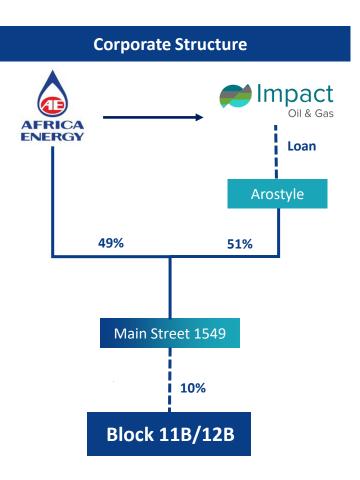
- 1. Impact Transaction Acquisition of Impact's financial interest in Block 11B/12B for 509.1 million shares completed in November 2020
- 2. Arostyle Transaction Mutual put/call option to transfer Main Street's 10% interest in Block 11B/12B to Africa Energy and issue 64.5 million shares

At completion, Africa Energy will hold a direct 10% interest in Block 11B/12B

#### **Pro Forma Share Ownership**







#### Notes:

- Impact Transaction closed October 22, 2020, and shares were issued on November 12, 2020.
- Arostyle Transaction is subject to South African government approval and Block 11B/12B partner consents and waivers.
- Corporate structure chart is simplified for illustrative purposes.

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## **Summary**



## **World-Class Assets**

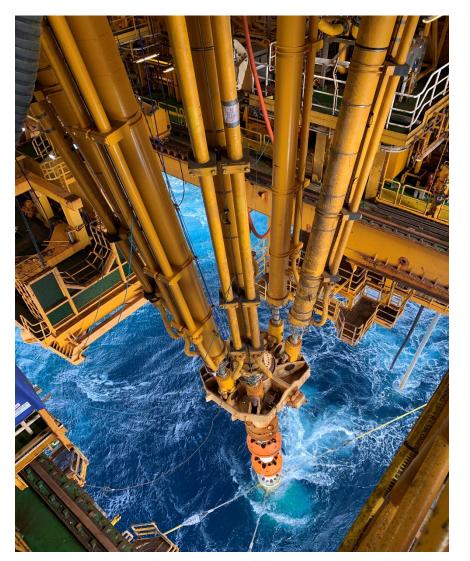
- · Offshore gas condensate development with TotalEnergies
- Discovered resources, de-risked prospects and significant exploration upside

### **Proven Team**

- Experienced board and senior management
- Technical team with substantial exploration success across Africa from Energy Africa / Tullow Oil

## **Solid Backing**

• Supportive shareholders from the Lundin Group



The Odfjell Deepsea Stavanger rig on Block 11B/12B offshore South Africa.

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The resource estimates contained herein are estimates only and there is no guarantee that the estimated resources will be recovered. Volumes of resources have been presented based on a gross interest. Contingent resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations using established technology or technology under development, but which are not currently considered to be commercially recoverable due to one or more contingencies. Prospective resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. There is no certainty that it will be commercially viable to produce any portion of the "Contingent Resources" referred to in this presentation. In the case of "Prospective Resources" there is no certainty that any portion of the resources will be discovered, there is no certainty that it will be commercially viable to produce any portion of the resources referred to in this presentation.

#### **Uncertainty Ranges for Resources**

Estimates of resource volumes can be categorized according to the range of uncertainty associated with the estimates. Uncertainty ranges are described in the COGE Handbook as low, best and high estimates as follows:

A "low estimate" (1C) is considered to be a conservative estimate of the quantity that will actually be recovered. It is likely that the actual remaining quantities recovered will exceed the low estimate. If probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.

A "best estimate" (2C) is considered to be the best estimate of the quantity that will actually be recovered. It is equally likely that the actual remaining quantities recovered will be greater or less than the best estimate. If probabilistic methods are used, there should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.

A "high estimate" (3C) is considered to be an optimistic estimate of the quantity that will actually be recovered. It is unlikely that the actual remaining quantities recovered will exceed the high estimate. If probabilistic methods are used, there should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.

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## **Thank You**

## **CONTACT DETAILS**

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