

## Focus and momentum



## Large, world class resource in Western Australia

- Mulga Rock Project: clear-cut geology, mining, metallurgy
- 57.3 Mt @ 500ppm U<sub>3</sub>O<sub>8</sub> for 62.2 Mlb (28,000t) U<sub>3</sub>O<sub>8</sub>\*
- Aspiring to achieve +10 year mine life

## Mulga Rock Uranium Deposit → Pre-feasibility study

- Diamond core completed air core finishing
- Metallurgical bulk sample test work underway

## Targeting construction in 2H CY16

- Experienced management with proven track records with BC Iron and FMG with a focus on production
- State and Federal government support for uranium mining and export –
   management team with strong government relationships
- No 'red flags' in approvals process granted mining leases



<sup>\*</sup> See appendix for full details of mineral resource estimate





		Board and Technical Team			
Capital Structure		The Hon. Cheryl Edwardes	Non-Executive Chairman		
Shares on issue	1,451 million	Mike Young	CEO and Managing Director		
Share price	\$ 0.060	Julian Tapp	Executive Director		
		David Cornell	Non-Executive Director		
Market cap	\$ 87.1 million	Felicity Gooding	Non-Executive Director		
Cash	\$ 10.4 million	Shane McBride	CFO and Company Secretary		
Debt	\$0 million	Tony Chamberlain	Project Manager MRP		
		Xavier Moreau	Geology and Exploration		
Enterprise value	\$ 76.7 million	David Reid	Consultant Resource Geologist		
Options (unlisted)	400 million @5c (June 2016)	Gerry Bradley	Environmental Consultant		
	1 million @18c (Jan 2017)	Colin Woolard	Environmental Consultant		
	20 million @5c (June 2018) 61 million @22c (Dec 2018) 61 million @10c (Dec 2018)	Significant Sharehol	ders		
		Forrest Family Inv. Acorn Capital	23%		
		Macquarie	21%		
A STATE OF THE STA		Michael Fewster Directors	18% 3%		
A STATE OF THE STA		Directors			



# Uranium – Tomorrow's Energy Commodity

## Uranium – it's turning the corner

- Japan reactor starts underway
- China confirms future reliance on nuclear base load power
- BHPB, Cameco announce increased production plans (Yeelirrie, OD)

## Nuclear power – sentiment changing

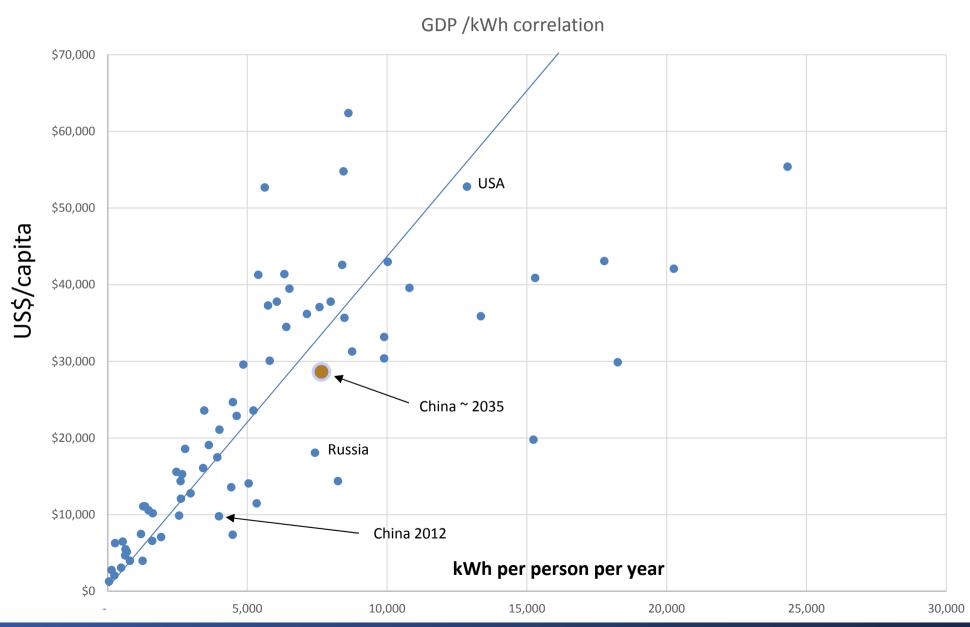
- Nuclear as a base load power source gaining acceptance
- Modular reactor builds, Own-Build-Operate models → cheap, clean power for developing nations

### EMA – the case for investment

- Few pure U plays available to investors we are peerless!
- Increased demand from China, SE Asia, India, Middle East

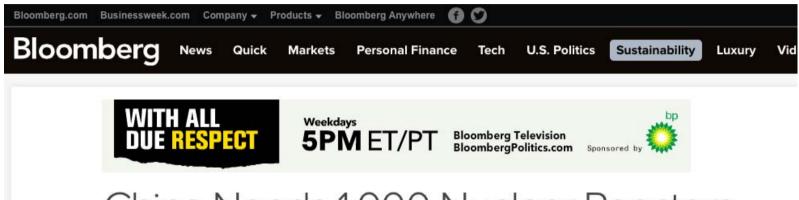


## Cross sectional analysis of electricity consumption



## China, Uranium & Nuclear Power





# China Needs 1,000 Nuclear Reactors to Fulfill Its Climate Pledge



Facebook





tinkedIn

China, which does nothing in small doses, will need about 1,000 nuclear reactors, 500,000 wind turbines or 50,000 solar farms as it takes up the fight against climate change.

Chinese President Xi Jinping agreement last week with President **Barack Obama** requires a radical environmental and economic makeover. Xi's commitment to cap carbon emissions by 2030 and turn to renewable sources for 20 percent of the country's energy comes with a price tag of \$2 trillion.



Photographer: Tomohiro Ohsumi/Bloomberg

Steam rises from cooling towers at the Junliangcheng power station in Tianjin, China.... Read More



## China, Uranium & Nuclear Power



Coal accounts for 68 percent of China's primary energy consumption. Big changes will have to be made if the country wants to double its non-fossil fuel use within the next 16 years. Does the NDRC have a detailed roadmap for energy development?

We already have it. There are detailed targets for the growth of nuclear power and hydroelectric power, as well as wind, solar and biomass energy. Some plans have been released to the public,

China's solar energy market is huge. With technological development, costs will fall. For nuclear power, the state has clearly decided to encourage development on the condition that it's done securely.

But we will take a cautious approach when developing nuclear power facilities at inland sites. Currently, most projects are in coastal regions. China's nuclear power construction plan is the world's largest, and the country will continue implementing the plan that's been made.



Tour of Beijing @TourofB... 30m Due to the air quality in Yanging the decision has been taken to finish at the KOM summit at Km111, 1/4 #ToB2014





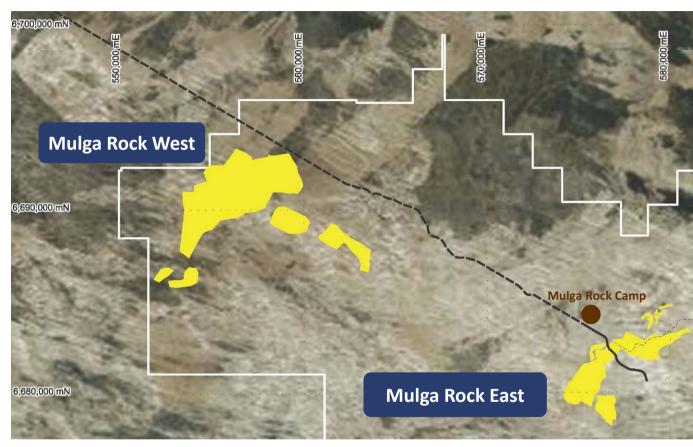


# Mulga Rock Uranium Project



"The tenement package covers a large part of the Uranium province"

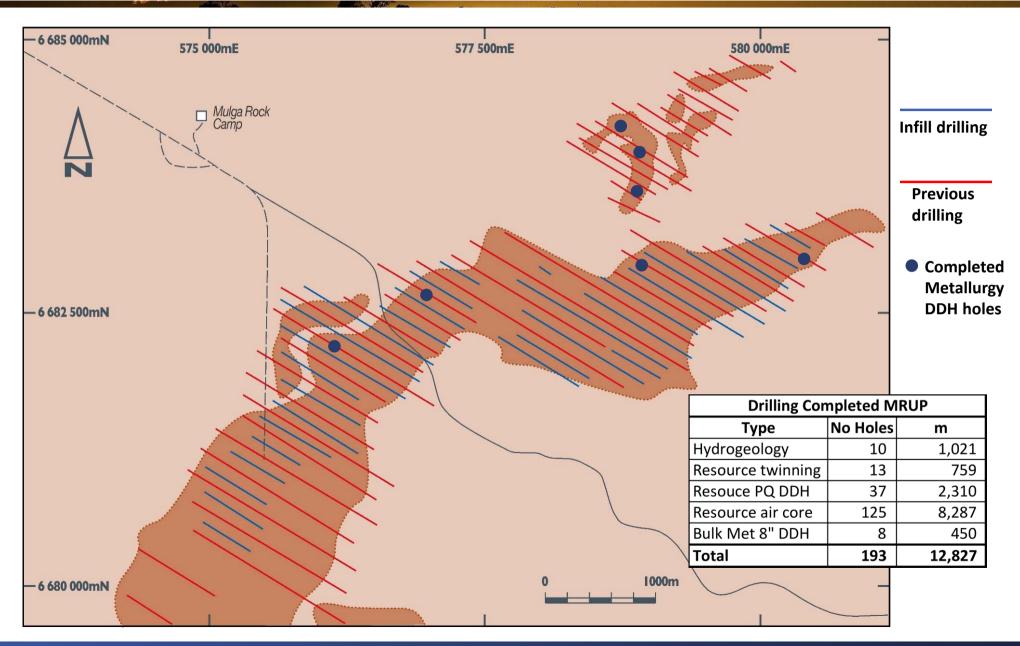




- 240km ENE of Kalgoorlie in the Great Victoria Desert
- Remote, arid location with no local inhabitants
- The deposits are covered by granted Mining Leases
- Access is via the Tropicana Mine Road AngloGold Ashanti

# Mulga Rock East Resource Drilling





# Drilling, Drilling, Drilling







Metallurgical bulk sample drilling using 8" diamond core

 Metallurgical samples taken to Perth whole, for sample preparation, assaying and met test work

# Drilling, Drilling, Drilling





#### Reverse circulation air core drilling

- In fill resource drilling
- Sample split for physical assay and holes conditioned for geophysical survey

#### Down hole geophysical surveys

- Gamma logging for e-assays
- Other surveys include bulk density



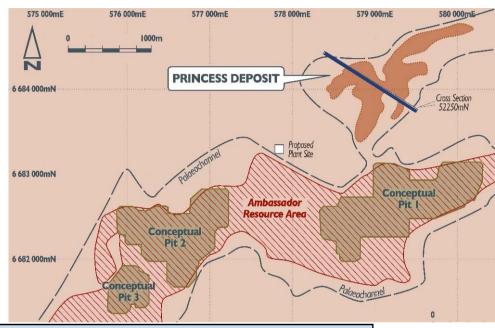


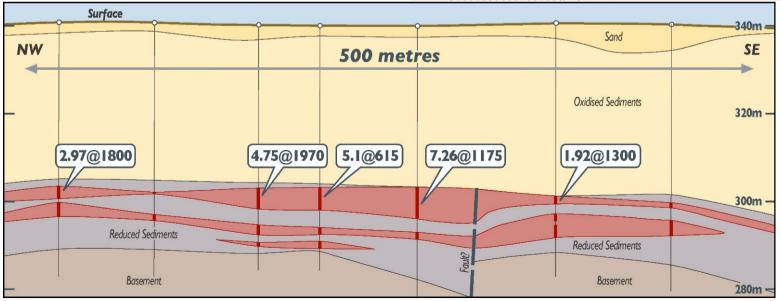


 Hosted within deeply weathered sediments comprising:

Carbonaceous sandstone; silt; sandy lignites

- Mostly ionic, <u>free Uranium</u> associated with carbonaceous material and lignite – no complex silicate minerals
- Deep weathering = soft rock
- Deep pit voids provide possible tailings disposal



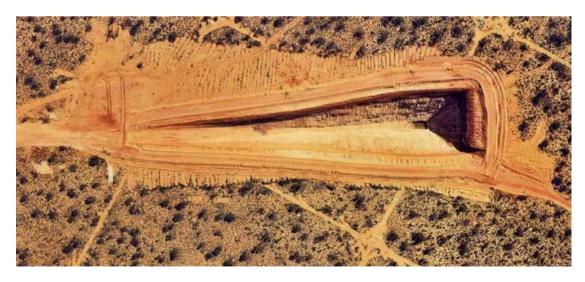


# Mining – open pit



## Open pit mining

- In fill drilling confirms continuity, grade & geology
- Japanese test pit (shown at right and below) at Shogun in 1980s shows clear demarcation between Ore:Waste
- Deep weathering allowed for free digging by excavator
- DFS will explore methods such as 'dozer trap', scraping or continuous miners for waste removal and ore mining



Test pit at Shogun dug by PNC in the 1980s



Close-up in test pit showing lignite ore and free dig nature of material

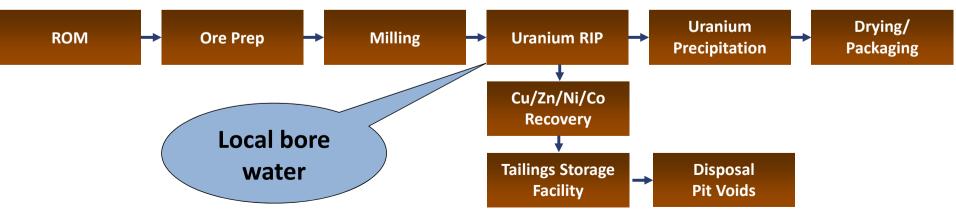
## Metallurgy de-risked



## Significant advances in metallurgical test work

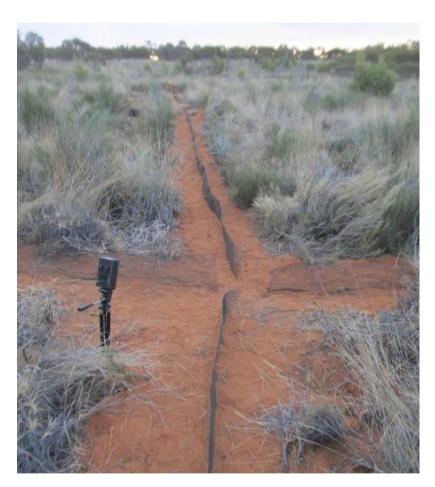
- 8" diamond core Met drilling completed
- Preliminary flow-sheet developed acid leach, RIP & BM Recovery
- Acid leach has been selected uranium extraction:
  - Acid leach = proven technology
- Recent optimisation work indicating significant improvements in acid consumption – reduced costs
- Acid leach exhibits fast kinetics at ambient temperatures
  - Simple process and simple plant design
- Resin-in-pulp preferred due to nature of carbonaceous ore





# ENERGY AND MINERALS AUSTRALIA

# Innovation - iMouse™ environmental surveys



Remote motion sensor camera with marsupial run-lines





# EMA – Aspirational Statements \*



- Mulga Rock a significant deposit > 62Mlb  $U_3O_8$  (57Mt @ 500ppm  $U_3O_8$ )\*
- EMA aims to produce at >1,300tpa  $U_3O_8$  for >10 years
- Considered possible to produce U concentrate at low costs even in current market conditions – Ni, Co, Cu, Zn by products in sulphide concentrates available
- Could be under construction in 2H 2016
- Target schedule:
  - Pre-feasibility study UNDERWAY and expected completion June 2015
  - Public Environmental Review Approval Q1 CY2016
  - Feasibility study June 2015 to June 2016
  - Final investment decision July 2016
  - Construction and pre-strip 2H CY2016

\* See appendix for full details of mineral resource estimate

\* These are "Aspirational Statements" and the lower level of confidence associated with the Inferred Mineral Resources means that there is no certainty that further exploration work will result in the determination of Indicated or Measured resources or that the aspirational targets will be achieved.

# The Pre-Feasibility Study



### Scoping Study Update – December 2014

- Previous Study completed 2010 different assumptions
- Update to JORC 2012 Res Est, CapEx, OpEx +35% scoping level

### Metallurgical test work

- 8" DDH bulk sampling Mulga Rock East Deposit
- Beneficiation, Leach and Resin test work
- Uranium metal and base metal recovery

### Resource infill drilling and resource estimation

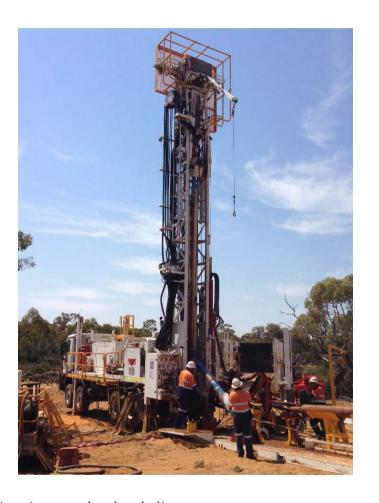
- Twin drilling at Princess Prospect
- Resource RC and DDH drilling at Ambassador Prospect
- Mine optimisation and ore reserves

## **Environmental approvals**

PER approval expected ~March 2016

## Feasibility study – 2H CY15 to 1H CY16

- Infill drilling (where required), resource estimation, and mine optimisation and scheduling
- Recovery optimisation and pilot plant to confirm up-scaling of front-end processing
- Engineering studies and long lead items







#### A Uranium shortage is coming

- Demand/supply inversion looming
- New supply slowing or being mothballed
- Chinese driven demand + Japan/Russia

#### Mulga Rock Deposits

- 62 Mlb U<sub>3</sub>O<sub>8</sub> Inferred Resource\* world class
- See appendix for full details of mineral resource estimate
- Studies and work program targeting a 2H CY16 start up

#### **Executive and Management**

- Experienced and Focussed
- Committed to production "Production key to growth"
- Experienced mining project builders <u>Executives and Management Team</u>

"The Mulga Rock Uranium Deposit, combined with an improving macroeconomic environment and management's clear focus, could see EMA become Australia's next Uranium producer"

## Inferred Mineral Resource Estimate



Deposit	Cut-off Grade (ppm eU₃Oଃ)	Million Tonnes	eU₃O <sub>8</sub> Grade (ppm)	Contained Metal (kt U₃O8)	M lbs U <sub>3</sub> O <sub>8</sub>	Author
Ambassador						
Upper Lignite	200	16.7	600	10	22.0	Coffey Mining 2010
Lower Lignite	200	3.7	320	1.2	2.6	
Sandstone	100	7.2	240	1.7	3.7	
Princess	200	1.9	600	1.2	2.5	EMA 2012
Emperor	200	24.1	500	12	26.4	Coffey
Shogun	200	3.7	590	2.2	4.8	Mining 2009
TOTAL INFERRED		57.3	500	28.3	62.2	

Resource estimates by Coffey Mining - Ambassador Estimate as announced to the ASX on 11 June 2010, using EMA and historic data - Emperor and Shogun Estimate as announced to the ASX on 13 January 2009, using historic data.

Resource estimates by Energy and Minerals Australia – Princess Estimate as announced to the ASX on 4 December 2012 using EMA and historic data.

Using cut combined  $U_3O_8$  composites (combined chemical and radiometric grades); t = metric tonnes; appropriate rounding has been applied.

This information was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported.



**Excellent access via Tropicana Gold Mine road** 

## People: The Board



#### The Hon. Cheryl Edwardes – Non-Executive Chairman

- Mrs Edwardes has held positions including WA Attorney General, Minister for the Environment and Minister for Labour Relations
- Currently working with Atlas Iron providing strategic project advice and with FTI Consulting assisting with a range of complex statutory approvals
  required for resources and infrastructure projects
- Held the role of Executive General Manager for External Affairs for Hancock Prospecting and was a Special Counsel at Minter Ellison in Perth where she practiced government relations, climate change, environmental regulation and environmental compliance

#### Mike Young - Chief Executive Officer and Managing Director

- Experienced Mining Consultant Resource Modelling and Estimation, and Feasibility Studies with Golder Associates 1994 to 2003
- Founding Managing Director of BC Iron Limited, taking it from first drill hole to first ore on ship in under four years left as CEO in May 2013
- Currently non-executive Chairman of Cassini Resources, and founding director at Bannerman Resources, an ASX uranium exploration company
- Studied at Queens University, Ontario and worked on Uranium exploration projects and mines in Canada

#### **Julian Tapp - Executive Director**

- Head of Government Relations and Director of Strategy at Fortescue Metals Group until 2012 with special responsibility for expediting approvals
- Trained as an economist in London, lectured at a number of universities including the London School of Economics
- Economist and later Chief Economist for Ford of Europe, BP and Rover Group before transitioning into role as Director of New Business Development

#### David Cornell - Non-Executive Director

- Founding director of the Element Group with significant commercial and financial experience in the mining and oil and gas sectors
- Previously an associate director at the LinQ group which managed Australia's largest listed resource fund
- Specialist in providing corporate and professional services to both WA junior explorers and international mining companies

#### Felicity Gooding – Non-Executive Director

- Chartered Accountant specialising in due diligence, mergers and acquisitions and equity and debt financing
- Chief Financial Officer of Minderoo, encompassing the philanthropic and private business holdings of Andrew and Nicola Forrest
- Held senior positions at PricewaterhouseCoopers, Diageo Plc, Fortescue Metals Group and Sirius Minerals Plc.

# People 2: The Team



#### Shane McBride - Chief Financial Officer and Company Secretary

- Certified Practicing Accountant with over 33 years of commercial management experience gained in listed Australian companies
- Served as CFO, company secretary and director in exploration, development and producing mining companies
- Fellow of CPA Australia and Governance Institute of Australia and the Institute of Chartered Secretaries and Administrators

#### **Xavier Moreau - Geology and Exploration**

- General Manager of Geology and Exploration at EMA since February 2010
- Valuable uranium project management experience with Areva and U3O8 Limited
- Extensive experience in uranium and gold exploration with Areva and Afmeco with significant time spent on Goldfields projects
- Educated in France and Canada and holds an Honours degree in Geology

#### **Tony Chamberlain – Mulga Rock Project Manager**

- Involved in a number of uranium projects in Australia, Asia, Africa and Eurasia
- Extensive operational and process engineering experience with WMC and BHP Billiton projects
- Delivered pre-feasibility and feasibility studies and process design packages for Goldfields, Barrick, Paladin and Mega Uranium

#### Colin Woolard - Environmental Consultant

- Over 20 years of hands-on experience in geology and environmental management with WMC Resources Ltd, including Olympic Dam
- Provision of advice to senior management and technical assistance to line management on policy, management systems, compliance reporting, auditing, contaminated site rehabilitation and remediation and closure planning

#### **Gerry Bradley – Environmental Consultant**

- Worked with Mike Young at BC Iron as Sustainability Manager including feasibility studies, and Aboriginal Heritage management
- Managing the PER process, developing management plans and approvals for Mulga Rock Uranium Deposit



#### Qualification

The purpose of this presentation is to provide general information about Energy and Minerals Australia Limited (**EMA**); it constitutes a professional opinion only and is given in good faith. It is not recommended that any person makes any investment decision in relation to EMA based on this presentation. To the extent that this presentation contains "forward-looking statements" they are only subjective predictions and are subject to inherent risks and uncertainties which could cause outcomes to differ materially from those expressed, implied or projected in such forward-looking statements. No representation or warranty, express or implied, is made by EMA that the material contained in this presentation is accurate, reliable, relevant or complete, or will be achieved or prove to be correct.

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### **Competent Person's Statement**

The information in this announcement that relates to the Princess Exploration Results, Princess Mineral Resource Estimate ( $U_3O_8$ ), Resource Database and Bulk Density are based on information compiled by Xavier Moreau and Michael Fewster, who are Members of the Australian Institute of Geoscientists. Mr Moreau is a full time employee of the Company. Mr Fewster was, at the time of the estimate, a consultant to the Company. He is also potential beneficiary of the Busani Family Trust, a substantial shareholder of the Company. Messrs' Moreau and Fewster have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as Competent Persons as defined in the 2004 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Messrs' Moreau and Fewster consent to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to the Ambassador, Emperor and Shogun Mineral Resource estimates ( $U_3O_8$ ) is based on information compiled by Neil Inwood and Iain Macfarlane on June 2010. Mr Inwood and Mr Macfarlane are Members of the AusIMM. Mr Inwood and Mr Macfarlane were employed by Coffey Mining as consultants to the Company at the time of the resource estimates and public release of results. As Mr Inwood and Mr Macfarlane are now no longer employed by Coffey Mining, Coffey Mining has reviewed this report and consent to the inclusion, form and context of the relevant information herein as derived from the original resource reports for which Mr Inwood's and Mr Macfarlane's consents have previously been given. Mr Inwood and Mr Macfarlane have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the 2004 Edition of the JORC 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.