



nupower

RESOURCES LTD



# Phosphate in Central Australia

November 2012

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## NuPower Competent Person's Statement

The information in this presentation that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Andrew Johnstone who is an Officer of the Company. Mr Johnstone is a Member of the Australian Institute of Geoscientists. Mr Johnstone has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Johnstone consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

The information in this report that relates to mineral resource estimation is based on work completed by Mr Jonathon Abbott who is a full-time employee of MPR Geological Consultants Pty Ltd and a member of the Australian Institute of Geoscientists. Mr Abbott has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Abbott consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# Overview

- ☒ What is Phosphate ( $P_2O_5$ ) and why is it so Important ?
- ☒ Three 100% owned phosphate projects covering 5,720km<sup>2</sup> in Northern Territory
  - Arganara
  - *Lucy Creek*
  - *Warrabri*
- ☒ Arganara JORC Compliant Resource announced in August
  - ***310 million tonnes @ 15%  $P_2O_5$  (10% cutoff)***
- ☒ NuPower Rights Issue Underway
- ☒ Name change – Central Australian Phosphate Limited

# Phosphate in Fertiliser

- Phosphate is an essential element of life, found in all living cells
- Intensive Agriculture is difficult without Phosphate fertilisers
- Phosphate increases:
  - Yields
  - Growing cycles per year
  - Resistance to disease
- Growing populations and urbanisation are driving food demand
- Tropic and Sub Tropic soils are Phosphate deficient
- Phosphate fertiliser greatly improves protein rich crop production yields
- Application on pasture for dairy increases yields and milk quality

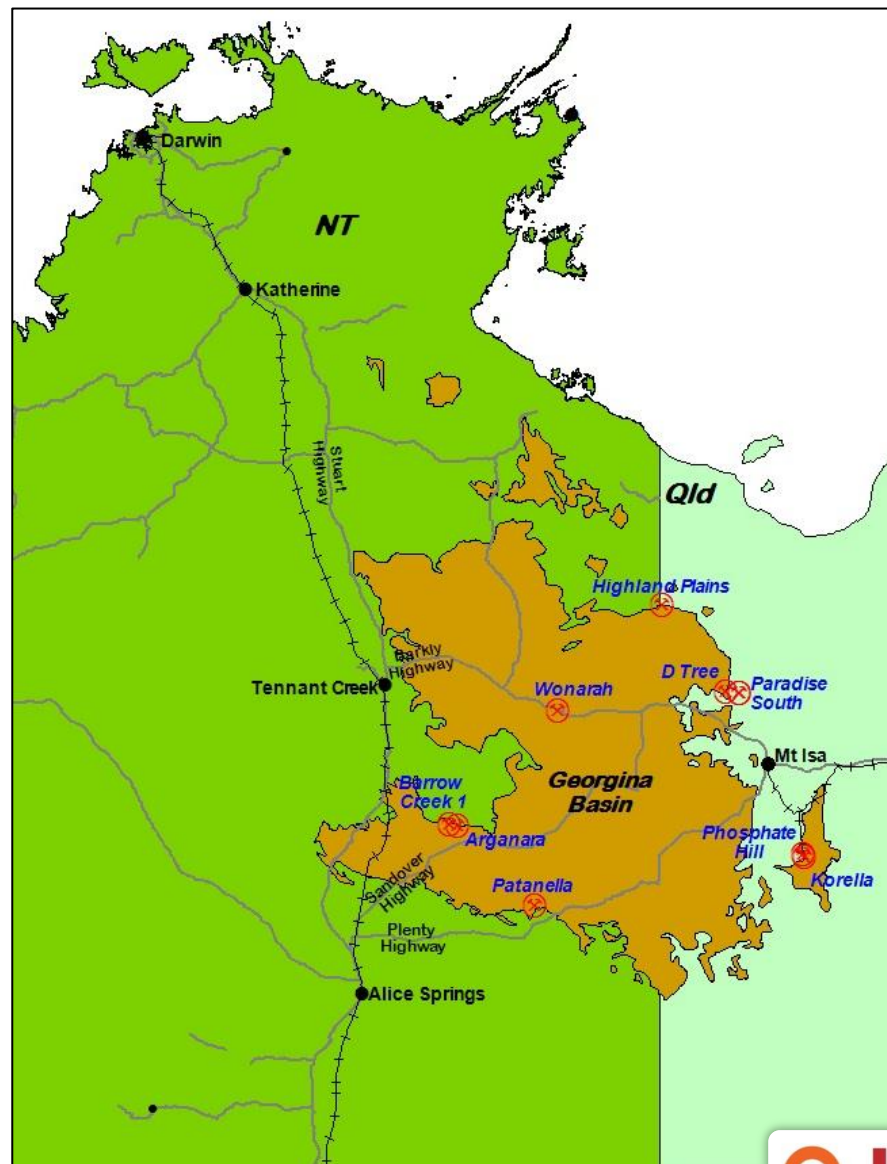


Advantages of Phosphate Fertiliser


**Food Security is a major global issue**

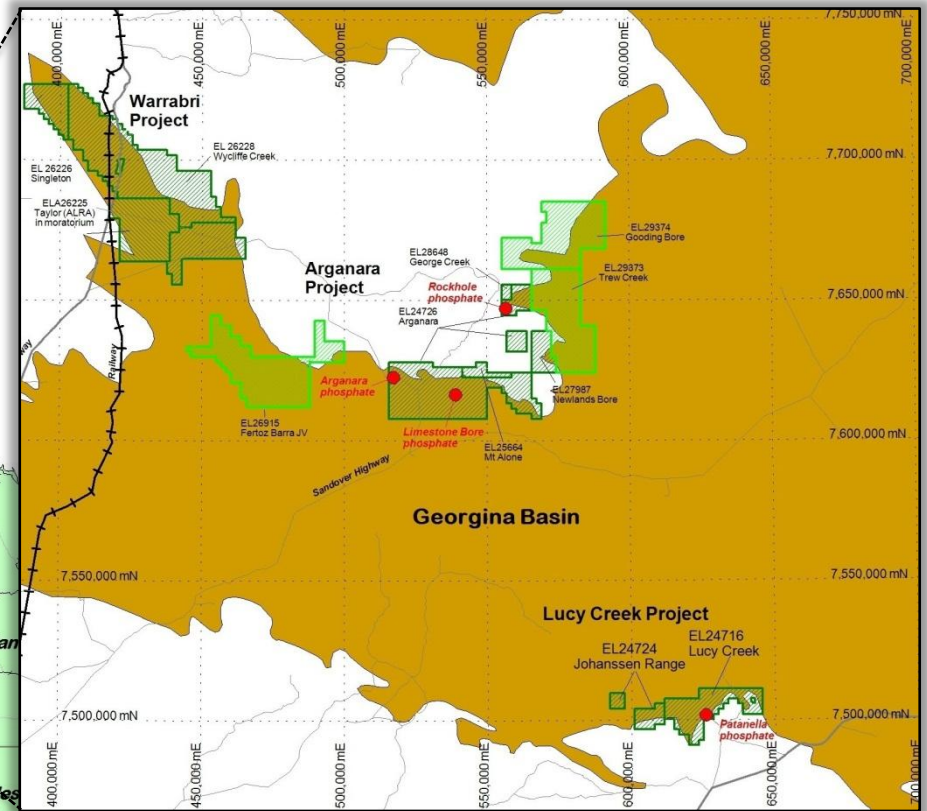
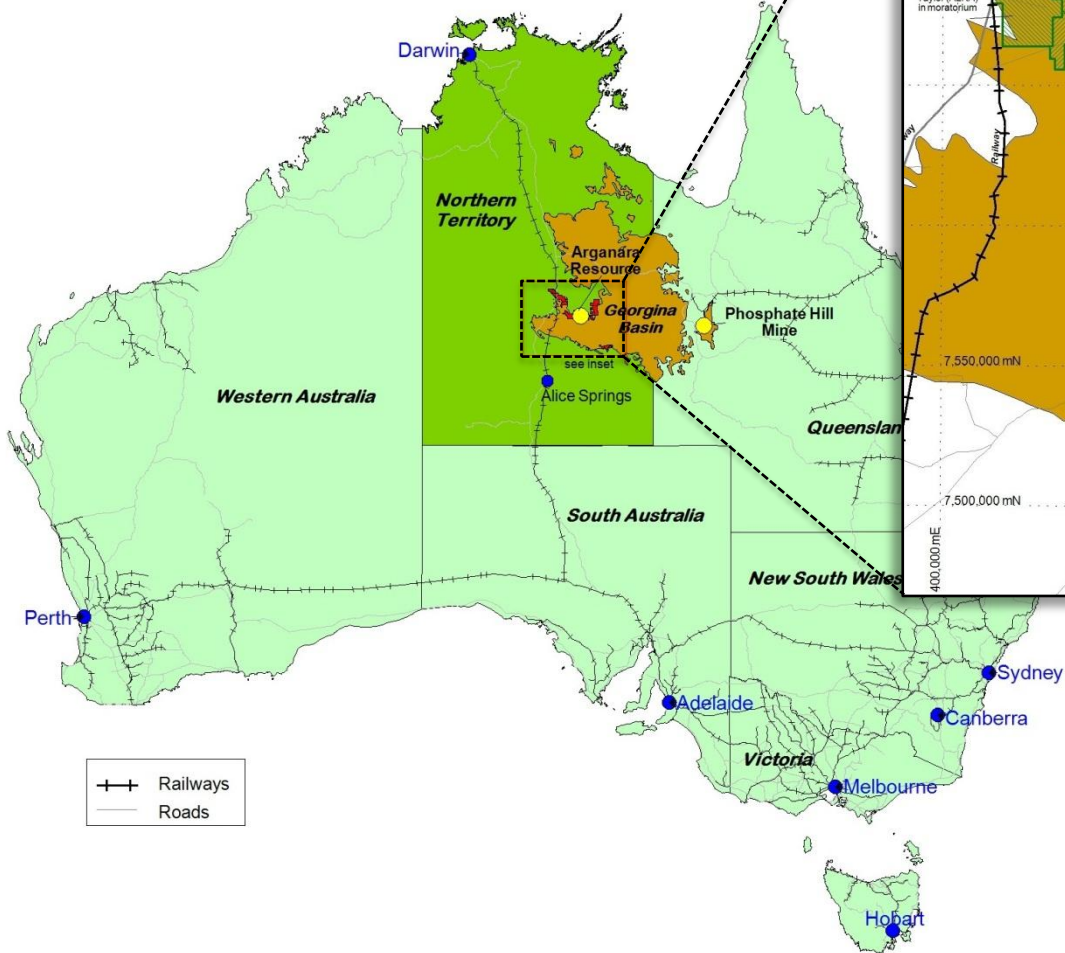
# Phosphate


- ~ Australia's Phosphate reserves are found in the Georgina Basin
- ~ Phosphate Hill - Queensland  $P_2O_5$  Mine
- ~ Australia is an importer of Phosphate
- ~ India – largest Global importer
- ~ China, America and Morocco - exporters
- ~ Fertiliser requires Phosphate Rock or Phosphate levels of  $\sim 30\% P_2O_5$
- ~ Global Direct Ship Ore (DSO +  $30\% P_2O_5$ ) resources are depleting, lower grade ore through washing, flotation and calcining is being mined
- ~ Global consumption of Phosphate Rock increasing, growing global food requirements
- ~ Rock Phosphate price has remained stable during 2012  $\sim$  US\$180t



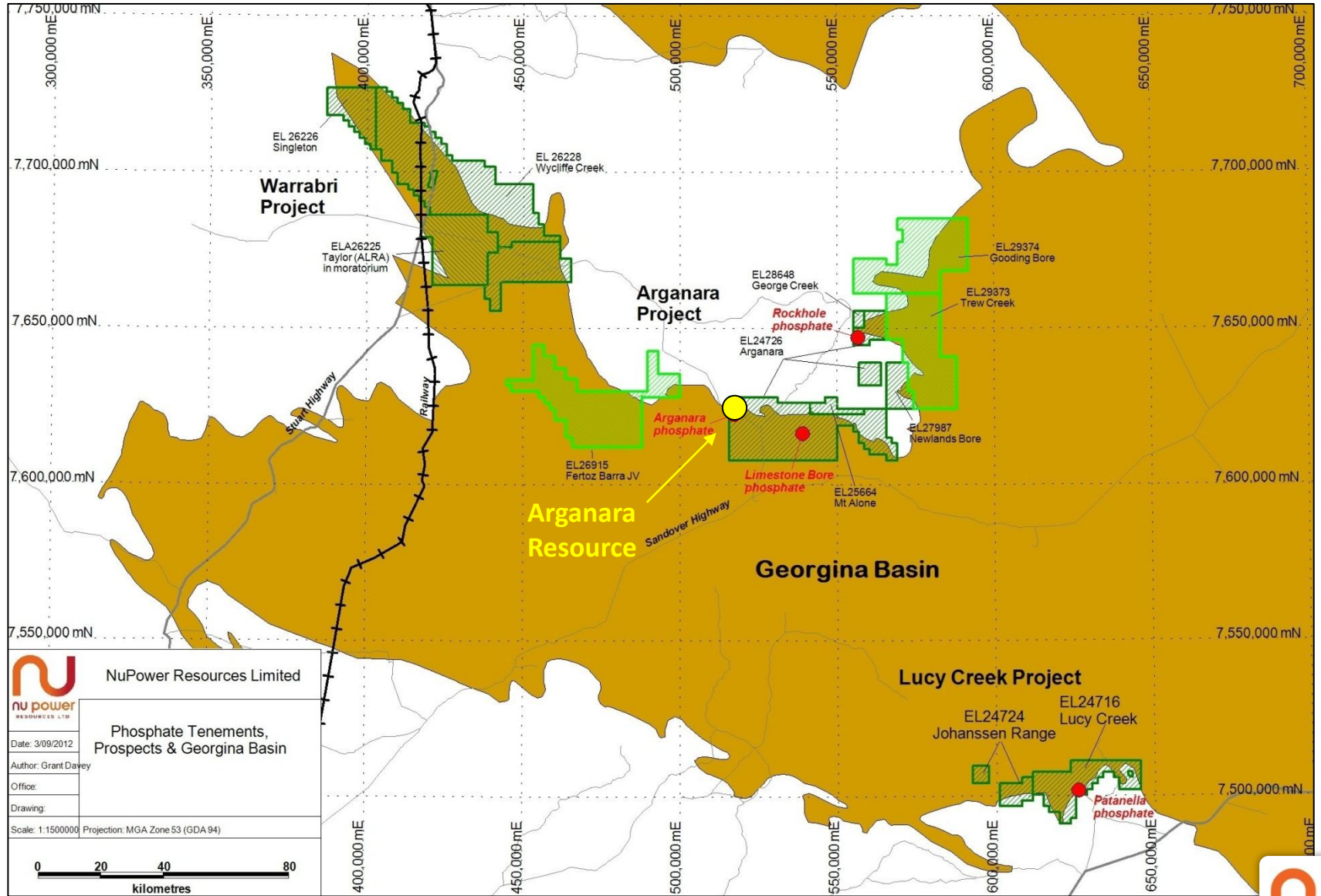
# Project Overview

 Northern Territory  
Phosphate projects



 Favourably located  
close to the Central  
Australian Railway

# Arganara Phosphate Project



# Arganara Resource

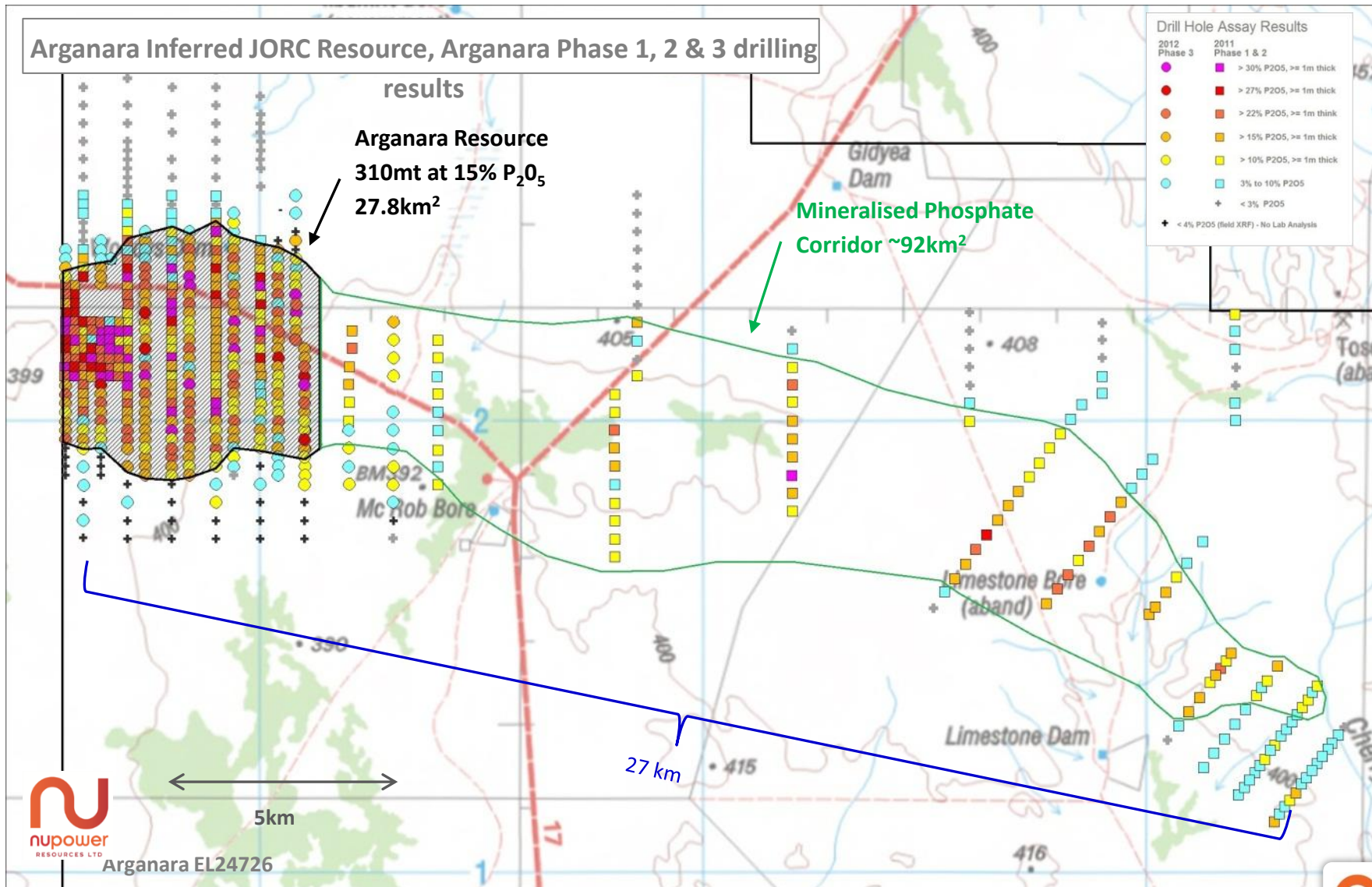
- Drilling program of 387 RC holes for 14,480 metres has defined JORC Resource of:

**310 million tonnes @ 15% P<sub>2</sub>O<sub>5</sub>**

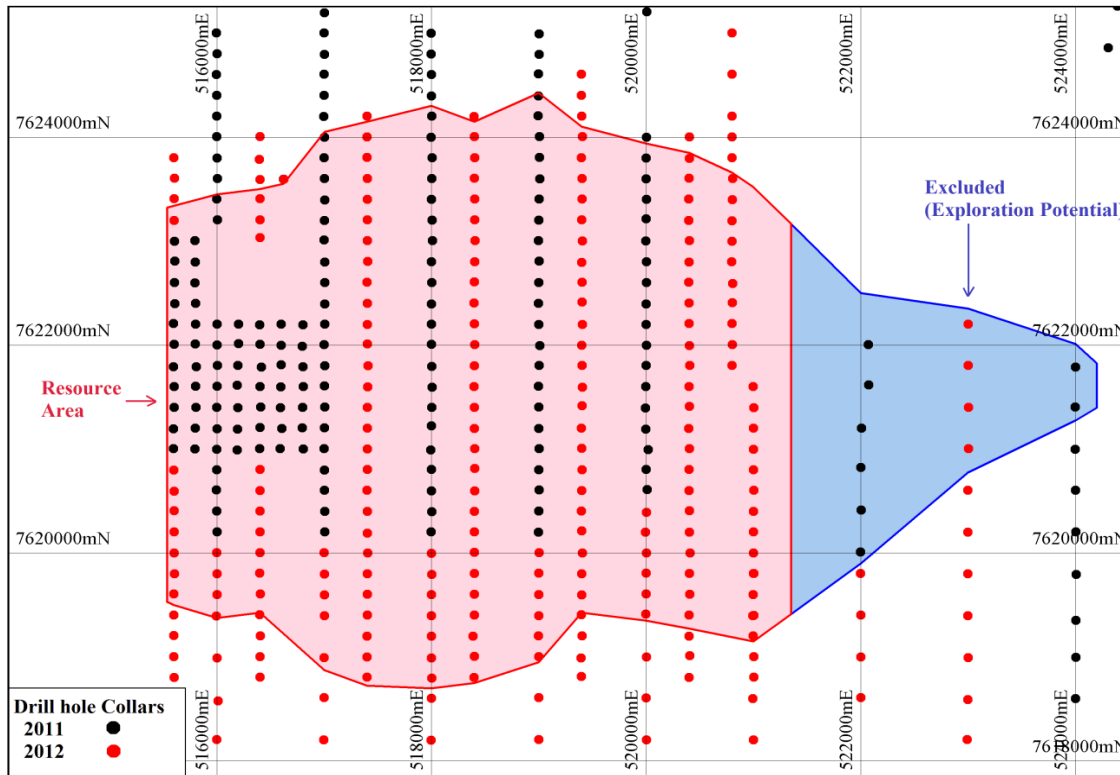
- One of Australia's largest reported Phosphate resources
  - 2<sup>nd</sup> largest reported resource in NT
- High grade Resource containing numerous drill intersections above 30% Phosphate
- Close to infrastructure
  - 90km east of Darwin to Alice Springs Railway
  - Situated on a major outback road



# 27km Mineralised Corridor – Enormous Potential



# Inferred Resource Estimate



- ≈ 387 holes
- ≈ 5.8 km EW x 5.4 km NS
- ≈ Average thickness 7m
- ≈ Average depth 19m
- ≈ Shallow, near surface high grade Phosphate
- ≈ Density 1.7gcc

**Arganara,  
one of  
Australia's  
largest  
defined  
Phosphate  
Resources**

Cut off	Tonnes	P <sub>2</sub> O <sub>5</sub>	Al <sub>2</sub> O <sub>3</sub>	CaO	Fe <sub>2</sub> O <sub>3</sub>	K <sub>2</sub> O	MgO	MnO	Na <sub>2</sub> O	SiO <sub>2</sub>	TiO <sub>2</sub>	U	LOI
P <sub>2</sub> O <sub>5</sub> %	Million	%	%	%	%	%	%	%	%	%	%	ppm	%
5	360	14	7.4	19	5.8	1.6	0.80	0.18	0.17	46	0.41	15	3.7
<b>10</b>	<b>310</b>	<b>15</b>	<b>7.3</b>	<b>20</b>	<b>5.8</b>	<b>1.5</b>	<b>0.80</b>	<b>0.18</b>	<b>0.18</b>	<b>45</b>	<b>0.40</b>	<b>15</b>	<b>3.7</b>
15	120	18	6.6	24	4.9	1.3	0.73	0.16	0.18	39	0.35	15	3.5
20	4	23	5.2	31	5.5	1.1	0.62	0.27	0.17	31	0.28	12	3.2

# Targeting DSO Grades

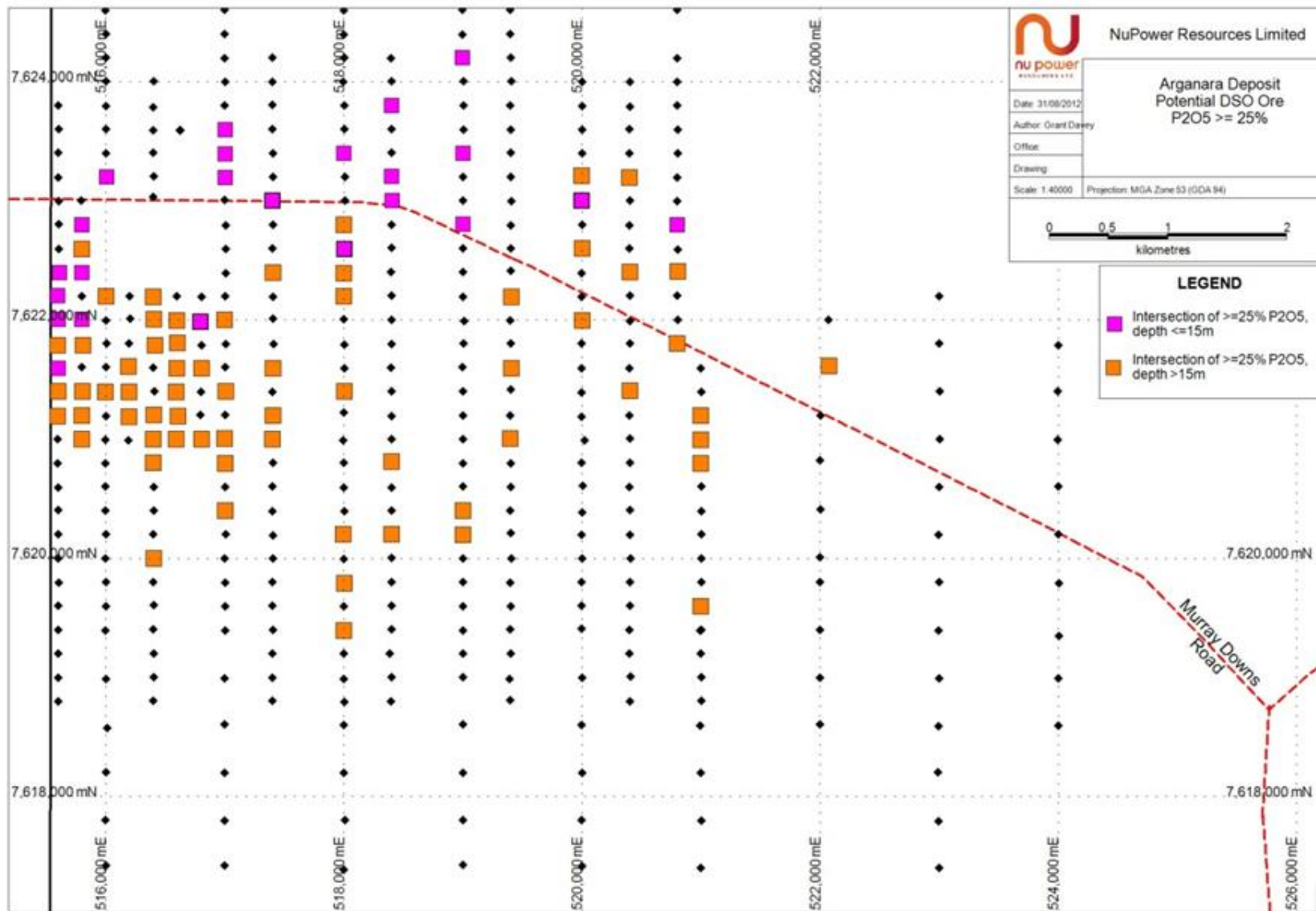
 In fill drilling program will target DSO grade intersections

Hole	East	North	From (m)	To (m)	Int. (m)	P2O5 (%)	+ 30% Phosphate Intersections
ARC180	515596	7622205	14	19	5	29.3	<b>Inc. 2m @ 33.9% from 17m</b>
ARC090	519996	7623000	12	15	3	28.3	<b>Inc. 2m @ 30.3% from 12m</b>
ARC196	516189	7621611	23	25	2	27.8	
ARC200	516399	7621001	25	31	6	26.7	<b>Inc. 3m @ 32.5% from 26m</b>
ARC354	516415	7621787	24	30	6	25.8	<b>Inc. 2m @ 32.9% from 24m</b>
ARC197	516194	7621395	24	29	5	25.7	<b>Inc. 2m @ 30.3% from 26m</b>
ARC351	516401	7621204	22	25	3	25.3	
ARC169	520001	7621995	23	30	7	24.9	
ARC086	517995	7620200	20	26	6	24.8	<b>Inc. 2m @ 30.4 from 23m</b>
ARC181	515601	7622004	13	19	6	24.5	<b>Inc. 2m @ 31.9% from 16m</b>
15% cutoff, includes up to 2m @ 10% internal dilution							



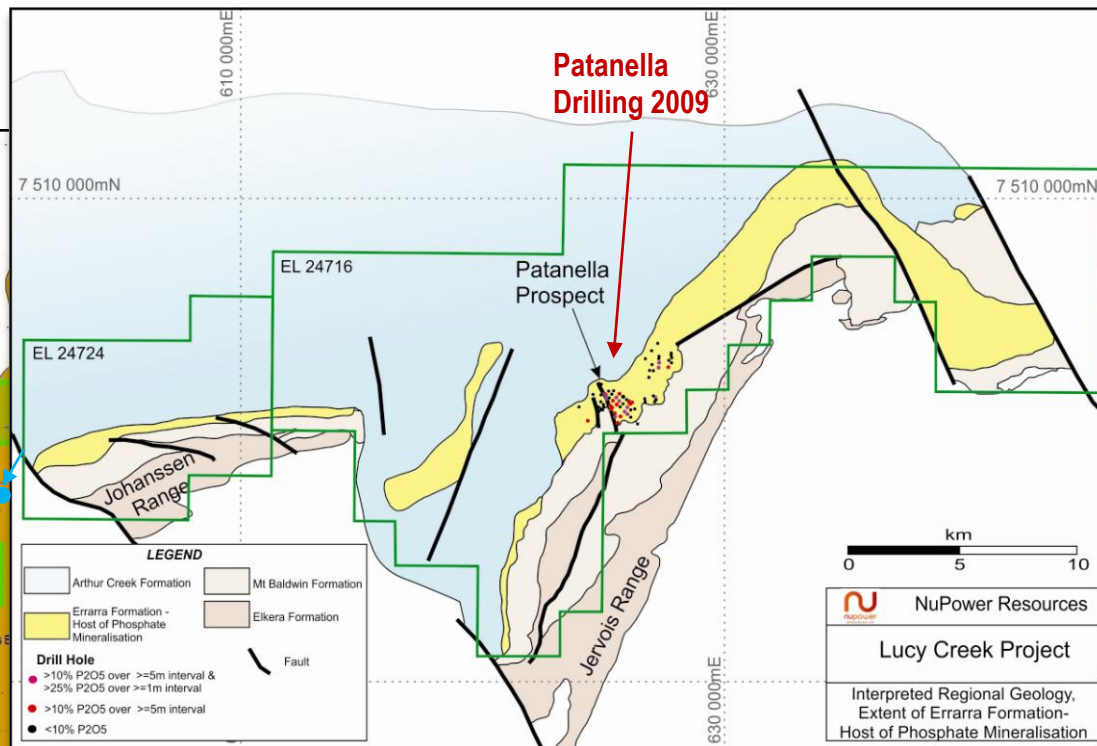
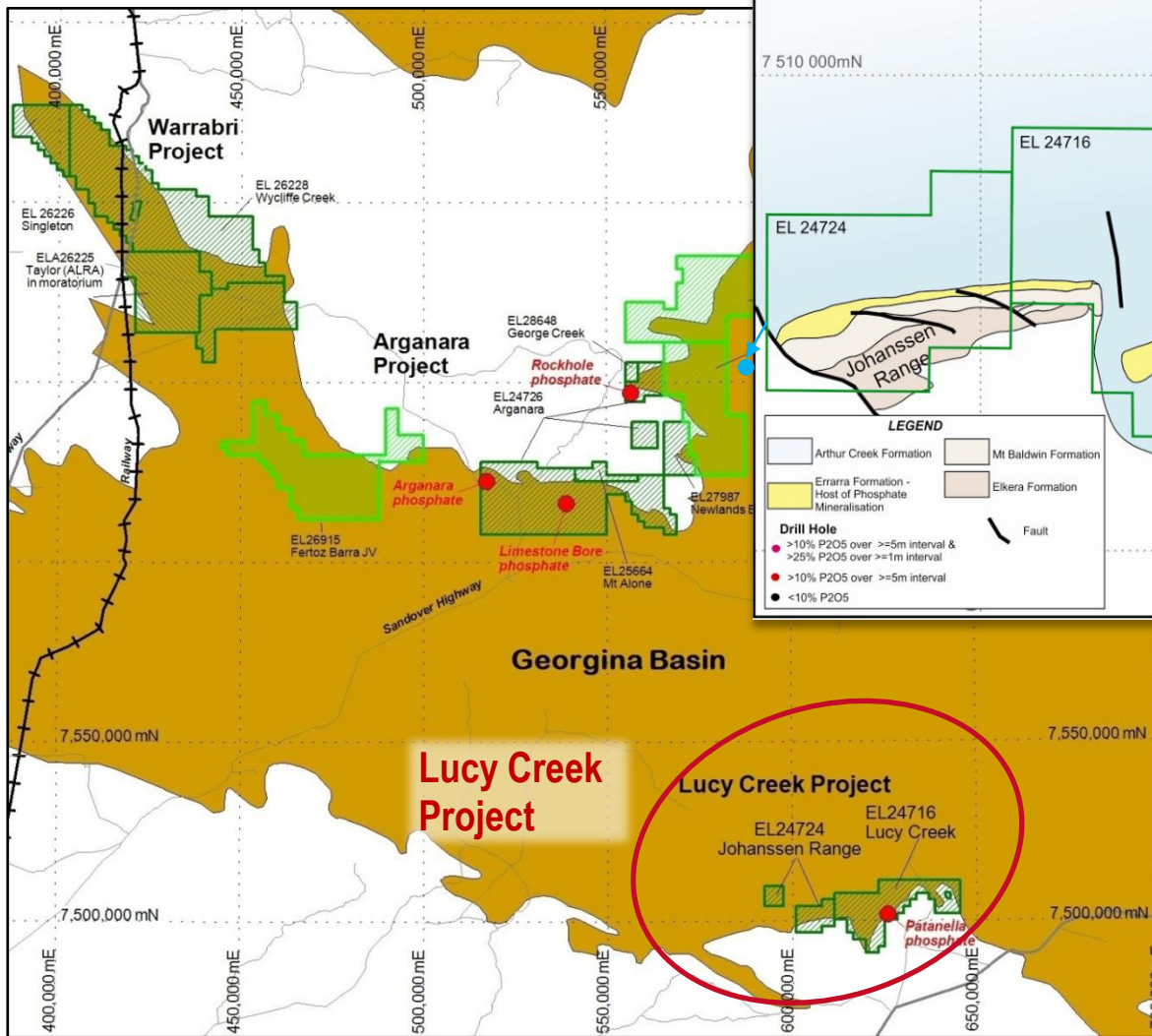
Drilling, Arganara Prospect

# DSO +25% Phosphate Depth Distribution



# Lucy Creek Phosphate Project

## Lucy Creek - DSO potential



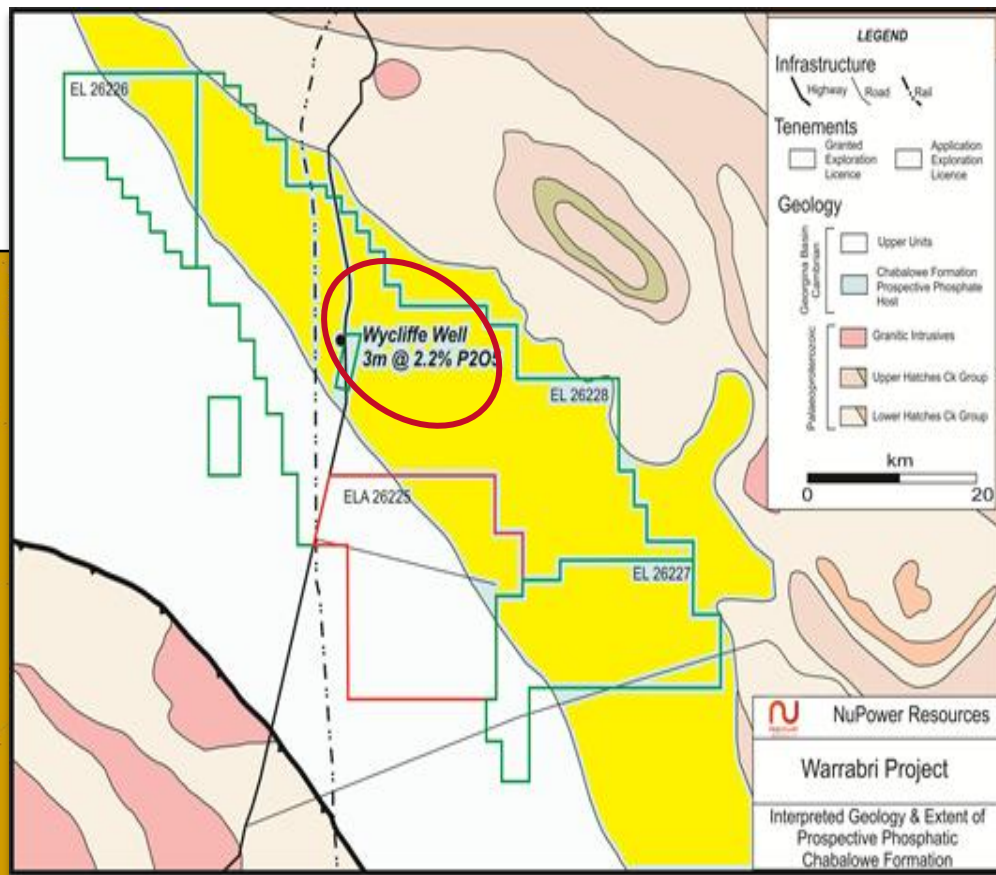
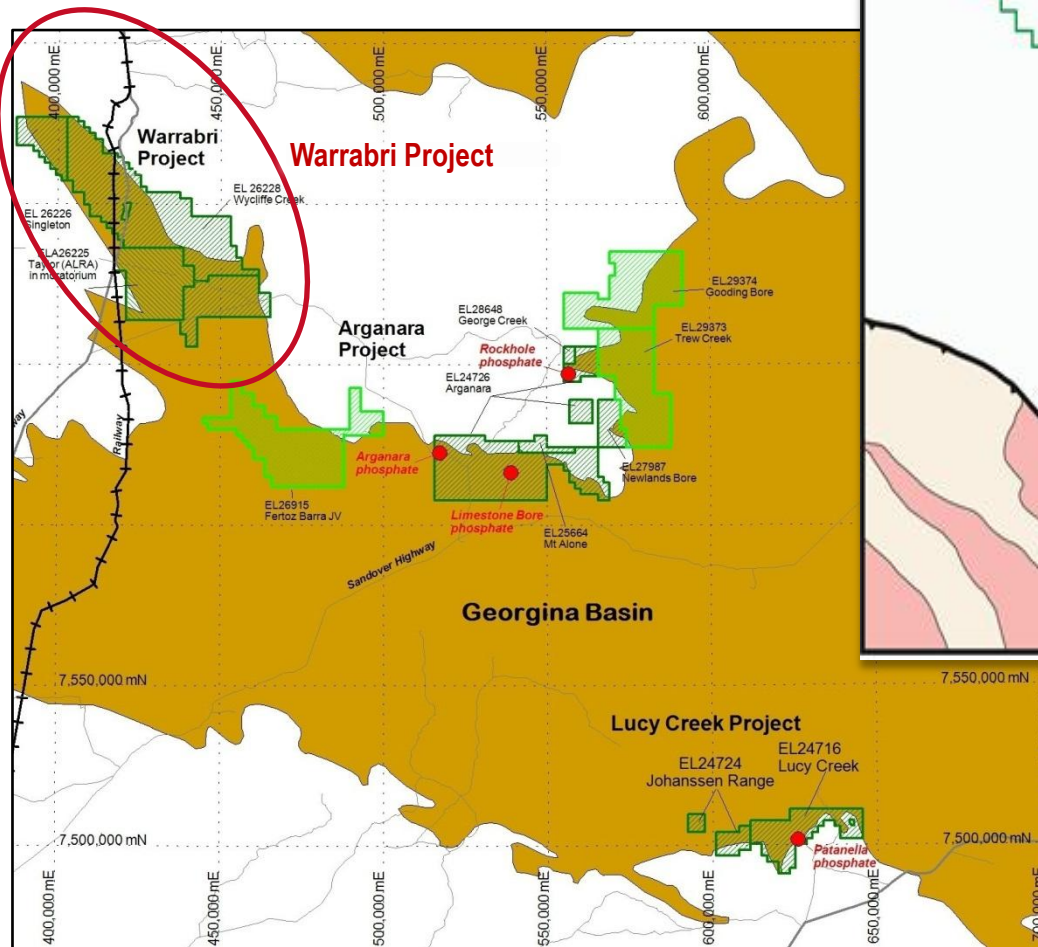
2009 Nupower drilling intersected

- 10m @ 32.0% P<sub>2</sub>O<sub>5</sub> from 20m
- 5m @ 30.6% P<sub>2</sub>O<sub>5</sub> from 5m
- 5m @ 29.6% P<sub>2</sub>O<sub>5</sub> from 5m

35km of host geology, only ~ 5km currently tested

# Warrabri Phosphate Project

- ~ Phosphate recorded at Warrabri
- ~ On Stuart Hwy and Darwin to Adelaide railway
- ~ Surface drilling planned in 2013



- ~ Potential geology - strike length of 80 km x 12km width
- ~ NT Geological Survey reported cuttings from a Wycliffe Well drill hole assayed 3m @ 2.2% P<sub>2</sub>O<sub>5</sub>

# Upcoming Program

- ≈ Mining Lease Application
- ≈ Diamond Drill Program
- ≈ Metallurgical test work – Phase 2
- ≈ DSO Drilling
- ≈ Development strategies
- ≈ Market assessment (CRU, Ferticon)
- ≈ Bulk Samples
- ≈ Transport Studies, Social Impact Studies
- ≈ Relationships, Partnerships, Marketing, Off-take agreements

## Hypothetical Economics (DSO):

- ≈ Phosphate loaded Darwin ~ \$75 to \$85 / tonne
- ≈ FOB Sales +30% P<sub>2</sub>O<sub>5</sub> ~ \$165 to \$185 / tonne
- ≈ Production estimate 200K tonne p.a.



# NuPower Phosphate Development Options

DSO Operation	Long Term Fertilizer Option
Simple Mining – Free Digging	Simple Mining – Free Digging
Crush and Screen – Input Grade ~ 25 to 30% P <sub>2</sub> O <sub>5</sub>	Crush, Screen, Flotation – Input Grade ~ 15% P <sub>2</sub> O <sub>5</sub>
Containerized product to Darwin	Bulk movement of P <sub>2</sub> O <sub>5</sub> to Darwin - Rail
Transport , Truck 120km to siding then Rail to Darwin Port	Production of Super phosphate (low capex)
FOB sales via Darwin to: India, SE Asia, China	MAP or DAP production (med high capex)
Aim: 150,000 to 200,000tpa	Ammonia and Sulfur, bi-products from INPEX (liquefied gas plant being constructed in Darwin)
Low Capex – Quick startup	Aim: 1,000,000t to 2,000,000 tpa
	Larger Capex – Longer development time





- 2 The Arganara Resource has excellent size, grades and location
- 2 NuPower has defined a 27km corridor of phosphate mineralisation which could host a significantly larger resource.
- 2 Pipeline of phosphate projects
- 2 Available infrastructure , rail to both Darwin and southern states of Australia
- 2 Darwin – INPEX
- 2 Darwin Port Gateway to Asia and India



# Corporate Overview

**NuPower**

**ASX: NUP**

**Market Cap**

**\$7.6 million**

(share price 1.5c)

**Shares on Issue:**

**511.8 million**

**Unlisted options**

**5 million**

(exp: 6/2013 @ 3.5c)

**Cash at hand:**

**\$1.2 million**



Robert Owen	Chairman
Andrew Johnstone	Managing Director
Sam Herzberg	Non-executive Director
Ian Kowalick	Non-executive Director
Mick Muir	Non-executive Director
Anthony Schildkraut	Company Sec. CFO

- Rights Issue on the basis of 1 New Share for every 4 Shares held at 5.00 pm (AEST) closing date 27 November 2012, at a price of 1.6 cents per New Share
- New Shares available to be issued under the Rights Issue is 127,955,776
- If taken up in full, the Rights Issue will raise approximately \$2.04 million, before expenses of the Rights Issue
- Following definition of the maiden resource, Directors propose the Company changes its name to:

## **Central Australian Phosphate Limited**

- New identity reflective of the Company's key commodity and geographic focus
- Resolution to be passed at the Annual General Meeting, 27 November 2012



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**NuPower - A Northern Territory Phosphate Company**