

**Adelaide Resources Limited**  
ABN: 75 061 503 375

**Corporate details:**

ASX Code: ADN

Cash: \$0.701million  
(at 31 Mar 2016)

Issued Capital:

357,922,352 ordinary shares  
37,222,104 listed options (ADNO)

**Directors:**

**Colin G Jackson**  
Non-executive Chairman

**Chris Drown**  
Managing Director

**Nick Harding**  
Executive Director and  
Company Secretary

**Jonathan Buckley**  
Non-executive Director

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**Fact:** The Challenger Gold Mine, located 375km NW of the Barns prospect in SA, commenced production in 2002 to initially exploit a recoverable gold reserve of 105,060 ounces. Production to date is 1,101,551 ounces of gold, more than 10 times its initial reserve.



## ASX announcement

16 May 2016

### Eyre Peninsula gold project (100% interest), South Australia

#### Barns scoping study indicates economic potential

#### Summary

Further scoping studies on the Barns gold deposit, based on an updated mineralisation model and incorporating high level operational parameters and cost assumptions, concludes that Barns has potential to support mine development scenarios.

- In-house revision of the 3-D mineralisation model for Barns reveals two flat lying supergene gold zones overlying stacked sub-parallel primary lodes.
- Independent experts Mining Plus Pty Ltd and Maptek Pty Ltd have then respectively completed 3-D block modeling and estimation of a (non-JORC) mineral inventory, and run first pass pit optimisation studies of the deposit.
- At an A\$1,500 per ounce gold price and appropriate capital, recovery and operating cost assumptions, the study indicates positive economic potential and identifies the improvements necessary to generate robust economics.
- While this scoping study is at a very high level, the results provide confidence to advance the project.
- Estimation of a mineral resource and metallurgical investigations are logical next steps, while the delineation of additional resources at Barns and nearby prospects including Baggy Green could materially improve the project.

Chris Drown  
Managing Director

Direct enquiries to Chris Drown. Ph (08) 8271 0600 or 0427 770 653.

## Introduction

Adelaide Resources' Eyre Peninsula gold project comprises eight tenements which secure 3,123 km<sup>2</sup> of ground in the Gawler Craton. The Barns, White Tank and Baggy Green gold prospects are located within 6km of each other on two adjoining wholly owned tenements (Figure 1). The two tenements are subject to a 1.5% NSR royalty held by Newcrest Mining Limited.

The first drill intersections at Barns were achieved in 2000, with subsequent drilling outlining a coherent body of gold mineralisation. Gold was then trading at approximately A\$550 per ounce and economic assessments at that price indicated the deposit was sub-economic. Gold is now trading around A\$1,700 per ounce, prompting a re-evaluation of Barns and nearby Baggy Green and White Tank prospects.

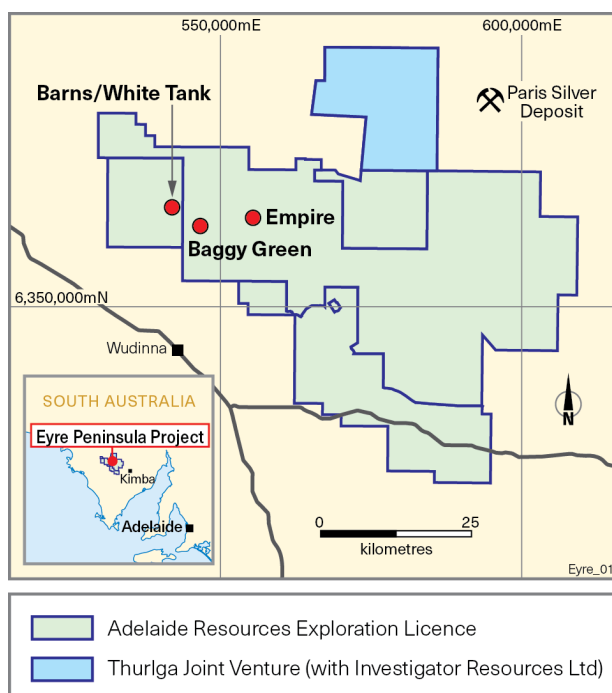


Figure 1: Eyre Peninsula project location plan

In October 2015, Adelaide Resources announced a combined Exploration Target for the Barns, White Tank and Baggy Green prospects<sup>(1)</sup>, based on historical drill results and an interpretation of the mineralised lodes at each deposit.

To a depth of 200 metres below surface the Exploration Target was estimated to range between 2.5 and 3.5 million tonnes at a grade ranging between 1.3g/t gold and 2.0g/t gold. The potential tonnage and grade of the Exploration Target is conceptual in nature as there has been insufficient exploration to estimate a Mineral Resource, and it remains uncertain if further exploration will result in the estimation of a Mineral Resource.

### High level scoping study

In terms of contained gold ounces, a gold resource falling within the Exploration Target tonnage and grade ranges would be comparable to other South Australian deposits either currently in production (Havilah Resources Limited - Portia Gold Mine) or proposed for development (WPG Resources – Tarcoola Gold deposit).

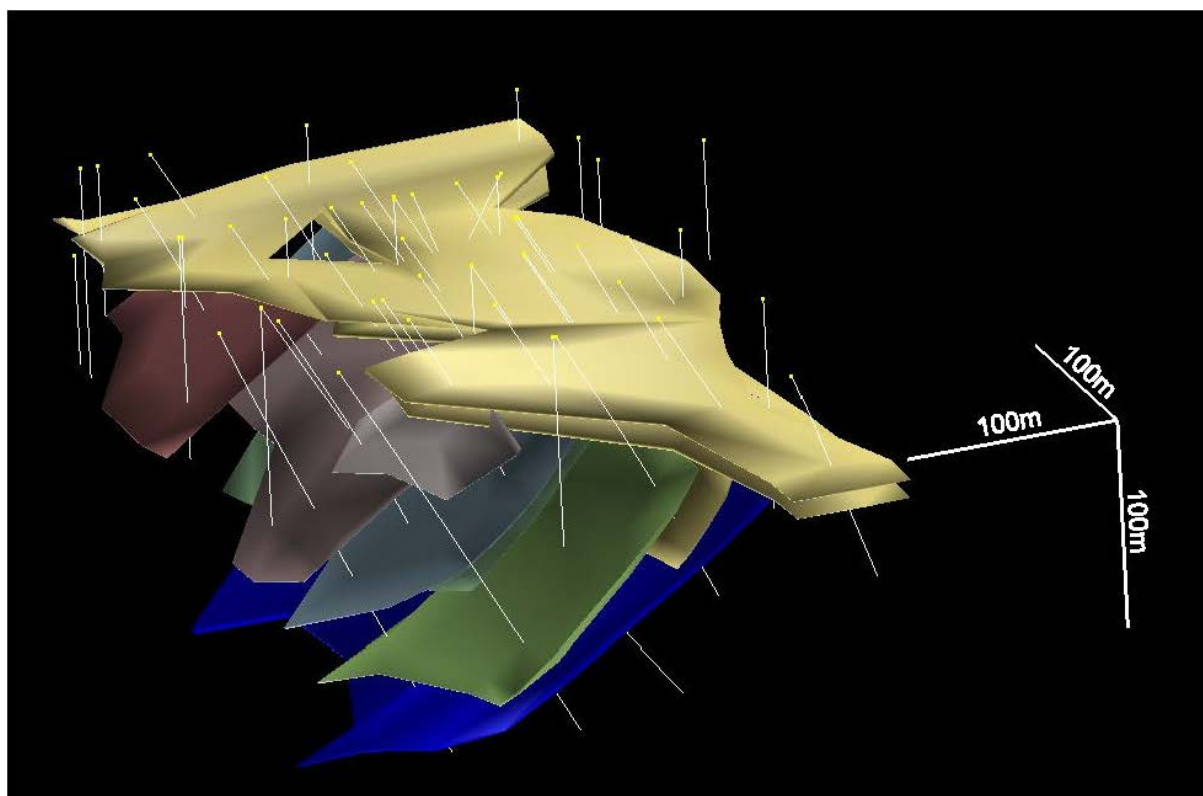
This comparison prompted the Company to commence a high level scoping study to iteratively investigate the potential economics of Barns and Baggy Green, with the study initially focusing on the better defined Barns deposit.

### Barns 3-D mineralisation model revised

During the March 2016 quarter the Barns drilling data was reinterpreted and the 3-D mineralisation model of the prospect was thoroughly reviewed and revised.

### Cautionary statement in accordance with JORC 2012:

*The scoping study referred to in this report is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the scoping study will be realised.*



**Figure 2:** Barns 3-D mineralisation model showing intersecting drill holes.

The model revision confirms the presence of two flat lying supergene gold zones, below which lie up to ten sub-parallel west dipping primary lodes.

Figure 2 shows a view of the revised 3-D model. Most lodes appear to display good continuity on, and between, drill sections.

The primary lodes are curvilinear, with lode dips steepening in the up-dip direction. This dip change is likely to have caused additional structural dilation, enhancing fluid flow and mineralisation widths around the change of dip.

#### ***Barns mineral inventory modelling***

The revised mineralisation model, together with the Barns drilling database, were presented to consultancy group Mining Plus Pty Ltd to estimate an in-house mineral inventory for the prospect.

The resulting product is a 3-D block model of the Barns deposit with each individual block ascribed a grade and tonnage.

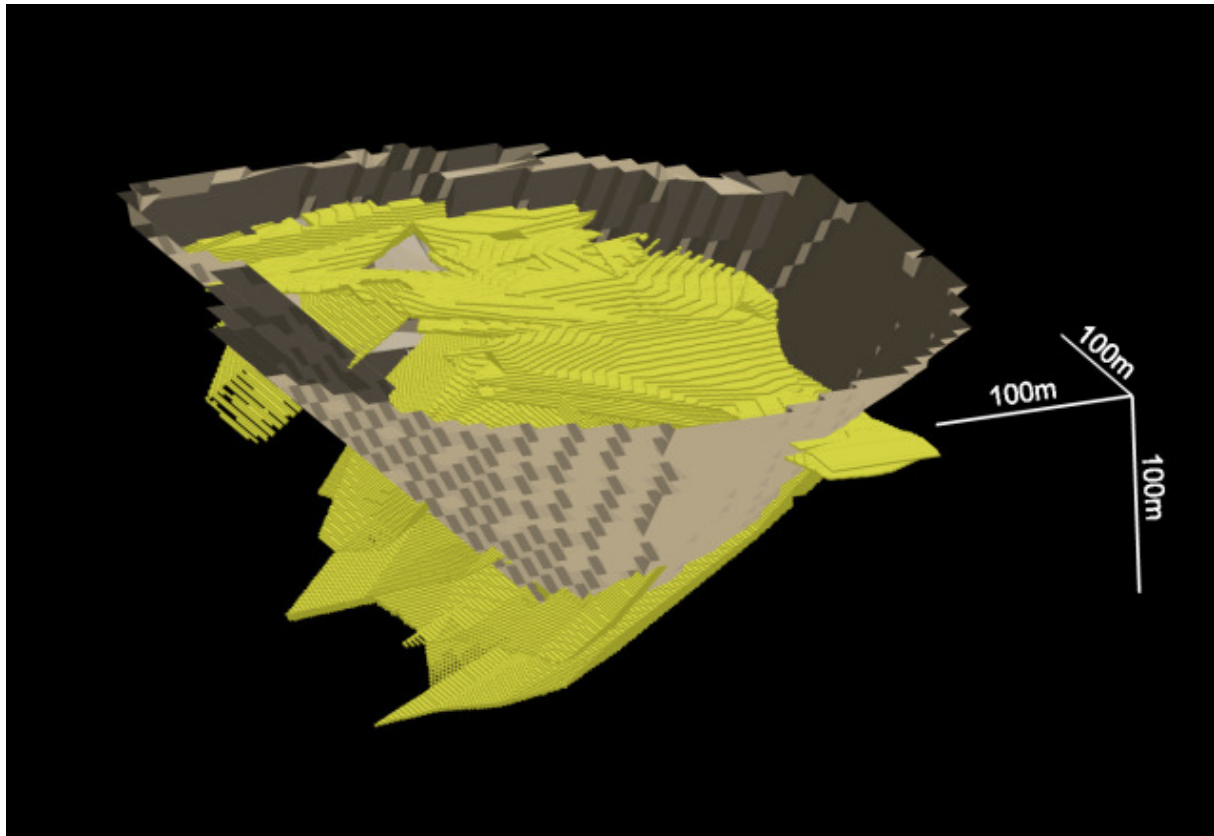
A view of this block model appears overpage as Figure 3.

Grade interpolation uses ordinary kriging following geostatistical variography. Tonnage estimates were determined by applying realistic bulk density assumptions for the primary and supergene lodes.

The mineral inventory does not qualify as a resource under the JORC Code and consequently tonnage and grade information cannot be publically reported. However, the Mining Plus study lends strong support to the Company's assertion that estimation of a mineral resource falling within the tonnage and grade ranges of the October 2015 Exploration Target is realistic.

#### ***Barns pit optimisation modelling***

The Mining Plus mineral inventory block model was then presented to consultancy group Maptek Pty Ltd and a first pass pit optimisation run.



**Figure 3:** Barns mineral inventory block model showing possible open pit solution.

Maptek's modeling incorporates assumptions for gold recovery, capital and operational costs that are considered to be reasonable estimates in the absence of detailed project specific numbers.

The high level study finds a number of pits which produce a positive cash flow and NPV, including scenarios run assuming an A\$1,500 per ounce gold price. The results suggest investigations to advance the prospect are warranted. One possible pit solution is shown on Figure 3.

#### **Next steps**

The outcomes of the high level economic modelling scenarios run for Barns show sensitivity to the \$A gold price, gold recovery, mining dilution and mining and processing costs.

The modelling also demonstrates that discovery of additional gold resources at Barns, or at a nearby deposit, could

significantly improve the project's economics.

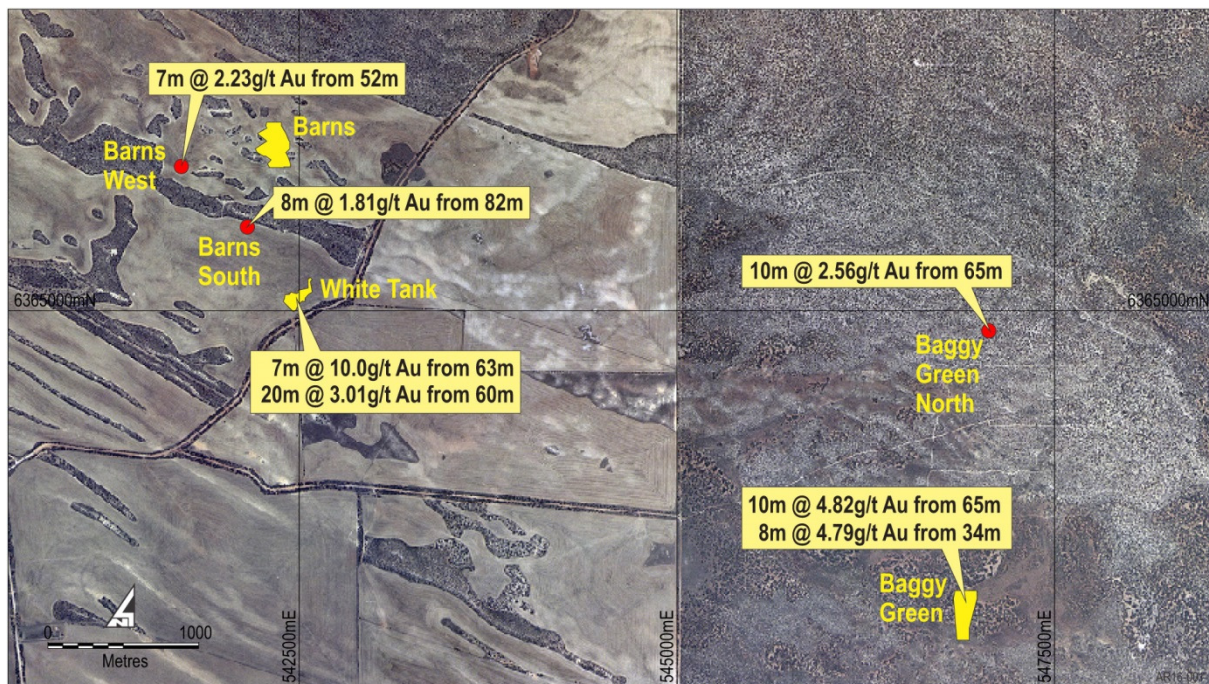
The logical next steps to advance the project include estimation of resources that can be reported under JORC 2012, and completion of metallurgical studies to investigate gold recovery.

Past drilling within a 6km radius of Barns has intersected gold mineralisation at five other prospects, and the potential to expand the local resource base with further exploration is high.

These five prospects include the White Tank and Baggy Green deposits, together with the Barns West, Barns South and Baggy Green North prospects (Figure 4).

The Company has lodged applications for 2016 PACE co-funding which, if successful, will assist in completing these future work programmes.





**Figure 4: Plan showing location of gold prospects in vicinity of Barns.**

- (1) See ADN's ASX release dated 16 October 2015 titled "Higher grade gold zones highlight Eyre Peninsula potential."

#### **Competent Person Statement**

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Chris Drown, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Drown is employed by Drown Geological Services Pty Ltd and consults to the Company on a full time basis. Mr Drown has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Drown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### **Caution Regarding Forward Looking Information**

This document contains forward looking statements concerning Adelaide Resources Limited. Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes. Forward looking statements in this document are based on Adelaide Resources beliefs, opinions and estimates of Adelaide Resources as of the dates the forward looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future development.