

ASX ACTIVITIES REPORT

3 months ended:
31 December 2015

UraniumSA Limited
("UraniumSA")

ASX Code: USA

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BOARD OF DIRECTORS

Alice McCleary Chairman
Martin Janes Director
Russel Bluck Director &
Geoscience Manager
David Paterson Director &
Acting CEO

PROJECTS

South Australia

Samphire ELs 4979, 5426 JV
Blackbush MC 4280
Murninnie EL 5440
Wild Horse Plains EL 4693 JV
Muckanippie EL 4694

ISSUED CAPITAL

29 January 2016
Shares on Issue: 187,271,038
Quoted shares: 187,271,038
Unlisted Options: 14,650,000

INVESTOR INQUIRIES

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SAMPHIRE PROJECT & EXPLORATION

The Samphire Project and the Blackbush deposit uranium mineralisation continued as a focus for the quarter. Conceptualisation of open cut production scenarios continued in conjunction with investigations of the potential for mechanical beneficiation of mineralisation to provide higher grade feed stock for processing. Outcomes from both remain encouraging.

Six South Australian exploration licence applications lodged in June 2015 were offered by the regulator.

CORPORATE

New Projects - projects involving minerals and energy other than uranium are being sought and evaluated as part of a diversification strategy.

Uranium industry - The uranium spot price remained steady & above US\$35.00 per pound. Uranium was a standout 'performer' compared to a basket of other metal and commodity prices in the calendar year just ended. It has held its price, after testing lows of US\$28 per pound in July 2014.

The fundamentals supporting a firmer uranium price remain intact.

In Japan, the two nuclear plants restarted have operated to plan. An additional 3 Japanese reactors (Takahama 3 and 4 and Ikata 3) were approved for restart and are on schedule for coming weeks. China had 30 reactors in operation at the end of 2015 with another 24 units currently under construction, and another 15 additional reactors likely to commence construction in 2016.

The December 2015 Climate Change Treaty agreed in Paris will see further moves away from fossil fuel as a source of power generation in coming years. Nuclear will be one of the winners from the anticipated change in the mix of global energy sources.

FINANCE

A research and development refund of \$78,000 was received in November 2015.

Exploration expenditure for the period \$57,000. Cash position at the end of the period \$129,000 (debt \$200,000 convertible loan agreement, with \$100,000 undrawn on the facility – refer ASX 21 December 2015, unaudited).

Estimated expenditure for the March 2016 quarter is \$150,000.

ACTIVITIES

SAMPHIRE PROJECT, Blackbush deposit

Work on the conceptualisation of possible open cut operations continued as outlined below. Investigation of the possibilities for a mechanical beneficiation of Blackbush mineralisation continued.

Conceptualisation of Open Cut Scenarios

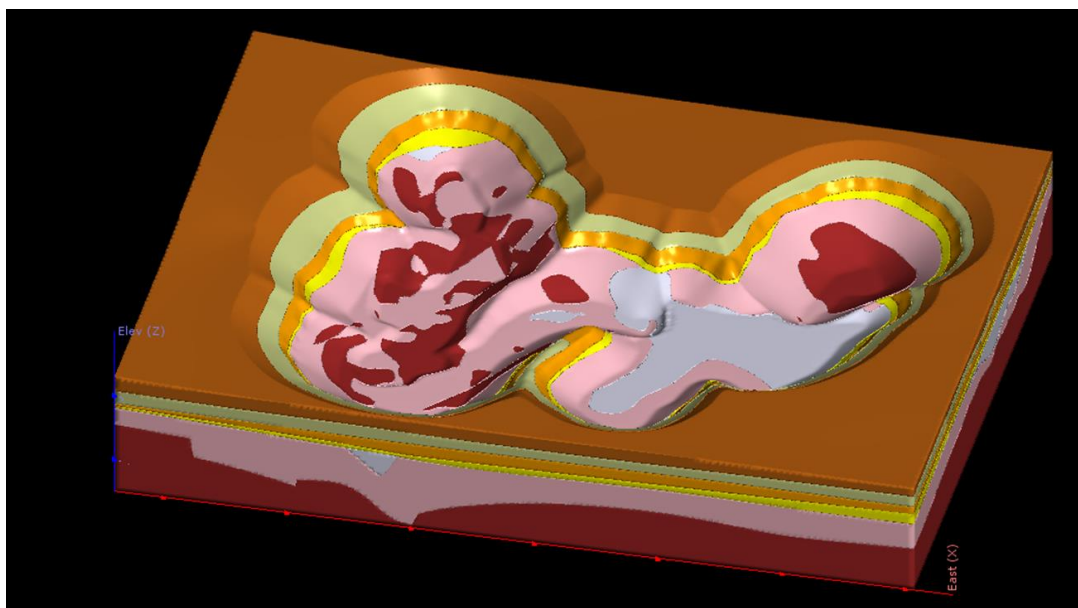
In-house work on the conceptualisation of the potential for Blackbush mineralisation to be extracted by open pit is ongoing (ASX 24th October 2013, and in Quarterly Reports and other releases since). The work has recently benefited from public domain information about open pit excavations in a geologically similar terrain (HAV: ASX 23 December 2015) and a pre-feasibility study of a geologically similar deposit (VMY: ASX 17 November 2015).

The geological conceptualisations of voids given here are based on existing and previously reported geological solid models and grade shells, with generic assumptions regarding batter angles and slope stability. They have been generated as part of an ongoing consideration of alternative future development scenarios. It is uncertain if future work will result in a decision to mine. There has been no material change in the available drilling or grade data and the existing Inferred Mineral Resource estimate remains valid.

Notes on methodology and assumptions used for the conceptualisation are provided as Appendix 1. The conceptualisations are geological models derived from existing and previously reported information on the Blackbush deposit and constructed without deposit-specific geotechnical or mining inputs. They are not estimations which are within JORC classifications and JORC 2012 Checklist Tables are not attached.

MODEL 1 (LEAPFROG SNAPSHOT – REFER APPENDIX 1)

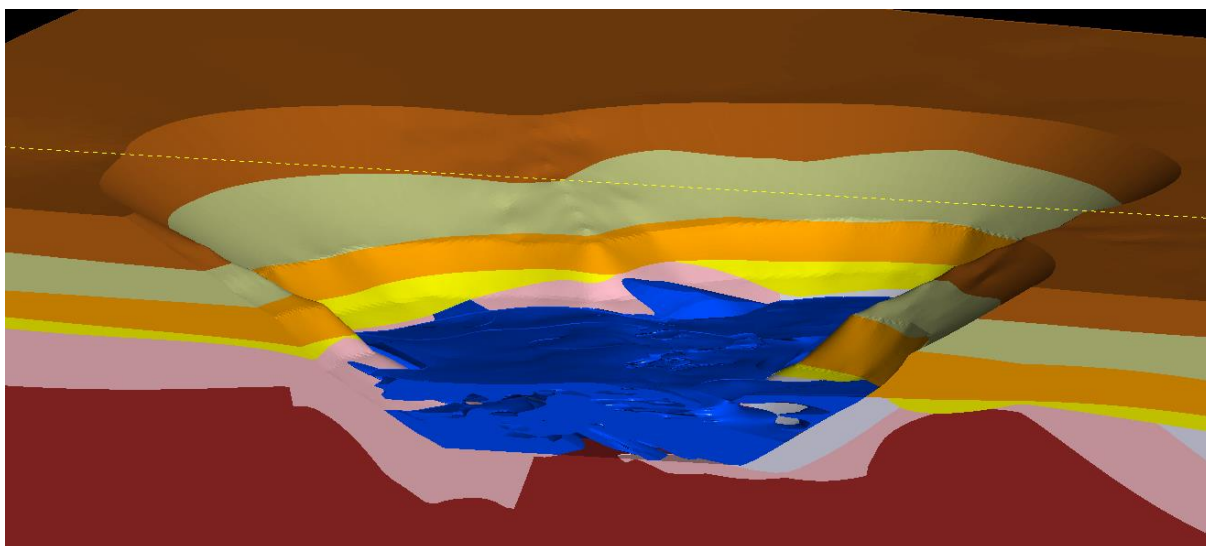
This is a conceptualisation of a void to excavate the majority of mineralisation in the Blackbush deposit. The view is looking into a final void from the south-east at an inclination of ~30°. The void is ~2km west-to-east and up to ~75m deep.



Conceptual Void – MODEL 1	Void Estimate	Void Range (+ / - 10%)
Void nominal mineralisation (Mt)	52.5	47 - 54
Void nominal grade (ppm U ₃ O ₈ at 100 ppm cutoff)	345	310 - 346
Void nominal waste (Mt)	446.0	401 - 447
Void waste/mineralisation	8.5	

MODEL 2 (LEAPFROG SNAPSHOT – REFER APPENDIX 1)

This is a conceptualisation of a “high grade starter” void to excavate an area in Western Zone at Blackbush which is characterised by thicker intercepts and higher grades than the deposit averages. Below is a west-to-east cross-sectional slice through a conceptual void which would occupy much the same area as that of the lower part of the left-hand side of Model 1. The view to the north and at an inclination of ~15°, the opening is ~1,100m west-to-east at it’s widest, ~75m deep.



Conceptual Void – MODEL 2	Void Estimate	Void Range (+ / - 10%)
Void nominal mineralisation (Mt)	14.9	13 - 16
Void nominal grade (ppm U ₃ O ₈ at 100 ppm cutoff)	495	446 - 496
Void nominal waste (Mt)	112.0	101 - 123
Void waste/mineralisation	7.5	

CONTEXT AND CONCLUSION

Context. A Pre-Feasibility Study was recently released for open pit mining of the Mulga Rocks project (ASX: VMY 17 November 2015). These West Australian deposits are geologically similar to the Samphire project and provide a realistic benchmark for comparison. The basic parameters for the Princess/Ambassador deposits which would be the first to be mined are;

Ore (Mt)	31.7
Grade (ppm U ₃ O ₈ at 150 ppm cutoff)	432
Waste (Mt)	538
Waste / Ore	13.6

Conclusion. The outcomes obtained from the conceptual modelling of Blackbush are encouraging and considered sufficient to support a continuation of investigations of open pit as a potential mining method.

The Inferred Resource estimate for the Blackbush deposits at a 100ppm cut-off is 64.5Mt at 230ppm U₃O₈ (ASX 27 September 2013). That estimation gives tonnes and grade information across cut-offs ranging from 100 to 2,000ppm. At the time of estimation the mineralisation was considered as potentially extractable but there was no metallurgical, mining or economic data for the deposit to support choosing either in-situ recovery (ISR) or conventional or unconventional mining methods. There has been no drilling or assaying or other work completed and a re-estimation of the resource is not required at this time.

Metallurgy

Scouter tests on sub-samples of mineralised core materials were commenced. These materials were originally collected for column leach test work and there is some existing data on grade and mineralisation. The samples being tested comprise a sand dominated unconsolidated material of the style which comprises the majority of the Blackbush deposit.

A first-pass test using a light mechanical agitation of raw mineralised material effectively removed a light sulphide(?) patina from the grains and increased the uranium content of a <20µm fraction by ~30%. After the light agitation the cleaned sand grains still reported significant mineralisation - the next round of testing will use a much more aggressive agitation to break up these sand grains to determine if this mineralisation is also released to the <20µm fraction. This scouter work is using small sample masses and HH-XRF assay to generate indicative data.

The objective of the ongoing scouter work is to determine if a low cost bulk processing of a large volume of moderate grade material can produce a significantly smaller volume at a much higher grade for processing to recover uranium. The complete program of scouter test work will indicate if this is potentially possible and if work on larger and more representative materials is warranted.

EXPLORATION, Cleve Project ELA 2015/113 & ELA 2015/114

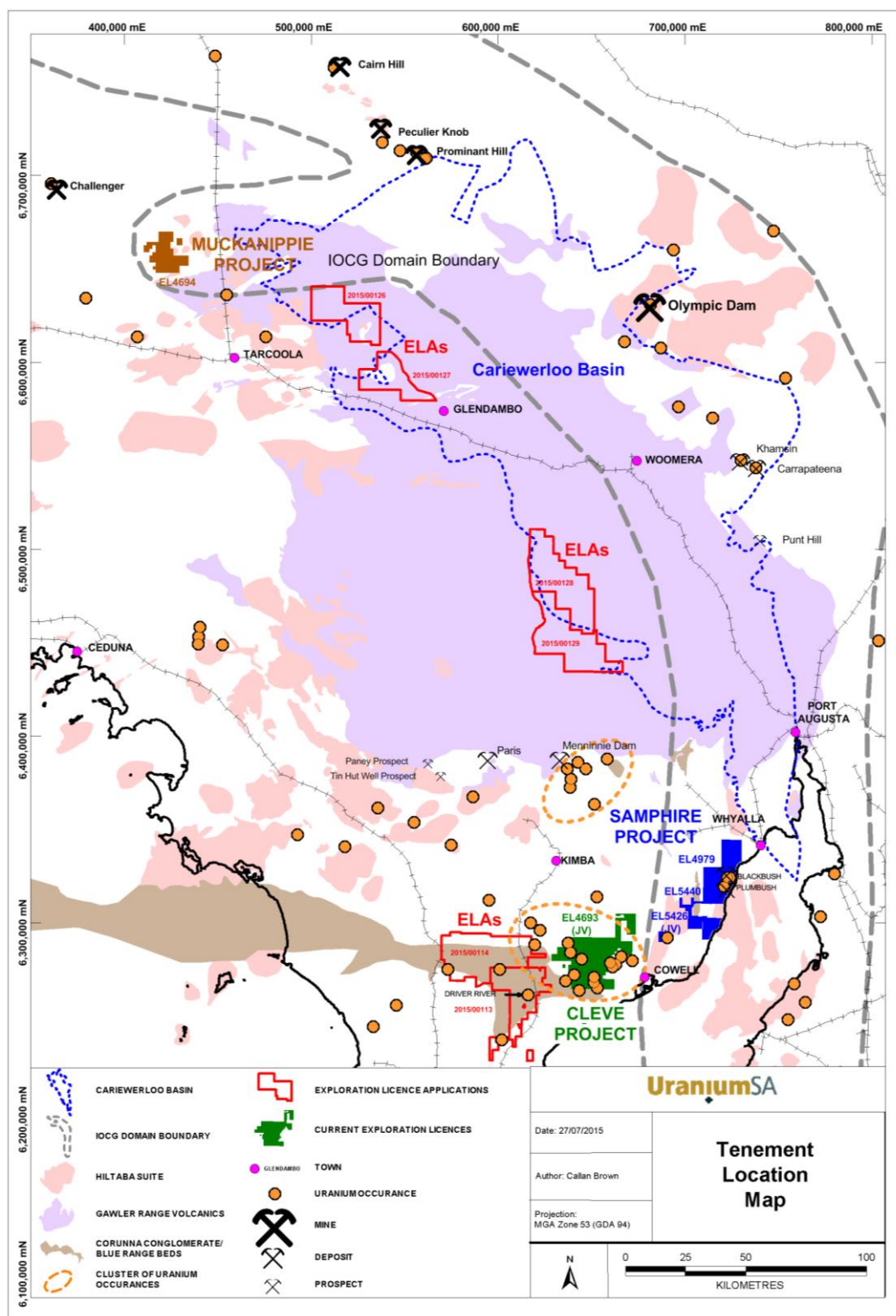


Figure 1: Map of central South Australia showing UraniumSA's existing tenements and new applications.

Following additional interpretation of past exploration data and published geology USA has significantly reduced the area within applications ELA's 2015 / 00113 & 00114 that are located to the west of EL 4693 (refer Figure 1).

Department of State Development – Mineral Tenements and Exploration Branch (DSD Minerals) offered ELA's 2015 / 00113 & 00114 late in the quarter. UraniumSA has sought to modify these applications into a single application.

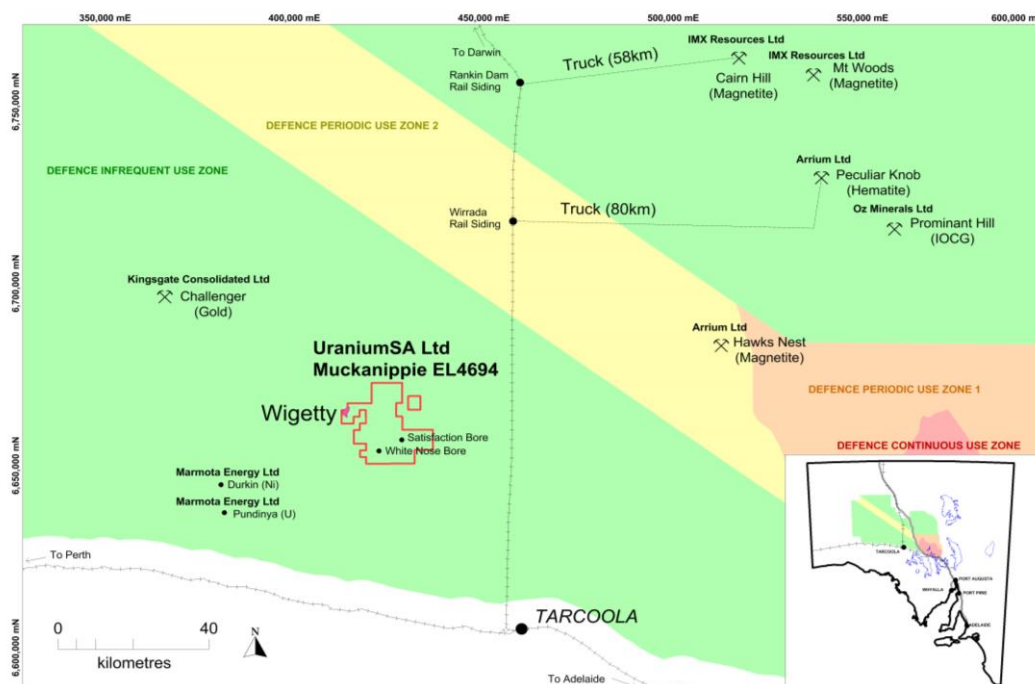
EXPLORATION, ELA's 2015/00126, 00127, 00128 & 00129

In the light of share market conditions UraniumSA has re-assessed the above four applications which targeted structural features on the edge of the Cariwerloo Basin and considered prospective for uranium and other minerals. A decision was made post the reporting period not to progress ELA's 2015 / 00127, 00128 & 00129.

The eastern portion of ELA 2015 / 00126 remains prospective and a request for a reduction in the application area has been lodged with the regulator.

MUCKANIPPIE PROJECT

UraniumSA owns 100% of Exploration Licence 4694. No significant work was completed in the quarter. Identification of potential JV partners continued.



OTHER PROJECTS

CHARLESTON PROJECT – EL 5426 JV WESTERN BLOCK

Midgee western block of SRZ JV (Stellar Resources Ltd, USA earning 73% EL 5426). No work was completed during the quarter.

MURNINNIE PROJECT– EL 5440

No work was completed during the quarter.

WILD HORSE PLAIN – EL 4693 JV

USA 100% uranium, Archer Exploration Limited (ASX: AXE) 100% other minerals, EL 4693. Archer Exploration is continuing work on its graphite project. No work carried out by USA during the quarter.

The tenement is geologically contiguous with the Cleve project ELA's to the west.

FORWARD WORK PROGRAM TO END MARCH 2016

SAMPHIRE PROJECT

Work on open pit conceptualisations will be continued to advance them to where a decision can be made to commence engineering and other studies. Investigation of metallurgical beneficiation of the major lithotypes of the Blackbush deposit will continue with limited scouter test work. The next substantive work requires new samples of mineralisation and they will in part be delivered when the company progresses drilling of two inclined sonic drill holes discussed and detailed in ASX released dated 14 April 2015.

MUCKANIPPIE PROJECT

Identification of potential joint venture partners to explore the Muckanippie Layered Mafic Complex for base and precious metals will continue. On 21 January 2016 a renewal and reduction (25%) covering this title (EL 4694) was lodged with DSD Minerals.

OTHER PROJECTS

Murninnie project

No work is planned

Charleston project

No work is planned

Wild Horse Plains (Cleve) project, eastern Eyre Peninsula

Archer Exploration will be continuing work on its projects within the tenement.

UraniumSA will continue a re-appraisal of the Ben Buy South and the Boothby prospects in the context of our work on the Uranium prospectivity associated with Paleoproterozoic unconformity at the base of the Blue Range Beds.

APPENDIX 1 NOTES ON METHODOLOGY AND ASSUMPTIONS

Interpretation of the void models

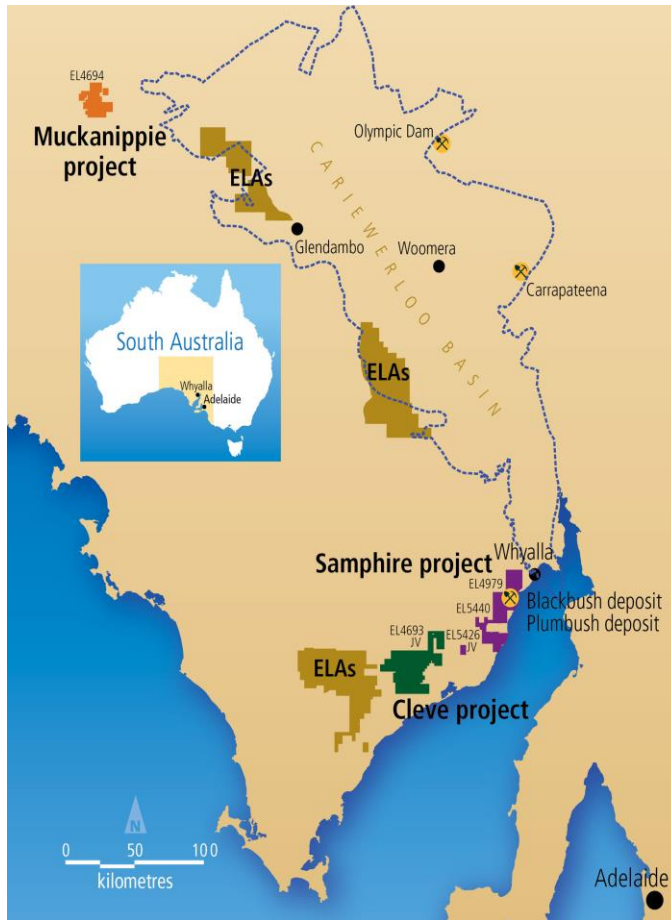
The voids illustrated are the shapes which would be left assuming that mineralised Kanaka Beds (and some parts of mineralised saprolite and Melton Sand) were removed. From bottom up:

- a) The darker red-browns are basal Samphire Granite which is exposed in the void floor after mineralisation has been extracted.
- b) The pink tones are saprolite developed on granite and occurring below mineralised Kanak Beds. When mineralised Kanaka Bed and saprolite is removed un-mineralised saprolite is left exposed.
- c) The greyish tones on pink saprolite are sections of lower grade Kanaka Beds which have been left behind on the void floor.
- d) The blue shape in the base of the Model 2 void is the representation of targeted mineralised Kanaka Bed material.
- e) The yellow tones are Melton Sand which overlies mineralised Kanaka Beds and elsewhere sits directly on saprolite and granite. It is mineralised in some instances.
- f) The light brown is Melton Limestone which is regarded as probably mechanically strong and able to stand at a batter angle of 40°. The physical strength of this unit may assist in the optimisation of strip ratios. The unit is entirely un-mineralised.
- g) The light green tones represent the Gibbon Beds, a unit of un-mineralised red-brown plastic clays.
- h) The pale brown represents young surficial materials, predominantly minor gravels and variably sandy clays, calcrete. They are un-mineralised and together with the Gibbon Beds are the major waste components in the void.

Void model construction

- a) Leapfrog 3D software has been used to construct geological models using existing in-house models of the geology and distribution of mineralisation.
- b) Models for the stratigraphy are derived from those used in the existing Inferred Resource estimations. Ongoing geological appraisal and interpretation has refined the detail of some parts of the Western Zone leading to minimal changes to estimates of volume/grade which remain within range bands. Without new drilling or grade data the changes are not material to the existing estimates.
- c) The void floor outline has been geologically interpolated to encompasses drill holes whose ratio of meters of mineralisation to thickness of overlying waste is ≤ 8.0 . This is an arbitrary “rule-of-thumb” figure but one which is relatively common in discussion of potential and actual open pits for base metal, coal and other commodities including uranium. It has been used here in the conceptualisations as an arbitrary constraint.
- d) The assumed wall batter angles have been varied on the basis of geologically inferred properties of the rocks. Waste materials which extend from surface to the top of Miocene Melton Limestone are geological correlative of the cover sequences being excavated from the Portia Gold Mine which stand at a batter angle of $\sim 30^\circ$ (inferred from HAV: ASX 11 December 2015). A batter angle of 30° has been assumed for the Gibbon Bed and younger cover sequences above the Melton Limestone, and also for the mineralised Kanaka Beds at the bottom of the void. A batter angle of 40° has been assumed for void walls through the Melton Limestone which is a variably silicified bioclastic limestone assessed as a potentially mechanically competent.
- e) Model 1 conceptualises a “whole of deposit” approach to model a range of volumes using a 100ppm U_3O_8 cut-off. The void floor used in the model in the Western Zone effectively corresponds with the base of Kanaka Beds but does include some portions of mineralised saprolite; in the central and eastern parts of the deposit the void floor was arbitrarily raised part way up the Kanaka Beds as best grades occur at the top of the unit. This change in void floor accounts for a large part of the tonnes/grade variation between the conceptual void and the Inferred Resource estimate.
- f) Model 2 conceptualises a “high grade starter” void in the Western Zone where there are significant areas with thickness/grade attributes. The area has previously been discussed as potentially within range of an open pit mining operation (ASX 24th October 2013, 28th October 2013).
- g) The conceptualisation and models of voids, volumes and grade are entirely geologically constructed. The wall stability and batter angle parameters are entirely assumed without deposit specific supporting engineering investigations. The conceptualisations and models are not a basis for economic modelling.

About UraniumSA Limited



UraniumSA is an Adelaide based explorer specialising in uranium mineralisation within a substantial portfolio of properties in South Australia's Gawler Craton.

The Company has discovered sediment hosted uranium mineralisation within Exploration Licence 4979, Samphire, which is located 20km south of the industrial city of Whyalla on the eastern Eyre Peninsula in South Australia. The exploration Licence is owned and operated by Samphire Uranium Pty Ltd, a wholly owned subsidiary of UraniumSA Limited.

The Samphire project contains the:

Blackbush deposit with an estimated inferred resource 64.5 million tonnes of mineralisation at a bulk grade of 230ppm containing 14,850 tonnes U_3O_8 at a 100ppm eU_3O_8 cut-off grade (JORC 2012).

Plumbush deposit with an estimated inferred resource 21.8 million tonnes of mineralisation at a bulk grade of 292ppm containing 6,300 tonnes U_3O_8 at a 100ppm eU_3O_8 cut-off grade (JORC 2004).

The estimated mineralisation is predominantly sediment hosted in Eocene age Kanaka Beds. Exploration has discovered uranium mineralisation in other geological settings and exploration is continuing.

Application for a Retention Lease over MC 4280 for an in-situ recovery field trial at the Blackbush deposit remains.

Through its own tenure and by joint venture UraniumSA has exploration control over what it considers the most prospective portions of the Pirie Basin. The Board has continued its diversification of UraniumSA's exploration efforts into commodities and opportunities other than uranium. Work on the Blackbush deposit within the Samphire project will continue at a rate which reflects the current global uranium market, production opportunities and investor sentiment.

David Paterson
Acting Chief Executive Officer
UraniumSA Limited

The exploration results mineral resources reported herein, insofar as they relate to mineralisation, are based on information compiled by Mr Russel Bluck a Director of UraniumSA Limited and Member of the Australian Institute of Geoscientists with sufficient experience relevant to the style of mineralisation and type of deposits being considered, and to the activity which is reported to qualify as a Competent Person as defined by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 Edition). Mr Bluck consents to the inclusion in the report of matters based on his information in the form and context in which it appears. It should be noted that the abovementioned exploration results are preliminary.