

Wednesday, 24 February 2010

AUSTRALIAN SECURITIES EXCHANGE  
COMPANY ANNOUNCEMENTS PLATFORM  
ASX CODE USA

## MULLAQUANA URANIUM PROJECT BLACKBUSH PROSPECT

**continuing high grade intersections  
mineralisation open in all directions  
positive uranium disequilibrium**

UraniumSA has completed its initial 5,000m in-fill drilling of the Blackbush Prospect south of Whyalla in South Australia and reports the following significant drill holes (in addition to those reported 21 December 2009):

- MRHA1: cumulative 13.80m @ 1,392 ppm eU<sub>3</sub>O<sub>8</sub> including 12.60m @ 1,470 ppm eU<sub>3</sub>O<sub>8</sub>
- MRM558: cumulative 4.47m @ 1,281 ppm pU<sub>3</sub>O<sub>8</sub> including 1.12m @ 2,120 ppm pU<sub>3</sub>O<sub>8</sub>
- MRM562: cumulative 2.57m @ 3,950 ppm pU<sub>3</sub>O<sub>8</sub> including 0.87m @ 5,170 ppm pU<sub>3</sub>O<sub>8</sub>
- MRC001: cumulative 9.70m @ 1,357 ppm pU<sub>3</sub>O<sub>8</sub> including 4.63m @ 1,520 ppm pU<sub>3</sub>O<sub>8</sub> and 2.12m @ 2,360 ppm pU<sub>3</sub>O<sub>8</sub>

At the end of January 2010 at the Blackbush Prospect:

- Prompt Fission Neutron (pfn) logging indicates the uranium mineralisation has a **positive disequilibrium factor of 1.23 and** the natural gamma results underestimate the grade.
- 7 hydrogeological monitoring sites were established (16 holes in total). The first hydrogeological site drilled (MRH A1) was collared 600m west of known mineralisation and was intended to sterilise ground for future plant purposes. The hole returned one of the best intersections obtained to date and significantly expands the prospective area.
- the first stage of 100m pattern drilling has been completed, 67 holes drilled. Mineralisation remains open in all directions.
- 3 cored holes to obtain samples for metallurgical evaluation were completed. Results of this evaluation work will be reported when they become available (not expected before May 2010).
- 31 of the 70 rotary mud and core holes reported grade-thickness accumulations in excess of 0.10 m% U<sub>3</sub>O<sub>8</sub> and up to 1.92 m% U<sub>3</sub>O<sub>8</sub> (intersections in excess of 0.05 m% U<sub>3</sub>O<sub>8</sub> are potentially economically significant).
- a gravity survey to map the detail of local basin architecture was completed; results have been received and are being assessed.

Over the Mullaquana project as a whole, initial data from an airborne electromagnetic survey across the southern portion of the tenure and into the Joint Venture areas was received and is being assessed.

## Drilling

The final 10 holes of a 5,000m contract were completed by Thompson Drilling Company Pty Ltd and the rig then moved on to core and hydrogeological drilling. Good intersections were obtained in the majority of these holes, particularly to the south and west, and higher grade mineralisation remains open in those directions. Drill hole details are provided in Table 1 and Figure 4.

Thompson will be contracted for a further round of in-fill, hydrogeology and core drilling in the second quarter of 2010.

## Uranium disequilibria

A series of 17 drill holes (MRM550 to MRM564 and MRC001 to MRC003 inclusive) were logged with a Prompt Fission Neutron tool (pfn) by Geoscience Associates Australia Pty Ltd. Holes were logged immediately on completion, first with the pfn tool and then a natural gamma tool, both tools were appropriately calibrated. An example of the data collected is presented in Figure 2.

Raw data from the holes logged with both tools was converted to equivalent grades, plotted at linear scale, equivalent peaks selected at the half-amplitude point, and average grades for those intervals calculated for each system. The ratio of the length weighted average grade of these intercepts is 1.23 indicating that, in general, the natural gamma tool underestimates the uranium grades.

## Reporting of results

Grades obtained from pfn logging are shown with a “p” prefix, ie 4.63m @ 750 ppm pU<sub>3</sub>O<sub>8</sub>

Grades obtained from natural gamma logging are shown with a “e” prefix, ie 4.63m @ 750 ppm eU<sub>3</sub>O<sub>8</sub>

## Core drilling

Three cored holes were drilled to provide material for laboratory evaluation. Collar sites were selected to provide:

- information on the geology of the Pliocene clay and Miocene bioclastic limestone units which geologically isolate the uranium mineralised Eocene units from the surface environments.
- sample materials representative of the range of grades and rock types characteristic of the prospect for laboratory determination of chemistry, density, porosity, permeability, mineralogy and an initial assessment of metallurgical parameters.

Significant effort was put into the design and conduct of the drilling to ensure optimal recovery through the very soft and unconsolidated sediments, and to ensure that the core which was recovered was sealed off by an impervious “skin” of drill mud to protect the uranium mineralisation from being leached by the circulating fluids. The drilling contractors – Thompson Drilling Company Pty Ltd – did an excellent job and achieved a core recovery of 92% across the three hole program.

Detailed geological and radiometric logs of the frozen core have been compiled and a final selection of material for submission to laboratories is being done with specialist consultants.

## Hydrogeology

A critical requirement for an in-situ recovery operation is that the fluids involved in the process cannot escape the host sequence. At Mullaquana, the mineralised Eocene sequence is isolated below regionally developed Pliocene clay and Miocene bioclastic limestone units. Seven hydrogeological monitoring sites have been established in and surrounding the known mineralisation (attached map). Each site comprises two to three holes drilled into known or postulated aquifers and a regular schedule of testing is being established under the guidance of consultants.

The first hydrogeological site drilled (MRHA1) was collared some 600m west of known mineralisation and up the assumed hydraulic gradient. The hole returned one of the best intersections obtained to date at Mullaquana and significantly expands the prospective mineralised area.

### **Gravity survey**

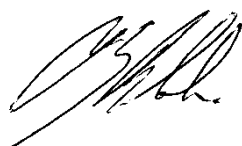
The mineralisation in hydrogeology hole MRHA1 was not predicted from our existing geophysical data and geological modelling. To complement the existing geophysical data sets Haines Surveys were commissioned to complete a gravity survey over the Blackbush prospect. Initial data processing has been received and large areas of potentially prospective ground are apparent. Drilling will be required to confirm and refine the interpretations.

### **Airborne electromagnetic surveys**

UraniumSA has previously used airborne electromagnetic surveying (AEM) to establish the general basin architecture and direct our regional exploration. In January 2010, Geosolutions Pty Ltd completed an AEM survey over the southern portion of the Mullaquana Project and into the Stellar Resources and Australasia Gold Joint Venture areas. Results have been received and are being interpreted.

### **Cultural heritage clearances**

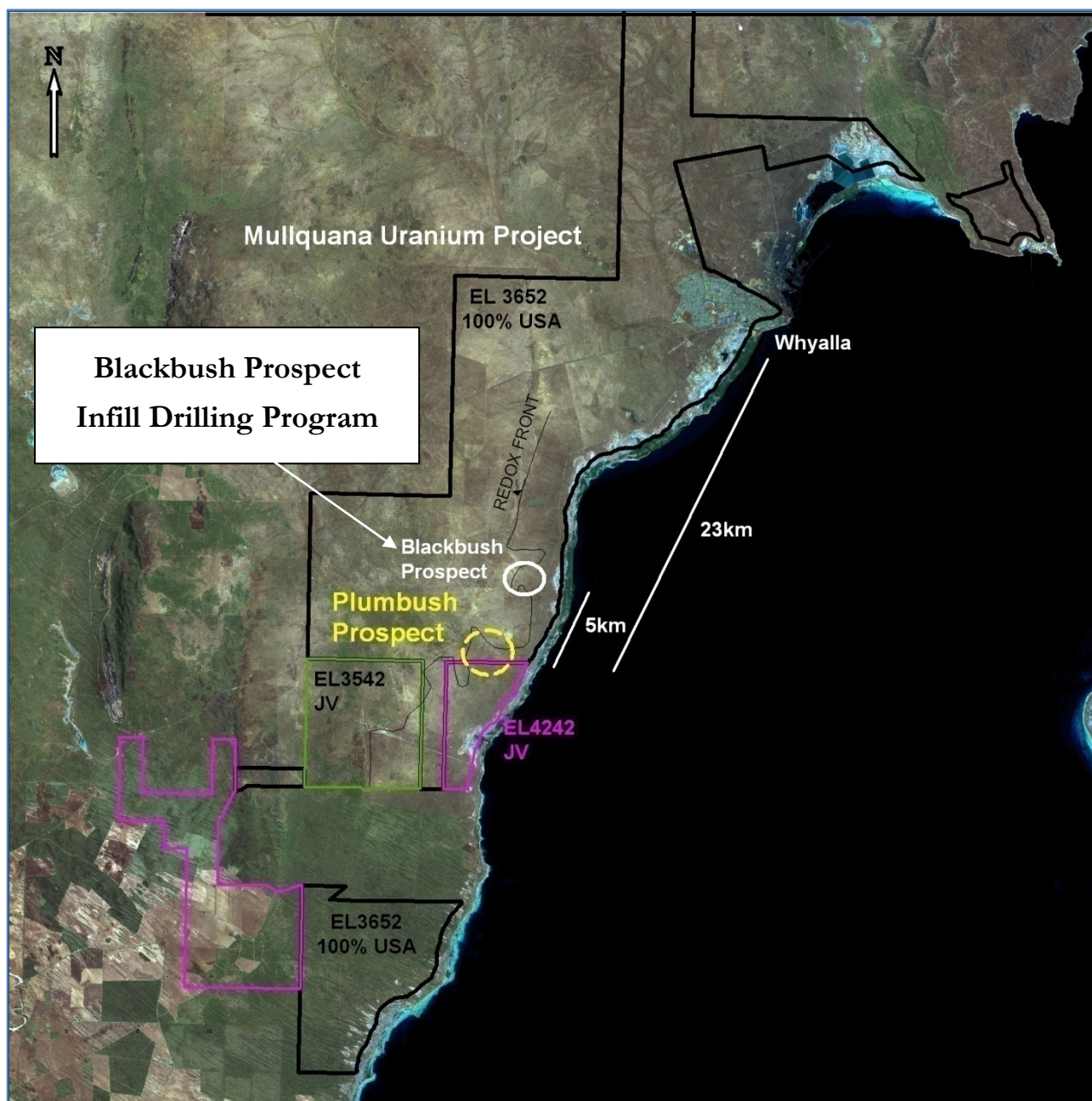
UraniumSA is party to a Native Title Mining Agreement for Exploration with the Barngarla Native Title Claim Group. A Cultural Heritage clearance survey for drilling in the south of the Mullaquana Project and into the Joint Venture areas has been scheduled since December 2009, but has been postponed by various events within the Barngarla claimant group. The present schedule is for the field survey to commence 9<sup>th</sup> March 2010, and drilling will commence when completed documentation has been received.



Russel Bluck  
Managing Director  
UraniumSA Limited

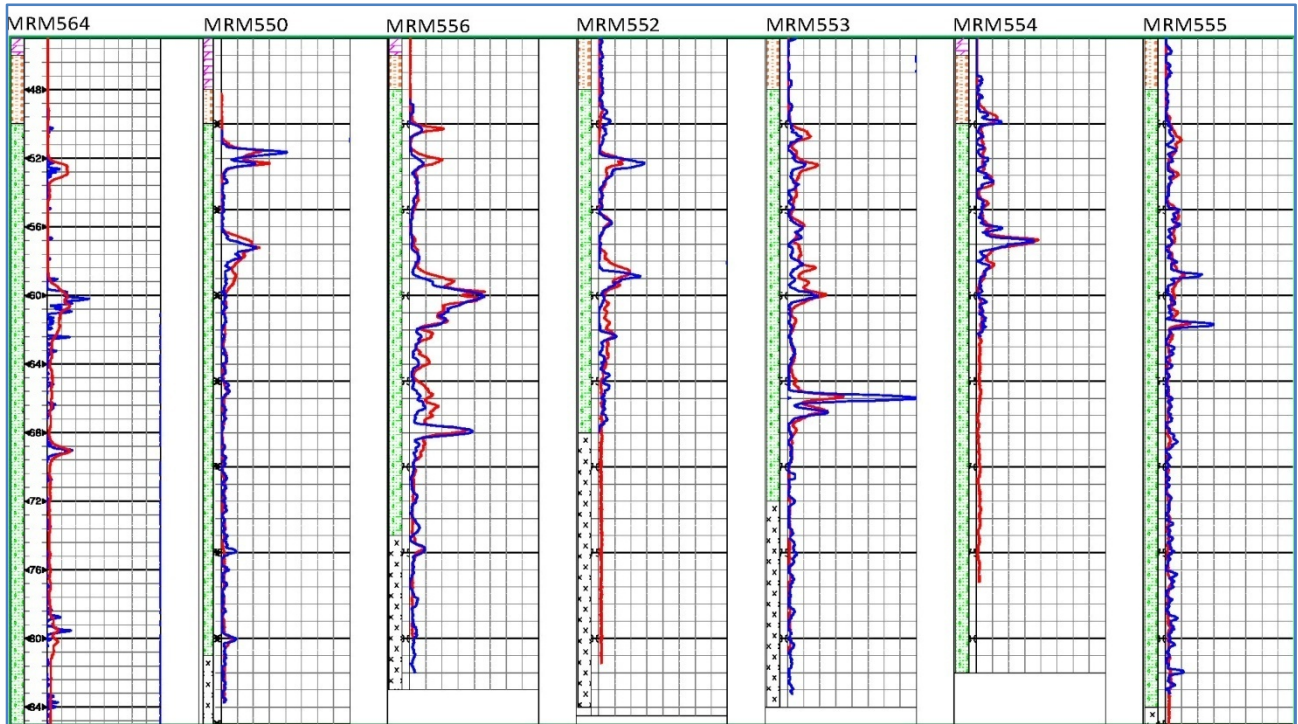
Wednesday, 24 February 2010

*Geoscience Associates Australia Pty Ltd was contracted to run the pfn surveys and calculate the results of that work which are reported herein. The exploration results reported herein, insofar as they relate to mineralisation, were compiled by Ms. Nicole Galloway Warland, Exploration Manager, and Mr. Russel Bluck, Managing Director, UraniumSA Limited who are both Members of the Australian Institute of Geoscientists and have sufficient experience relevant to the style of mineralisation and type of deposits being considered, and to the activity which they are undertaking 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, 2004 Edition). Geoscience Associates Australia Limited, Ms Galloway Warland and Mr Bluck consent to the inclusion in the report of matters based on their information in the form and context in which it appears. It should be noted that the abovementioned exploration results are preliminary.*



**FIGURE 1:** Mullaquana Uranium Project Location Map on satellite image.

The Mullaquana Project (EL 3652) is owned 100% by UraniumSA Limited. The Company has Joint Ventures to earn an interest in uranium in tenements to the south held by Stellar Resources Limited (73% in EL 4242) and Australasia Gold Limited (70% in EL 3542).

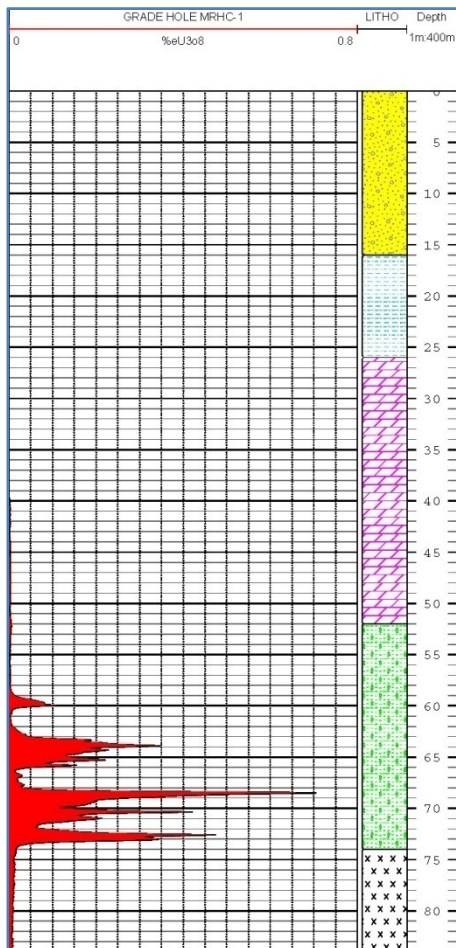


**FIGURE 2:** Comparative results from natural gamma (red) and Prompt Fission Neutron (pfn blue) Section 6324300N, Blackbush Prospect, Mullaquana Project (see Figure 4)

Holes are 100m apart, down hole interval is 45m to 85m

Full scale is 4,000 ppm equivalent  $U_3O_8$ , divisions are 500 ppm equivalent  $U_3O_8$

**FIGURE 3:** Drill hole MRH-A1



Radiometric profile from natural gamma sonde.

full scale 8,000 ppm  $eU_3O_8$  (0.80 %  $pU_3O_8$ )  
divisions are 500 ppm  $eU_3O_8$  (0.05 %  $pU_3O_8$ )

Total hole depth is 84.0m

Intersection summary:

13.80m @ 1,398 ppm  $eU_3O_8$ ,  
including  
12.60m @ 1,470 ppm  $eU_3O_8$

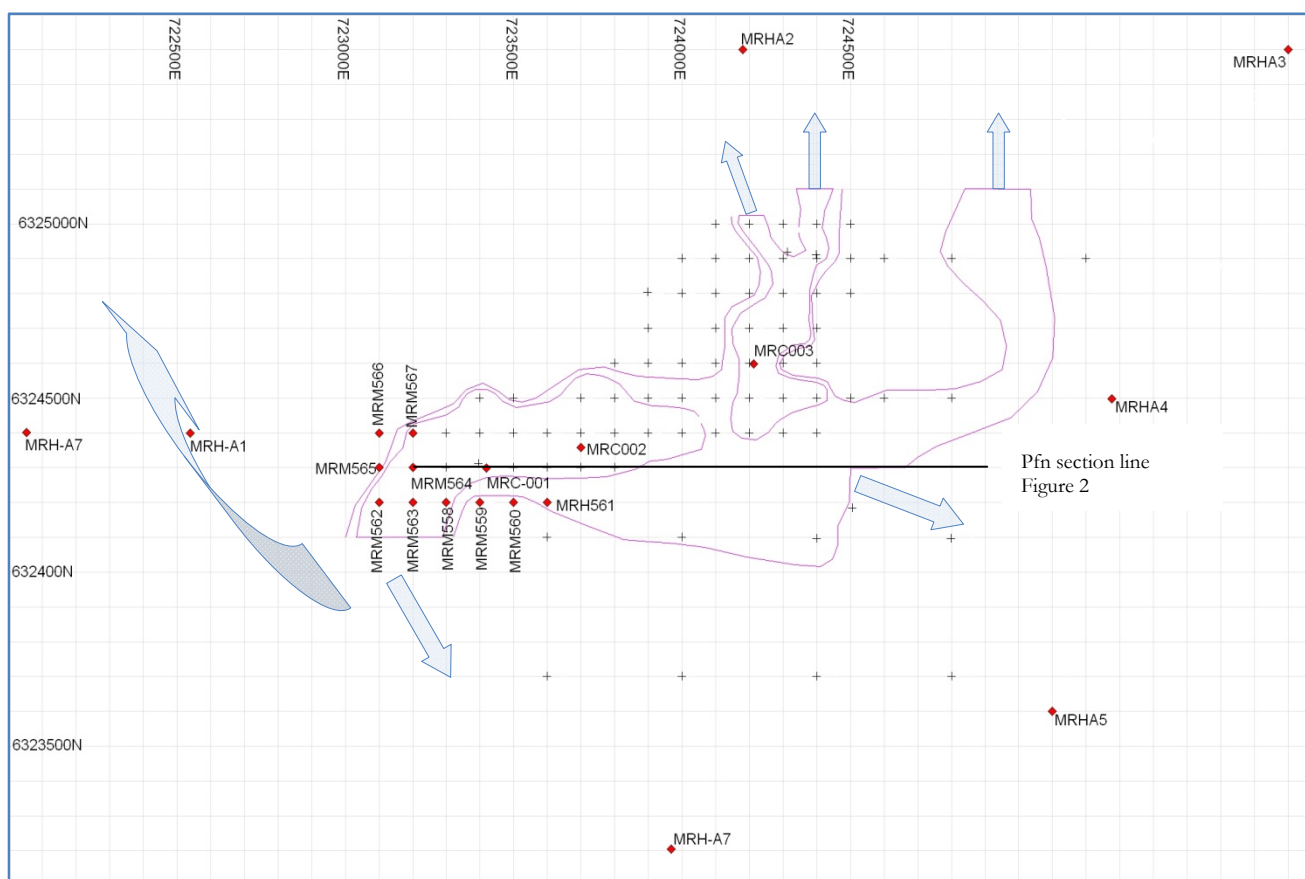
Quaternary cover

Pliocene clay

Miocene bioclastic limestone

Eocene sand

Granite



**FIGURE 4:** Blackbush Prospect. Drill hole locations and interpretation of results

<i>black crosses</i>	<i>previously reported drill holes</i>
<i>red triangles</i>	<i>holes reported herein</i>
<i>outer purple envelope</i>	<i>accumulation &gt;0.05 m% eU<sub>3</sub>O<sub>8</sub> (level of potential economic significance)</i>
<i>inner purple envelope</i>	<i>accumulation &gt;0.10 m% eU<sub>3</sub>O<sub>8</sub></i>
<i>mineralisation is open in the direction of the arrows</i>	
<i>View north. Graticules are 100m square.</i>	

In-fill drilling at the Blackbush Prospect is continuing to provide definition to a zone of thicker and higher grade mineralisation which has now been traced for ~1.8km along strike. The known mineralisation remains open in several directions. The recent discovery of high grade mineralisation in hydrogeological drill hole MRH-A1 which was collared 600m west of known mineralisation significantly expands the area of exploration potential.

In March 2009 a JORC Inferred Mineral resource of 12Mt @ 0.02% U<sub>3</sub>O<sub>8</sub> (224 ppm) for an estimated 2,700t contained U<sub>3</sub>O<sub>8</sub> was announced for the Blackbush Prospect. It is anticipated that the present 100m pattern drilling will be the basis for a recalculation of the resource estimate and this should be available in the second quarter of 2010.

**TABLE 1: Drill hole Summary**

Hole ID	depth from (m)	cumulative thickness (m)	average grade	peak grade	GT m%
MRM557	55.60	5.30	281 ppm pU <sub>3</sub> O <sub>8</sub>	491 ppm pU <sub>3</sub> O <sub>8</sub>	0.15
MRM558	52.33	4.47	1,281 ppm pU <sub>3</sub> O <sub>8</sub>	858 ppm pU <sub>3</sub> O <sub>8</sub>	0.57
MRM559	48.97	1.76	142 ppm pU <sub>3</sub> O <sub>8</sub>	491 ppm pU <sub>3</sub> O <sub>8</sub>	0.03
MRM560	no significant intersection				
MRM561	55.60	2.24	300 ppm pU <sub>3</sub> O <sub>8</sub>	1,280 ppm pU <sub>3</sub> O <sub>8</sub>	0.07
MRM562	62.96	2.57	3,950 ppm pU <sub>3</sub> O <sub>8</sub>	1.16 % pU <sub>3</sub> O <sub>8</sub>	1.02
MRM563	61.60	7.39	193 ppm pU <sub>3</sub> O <sub>8</sub>	9,730 ppm pU <sub>3</sub> O <sub>8</sub>	0.14
MRM564	52.20	9.27	322 ppm pU <sub>3</sub> O <sub>8</sub>	1,190 ppm pU <sub>3</sub> O <sub>8</sub>	0.30
MRM565	no significant intersection				
MRM566	59.50	0.64	146 ppm pU <sub>3</sub> O <sub>8</sub>	215 ppm pU <sub>3</sub> O <sub>8</sub>	0.01
MRM567	57.47	3.72	# 301 ppm eU <sub>3</sub> O <sub>8</sub>	# 768 ppm eU <sub>3</sub> O <sub>8</sub>	0.112
MRC001	51.90	9.70	1,357 ppm pU <sub>3</sub> O <sub>8</sub>	9,200 ppm pU <sub>3</sub> O <sub>8</sub>	1.32
MRC002	50.00	8.31	249 ppm pU <sub>3</sub> O <sub>8</sub>	893 ppm pU <sub>3</sub> O <sub>8</sub>	0.21
MRC003	65.00	6.40	468 ppm pU <sub>3</sub> O <sub>8</sub>	1,860 ppm pU <sub>3</sub> O <sub>8</sub>	0.30
MRHA1	59.90	13.80	1,392 ppm eU <sub>3</sub> O <sub>8</sub>	7,120ppm eU <sub>3</sub> O <sub>8</sub>	1.92
MRHA2	not logged				
MRHA3	not logged				
MRHA4	not logged				
MRHA5	not logged				
MRHA6	not logged				
MRHA7	not logged				

**Note:**

Results are equivalent U<sub>3</sub>O<sub>8</sub> obtained from down hole logging with a natural gamma (“e”) or a pfn sonde (“p”).

Data annotated with # has been generated from down hole logging with a natural gamma sonde which has not yet been calibrated and the data will be subject to correction.

UraniumSA Limited uses a minimum 0.40m intercept length above a 0.01% eU<sub>3</sub>O<sub>8</sub> cutoff (or 100 ppm) with a maximum of 0.10m internal dilution to calculate a grade x thickness product for that intercept as a “m%” figure.

GT accumulation results for a drill hole are the sum of individual intervals which exceed the above minimum criteria.

A GT (grade thickness) accumulation in excess of 0.050m% U<sub>3</sub>O<sub>8</sub> is considered to be potentially economically significant.

## About UraniumSA Limited



UraniumSA Limited is an Australian Securities Exchange listed public company (ASX code USA). At the date of this document, the Company has 107.9 million shares on issue to some 1,900 shareholders and the top 20% shareholders hold approximately 31% (these figures will vary over time). The Company has a majority of Independent Directors and is run by the Managing Director (3.79% shareholding). It employs its own qualified professional staff and does the majority of its exploration with its own plant and equipment. Independent contractors and consultants are retained to verify procedures and data, and to deliver specialised services.

In November 2007 the Company discovered sediment hosted uranium mineralisation in the Kanaka Beds of the Pirie Basin in drill hole MRM-001. Regional geophysics and drilling to determine structural and stratigraphic controls intersected potential ore grade mineralisation over some 20km of strike. The first round of pattern drilling outlined the Blackbush Prospect and a maiden JORC compliant Inferred Resource was released in May 2009.

The Blackbush Prospect is being advanced to a in-situ recovery (ISR) field leach trial scheduled for mid 2011. Systematic data collection and documentation development is continuing to increase both the area and grade of mineralisation at the Blackbush Prospect and advance it towards the field leach trial.

The Mullaquana Project has a strong pipeline of prospects ranging from discovery intersections at the Emubush Prospect, through widely spaced potential ore grade intersections at the Samphire and Plumbush Prospects, to the advanced Blackbush Prospect which is being developed for an ISR trial.

The Mullaquana Project is located ~20km from the industrial city of Whyalla. The Company owns 100% of Mullaquana and has 70% (AAO) to 73% (SRZ) Joint Venture interest in immediately adjacent prospective areas.