UraniumSA

Thursday 20th August 2009

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Confirmation of New Uranium Province in South Australia

Higher Grade Intersections from Exploration Drilling, Mullaquana Project

Highlights

- now 32 km strike extent of favourable geology.
- potential ore grade uranium mineralisation confirmed by drilling over 12km of strike.
- favourably located only ~20km south of Whyalla.
- new zones of mineralisation being discovered by drilling.
- increasing grades and widths from recent drilling.
- best recent intercepts include;
  5m at 580 ppm eU3O8, with a peak grade of 2,322 ppm eU3O8 (MRM098)
  5.6 m 470 ppm eU3O8, with a peak grade of 1,290 ppm eU3O8 (MRM100)
- potential amenability to ISL recovery.

UraniumSA is pleased to advise that ongoing exploration drilling has demonstrated that a significant upgrade of the exploration objectives for the Mullaquana Project is warranted. The extent of uranium mineralisation identified by drilling is now sufficiently large that the area must now rank as a new district rather than isolated prospect.

Following the announcement 5th May 2009 of a maiden JORC compliant Inferred Mineral Resource for the Blackbush Prospect of 12Mt at an average grade of 224 ppm eU_3O_8 estimated to contain 2,700 tonnes U_3O_8, the Company announced an exploration objective of 15-50Mt of mineralisation at a grade of 0.02 – 0.05% U_3O_8 (200-500 ppm U_3O_8). The results of ongoing drilling and the expanding dimensions of the project have allowed for an upwards revision of the **exploration objective**[1] to:

50-80Mt of mineralisation at grades of 0.02 – 0.20% U_3O_8 (200-2,000 ppm U_3O_8)

The Company believes this is confirmation of its comparison of the Pirie Basin to the ISR uranium Curnamona Province which hosts the Beverley and 4 Mile projects.

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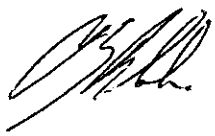
As a result of its ongoing exploration activity UraniumSA has;

- confirmed potentially economic uranium mineralisation by drilling over a 12km strike length
- geological and geophysical interpretive models indicate the uranium mineralised zone extends for at least 32km along strike
- the predictive strength of the Company's interpretive models have been verified by recent drilling success rates. Three zones which were predicted to be mineralised all returned potential ore grade intersections.
- drilling 5.5 km south of Blackbush has returned a best intercept of;
  12.9m @ 290 ppm eU_3O_8, including 5m @ 580 ppm, with a peak grade of 2,322 ppm (MRM098)
- drilling 2 km north of Blackbush has returned;
  5.6m @ 470 ppm eU_3O_8, with a peak grade of 1,290 ppm (MRM101)

The Company is continuing its exploration work drilling very broadly spaced holes to continue to test its geological concepts and models. Outstanding results are being achieved in completely new areas validating the predictive strength of the geological models and adding very significantly to the economic potential of the project.

As Managing Director of UraniumSA I am very pleased to be able to tell our shareholders that drilling continues to validate our exploration models, and these recent results clearly establish that Mullaquana Project and the Blackbush Prospect are not isolated events but are part of a new and previously unrecognised uranium district comparable to the Curnamona ISR Province. There is a huge amount of work to be done as we come to grips with the full uranium endowment of the Pirie Basin, and we are highly encouraged by the improving thicknesses and grades that we are finding as we pursue our geological models.

The Company anticipates that it will be able to continue to report similarly good results as it continues to drill test its exploration concepts and expand its identified mineralisation.



R.G.Bluck
Managing Director
UraniumSA Limited.

Statement of Exploration Objective. August 2009.

UraniumSA

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Higher Grade Intersections from Exploration Drilling, Mullaquana Project

Exploration drilling continues to expand mineralization at Mullaquana Project. Drilling to the south and north of the Blackbush Prospect has continued to intersect potentially economic grades and thickness of uranium mineralisation, confirming the predictive strength of the geological models and ultimately leading to a significant increase in the Company's exploration objectives.

The Company has now revised its exploration objectives[1] upwards to between

50 to 80 million tonnes of uranium mineralisation at grades of between 0.01 %eU_3O_8 (lower cut off grade) and 0.20 %eU_3O_8 (grades from recent drilling).

This exploration objective is conceptual in nature and excludes the already defined Blackbush Inferred Resource of 12 Mt @ 0.02 % eU_3O_8 (224 ppm eU_3O_8) containing an estimated 2,700 tonnes U_3O_8.

Drilling has now established that potential economic grade uranium mineralisation is present in 3 additional areas:

1. **5.5km south of the Blackbush Prospect** in a profile of holes drilled at 800m separations along the southern boundary of the UraniumSA tenements. Three of five holes intersected potentially economic mineralisation, with the best result being hole **MRM098** which intersected:
   12.9m at an average grade 0.029 %eU_3O_8 for a grade thickness of 0.38 m%eU_3O_8 ,
   including 5.0m at an average grade of 0.058 %eU_3O_8 and a peak grade of 0.232 %eU_3O_8

2. **2km north of the Blackbush Prospect** the first of a profile of drill holes intersected potentially economic mineralisation in hole **MRM101** which interescted:
   5.6m at an average grade of 0.047 %eU_3O_8 for a grade thickness of 0.26 m%eU_3O_8
   with a peak grade of 0.129 %eU_3O_8.

3. **South from the Blackbush Prospect** in roll-front envelopes which extend for ~3.5km. Potential ore grade intercepts were achieved in 5 of 13 holes drilled to completion, with the best result being hole **MRM091** which intersected:
   8.3m at an average grade of 0.013 %eU_3O_8 for grade thickness of 0.11 m%eU_3O_8
   with a peak grade of 0.027 %eU_3O_8

Note:
- *the lower cut off is 0.01 %eU_3O_8 (100ppm) and intersections above 0.05 m%eU_3O_8 are considered potentially economically significant*
- *Numbers are rounded to appropriate levels of precision,*
- *0.01% is equivalent to 100 ppm.*

Ground identified from geological and geophysical interpretation as having a potential for economic uranium mineralisation has now been traced over some 32km of strike. Drilling has confirmed the potential for economic uranium mineralisation over some 12km in the middle of this extent.

The southern extension of drill indicated mineralisation is interpreted to extend into the Stellar Resources Joint Venture tenement. Interpreted extensions of potentially mineralised ground continue further south into the Australasia Gold Joint Venture tenement. In both these Joint Ventures UraniumSA is earning a 70% interest by sole-funding exploration for sediment hosted uranium to the determination of an Inferred Mineral Resource.

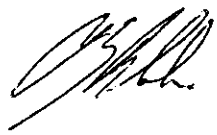
Only limited exploration drilling and geological and geophysical interpretation has been carried out in the northern portions of the UraniumSA tenement.

On 16th July 2009 the Company advised that its exploration objective for the Mullaquana Project was to identify an additional 5Mt - 15Mt mineralization at a grade range of 0.02% - 0.05% U_3O_8 (ASX 16th July 2009) within an unspecified time frame. The corporate intention was to build a sufficient base of mineralisation within JORC defined categories by the end of 2009 to underpin the advance of the Blackbush Prospect towards an in-situ recovery trial by the end of 2010.

With its exploration drilling targeted by effective conceptual modelling the Company is now able to significantly expand this exploration objective[1]. Drilling is continuing and the Company looks forward to announcing more positive drill results and a steady increase in the amount of uranium mineralisation within JORC defined categories as the year progresses.

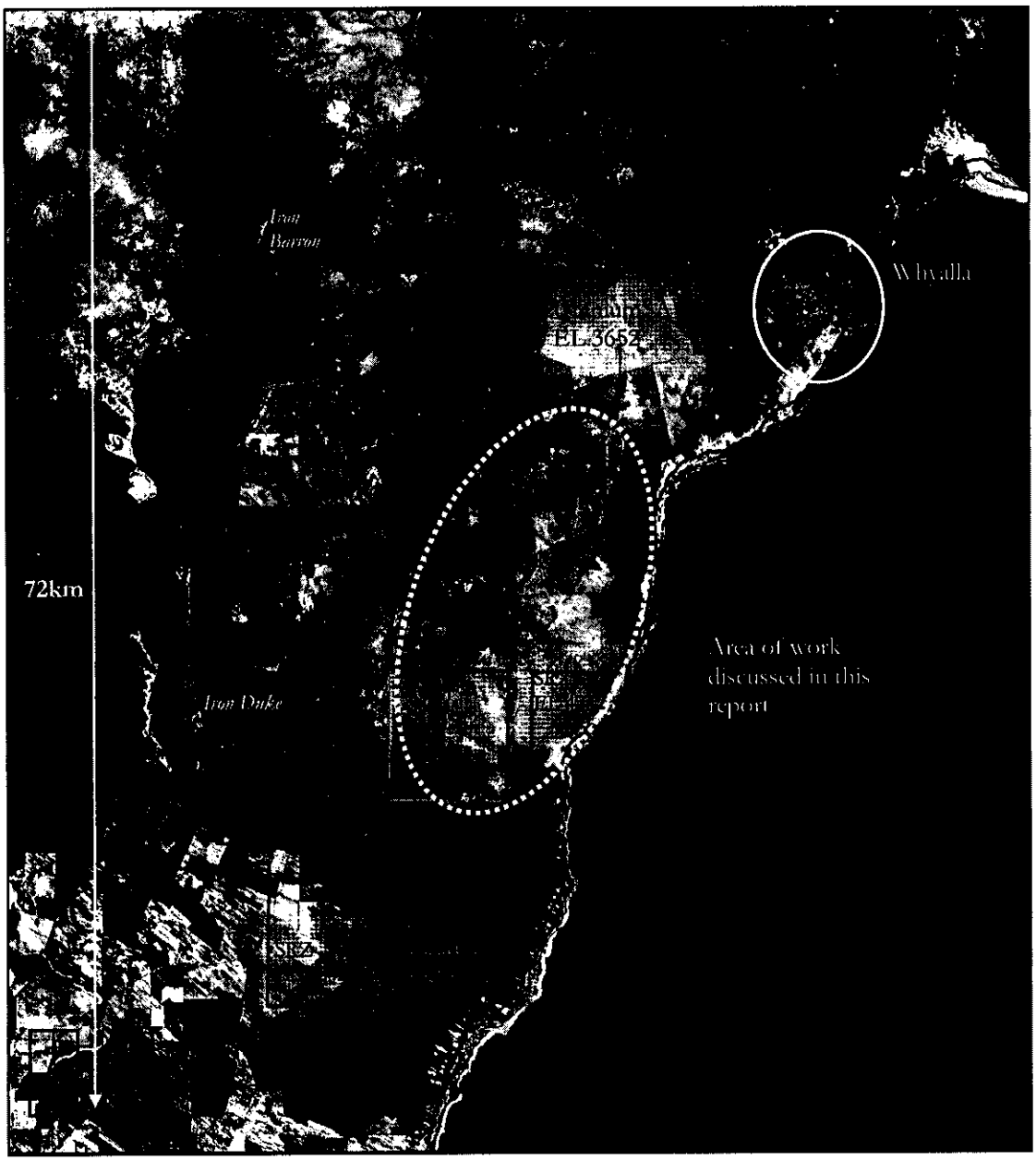
This document will be posted to the Company web site at

www.uraniumsa.com.au



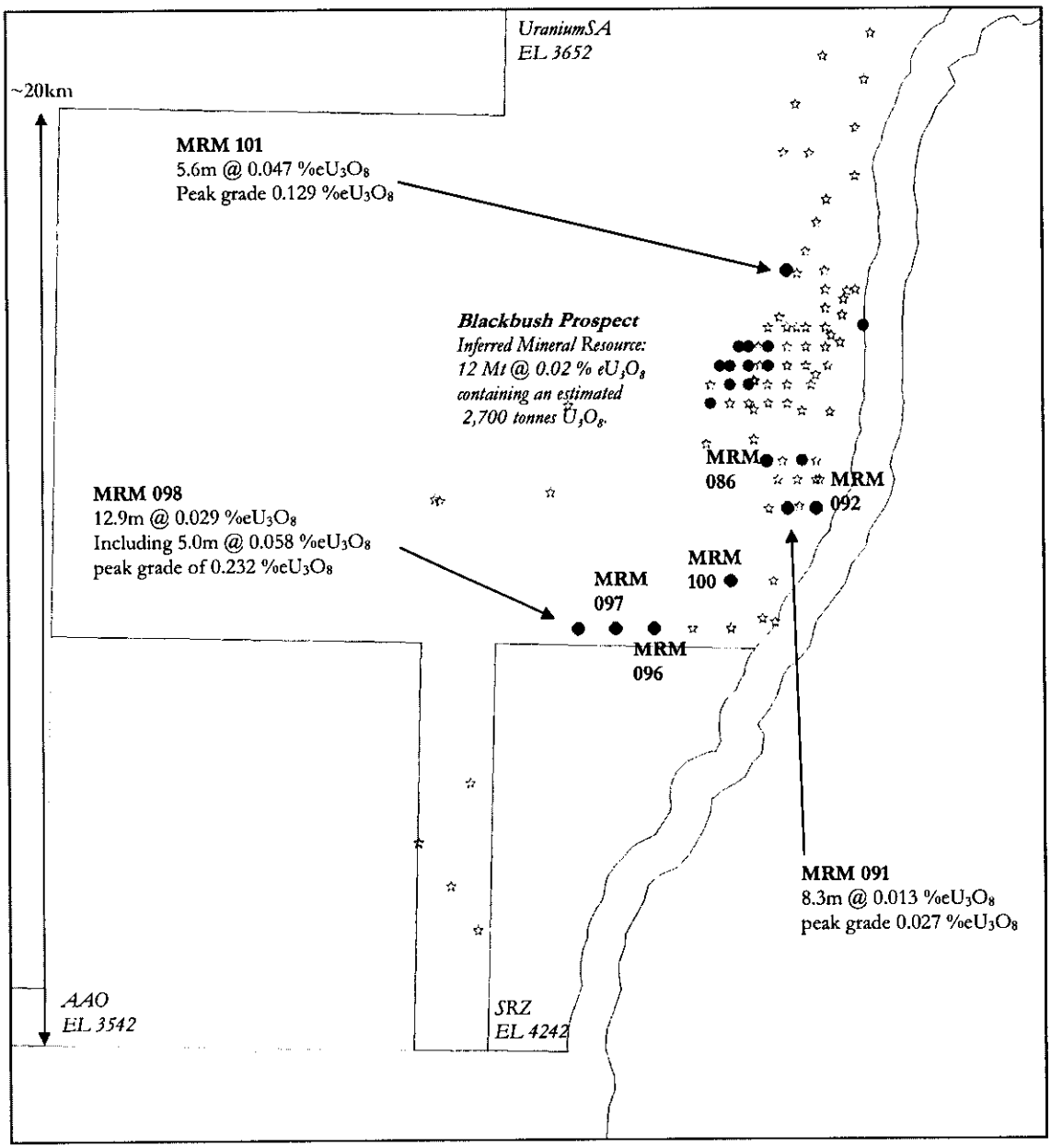
Russel Bluck
Managing Director
UraniumSA Limited

[1] Statement of Exploration Objective. August 2009.



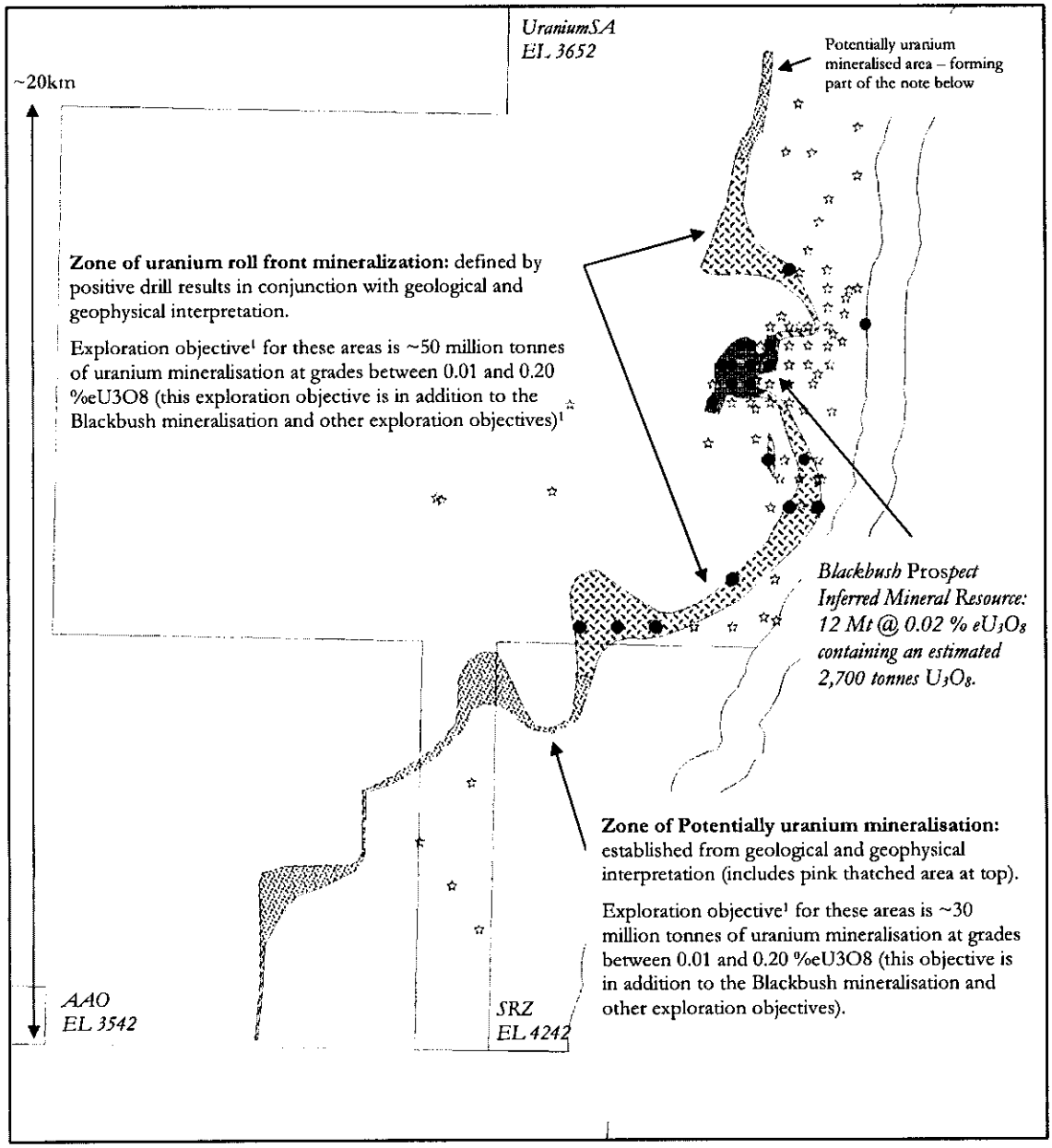
Map of UraniumSA Limited wholly owned tenure (red) and areas Joint Ventured with Stellar Resources Limited (SRZ, blue outline, three separate blocks) and Australasia Gold Limited (AAO, green outline). The tenements extend for approximately 72km north to south. The city of Whyalla is excluded from the UraniumSA Exploration Licence. The area in which the drilling discussed in this report was carried out is shown as a yellow dotted outline

OneSteel mine magnetite and hematite iron ores in the Middleback Ranges ~30 to 40km west and south of Whyalla, and operate a steel works and hematite export business from the city. The area has well established infrastructure (bitumen roads, railway, domestic airport, grid power, housing etc), a comprehensive range of industrial service groups and a skilled workforce.



UraniumSA drilling. The area of the above map is as indicated on the preceding tenure map. Scale is as indicated.

red dots	recent holes which have intersected potentially economically significant mineralisation (above the threshold of a grade thickness >0.05m%U3O8 using a cut off 0.01%eU3O8 and thickness of 0.30m). This report.
blue dots	previous holes which have intersected potentially economically significant mineralisation (above the threshold of a grade thickness >0.05m%U3O8 using a cut off 0.01%eU3O8 and thickness of 0.30m). Previously reported.
grey stars	all holes which did not intersect potentially economically significant mineralisation.



UraniumSA - Forward Exploration Objectives. The area of the above map is the same as that on the preceding page which shows the drill holes completed. Scale is as indicated.

[1.] The Company considers the Mullaquana Project has exploration potential for the delineation of 50Mt - 80Mt mineralization at a bulk grade in the range of 0.02% - 0.20% U_3O_8. This exploration potential (1) excludes the Blackbush Inferred Resource, and (2) is conceptual in nature and there is no certainty that future exploration will result in the determination of a Mineral Resource. The tonnage estimate is derived from a comparison of the geological and geophysical characteristics of the Blackbush Prospect and the geology, geophysics and drilling results of the exploration areas. The grade ranges reflect the Blackbush Inferred Resource and recent drilling results.

Drill hole Summary.

Drill holes MRM001 to MRM075 have previously been reported.

Hole ID	Easting	Northing	EOH	cumulative thickness (metres)	avg. grade (%eU_3O_8)	grade thickness g X t (m%eU3O8)	peak grade (%eU3O8)
MRM076	724797	6323700	76.00	1.80	0.019	0.034	0.034
MRM077	725203	6323702	78.00	2.00	0.017	0.033	0.027
MRM078	726401	6324988	72.00	1.90	0.017	0.033	0.032
MRM079	726146	6325193	66.00	0.70	0.015	0.011	0.025
MRM080	726427	6325524	84.00	1.50	0.014	0.021	0.028
MRM081	726393	6325898	86.00	intersection below cutoff			
MRM082	726625	6326097	66.00	2.90	0.017	0.048	0.039
MRM083	726047	6324505	66.00	intersection below cutoff			
MRM084	725202	6322503	78.00	0.80	0.011	0.009	0.018
MRM085	725766	6322502	70.00	2.40	0.015	0.036	0.025
MRM086	724801	6322500	66.00	2.70	0.020	0.055	0.053
MRM087	724997	6322098	78.00	1.50	0.014	0.021	0.020
MRM088	725400	6322087	78.00	1.10	0.155	0.017	0.021
MRM089	725797	6322099	28.00	failed in cover sequence			
MRM090	724802	6321500	72.00	1.70	0.011	0.019	0.019
MRM091	725199	6321500	84.00	8.30	0.013	0.111	0.027
MRM092	725800	6321499	78.00	7.60	0.021	0.161	0.057
MRM093	725876	6322104	72.00	2.60	0.013	0.034	0.024
MRM094	724000	6319000	92.00	below cutoff, narrow peak			0.015
MRM095	723200	6319000	126.00	below cutoff throughout			
MRM096	722401	6318997	96.00	6.60	0.011	0.118	0.053
MRM097	721601	6319000	84.00	3.10	0.040	0.056	0.040
MRM098	720796	6318998	110.00	12.90	0.029	0.380	0.232
MRM099	724900	6319997	106.00	below cutoff, narrow peak			0.016
MRM100	724004	6320028	72.00	3.00	0.017	0.051	0.058
MRM101	725200	6326499	69.00	5.60	0.047	0.263	0.232

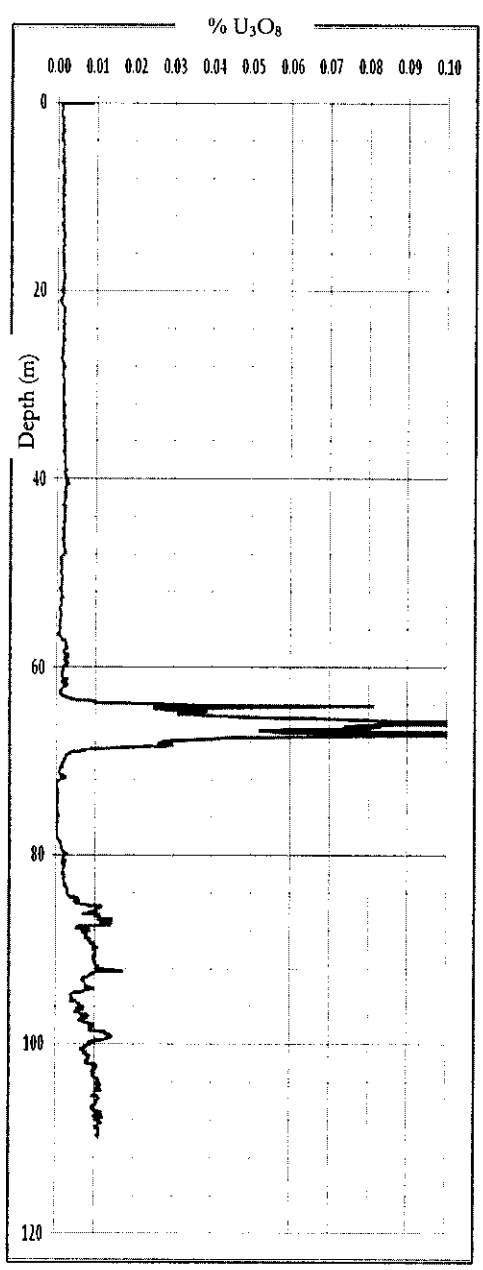
The Company has now completed 99 rotary mud drill holes within its Mullaquana Project. These holes have been spread over the entire interpreted area of potential ground and there is ~24km between the northern and southernmost drill holes.

Drill holes MRM001 to MRM049 were regional reconnaissance holes and of these 2 intersected uranium mineralisation of potential economic significance (a grade thickness >0.05 m%eU_3O_8). Subsequent drilling has been based on either a 400m grid (the Blackbush Prospect, holes MRM050 to MRM075) or along east-west oriented lines spaced at 400m to kilometer separations with drill holes at 400m to 800m separations along the lines.

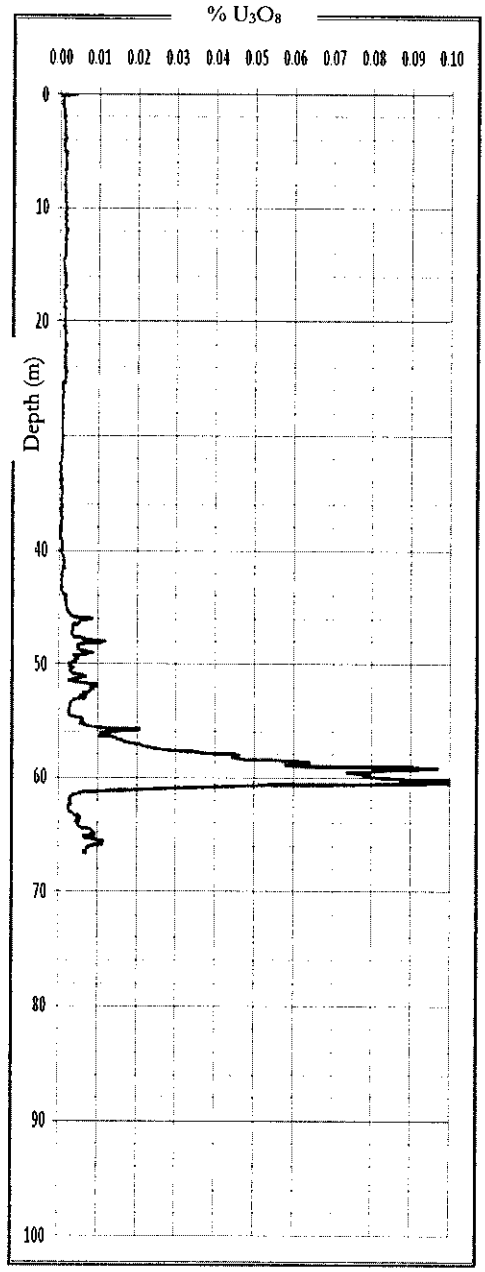
Over the entire program 19 drill holes have intersected uranium mineralisation of potential economic significance (grade thickness >0.05 m%eU_3O_8). This is a remarkably high success rate for a newly discovered area and is indicative of the robustness of the mineralisation and of the geological setting. The Company looks forward to improving the success rate of its drilling programs as accumulated information feeds back into the geological and geophysical modelling facilitating improved targeting of higher grade and thicker intersections.

Statement of Exploration Objective. August 2009.

Down hole Gamma Logs



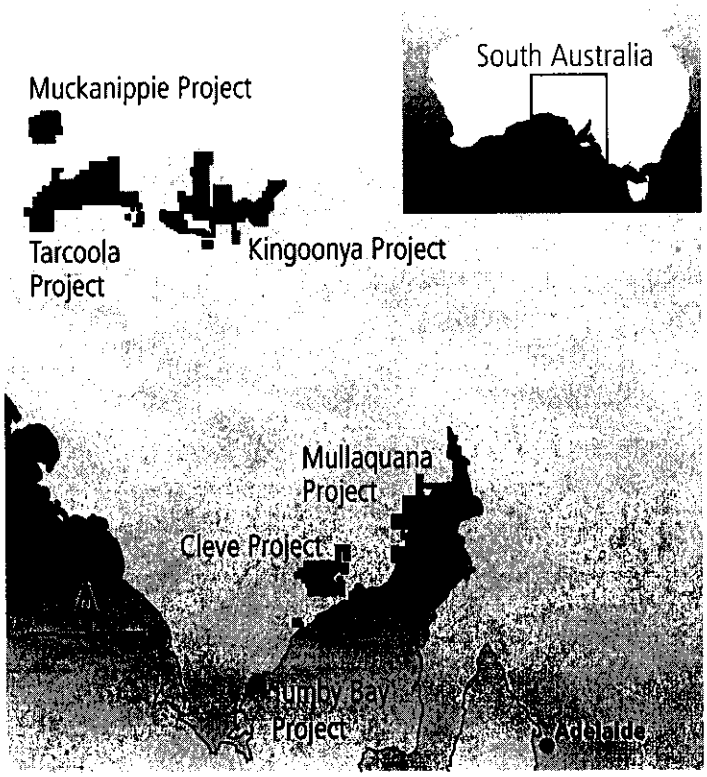
MRM098
12.9m for an accumulation of 0.38 m%eU_3O_8 includes 5.0m at 0.058 %eU_3O_8 with a peak grade of 0.232 %eU_3O_8



MRM101
5.6m for an accumulation of 0.26 m%eU_3O_8 average grade 0.047m%eU_3O_8 and a peak grade of of 0.129 %eU_3O_8

UraniumSA

About UraniumSA Ltd



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

The Company has discovered sediment hosted uranium mineralisation at Mullaquana. The Blackbush Prospect has an Inferred Mineral Resource of ~2,700t contained U_3O_8 and the Mullaquana Project has an exploration potential for 50-80Mt at grades of between 0.02 and 0.20 %U3O8. Exploration of other properties and prospects is continuing.

Through its own tenure and by Joint Venture UraniumSA Limited controls the majority of the presently recognised prospective area in this newly recognised uranium district.

Russel Bluck
Managing Director
UraniumSA Limited

Thursday 20 August 2009

The exploration results and mineral resources reported herein are based on work and information compiled by Russel Bluck and Nicole Galloway Warland, who are both Members of the Australian Institute of Geoscience and employees of UraniumSA Limited. Each of these persons has 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 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2004 Edition) and have consented in writing to the inclusion in this report of