

**Assay results show higher true grades >8,000 ppm U<sub>3</sub>O<sub>8</sub> for Marmota's uranium project adjacent Honeymoon U mine.**

**Maiden Inferred Resource at Saffron deposit set to increase with outstanding positive disequilibrium results.**

- Laboratory assays confirm true high grades of uranium of up to 8,143 ppm U<sub>3</sub>O<sub>8</sub> at Marmota's SA Junction Dam project near NSW border
- Positive disequilibrium factor ranging between 1.22 and 2.25 underpins an upwards resource recalculation of the Saffron deposit, and resource expansion at the adjoining Bridget and Yolanda prospects
- Outstanding results are from cored drill holes at Junction Dam's flagship Saffron deposit - and are significantly higher than earlier radiometric logging results from same holes
- Further substantiates Junction Dam's uranium mineralisation as highly significant and comparable with mineable grades for nearby Honeymoon and Beverley U mines

### **Junction Dam uranium project**

*(Marmota 87.3% of uranium under JV Agreement with Teck Australia Pty Ltd (Teck), PlatSearch NL (ASX: PTS) and Eaglehawk Geological Consulting Pty Ltd)*

Marmota Energy Limited (ASX: MEU) is pleased to announce that high uranium grades under the classification of "true grades" have been returned from the laboratory analysis of cored drill holes taken at the flagship Saffron deposit within the Company's Junction Dam project in South Australia and located west of Broken Hill, abutting the border with NSW.

High grades of up to 8,143 ppm U<sub>3</sub>O<sub>8</sub> were returned from assays of the Saffron cores, taken during the final stages of Marmota's 2011 drilling campaign (Table 1) at Junction Dam. This campaign included sonic drilling across the Saffron deposit to obtain high quality mineralised samples for laboratory assay and further mineralogical testing.

The core assay results confirm significantly higher and true grades of uranium within the project compared to conventional industry practice of downhole radiometric logging. The Company considers the maiden round of assay results to be a significant outcome.

The assay grades are comparable to the uranium grades underpinning the recent start to mining at the new Honeymoon in-situ leaching uranium mine, just 10 kilometres to the west of Junction Dam. Both projects are contained within the same highly prospective Yarramba Palaeochannel (Figure 1).

The assayed grades are also near the horizon for those driving production at the Beverley mine further to the northwest of Honeymoon and Junction Dam. The disequilibrium factors reported have potential to increase the magnitude of the resource at Saffron, as the initial resource estimate to date of 3.33 million pounds (1,510 tonnes of U<sub>3</sub>O<sub>8</sub> contained within 4.36 million tonnes of mineralisation announced in November last year), was based only on the data from downhole radiometric logging.

Saffron is one of four prospects identified to date by Marmota at Junction Dam. The Company has also expanded its exploration target to 15–20Mt U<sub>3</sub>O<sub>8</sub> at a grade of 0.03–0.05% uranium~. Its Phase 3 drilling

campaign conducted over 2011 at Junction Dam defined a zone of uranium mineralisation extending for approximately 15km, encompassing Yolanda, Saffron and Bridget.

### Further drilling in 2012 to expand resource

Further work is now underway to define areas for drill testing in 2012, including resource expansion on the Yolanda prospect immediately adjoining the Saffron deposit to the south.

High resolution ground electromagnetic surveys were recently completed over the Yolanda prospect corresponding to mineralised drill holes completed in 2011. Those survey results displayed a strong contrast between potential mineralised palaeochannel sediments and the surrounding rocks as was demonstrated at Saffron and Bridget. This data will now be used to define new 2012 drill targets.

A technical summary of the laboratory assays for Saffron and associated explanatory information is contained on the following pages.

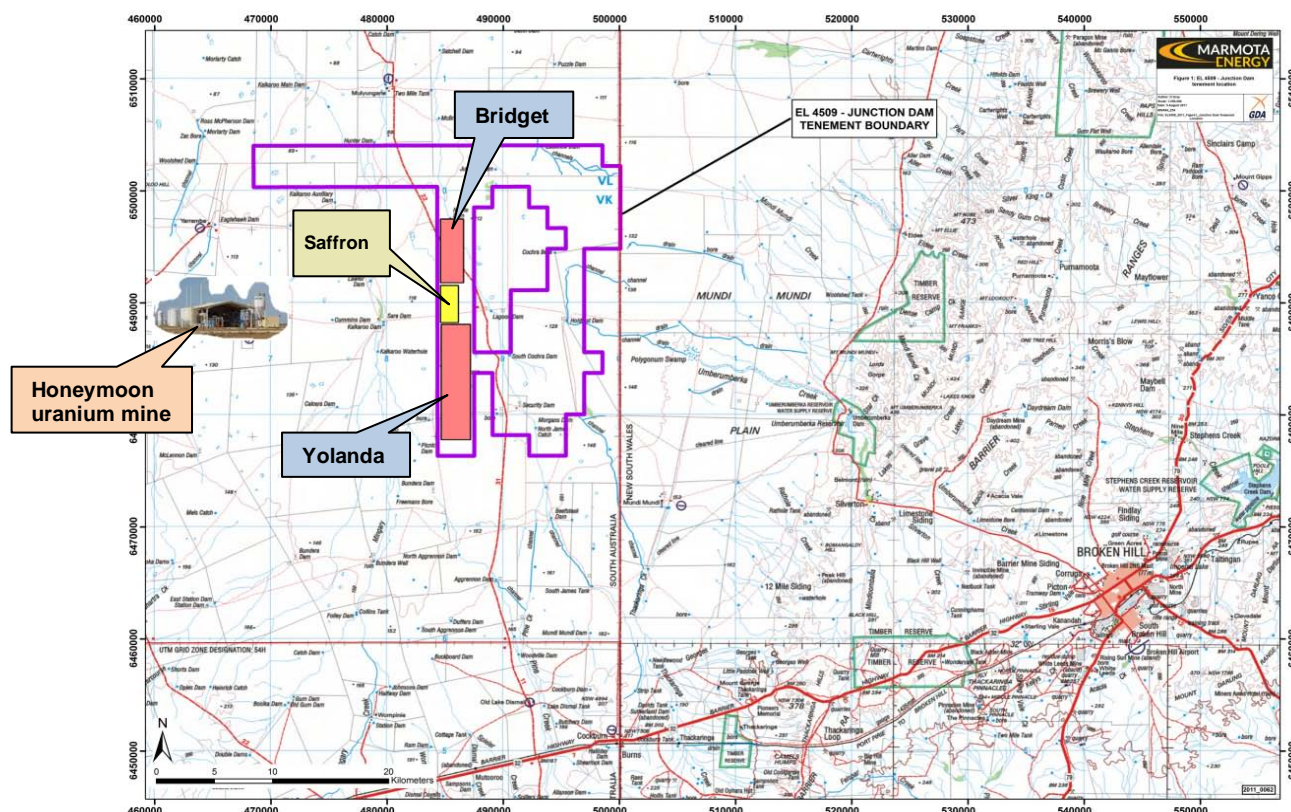


Figure 1: Junction Dam location map.

Mr Dom Calandro  
MANAGING DIRECTOR

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*The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr D J Calandro, who is a Member of the Australian Institute of Geoscientists. Mr Calandro is employed full time by the Company as Managing Director and, has sufficient experience in the style of mineralisation and type of deposit under consideration and qualifies 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 Calandro consents to the inclusion of the information in this report in the form and context in which it appears.*

## JUNCTION DAM

### Technical summary of laboratory assays from Saffron deposit core samples

Results from assays of core samples extracted from the Saffron deposit at Junction Dam, indicate that radiometric logging at Saffron deposit and the adjoining Bridget prospect significantly understates the grades by a factor ranging between **1.22 and 2.25** (Table 1), signifying that the deposit is in **positive disequilibrium\***.

As an example, positive disequilibrium can be observed in Hole SASO005 where mineralisation was intersected returning an assay result of 2007.7 ppm  $U_3O_8$  in comparison to the downhole gamma result of 892.7 ppm  $eU_3O_8$ . The difference in uranium content from the assay and the downhole gamma probe results in a positive in-balance of 125%, or a disequilibrium factor of 2.25. The results of the disequilibrium study conclude that, overall, positive disequilibrium exists in the Saffron deposit and that downhole radiometric logging significantly understates the actual uranium grade. Disequilibrium is not uncommon in uranium deposits hosted by permeable sandstones (particularly roll front type deposits) such as Saffron, due to groundwaters flowing through the mineralisation.

Table 1: Significant drill hole results from sonic drilling twinned holes.

HOLE ID	EASTING	NORTHING	DEPTH FROM (metres)	THICKNESS (metres)	ASSAY GRADE (ppm $U_3O_8$ )	GRADE THICKNESS m% $U_3O_8$	DOWNHOLE GRADE (ppm $eU_3O_8$ )	DISEQUILIBRIUM FACTOR**
SASO001	484798	6488725	110	1	135.6	0.01	111.1	<b>1.22</b>
			125	5.5	326.9	0.18	253.3	<b>1.29</b>
		<i>including</i>	125	0.5	708			
		<i>including</i>	128	0.5	814			
		<i>including</i>	128.5	0.5	1792			
SASO002	484697	6488368	131	2	993.51	0.20		
		<i>including</i>	131.5	0.5	3691			
SASO003	484762	6488729	125	1.5	269.26	0.04	163.8	<b>1.64</b>
		<i>including</i>	125	0.5	442			
SASO005	484577	6488636	126.5	1	2007.7	0.20	892.7	<b>2.25</b>
		<i>including</i>	126.5	0.5	3555			
SASO007	484727	6488449	126	1	4849.65	0.48		
		<i>including</i>	126	0.5	8143			
		<i>including</i>	126.5	0.5	1557			
			128	2.5	590.8	0.15	390.1	<b>1.51</b>
		<i>including</i>	129	0.5	1928			
SASO008	484818	6488379	129	2	315.5	0.06	173.4	<b>1.82</b>
		<i>including</i>	129.5	0.5	867			
BRSO001	484712	6491786	91	3	1026.93	0.31	601.93	<b>1.71</b>
		<i>including</i>	93	0.5	4811			
		<i>including</i>	93.5	0.5	678			
							<b>AVERAGE FACTOR</b>	<b>1.63</b>

**\*\*The Disequilibrium Factor (DEF), which measures the ratio between the grades of  $U_3O_8$  recorded using the assay (ppm  $U_3O_8$ ), as compared to measurements recorded using a standard gamma-ray probe (ppm  $eU_3O_8$ ) is shown in the last column. The laboratory assay measures the actual uranium content, as compared to the gamma-ray probe, which measures an equivalent grade based on calibration. A DEF of  $>1.0$  indicates there is more uranium contained in the mineralised zone than recorded by the gamma-ray probe.**

**\*Disequilibrium is an imbalance between the actual uranium content and the radioactivity emitted by a given volume of rock. It is caused by differential mobilisation (or precipitation) of uranium or its daughter isotopes from the deposition site or by a lack of time for the accumulation of the daughter isotopes to reach a state of equilibrium after the uranium has been deposited. Disequilibrium is considered positive when there is a higher proportion of uranium present compared to its daughters. Positive disequilibrium has a disequilibrium factor which is greater than 1.**

*~ The estimates of exploration target sizes mentioned above should not be misunderstood or misconstrued as estimates of Mineral Resources. The estimates of exploration target sizes are conceptual in nature and there has been insufficient results received from drilling completed to date to estimate a Mineral Resource compliant with the JORC Code (2004) guidelines. Furthermore, it is uncertain if further exploration will result in the determination of a Mineral Resource.*



Figure 2: Example of high quality drill core sample of mineralised interval from the Saffron deposit.