

## JUNCTION DAM URANIUM PROJECT EXPLORATION

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### HIGHLIGHTS:

- **Work has continued to progress the Saffron deposit at the Junction Dam uranium project to a Retention Lease**
- **Saffron deposit shown to have similar extractability potential as the Honeymoon deposit**
- **Detailed lithological analysis of the host sandstone shows the Saffron deposit is suitable for In-Situ Recovery mining**
- **Recent bottle-roll leaching tests demonstrate high leaching levels**
- **Outlook for U<sub>3</sub>O<sub>8</sub> pricing has significantly improved**

### Summation of Test Work

Marmota Energy Limited (ASX: MEU) has recently undertaken bottle-roll leach testing and lithological studies of the host sandstone of the Saffron deposit in its Junction Dam uranium project. These have provided an important insight into the ability to mine the deposit using the In-situ Recovery (ISR) mining method. These studies are also some of the important steps in progressing the Saffron deposit to a Retention Lease (RL).

This latest test work gives Marmota greater confidence that the uranium resource in the Saffron deposit is similar to what has been seen at the Honeymoon mine and in the early stages of the Beverley mine. It is exhibiting key properties required for efficient recovery by ISR methods – the ore is hosted in permeable rock and is readily leached when contacted by acidic leaching fluid.

### Background

Marmota is the operator of the Junction Dam uranium project and has 100% of the uranium rights over EL 4509 (Junction Dam - other mineral rights are held by Teck Australia Pty Ltd, Variscan Mines Ltd (ASX: VAR) and Eaglehawk Geological Consulting Pty Ltd) and 100% of EL 5124 (Mulyungarie).

Over a number of years Marmota has undertaken significant uranium exploration over the Junction Dam project. This has included:

- Gravity, radon and electromagnetic data acquisition;
- 248 rotary mud drill holes;
- 11 sonic drill holes;
- Geophysical logging of all drill holes which included some Prompt Fission Neutron (PFN) geophysical logging;
- Geochemical analysis of sonic core samples; and
- Quantitative Evaluation of Minerals by scanning electron microscopy (QEMSCAN) of selected samples from the sonic core.



Figure 1: Sonic drilling at Saffron deposit 2011

This work has led to the discovery of the Saffron deposit and the Bridget and Yolanda prospects within the Junction Dam project. In relation to these there is:

- A JORC Inferred Resource for the Saffron deposit of 5.4 million pounds with an average grade of 557ppm  $U_3O_8$  and grades up to 8,142ppm  $U_3O_8$  contained in 4.36 million tonnes of mineralisation (see ASX Releases of 18 July 2012 and 31 October 2012); and
- An exploration target for the Junction Dam project of 22 million to 33 million pounds of  $U_3O_8$  (see ASX Release of 9 July 2012).

QEMSCAN analysis of a sample taken from the mineralised interval in drillhole SASO007 at 126.5 metre depth in the Saffron deposit indicated that up to 98% of the uranium mineralisation in the sample was potentially available to leaching (see 2013 Annual Report).

During late 2013 and in 2014 the uranium mining industry in Australia was in a downturn due to the decreasing uranium spot price and demand. As a result Marmota shifted its exploration focus to other areas of its exploration portfolio. With the recovery in the uranium market towards the end of 2014 and the brightening prognosis for the future of uranium (see discussion later in this update), Marmota has resumed its exploration activities at the Junction Dam uranium project with the objective of progressing the Saffron uranium deposit to an RL.

### Bottle-roll Leach Test

ISR mining method provides a lower cost and less environmentally intrusive method of mining the uranium in the Junction Dam uranium project compared to traditional methods. In addition, with the Honeymoon Mine nearby which uses the ISR method and providing a potential route to market, it is important to know whether the Saffron uranium deposit is amenable to the ISR mining method. The preliminary testing for this is usually bottle-roll leach testing which tests whether the uranium can be removed from the host sandstone by this method.



Figure 2: example of bottle-roll leach test

A series of samples were taken from the mineralised zones of three of the sonic drill holes (details of the holes are provided in Appendix 1). These samples were analysed by Bureau Veritas Minerals Pty Ltd (BVM) using bottle-roll leaching tests to assess uranium dissolution.

The samples from each hole were blended, taking care to preserve the natural grain size, to provide three composite samples for leaching. Head samples were split from each composite; these assayed 730 ppm  $U_3O_8$  for SASO 002, 300 ppm  $U_3O_8$  for SASO 005 and 580 ppm  $U_3O_8$  for SASO 007. Three tests were then carried out at different pH levels (1.5, 2.0, 2.5) all at 40%w/w\*\* solids in demineralised water and at 450-500 mV. The pH and oxidation-reduction potential (mV) of the demineralised water were adjusted using sulphuric acid and sodium chlorate respectively. (\*\* means percentage weight of a substance of the total weight at a specified temperature)

Sulphuric acid was used to adjust the pH and sodium chlorate to adjust the oxidation-reduction potential of the uranium. Tests ran for 24 hours with intermediate solution samples collected at 2, 4, 8 and 12 hours. Final solution and residue samples were collected after 24 hours. A summary of the methodology adopted and other relevant information on the leaching tests is set out in the JORC Code Table 1 Report annexed to this Release.

The results were generally higher than is typically achieved for an ISR mining operation and demonstrate that once oxidised, the uranium in the Saffron deposit dissolves very easily in mildly acidic leaching solution. After 24 hours, the proportion of uranium leached (based on the residue assay and solution assays for each test) were as follows:

- Hole SASO 002: 89% at pH 2.5; 84% at pH 2.0; and 97% at pH 1.5;
- Hole SASO 005: 81% at pH 2.5; 91% at pH 2.0; and 94% at pH 1.5; and
- Hole SASO 007: 87% at pH 2.5; 65% at pH 2.0; and 84% at pH 1.5.

Details of the test results are set out in the table below.

Hole	Bottle	pH	ORP (mV)	Temp (°C)	Est. Acid Consumption (kg/t)	Est. Chlorate Consumption (kg/t)	Feed U3O8* (ppm)	Residue U3O8 (ppm)	U3O8 Extract (%)
SASO 002	1A	1.5	480	24	19.7	5.4	725	27	97
	2A	2.0	460	24	10.2	8.0	1000	186	84
	3A	2.5	450	23	<1	9.6	1540	186	89
SASO 005	1B	1.5	440	24	21.4	8.0	420	28	94
	2B	2.0	430	24	14.2	11.6	370	38	91
	3B	2.5	430	24	<1	16.0	265	59	81
SASO 007	1	1.5	480	22	13.5	7.0	650	121	84
	2	2.0	470	22	4.8	12.0	800	304	65
	3	2.5	460	22	<1	13.0	550	80	87

\* - Feed U3O8 calculated from the residue assay and solution assays for each test

### Lithological Analysis

Marmota engaged independent hydrogeologist, Mr Ben Jeuken of Groundwater Science, to undertake an assessment of the permeability of the unconsolidated sediments (Eyre Formation) that host the Saffron deposit. Good permeability is critical in mining by the ISR method to allow the leaching fluids to move through and contact the ore.

Ten sonic core holes drilled by Marmota in 2011 were sampled (see Appendix 2). Geochemical and lithological data used for the analysis was from previous exploration work by Marmota.

Mr Jeuken has concluded that 61% of the intersected mineralisation was contained in clean, fine to coarse grained sands, which are ideally suited to ISR mining. (The QEMSCAN sample taken from the mineralised zone of drillhole SASO007 mentioned above, was contained within this category.)



Figure 3; Example of sonic core obtained from drilling at Saffron deposit

A further 26% of the intersected mineralisation was moderately amenable to ISR mining because of higher clay content.

These results are consistent with industry standard values for total uranium recovery by ISR methods of around 70% (see IAEA (2001) *Manual of acid in situ leach uranium mining technology*. International Atomic Energy Agency TecDoc 1239, pp3).

The results are also consistent with a comparable study of the Beverley Deposit undertaken in 1996 prior to its progression to Field Leach Trials (FLT). The Beverley study found 60 to 75% of intersected mineralisation was hosted in sands considered amenable to ISR recovery mining (GeoProjects, (1996) Beverley Uranium Project Distribution of Uranium Mineralisation. Consultant's Report to Heathgate Resources. Report G8/2.5a V1.0. Released as open file ENV09128).

### Next Steps in Progressing to an RL

Feasibility studies into ISR recovery of the Saffron resource will most likely entail an In-Situ Recovery Field Trial (ISR-FT). This work will require a Retention Lease tenure and a Program for Environmental Protection and Rehabilitation (PEPR).

The next task that Marmota will undertake is to establish a network of monitoring wells (piezometers), including one production well to allow pumping tests. The aim is to provide aquifer pressure and chemical data for the mineralised interval, overlying and underlying intervals, and a lateral pressure gradient across the study site. An illustration of what this might look like is depicted in Figure 4 below:

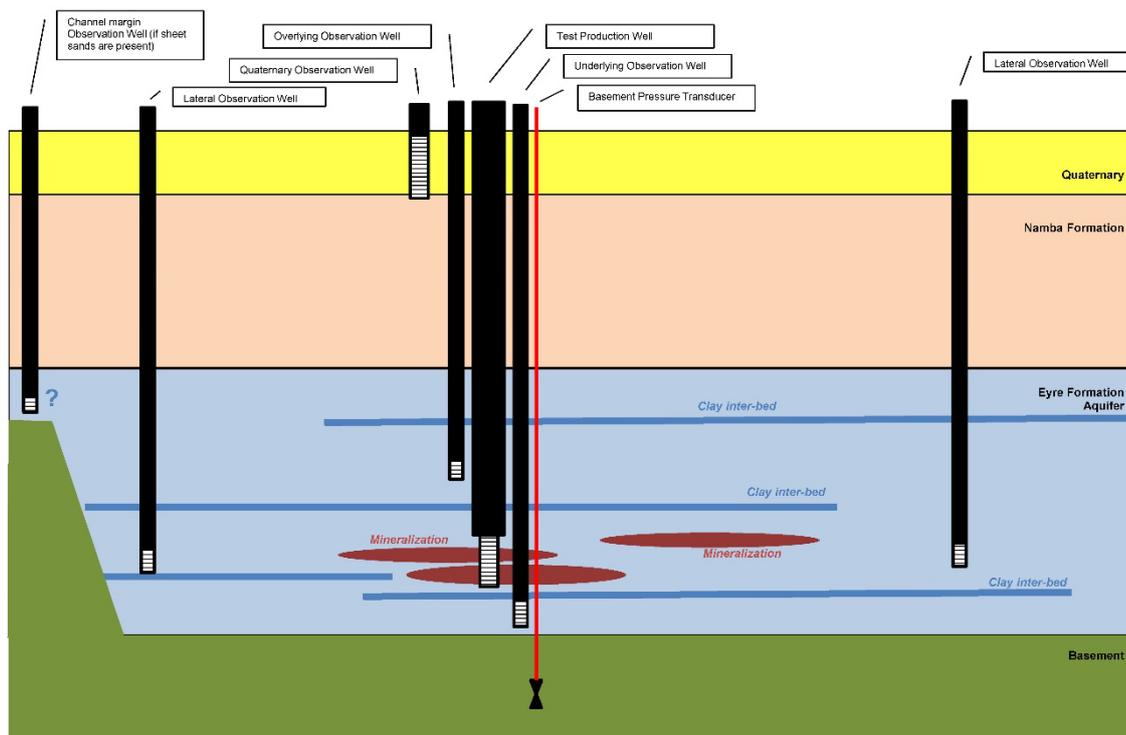


Figure 4: Illustration of proposed monitoring wells and pump test.  
 Source: Groundwater Science Confidential Report to Marmota Energy Limited

Once those wells are in place various data will be obtained and analysed to assist in understanding the permeability and the water characteristics of the Eyre Formation in the potential mining area.

Other work that will be undertaken will include a third party wells field survey to include information from those wells in the study, a detailed hydrogeological study of the results from the water monitoring wells and pumping test and the development of an ISR-FT groundwater management plan. From there Marmota will be able to prepare the PEPR necessary for applying for an RL. Once the RL has been granted, Marmota will be able to proceed to conducting the ISR-FT.

### Uranium market prognosis

Towards the latter part of 2014 a recovery in the spot price of  $U_3O_8$  commenced with the price lifting to a high of USD44/lb\*. By year end that had dropped down to USD35.50/lb\* when in the lead up to Christmas the market evaporated and not surprisingly the price fell. The first part of 2015 has seen a gradual improvement, up to USD36.50/lb\* with spot buyers coming back into the market

Interestingly the mid-term and long-term prices remained firm at USD39.00/lb\* and USD50.00/lb\* respectively.

\* TradeTech published price indicators

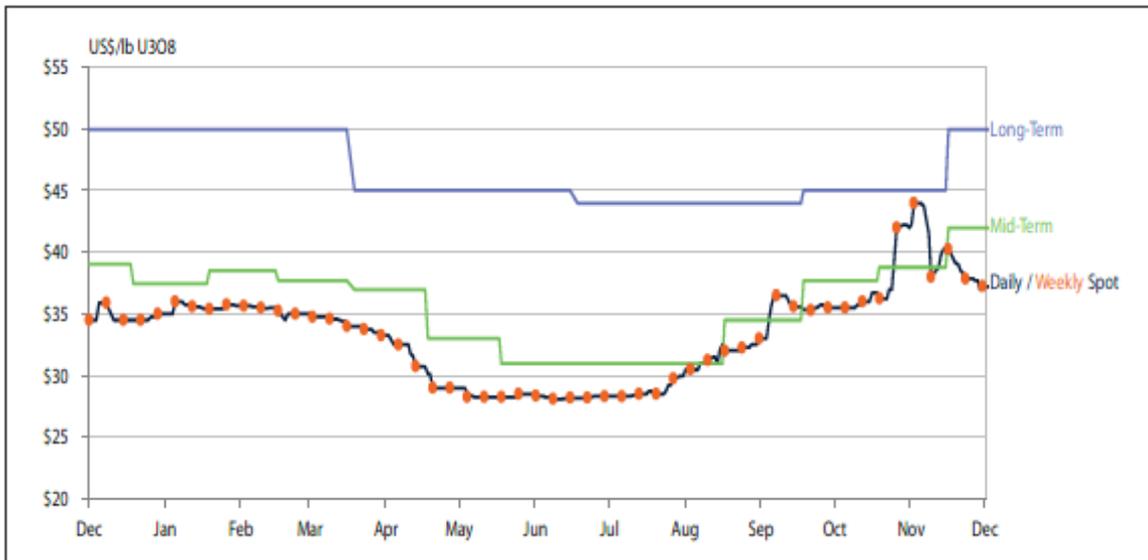


Figure 5 – TradeTech uranium price indicators 2014  
 Source: TradeTech, *The Nuclear Review*, December 2014

The prognosis for further recovery in the U<sub>3</sub>O<sub>8</sub> price is good with Japan commencing the restart of its nuclear reactors in 2015 and the Chinese government looking to approve new coastal nuclear power plant projects in 2015, after suspending approval of new nuclear power projects following Japan's Fukushima accident in March 2011. Added to that, from the Australian perspective, is the expected final sign off for the start of sales of Australian U<sub>3</sub>O<sub>8</sub> to India in the first half of 2015.

### Competent Persons Statement

The information in this release that relates to Exploration Results and Mineral Resources is based on information compiled by Dan Gray as Senior Project Geologist of Marmota Energy Limited who is a member of the Australasian Institute of Geoscientists. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities 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. Gray consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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## Appendix 1

### Samples used for bottle-roll leach tests

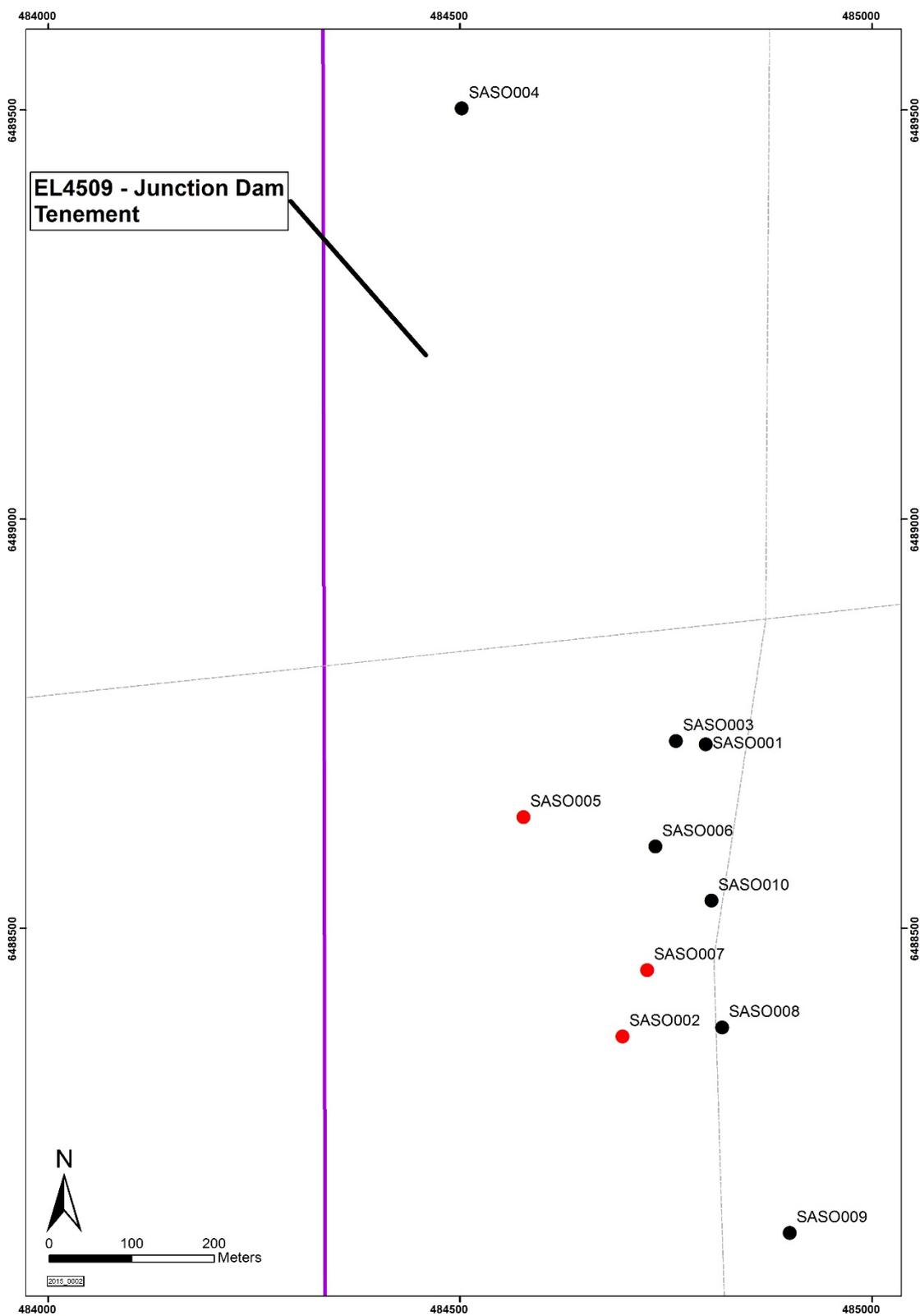
Hole ID	Easting (GDA94_Z54)	Northing (GDA94_Z54)	Total Depth (m)	Sample Location (m)
SASO002	484697	6488368	140	131m depth for a 2 metre interval
SASO005	484577	6488636	132	125.5m depth for a 2 metre interval
SASO007	484727	6488449	140	126.25m depth for a 2.5 metre interval

## Appendix 2

### Lithological Analysis – Drillhole Details

Hole ID	Easting (GDA94_Z54)	Northing (GDA94_Z54)	Total Depth (m)
SASO001	484798	6488725	140
SASO002	484697	6488368	140
SASO003	484762	6488729	134
SASO004	484502	6489502	131
SASO005	484577	6488636	132
SASO006	484737	6488600	137
SASO007	484727	6488449	140
SASO008	484818	6488379	140
SASO009	484900	6488128	135
SASO010	484805	6488534	137

### Map of drill hole locations referred to in Table above



Note: the holes in denoted in red had the bottle roll testing undertaken on samples from them. Purple line is the tenement's western boundary

**JORC 2012 Code Table 1**

## Appendix 1

### Table 1: Jorc Code 2012 Edition

#### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>The Saffron deposit at the Junction Dam project in 2011 was sampled using sonic core drill holes.</li> <li>A total of 10 holes were drilled at the Saffron deposit, these were twinned holes of previously drilled rotary mud holes from previous drilling programs conducted by Marmota Energy.</li> <li>Holes were drilled through the Quarternary cover sediments, then the Namba Formation, then through the Eyre Formation in which hosts the uranium mineralisation. Sonic core samples were only taken in the Eyre Formation.</li> <li>All holes were drilled vertical.</li> <li>All samples were contained in appropriately sized core trays for transport and storage. All sampling was carried out under Marmota's sampling protocols and QA/QC procedures as per industry best practice.</li> <li>Samples for bottle roll tests were composited across the full thickness of mineralisation.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul style="list-style-type: none"> <li>10 Sonic core drill holes for a total of 1366m of drilling as twinned holes and monitoring bores.</li> <li>Drilling was undertaken with no sample taken until intercepting the Eyre Formation and the mineralised zone. 401m of sonic core sample was taken in total from within the Eyre Formation which hosts the uranium mineralisation of the deposit.</li> <li>Sonic drilling was undertaken using a 4 inch sonic core with 6 inch casing override.</li> <li>A rubber track mounted 300C sonic drill rig was used.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure</li> </ul>	<ul style="list-style-type: none"> <li>Sonic core recoveries of the mineralised intervals within the Eyre Formation were assessed and graded as excellent with close to 100% recovery attained.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>representative nature of the samples.</i></p> <ul style="list-style-type: none"> <li>• <i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Twinned sonic core drill holes support or confirm thickness and tenor of uranium mineralisation results previously obtained from rotary mud drilling techniques.</li> <li>• No relationship is known to exist between sample recovery and grade.</li> </ul>
Logging	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drill holes have been geologically logged with recording of lithology, grain size and distribution, sorting, roundness, alteration, oxidation state and colour, and stored in the database. All holes were logged to a level of detail sufficient to support metallurgical studies and the lithological analysis discussed in the release. The holes have not been geotechnically logged.</li> <li>• Geological logging is qualitative.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The samples were taken by cutting the soft sediments with either a knife or trowel, or a hammer and chisel. All core samples were collected on the same side of the core. Approximately a quarter of the core was sampled.</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Bottle roll tests and subsequent assay were undertaken by a NATA accredited laboratory in accordance with standard operating procedures and QA/QC procedures.</li> </ul>
Verification of sampling and	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drill results are checked by senior Marmota employees or consultants who have adequate experience with uranium</li> </ul>

Criteria	JORC Code explanation	Commentary
assaying	<ul style="list-style-type: none"> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<p>deposits.</p> <ul style="list-style-type: none"> <li>• Currently Marmota has twinned 10 rotary mud drill holes at the Saffron deposit with sonic core drilling techniques. Results obtained from all twinned holes either confirm or support the previous results obtained with rotary mud drilling.</li> <li>• All geological, sampling and spatial data that is generated and captured in the field is immediately entered into a field notebook computer on standard excel templates. These templates are then validated each night by Marmota's managing field geologist. Once returning to the office with the field data, it is then uploaded into the database where it is then validated again. If corrections need to be made, they are corrected by the person responsible for generating the data.</li> <li>• No adjustments have been made to the assay data.</li> </ul>
Location of data points	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drill hole coordinate information was collected using hand held GPS with an autonomous accuracy of +/- 4 metres utilising GDA 94, Zone 54.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The drill hole spacing of the sonic core holes was based on previous drilling results achieved from rotary mud drilling. 10 rotary mud drill holes were selected to be twinned using the sonic core drilling technique, that provided an even distribution across the mineralised zone of the deposit with no set grid or spacing pattern, but still achieving the results required for the assessment.</li> <li>• Compositing was undertaken for the leachability testing.</li> <li>• For the leach composite from SASO002 a total of 16 samples were composited to make the leaching sample</li> <li>• For the leach composite from SASO005 a total of 16 samples were composited to make the leaching sample</li> <li>• For the leach composite from SASO007 a total of 20 samples were composited to make the leaching sample</li> </ul>
Orientation of data in relation to	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All drill holes are orientated vertically. The mineralisation at the Saffron deposit is generally flat across most of its extent, contained within the boundaries of the Yarramba</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>geological structure</i>	<ul style="list-style-type: none"> <li><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></li> </ul>	<ul style="list-style-type: none"> <li>Palaeochannel.</li> <li>Key mineralised structures are generally flat-lying permeable strata that allow the introduction of oxidised fluids. Current results indicate that no sampling bias exists in relation to drilling direction.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li><i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>Company staff collected all laboratory samples.</li> <li>Samples submitted to the laboratory were transported and delivered by Company staff.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Marmota's Competent Person has verified that all sampling techniques and data collection is of high standard and no reviews are required at this stage.</li> </ul>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i></li> <li><i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i></li> </ul>	<ul style="list-style-type: none"> <li>Junction Dam tenement (EL4509) is in joint venture with Teck Australia Pty Ltd, Variscan Mines Ltd (ASX:VAR) and Eaglehawk Geological Consulting Pty Ltd. Marmota has 100% of the uranium rights over the Junction Dam project, all other mineral rights are held by the joint venture partners.</li> <li>The tenement is located on the pastoral leases of Mulyungarie and Yarramba Stations.</li> <li>There are no third party agreements, no government royalties, historical sites or environmental issues.</li> <li>The tenement is in good standing and there are no known impediments for exploration on this tenement to Marmota's knowledge.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li><i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>Marmota has reviewed past exploration data over the region. The region in which EL 4509 is located has been the subject of mineral exploration in the past by various companies including Southern Cross Resources, BHP Minerals and Rio Tinto Exploration Pty Ltd. Uranium mineralisation was discovered in</li> </ul>

Criteria	JORC Code explanation	Commentary
Geology	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p>the 1970's within the region.</p> <ul style="list-style-type: none"> <li>• Tertiary palaeochannel sediments extend across a large part of the project area, which are highly prospective for rollfront style uranium deposits associated with the Yarramba Palaeochannel system. The system hosts various uranium deposits further along the channel from the project area. These deposits are evidence that the Yarramba Palaeochannel contains the correct environment for rollfront style uranium deposits.</li> <li>• The Yarramba Palaeochannel system is incised into undifferentiated Palaeoproterozoic granites and metamorphic schists as well as Cretaceous mudstone and shale deposited in the Frome Embayment.</li> <li>• The Yarramba Palaeochannel averages 3 km in width and is up to 6 km wide east of Honeymoon. Its shape and sinuosity are controlled by the geology and structure of underlying rocks, as evidenced by historical drilling and regional airborne geophysical interpretations. The uranium that is thought to be sourced from weathering uraniferous granites of the Willyama Complex is transported in the groundwater through the palaeodrainage systems. At the interface of redox boundaries, the uranium mineralisation precipitates as coatings of uraninite on the quartz sand grains which fill the aquifers. In this porous and permeable environment, low grade uranium mineralisation is ideally suited to recovery using economic in-situ leach (ISL) mining methods.</li> <li>• The style of uranium mineralisation at the Saffron deposit is a mix of roll-front style deposits and tabular-style uranium orebodies.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Drill hole information previously reported on the ASX on 20 February 2012.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> <li>● If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	
Data aggregation methods	<ul style="list-style-type: none"> <li>● In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>● Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>● The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>● With reporting of assay results a 100ppm cut off was used at a minimum distance of 0.3 metre.</li> <li>● There have been no metal equivalents used.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>● These relationships are particularly important in the reporting of Exploration Results.</li> <li>● If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>● If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>● The mineralisation reported in this release is sub-horizontal and all drilling is near-vertical so all mineralisation values can be considered as true widths.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li>● Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>● See figures in report attached.</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li>● Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>● Drill hole information previously reported on the ASX on 20 February 2012.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>● Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>● A preliminary metallurgical testing program developed by Marmota and Bureau Veritas Minerals Pty Ltd (BVM) has been undertaken to ascertain the leach response of the samples under typical conditions considering different acid leaching routes. The results of this form the substantive aspects of this announcement.</li> <li>● The test work scope also included investigations into the permeability of the unconsolidated sediments that host the</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>mineralisation. Groundwater Science was engaged to undertake these studies, utilising data and information obtained by Marmota. Results of these studies form the substantive aspects of this announcement.</p>
<p><i>Further work</i></p>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The leach test results and the lithological assessment undertaken, indicate that a high percentage of the Saffron deposit is permeable and that the uranium mineralisation is readily leachable under acidic conditions. Marmota plans to incorporate the extraction and geological data into the JORC Inferred resource.</li> <li>• Marmota plans to undertake further detailed testwork in subsequent phases of study with the aim of confirming the optimum metallurgical extraction.</li> <li>• A hydrogeological investigation previously completed has recommended the establishment of water monitor bores (consisting of test bores and one production bore). Marmota intend to establish these bores in the future, which will aid with the progression of the Saffron deposit to a Retention Lease (RL).</li> </ul>