

3 May 2013

**Uranium Resources plc (“URA” or the “Company”)  
Maiden Resource at URA’s Mtonya Uranium Discovery in Tanzania**

Uranium Resources, the AIM listed uranium exploration company operating in Tanzania, has completed a maiden CIM-compliant Mineral Resource estimate for its 100%-owned Mtonya uranium deposit which is located 100 kilometers east of Songea in southern Tanzania. The Mineral Resource estimate was prepared by Roscoe Postle Associates Inc. (“RPA”) of Toronto, Ontario. The estimate has been developed in compliance with CIM Standards and is supported by a National Instrument 43-101 independent Technical Report.

**Highlights:**

- CIM Inferred Resource estimate of 3.6 million tonnes at 255 ppm U<sub>3</sub>O<sub>8</sub> containing 2.0 Mlb U<sub>3</sub>O<sub>8</sub>
- The current resource consists mostly of Tier 1 mineralisation over 4.5 km of the 36 kilometre-long Mtonya Redox Corridor, which includes the untested Nyoka and Lukimwa uranium targets
- Only a short segment of Tier 2 has been drill-tested while the deeper inferred Tier 3 has not been drilled
- Mineralisation remains open in all directions, including the deeper Tier 2 and Tier 3
- Remarkable continuity and mineral assemblages suggest similarities with uranium deposits of Chu-Sarysu, Kazakhstan and Wyoming, USA

**Further Information**

The resource estimate is based on 159 diamond drillholes (38,591m) completed by the Company in 2010-2012. Only assays of drill core samples were used in the resource estimate.

The resource includes both potentially open-pittable (above the water table) material and uranium mineralisation below the water table, which is potentially amenable to in-situ recovery (ISR). The depth of the water table at Mtonya varies but generally is located at a depth of 50-60 meters.

Estimates at a range of cutoff grades confirm that there is a substantial and very robust component to the resource base, for increasing the cut-off grade from 50 ppm to 100 ppm U<sub>3</sub>O<sub>8</sub> reduces the U<sub>3</sub>O<sub>8</sub> pounds contained by a mere 5%.

The Inferred Mineral Resource is summarised in the table below:

Cutoff Grade	Depth	Inferred Resource		
		Tonnage	Grade (ppm)	Contained U <sub>3</sub> O <sub>8</sub>

		(thousand t)	U3O8)	(thousand lbs)
<b>50 ppm U3O8</b>	<b>Above water table</b>	<b>654</b>	<b>257</b>	<b>371</b>
	<b>Below water table</b>	<b>2,930</b>	<b>254</b>	<b>1,643</b>
	<b>Total</b>	<b>3,583</b>	<b>255</b>	<b>2,014</b>
100 ppm U3O8	Above water table	491	318	344
	Below water table	2,459	288	1,563
	Total	2,950	293	1,907
200 ppm U3O8	Above water table	291	438	281
	Below water table	1,539	372	1,262
	Total	1,829	382	1,542

Notes:

1. The Mtonya uranium mineralisation is located within the boundaries of PL 4858/2007 held by Deep Yellow Limited, a wholly-owned Tanzanian subsidiary of Uranium Resources plc.
2. CIM definitions were followed for Mineral Resources.
3. High grade assays were capped at 1,500 ppm U3O8 prior to compositing.
4. Mineral Resources are estimated using a long-term uranium price of US\$75/lb.
5. A minimum width of 0.80 m was used.
6. Bulk density is 1.7 t/m<sup>3</sup>.
7. Numbers may not add due to rounding.

The 2012 drilling campaign was based on the Company's redox interface model and focused on the uranium mineralisation in Tier 1 at a depth of approximately 150m. Only a limited number of holes targeted Tier 2 (approximately 250 m deep) and some 95% of the ISR resource identified is located within Tier 1.

Mtonya Redox Tiers generally correspond to different regimes in the paleogeomorphology and paleohydrogeology of the Luwegu basin and they have variable depths. Each tier is thought to be 120-150 m thick and they may be as far as 500 metres apart laterally.

Figure 1. Long-section showing the Mtonya resource and redox tiers. (See end of release)

All diamond drilling at Mtonya is widely spaced and mineralisation is open in all directions, including Tiers 2 and 3. Exploration drilling currently covers an area of less than 70 sq km of the Company's 625 sq km Mtonya group of tenements and applications, which also host Nyoka, immediately adjacent to Mtonya, and Lukimwa, a second priority roll-front uranium target some 27 km southwest of Mtonya.

Figure 2. Map of Mtonya and satellite targets of Nyoka and Lukimwa. (See end of release)

The internal studies of lithology and mineralogy carried out on samples of mineralised drill core suggest persuasive similarities with the uranium deposits of Kazakhstan, namely arkosic composition of the sandstone, low content and composition of carbonate minerals (<5%), ore mineralogy (uraninite, coffinite), and similar trace element geochemical signature (selenium, molybdenum, vanadium, and scandium).

Figure 3. Microphotograph of uranium mineralisation. (See end of release)

Tier 1 uranium mineralisation occurs at depths ranging from 60m to 180m below the surface. The thickness of the mineralised sedimentary units ranges from 0.5 to 6m, and average grades vary between 100 ppm U<sub>3</sub>O<sub>8</sub> and 500 ppm U<sub>3</sub>O<sub>8</sub>. The individual zones exhibit excellent lateral continuity, ranging from approximately 60m to over 100m in width and 300m to more than 3,000m in length (parallel to the general redox boundary). Individual bedded mineralised zones can extend laterally (in the same stratigraphic position) for over 1,000 metres. These geometries correspond well to similar uranium deposits in Wyoming, USA.

URA has discovered stacked roll-front uranium mineralisation in Triassic-age sedimentary rocks at its 100% owned Mtonya Property located in southern Tanzania. The discovery is significant as it opens a new area of excellent exploration potential for additional uranium resources. The current resource estimate is based primarily on mineralisation intercepted close to surface and in the Tier 1 mineralised unit. Further infill drilling within the resource area and lateral extension of known mineralisation could lead to a substantial increase in resources. There is potential for significant uranium mineralisation in Tiers 2 and 3 located below Tier 1. Two other promising radiometric anomalies located to the southwest, Lukimwa and Nyoka, are targets for further exploration. Including Lukimwa and Nyoka, less than 10% of the prospective ground on the Mtonya property has been drill-tested so far.

The URA drilling tested approximately 4.5 kilometres of strike length in uranium mineralisation above and below the water table. The Mtonya Redox Corridor, which includes the satellite targets of Lukimwa and Nyoka, extends for approximately 36 kilometres.

The Company is currently planning to conduct infill and step-out drilling programmes to further expand the Mtonya resource and to execute a series of pump tests on Mtonya mineralisation.

Figure 4. Simplified diagram of the Mtonya Redox Corridor and its exploration targets. (See end of release).

The Company's exploration efforts focus on uranium resources amenable to ISR, the most cost-effective and environmentally-acceptable method of uranium extraction. The use of ISR technology in

extracting uranium, which requires lower capital expenditures and minimises land disturbance, propelled Kazakhstan to its current position as world's top uranium producer, increasing its share of global uranium production from 6% in 2000 to 30% in 2012.

Uranium Resources Managing Director Alex Gostevskikh commented, "The maiden Mineral Resource for Mtonya is very encouraging. In particular, we are impressed with the robust continuity of the mineralised strata and preliminary mineralogy analyses on core samples. This initial Mineral Resource estimate at Mtonya is major milestone and it signifies several crucial things: the potential of the Luwegu basin for ISR uranium mineralisation, the ability of our team to generate credible exploration models and, most importantly, to bring these models to life. We are confident that the Luwegu Basin presents ISR opportunities of the same scale as Mesozoic basins in Wyoming, and our initial resource is the very first step in the bright future of this uranium province."

### **About Mtonya**

The Company's 100%-owned Mtonya project is situated about 60 km south of Nyota, a significant uranium deposit currently developed by Uranium One.

Mtonya is interpreted to be a classic sandstone-hosted roll-front deposit with remarkable similarities to the deposits of Chu-Sarysu, Kazakhstan and Wyoming, USA.

To date, Mtonya has demonstrated continuous uranium mineralisation in stacked roll-fronts in Triassic arkoses, which is expected to be amenable to in-situ recovery.

### **Assaying and QA/QC**

The Company is using a Mount Sopris' Matrix gamma-logging system to ensure proper instrument calibration and establish the framework for disequilibrium adjustments. The disequilibrium factor (DEF) is used to adjust the grade obtained from measurements by a gamma-ray probe (eU3O8) and to provide rapid estimates for the uranium content in the rock.

In addition to gamma-ray downhole surveys, Uranium Resources plc uses the most reliable methods of quantifying uranium mineralisation by sampling half-core and subjecting the samples to the ME-MS41 and ME-ICP61 analytical methods at the ALS Global laboratory in Vancouver, BC, Canada.

In accordance with industry standards, the assayed samples include certified standards and duplicates. Analytical results are routinely subjected to statistical review.

### **Competent Person's Declaration**

The information in this announcement that relates to Exploration Results and database is based on information compiled by and reviewed by Alex Gostevskikh, Managing Director of Uranium Resources plc, who is a Member of the Mining and Metallurgical Society of America and Fellow of the Geological Society of London. Mr. Gostevskikh has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' and as a qualified person under the AIM Note for Mining, Oil and Gas Companies. Mr. Gostevskikh consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Mineral Resource estimate has been completed by David Ross, P. Geo., a Principal Geologist with Roscoe Postle Associates Inc., registered as a Professional Geoscientist in the Province of Ontario (Reg. #1192). David Ross has some 18 years' experience as a geologist and consultant on numerous mining and exploration projects globally. David Ross is a full-time employee of Roscoe Postle Associates Inc, an independent consultancy, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the type of activity which he is undertaking to qualify as a Competent Person as defined in the June 2009 Edition of the AIM Note for Mining and Oil & Gas Companies. David Ross consents to the inclusion in the announcement of the resource estimate in the form and context in which it appears and confirms that this information is accurate and not false or misleading.

## Glossary

CIM	Canadian Institute of Mining, Metallurgy and Petroleum
Cut-Off	A grade level below which the material is not "ore" and considered to be uneconomical to mine and process. The minimum grade of ore used to establish resources.
Inferred Mineral Resource	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
Grade	The metal content in ppm.
Mineral Resource	A concentration [or occurrence] of material of economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated from specific geological

	evidence and knowledge, or interpreted from a well constrained and portrayed geological model. Mineral Resources are subdivided, in order of increasing confidence in respect of geoscientific evidence, into Inferred, Indicated and Measured categories.
ppm	Parts per million
U3O8	The chemical symbol for uranium oxide (yellowcake)

Figure 1. Long-section showing the Mtonya resource and redox tiers.

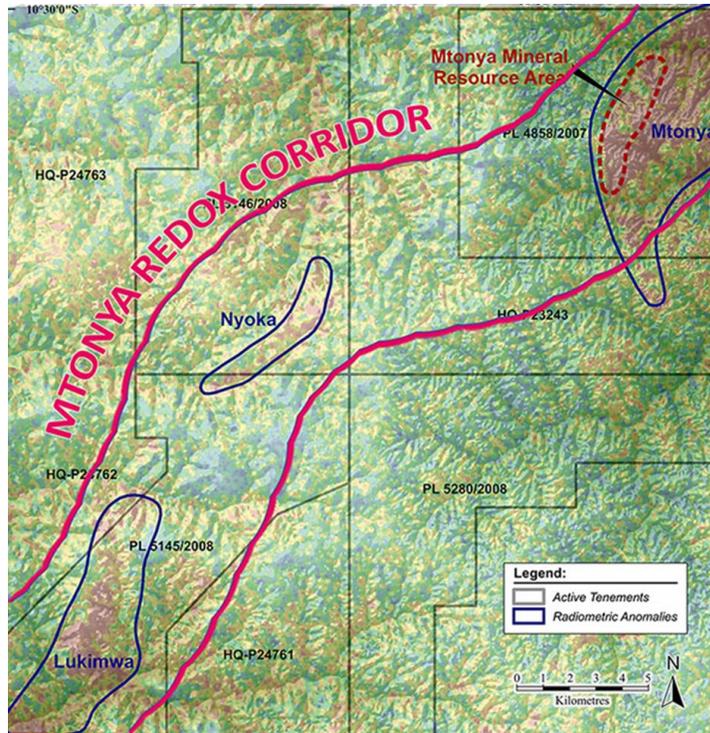


Figure 2. Map of Mtonya and satellite targets of Nyoka and Lukimwa.

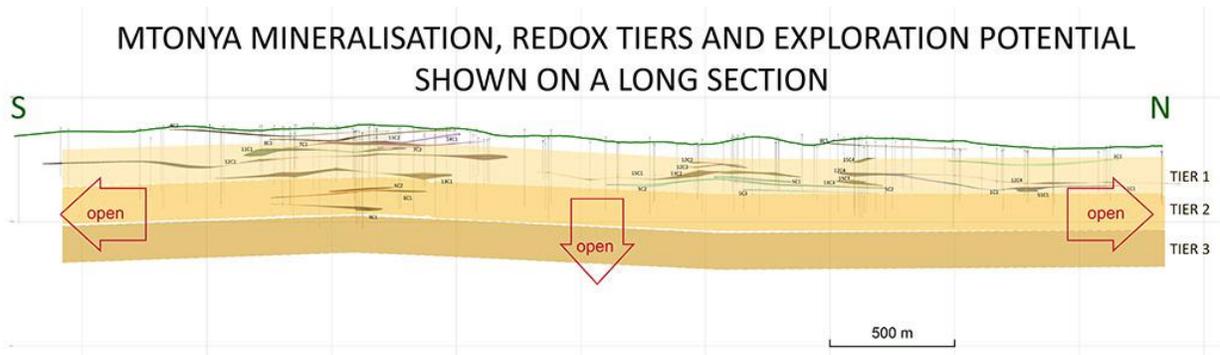


Figure 3. Microphotograph of uranium mineralisation.

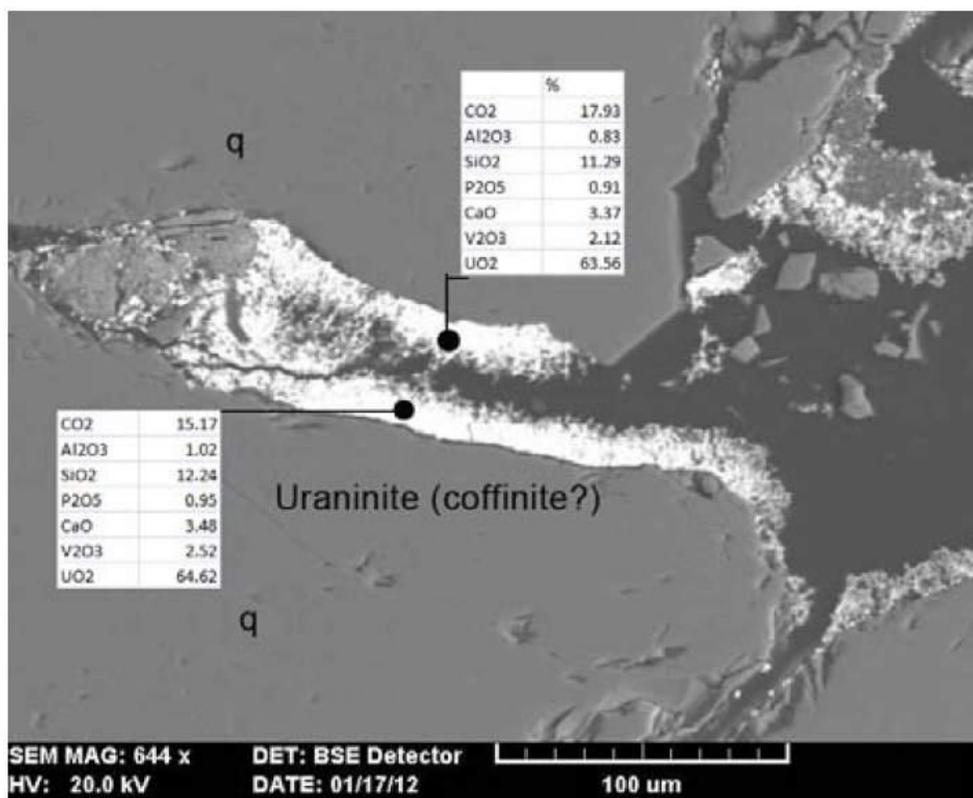
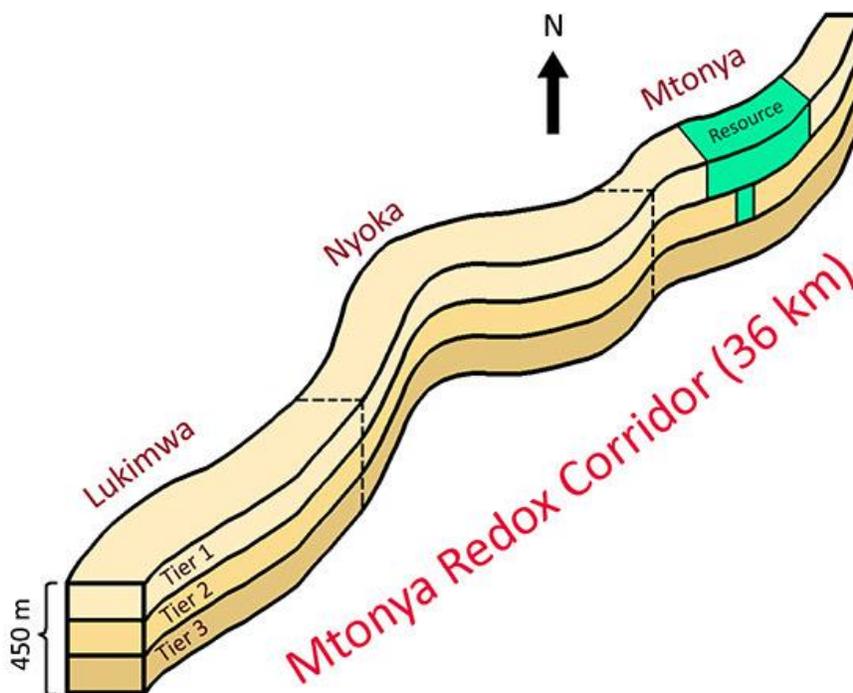


Figure 4. Simplified diagram of the Mtonya Redox Corridor and its exploration targets.



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For further information please visit [www.uraniumresources.co.uk](http://www.uraniumresources.co.uk) or contact:

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### **About Uranium Resources**

Uranium Resources plc is an AIM listed exploration and development company. It is the Company's strategy to advance its existing assets and strengthen its portfolio via opportunistic acquisition. Uranium Resources has uranium licences in the highly prospective Karoo Basins in southern Tanzania.