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## **ASX Announcement**

## 28 February 2014

## **Ranger 3 Deeps Exploration Decline Project**

## Further underground drilling results released

• Fourth, fifth and sixth cross sections of underground close-spaced drilling of the Ranger 3 Deeps mineral resource completed

• Significant intercepts include:

0	R3D_ND5_001	26.6m	@	0.404%	$U_3O_8$	from	146m
0	R3D_ND5_001	10m	@	1.470%	U <sub>3</sub> O <sub>8</sub>	from	203m
0	R3D_ND5_002	53m	@	0.381%	eU <sub>3</sub> O <sub>8</sub>	from	149m
0	R3D_ND5_003	35m	@	0.550%	$U_3O_8$	from	162m

• Results are in line with the current geological model and structural interpretation

Energy Resources of Australia Ltd (ERA) has completed the fourth, fifth and sixth cross sections of underground close-spaced drilling of the Ranger 3 Deeps resource on the Ranger Project Area. These sections comprised 19 drillholes from sections 12225mN Northern Drill Drive (NDD5), 12050mN (Cuddy 6C Central) and 12025mN (Cuddy 6C South) totalling 3,192 metres.

These underground drilling results are consistent with the expected geological understanding of the continuity of mineralisation within this zone of the mineral resource.

The results of the sections of the underground drilling programme are outlined below. These results should be read in conjunction with the JORC Code 2012 Edition – Table 1, outlined in Appendix 2 to this announcement. On completion of the Ranger 3 Deeps prefeasibility study, ERA will be in a position to review the Ranger 3 Deeps resource model and make appropriate adjustments to the mineral resource statement.

### Ranger 3 Deeps mineral resource

The Ranger 3 Deeps mineral resource is currently estimated to contain more than 33,000 tonnes of uranium oxide and is the structurally modified down-dip equivalent of the Ranger Pit 3 deposit.

In August 2011, the ERA Board approved the construction of the Ranger 3 Deeps exploration decline to conduct underground close-spaced drilling to further define and evaluate the Ranger 3 Deeps resource. Construction of the decline began in May 2012 and underground drilling commenced in May 2013.

In addition, ERA commenced a prefeasibility study on the proposed Ranger 3 Deeps underground mine in July 2012. The study is on schedule to be completed by quarter 4 2014.

Pursuant to ERA's section 41 Authority, it is permitted to conduct mining and processing operations on the Ranger Project Area until January 2021, following which rehabilitation



activities will continue. Further details of the tenure held over the Ranger Project Area and environmental regulations are outlined in the JORC Code 2012 Edition – Table 1, outlined in Appendix 2 to this announcement.

## **Drilling Programme**

The main objectives of the underground drilling programme are to:

- (a) increase confidence in the known mineralisation to allow conversion to a mineral resource; and
- (b) explore those prospective areas with lower drilling density, particularly at the northern end of the deposit.

All drill holes will be drilled from positions in dedicated drilling drives or cuddies, sufficient in size to adequately house the drilling operations with drilling fans to be oriented in a direction of approximately 240 degrees and arranged in vertical and inclined fans (Figure 1). Cuddy depths range from -120 metres to -310 metres from the surface.



Figure 1 – Location of Cuddy 6C and NDD5 drilling from the underground decline from which drilling has recently been completed.

Drilling was undertaken from Northern Drill Drive 5 (NDD5) and two sections from Cuddy 6C (6C Central and 6C South) completed at a dip angle of 90 and 70 degrees to the south respectively. Figures 2, 3 and 4 show the geological sections for NDD5, 6C Central and 6C South respectively. Significant mineralised intervals are shown at a cut-off grade of  $0.12\% U_3O_8$ . Results from all drill drives support and add resolution to the current Ranger 3 Deeps geological model. The width and grade of the reported significant mineralisation from the drill drive 6C Central and 6C South position confirms a known barren zone in the resource due to the presence of an east-west trending fault system (known as the North Bounding Fault), beyond which the mineralisation is less continuous.





(Includes gamma and chemical assay results)



Figure 3 – Interpreted cross section showing the drilling results from Cuddy 6C Central. (Includes gamma and chemical assay results)





Figure 4 – Interpreted cross section showing the drilling results from Cuddy 6C South. (Includes gamma and chemical assay results)

In line with current ERA procedures, a downhole geophysical gamma sonde is deployed internally within the drill rod string and subsequently in the open hole (subject to ground conditions). Geophysical measurements (gamma logging) are recorded every 0.05 metres and composited into 1 metre intervals to provide an equivalent  $U_3O_8$  grade (referred to as  $eU_3O_8$ ).

Samples for subsequent geochemical assays are selected on the basis of these downhole geophysical measurements. Intervals that have equivalent grades above  $0.02\% eU_3O_8$  are automatically assigned for assaying, plus two samples above and below the triggered interval.

The significant results from the latest drill holes are presented in Table 1. The table includes  $eU_3O_8$  results from gamma probing and geochemical analysis (ICPMS -  $U_3O_8\_G422M\_ppm$ ) of  $U_3O_8$ . In time all  $eU_3O_8$  will be replaced by geochemical assays effectively overriding the gamma probing analysis. The results are in line with the expectations from these drilling sections and will be used to give more confidence in the location of the mineralisation. Significant high grade intersections are in line with the expected continuity of mineralisation. The downhole collar location and survey of the recent drill holes are outlined in Appendix 1.



HOLE ID	FROM (m)	TO (m)	WIDTH (m)	GRADE % U <sub>3</sub> O <sub>8</sub>	METHOD
R3D_ND5_001	146	172.6	26.6	0.404	Geochemical
R3D_ND5_001	189	200	11	0.415	Geochemical
R3D_ND5_001	203	213	10	1.47	Geochemical
R3D_ND5_002	149	202	53	0.381	Gamma
R3D_ND5_003	128	135	7	0.915	Geochemical
R3D_ND5_003	162	197	35	0.550	Geochemical
R3D_ND5_004	137	143	6	0.646	Gamma
R3D_ND5_004	146	165	19	0.543	Gamma
R3D_ND5_004	169	182	13	0.505	Gamma
R3D_ND5_006	97	102	5	0.654	Gamma
R3D_6C_006E	136	152	16	0.408	Gamma

Table 1: Significant results from Cuddy 6C and NDD5.

Notes:

A. All intersections were determined using a 0.12% U<sub>3</sub>O<sub>8</sub> cut-off at a minimum five metres composite, including a maximum of two metres of non-mineralised internal material. Intersections are down-hole lengths and the true width of the intersections has not been calculated.

B. Results include eU<sub>3</sub>O<sub>8</sub> results from gamma probing and geochemical results using ICPMS - U3O8\_G422M\_ppm.

#### **Competent Person**

The information in this report relating to exploration results is based on information compiled by Greg Rogers and Stephen Pevely, Competent Persons who are members of the Australasian Institute of Mining and Metallurgy. Greg Rogers and Stephen Pevely are full-time employees of the Company and have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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'. Greg Rogers and Stephen Pevely consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.



#### About Energy Resources of Australia Ltd (ERA)

Energy Resources of Australia Ltd is one of the nation's largest uranium producers and Australia's longest continually operating uranium mine.

ERA has an excellent track record of reliably supplying customers. Uranium has been mined at Ranger for three decades. Ranger mine is one of only three mines in the world to produce in excess of 110,000 tonnes of uranium oxide.

ERA's Ranger mine is located eight kilometres east of Jabiru and 260 kilometres east of Darwin, located in Australia's Northern Territory.

ERA is a major employer in the Northern Territory and the Alligator Rivers Region. ERA is proud of its diverse workforce of more than 500 people, of which 16 per cent are Indigenous people. Located on the 79 square kilometre Ranger Project Area, Ranger mine is surrounded by, but separate from, the World Heritage listed Kakadu National Park.

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## Appendix 1

## Downhole drill collar summary

Hole ID	AMG Easting GDA94	AMG Northing GDA94	GDA Reduced Level	Depth (meters)	Azimuth	Dip
R3D_6C_001E	274452.9179	8598114.116	-193.404	162	236.5	-38
R3D_6C_002E	274452.9179	8598114.116	-193.404	141	236.5	-60
R3D_6C_003E	274452.9179	8598114.116	-193.404	141	236	-83.14
R3D_6C_004E	274463.4177	8598119.107	-193.813	122.2	60	-76
R3D_6C_005E	274463.4177	8598119.107	-193.813	146.6	60	-62
R3D_6C_006E	274463.4177	8598119.107	-193.813	161.7	60	-51
R3D_6C_007E	274452.9179	8598114.116	-193.404	161	222.46	-34.26
R3D_6C_008E	274452.9179	8598114.116	-193.404	137.6	216	-58
R3D_6C_009E	274454.4126	8598114.828	-193.481	114	159	-78
R3D_6C_010E	274463.4177	8598119.107	-193.813	125.8	92	-70.14
R3D_6C_011E	274463.4177	8598119.107	-193.813	170.8	72	-52.32
R3D_6C_012E	274463.4177	8598119.107	-193.813	146.3	40.3	-58
R3D_ND5_001	274404.9265	8598313.22	-176.182	238.3	237	-15
R3D_ND5_002	274404.9265	8598313.22	-176.182	216	240.05	-22
R3D_ND5_003	274404.9265	8598313.22	-176.182	216	237	-27.44
R3D_ND5_004	274404.9265	8598313.22	-176.182	207.3	236	-35
R3D_ND5_005	274404.9265	8598313.22	-176.182	225.3	236	-43.48
R3D_ND5_006	274404.9265	8598313.22	-176.182	129.8	236	-54
R3D_ND5_007	274404.9265	8598313.22	-176.182	252.5	240.05	-7
R3D_ND5_008	274404.9265	8598313.22	-176.182	161.5	273	-10.05
R3D_ND5_009	274404.9265	8598313.22	-176.182	127.9	274	-20.53
R3D_ND5_010	274404.9265	8598313.22	-176.182	158.9	274	-35



## Downhole survey summary

HOLEID	DEPTH	AZIM	DIP
R3D_6C_001E	12	235.9	-38.6
R3D_6C_001E	30	236.6	-39.9
R3D_6C_001E	60	237	-41.1
R3D_6C_001E	90	236.7	-41.9
R3D_6C_001E	150	237.9	-43
R3D_6C_002E	12	235.5	-60
R3D_6C_002E	30	235.8	-60.5
R3D_6C_002E	60	236.6	-61.3
R3D_6C_002E	90	236.9	-61.8
R3D_6C_002E	120	237.7	-62.1
R3D_6C_003E	0	236	-83.14
R3D_6C_003E	30	237.3	-82.92
R3D_6C_003E	60	239.6	-82.66
R3D_6C_003E	90	239.1	-82.74
R3D_6C_003E	120	240.1	-82.61
R3D_6C_003E	130	241.5	-82.5
R3D_6C_004E	12	58	-77.2
R3D_6C_004E	30	52.4	-78.4
R3D_6C_004E	60	48.8	-79.4
R3D_6C_004E	90	47.2	-79.9
R3D_6C_005E	12	61.2	-63
R3D_6C_005E	30	59.7	-63.9
R3D_6C_005E	60	57.6	-65.1
R3D_6C_005E	90	58.1	-65.9
R3D_6C_006E	3	60.4	-51.24
R3D_6C_006E	30	61	-52.6
R3D_6C_006E	60	60.9	-53.1
R3D_6C_006E	90	61.7	-54.2
R3D_6C_006E	123	61.8	-52.54
R3D_6C_006E	158	61.1	-52.29
R3D_6C_007E	0	222.5	-34.26
R3D_6C_007E	30	222.3	-35.51
R3D_6C_007E	60	222.4	-36.23
R3D_6C_007E	90	222.6	-36.91
R3D_6C_007E	120	222.9	-37.44
R3D_6C_007E	150	222.6	-39.57
R3D_6C_007E	156	222.2	-38.9
R3D_6C_008E	12	207.5	-57.7
R3D_6C_008E	30	208.1	-58.5
R3D_6C_008E	60	210	-59.5
R3D_6C_008E	92	209	-59.7
R3D_6C_009E	1.5	159.2	-78.18
R3D_6C_009E	30	157.9	-78.6
R3D_6C_009E	60	161.9	-78.6
R3D_6C_009E	90	161.5	-78.6
R3D_6C_009E	109.5	163.9	-78.58
R3D_6C_010E	0	92	-70.14
R3D_6C_010E	30	93.7	-71.54
R3D_6C_010E	60	94.5	-72.25
R3D_6C_010E	90	95.1	-72.79
R3D_6C_010E	120	95.3	-72.62
R3D_6C_010E	123	95.6	-72.65
R3D_6C_011E	0	72	-52.32
R3D_6C_011E	30	70.9	-53.83
R3D_6C_011E	60	70.5	-55.17
R3D_6C_011E	90	70.2	-56.57
R3D_6C_011E	120	70.6	-57.15
R3D_6C_011E	150	71.1	-57.68
R3D_6C_011E	162	71.1	-57.65
R3D_ND5_001	12	237.2	-16.9
R3D_ND5_001	30	236.3	-17.6



HOLEID	DEPTH	AZIM	DIP
R3D_ND5_001	60	236.5	-18.2
R3D_ND5_001	90	236.6	-18.6
R3D_ND5_001	120	238.5	-19.4
R3D_ND5_001	152.6	239	-20
R3D_ND5_001	180	238.6	-20.8
R3D_ND5_001	212	237.8	-21.8
R3D_ND5_002	5	240.1	-23.7
R3D_ND5_002	30	239.8	-25.16
R3D_ND5_002	60	237.9	-25.74
R3D_ND5_002	90	235.9	-26.87
R3D_ND5_002	120	236.3	-27.04
R3D_ND5_002	150	235.6	-28.07
R3D_ND5_002	180	235.4	-28.8
R3D_ND5_002	210	237.6	-29.9
R3D_ND5_003	0	237	-27.44
R3D_ND5_003	30	236.9	-28.68
R3D_ND5_003	60	237.3	-29.66
R3D_ND5_003	90	237.4	-30.26
R3D_ND5_003	120	237.1	-30.65
R3D_ND5_003	150	237	-31.31
R3D_ND5_003	180	236.8	-31.76
R3D_ND5_003	210	236.7	-32.7
R3D_ND5_004	3.3	240	-36.11
R3D_ND5_004	30	238.2	-36.9
R3D_ND5_004	60	238.2	-38.6
R3D_ND5_004	90	238.8	-39.3
R3D_ND5_004	123.3	240.7	-39.63
R3D_ND5_004	183.3	241.2	-40.4
R3D_ND5_004	207.3	241.3	-40.94
R3D_ND5_005 R3D_ND5_005	0	236	-43.48
R3D_ND5_005 R3D_ND5_005	30 60	235.3 235.2	-44.9 -45.06
R3D_ND5_005	90	235.2	-45.05
R3D_ND5_005	120	235.5	-44.73
R3D ND5 005	120	233.0	-43.94
R3D ND5 005	180	236	-44.02
R3D ND5 005	210	236.4	-44.02
R3D ND5 005	225	236.4	-44.06
R3D ND5 006	9	236	-54.64
R3D ND5 006	33	236.8	-54.99
R3D ND5 006	60	233	-55.3
R3D_ND5_006	90	233.3	-55.5
R3D ND5 006	123	238.1	-55.65
R3D ND5 006	129	238.1	-55.81
R3D ND5 007	5	240.1	-7.76
R3D_ND5_007	23	240.1	-8.18
R3D_ND5_007	60	239.5	-8.9
R3D_ND5_007	90	239.5	-9.4
R3D_ND5_007	120	239.4	-10.5
R3D_ND5_007	150	239.4	-11
R3D_ND5_007	180	239.5	-11.1
R3D_ND5_007	209	241.2	-11.91
R3D_ND5_007	245	241.6	-12.82
R3D_ND5_008	0	273	-10.05
R3D_ND5_008	30	272.8	-11.79
R3D_ND5_008	60	271.9	-13.82
R3D_ND5_008	90	271.9	-15.4
R3D_ND5_008	120	272	-16.79
R3D_ND5_008	150	272.3	-17.26
R3D_ND5_008	156	272.2	-17.52
R3D_ND5_009	0	274	-20.53
R3D_ND5_009	30	272.8	-23.01
R3D_ND5_009	60	273	-24.06



HOLEID	DEPTH	AZIM	DIP
R3D_ND5_009	90	272.7	-25.07
R3D_ND5_009	120	273	-25.9
R3D_ND5_009	126	273.2	-26.03
R3D_ND5_010	2	274.4	-36
R3D_ND5_010	30	275.5	-36.7
R3D_ND5_010	60	276.1	-36.8
R3D_ND5_010	90	276.1	-37.3
R3D_ND5_010	122	277.5	-38.1
R3D_ND5_010	158	278.9	-38.4
R3D_ND5_011	3	240.5	-77.92
R3D_ND5_011	30	224.8	-77.3
R3D_ND5_011	60	239.3	-77.6
R3D_ND5_011	87	238.9	-77.57



Appendix 2

# JORC Code, 2012 Edition – Table 1 – 6C and NDD5 Drill results

## **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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</li> </ul>	<ul> <li>Three primary sampling techniques are utilised, geophysical gamma logging, geochemical assaying and specific gravity by pycnometry testing, all of which are set as 1m intervals.</li> <li>During the drilling phase a down hole geophysics gamma sonde is deployed during both the inrod and openhole drill runs (where possible according to ground conditions). Geophysical sampling is recorded every 0.05m and composited into 1m intervals and provides an equivalent U3O8 result (referred to as a U3O8)</li> </ul>
	<ul> <li>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> <li>to as eU3O8).</li> <li>The gamma sonde undertakes a daily calibration test against a standard source, and also undertakes a yearly calibration to verify the dead-time and K-Factor conversion variables used to convert observed and true gamma counts into an eU3O8 reading.</li> <li>The selection of samples for geochemical assaying is initially defined by the results from the down hole geophysics 1m eU3O8 composites. Intervals that have gamma results above 0.02% eU3O8 are automatically assigned for assaying, plus the two samples above and below the triggered interval. In zones where the down hole geophysics were unable to reach and no gamma data was obtained the entire interval is selected for assay.</li> <li>The current suite of geochemical analyses consists of 48 major and trace elements which is analysed by ICPMS and ICPOES. All elements are reported in parts per million (ppm), except for U, which is reported as the weight percent</li> </ul>
		<ul> <li>oxide U3O8.</li> <li>Every 10th sample is also assigned for SG testing, and is conducted on the pulverized material by gas pynchometer at the analytical laboratory.</li> </ul>



Criteria	JORC Code explanation	Commentary
Drilling techniques	<ul> <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,</li> </ul>	<ul> <li>All current drilling has been HQ3 Diamond core, with future drilling to include NQ/NQ3 drilling diameters.</li> </ul>
	face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	<ul> <li>Core orientation is conducted by a reflex digital orientation tool and the low side markup is made at the drilling rig upon core retrieval. The remaining core orientation lines are completed by the field team at the core logging facility.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> </ul>	<ul> <li>Sample recovery is logged according to geotechnical intervals, with interval length and total recovered metres logged for the entire drill hole. All exclusion</li> </ul>
	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	intervals are also recorded (due to core loss) to provide a total sample recovery % for every drill hole.
<ul> <li>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.</li> </ul>	• The diamond core is processed in the ERA Jabiru East core yard where each metre is checked, measured and marked before the core is geologically and geotechnically logged. Every discrepancy between the measured length of the core and the driller's length marked on the core blocks is investigated. Discrepancies are resolved by ERA field staff, geologists and drilling personnel prior to cutting and sampling.	
		<ul> <li>Triple tube drilling has been selected to increase core recovery in the mineralised zone.</li> </ul>
Logging	<ul> <li>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.</li> </ul>	<ul> <li>All diamond core is oriented and geologically logged to a detailed system that is constructed around the specific style of geological model/mineralisation under evaluation. Emphasis is placed upon the association of stratigraphy, lithology, structure and brecciation intensity. Similarly, the same core is</li> </ul>
	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> </ul>	geotechnically logged to system that is specifically adopted to derive a Tunneling Quality Index (Q) for geotechnical stope span support criteria. 100%
	<ul> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	of the core is logged in this manner. All core is photographed under consistent lighting conditions and the digital images stored on an internal shared drive.



Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and</li> </ul>	<ul> <li>Individual metres of diamond core that have been selected for geochemical analysis are cut in half by diamond saw, with each half of each metre representing a single sample.</li> </ul>
preparation	whether sampled wat or dry	Core is cut along a line through the centre of the axis of symmetry as defined
		by the dominant fabric in the rock (or the mineralised structures), i.e. the line which passes through the apex of the foliation ellipsoid.
	<ul> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> </ul>	<ul> <li>Upon receipt at the analytical laboratory, samples are dried at 105°C to remove sample moisture.</li> </ul>
	<ul> <li>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.</li> </ul>	<ul> <li>Samples undergo a primary crushing stage to take the entire sample to &lt;2mm. On occasions, at this stage a sample may be rotary split off for additional metallurgical testing.</li> </ul>
	<ul> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	• The remaining sample undergoes a secondary drying phase at 80°C to remove any additional moisture that may have resulted from the high humidity conditions in the NT.
		<ul> <li>A rotary split is conducted on up to 3kg of crushed material to a 300g result, which then undergoes a final pulverise stage to take the entire sample to 95%&lt;75µm.</li> </ul>
		<ul> <li>The final pulverised sample undergoes a 4-acid near total digestion and submitted to ICPMS and ICPOES analysis.</li> </ul>
Quality of assay data and laboratory	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	• The down hole gamma sonde is a Geovista 38mm Total Count Gamma Probe and there are currently three in cyclical use, 3348, 3498 and 3540. All three probes were calibrated on the Adelaide Models (AM1, AM2, AM3 and AM7) on
tests	<ul> <li>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.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether</li> </ul>	6 June 2013 in order to derive the Deadtime and K Factor for each probe. The derivation of these variables and the drilling diameter correction factors are all documented in a technical report provided by Borehole Wireline Pty Ltd.
		• To ensure quality control measures are in place for geochemical analysis, a uniform quality control process is assigned for each drillhole to be sampled.
	acceptable levels of accuracy (ie lack of bias) and precision	Field duplicates are taken every 10m in the mineralised zone



Criteria	JORC Code explanation	Commentary
	have been established.	<ul> <li>The five highest eU3O8 samples are also assigned as a field duplicate if not already duplicate as per 10m intervals.</li> </ul>
		• A certified reference standard is inserted at a frequency of every 25th sample. There are 10 certified reference standards available, ranging from 0.03% to 1.68%, all off which have been created from ERA material and are matrix matched. The first standard is selected at random and subsequent standards are incremented from ERA_CRS_1 to ERA_CRS_10.
		<ul> <li>A blank sample (quartz sand) is also inserted at a frequency of every 20th sample.</li> </ul>
		<ul> <li>All drill holes are sent as a single dispatch, whereby they are split up into sets of 88 by the analytical laboratory. An additional 12 check samples are included by the laboratory to conduct 100 sample analyses at a time (Qty x4 each of internal laboratory repeats, standards and blanks).</li> </ul>
		• A Quartz flush is also inserted between every sample during the crushing stage to minimise potential contamination of sample preparation equipment.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All samples are conducted by a NATA accredited laboratory (Northern Territory Environmental Laboratory, a division on Intertek). All sample results
assaying	The use of twinned holes.	are reported in electronic format and imported directly into acQuire without modification to the original files. All results are saved in CSV and PDF format
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	for future verification by if required.
		<ul> <li>A report of the import process and results is also saved on a shared network drive for archive purposes.</li> </ul>
		<ul> <li>Access to the import process is restricted by three layers of security, acQuire software, Active Directory and SQL server protocols are implemented to ensure that only trained and qualified staff are physically capable of importing assay results.</li> </ul>
		<ul> <li>The sample approval process also abides by the same level of security, with specific staff permitted to write permissions, all other staff have read-only access to assay results.</li> </ul>



Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>At present DGPS - Differential Global Positioning System, is used in conjunction with a real time kinematic (RTK) system involving a base/static station radio broadcasting its received satellite telemetry to a moving/rover receiver. Regular QA/QC checks are conducted for the veracity of the GPS system by positioning the GPS rover over known, monumented ground stations with the receivers on a fast static or dynamic mode.</li> </ul>
		• Base Station and Mine Grid System - The survey department of the ERA - Ranger mine maintains a base/static station 24/7 at the mine site office and broadcast the satellite telemetry on the local/adopted mine grid system. The relative positions of various features and earth works requirements are instantly available to the roving receivers for both setting-out and as-built surveys.
Data spacing	Data spacing for reporting of Exploration Results.	The maximum range of mineralisation continuity as suggested by existing
and distribution	<ul> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	variography studies to achieve a "measured" mineral resource confidence category is a maximum of 25 x 25 metres. The goal of the underground drilling program is to reduce the current data spacing of existing surface exploration drilling from 50 x 50 metres to a maximum of 25 x 25 metres. This confidence classification will be reviewed with further variography studies as new data is gathered. All sampling is conducted on regular 1 metre intervals
Orientation of data in relation to geological	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	<ul> <li>All drilling from the underground decline has been oriented to ensure it is 90 degrees to the strike of the known mineralisation and controlling structures. Previous surface drilling was oriented parallel to northing sections which was</li> </ul>
structure	<ul> <li>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.</li> </ul>	not 90 degrees the strike of the known mineralisation and controlling structures. The influence of this change of drilling orientation on sampling bias is under assessment.
Sample security	• The measures taken to ensure sample security.	<ul> <li>All post drilling assessments are undertaken within a fully lockable facility located at the Ranger mine.</li> </ul>
		<ul> <li>In preparation for dispatch to the laboratory, all bagged cut core samples are packed into 44 gallon drums with tension strapped lids, closed and stored for transport in a fully enclosed, lockable shipping module.</li> </ul>



Criteria	JORC Code explanation	Commentary
Audits or	<ul> <li>The results of any audits or reviews of sampling techniques</li></ul>	<ul> <li>ERA has internal audit and governance processes in place with respect to the</li></ul>
reviews	and data.	classification and reporting of Mineral Resources.

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> </ul>	• ERA holds an authority issued pursuant to section 41 of the <i>Atomic Energy Act</i> 1953 (Cth) ('Section 41 Authority') over the Ranger Project Area. This authorises ERA to conduct mining and processing operations on the Ranger Project Area.
	• 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.	<ul> <li>The Section 41 Authority permits the conduct of mining and processing operations until 8 January 2021. Following this date, ERA must cease all mining and processing operations and is required to rehabilitate the Ranger Project Area in accordance with the Environmental Requirements annexed to the Section 41 Authority.</li> </ul>
		• The Ranger Project Area is located on Aboriginal land. In January 2013, ERA, the Commonwealth Government, the Gundjeihmi Aboriginal Corporation (representing the Mirarr Traditional Owners) and the Northern Land Council entered into a suite of agreements governing the conduct of operations on the Ranger Project Area.
		• ERA's operations are closely supervised and monitored by key statutory bodies including the Northern Territory Department of Mines and Energy, Commonwealth Government's Supervising Scientist Division, Northern Land Council, Gundjeihmi Aboriginal Corporation (representing the Mirarr Traditional Owners) and the Commonwealth Department of Industry.
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	• The Ranger 3 Deeps mineralisation is down dip of the Ranger Pit 3 deposit, which was mined from 1997 to 28 November 2012. The Ranger 3 Deeps mineralisation has been defined by a series of successive surface diamond drilling programs from 2005-2009 undertaken by ERA.



Criteria	JORC Code explanation	Commentary
Geology	Deposit type, geological setting and style of mineralisation.	The Ranger mine and the Ranger Project Area lie in the north-easternmost part of the Pine Creek Geosyncline. Ranger 3 Deeps is a structurally controlled U3O8 deposit hosted by Paleo-Proterozoic arenites, shales and carbonate sediments of the Cahill formation which have been regionally metamorphosed to psammites, chlorite schists and magnesitic marble all of which dip at moderate angles to the east. The deposit sits within the "Deeps Fault Zone", a NNW trending complex upward soling reverse fault system controlled by the competency structure of the local stratigraphy. This competency contrast of the Ranger package is hypothesised to directly reflect its depositional character. Mineralisation is associated with brecciation and structural overprint adjacent to reverse faulting and is intimately linked to the geochemistry of the chlorite schist host lithology.
Drill hole Information	<ul> <li>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:</li> </ul>	<ul> <li>The initial azimuth and dip setup of the drill hole is conducted via a Downhole Surveys Azimuth Aligner<sup>™</sup>, which utilises north seeking gyros with precision to 0.2 degrees azimuth and 0.01 degrees inclination. Down hole surveys are conducted via a Reflex EZ-TRAC<sup>™</sup> Survey camera (accuracy 0.35 degrees azimuth and 0.25 degrees inclination), with a single shot recorded every 30m during drilling, and multi-shot when retrieving rods as a means of quality control. The Reflex tool measures magnetic north, and therefore a correction factor is applied to convert to True North, taking into account yearly magnetic north drift as defined by Geoscience Australia.</li> </ul>
	<ul> <li>easting and northing of the drill hole collar</li> </ul>	
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> </ul>	
	$\circ$ dip and azimuth of the hole	
	<ul> <li>down hole length and interception depth</li> </ul>	
	<ul> <li>hole length.</li> </ul>	<ul> <li>Down hole length is recorded both via a daily drill plod and on each core tray blocks to define the start, end and core loss intervals for each drilling run. This is verified by the geologists and field team by cross referencing the drilling contractor measurements with actual core mark-up measurements. Any discrepancies are noted and rectified before any core logging or sampling is conducted.</li> </ul>
	<ul> <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>	
		• Initial interception depth (as defined by eU3O8) is determined by the Geovista Logging unit, which records the wireline depth, speed and cable tension to determine a true down hole depth every 5cm during the geophysics logging process. A daily wireline calibration check is conducted against known markers on the wireline to ensure the unit is calibrated before each logging run.



Criteria	JORC Code explanation	Commentary
		<ul> <li>Chemical assaying interception depth is determined by the core samples which are created against the core length markups conducted by the logging geologist.</li> </ul>
Data aggregation methods	<ul> <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> </ul>	<ul> <li>All significant intersections are reported at a 0.12% U3O8 cut-off with a maximum of 2 metres internal dilution below that value. This is considered appropriate for a high grade underground mining project.</li> <li>All reporting of intersections is based on a regular sample length of 1m.</li> </ul>
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	
Relationship between mineralisation	• These relationships are particularly important in the reporting of Exploration Results.	<ul> <li>Previous surface drilling was completed on an E-W exploration/mine grid orientation towards 270 degrees.</li> </ul>
widths and intercept	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> </ul>	• Current and proposed underground drilling is oriented towards 240 degrees which is at right angles to the strike of the structures known to host the mineralisation.
lengths	<ul> <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>	
Diagrams	<ul> <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> <li>Appropriate maps and sections (with scales) are included in the body of the accompanying announcement.</li> </ul>
Balanced reporting	• 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.	The associated report is considered to represent a balanced report.



Criteria	JORC Code explanation	Commentary
Other substantive exploration data	• 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.	<ul> <li>Other exploration data collected is not material to this announcement. Further data and interpretation will be reviewed and reported when considered material.</li> </ul>
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Approximately 200 drillholes are planned from approximately 15 drill positions. Appropriate drill sections will be reported following drilling.
	<ul> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	