

# Updated Uranium Grades Achieve up to 7139ppm U3O8 in South West Corner Trench Assays

- Further to Gladiator's announcement dated 27 December 2023 for the Southwest Corner (SWC) target trench assay results, re-analysis of the samples that were 'above detection' limit (of 4245ppm U<sub>3</sub>O<sub>8</sub>) have now been completed.
- The highest grading samples are **7139 and 4442 ppm U<sub>3</sub>O<sub>8</sub>** which confirm the potential for very high grades. Vertical intervals include:
  - o 1.95m with an average grade of 1776ppm U<sub>3</sub>O<sub>8</sub> in Trench 1
  - $\circ$  1.40m with an average grade of **3170ppm U<sub>3</sub>O<sub>8</sub>** in Trench 2
  - 1.40m with an average grade of **3945ppm U<sub>3</sub>O<sub>8</sub>** in Trench 4
  - $\circ$  1.40m with an average grade of 4442ppm U<sub>3</sub>O<sub>8</sub> in Trench 5
  - $\circ$  0.75m with an average grade of **7139ppm U<sub>3</sub>O<sub>8</sub>** in Trench 5
  - $\circ$  2.55m with an average grade of **2017ppm U<sub>3</sub>O<sub>8</sub>** in Trench 5
- The average grade of the exposed parts of the layers in the trenches range from 708 to 2563 ppm U<sub>3</sub>O<sub>8</sub> with the layers interpreted to be between 1m and over 6m thick.
- The uranium mineralisation is hosted in coarse sandstone, as at the Nyota deposit 50 km to the north (Measured and Indicated Mineral Resource Estimate of 124.6 Mlbs U<sub>3</sub>O<sub>8</sub>)<sup>1</sup>.
- The recently acquired radiometric data<sup>2</sup> suggest the layers at the North and South Limb zones may have a combined **surface strike extent of approximately 3 km**. The down-dip extent is unknown.
- The North and South Limb zones will be tested using core drilling in Q2 2024. There has been no drilling at these zones other than the shallow-hole (<15 m) auger drilling in 2008 which gave excellent results<sup>3</sup>.

**Gladiator Resources Ltd (ASX: GLA) (Gladiator** or the **Company**) is pleased to announce that re-analysis of the samples that were 'above detection' limit of 4245ppm  $U_3O_8$  have returned final grades as high as 7139 ppm  $U_3O_8$  for the Southwest Corner Trench samples, above the detection limit of the analytical method previously reported on 27<sup>th</sup> December 2023.

<sup>&</sup>lt;sup>1</sup> Measured and Indicated Mineral Resource Estimate of 187 Mt at 306ppm U<sub>3</sub>O<sub>8: www.uranium1.com</sub>

<sup>&</sup>lt;sup>2</sup> GLA announcement dated 12 November 2023

<sup>&</sup>lt;sup>3</sup> GLA announcement dated 21 August 2023



The next step is to drill-test the layers which have an average grade of between 708 and  $2563 \text{ ppm } U_3O_8$  in the trenches.

#### Southwest Corner Target

The target and the exploration history of the target is well-described in the Company's announcement dated 27th December 2023. **Table 1** provides an updated summary of the Company's trench results. **Figure 1** provides a face map of Trench 4 at the North Limb Zone to illustrate the grades and geometry of the mineralisation. **Figure 2** is a cross-section of the SWC North Limb and South Limb zones showing the potential (interpreted) down-dip extent of the gently dipping mineralised layers and proposed drilling. **Figure 3** is a photo of high-grade uranium mineralisation in Trench 4. The line of section is shown in **Figure 4** which is a map of these targets with the recently acquired ground radiometric data as background. The next step is to test if the mineralisation extends down-dip, by core drilling planned for Q2 2024.

			Layer average*		Best ver	ical interva	I
Trench ID	Area	Layer	Comments	From depth (m)	To depth (m)	Interval (m)	U3O8 (ppm)
SWC-TRO1	South Limb	?	less certainty of layer continuity	0.5	2.45	1.95	1776
SWC-TRO2	South Limb	1	Average grade 708ppm U3O8 and 3m true thickness	0.4	3.4	3	1304
		2	Average grade 2163ppm U3O8 and 1 m thickness	1.3	2.7	1.4	3 <mark>17</mark> 0
SWC-TRO3	South Limb	No sig	No significant results				
SWC-TRO4	North Limb	1	Average grade 1707ppm U3O8 of 3m true thickness of	1.3	2.7	1.4	<b>394</b> 5
			the (exposed) upper part of a <b>&gt;6m thick layer. Top 2m</b> has av. grade of 1911ppm U3O8.	1.25	3.1	1.85	1795
		2	not trenched, possibly beyond north end of trench	0.5	2.85	2.35	1636
SWC-TRO5	South Limb	1	Average grade 2563 ppm   1308 and 3m true thick	0.5	1.9	1.4	4442
			Average grave 2000ppm 0000 and on the thick	1.45	2.2	0.75	7139
		2	Average grade 1518ppm U308 and 3m true thick	0.8	3.35	2.55	2017

 Table 1. Summary of trench results. Layer-average grade estimated by sample length-weight

 averages, and thickness are estimates of true thickness.





Figure 1. Face map of trench 4 (North Limb Zone) with U<sub>3</sub>O<sub>8</sub> data.



Figure 2. Cross-sectional interpretation showing domal structure and gently dipping mineralised layers (red lines). Proposed drill-hole positions are shown.

#### Re-analyses of samples by Sodium Peroxide Fusion

The original analyses were by XRF which has an upper detection limit of 3600ppm U (4245ppm  $U_3O_8$ ). Several samples were reported at this limit and so were re-analysed by Sodium Peroxide Fusion/ICP-OES. The average trench grades have not materially changed but the high individual sample grades provide an important understanding of the range of intensity of the mineralisation a photograph of which is provided in **Figure 3**.





Fig 3: Uranium mineralisation (yellow) in weathered sandstone from Trench 4.





*Figure 4. Map showing recently acquired ground radiometric survey results (linear equivalent U308) showing 2008 auger holes and the trenches. Cross section provided in Figure 2.* 

Released with the authority of the Board

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#### **Competent Person (CP) Statement**

Information in this "ASX Announcement" relating to Exploration Targets, Exploration Results and Mineral Resources has been compiled by Mr. Andrew Pedley who is a member in good standing with the South African Council for Natural Scientific Professions (SACNASP). Mr. Pedley has sufficient experience that is relevant to the types of deposits being explored for and qualifies as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code 2012 Edition). Mr. Pedley consents to the inclusion in this document of the matters based on the information in the form and context in which it appears. The market announcement is based on, and fairly represents, information and supporting documentation prepared by the Competent Person. Mr. Pedley is a non-executive director of Gladiator Resources Limited.

#### JORC Code, 2012 Edition – Table 1

**Section 1 Sampling Techniques and Data** (refer following pages)



Criteria	JORC Code explanation	Commentary
1.1 Sampling techniqu es	<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 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 bee 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 a 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>Sampling of the trenches was carried out by cut channels in the trenches. Trenches were excavated using a mechanical back-hoe and have vertical smooth side walls as shown in the photo in the announcement.</li> <li>Trenches were between 3 and 4 metres deep. Sample channels were all cut vertical from surface to the base of the trench, exactly every 4 metres along the trench to maximise the representivity of sampling. Samples were taken on one side of the trench only.</li> <li>The vertical samples were 0.2 to 2.7 m in length (an average of 0.9m) collected according to lithological or regolith changes. Typically, there were 3-5 vertical samples making up each channel.</li> <li>The material was collected using a geological hammer and a dustpan, taking care to remove an equal amount of material along the length of each channel. That the material was uniformly soft being highly weathered rock meany that this could be achieved easily.</li> <li>Samples were collected from the lowest sample upwards to avoid contamination.</li> <li>Sections of the trenches that were 'barren' based on the scintillometer were sampled but the samples were not submitted to the laboratory. No unsampled sections exist within the mineralised intervals and so do not affect the representivity of the data in any way.</li> <li>The samples weighed between 1 and 2.4 kg.</li> <li>Samples were prepared at SGS Laboratory in Mwanza, Tanzania. On receipt at the laboratory they were dried and weighed. Then the full sample was crushed to &gt;75% passing 2mm.</li> <li>The crushed sample was pulverized to &gt;85% passing 75 microns. The pulps were then sent to SGS Randfontein in South Africa for analysis.</li> </ul>
1.2 Drilling techniqu es	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diametre, 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> <li>No drilling is reported and so this section is not applicable</li> </ul>



Criteria	JORC Code explanation	Commentary
1.3 Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <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>	No drilling is reported and so this section is not applicable
1.4 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> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>The trench samples were logged from the sidewall of the trench. The following information was collected: regolith type, lithology, grainsize, colour and minerals. Comments were also made recording important/relevant information.</li> <li>The counts per second (cps) of the samples was recorded using a scintillometer against each sample bag.</li> <li>All samples were logged, totaling 408 metres of vertical samples.</li> </ul>
1.5 Sub- sampling techniqu es and sample preparati on	<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 whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all subsampling stages to maximise representivity of samples.</li> <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> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>No splitting or sub-sampling was carried out in the field.</li> <li>To maximise representivity effort was made to take the same volume of material down the channel samples.</li> <li>Channels were not positioned with any influence of a scintillometer, they were cut vertically at exactly 4 m intervals along the trench wall.</li> <li>The sample size is appropriate to the grainsize which ranges from medium to coarse grained sand. No coarse mineralised 'nuggets' were observed.</li> </ul>



Criteria	JORC Code explanation	Commentary
1.6 Quality of assay data and laborator y tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <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 acceptable levels of accuracy (lack of bias) and precision have been established</li> </ul>	<ul> <li>Analyses of the samples was by pressed pellet XRF which is an industry standard method for uranium analyses. The SGS code is GE_XRF71. The samples that reported above the detection limit of 3600ppm U were reanalysed by Sodium Peroxide Fusion/ICP-OES (SGS code IMS90A50) to obtain the grade of these samples, the subject of this announcement.</li> <li>10 % of the samples are QA-QC samples; either a blank, a duplicate or a Certified Reference Material (CRM). This is an acceptable quantity of QA-QC samples. Two CRMs were used, a low-grade CRM and a medium grade CRM.</li> <li>The Company's low-grade CRM (&lt;200 ppm U308) results are an average of 12% over the accepted value. The medium grade CRM reports within 3%. The laboratories internal CRMs (inserted at the main SGS lab in South Africa) which are the same CRMs as those used by GLA all report within the acceptable limits.</li> <li>The Company's CRMs were re-bagged at the prep lab but not crushed or pulverized at either lab, and so it is likely that small amounts of low-grade contamination occurred in the re-bagging of the samples. It is the CP's view that this will not have affected the (large) channel samples and less so those that are higher grade (&gt;200 ppm). The CP is of the opinion that the slight over reporting of the low-grade CRMs does not materially impact on the reported results.</li> <li>As a further check, a selection of the samples were re-analysed by an an alternative method as a check on the first result.</li> <li>Of the 7 (40g) blanks submitted 6 have results less than detection. One had unacceptably high levels of uranium (117 ppm U308) and is after a high-grade sample – presumably contamination occurred, similar to that for the low-grade CRM. As it is only 1 of the 7 blanks and that a full-size channel sample is less likely to be affected, especially those that are of high grade (which inform the grade of the reported mineralized layers) the CP is of the opinion that this blank result does not materially impact on the reported results.</li></ul>



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Criteria	JORC Code explanation	Commentary
1.7 Verificati on of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <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>	<ul> <li>There has been no verification of the trench data though the trenches were at the sites of 2008 auger holes which had similar grades of uranium, and are detailed/reported in the Company's announcement dated 29/9/2023.</li> </ul>
1.8 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>The position of the start of each trench was recorded using a hand-held Garmin GPS. The azimuth and inclination was taken at any changes in orientation.</li> <li>All holes are positioned using WGS84 UTM zone 37S.</li> <li>There has been no topographic survey.</li> </ul>
1.9 Data spacing and distributi on	<ul> <li>Data spacing for reporting of Exploration Results.</li> <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>	<ul> <li>The trenches are not equidistant, they were positioned to test some of the 2008 auger hole intersections, focusing on those with uranium mineralisation in the upper 3-4 m.</li> <li>Within the trenches, the channels were made at 4m intervals.</li> </ul>
1.10 Orientati on of data in relation to geologic al structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <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>	<ul> <li>Based on observations in the trenches, the mineralisation is sub-horizontal or gently dipping, which is consistent with a low angle of dip in the area, observed to be less than 20 degrees though outcropping bedding structures are rare.</li> <li>The gentle (10-20 degree) dip of the layers mean that the vertical samples overstate the thickness slightly and for this reason the announcement includes reference to true thickness, as measured perpendicular to the layers.</li> <li>In the case of the trenches and the 2008 auger holes in some cases the mineralised intervals are 'open' at depth meaning that the base of the mineralised layer was not reached.</li> </ul>





Criteria	JORC Code explanation	Commentary
1.11 Sample security	• The measures taken to ensure sample security.	<ul> <li>The samples were driven by Gladiator staff to Mwanza where they were received by the laboratory and kept on a secure premises.</li> <li>The prepared samples were securely boxed and sent with DHL to SGS in South Africa for analysis.</li> <li>It is unlikely that any security issues affect the results.</li> </ul>
1.12 Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>No physical review or audit has been carried out of sampling techniques. The trench logging and sampling procedure was according to a standard operating procedure written by the CP.</li> </ul>
Criteria	JORC Code explanation	Commentary
2.1 Mineral tenemen t 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> <li>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.</li> </ul>	<ul> <li>The SWC target is within Prospecting License (PL)12354/2023 granted on the 19 May 2023 and is valid for 4 years.</li> <li>The target is within the Mbarang'andu National Community Forest Reserve. Gladiator has informed the CP that there are no restrictions to operate in this Reserve as per section 95 of the Mining Act 2019.</li> <li>If developed as a mining project detailed Environmental and Social Impact Assessment (ESIA) and an Environmental Management Plan (EMP) would be required to be completed and approved.</li> </ul>
2.2 Explorati on done by other parties	• Acknowledgment and appraisal of exploration by other parties.	<ul> <li>An airborne magnetic survey was carried out by one of the companies exploring in the wider area sometime before 2008. This data may have been helpful in identifying the targets on the Mtonya-SWC trend.</li> <li>The auger drilling at SWC was carried out by Mantra in 2008.</li> <li>A single diamond core was drilled at SWC in 2012 by Mantra Resources as part of a series of exploratory holes over a large area.</li> </ul>



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Criteria	JORC Code explanation	Commentary
2.3 Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The majority of the uranium deposits and occurrences in eastern and southern Africa occur within the Karoo Supergroup, a thick sequence of continental clastic sediments which are from late Carboniferous to Jurassic in age. Sandstones are the dominant lithology, with lesser amounts of conglomerate, siltstone, and mudstone.</li> <li>In southern Tanzania the Karoo sediments are within the NNE trending Selous Basin, a rift basin that extends over a length of about 550km and a width of up to 180km.</li> <li>The area is comprised of sediments of the Upper Triassic Mbarangandu Formation, which are coarse sandstones, grit-stones, conglomerates and lesser mudstones. The stratigraphy in the area is generally dipping to the southwest and west, with local variations depending on faults and gentle folds. The Uranium observed at the nearby (10km) Mtonya deposit is hosted by feldspathic sandstone and interpreted as 'stacked roll-front mineralisation' type, hosted in 3 'tiers' from tens to hundreds of meters below surface and separated by mudstones. In is uncertain at this stage if the mineralisation, and the work to date suggests it may be a more focused zone of tabular hosted uranium possibly lower in the stratigraphy than Mtonya.</li> <li>The rock exposed in the trenches and in the 2008 auger holes is weathered, being saprolite; most of the feldspars have been largely altered to clay. The primary textures are preserved. The depth of weathering/oxidation in the area is known to me many tens of metres in from cored holes in the wider area and it may be that mineralisation may not be of the topography where drilling and trenching has focused to date. If this is the case the down-dip extension of the surface the surger value at the well-drilled uranium deposits in the area, but drilling is needed at SWC to test if the high-grades extend 'down-dip' to depth.</li> <li>The work to date at SWC suggests that the layers may be tabular, as at the Likuyu North deposit 35km to the north. At Likuyu North, up</li></ul>



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Criteria	JORC Code explanation	Commentary
		sands and changes in oxidation state. The Likuyu deposit is hosted by the Mkuju River Formation whereas the rocks at SWC are of the Mbarangandu Formation.





Criteria	JORC Code explanation	Commentary
2.4 Drill hole Informati on	<ul> <li>A summary of all information material understanding of the exploration including a tabulation of the follow information for all Material drill holes:</li> </ul>	to the • No drilling is reported and so this section is not results applicable ving
	$\circ$ easting and northing of the drill hole colla	
	<ul> <li>elevation or RL (Reduced Level – elevation sea level in meters) of the drill hole collar</li> </ul>	above
	$\circ$ dip and azimuth of the hole	
	$\circ $ down hole length and interception depth	
	○ hole length.	
	<ul> <li>If the exclusion of this information is justi, the basis that the information is not M and this exclusion does not detract fro understanding of the report, the Com Person should clearly explain why this is the</li> </ul>	fied on aterial m the petent e case.
2.5 Data aggregat ion methods	<ul> <li>In reporting Exploration Results, weigh averaging techniques, maximum and minimum grade truncations (e.g., cutting grades) and cut-off grades are usually M and should be stated.</li> <li>Where aggregate intercepts incorporate lengths of high-grade results and longer le of low-grade results, the procedure used fo aggregation should be stated and some examples of such aggregations should be in detail.</li> <li>The assumptions used for any reporting of equivalent values should be clearly stated</li> </ul>	<ul> <li>ting • For the reported vertical intervals, standard sample length weighting was used to work out the average grade of the interval.</li> <li>• No short lengths or high grade were included within long intervals.</li> <li>• No metal equivalents have been reported.</li> <li>• metal</li> </ul>
2.6 Relations hip between mineralis ation widths and intercept lengths	<ul> <li>These relationships are particularly import 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 cle statement to this effect (e.g., 'down hole length, true width not known').</li> </ul>	<ul> <li>As stated it is expected that the reported vertical intervals are close to the actual thickness as the mineralisation appears to be horizontal to gently dipping.</li> </ul>





Criteria	JORC Code explanation	Commentary
2.7 Diagram s	<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>Maps and tabulations are provided in the announcement. A cross-section is not included.</li> </ul>
2.8 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 reporting is considered balanced.
2.9 Other substanti ve explorati on data	<ul> <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>	There is no other data available other than that which t has been reported in the announcement and in this checklist.
2.10 Further work	<ul> <li>The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <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>	<ul> <li>Drilling at the site of the best of the historic auger holes and/or trenches at the North Limb and South Limb zones is planned using a drilling method that can continue into the unweathered bedrock, to reach the base of the oxide mineralisation and to test for deeper primary mineralisation.</li> <li>And then drilling to test the down-dip extension of the uranium mineralisation. To test the continuity of grade as described in 2.3.</li> </ul>