

5 September 2023

## **High-Grade Boothby REE Project NT – Addendum**

Western Gold Resources (ASX: WGR) (“WGR” or “the Company”), provides the following addendum to the ASX release titled, “High Grade Reynolds Range REE Project Granted - 2.2% TREO”, as released on 31 August 2023. The addendum relates to the inclusion of the JORC table pursuant to ASX Listing rule 5.7.

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## **High-Grade Boothby REE Project NT**

### **(Samples 2.20% TREO) Reynolds Range – Granted**

#### **HIGHLIGHTS**

- **WGR has been granted EL33449 (“Boothby”) covering 32km<sup>2</sup> of highly prospective ground 60km to the north-west of Arafura Rare Earths Ltd (ASX:ARU) Nolans Bore REE-P-U-Th deposit.**
- **Rare-earth enrichment up to 22,000 ppm (2.20%) total rare earth oxides (“TREO”) identified in historic stream sediment sampling.**
- **The REE-mineralisation sample exhibits a Nd/Pr ratio of approximately 4:1, comparable to the nearby Nolans deposit.**
- **The Boothby REE Project is strategically located within the Reynolds Range area in the Paleoproterozoic Aileron Province.**
- **WGR considers that the Boothby REE area is under-explored given it has not been subjected to any systematic modern exploration techniques.**
- **WGR now intends to carry out detailed mapping and geochemical sampling and follow-up stream sediments samples to determine source of REE-mineralisation.**
- **WGR is delighted to add the Boothby project to its REE portfolio along with the recently announced Holmtjarn nr 100 project in Sweden, in line with the Company’s strategy of acquiring and exploring high-quality REE projects with a target threshold of 20Mt at grades >2% TREO.**

Western Gold Resources (ASX: WGR) (“WGR” or “the Company”) is pleased to announce it has officially been granted an Exploration License (EL33449), referred to as the ‘Boothby REE project’, located within the highly REE-endowed Reynolds Range of the Paleoproterozoic Aileron Province. This new exploration licence covers 32km<sup>2</sup> of highly prospective geology 60km northwest of the world-class Nolan’s REE-P-U-Th deposit (Figure 1).

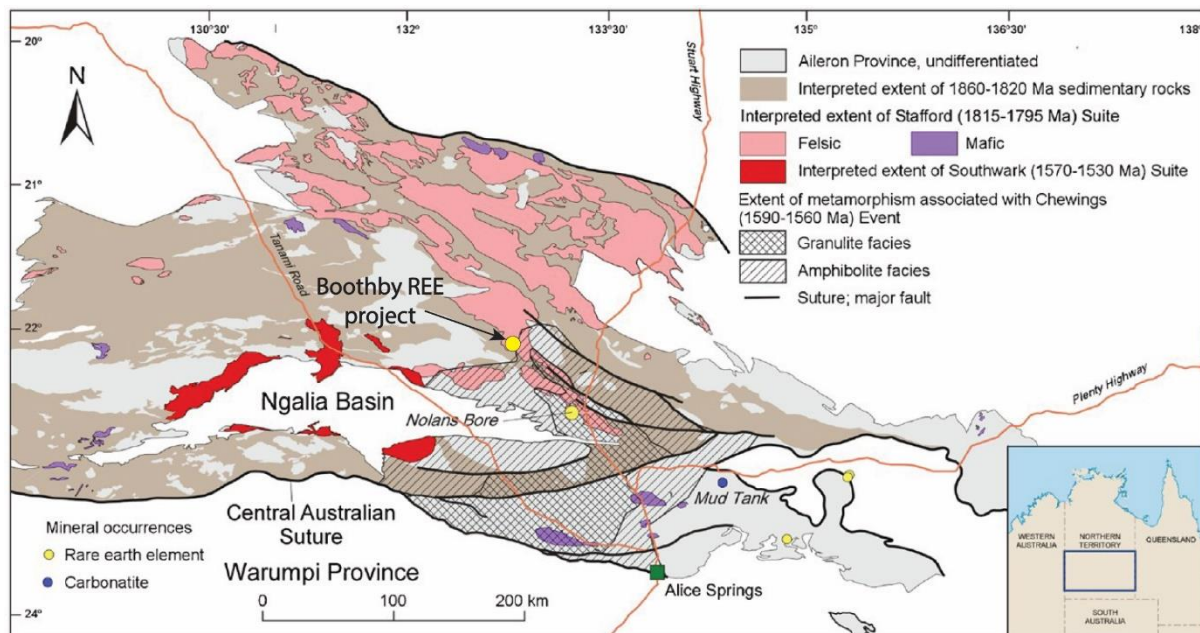


Figure 1. Location of Boothby REE project and geology of the Aileron Province (after Huston et al. 2016<sup>1</sup>)

## Previous Work

Crosslands Nickel Pty Ltd (Crosslands) conducted regional stream sampling programmes totalling 350 samples targeting Rare Earth Element (REE) mineralisation<sup>2</sup>.

Samples were transported to Crossland's facility near Alice Springs for processing. Each sample was weighed and then dry sieved to <3mm and then <1.5mm. The finer fraction was passed across a Wilfley table to acquire a Heavy Mineral Concentrate (HMC). An aliquot of the HMC was sent to laboratory for processing. The aliquot consisted of approximately 30 grams of the final product.

The first batch of 95 aliquots were sent to Genalysis in Adelaide and assayed by lithium borate fusion methods FB6/MS and FB6/OE with analytical results for 37 elements including full REE suite. The remaining samples were analysed by aqua regia for 49 elements (limited REE elements) using methods AR25/MS and AR25/OE. Crosslands observed that results from samples analysed by fusion were 6 to 7 times higher than the same sample analysed by aqua regia digest.

Seven of the samples are located within granted tenement EL33449, one sample having full REE analysis and six others with partial REE analysis (Table 1). The one sample with full REE analysis (Figure 2) contains a TREO of 2.20% demonstrating the potential of the project to host a high-grade TREO deposit. The REE-mineralisation sample exhibits a Nd/Pr ratio of approximately 4:1, comparable to the nearby Nolans deposit.

Table1. Crosslands stream sediments REE results and analysis type

Sample ID	Easting	Northing	Analysis	La203	Ce203	Pr203	Nd203	Sm203	Eu203	Gd203	Tb203	Dy203	Ho203	Er203	Tm203	Tb203	Yb203	Y203	Lu203	Total TREO	%TREO
208063	264848	7553179	AR25/MS - AR25/OE	82	176													30		288	0.03%
208064	266197	7552698	FB6/MS - FB6/OE	2,369	4,911	559	2,012	482	13	606	139	1,060	249	794	120	139	754	7,730	105	22,042	2.20%
208065	266135	7552497	AR25/MS - AR25/OE	145	299													67		511	0.05%
208066	267412	7550895	AR25/MS - AR25/OE	233	449													81		763	0.08%
208067	266561	7551663	AR25/MS - AR25/OE	238	475													74		787	0.08%
208078	266127	7555254	AR25/MS - AR25/OE	373	746													130		1,249	0.12%
208085	267424	7555751	AR25/MS - AR25/OE	37	75													14		126	0.01%

## Next Steps

WGR now intends to carry out detailed mapping and geochemical sampling to determine accurately the granite/greenstone contact and follow-up stream sediments samples to determine source of REE-mineralisation.

<sup>1</sup>Huston, D.L., Maas, R., Cross, A., Hussey, K.J., Mernagh, T.P., Fraser, G. and Champion, D.C. (2016) The Nolans Bore rare-earth element-phosphorus-uranium mineral system: geology, origin and post-depositional modifications. *Mineralium Deposita* 51:797-822

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**Competent Person's Statement**

*The information in this report which relates to Exploration Results is based on information compiled by Dr Warren Thorne, he is a member of the Australasian Institute of Mining and Metallurgy (AusIMM) and a full-time employee of the company. Dr Thorne who is an option-holder, 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 2012 Edition of the "Australasian Code for reporting of Exploration Results, Exploration Targets, Mineral Resources and Ore Reserves" (JORC Code). Dr Thorne consents to inclusion in the report of the matters based on this information in the form and context in which it appears.*



## JORC 2012 Table 1

### Section 1 Sampling Techniques and Data

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 aim was to delineate areas of anomalous REE and to determine the potential for alluvium-hosted concentrations. Samples collected were first-pass reconnaissance samples to develop familiarity with each of the prospects studied. Many were collected from historic dumps and around old workings, so were not strictly in situ, but were clearly sourced from the historic workings. Sample type, style, condition, and weight were recorded for all samples collected by Crosslands.</li> <li>Approximately 20kg of sample were collected from stream beds and transported to Crosslands facility near Alice Springs for processing. Each sample was weighed and then dry sieved to &lt;3mm and then &lt;1.5mm. The finer fraction was passed across a Wilfley table in order to acquire a Heavy Mineral Concentrate (HMC).</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>Not applicable</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 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>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>
Logging	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Company records of the rock chip results were qualitative</li> </ul>
Sub-sampling techniques and	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>

Criteria	JORC Code explanation	Commentary
sample preparation	<ul style="list-style-type: none"> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling 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>	
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <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 (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Crosslands collected 350 stream sediments samples from streams.</li> <li>All samples were submitted to Genalysis laboratories in Adelaide as approximately 30g aliquot of heavy mineral concentrate.</li> <li>The first batch of 95 aliquots were sent to Genalysis in Adelaide and assayed by methods FB6/MS and FB6/OE. This method uses lithium borate fusion which offers a relatively low temperature, aggressive digest that dissolves almost all geological samples while limiting losses due to volatilisation. FB6/OE and FB6/MS provided analysis for the following 37 elements: Al2O3%, Bappm, CaO%, Ceppm, Crppm, Dyppm, Erppm, Euppm, Fe2O3%, Gappm, Gdppm, Hfppm, Hopppm, K2O%, Lappm, Luppm, MgO%, MnO%, Na2O%, Nbppm, Ndppm, P2O5%, Prppm, S%, SiO2%, Smppm, Snppm, Tappm, Tbppm, Thppm, TiO2%, Tmppm, Uppm, Wppm, Yppm, Ybppm, Zrppm</li> <li>Crossland then chose to analyse the remaining samples using methods AR25/MS and AR25/OE. This method uses aqua regia digestion, a mixture of hydrochloric and nitric acids which acts as powerful oxidizing agent with the ability to dissolve gold. AR25/OE and AR25/MS provided analysis for the following 49 elements: Auppb, Agppm, AL ppm, As ppm, Ba ppm, Be ppm, Bi ppm, Ca %, Cd ppm, Ce pp,, Co ppm, Cr ppm, Cs ppm, Cu ppm, Fe %, Ga ppm, Hf ppm, In ppm, K ppm, La ppm, Li ppm, Mg %, Mn ppm, Mo ppm, Na %, Nb ppm, Ni ppm, P ppm, Pb ppm, Pd ppb, Pt ppb, Rb ppm, Re ppm, Sb ppm, Sc ppm, Se ppm, Sn ppm, Sr ppm, Ta ppm, Te ppm, Th ppm, Ti ppm, Tl ppm, U ppm, V ppm, W ppm, Y ppm, Zn ppm, Zr ppm.</li> <li>Genalysis routinely inserts analytical blanks, standards and duplicates into the client sample batches for laboratory QAQC performance monitoring.</li> <li>No record of Crosslands QAQC samples.</li> </ul>
Verification of sampling and assaying	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>Genalysis routinely inserts analytical blanks, standards and duplicates into the client sample batches for laboratory QAQC performance monitoring.</li> <li>No data of Crosslands QAQC sample submission within historic reporting.</li> </ul>

Criteria	JORC Code explanation	Commentary
Location of data points	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• All samples were located using a handheld GPS system. The coordinates are stored in the exploration database referenced to the MGA Zone 53</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Not applicable</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Not applicable</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Sample security and transport methodology unknown.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• None undertaken at this stage.</li> </ul>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <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 license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>• EL33449 is granted</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>• Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>• Previous exploration within the tenements has been collated from publicly available data held by DMIRS and re-reported in this announcement.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>• The Boothby REE project is considered an intrusive-related REE project</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <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: <ul style="list-style-type: none"> <li>○ easting and northing of the drill hole collar</li> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> </ul> </li> <li>• If the exclusion of this information is justified on the basis that the information is not</li> </ul>	<ul style="list-style-type: none"> <li>• No drilling information</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i>	
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>No weighting or averaging techniques have been applied to the sample assay results.</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>Stream sediment results are considered point samples and do not represent extent or geometry</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>Historic stream sediment results from previous explorers are included in the announcement and have been transcribed directly from the reports submitted to DITT</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 avoiding misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Historic results have been reported as reported by Crosslands</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>The Company is not in possession of other relevant exploration results</li> </ul>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg 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 style="list-style-type: none"> <li>Project-wide mapping and outcrop sampling.</li> <li>Drill testing anomalous pegmatite outcrops if scale and grade warrant.</li> </ul>