

30 May 2023

MANNA ORE SORTING TRIAL DELIVERS 90% INCREASE IN LITHIUM GRADE

*Potential to expand total minable tonnes and head grade
at Manna Lithium Project*

Key Highlights

- Manna Lithium Project initial ore sorting trials successfully completed
- Ore sorting trials performed at the Steinert test facility in Perth
- Results indicate a 90% increase in lithium head grade with single pass trial
- Test run elevated head grade from 0.88% Li_2O to 1.67% Li_2O
- Iron (Fe_2O_3) reduction of 93% to 0.4% Fe
- Further test work planned to refine and improve the process

Established multi-asset West Australian Lithium company, Global Lithium Resources Limited (**ASX: GL1**, “**Global Lithium**” or “the **Company**”), is pleased to announce it has completed the first stage of Ore Sorting Trials at its **100% owned Manna Lithium Project**, 100km east of Kalgoorlie in Western Australia. This program is part of the wider scope of work that will progress the Definitive Feasibility Study (**DFS**) at the Manna Lithium Project towards completion by December 2023.

A 90% increase in the lithium grade (Li_2O) was reported in the preliminary test work with an equally impressive 93% reduction in iron (Fe_2O_3) from the mixed waste and pegmatite sample.

The test program involved a sample from the Manna diamond core (MDD05) that was crushed to 32mm and screened to remove fines (<10mm). The oversize product was processed through the ore sorting trial at the Steinert test facility in Bibra Lake, Western Australia. The <10mm fines fraction can either be stockpiled for future processing or recombined with the ore sorter final product. Table 1 shows a summary of the results with the Accepts, Rejects, Fines (<10mm) and the recombined Accepts and Fines fraction.

The test sample was selected to contain approximately 50% mine dilution consisting of a mixed Gabbro/Basalt waste stream from the Manna foot/hanging contact between the lithium pegmatite lenses and surrounding waste rock. The Scoping Study mine schedule foresees approximately 10% mine dilution with an iron grade of <2% Fe_2O_3 ex-pit (refer to ASX release on 14 February 2023). The current sample generated for this trial simulates a worst-case scenario of ore/waste contact material entering the plant.

As such the head grade of the current sample was 0.88% Li_2O and 6.3% Fe_2O_3 prior to testing, and deliberately contained a higher relative proportion of waste rock in order to perform “proof-of-concept” testwork.

Figure 1 shows the ore sorter and crushed ore entering the sorter. The testwork was conducted under controlled conditions at the Steinert test facility and achieved a lithium grade of 1.67% Li_2O and 0.4% Fe_2O_3 from the sorted Accepts.

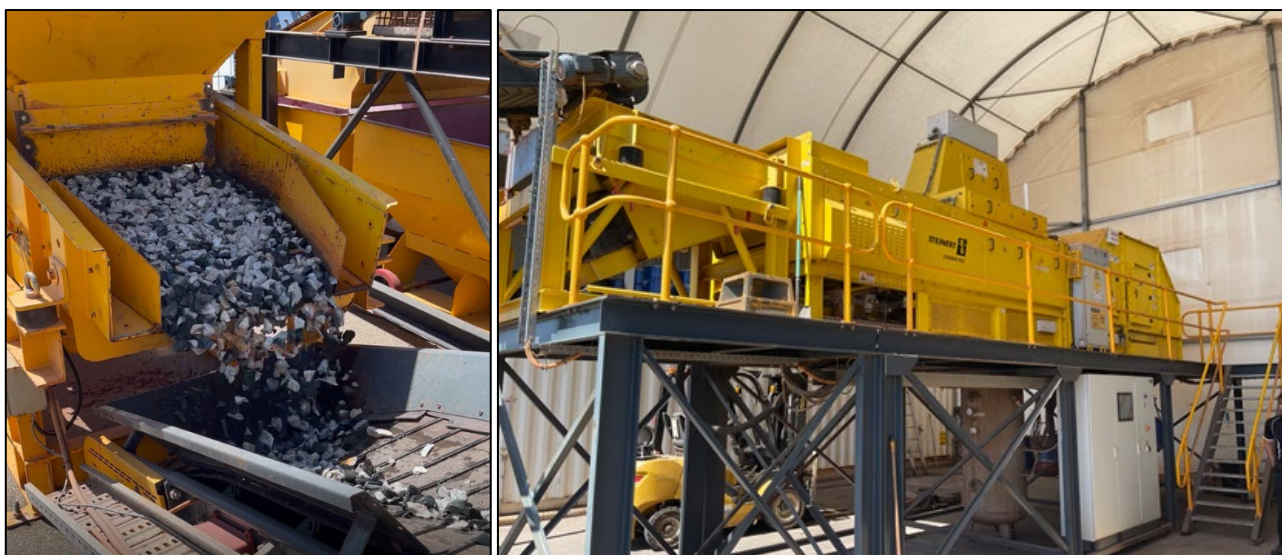


Figure 1. Showing Manna ore presented to Steinert ore sorter (left) and ore sorting machine (right)

The ore sorter results show the trial has successfully reduced the gabbro/basalt diluted component reducing the iron in the feed from 6.3% Fe_2O_3 to 0.4% Fe_2O_3 . Lithium chemical plants typically request a final spodumene concentrate iron specification <1% Fe_2O_3 .

When the fines fraction (-10mm) was recombined with the ore sort Accepts, the lithium grade maintained a high 1.47% Li_2O with an overall lithium recovery of 94% and an iron grade of 2.0% Fe_2O_3 . This processed lithium feed stock would then be sent to the main Manna spodumene beneficiation plant for further lithium concentration processing and iron removal.

Table 1. Summary of Ore Sorting Results

Description	Distribution					Grade			
	Mass %	Li ₂ O %	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	Li ₂ O %	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %
Ore Sort Rejects	43.5	5.6	33.5	19.6	82.1	0.11	45.8	4.7	11.9
Ore Sort Accepts	41.3	78.3	51.2	65.1	2.6	1.67	73.5	16.3	0.4
Crushed Fines (-10mm)	15.2	16.2	15.3	15.2	15.3	0.94	59.4	10.4	6.3
Final Product	56.5	94.4	66.5	80.4	17.9	1.47	69.7	14.7	2.0
Final Rejects	43.5	5.6	33.5	19.6	82.1	0.11	45.8	4.7	11.9
Head Grade	100	100	100	100	100	0.88	59.3	10.4	6.3

Figure 2 shows a typical example of the ore sorter product streams after a single pass through the machine.



Figure 2. Ore sorter product streams, Accepts (Left) and Rejects (Right)

Initial ore sorting testwork has shown that a significant improvement in available lithium could be achieved by incorporating an ore sorting process into the Manna flowsheet. Further trials will be performed using larger bulk samples to further optimise the ore sorting parameters and obtain lithium recovery for the main ore domains within the mineral resource. Ore sorting is also being applied at other Western Australian lithium operations.

Ore sorting trial work is a critical step in improving the available tonnes of lithium pegmatite ore that can be economically mined at the Manna Lithium Project. The ore sorting process allows larger areas containing multiple, thin lithium bearing pegmatites and waste ore that would typically exhibit a lower head grade to be economically mined. This will have the effect of increasing the minable tonnes for the deposit.

Ore sorting solutions complement and reduce the plant size of the downstream stages of conventional processing and beneficiation. It also greatly reduces the overall costs for process materials such as water and leaching agent, while the material recovery facility can be made smaller because the waste rock is no longer processed. Conversely, additional production capacity may be realised from the original sized plant.

By using ore sorting equipment, direct shipping ore (DSO) concentrates may potentially be created at very low cost in a small and remote mining installation, allowing for improved transport costs since the waste rock is disposed of on-site. Additionally, higher prices can be achieved with the concentrate since the lithium ore content is considerably greater.

Next Steps

Bulk PQ diamond drill core has been collected for the 2023 metallurgical and DFS program. Two large samples will be generated to further test ore sorting technology and confirm overall lithium recovery and impurities that can be achieved through a larger representative sample.

Results from the larger trial will be incorporated into the process flowsheet for the Manna DFS.

Global Lithium Project Director, Tony Chamberlain commented,

“The Manna Lithium Project has the distinct advantage of having great visual control between ore, which is predominantly white in colour, and surrounding waste rock which appears dark grey to black. Initial ore sorting results have shown the technology is a perfect fit for Manna with this impressive upgrade in lithium content.”

“Additional bulk diamond core has been obtained from Manna and further samples are being prepared for larger scale trials. Ore sorting technology will ultimately provide greater operational flexibility within the mining operation and increase head grade to the mill. We look forward to updating the market with further results from these trials as activities continue towards completion of the Manna DFS by December 2023.”

Global Lithium – Mineral Statement

Table 2. Global Lithium resource statement.¹

Project Name	Category	Million Tonnes (Mt)	Li ₂ O%	Ta ₂ O ₅ ppm
Marble Bar	<i>Indicated</i>	3.8	0.97	53
	<i>Inferred</i>	14.2	1.01	50
	Subtotal	18.0	1.00	51
Manna	<i>Indicated</i>	18.5	1.03	45
	<i>Inferred</i>	14.2	0.97	43
	Subtotal	32.7	1.00	44
Combined Total		50.7	1.00	46

Approved by the board of Global Lithium Resources Limited.

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1. Refer ASX announcement "GL1 DELIVERS TRANSFORMATIVE 50.7 Mt LITHIUM RESOURCE BASE" from 15 December 2022

About Global Lithium

Global Lithium Resources Limited (ASX:GL1, Global Lithium) is a diversified West Australian focussed mining exploration company with multiple assets in key lithium branded jurisdictions with a primary focus on the 100%-owned Marble Bar Lithium Project (MBLP) in the Pilbara region and the Manna Lithium Project in the Goldfields, Western Australia.

Global Lithium has now defined a total Inferred and Indicated Mineral Resource of 50.7Mt @ 1.0% Li₂O at its MBLP and Manna Lithium projects, confirming Global Lithium as a significant global lithium player aiming to fast track into development.

Directors

Geoff Jones	Non-Executive Chair
Ron Mitchell	Managing Director
Warrick Hazeldine	Non-Executive Director
Dr Dianmin Chen	Non-Executive Director
Greg Lilleyman	Non-Executive Director
Hayley Lawrance	Non-Executive Director

Competent Persons Statement:

Exploration Results

The information in this announcement that relates to Exploration Results for the Manna Lithium Project complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and is based on, and fairly represents, information and supporting documentation prepared by Mr Tony Chamberlain, a full time employee of Global Lithium Resources Limited and who participates in the Company's Incentive Performance Rights and Option Plan. Mr Chamberlain is a member of the Australasian Institute of Mining and Metallurgy. He has 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 JORC Code. Mr Chamberlain considers that the information in the market announcement is an accurate representation of the available data and studies for the mining project. Mr Chamberlain consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Mineral Resources

Information on historical exploration results and Mineral Resources for the Manna Lithium Project and the Marble Bar Lithium Project presented in this announcement, together with JORC Table 1 information, is contained in an ASX announcement released on 15 December 2022.

The Company confirms that it is not aware of any new information or data that materially affects the information in the relevant market announcements, and that the form and context in which the Competent Persons findings are presented have not been materially modified from the original announcements.

Where the Company refers to Mineral Resources for the Manna Lithium Project (MLP) and the Marble Bar Lithium Project in this announcement (referencing previous releases made to the ASX), it confirms that it is not aware of any new information or data that materially affects the information included in that announcement and all material assumptions and technical parameters underpinning the Mineral Resource estimate in that announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Persons findings are presented have not materially changed from the original announcement.

JORC Code, 2012 Edition – Table 1 Report

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. 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. 	<ul style="list-style-type: none"> No drilling is reported in this release. Ore Sorting Samples The sample consisted of representative full core from Manna Lithium Project diamond core (MDD05) that was transferred in pallets and consigned to the Steinert facility in Perth. The test program involved the Manna diamond core (MDD05) that was crushed to 32 mm and screened to remove fines (<10 mm). The oversize product was processed through the ore sorting trial at the Steinert test facility in Bibra Lake, Western Australia. The <10mm fines fraction can either be stockpiled for future processing or recombined with the ore sorter final product.
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> No drilling is reported in this release.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	<ul style="list-style-type: none"> No drilling is reported in this release.
Logging	<ul style="list-style-type: none"> 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. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant 	<ul style="list-style-type: none"> No drilling is reported in this release.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	<p><i>intersections logged.</i></p> <ul style="list-style-type: none"> <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i> <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i> <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i> <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i> 	<ul style="list-style-type: none"> No drilling is reported in this release.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i> 	<ul style="list-style-type: none"> Ore Sorting Samples The ore sorting process was conducted by Steinert in Perth Western Australia. The process utilises a combination of colour camera, 3D laser, induction sensor and X-Ray sensor to differentiate inputs into waste and those matching parameters of target elements. These four sensors can be utilised to tailor an optimum combination for specific mineralisation mineralogy. The resulting concentrates were analysed via ICP-MS and compared to initial assays undertaken by Global Lithium in 2022. This enabled Steinert to determine the grade upgrade achieved in the various tests. The assay technique is considered to be robust as the method used offers total dissolution of the sample and is useful for mineral matrices that may resist acid digestions. Multielement analysis will be carried out on assay samples for the following elements: Al, Be, Ca, Cs, Fe, Ga, K, Li and Li₂O, Mg, Mn, Mo, Nb, P, Rb, S, Si, Sn, Ta, Ti and V.
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> No drilling is reported in this release.

Criteria	JORC Code explanation	Commentary
Location of data points	<ul style="list-style-type: none"> 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. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> No drilling is reported in this release.
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> No drilling is reported in this release.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 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. 	<ul style="list-style-type: none"> No drilling is reported in this release.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> The diamond core samples are taken from the drilling rig by experienced personnel, stored securely and transported to the laboratory by a registered courier and handed over by signature.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Data inputs and outputs have been reviewed and verified by Global Lithium and Steiner No audits have been undertaken to date.

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 style="list-style-type: none"> 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. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to 	<ul style="list-style-type: none"> The Manna Lithium deposit is situated entirely within tenement WA exploration licence E28/2522 and E38/2551 All tenure is wholly owned by Global Lithium Resources Limited. The portfolio of mineral tenements, comprising two granted exploration licences are in good standing.

Criteria	JORC Code explanation	Commentary
	<i>operate in the area.</i>	
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> Mineral exploration over the Eastern Kalgoorlie project area has been undertaken for a number of commodities, including gold, base metals, diamonds, tin and tantalum by various companies since the 1960s. Breaker Resources performed a basic mapping and geochemical sampling program over the area before running a small RC drilling program of 23 holes totalling 3428m that defined the Manna Lithium deposit After acquiring the project in 2021, GL1 is performing a large RC and Diamond drilling campaign that will result in the declaration of an upgraded Mineral Resources.
<i>Geology</i>	<ul style="list-style-type: none"> <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> Typical LCT pegmatite model occurring as swarms of dykes in a preferred corridor orientation. Within this area, the Company has discovered the Manna deposit, comprising a series of steeply dipping pegmatite bodies with lithium mineralisation predominantly by way of spodumene hosted pegmatites. These pegmatites have been the focus of exploration by the Company
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <i>easting and northing of the drill hole collar</i> <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> <i>dip and azimuth of the hole</i> <i>down hole length and interception depth</i> <i>hole length.</i> <i>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.</i> 	<ul style="list-style-type: none"> No drilling is reported in this release
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <i>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.</i> <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the</i> 	<ul style="list-style-type: none"> No drilling is reported in this release

Criteria	JORC Code explanation	Commentary
	<p>procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p> <ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 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'). 	<ul style="list-style-type: none"> No drilling is reported in this release
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> See attached Figures
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Only one sample has been tested so all results are being reported.
Other substantive exploration data	<ul style="list-style-type: none"> 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 style="list-style-type: none"> All relevant information is disclosed in the attached release and/or is set out in this JORC Table 1.
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Global Lithium will review the results of the ore sorting testwork with a view to determining the scope of a larger follow-up program.