ASX Announcement

RESOURCES LIM

Great Boulder

METALLURGICAL TESTWORK DEMONSTRATES EXCELLENT GOLD RECOVERIES FOR MULGA BILL

RECOVERIES OF UP TO 98.7% WITH LOW CYANIDE-SOLUBLE COPPER

HIGHLIGHTS

- Gravity recovery and cyanide leach testing on a range of samples from Mulga Bill has confirmed excellent gold recoveries and moderate cyanide consumption
- > Very high gold recoveries of up to 98.7% were achieved, including high gravity recovery
- Samples were selected to represent all mineralisation styles from weathered material to fresh rock, including areas with copper grades up to 6,483ppm Cu
- > The proportion of cyanide-soluble copper was low, with low cyanide-soluble chalcopyrite being the dominant copper mineral in four of the five sample parcels
- The test work represents an important de-risking milestone in the development of the Side Well project, as it means Mulga Bill is amenable to conventional gravity recovery and cyanide leaching processing methods (as used by neighbouring gold mills)
- > Additional test work is now being considered to optimise the metallurgical flowsheet

Great Boulder Resources ("**Great Boulder**" or the "**Company**") (ASX: **GBR**) is pleased to provide results from metallurgical studies on samples from the Company's flagship Side Well Gold Project ("**Side Well**") near Meekatharra in Western Australia which hosts a Mineral Resource Estimate ("**MRE**") of 668,000oz @ 2.8 g/t Au.

Great Boulder's Managing Director, Andrew Paterson commented:

"This is a fantastic result for the Side Well Project and for Great Boulder shareholders. The results of our metallurgical test-work demonstrate that Mulga Bill leached extremely effectively and is therefore amenable to standard cyanide leaching. This means it can be processed through a conventional gold plant or any of the existing gold plants in the Meekatharra region."

"This is a hugely important outcome, as it removes one of the last remaining questions around potential mine development at Side Well. Mulga Bill has the majority of gold ounces known to date so it will always be the engine room of any mining operation here, and hence we're extremely pleased and excited with this outcome."

The test-work was completed for GBR by Independent Metallurgical Operations Ltd ("**IMO**"). Testing was designed to look at gravity and cyanide leach recoveries of gold over various grind sizes between 150 μ m and 75 μ m, with leach durations to a maximum of 48 hours.

By testing a range of different ore styles, the test-work was also designed to consider whether the presence of copper minerals, primarily malachite (in the weathered horizon) and chalcopyrite (in the fresh rock) would negatively impact cyanide consumption and/or gold recovery.

The results from four of the five parcels were extremely positive, with high gold recoveries and low levels of cyanide-soluble copper. This means that copper levels within the Mulga Bill deposit will not unduly affect gold recoveries or cyanide consumption, particularly in the supergene and fresh mineralisation zones.

Sample Descriptions

Five sample parcels were chosen from recent RC drill spoils at Mulga Bill. The samples are representative of the full range of mineralisation styles and oxidation states within the conceptual open pit shell, from low-grade oxide material to high-grade fresh gold mineralisation and lower-grade gold-copper mineralisation.

• MET-1: Gold supergene, 0.87g/t Au and 575ppm Cu.

Only 3.1% of the copper in this sample was cyanide-soluble, suggesting little impact on gold leaching or cyanide consumption.

• MET-2: Gold-copper supergene, 0.95g/t Au and 6,483ppm Cu.

This sample combined lower-grade gold with very high copper levels. Cyanide-soluble copper was measured at 843ppm or 13% of the total copper content based on head assay analysis. The gold-copper supergene horizon at Mulga Bill represents approximately 0.1% of the overall Mulga Bill resource ounces.

• MET-3: High-grade oxide (Star-Cervelo Lodes), 20.78g/t Au and 204ppm Cu.

Initial duplicate gold fire assays were highly variable, suggesting significant gravity gold. The copper grade was the lowest of the five samples.

• **MET-4**: Cervelo lode fresh material, 31.00g/t Au and 715ppm Cu.

As with MET-3, the initial duplicate gold fire assays were highly variable, suggesting significant gravity gold. While the copper grade was relatively high the cyanide-soluble component was only 19.3% or 138ppm Cu and therefore unlikely to impact gold leaching or cyanide consumption.

• MET-5: Malvern lode fresh material, 0.70g/t Au and 1,819ppm Cu.

The Malvern Lodes are thought to represent intrusive-related, sulphide rich mineralisation, which typically includes silver and copper in association with the gold mineralisation. As a result this style of mineralisation was expected to have the highest risk of low leach recoveries and high cyanide consumption. In fact the cyanide-soluble copper component was only 9.3% or 170ppm Cu, and therefore unlikely to impact leaching or cyanide consumption.

Methodology

Gravity recovery test-work

Gravity recoverable gold was assessed for all composites prior to cyanide leach testing, with a 15kg sub-sample of each parcel ground to 80% passing 300µm before being passed through a 3" standard Knelson concentrator. The resultant concentrate was leached for 24 hours, emulating industry standard concentrate leach conditions.

The highest gravity recovery was achieved from the high-grade Star-Cervelo oxide sample, with 82.5% of total gold reporting to the Knelson. Recoveries from other parcels ranged from 24.0% (MET-1) to 75.6% (MET-4). The fresh Malvern Lode sample (MET-5) returned a pleasingly high gravity component, with 59.3% of total recovered in this stage of the test.

Cyanide leach test-work

Cyanide leaching was conducted on the gravity tailings of each sample parcel.

Each parcel was tested three times to consider optimal grind sizes and leach times, with samples ground initially to 150μ m, then 106μ m and finally 75μ m. Sodium cyanide was initially set to a concentration of 1,000ppm and then maintained at 500ppm for the duration of each leach test. The pH was kept between 9.5 and 10 for each test.

The leach tests were conducted using Mulga Bill groundwater to try and replicate real-world conditions as much as possible. Chemical analysis of the water found it to have very low levels of calcium and magnesium, and it is therefore unlikely to have a buffering effect on pH during lime addition in the cyanide leach process.

Results

All sample parcels except MET-2 leached extremely efficiently, with an average total recovery of 97.5% across all four after 48 hours (75µm grind) and an average 48-hour cyanide consumption of 0.97kg/t. These four parcels also exhibited fast leach rates with 88% recovery achieved after 8 hours.

There was only minor variation in total gold recovery at other grind sizes, with the four main parcels achieving an average of 96.7% recovery at 106µm and 96.3% at 150µm.

MET-2, which combined low-grade gold and very high copper in a supergene sample, exhibited a slower leach rate with higher cyanide consumption due to the relatively high level of cyanide-soluble copper (843ppm Cu). This level of cyanide-soluble copper impacted the concentration of free cyanide available in solution to leach gold efficiently.

It is important to note that the sample material in MET-2 was included in order to assess the impact of higher copper grades caused by malachite (a cyanide-soluble copper mineral), but this ore type represents only a tiny fraction of the Mulga Bill mineral resource, accounting for approximately 0.1% of the reported gold ounces. Further test-work will look at blending this material with other supergene ore types to optimise recoveries and cyanide consumption.

Full details of the test results are detailed below in Table 1. Individual leach curves are shown in Figures 1 to 5. The leach test at $106\mu m$ for MET-2 is being repeated due to erroneous assay data for the results <30 hrs, as shown in Figure 2.

Conclusions

These results conclusively demonstrate that Mulga Bill is amenable to industry standard cyanide leaching and can be successfully processed at any of the existing gold mills in the Meekatharra region.

The low levels of cyanide-soluble copper and excellent leach characteristics seen in four of the five sample types demonstrate that copper is not a constraint to development at Mulga Bill, and in fact the Malvern Lode (sample MET-5) – which was expected to show the worst outcome – returned an extremely positive gold recovery of 96.3% with moderatecyanide consumption. Furthermore, the results of ongoing testing are expected to demonstrate that lower-recovery ore types, such as that in MET-2, can be easily and effectively managed by blending with nearby high-grade supergene zones.

Next Steps

In the next stage of recommended test-work IMO will run a series of reagent optimisation tests to examine the effect of varying cyanide concentration levels while keeping the grind size constant. Further testing will also look at blending MET-1 and MET2 to achieve a cyanide-soluble copper concentration of approximately 170ppm, the highest level at which copper has had negligible effect on cyanide consumption and leach times in this round of results.

If this is successful, subsequent tests will look to further optimise blend characteristics by testing higher levels of cyanide-soluble copper to find the maximum permissible cyanide-soluble level.

This announcement has been approved by the Great Boulder Board.

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Sample Description		Gold supergene			Gold-Copper supergene			Star-Cervelo HG oxide			Cervelo fresh			Malvern fresh		
Sample ID		MET-1			MET-2			MET-3			MET-4			MET-5		
Tect		MET-1-	MET-1-	MET-1-	MET-2-	MET-2-	MET-2-	MET-3-	MET-3-	MET-3-	MET-4-	MET-4-	MET-4-	MET-5-	MET-5-	MET-5-
1050		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Water		Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site	Site
NaCN	nnm	1000/500		1000/500		1000/500		1000/500			1000/500					
Initial/Maintained	PP			1			1000,000									
рН		9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10	9.5-10
P ₈₀	μm	150	106	75	150	106	75	150	106	75	150	106	75	150	106	75
% Gravity Recovery	%	24.1%	24.2%	23.7%	27.5%	26.5%	27.5%	82.3%	82.8%	82.4%	76.1%	75.2%	75.5%	59.9%	58.5%	59.4%
8 Hour Recovery	%	88.3%	88.7%	89.7%	50.4%	74.2%	52.1%	94.7%	96.0%	97.0%	96.2%	95.8%	96.0%	91.2%	93.2%	96.6%
24 Hour Recovery	%	94.4%	94.7%	94.2%	66.7%	74.9%	68.5%	96.5%	97.7%	98.0%	97.3%	98.9%	98.1%	95.9%	95.9%	97.2%
30 Hour Recovery	%	93.5%	92.0%	92.8%	68.9%	74.1%	75.4%	97.2%	97.5%	98.3%	97.8%	98.6%	98.2%	98.5%	96.5%	93.6%
48 Hour Recovery	%	94.7%	94.9%	95.6%	74.4%	81.1%	82.6%	97.1%	98.0%	98.5%	98.2%	98.6%	<mark>98.7%</mark>	95.2%	95.2%	96.3%
Calculated Head Grade	g/t	0.86	0.86	0.88	0.96	0.96	0.93	20.79	20.65	20.89	30.88	31.14	30.97	0.70	0.71	0.70
Gravity Recovery	g/t	0.21	0.21	0.21	0.25	0.25	0.25	17.01	17.01	17.01	23.30	23.30	23.30	0.41	0.41	0.41
Total Gold Recovery	g/t	0.81	0.81	0.83	0.68	0.77	0.76	20.07	20.14	20.32	30.07	30.55	30.46	0.66	0.67	0.67
Residue Grade	g/t	0.05	0.04	0.04	0.25	0.18	0.16	0.60	0.41	0.32	0.55	0.43	0.41	0.03	0.03	0.03
24 Hour Cyanide Cons'	kg/t	0.78	0.76	0.69	3.51	3.55	3.29	0.58	0.69	0.66	0.85	0.83	0.87	0.86	0.86	0.84
48 Hour Cyanide Cons'	kg/t	0.86	0.76	0.75	4.90	4.99	4.70	0.76	0.70	0.73	1.13	1.17	1.11	1.22	1.18	1.28
Total Cu	ppm	575		6,483		204		715			1,819					
Cyanide soluble Cu*	ppm	18 (28)**		843 (1630)		Not Measured		138 (153)			170 (175)					
Cyanide soluble Cu	%	3.13 (4.9)		13.00 (25.1)				19.31 (21.4)			9.34 (9.6)					

TABLE 1: SUMMARY OF ALL RESULTS. MAXIMUM TOTAL RECOVERIES ARE HIGHLIGHTED FOR EACH SAMPLE PARCEL

* Determined from head assays

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** Values in parentheses determined form leach data

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FIGURE 2: MET-2 LEACH CURVE (GOLD-COPPER SUPERGENE). NOTE THAT THE 106UM TEST IS BEING REPEATED TO INCLUDE DATA AT LEACH TIMES LESS THAN 30 HOURS.

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COMPETENT PERSON'S STATEMENT

Exploration information in this Announcement is based upon work undertaken by Mr Andrew Paterson who is a Member of the Australasian Institute of Geoscientists (AIG). Mr Paterson has sufficient experience that 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, Mineral Resources and Ore Reserves' (JORC Code). Mr Paterson is an employee of Great Boulder Resources and consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The information that relates to Mineral Resources was first reported by the Company in its announcement to the ASX on 16 November 2023. The Company is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not material changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.



FIGURE 6: GBR'S MEEKATHARRA PROJECTS

			h	ndicate	d	li	oferre	d		Total	
Deposit	Туре	Cut-off	Tonnes (kt)	Au (g/t)	Ounces	Tonnes (kt)	Au (g/t)	Ounces	Tonnes (kt)	Au (g/t)	Ounces
Mulga Bill	Open Pit	0.5	1,667	3.1	169,000	2,982	1.9	183,000	4,649	2.4	352,000
	U/ground	1.0	733	3.5	83,000	1,130	3.6	132,000	1,863	3.6	216,000
	Subtotal		2,399	3.3	252,000	4,112	2.4	316,000	6,511	2.7	568,000
Ironbark	Open Pit	0.5	753	3.7	88,000	186	1.9	11,000	938	3.3	100,000
	U/ground	1.0	0	0.0	0	0	0.0	0	0	0.0	0
	Subtotal		753	3.7	88,000	186	1.9	11,000	938	3.3	100,000
	Total		3,152	3.4	340,000	4,298	2.4	327,000	7,450	2.8	668,000

TABLE 2: SIDE WELL MINERAL RESOURCE SUMMARY, NOVEMBER 2023

Subtotals are rounded for reporting purposes. Rounding errors may occur.

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ABOUT GREAT BOULDER RESOURCES

Great Boulder is a mineral exploration company with a portfolio of highly prospective gold and base metals assets in Western Australia ranging from areenfields through to advanced exploration. The Company's core focus is the Side Well Gold Project at Meekatharra in the Murchison gold field, where exploration has defined a Mineral Resource of 7.45Mt @ 2.8g/t Au for 668,000oz Au (340koz @ 3.4g/t Au Indicated, 327koz @ 2.4g/t Au Inferred). The Company is also progressing earlystage exploration at Wellington Base Metal Project located in an emerging MVT province. With a portfolio of highly prospective assets plus the backing of a strong technical team, the Company is well positioned for future success.





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Appendix 1 - JORC Code, 2012 Edition Table 1 (GBR Drilling, Side Well Project)

Section 1 Sampling Techniques and Data

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

Criteria	Commentary							
Sampling techniques	At the Side Well Project GBR has collected data from auger sampling and from AC, RC and Diamond drilling techniques. This section encompasses all four methods.							
	RC drilling sample intervals from drilling completed in recent programs at Mulga Bill were selected for metallurgical test-work based on mineralisation styles and fire assay results. The intervals were chosen to reflect a range of mineralisation and oxidation styles including oxidised material, supergene and fresh with varying levels of gold and copper mineralisation. The intent of this selection was to fully examine the leach characteristics of each sample type, and the potential impacts of cyanide-soluble copper in different areas of the deposit.							
	IMO Sample MET-1 (supergene gold mineralisation)							
	 24MBRC032 88 to 92m 24MBRC026 72 to 80m 24MBRCD013 73 to 73m 24MBRCD034 76 to 80m 24MBRCD027 103 to 106m 							
	IMO Sample MET-2 (gold-copper supergene mineralisation)							
	 24MBRC028 112 to 116m 24MBRC023 108 to 114m 24MBRC022 113 to 116m 24MBRC029 107 to 109m 24MBRC026 83 to 85m; 93 to 95m 							
	IMO Sample MET-3 (High-grade vein-hosted oxide mineralisation)							
	 24MBRC022 84 to 92m 24MBRC023 91 to 96m 24MBRC025 87 to 93m 							
	IMO Sample MET-4 (Vein-hosted fresh mineralisation)							
	 24MBRC027 179 to 185m 24MBRC028 185 to 190m 24MBRC030 256 to 261m 							
	IMO Sample MET-5 (Sulphide lode fresh mineralisation)							
	 24MBRC027 167 to 171m 24MBRC036 253 to 257m 24MBRC040 289 to 296m 24MBRC028 159 to 160m 							
	Each sample parcel was approximately 30kg in weight.							
	RC samples were collected into calico bags over 1m intervals using a cyclone splitter. The residual bulk samples are placed in lines of piles on the ground. 2 cone splits are taken off the rig splitter for RC drilling. Visually prospective zones were sampled over 1m intervals and sent for analysis while the rest of the hole was composited over 4m intervals by taking a scoop sample from each 1m bag.							
Drilling techniques	Drilling was completed by Challenge Drilling using a Schramm 650 RC rig.							
Drill sample recovery	Sample recovery data is noted in geological comments as part of the logging process. Sample condition has been logged for every geological interval as part of the logging process. Water was encountered during drilling resulting in minor wet and moist samples with the majority being dry.							

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	No quantitative twinned drilling analysis has been undertaken.
Logging	Geological logging of drilling followed established company procedures. Qualitative logging of samples includes lithology, mineralogy, alteration, veining and weathering. Abundant geological comments supplement logged intervals.
Sub-sampling techniques and sample preparation	1m cyclone splits and 4m speared composite samples were taken in the field. Samples were prepared and analysed at ALS Laboratories Perth for the RC drilling and Intertek Laboratories for the AC drilling. Samples were pulverized so that each samples had a nominal 85% passing 75 microns. Au analysis was undertaken using Au-AA26 involving a 50g lead collection fire assay and Atomic Adsorption Spectrometry (AAS) finish. For AC drilling, Au analysis was undertaken at Intertek using a 50g lead collection fire assay with ICP-OES finish (FA50/OE).
	Multi-element analysis was completed at both ALS and Intertek Laboratories. Digestion was completed using both 4 Acid and Aqua-regia and analysed by ICP-AES and ICP-MS (Intertek code 4A/MS48, ALS codes ME-MS61, ME-ICP41-ABC).
Quality of assay data and laboratory tests	All samples were assayed by industry standard techniques. Fire assay for gold; four-acid digest and aqua regia for multi-element analysis. Assay work was completed by ALS in Perth.
	Upon receipt of the metallurgical samples by IMO each parcel was assayed for gold and a range of other elements by Intertek Genalysis in Perth.
Verification of sampling and assaying	The standard GBR protocol was followed for insertion of standards and blanks with a blank and standard inserted per 25 for RC drilling and 40 samples for AC drilling. Field Duplicates as second cone splits are inserted within known ore zones to assess repeatability. Analysis of ME was typically done on master pulps after standard gold analysis with a company multi-element standard inserted every 50 samples. No QAQC problems were identified in the results. No twinned drilling has been undertaken.
Location of data points	Sample locations and mapping observations were located and recorded electronically using a handheld GPS. Coordinates were recorded in GDA94 grid in Zone 50, which is the GDA94 zone for the Meekatharra area.
	Drill holes were positioned using the same technique. Hole collars were initially picked up after drilling using a handheld GPS. RC and Diamond hole collars were subsequently surveyed with a DGPS for greater accuracy.
	This accuracy is sufficient for the intended purpose of the data.
Data spacing and distribution	The spacing and location of the majority of drilling in the projects is, by the nature of early exploration, variable.
	The spacing and location of data is currently only being considered for exploration purposes.
Orientation of data in relation to geological structure	Drilling is dominantly perpendicular to regional geological trends where interpreted and practical. Wherever possible, cross sections are shown to give a visual indication of the relationship between intersection width and lode thickness.
	The spacing and location of the data is currently only being considered for exploration purposes.
Sample security	GBR personnel are responsible for delivery of samples from the drill site to the Toll Ipec dispatch center in Meekatharra. Samples are transported by Toll Ipec from Meekatharra to the laboratories in Perth.
Audits or reviews	The test-work has been reviewed by IMO's supervising metallurgist.

Section 2 Reporting of Exploration Results

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

Criteria	Commentary
Mineral tenement and land tenure status	Side Well tenement E51/1905 is a 48-block exploration license covering an area of 131.8km2 immediately east and northeast of Meekatharra in the Murchison province. The tenement is a 75:25 joint venture between Great Boulder and Zebina Minerals Pty Ltd.

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	Aircore drilling was completed on P51/3178 and P51/2978 located directly south of E51/1905. These tenements are held in a 80:20 joint venture between Great Boulder and Wanbanna Pty Ltd.
Exploration done by other parties	Tenement E51/1905, P51/3178 and P51/2978 have protracted exploration histories but are relatively unexplored compared to other regions surrounding Meekatharra.
Geology	The Side Well tenement group covers a portion of the Meekatharra-Wydgee Greenstone Belt north of Meekatharra, WA. The north-northeasterly-trending Archaean Meekatharra-Wydgee Greenstone Belt, comprises a succession of metamorphosed mafic to ultramafic and felsic and sedimentary rocks belonging to the Luke Creek and Mount Farmer Groups.
	Over the northern extensions of the belt, sediments belonging to the Proterozoic Yerrida Basin unconformably overlie Archaean granite-greenstone terrain. Structurally, the belt takes the form of a syncline known as the Polelle syncline. Younger Archaean granitoids have intrusive contacts with the greenstone succession and have intersected several zones particularly in the Side Well area.
	Within the Side Well tenement group, a largely concealed portion of the north-north-easterly trending Greenstone Belt is defined, on the basis of drilling and airborne magnetic data, to underlie the area. The greenstone succession is interpreted to be tightly folded into a south plunging syncline and is cut by easterly trending Proterozoic dolerite dykes.
	There is little to no rock exposure at the Side Well prospect. This area is covered by alluvium and lacustrine clays, commonly up to 60 metres thick. Subcrop exposures of laterite, mafic and ultramafic rocks are present along the eastern side of the project, however exposure of outcrop is still relatively poor.
Drill hole Information	A list of the drill hole coordinates, orientations and intersections reported in this announcement are provided as an appended table in the relevant announcements for each drilling program.
Data aggregation methods	The samples were aggregated from various RC drilling intervals to accumulate parcels of each mineralisation style with an approximate weight of 30kg. Intervals were chosen based upon their gold and copper grades and their position within the Mulga Bill mineral resource (lode type and mineralisation style) as well as their position within the weathering profile.
	No metal equivalents are used.
Relationship between mineralisation widths and intercept lengths	The majority of drilling was conducted using appropriate perpendicular orientations for interpreted mineralisation. Stratigraphy appears to be steeply dipping to the west however mineralisation may have a different orientation. Cross sections are shown wherever possible to illustrate relationships between drilling and interpreted mineralisation.
Diagrams	Not applicable. Hole locations and diagrams have been shown in previous announcements but a location plan was not used in this announcement.
Balanced reporting	The announcement references all data used to create this round of metallurgical test work.
Other substantive exploration data	Subsequent to Doray Minerals Limited exiting the project in 2015, private companies have held the Not applicable. This announcement is relevant to work completed by GBR at the Mulga Bill deposit within the Side Well Gold Project.
Further work	Further work is discussed in the document.