IRIS METALS

ASX:IR1 - ASX RELEASE I 15 October 2024

Iris Metals Successfully Completes Downstream Lithium Conversion and Production of Battery grade LCE (Revised Release)

IRIS Metals Limited **(ASX: IR1) ("IRIS"** or **"the Company")** provides an updated ASX Announcement in respect of its release dated 11 October 2024 titled "Iris Metals Successfully Completes Downstream Lithium Conversion and Production of Battery grade LCE" (**Original Release**).

This updated ASX Announcement is the same as the Original Release, with the changes being:

1. Additional information on process used (first three paragraphs on Page 4); and
2. the addition of the JORC Code, 2012 Edition – Table 1 (Sections 1 and 2).

ENDS

This announcement was approved for release by the Board of IRIS Metals Ltd.

ASX:IR1 - ASX RELEASE I 15 October 2024

Iris Metals Successfully Completes Downstream Lithium Conversion and Production of Battery grade LCE (Revised Release)

IRIS Metals Limited **(ASX: IR1) ("IRIS"** or **"the Company")** is pleased to advise it has successfully converted it's spodumene concentrate to 99.5% battery grade lithium carbonate. This milestone was achieved using ore entirely sourced from its Beecher Project in South Dakota, USA. The conversion to lithium carbonate was done in the US, using a domestic process and IP, marking a significant new capability in America's efforts to secure domestic supply chains of critical minerals and IRIS' role in that.

- **This milestone demonstrates IRIS Metals' progression from an exploration company to a near-term producer and supplier of lithium carbonate equivalent (LCE)**
- **The Beecher project is licensed for production and well advanced towards a maiden mineral resource estimate expected in early 2025**
- **The conversion to lithium carbonate was done with ReElement, following the successful production of 6% spodumene concentrate (SC6) from IRIS' Beecher project in South Dakota (*refer to ASX Announcement dated 9 October 2024*)**
- **ReElement Technologies is a wholly owned subsidiary of American Resources Corporation (NASDAQ: AREC)**
- **ReElement is advancing from demonstration operations to a commercial-scale critical minerals processing and refining plant**
- **Following this successful conversion to LCE, IRIS Metals has signed a MOU with ReElement for further bulk testing and development of a commercial scale supply solution for the US market**
- **This MOU brings the parties closer to IRIS and ReElement becoming the first new near-term domestic suppliers of battery-grade lithium carbonate that can deliver fully Inflation Reduction Act (IRA) compliant lithium units to the growing US market**
- **The parties are negotiating a potential investment by ReElement in IRIS Metals to strengthen the domestic US lithium carbonate supply**

IRIS Metals Chairman, Peter Marks, commented:

"The team at IRIS Metals are thrilled with the new partnership with ReElement. This collaboration is set to transform our concentrate into battery-grade lithium carbonate right here in the US, using homegrown technology and processes. It's a pivotal step that not only elevates IRIS from explorer to near-term producer, but also strengthens our commitment to a fully domestic supply chain.

"IRIS is on track to announce a maiden mineral resource estimate at Beecher and we remain ambitious to expand into a multi-project lithium enterprise in the coming years."

ReElement Chief Executive Officer, Mark Jensen, commented:

"Securing reliable lithium sources is crucial for bolstering our integrated supply chain and aligns with ReElement's commitment to being a leading and sustainable producer of ultra-pure, refined rare earth and critical battery elements. We utilize the most cost effective and environmentally safe methods developed to date, and I'm confident that the MOU with IRIS Metals will establish a strong foundation for our joint efforts to accelerate business growth and seize opportunities that address both the electrified economy and national security needs."

Under the MOU between IRIS Metals and ReElement, the parties aim to convert US-origin SC6 into battery-grade lithium carbonate within the United States, utilising domestic intellectual property and commercial processes operated by ReElement. This development signifies IRIS Metals' progression from an exploration company to a near-term producer and supplier of lithium carbonate equivalent (LCE), leveraging a fully domestic supply chain.

The Beecher project is already licensed for production, and ReElement is advancing from demonstration operations at its Noblesville, Indiana Customer Qualification Plant to a commercial-scale critical mineral refining plant at their 42-acre campus in Marion, Indiana. Together, the parties are positioned as an imminent new domestic supplier of lithium carbonate, offering fully Inflation Reduction Act (IRA) compliant lithium units to the expanding US market. Bringing together the upstream and downstream components of the lithium supply chain will put the parties in a stronger position to access IRA funding and unlock its non-dilutive capital. This partnership is a pivotal step towards fulfilling America's critical mineral requirements.

Following the signing of the MOU, IRIS Metals supplied a 6% Li_2O spodumene concentrate (SC6) to ReElement for lab scale demonstration of their process on representative material from the Beecher Project in South Dakota. The material supplied by IRIS Metals is the same material discussed in the Company's ASX news release dated 9 October 2024 and produced as part of the Beecher Project metallurgical testing completed by SGS Canada. ReElement's lab scale demonstration successfully converted the supplied SC6 into 99.5% battery grade lithium carbonate and confirmed the quality of the SC6 supplied by IRIS Metals.

ReElement utilises its patented technology for the separation and purification of rare earth and critical battery and defense material. Unlike conventional solvent-based, hydrometallurgical processes that rely on toxic acids and solvents, ReElement maximizes surface area interface by using columns and resins. This innovative application of this longstanding technology significantly reduces CapEx, physical footprint, environmental impact, chemical usage, resulting in lower OpEx for mineral separation, purification and refinement.

The technology was developed over decades, drawing on expertise from commercially operating processes used in industries such as sugar refinement (for fructose and glucose) and pharmaceutical production, including commercial production of insulin.

ReElement has developed its innovative and scalable "Powered by ReElement" process which collaboratively utilizes its exclusively licensed intellectual property within its partners' material processing flow sheets to more efficiently support the global supply chain's growing demand for magnet and battery-grade products.

Further planned activities by Iris Metals and ReElement includes a demonstration-scale conversion trial, additional bulk testing and definitive discussions for commercialisation and production ramp-up are planned. IRIS Metals aims to commence domestic SC6 production in 2025, while ReElement scales into its large-scale commercial operations in Marion, targeting the commissioning of initial production in the latter half of 2025.

The parties are negotiating a potential investment by ReElement in IRIS Metals to strengthen the domestic US lithium carbonate supply.

Additionally, the partnership is also considering the production of battery-grade lithium hydroxide through ReElement's conversion process as it evaluates market demand.

For clarity, in respect of the MOU, it is noted:

- There is no consideration payable by either party, as it is a cooperation agreement to test the viability of Re-Element technology on IRIS ground;
- There is no term in respect of the above; and
- The MOU is non-binding.

Being non-binding, the MOU has no present financial implications for IRIS Metals' financial performance or financial standing.

About ReElement Technologies Corporation

ReElement Technologies Corporation, a wholly owned subsidiary of American Resources Corporation (NASDAQ:AREC), is a leading provider of high-performance refining capacity for rare earth and critical battery elements. Its multi-mineral, multi-feedstock platform technology focuses on the refining of recycled material from rare earth permanent magnets and lithium-ion batteries, concentrated ores and brines, as well as coal-based waste streams and byproducts to create a cost effective and environmentally safe, circular supply chain. ReElement has developed its innovative and scalable *"Powered by ReElement"* process which collaboratively utilizes its exclusively licensed intellectual property within its partners' material processing flow sheets to more efficiently support the global supply chain's growing demand for magnet and battery-grade products. For more information visit reelementtech.com or connect with the Company on Facebook, Twitter, and LinkedIn.

ENDS

This announcement was approved for release by the Board of IRIS Metals Ltd.

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About IRIS Metals (ASX: IR1)

IRIS Metals Ltd (ASX: IR1) is an exploration company with an extensive suite of assets considered to be highly prospective for hard rock lithium located in South Dakota, United States (US). The company's large and expanding South Dakota Project is in a mining friendly jurisdiction and provides the company with strong exposure to the battery metals space, and the incentives offered by the US government for locally sourced critical minerals.

The Black Hills have a long and proud history of mining dating back to the late 1800s. The Black Hills pegmatites are famous for having the largest recorded lithium spodumene crystals ever mined. Extensive fields of fertile LCT-pegmatites outcrop throughout the Black Hills with significant volumes of lithium spodumene mined in numerous locations.

To learn more, please visit: www.irismetals.com

Forward looking Statements:

This announcement may contain certain forward-looking statements that have been based on current expectations about future acts, events and circumstances. These forward-looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events and circumstances to differ materially from the expectations described in such forward-looking statements. These factors include, among other things, commercial and other risks associated with exploration, estimation of resources, the meeting of objectives and other investment considerations, as well as other matters not yet known to IRIS or not currently considered material by the company. IRIS accepts no responsibility to update any person regarding any error or omission or change in the information in this presentation or any other information made available to a person or any obligation to furnish the person with further information.

Not an offer in the United States:

This announcement has been prepared for publication in Australia and may not be released to US wire services or distributed in the United States. This announcement does not constitute an offer to sell, or a solicitation of an offer to buy, securities in the United States or any other jurisdiction. Any securities

described in this announcement have not been, and will not be, registered under the US Securities Act of 1933 and may not be offered or sold in the United States except in transactions exempt from, or not subject to, the registration requirements of the US Securities Act and applicable US state securities laws.

Competent Persons Statement:

The information in this announcement that relates to exploration results is based on information reviewed by Matt Hartmann, IRIS' President of U.S. Operations, and a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) (318271), a Registered Member of the Society for Mining, Metallurgy and Exploration (RM-SME) (4170350RM). Matt Hartmann is an exploration geologist with over 20 years' experience in mineral exploration, including lithium exploration and resource definition in the western United States, and has sufficient experience in the styles of mineralisation and type of deposit under consideration and to the activity undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Matt Hartmann has consented to the inclusion in this Public Report of the matters based on his information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	*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.*	Core sampling protocols meet industry standard practices. The five (5) samples processed for metallurgical sampling were comprised of saw-cut, one-half core intervals and collected from drill hole BDD-24-022 See Iris Metals 15 July 2024 news release for assay reporting of drill hole BDD-24-022. The metallurgical samples are considered an appropriate for preliminary evaluation of HLS and flotation processes for the Beecher pegmatite. Samples were selected and composited to be as representative as practical. A 1-kg homogenized sample the HLS concentrate from Iris "Sample 2" was supplied to ReElement for application within its lithium carbonate conversion process. See the Company's 9 October 2024 news release for additional information on "Sample 2"
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	The original 1.2kg sample of HLS concentrate from Iris "Sample 2" was blended and homogenized, with 1kg of that material provided to ReElement.
	Aspects of the determination of mineralisation that are Material to the Public Report.	NA – Metallurgical testing reported

Drilling techniques	*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).*	The metallurgical samples utilized half-core PQ size drill core.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	Core recovery is very good and typically exceeds 90%
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Standard core drilling practices were utilized to maximize core recovery.
	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.	No known core drilling recovery bias exists at the Beecher Project. Core recovery typically 90%.
Logging	*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.*	All drill holes are routinely logged by Senior geologists with extensive experience in LCT pegmatites. Upon receipt at the core shack, all drill core is pieced together, oriented to maximum foliation, metre marked, geotechnically logged (including structure), alteration logged, geologically logged, and sample logged on an individual sample basis. Core box photos are also collected of all core drilled, regardless of perceived mineralization. Specific gravity measurements of pegmatite are also collected at systematic intervals for all pegmatite drill core using the water immersion method, as well as select host rock drill core. The logging is qualitative by nature, and includes estimates of spodumene grain size, inclusions, and model mineral estimates. These logging practices meet or exceed current industry standard practices.

	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is considered qualitative in nature. The geological logging adheres to the Company policy and includes lithological, mineralogical, alteration, veining and weathering. The core logging is qualitative by nature, and includes estimates of spodumene grain size, inclusions, and model mineral estimates.
	The total length and percentage of the relevant intersections logged.	All holes were logged in full.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	Drill core sampling follows industry best practices. Drill core was saw-cut with half-core sent for metallurgical testing, one-quarter sent for assay, and one-quarter of the core remaining in the box for reference. The same side of the core was sampled to maintain representativeness. Sample sizes are appropriate for the material being assayed. All protocols employed are considered appropriate for the sample type and nature of mineralization and are considered the optimal approach for maintaining representativeness in sampling.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	NA – Metallurgical testing reported
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Samples for metallurgical testing were collected in bulk sample bags and homogenized over upper, middle, and lower intervals for drill hole BDD-24-022. See Iris Metals 9 October 2024 ASX release for additional information.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	NA – Metallurgical testing reported
	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.	NA – Metallurgical testing reported

	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for an initial metallurgical testing program.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	Core samples collected were shipped to SGS Canada's metallurgical laboratory in Lakefield, ON. SGS was responsible for selecting the appropriate analytical method (NaO_2 fusion, followed by ICP-OES) and ensuring adequate QA/QC protocols were followed, and IRIS has relied upon this practice. SGS is independent of the Company. The assay techniques are considered appropriate for the nature and type of mineralization present, and result in a total digestion and assay for the elements of interest. ReElement is independent of the Company. Material was supplied to ReElement by Iris under the existing MOU. ReElement completed the conversion of SC6 into lithium carbonate, operating under their procedures and internal QA/QC plan. Final product assays of lithium carbonate was completed by ReElement via ICP-OES methods.
	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.	NA – Metallurgical testing reported
	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.	Assays of materials at various stages in the metallurgical testing were subject to the SGS QA/QC program. SGS is independent of the Company. ReElement completed the conversion of SC6 into lithium carbonate and subsequent assays, operating under their procedures and internal QA/QC plan.

Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	SC6 ssays were completed and verified by SGS Canada. Assays of lithium carbonate was completed by ReElement via ICP-OES methods. All assay work was completed by organization independent of Iris. No adjustments have been made on assay data
	The use of twinned holes.	
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	
	Discuss any adjustment to assay data.	
Location of data points	*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.*	Sample locations were recorded using a handheld GPS using the NAD83_13 Datum.
	Specification of the grid system used.	
	Quality and adequacy of topographic control.	
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	The metallurgical test samples were taken from the full length of the BDD-24-022 drill core. See Iris Metals 15 July 2024 ASX release for assay reporting of drill hole BDD-24-022.
	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.	Drill hole BDD-24-022 penetrated the full thickness, and associated zonation of the Beecher pegmatite. The distribution of the collected material is considered suitable for preliminary metallurgical testing. See Iris Metals 9 October 2024 ASX release for additional information of the testing that generated the spodumene concentrate for drill hole BDD-24-022.
	Whether sample compositing has been applied.	Sample composites were generated to create Samples 4 and 5. These composites were created from the material within Samples 1, 2, and 3 to create samples that could be representative of ROM materials, at a grade of 1.10% Li_2O. Sample 4 is a composite of Samples 1 and 2, while

		Sample 5 is a composite of Samples 2 and 3. All compositing of the metallurgical test samples was completed by SGS. SGS is independent of the Company. The original 1.2kg sample of HLS concentrate from Iris "Sample 2" was blended and homogenized, with 1kg of that material provided to ReElement for conversion to lithium carbonate.
Orientation of data in relation to geological structure	*Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	No bias is determined.
	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.	
Sample security	*The measures taken to ensure sample security.*	Chain of custody is maintained by Iris personnel on site and sent in sealed pallets and bags to the Laboratory. Shipping completed by a third party, and tracked by the Company. Upon arrival at SGS, the shipment was cross referenced with the manifest to confirm all samples were accounted for. All samples were evaluated for tampering and damage/loss by SGS. Shipping of SC6 to ReElement was also completed by a third party. Upon arrival at ReElement, the shipment was cross referenced with the manifest to confirm all samples were accounted for. All samples were evaluated for tampering and damage/loss by ReElement.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	Results were reviewed and deemed reliable for the nature of the testing.

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	*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 project is in South Dakota USA, the project comprises free-hold patented claims owned by Iris Metals
	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.	No known impediments.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	No modern exploration has been conducted at this Project
Geology	*Deposit type, geological setting and style of mineralisation.*	LCT-pegmatite hosted lithium spodumene mineralisation similar in nature to other zoned lithium pegmatite deposits mined around the world
Drill hole Information	*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:*	NA – Metallurgical testing reported
	easting and northing of the drill hole collar	
	elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	
	dip and azimuth of the hole	
	down hole length and interception depth	
	hole length.	
	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.	

Data aggregation methods	*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.*	NA – Metallurgical testing reported
	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.	NA – Metallurgical testing reported
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents have been reported.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.*	NA – Metallurgical testing reported
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	NA – Metallurgical testing 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').	NA – Metallurgical testing reported
Diagrams	*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.*	NA – Metallurgical testing reported

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 avoiding misleading reporting of Exploration Results.*	No metallurgical test results were omitted.
Other substantive exploration data	*Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	Various mandates required for advancing the Project towards economic studies have been or are about to be initiated, including but not limited to, metallurgy, geomechanics, hydrogeology, hydrology, stakeholder engagement, geochemical characterization, as well as transportation and logistical studies. The Company how now completed preliminary metallurgical testing indicating that 80% lithium recovery, and production of a 6+% Li_2O spodumene concentrate from the Beecher pegmatite at the Beecher Project. Further testing will be required to confirm the process flowsheet. See Iris Metals 9 October 2024 ASX release for additional information Subsequent to this work, the Company has entered into a MOU with a concentrator (ReElement). ReElement has reported to Iris that it has produced 99.5% battery grade lithium carbonate from the SC6 from the Beecher Project utilising its chromatography based refining technology at it research facility located in Fishers, Indiana, USA. Assays of the lithium carbonate was completed by ReElement via ICP-OES methodology.
Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	The company intends to complete additional metallurgical testing on additional pegmatites at the Beecher Project.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	NA – Metallurgical testing reported