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Additional Positive Metallurgical Test Results Improved Lithium Recoveries at the Ewoyaa Lithium Project Ghana, West Africa

IronRidge Resources Limited (AIM: IRR, “IronRidge” or the “Company”), the African focussed minerals exploration company, is pleased to report additional very positive metallurgical test results from the Ewoyaa Lithium Project within the Cape Coast Lithium Portfolio in Ghana, West Africa.

HIGHLIGHTS:

- **Additional test work completed to improve lithium recoveries in coarse grained type P1 and finer grained type P2 pegmatites.**
- **Larger scale gravity processing of P1 mineralisation inclusive of middlings fraction confirms up to 74% recovery of over 6% spodumene concentrates.**
- **Mass yields, of up to 22%, are considered to be high by peer comparison and support an economic case for a lower throughput and lower capital intensity starter project.**
- **Gravity processing of P2 mineralisation inclusive of middlings fraction delivers 51% recovery of 5.5% spodumene concentrates for blending.**
- **Further project enhancements available by processing of fines generated by crushing.**
- **Opportunity to recover feldspar by-products for the local and European ceramics industry identified.**

Commenting on the Company’s latest progress, Noel O’Brien, metallurgical consultant to IronRidge, said:

***“We are very pleased to have refined recoveries and mass yields, which we believe are high by peer comparison, without loss of concentrate grade achieved through further larger scale test work at Ewoyaa. All of this was achieved whilst maintaining a simple gravity only process flow sheet design philosophy.*”**

***“The Ewoyaa Project can be further enhanced by later stage flotation to capture lithium losses in fines generated during crushing, albeit this represents a relatively small volume of the lithium credits in the project.*”**

“Additionally, test work has defined a potential valuable by-product stream in high quality feldspar concentrate with low contaminants, which could be suitable for the local and European ceramics industry.”

Commenting on the latest test-work results, Vincent Mascolo, CEO and MD of IronRidge Resources, said:

***“We are very pleased with the recovery improvements achieved through re-crushing of middlings whilst maintaining concentrate grade.*”**

***“We will continue to explore all avenues available to us for any project enhancements to maximise value for all shareholders.*”**

“The recognition of further lithium recoveries from fines generated by crushing, as well as the favourable composition of our feldspar tailings waste stream for potential sale into the ceramics industry, represent valuable project enhancements.”

New Metallurgical Test Work

The first phase of metallurgical testing on drill core from the Ewoyaa lithium deposit (JORC 2012 compliant 14.5Mt at 1.31% Li₂O in the Inferred and Indicated category) was reported in *RNS*’ of **21 May 2019, 25 June 2019** and **28 January 2020**.

The initial results from testing the core samples demonstrated good metallurgical response for both the coarse P1 type pegmatites and the finer grained P2 type pegmatites. These results were based on laboratory bench scale Heavy Liquid Separation (‘HLS’) variability testing and indicated idealised recoveries of 6% Li₂O concentrates ranging from:

- 62% to 78% for P1 mineralisation at mass yields of 12-22% and
- 30-50% for P2 mineralisation at mass yields of 5-10%.

Additionally, X-Ray Diffraction (“XRD”) mineralogical data demonstrated that spodumene was the dominant lithium bearing mineral in all concentrates produced. Resource evaluation to date has demonstrated that P1 type pegmatites are dominant in the Ewoyaa deposit, with a ratio of P1 to P2 of around 60% : 40%. Within each type there are zones of transitional and fresh mineralisation which are expected to behave slightly differently in a processing plant. Of the total resource, 12% is weathered transitional and 88% is primary fresh material.

These initial results were encouraging in terms of being able to present a business case based on low cost gravity separation technology to generate commercial grade concentrates in economic quantities.

Further work has been done on the first stage of improvement, with P1 mineralisation being tested at a larger scale using a 100mm Dense Media Separation (‘DMS’) cyclone as well as testing the effect of re-crushing middlings, and also the effect of re-crushing middlings on the recovery from P2 mineralisation still using HLS.

P1 Fresh Mineralisation:

A 54kg composite of fresh P1 mineralisation grading 1.68% Li₂O, was crushed to 6.3mm and screened at 0.5mm. The first pass DMS results at 2.9 SG produced 67% recovery at an elevated grade of 6.29%. When normalised to 6% grade, this corresponds to a recovery of 69% at a mass yield of around 21%.

Re-crushing of the intermediate grade gravity middlings fractions has been shown on a number of projects to liberate more spodumene and result in increased recoveries. The middlings fractions from this test were re-crushed at 3.35mm and put through the DMS again and the combined result showed a recovery of 75% recovery at a grade of 5.88%. When normalised to 6% grade, this corresponds to an increase in recovery to around 74% at a mass yield of 22%, (refer **Table 1**).

Overall, the results for P1 fresh mineralisation demonstrate that a gravity recovery of 74% can be achieved and that re-crushing the middlings will assist in maintaining this recovery.

P1 Transitional Weathered Mineralisation:

A 24kg composite of P1 transitional mineralisation was processed in the 100mm cyclone following the same procedure described above for the fresh mineralisation. The grade of the composite was 1.37% Li₂O.

The first pass results without re-crushing showed a recovery of 60% at an elevated grade of 6.27% and a mass yield of 13%. When normalised to 6% concentrates, this corresponded to a recovery of 63% at a mass yield of 15%. After re-crushing the middlings, the results also showed an improvement to 70% recovery, at a grade of 6.0% and a mass yield of 16% (refer **Table 1**).

These results demonstrated that 70% recoveries could be obtained from transitional material, again with the assistance of re-crushing the middlings.

Table 1: New DMS 100 optimisation test-work results on P1 mineralisation and middlings re-crush. Results have been normalised to 6% concentrates.

Mineralisation Type	Tests at 6.3mm crush size	Head Grade (% Li ₂ O)	Overall		
			Conc. Grade (% Li ₂ O)	Conc. Mass (%)	Recovery (%)
P1 Fresh	DMS no re-crush	1.68	6%	21	69
	DMS with midds re-crush	1.68	6%	22	74
P1 Weathered 'Transitional'	DMS no re-crush	1.37	6%	15	63
	DMS with midds re-crush	1.37	6%	16	70

P2 Mineralisation:

P2 mineralisation is finer grained than P1 and generally lower grade. It makes up around 40% of the deposit which represents a significant part of the overall lithium inventory and will in all likelihood be processed by itself or as a blend from time to time.

To date, only preliminary smaller scale HLS tests have been done on P2 mineralisation to gauge the response of it to gravity processing. The results below show the P2 ores benefit from re-crushing the middlings with the recovery of fresh ore increasing from 42% to 46% at a grade of 5.5% and the recovery of transitional ore increasing from 55% to 61% at a grade of 5.6% (refer **Table 2**). There was insufficient data to normalise the P2 recoveries to 6% concentrate, but extrapolation of the data suggests an overall recovery of about 51%.

Table 2: New HLS optimisation test-work results on P2 mineralisation and middlings re-crush.

Mineralisation Type	Tests at 6.3mm crush size	Head Grade (% Li ₂ O)	Overall		
			Conc. Grade (% Li ₂ O)	Conc. Mass (%)	Recovery (%)
P2 Fresh	HLS no re-crush	1.00	5.5%	7	42
	HLS with midds re-crush	1.00	5.5%	8	46
P2 Weathered 'Transitional'	HLS no re-crush	1.23	5.6%	13	55
	HLS with midds re-crush	1.23	5.6%	14	61

Fines Processing:

Around 15-20% of the contained lithium is in the -0.5mm fines fraction generated by crushing that is screened out before gravity processing, as gravity processing below this size is challenging. A number of mines utilise flotation to recover value from this fraction and a preliminary series of tests were done on P2 Fresh -0.5mm

mineralisation, with a grade of 1.02% Li₂O, to gauge the amenability of Ewoyaa spodumene to standard flotation techniques.

The results were encouraging with 6% concentrates being produced at a flotation recovery of 57% (49% overall after allowing for desliming and magnetic losses) and a mass yield of 11.1%. This demonstrated the potential to improve overall recovery by capturing lithium loss due to fines generation during crushing, and so expand the economic lithium inventory of the deposit.

Potential By-Products:

The recent work highlighted that the lighter gravity fractions of Ewoyaa mineralisation; the SG2.6 floats, have elevated levels of potassium ('K₂O') and sodium ('Na₂O') minerals. In just about all cases from the test work completed, the total of K₂O + Na₂O is greater than 10%. This level is considered to be commercial grade feldspar and the ceramics industry has a significant requirement for such material.

Based on this preliminary analysis, it is estimated that upwards of 20% of the plant feed material could be recovered as a saleable feldspar product. For a plant designed to process one million tonnes per year, this translates to around 200,000 tonnes or more of this product per year.

This product could be suitable for the regional ceramics industry and the wider international industry.

Competent Person Statement

Information in this report relating to the exploration results is based on data reviewed by Mr Lennard Kolff (MEcon. Geol., BSc. Hons ARSM), Chief Geologist of the Company. Mr Kolff is a Member of the Australian Institute of Geoscientists who has in excess of 20 years' experience in mineral exploration and is a Qualified Person under the AIM Rules. Mr Kolff consents to the inclusion of the information in the form and context in which it appears.

The information in this announcement that relates to metallurgical results is based on information compiled by Mr Noel O'Brien, Director of Trinol Pty. Limited. Mr O'Brien is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM) and 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 December 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (JORC Code). Mr O'Brien consents to the inclusion in the report of the matters based upon the information in the form and context in which it appears.

Certain information contained in this announcement would have been deemed inside information for the purposes of Article 7 of Regulation (EU) No 596/2014 until the release of this announcement.

For any further information please contact:

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Notes to Editors

IronRidge Resources is an AIM-listed, Africa focussed minerals exploration company with a lithium pegmatite discovery in Ghana, extensive grassroots gold portfolio in Cote d'Ivoire and a potential new gold province discovery in Chad. The Company holds legacy iron ore assets in Gabon and a bauxite resource in Australia. IronRidge's strategy is to create and sustain shareholder value through the discovery and development of significant and globally demanded commodities.

Côte d'Ivoire

The Company entered into conditional earn-in arrangements in Côte d'Ivoire, West Africa; securing access rights to highly prospective gold mineralised structures and pegmatite occurrences covering a combined 3,584km² and 1,172km² area respectively. The projects are well located within access of an extensive bitumen road network and along strike from multi-million-ounce gold projects and mines. The Company's most advanced project is the Zaranou gold project which includes high-grade gold drilling intersections along 8km strike including 6m @ 6.44g/t gold from 132m, 6m @ 15.11g/t gold from 26m, 4m @ 5.16g/t gold from 110m and 22m @ 3.39g/t gold from 8m within a broader 47km long gold anomalous structure.

Ghana

The Cape Coast Lithium portfolio covers some 684km² and includes the newly discovered Ewoyaa Lithium Project with a maiden Mineral Resource estimate of 14.5Mt at 1.31% Li₂O in the inferred and indicated category including 4.5Mt @ 1.39% Li₂O in the indicated category (reported in accordance with the JORC Code). The Company entered into earn-in arrangements with Obotan Minerals Limited, Merlink Resources Limited, Barari Developments Limited and Joy Transporters Limited of Ghana, West Africa, securing the first access rights to acquire the historical Egyasimanku Hill spodumene rich lithium deposit, estimated to be in the order of 1.48Mt at 1.67% Li₂O and surrounding tenements. The tenure package is also prospective for tin, tantalum, niobium, caesium and gold, which occur as accessory minerals within the pegmatites and host formations.

Chad

The Company entered into an agreement with Tekton Minerals Pte Ltd of Singapore concerning its portfolio covering 746km² of highly prospective gold and other mineral projects in Chad, Central Africa. IronRidge acquired 100% of Tekton including its projects and team to advance the Dorothe, Echbara, Am Ouchar, Nabagay and Kalaka licenses, which host multiple, large scale gold projects. Trenching results at Dorothe, including 84m @ 1.66g/t Au (including 6m @ 5.49g/t & 8m @ 6.23g/t), 4m @ 18.77g/t Au (including 2m @ 36.2g/t), 32m @ 2.02g/t Au (including 18m @ 3.22g/t), 24m @ 2.53g/t Au (including 6m @ 4.1g/t (including 2m @ 6.2g/t) and 2m @ 6.14g/t), 14.12g/t Au over 4m, 34.1g/t over 2m and 63.2g/t over 1m, have defined significant gold mineralised quartz veining zones over a 3km by 1km area including the steep dipping 'Main Vein' and shallow dipping 'Sheeted Vein' zones.

Australia

Monogorilby is prospective for province scale titanium and bauxite, with an initial maiden resource of 54.9MT of premium DSO bauxite. Monogorilby is located in central Queensland, within a short trucking distance of the rail system leading north to the Port of Bundaberg. It is also located within close proximity of the active Queensland Rail network heading south towards the Port of Brisbane.

May Queen is located in Central Queensland within IRR's wholly owned Monogorilby license package and is highly prospective for gold. Historic drilling completed during the 1980s intersected multiple high-grade gold intervals, including 2m @ 73.4 g/t Au (including 1m at 145g/t), 4m @ 38.8g/t Au (at end of hole) and 3m @ 18.9g/t Au, over an approximate 100m strike hosting numerous parallel vein systems open along strike.

Gabon

Tchibanga is located in south-western Gabon, in the Nyanga Province, within 10-60km of the Atlantic coastline. This project comprises two exploration licenses, Tchibanga and Tchibanga Nord, which cover a combined area of 3,396km² and include over 90km of prospective lithologies and the historic Mont Pele iron occurrence. Belinga Sud is Located in the north east of Gabon in the Ogooue-Ivindo Province, approximately 400km east of the capital city of Libreville. IRR's licence lies between the main Belinga Iron Ore Deposit, believed to be one of the world's largest untapped reserves of iron ore with an estimated 1bt of iron ore at a grade >60% Fe, and the route of the Trans Gabonese railway, which currently carries manganese ore and timber from Franceville to the Port of Owendo in Libreville.

Corporate

IronRidge made its AIM debut in February 2015, successfully securing strategic alliances with three international companies: Assore Limited of South Africa, Sumitomo Corporation of Japan and DGR Global Limited of Australia. Assore is a high-grade iron, chrome and manganese mining specialist. Sumitomo Corporation is a global resource, mining marketing and trading conglomerate. DGR Global is a project generation and exploration specialist.