Locksley Resources Limited: Rice University DES Processing Technology Update

16.10.2025 | ABN Newswire

Perth, Australia - Locksley Resources Ltd. (ASX:LKY) (FRA:X5L) (OTCMKTS:LKYRF), is pleased to provide an update on the advanced research program underway at Rice University in Houston, Texas.

HIGHLIGHTS

- Rice University advancing identification of the Deep Eutectic Solvent (DES) system development

- Preliminary process parameters for the green hydrometallurgical DES process established, supporting the scoping of a pilot demonstration plant

- Locksley COO visits Rice University to review progress on DES research program

- Flotation concentrates and ROM ore samples from the Desert Antimony Mine (DAM) and EV Resources' Los Lirios deposit, to be delivered to Rice University for expanded testwork

- American made mine-to-metal supply chain aligns with U.S. national objectives for critical mineral independence

Locksley's Chief Operating Officer, Danny George, recently visited Rice University to review progress on the Company's collaborative research program aimed at developing DeepSolv(TM), an innovative green hydrometallurgical solvent system for the extraction and recovery of antimony from stibnite ores and concentrates.

The visit formed part of Locksley's ongoing engagement with the Rice University research team, led by Professor Pulickel Ajayan of the Rice Advanced Materials Institute. It provided the opportunity to directly observe the encouraging developments being achieved through the laboratory scale program.

Technical Progress

Technical sessions focused on reviewing process parameters, including solvent composition, leach kinetics, reagent recyclability, and temperature optimisation.

The DES system, employing environmentally benign ionic mixtures as an alternative to traditional reagents, has demonstrated strong potential for selective dissolution of antimony sulphides under mild conditions. This represents a major step toward establishing a low-emission, sustainable processing route for antimony production.

The collaborative review also evaluated how laboratory-scale results correlate with potential commercial-scale process configurations. Mass-balance considerations were assessed in preparation for scaling up to a pilot demonstration plant, with emphasis on solvent recovery efficiency, reagent stability, and downstream metal recovery pathways.

These findings confirm that the research program remains closely aligned with Locksley's commercialisation strategy, advancing toward a technically robust, scalable, and economically sustainable antimony production process.

Danny George, Locksley Chief Operating Officer commented;

"It was a privilege to spend time with the talented team at Rice University and see firsthand the impressive progress being made. The collaboration continues to deliver strong technical outcomes, and we're excited about how this work is shaping the foundation for future commercial application.

The novelty of the DES-based process lies specifically in the solvent chemistry and its enhanced selectivity for antimony dissolution-representing a true breakthrough in reagent innovation rather than a complete process redesign.

Importantly, the downstream processing stages utilise established hydrometallurgical methods, ensuring a

clear pathway toward commercial scalability, operational reliability, and regulatory acceptance. This is a strong example of how academic innovation and industry experience can work hand in hand to deliver next-generation solutions for the critical minerals sector."

Next Steps

The next phase of work will include the delivery of flotation concentrates and ROM ore from the Desert Antimony Mine (DAM) and Los Lirios deposits to Rice University to further expand the testing regime. This work will underpin the design and scoping of the planned pilot demonstration plant, marking another significant milestone in Locksley's development of a 100% American-made antimony supply chain.

About Locksley Resources Limited:

Locksley Resources Limited (ASX:LKY) (FRA:X5L) (OTCMKTS:LKYRF) is an ASX listed explorer focused on critical minerals in the United States of America. The Company is actively advancing exploration across two key assets: the Mojave Project in California, targeting rare earth elements (REEs) and antimony. Locksley Resources aims to generate shareholder value through strategic exploration, discovery and development in this highly prospective mineral region.

Mojave Project

Located in the Mojave Desert, California, the Mojave Project comprises over 250 claims across two contiguous prospect areas, namely, the North Block/Northeast Block and the El Campo Prospect. The North Block directly abuts claims held by MP Materials, while El Campo lies along strike of the Mountain Pass Mine and is enveloped by MP Materials' claims, highlighting the strong geological continuity and exploration potential of the project area.

In addition to rare earths, the Mojave Project hosts the historic "Desert Antimony Mine", which last operated in 1937. Despite the United States currently having no domestic antimony production, demand for the metal remains high due to its essential role in defense systems, semiconductors, and metal alloys. With significant surface sample results, the Desert Mine prospect represents one of the highest-grade known antimony occurrences in the U.S.

Locksley's North American position is further strengthened by rising geopolitical urgency to diversify supply chains away from China, the global leader in both REE & antimony production. With its maiden drilling program planned, the Mojave Project is uniquely positioned to align with U.S. strategic objectives around critical mineral independence and economic security.

Tottenham Project

Locksley's Australian portfolio comprises the advanced Tottenham Copper-Gold Project in New South Wales, focused on VMS-style mineralisation

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