Q&A CRC-P Grant

"The CRC Programs support industry-led collaborations between industry, researchers and the community."

The EnviroCopper research focused on a number of areas including community acceptance of ISR as an alternative mining technique, establishment of environmental risk mitigation strategies, understanding the mineral (copper) characterisation, lixiviant system design/optimisation and fluid flow modelling.

Research into these areas will lead to better environmental outcomes, improved economic results and improved social license.

Australian Government
Department of Industry, Innovation and Science

Business Cooperative Research Centres Program

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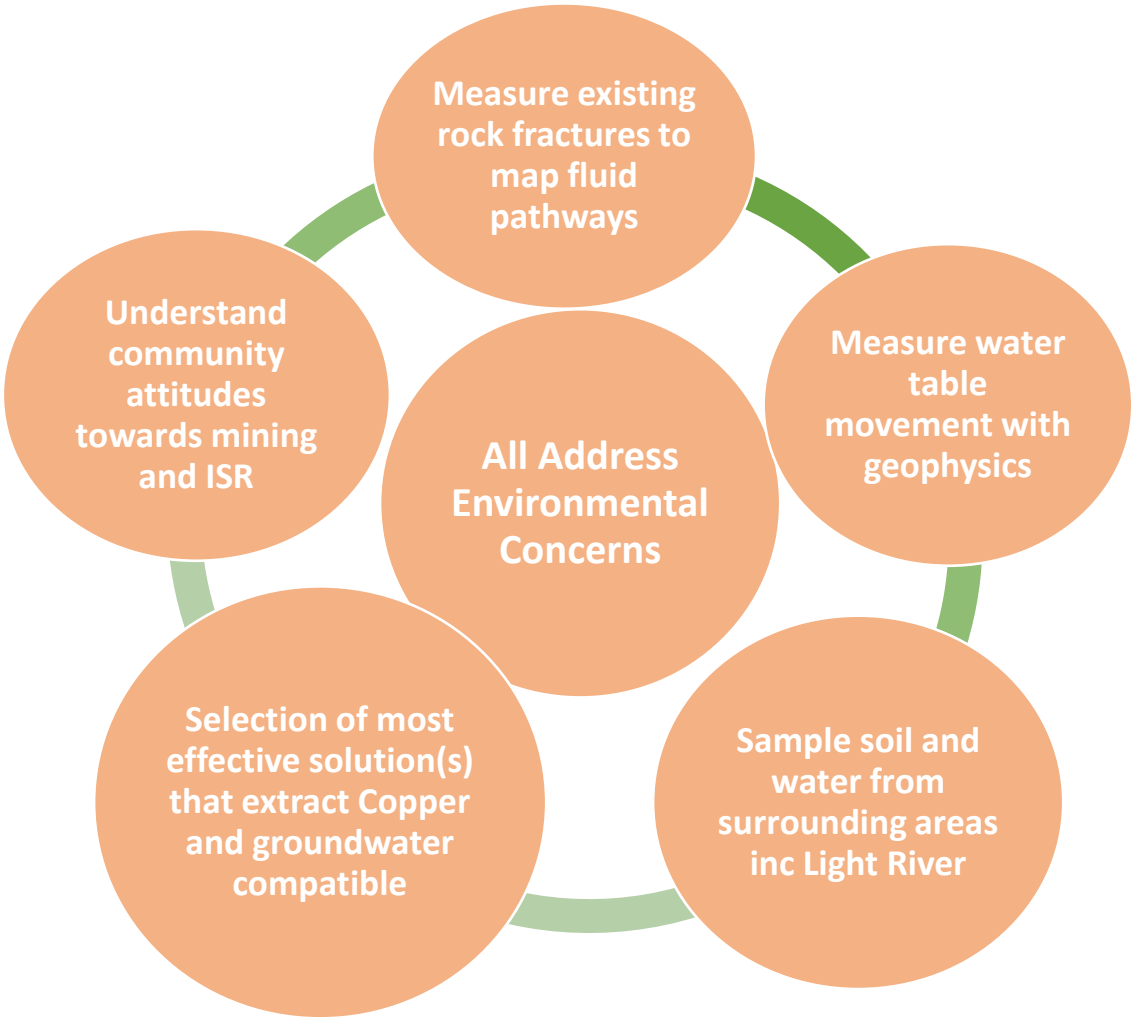

ENVIRO COPPER
THE INVISIBLE MINE

THE RESEARCH PARTNERS

CSIRO

THE UNIVERSITY of ADELAIDE

Minerals and hydrometallurgical

Testing and characterisation of existing drill core samples then llixiviant (benign solutions) screening for the most effective for copper extraction.

Environmental baselines

Establishment of surface and groundwater quality chemical parameters utilising Uni of Adelaide geophysical data to assist groundwater monitoring & management.

Plus, development of an Environmental Report card (digital) to enable synthesis of complex chemical and biological data on overall water quality health, for both community and regulators.

Social License

Qualitative focus groups conducted on how residents may accept ISR as a viable mining alternative then building on perceptions of the mining heritage to clarify how a renewed mining industry aligns with Kapunda's core values.

3D fracture modelling

Modelling of existing rock mass to identify fluid, and therefore lixiviant, flow paths. This geological model of fluid access gave indications of potential copper extraction.

Subsequent 3D MT surveys will be used for long term monitoring of impact. This will improve environmental measurements, accuracy of potential recoverable grades and improve economics.

Geophysics

Geophysical studies mapped these fluid/lixiviant flow paths using Magnetotellurics (MT).

MT is a passive geophysical method which uses natural time variations of the earth's magnetic and electric fields to measure the electrical resistivity of the sub-surface.

During production they will be laid continuously to monitor fluid flow over a number of sites.

What are the Commonwealth Government expectations of the grant?

- Demonstration that low impact ISR is a technically and economically viable alternative to conventional mining methods for the recovery of copper and gold in many geological settings.
- ISR operation will significantly reduce surface disturbance and lower environmental impact, earning greater acceptance and support from key stakeholders.
- Environmental Report Cards are transparent and ensure both trust and confidence.
- Community understanding and acceptance that ISR is low impact and environmentally friendly.
- Improved Magnetotellurics (MT) for mapping surface fluid flow in real time
- Accurate fracture modelling leads to better environmental management and resource estimation in ISR projects
- Regulators and governments accept this is a smarter way to mine.
- Assist South Australia to reach is Copper Strategy target of 1 million tonnes of Copper/year by 2030.
- Education sessions in schools, TAFEs and tertiary institutions on In-Situ Recovery to complement existing STEM curriculum focus
- Placing Australian institutions at the forefront of ISR research internationally which will help institutions to attract research projects to Australia.
- Creation of a new segment of the mining industry.
- Kapunda has Australia's 1st demonstration ISR Copper mine
- Findings from the Kapunda project being applied to other potential "stranded asset" sites within SA and Australia.