# Cobre Limited: Commencement of Hydrogeological Test Work

21.11.2023 | ABN Newswire

Sydney, Australia - Cobre Ltd. (ASX:CBE) is pleased to announce that drilling for the hydrogeological test study has now commenced on the Ngami Copper Project (NCP) in the Kalahari Copper Belt (KCB), Botswana. The programme has been designed to provide essential information to demonstrate the viability of an In-Situ Copper Recovery (ISCR) process for extraction of copper-silver from the significant strike of mineralisation (estimated scale of between 103 and 166Mt @ 0.38 to 0.46% Cu). The test work will be undertaken in two phases:

1. Phase 1 short-term single well pumping and injection test providing insight into the injection feasibility prior to start of the more comprehensive follow-on stage; and

2. Phase 2 long-term two well pumping and injection test designed to evaluate the aquifer characteristics at two locations over a longer period.

The test work will utilise a series of strategically located monitoring wells to collect data on the aquifer permeability, anisotropy, extent and flow dynamics which will be used to construct a 3D hydrogeological model for ISCR design and planning. The two sites selected for test work are representative of high and moderate grade zones of mineralisation. Both phases of work are expected to be completed in Q1 of 2024. Results will be made available as the programme progresses.

Commenting on the hydrogeological programme, Adam Wooldridge, Cobre's Chief Executive Officer, said:

"We're excited to get this important phase of work started. Results from the programme will provide a critical stage gate for our ISCR journey on this project. If proven successful, applying ISCR to extract the copper and silver mineralisation will present an ideal, low Capex, low Opex and environmentally friendly method for producing copper cathode on-site."

Geology and Mineralisation

Mineralisation at NCP issedimentary-hosted, structurally controlled, copper-silver associated with the redox contact between oxidised Ngwako Pan Formation red beds and overlying reduced marine sedimentary rocks of the D'Kar Formation on the limbs of anticlinal structures. Drilling has focussed on the southern anticlinal structure which extends for over 40km across the NCP with evidence for anomalous copper-silver mineralisation on both northern and southern limbs.

Drilling results to date have returned consistent, wide intersections of anomalous to moderate-grade copper-silver values over extensive strike lengths with smaller structurally controlled higher-grade zones (Figure 1). This style of mineralisation is dominated by fine-grained chalcocite which occurs along cleavage planes (S1) and in fractures rather than the vein hosted bornite with chalcopyrite more typical of the KCB style. Importantly, the chalcocite mineralisation is amenable to acid leaching, occurs below the water table and is associated with well-developed fracture zones bounded by more competent hanging and footwall units satisfying key considerations for ISCR.

Pumping test design and objectives

For the pumping and injection test, two dual-purpose pumping and injection wells located within the mineralised zone will be drilled. Each pumping/injection well is surrounded by a network of monitoring wells. This setup will enable pumping from one well and injection into another, creating a reciprocal system (Figure 2 and 3*).

Injection/pumping wells target areas with a higher distribution of open fractures which are expected to significantly enhance injection rates and promote spreading of recharge water along the mineralised zone. The injection wells have been designed to intersect geological structures, particularly fault zones, which are known for their greater degree of fracturing and higher hydraulic conductivities (aquifer permeability).

Monitoring wells have been strategically positioned to test for: lateral movement of fluid through the footwall and hanging wall competent "seal" rocks; potential escape of fluid into the Kalahari cover; and movement of

fluid within the mineralised compartment.

Results will provide valuable insights into aquifer permeability, anisotropy, extent, and preferential groundwater flow directions, enhancing the overall understanding of the hydrogeological system and ultimately testing the viability of an in-situ recovery programme.

WSP Australia Ltd have been engaged to provide oversight and modelling of the pumping-injection test results

ISCR background and viability

ISCR utilises a series of injection wells to pump a weak acid (similar pH to lemon juice) solution under low pressure to dissolve the copper (and silver) mineralisation in situ. The method relies on naturally developed fractures to focus the solution into the orebody where the copper is leached after which the copper-rich solution is pumped to surface through recovery wells for processing into copper cathode sheets using an electro-chemical process that separates the copper from the solution. As there is no need for excavation, mine development, waste piles, milling or smelting, the technique provides a cost-effective technology with an extremely small environmental footprint.

For a deposit at NCP to be considered viable for ISCR, several specific hydrogeological and metallurgical factors need to be satisfied:

1. Is the mineralisation amenable to acid leaching?

- Mineralisation is predominantly fine-grained chalcocite easily treated with an acid leach process.

- Mineralisation is hosted in fractures and along cleavages, providing porosity and permeability and providing fluid flow through the mineralised horizon for the leaching solution.

- IBR Leach tests carried out on approximate 5m composite samples of moderate- and highgrade intersections have confirmed an acid leach with ferric sulphate and chloride is viable for copper and silver extraction.

2. Is the mineralisation below the water table?

- Groundwater measurements in diamond holes and neighbouring cattle post water boreholes together with published water strike depths estimate the water table to be at 130m to 170m depth below surface.

- This appears to be an optimal depth, sufficiently below the Kalahari cover to ensure fracture control preventing lateral migration, with a small portion of the orebody exposed above the water table.

3. Does the host rock have fractured permeability for solution to permeate through and dissolve the copper?

- Detailed fracture logging and AI driven fracture logging carried out on holes through the Comet Target has confirmed:

o High density fracture zone associated with the lower mineralised cycle of the D'Kar Formation, particularly associated with the mineralisation above the contact.

o Lower (less-permeable) fracture counts associated with the underlying Ngwako Pan Formation footwall and overlying sandstone packages in the D'Kar Formation provide lateral seals.

o The primary fracture orientation is sub-parallel to the (mineralised) D'Kar/Ngwako Pan Formations redox contact, allowing fluid flow parallel to and along the contact zone.

The current study will test (2) and (3) above.

Target Model

The NCP area is located near the northern margin of the KCB and includes significant strike of subcropping Ngwako Pan / D'Kar Formation contact on which the majority of the known deposits in the KCB occur.

Cobre is aiming to prove up a similar ISCR process to Taseko Mines Ltd.'s (TSE:TKO) (NYSE:TGB) Florence Copper Deposit (320Mt @ 0.36% Cu) in Arizona which shares a similar scale to NCP.

For full exploration results including relevant JORC table information, background on the project scale and

ISCR opportunity, see Cobre's ASX announcements as follows:

- NCP Exploration Target Estimate Highlights Significant Scale, 30 August 2023

- Potential for Extensive In-Situ Copper Mining - Botswana, 8 August 2023

- Metallurgical Test Work at NCP Highlights Recovery Potential, 9 October 2023

*To view tables and figures, please visit:
https://abnnewswire.net/lnk/E57O0C06

About Cobre Limited:

Cobre Ltd. (ASX:CBE) is a copper and base-metals explorer with projects in Western Australia and Botswana. The Company recently discovered a new high-grade VMS deposit enriched in Copper, Gold, Zinc and Silver in Western Australia, and is currently exploring approximately 8,100 km2 of tenements within the Kalahari Copper Belt (KCB) in Botswana.

Source:
Cobre Ltd.

Contact:

Cobre Ltd. Martin Holland E: info@cobre.com.au WWW: www.cobre.com.au

Dieser Artikel stammt von GoldSeiten.de
Die URL für diesen Artikel lautet:
https://www.goldseiten.de/artikel/600880--Cobre-Limited~-Commencement-of-Hydrogeological-Test-Work.html

Für den Inhalt des Beitrages ist allein der Autor verantwortlich bzw. die aufgeführte Quelle. Bild- oder Filmrechte liegen beim Autor/Quelle bzw. bei der vom ihm benannten Quelle. Bei Übersetzungen können Fehler nicht ausgeschlossen werden. Der vertretene Standpunkt eines Autors spiegelt generell nicht die Meinung des Webseiten-Betreibers wieder. Mittels der Veröffentlichung will dieser lediglich ein pluralistisches Meinungsbild darstellen. Direkte oder indirekte Aussagen in einem Beitrag stellen keinerlei Aufforderung zum Kauf-/Verkauf von Wertpapieren dar. Wir wehren uns gegen jede Form von Hass, Diskriminierung und Verletzung der Menschenwürde. Beachten Sie bitte auch unsere AGB/Disclaimer!

Die Reproduktion, Modifikation oder Verwendung der Inhalte ganz oder teilweise ohne schriftliche Genehmigung ist untersagt!
Alle Angaben ohne Gewähr! Copyright © by GoldSeiten.de 1999-2024. Es gelten unsere AGB und Datenschutzrichtlinen.