

XANADU MINES

Kharmagtai Water Supply Drilling Program Recommences

27 March 2024

Xanadu Mines Ltd (ASX: XAM, TSX: XAM) (Xanadu, XAM or the Company) is pleased to announce that the hydrological drilling program has re-commenced for the Kharmagtai Pre-Feasibility Study (PFS), which is being developed with the Company's joint venture partner **Zijin Mining Group Co., Ltd. (Zijin)**. Water supply is a core input to the study; a key driver to maximise processing throughput for the project.

Highlights

- A hydrological drill program has recommenced with two diamond drill rigs, following a pause during winter months.
- Field work comprises three key components, with oversight by SRK Consulting.
 - Geophysical investigation.
 - Monitoring bore, piezometer installations and testing.
 - Production bore, installation and testing.
- Approximately 3,700 metres of hydrology drilling will deliver 18 monitoring bores, and a further 1,350 metres of drilling will deliver 4 production bores, to be completed in May 2024. The final PFS water report is expected to be completed in July 2024.
- Data will be compiled into a hydrology database for use in site water balance for final PFS design, which is assessing ultimate growth of up to 40Mtpa processing throughput.
- Post-PFS, early works will include full drill-out and registration of production reserve during H1 CY2025, to support subsequent approval of final mining permit.

Xanadu's Executive Chairman & Managing Director, Colin Moorhead said:

“Water is a critical input to the Kharmagtai PFS project, and the study team is aggressively driving this program forward, following a pause during the cold winter months. We are confident in this field program and aim to demonstrate that, to a PFS standard, there is an adequate supply of water for Kharmagtai, to ensure its successful delivery as Mongolia's next major copper-gold mine in the south Gobi region of Mongolia.”

Hydrological Objectives

The hydrological program has six key objectives to provide water supply for Kharmagtai operations. The program will separately test and characterise individual aquifers to:

- Establish hydraulic parameters and groundwater heads.
- Initiate regular monitoring of groundwater levels.
- Examine responses in individual aquifers to external stresses (permeability tests).
- Establish regular monitoring of groundwater quality.
- Collect sufficient data to update the conceptual understanding and aquifer yield estimates.

The overall program is designed to meet Pre-Feasibility Study (PFS) confidence requirements under both the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012) and the NI 43-101 Standards for Disclosure for Mineral Projects. SRK Consulting are providing technical oversight.

The Kharmagtai PFS seeks to maximise water recycling through the use of industry best practices including efficient process design, modern tailings dam design and thickened tailings to reduce water loss. The study has benchmarked against similar operations, including other large operations in the South Gobi, and estimates a make-up water requirement of approximately 200 litres per second for a process rate of 15Mtpa. This corresponds to Stage 1 in Kharmagtai the Scoping Study / PEA¹ which includes full payback of establishment capital for the project. The Kharmagtai PFS envisages a Stage 1 process rate of 20-26Mtpa using a 2 x 20MW SABC circuit, with Stage 2 following capital payback expanding by 1x or 2x 20MW SABC circuit(s).

The Kharmagtai study is designing for growth up to 40Mtpa processing throughput for Stage 2 expansion; the water resource we are drilling is expected to make sufficient inroads towards meeting this elevated requirement to a PFS standard.

¹ ASX/TSX Announcement 20 June 2022 – NI43-101 Preliminary Economic Assessment Technical Report

2024 Drilling Program

Drilling and other field work will be conducted in the Zagiin Usnii Khudag (**ZUK**) basin and designed to upgrade and expand the existing ZUK reserve to meet project water requirements to PFS level confidence. The ZUK basin covers approximately 223 square kilometres, and at its nearest point is approximately 6km northeast from the current Kharmagtai exploration camp.

The planned 2024 program includes 3,700m of drilling to deliver 18 observation bores and 1,350m of drilling to deliver 4 production bores used in pump testing (see **Figure 1**). Bores will range from 60m to 450m in depth. The order of monitoring bore drilling will change as the field program progresses, including progress of production bore drilling.

The planned 2024 field work program comprises two drilling, installation, and testing components to be carried out in parallel:

- Monitoring piezometer installations and testing in monitoring bores.
- Production bore installation and testing.

Permeability will be tested during the drilling of monitoring bores using a combination of airlift tests, falling head tests and shut-in pressure tests. A final permeability test will be conducted on each hole using the installed monitoring piezometer.

SRK personnel will oversee the 2024 drilling and field program.

During 2023, preliminary geophysical investigations were conducted. This included gravity, vertical electrical sounding, transient electromagnetic method, and downhole geophysical logging. Using this information, five boreholes were drilled to depths greater than 300m targeting potential deep aquifer units. These boreholes will be re-tested as part of the 2024 field work program, with results incorporated into the 2024 ZUK hydrological model.

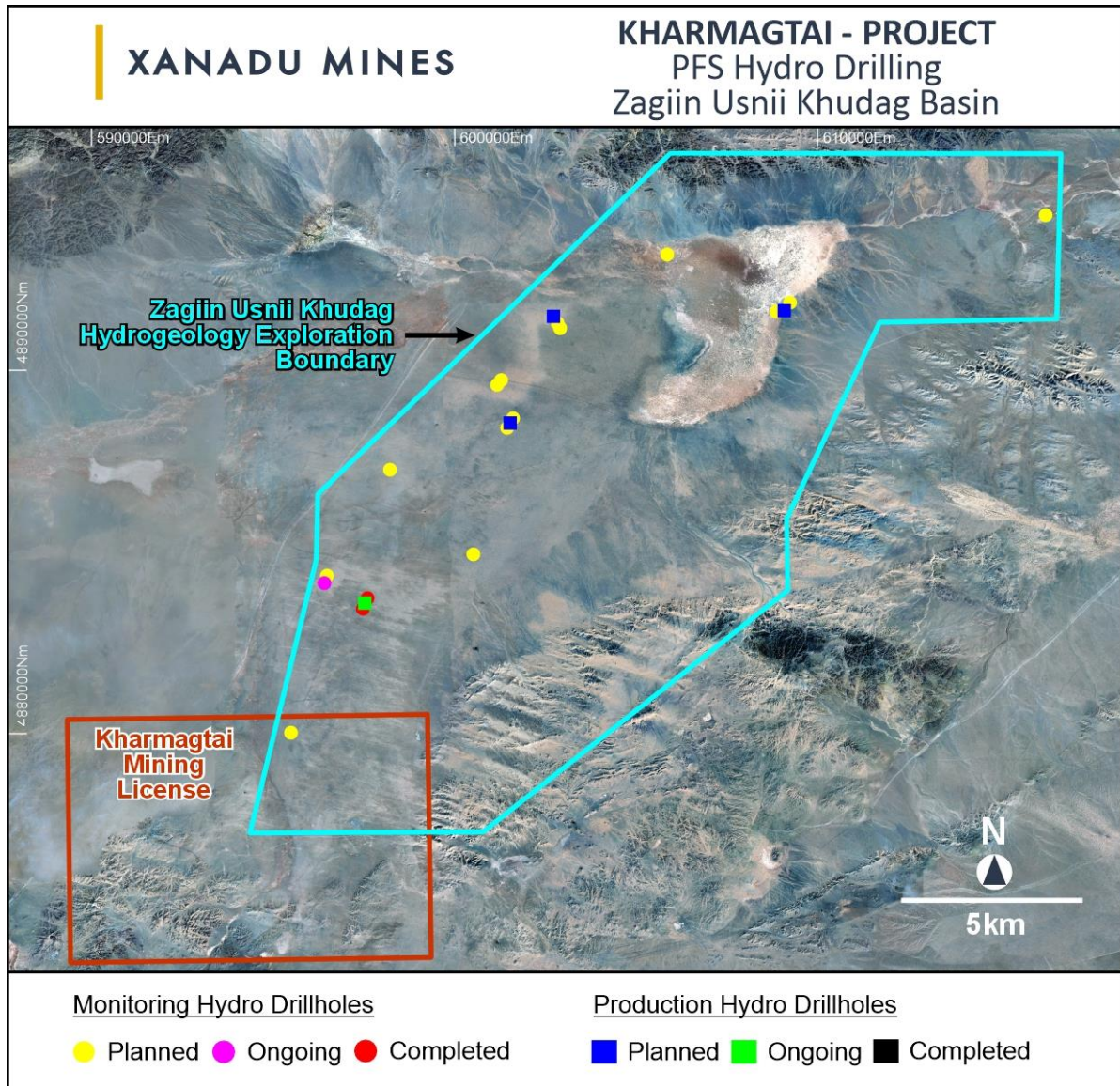


Figure 1. PFS Water Drilling in ZUK Basin



Figure 2. Drilling Water Monitoring Hole at ZUK Basin

Existing Water Resource

The Kharmagtai project holds an existing water reserve of 69.1 litres per second, established for Kharmagtai in 2013 by Rio Tinto, located in ZUK basin directly adjacent to the Kharmagtai project, within 6km of the existing exploration camp at its nearest point.² The purpose of the limited 2013 reserve was to enable registration of the Kharmagtai mining license and did not fully explore the capacity of the ZUK basin.

Hydrological drilling and groundwater assessments were undertaken in 2009, 2010 and 2012. During this period at least 22 boreholes were drilled over this period to a maximum depth of 178m, 18 of which fall within the current ZUK permit area. Historical assessments were also completed in the 1980s by joint Mongolian-Russian researchers. The combined data from the historical works, as well as the 2013 water reserve, forms the basis for the current PFS hydrological exploration program.

Future Hydrological Drilling

After completion of the PFS, and during the final stage of development, the Kharmagtai project will undertake a comprehensive drill, test and construction program to bring its target water sources to a full production standard, which is required to register a Mongolian Production Reserve, for extraction during mine operations. To ensure Kharmagtai is ready to commence pre-stripping and ore mining in early 2027, the Mongolia Production Reserve is targeted for completion in the first half of CY2025 to

² ASX/TSX Announcement 20 June 2022 – NI43-101 Preliminary Economic Assessment Technical Report

support mining permit approvals by end 2025. Execution of this future program is outside the scope of the PFS, however the planning for this program will be undertaken prior to commencing early works.

About Xanadu Mines

Xanadu is an ASX and TSX listed Exploration company operating in Mongolia. We give investors exposure to globally significant, large-scale copper-gold discoveries and low-cost inventory growth. Xanadu maintains a portfolio of exploration projects and remains one of the few junior explorers on the ASX or TSX who jointly control a globally significant copper-gold deposit in our flagship Kharmagtai project. Xanadu is the Operator of a 50-50 JV with Zijin Mining Group in Khuiten Metals Pte Ltd, which controls 76.5% of the Kharmagtai project.

For further information on Xanadu, please visit: www.xanadumines.com or contact:

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This Announcement was authorised for release by Xanadu's Executive Chair & Managing Director.

Forward Looking Statements

Certain statements contained in this Announcement, including information as to the future financial or operating performance of Xanadu and its projects may also include statements which are 'forward-looking statements' that may include, amongst other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions. These 'forward-looking statements' are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Xanadu, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies and involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.

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For further information please visit the Xanadu Mines' Website at www.xanadumines.com.