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University of Alberta and CVW CleanTech announce partnership to recover rare earth elements essential for Canada's path to net zero

EDMONTON, AB – Today, the University of Alberta and CVW CleanTech announced a joint research project to advance the recovery of rare earth elements from oil sands waste. The partnership will apply mineral separation research and processing technology to capitalize on this abundant source of critical minerals which is currently being lost to tailings ponds.

The project will develop commercial grade monazite from oil sands tailings waste, which can be used along with other critical minerals to build batteries, electric vehicles, wind turbines, and other clean technologies to decarbonize the economy. The recovery of rare earth elements would provide Canada with a new supply of critical minerals that are vital to transition to a lower-carbon economy, and to strengthen Canada's global leadership and security.

"Our partnership with the University of Alberta presents a significant step forward in our joint mission to transform waste streams into valuable economic products," said Kevin Moran, Executive Vice President & Chief Technology Officer at CVW CleanTech.

"By supporting the global clean energy transition and strengthening our domestic supply chain, this research will support the critical mineral strategies of Alberta and Canada, strengthen our position in the green economy, and provide more jobs and greater economic opportunities for the country."

"Alberta's oil sands contain heavy minerals bearing rare-earth elements," said Qi Liu, Professor of Chemical and Materials Engineering at the University of Alberta. "These heavy minerals are enriched by the bitumen recovery process and end up in bitumen froth treatment tailings in economic grades. Recovering these minerals will boost Canada's critical mineral production. We look forward to working with CVW CleanTech to explore this exciting opportunity."

Funded by the Natural Sciences and Engineering Research Council of Canada (NSERC) and carried out in partnership with InnoTech Alberta, the \$1.4 million project will take place over three years with early results on critical mineral concentrate expected within the first year. A CVW CleanTech critical minerals project could increase Alberta's GDP by up to 0.52 per cent.

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About CVW CleanTech

[CVW CleanTech](#) is a pioneering clean technology innovator dedicated to developing sustainable oil sands tailings technology solutions. With a dedication to environmental stewardship in addition to the ability to become leaders in the sector for sustainable resource recovery and management, CVW CleanTech has developed a suite of proprietary technologies. The technology, known as Creating Value from Waste™, is designed to recover bitumen, solvents, critical minerals, and water from oil sands froth treatment tailings. This will significantly reduce tailings pond emissions and enhance tailings management to restore the natural environment.

About the University of Alberta

The University of Alberta exists to inspire and ignite the human spirit in pursuit of a better tomorrow. Its work is rooted in its commitment to equity, diversity and inclusion, while honouring Indigenous identities, languages, cultures and world views. As one of the world's top 100 teaching and research universities, the U of A ranks among the top 5 in Canada, providing a \$19.4 billion annual economic impact in Alberta alone. The U of A seeks to challenge, to change, and to always be Leading with Purpose.

More than 44,000 students and 13,000 staff shape the U of A, with outstanding achievements in learning, research, creativity, innovation and engagement across five campuses — including one rural and one francophone. The U of A attracts top talent in rigorous undergraduate, graduate and professional programs in 17 faculties across three colleges and more than \$550 million in sponsored research revenue. The U of A has more than 300,000 alumni worldwide.

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