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**PolyPakk**  
**Portable Polymer Hydration Plant**  
**Project Profile**

# PolyPakk Portable Polymer Hydration Plant

## Project Profile

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### OVERVIEW

An Oil Sands client, in its exploration of dewatering technologies within a COSIA joint industry project, examined methods to expedite the reclamation of mature fine tailings for them to become trafficable. This initiative led the client to explore a range of different technologies. Several of the pilot technologies that were selected incorporated the addition of flocculating polymer, Poly-aluminum Chloride (PAC), to accelerate the natural process. For these pilot tests much of the processing equipment was sourced from local rental companies however no rental company offered polymer makedown units capable of producing the required hydrated polymer in the quantities and quality required.

ClearBakk was approached by an engineered equipment supplier to design, build and operate a high volume polymer hydration system (The PolyPakk) to meet the needs of the pilot program.

The PolyPakk system is a portable polymer hydration package that focuses on providing operational flexibility. Its small footprint allows it to be easily transported and set up at various locations to provide both short and long-term service. The bag-supported polymer handling allows the polymer to be quickly changed without having to first empty a full storage silo. The PolyPakk utilizes high-end particle cutter technology, providing greatly accelerated polymer hydration durations in any temperature water. The PolyPakk was designed to provide a substantially reduced plant footprint and flexibility to input changes.

### APPLICATION BREAKDOWN

- Polymer cutter for near-instantaneous hydration
- Waterwall funnel for initial wetting
- Bulk bag polymer storage
- Gravimetric feeders for concentration management
- Water knife mixers for secondary dilution

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- Receiver tanks for buffering and secondary dilution mixing
- Lobe pumps for final solution transfer
- Static mixers to ensure 100% homogeneity
- Incorporated instrument and process air production
- Inlet water pressure regulation and filtration
- Dust control
- Fully contained on one skid

## SERVICES PROVIDED

- Design
- Construction
- Commissioning & Startup
- Maintenance Support
- Retrofit Design Support

## PROJECT DRIVERS

- Compressed schedule of less than 12 months to design and build
- Operational Flexibility
- Strategic Flexibility
- Transportability for ease of moving to the mine face where required

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