

**Industry: Mineable Oil Sands****• Mature Fine Tailings****SONARtrac® SOLUTIONS**

A sonar array-based, non-contact flow meter that provides reliable and accurate volumetric flow measurements of Mature Fine Tailings (MFT) Slurry

**Benefits**

- Clamp-on technology enables quick installation without shutting down the process
- No inherent drift mechanism; no signal degradation
- Enables more accurate material and water balance measurements
- Not dependent on other instruments to make Measurement
- Insensitive to changes in slurry density

**A worldwide leader in slurry measurement, CiDRA is fast becoming the standard for flow technology used for mature fine tailings lines, providing excellent accuracy, repeatability, and stability**

**MFT Process**

The mineable oil sands extraction process produces a tailings slurry that is a mixture of water, clay, sand and residual bitumen. When tailings are released to a pond, the heaviest material — mostly sand — settles to the bottom, while water rises to the top. The middle layer, termed 'mature fine tailings' (MFT), is made up of fine silt and clay particles suspended in water that are approximately 30% by weight and less than 44µm in size. Some of these particles settle, but much remains suspended and thus do not settle within a reasonable timeframe.

In order to accelerate the separation of fine clays from water, the industry for the most part is mixing MFT with polymer flocculants to agglomerate solids. The slurry mixture is deposited over shallow slopes to drastically reduce the drying process in a matter of weeks. This process allows for rapid reclamation activities to occur.

**CiDRA's SONARtrac flow meter measures the volumetric flow of MFT slurry with a high degree of accuracy and reliability and as such is a critical component of the process.**

**Challenge**

MFT measurements have been a challenge for conventional meters such as magnetic and venturi flow meters due to their physical contact with the constituents of the MFT slurry and thus causing measurement, performance and reliability issues. These issues typically result in increased costs, process downtime and measurement irregularities.

**SONARtrac Solution**

SONARtrac systems are clamp-on, non-contact flow meters that install on existing process lines, eliminating process disruptions associated with the installation of other types of flow meters. SONARtrac flow meters provide superior performance, higher accuracy and repeatability while lowering total cost of ownership.

The customer's investment in SONARtrac flow meters is expected to deliver a better than one-year payback on the basis of hardware, reduced investment in spares inventory, installation and maintenance cost. This does not include the expected financial and operational benefits associated with increased production uptime.

SONARtrac flow and entrained air measurement technology have a proven track record of performance in challenging slurry applications where accuracy and reliability are demanded.