

Tailings Management – Oil Sands

Oil Sands (Tar Sands) Tailings is generated by the recovery of bitumen from oil rich sands. After deposition in temporary storage lakes these tailings can be dredged, now referred to as Mature Fine Tailings or MFT, for further management. The storage and management of MFT is a significant environmental issue. Accordingly, extensive research has been directed at innovative processes to cost effectively improve management options, reduce operational footprints and comply with regulator directives.

Phibion's Accelerated Mechanical Consolidation Process (AMC) has been successfully applied to several Canadian oil sands operations.

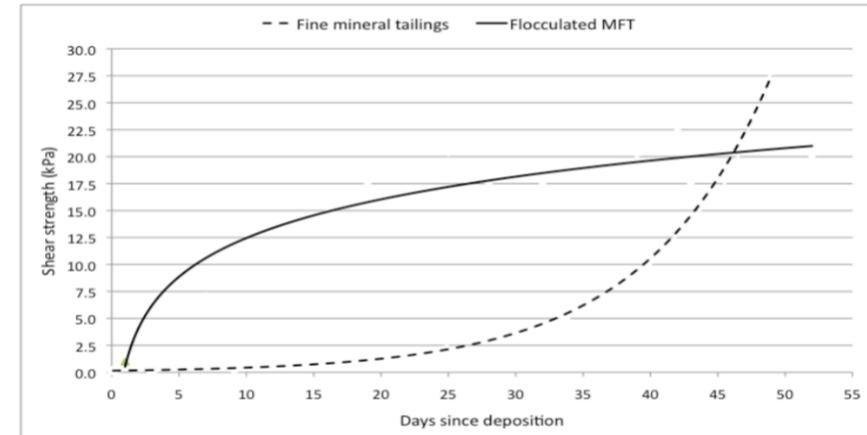


AMC operations in MFT

In oil sands (MFT) AMC can deliver:

- A >20% reduction in tailings volume and operational footprint;
- Options to deposit MFT in layers up to 1,000 mm while achieving an undrained shear strength >20 kPa in <42 days; and
- Final landforms that can mimic natural topography and can be closed from the moment operations cease.

Importantly, conventional slurry technology utilising ultra high flocculation levels can be avoided when dosage rates are optimised for AMC.



AMC applied to ultra-high polymer dosage MFT (inhibiting strength development when compared to low polymer dosage fine mineral tailings)

Phibion can provide AMC services to your organisation. We will provide the customised MudMaster®, employ and train local operators, manage maintenance/sparing and monitor performance. Additionally, we can provide supporting works, strategic planning and reporting.

Our services will reduce tailings management risk with no capital expenditure and none of the operational/financial risks of filtration or centrifugation. This approach is safe and infinitely scalable .

Phibion can deliver this performance at a fraction of the cost of other potential alternatives and allow your operation to realise its potential today, without compromising the future.

Munro, L. D. and Smirk, D. D., 2013. "Mud farming of fine tailings - applications and benefits of MudMaster® technology." *Tailings & Mine Waste 2013*. Banff, Canada.