

Tailings Management – Bauxite

Bauxite mining will often generate a fine tailings to improve the quality and handling characteristics of the bauxite for the customer alumina refineries. Generally, fine bauxite tailings are uncontaminated and can be returned to mined-out areas to minimise land-disturbance and enable closure. However, the high water content of the tailings, required for pumping purposes, demands large water volumes and energy intensive pumping to reach the expanding mine footprint. The preferred approach is to create local storage areas in the mined-out areas enabling improved water recovery and reduced pumping costs.

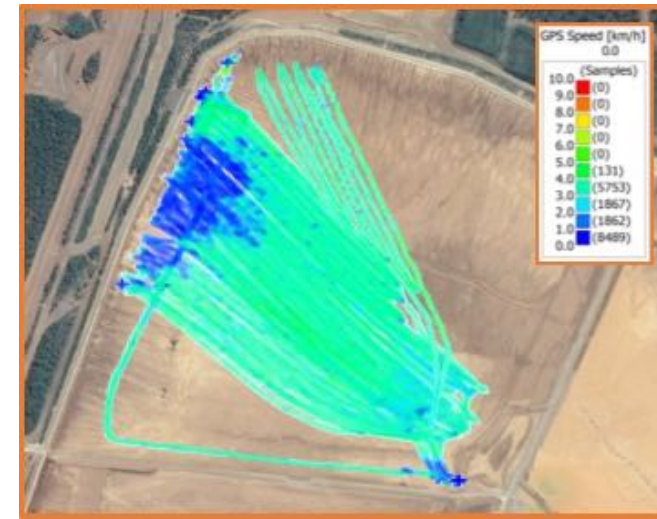
Phibion's Accelerated Mechanical Consolidation Process (AMC) has been successfully applied to bauxite mining operations to both reduce the volume of fine tailings and improve water recovery rates..



**AMC operations in fine bauxite tailings
(Note the water liberated from operations)**

In bauxite tailings AMC can deliver :

- A >50% reduction in tailings volume and operational footprint;
- A vane shear strength >35 kPa in < 42 days;
- A >30% increase in water recovery, reducing demand on precious virgin water resources; and
- Final landforms that can mimic natural topography and can be closed from the moment operations cease or create a material that can be returned to the mine.



AMC operations tracking and productivity

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, infinitely scalable and can be sustained under all conditions.

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. 'How thick is thick enough?' Paste 2018, Perth, Australia