

## Tailings Management – Alumina

Alumina tailings or more commonly termed “Bauxite Residue” or “Red Mud” is a by-product of the Bayer alumina refining process. Over 150 million tonnes of bauxite residue are produced every year from over 75 operations located around the globe. Like most tailings, bauxite residue is hazardous and must be responsibly managed both now and also to enable closure when operations cease. How these tailings are managed is one of the most critical decisions required of a company leadership team.

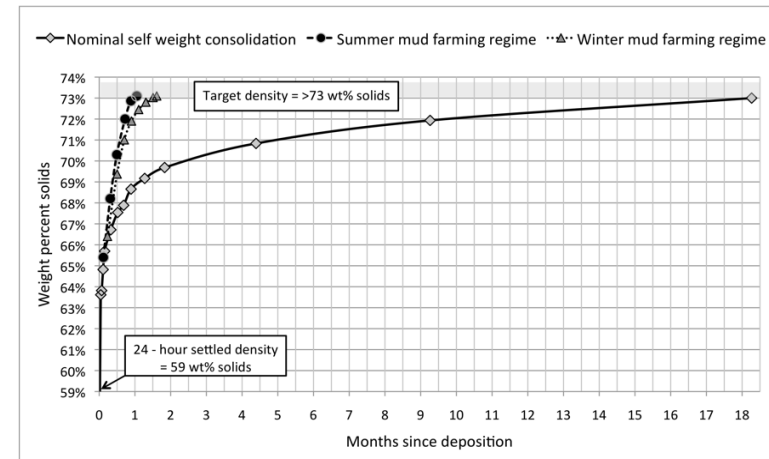
Phibion’s Accelerated Mechanical Consolidation Process (AMC) has been successfully applied to many alumina operations with a wide variety of bauxite characteristics and many different climatic regions.



**MudMaster® operations in bauxite residue**

In bauxite residue AMC can deliver:

- A >50% reduction in tailings volume and operational footprint;
- A >95% reduction in consolidation time to your final target density (compared to self-weight consolidation);
- An undrained shear strength >35 kPa in <42 days regardless of bauxite source (Jamaican, Brazilian, West Africa or Australian); and
- Final landforms that can mimic natural topography and can be closed from the moment operations cease.



### Time required to achieve target final densities in bauxite residue

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., 2012. “Optimizing bauxite residue deliquoring and consolidation.” In: *Proceedings of the 9<sup>th</sup> International Alumina Quality Workshop, March 2012. Perth, Western Australia.***