

Derrick® Modular Slurry Separation Plant provides optimal slurry separation for a Northeast contractor

- Separation of fine silt and clay particles down to 3-5 microns
- Derrick provides contractor with efficient solids removal

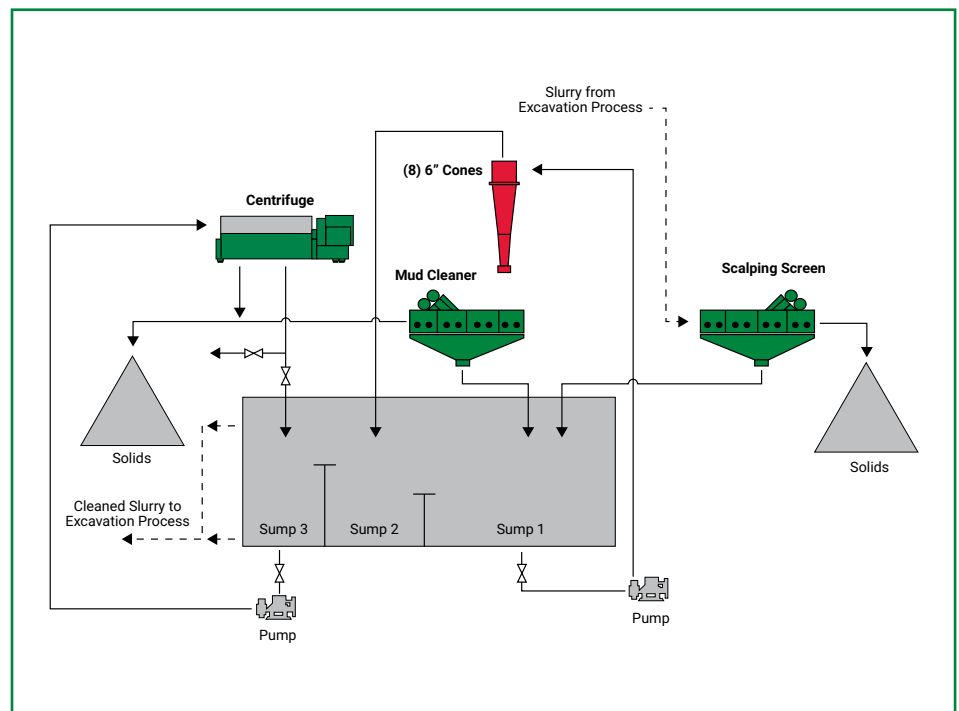
Background

A U.S.A. contractor based in the Northeast is using a Derrick Modular Slurry Separation Plant to work in conjunction with a Herrenknecht AVN1200 Microtunneling machine with outer diameter of 66”.

Solution

Primary separation on the plant is accomplished in two stages by a Cascade 2000 machine composed of a belt scalper, for coarse solids and sticky gumbo clay removal, mounted over a FLC 2000 high G screening machine that offers over 7.0 G’s of consistent acceleration. The combination of the belt scalper mounted over a shaker allows the contractor to convey out large, consolidated clay chunks and other oversize material +5 mesh. Additional oversize material is removed by the high G screening machine mounted below.

Underflow from the primary stage flows into the 1st chamber of the base tank and is pumped at 35-40 PSI to eight 6” desilter cones that make a fine separation at approximately 30 microns. The centrifugal separation extracts the ultra fine sands and silts greater than 30 microns and discharges them out the underflow. The recovered fines from the hydrocyclones are further dewatered



Derrick Modular Slurry Separation Plant flowsheet

on another FLC 2000 screening machine. Typically this screening machine is outfitted with Derrick’s patented Pyramid® screen panels with a corrugated, 3D profile. These screens offer 57% more screen area than conventional flat screens.

Overflow from the hydrocyclones reports to the 2nd chamber of the base tank where it eventually overflows to the 3rd chamber of the tank. A portion of this material is then fed via a positive displacement

feed pump to a Derrick DE-1000™ FHD™ (Full Hydraulic Drive) to separate out fine silt and clay particles down to 3-5 microns. Centrifuge effluent is returned to the active system and re-circulated back through the MTBM. In clay formations especially, this allows the contractor to keep their mud weights in acceptable levels to return to the MTBM for maximum production rates.

Conclusion

The Modular Slurry Separation Plant has a versatile platform strategy for various civil engineering applications to accommodate a multitude of equipment configurations. Up to three equipment platforms can be mounted on the base tank providing continuous separation. Flexible platform configurations such as an FLC 2000 4-panel shaker, a FLC 2000 4-panel mud cleaner with 6" cones, or a DE-1000 FHD Centrifuge provide optimal slurry separation. FLC 2000 machines feature Super G® vibrating motors for continuous high G linear motion and hydraulic Adjustable While Drilling (AWD) mechanisms to achieve maximum solids removal and dewatering conveyance. Derrick's performance enhancing, long life Polyweb® urethane screen surfaces or patented corrugated Pyramid screen technology, offers 57% more screening area and results in the most efficient solids removal. The flexible tank and platform can be outfitted with 3 components to achieve the desired result.



Derrick FLC 2000 shaker in operation



Derrick Modular Slurry Separation Plant in operation

For more information, please contact your local Derrick sales representative.

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