

Derrick® HI-G® dryers help in dewatering of coal washery tailings and elimination of tailing ponds

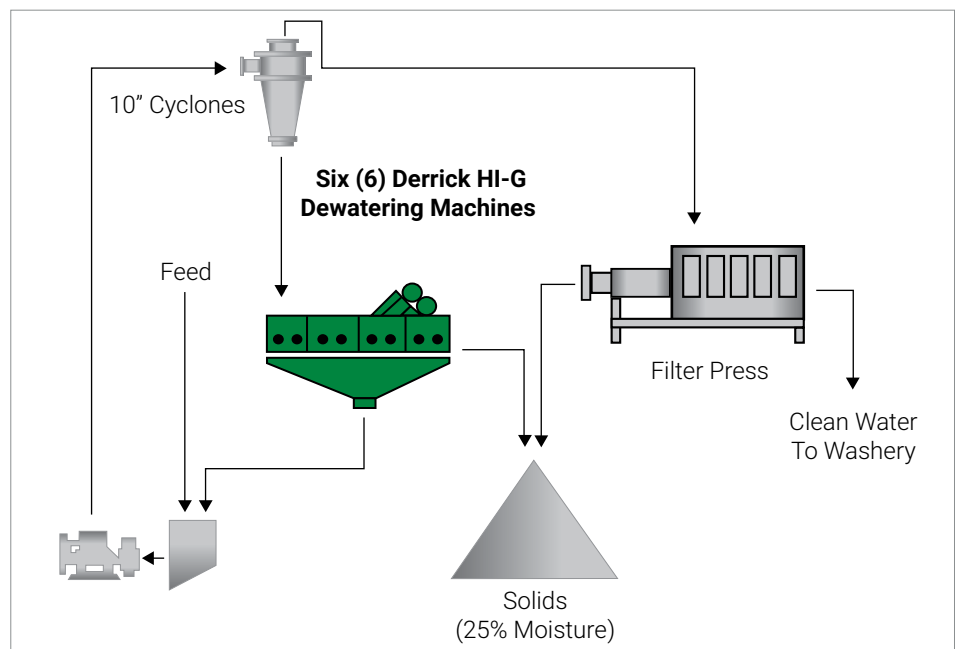
- Reduced dewatering cost dramatically
- Drastically reduced the high cost of large filter presses
- Eliminated large number of tailings ponds

Background

At a coal washery in India, fine tailings (typically -0.5mm) from the flotation circuit were thickened using a thickener and then pumped to a tailings pond. After settlement, clear water was pumped back to the washery, and solids were allowed to dry. The solids were then removed and sold to many buyers. This process required a large land area for the tailings pond. In addition, considerable amounts of water was being lost due to evaporation and seepage.

Solution

Derrick® HI-G Dewatering machines were recommended to assist in dewatering the thickened solids. The units are now operating in combination with filter presses to provide on-line dewatering of the solids. Clear water is recirculated to the washery, and dewatered solids are taken to a storage yard for disposal/sale. In the plant, tailings from washery are pumped to the plant where hydrocyclones are used for separating solids at 0.15mm and thickening to 50 percent solids. Thickened solids are dewatered using six HI-G Dewatering machines, and the -0.15mm fraction is sent for dewatering in filter presses.



New flowsheet incorporating Derrick HI-G Dryers

Nearly 75 percent of the total 240 t/h solids are recovered in Derrick screens and 25 percent are dewatered in the filter presses. Clear water containing less than 100ppm solids is pumped back to the respective washeries, while solids are stored for disposal.

Conclusion

This environmentally friendly plant has helped eliminate a tailing pond. The customer is now planning to duplicate this technology in other coal washeries. The accompanying flowsheet of the dewatering plant and photographs show Derrick's equipment in operation.

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

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