Application Reference

Tailings Thickeners - Coal

Improving the efficiency of the tailings thickener in a coal prep plants

Application Problem:
The customer had multiple coal types, that they processed through the coal prep plant. Some of the coal types had different settling characteristics. This affected the tailings thickener efficiency and the "clearometer" instrument that tested settling rates in the incoming feedwell, failed from time to time, which meant that the floccing rate changed and the suspended solids increased, decreasing the quality of the return water back to the prep plant.

Solution:
We provided a high powered 3 crystal sonar transducer with automatic scum cleaning impact plate. The two outputs of the sonar system provided,

1. BED Level (Heavy density compacted interface)
2. Clarity (Simple turbity monitoring suspended solids)

1. This heavier 'BED" level output, was used as one of the input loops, to control the underflow pump, guaranteeing an optimized density being pumped to the tailings dam.

2. The "Clarity" level output was used as an alarm feedback to the control room operations, that the "clearometer" had failed, or the floc dosing equipment needed maintenance.

The high powered 3 crystal array transducer, penetrated the suspended solids, even under poor settling conditions. The clarity output could also be used, in the floc dosing control loop to automate this function if the "clearometer" failed.

Hawk manufacturers the largest range of sonar transducers to provide optimized performance, for all bed level thickener applications e.g concentrate thickeners etc.

Ordering information:
Tailings thickeners part no: OSIRDYX + OSIRT303S4XC6 + OSIRME-L3 + OSIRSC-A

ORCA Sonar awarded "Product of the Year" twice.

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