

Application Report - No.13

Sludge



Two lagoons were causing a serious concern for United Utilities, Hillhouse Waste Water Treatment Works, being too far away for vacuum tankers to reach. Another solution had to be found to remove heavy sludge from lagoons.

After several failed attempts to pump the sludge, they phoned Selwood in a last ditched attempt to solve the problem.

It was decided that the lagoon to be emptied must be conditioned by recirculation so that the solids, including the vegetation growing on top, was in suspension in the liquid. This was then pumped to a separate lagoon where it could be tankered off site. Usually at least two pumps would be needed to carry out the operation, instead Selwood used only one S250T. Being capable of generating over 60m of head and giving a maximum flow of 760m³h as well as handling solids up to 125mm, the Selwood S250T was the ideal pump for the job.

The pump was placed at the base of the first lagoon to be emptied. 6 x 10" of wire armoured suction hose was then run up the bank across a walkway and down 3m into the sludge. On the discharge side, 4 x 10" delivery hose were attached and connected to a 10" into 3 x 6" Manifold. Three 6" gate valves were then fitted so the flow could be regulated on all three lines. The first 6" hose was then laid out 30m to discharge on top of the 10" suction hose. The second ran around the lagoon 60m away and discharged on the opposite side to stir the sludge. The third ran 120m up the site to remove the sludge via tankers.

The system was so successful that the pump could only run for four hours at a time because the tankers could not keep up with the flow being delivered.



S250T

Pump Speed	1800rpm
Capacity	760m ³ /h
Suction Lift	9.1m
Max Solids Size	125mm
Air Handling	24 l/s
Inlet / Outlet Port	250mm
Delivery Head	60m



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