SILT LAGOON CLEANING

Manufacturing Facility South Wales

PIONEER PUMP

DE-SILTING CASE STUDY

Pioneer were approached by the Project Manager of a national, facilities, infrastructure and logistics company with a view to offering a combined jetting and pumping solution for a silt lagoon cleaning and emptying application.

THE PROBLEM

Following discussions with the client and taking into account their brief, Pioneer arranged a free of charge site survey to ensure that the most efficient, effective and financially sound solution could be offered.

After calculating the volume of water needing to be pumped, the Pioneer team identified that a powerful 150mm Hydraulic Submersible Pump (150HSS) with a screw impeller, coupled to a 30 Horse Power - super silent - hydraulic power pack would provide the exact flow requirements for the application.

Pioneer were however, concerned that due to the nature of the application that the silt would be likely to settle thus rendering the submersible pump susceptible to blockages. To prevent this, a Pioneer 4" 100SM suction pump was offered as a method of agitating the silt and washing the silt down from the sides of the lagoon.

METHOD

The main feeder stream to the lagoon was bunded with a view to it being utilised as a water source for the 4" 100SM suction pump.

The pump's control panel was set to produce approximately 3 bar of pressure through the discharge side, which in turn was adapted to accept a fire hose.

The fire hose jetting nozzle included an on/off lever which offered the operative full control whilst they were working from different points around the lagoon.

The Hydraulic Pump end was lowered into the middle of the lagoon and connected to the power pack via 60 meters of hydraulic hose enabling it to be positioned in different areas of the lagoon.

Finally, 100m of discharge hose was laid out to the pre-determined discharge point from the pump end.

RESULTS

With the combination of the powerful water jet that was produced from the 4" 100SM suction pump, coupled with the superb silt handling capacity of the 150HSS the lagoon and the silt were emptied very efficiently and well within the client's deadlines and costings.

REDUCED *RUNNING COSTS*

INCREASED *EFFICIENCY*

PUMP FEATURES

- *Submersible pump fitted with screw impeller*
- *Suction pump fitted with fire hose for jetting purposes*

PERFORMANCE DETAILS

- *Standard Max Flow: 375m³/h*
- *Standard Shut-Off: 39m*
- *Fuel Consumption @ BEP: 6.3l/h @ 2000rpm*
- *Max Running Hours @ BEP: 32h @ 2000rpm*

EQUIPMENT USED

- *150HSS (Hydraulic Submersible pump)*
- *30HP Hydraulic Power Pack*
- *4" 100SM suction pump*