



ROGUE

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A LIMITED LIABILITY COMPANY

CASE STUDY: Dairy Processing Facility
LOCATION: Portland, OR USA
PROJECT: DAF Wastewater System Upgrade
GOAL: Reduce TSS and BOD discharge
WORD KEYS: DAF, TSS, BOD, surcharge reduction

FACILITY BACKGROUND

Darigold was established in 1918 to process milk into quality dairy products to serve a wide clientele. Production processing increased dramatically as the company flourished. In 2001 the firm installed the first wastewater pretreatment system at the Portland facility to reduce city discharge surcharges imposed on TSS and BOD effluent loadings. The company continued to grow and in 2008 found it necessary to replace the aging, overrun DAF aeration system.

SOLUTION DESIGN

The old system had several short-comings which needed to be addressed to achieve better treatment. The pump system was a centrifugal design producing mostly non-functional large bubbles. It was also corroded, being made of cast iron. The stainless steel DAF vessel was still in good shape.



RPC determined that replacing the existing aeration system with a new AISI 316 stainless steel **MAX RGT™** regenerative turbine pump, a superior upgraded DAF was possible. The new system entailed the pump, control valves, gauges and schedule 80 PVC piping. All were to be positioned conveniently below the DAF adjacent to the effluent chamber. The design recycled effluent water through the pump and would achieve saturation it in a single pass.

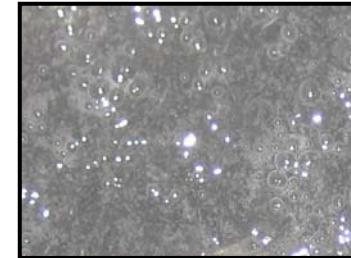
FINAL RESULTS

RPC had the pump delivered quickly. The Darigold maintenance crew had the **MAX RGT™** pump swiftly installed. Upon start-up the upgraded DAF produced great results. DAF BOD removal was increased 59% with the **MAX RGT™** immediately. The new pump produced very fine 20-30 micron bubbles. These micro bubbles captured the large portion of insoluble solids and effectively floated them to the surface. Plant personnel found they had a drier, more consistent sludge. They also found the system used less chemistry with far better results.



PAY-OFF

Darigold personnel are very satisfied with the upgraded DAF pre-treatment system. Discharge surcharges to the city have been reduced. Project ROI was less than one year. The firm is now poised for further growth.



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