PHOENIX™ MEMBRANE PURIFIER IMPACT STORIES

WASTE WATER TREATMENT PLANT CLARIFIER GEAR BOX CONDITIONING WITH COLD HIGH VISCOCITY 460 WEIGHT GEAR OIL

A Canadian city waste water utility was looking for a technology that could maintain water levels below saturation in their 20-gallon clarifier gear boxes.

This application was made additionally challenging due to the high 460 weight viscosity of the gearbox oil and the fact that there was very little heat generated in them.

Typical oil dehydration and water removal equipment is both cumbersome and has difficulty pumping oils of such high viscosity.

A PHoenix™ C1 1 gpm purifier cart was rented during the summer months to condition the oil of the gear boxes. During that time the PHoenix™ had no problems pumping the oil continuously and besides connection to the gear box required no operator attention. Water was reduced from 330 ppm to below 50 ppm on one gear box and from 430 ppm to below 60 ppm on the other.

PHX-HEATER

For faster water removal on stagnant cold and thick oils an optional portable single phase 110/220 V oil heater can be used in series to the inlet of the PHoenix™ to add heat. For every 20°F increase in oil temperature over 80°F water removal rate through the PHoenix ™ doubles and so can speed up equipment recovery times

The portable heater allows for modularity when dealing with water removal and thus maintains portability of two skids rather than one heavy skid with heater and purifier attached.

Figure 1: PHoenix on Clarifier Gear

Figure 2: Portable Oil Heater