

Date of Field Test: May 27, 2016
Test Designation: Grease Mat Emulsification
Location: LaSalle, Ontario, Canada
Site: LaSalle Township Collection System Lift Station
Structure Description: Rectangular Flow Cells
Weather Condition: Partly Sunny **Temperature:** 22°C/72°F



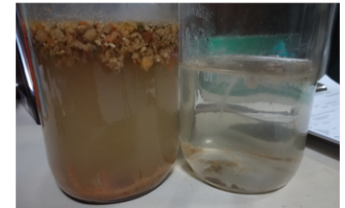
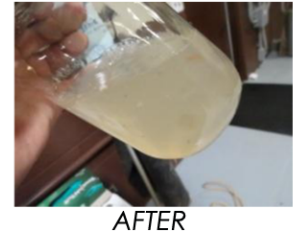
Field Testing Purpose:

Determine the TITUS® Twister™ Mixing Aerator's ability to break-up and emulsify a 30 day cycle of influent coagulated grease deposits. Pump out frequencies at this facility are monthly and at a cost of approximately \$7,500.00 per month. Maintenance for grease requires the vac truck remove both lipids and a proportionate amount of water. Inorganic solids are screened, dewatered, then taken away with the grease and water.

Sampling Method:

Dissolved Oxygen: DO content was measured with a calibrated YSI model "Po 20" membrane unit (DO sampled for 2 hours)
Grease: Before and after representative grab sampling (grease "before and after" samples taken 3 hours apart)

Site Pictures:



Empirical Data / Graph:

Starting Time: 9.30am (EDT)

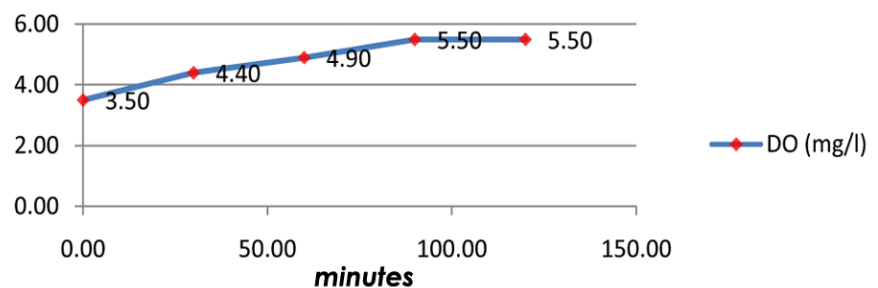
Time (min)	DO (mg/l)
0.00	3.50
30.00	4.40
60.00	4.90
90.00	5.50
120.00	5.50

Avg. sample temp.: 15.3°C

Field Testing Conclusion:

The grease mat addressed in this exercise varied in depth from 20" to 30". Total grease mat reduction estimated at 60% for the 3 hour cycle. Dissolved oxygen saw a 2.0 mg/l improvement over a 2 hour cycle. Both cycles started at 9:30am. While two 1hp units were used, this would be considered undersized for the application. Implementation of one 3hp unit would be preferable in eliminating the grease problem and improve effluent water quality

DO (mg/l)



Sampling Technician: Wells Tudor Senior Project Engineer, John Stark

Attested By: LaSalle Township Superintendent of Water & Wastewater, Dan Beaulieu