

Date of Field Test: June 2, 2016
Test Designation: Septic Condition - Increase Dissolved Oxygen (DO), SPS Aeration Pilot
Location: Peel Region, Ontario, Canada
Site: Inglewood Pump Station
Structure Description: Rectangular
Weather Condition: Partly Sunny **Temperature:** 20°C (68°F)

		Dimension from inside floor		
Length	Width	Depth	Pump On	Pump Off
(m) 3.00	3.90	9.85	1.25	1.50
(ft) 9.84	12.80	32.32	4.10	4.92

Field Testing Purpose:

The Inglewood pump station services a newly developed residential community and is designed to accommodate an expanding housing market in the Metro Toronto region. While operating at a fraction of its design capabilities, the pump cycle is once or twice a day. This has produced a "slug" of septic wastewater delivered with DO levels equal to or less than ~0.3 mg/l. This septic wastewater has a negative impact on the receiving municipal WWTP accepting the dose of oxygen depleted sewage. Pump station pretreatment for this condition is required for the health of the treatment plant.

Sampling Method:

"The 18th Edition of Standard Methods for the Examination of Water and Wastewater" includes two methods for the determination of DO in wastewater, including the Winkler method (azide modification) and the electrometric method using membrane electrodes and a DO meter. The meter used in this field sampling exercise to determine the DO content was a calibrated YSI model "Po 20" membrane unit.

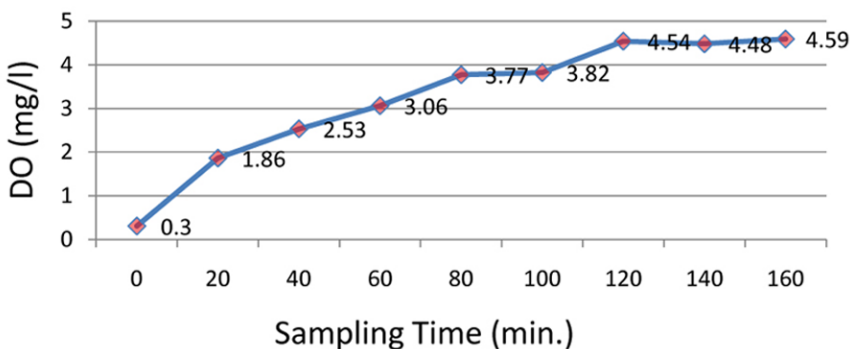
Site Pictures:



Empirical Data / Graph:

Starting Time: 9.30am (EDT)

Time (min)	DO (mg/l)
0	0.30
20	1.86
40	2.53
60	3.06
80	3.77
100	3.82
120	4.54
140	4.48
160	4.59



Avg. sample temp.: 15°C/59°F

Field Testing Conclusion:

The TITUS® Twister™ Mixing Aerator's pre-treatment of wet well sewage was able to bring discharge to the WWTP within desired limiting values.

Sampling Technician: Robert Daw, C.Tech, Technical Specialist, Wastewater Quality and Compliance, Region of Peel, Ont.

Attested By: Robert Daw