

Sed Tank Temperature Gradients

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The Sed Tank Temperature Gradients team aims to find solutions to improve sedimentation tank performance during periods when the water entering the sedimentation tank is warmer than the water in the sedimentation tank.

Current & Future Research

This research was prompted by the [rising flocs observed at the San Nicolas AguaClara plant](#).

Temperature gradients cause deterioration of performance in tube settlers even when the total flow through the tube settler is controlled. A [0.75 C/hr temperature gradient](#) showed a very different flow pattern than the [0 C/hr control](#).

Preliminary analysis of the effects of floc density difference due to the floc consisting of warm water and then settling into cold water suggests that this density difference is not sufficient to cause a failure in sedimentation. The lift on a sphere in a velocity gradient is also insufficient to prevent flocs from settling in a tube settler.

Team Members

	Challenges	Tasks	Symposium	Final Presentation	Final Report
Spring'14	AEP 4340 project				? Unknown Attachment
Spring'14	CEE 4530 project				? Unknown Attachment
Fall'14					

File

Modified

File Lift on floc in shear vs buoyance.xmcd

Jun 04, 2014 by 00d4eab94afcd33014afd067dc90139