

Lab Test

DEWATERING CENTRIFUGE POLYMER REDUCTION

Date: 2016 Distributor: Hydroflow USA

The City of Somersworth, New Hampshire, has a population of about 11,800 people. Their wastewater is treated at a 2.4 million gallon per day (MGD) facility. The facility utilizes a GEA Westfalia Separator, model CB 505-00-32 centrifuge in its sludge dewatering process. This separates the wastewater sludge (10,000 ppm) into high-solid-content “cakes” and cleaned-up water (“centrate”). This centrate is required to be below 1000 ppm Total Suspended Solids (TSS).



Polymer is added to the sludge to improve the centrifuging process. The objective of the trial was to see if treatment with Hydroflow could reduce the amount of polymer usage while keeping the centrate quality below 1000ppm TSS and the cake dryness above 20% total solids.

As this is a live facility, the parameters of the feed water varied from day to day, so a detailed test sequence was required. However, a particularly clear view can be obtained by looking at testing run number 6.

	Feed water ppm TSS	Polymer added (Tonnes)	Cake Total Solids	Centrate ppm TSS
Test #6 (Hydroflow OFF)	11,700	27	21.6%	1252
Test #6 (Hydroflow ON)	11,700	23	24.8	718

In this testing run, we can see the effect of the Hydroflow unit very clearly. Polymer use was reduced by 15%, while the quality of both the Cake and the centrate improved significantly.

During six testing sequences, the *HydroFLOW* devices reduced polymer use from an average of 25.5 to 19.1 pounds per ton (25.1% reduction), increased cake solids by up to 3% TS and kept centrate quality within testing limits of less than 1,000 mg TSS/L.