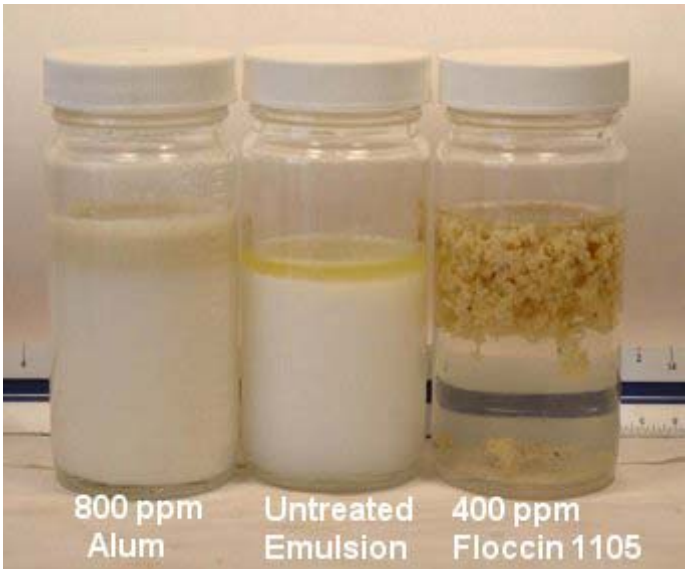
Oil Recovery

A refinery was having several upsets in their biological system due to high loadings of oils after pretreatment API separators and dissolved air flotation units. The variations in pH as well as oil loading is difficult to control and causes upsets in the downstream processes.

In reviewing the situation, it was determined that a more efficient method of removal of such oils would be a great benefit to the wastewater system as well as a potential to recover more oil and return it as slop oil to the slop oil recovery unit process at the refinery.
The laboratory testing was setup to see what amount of oil recovery was possible. Several emulsions were made using motor oil at 10, 20 and 30% by volume mixed with soap and water and then blended in a blender to make a uniform emulsion. Using Floccin 1105, it was determined that 400 ppm was sufficient to break the 30% oil emulsion into water and floating oily sludge. The sludge was visually tested and was high in oil content.



Based on an ROI analysis, the cost of the Floccin 1105 is very small as compared to the value of the recovered oil and reduction in biological loading to the secondary treatment system. In fact, the onsite testing will confirm a reduction in wastewater loading from recovering the oil and the potential for further cost savings to reduce the aeration horsepower due to lower influent COD levels.

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