

Varying Influent Turbidity

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In order to determine the influent ranges with which a polyurethane foam filter will produce acceptable effluent conditions, a variety of influent turbidities (5, 10, 20 and 50 NTU) were tested using all three foam pore sizes available: 30, 60 and 90 ppi. The experimental set up is the same used for other experimental trials. One important note is that the alum dose changes with the changing influent turbidity. Previous work was done using a 1.5 mg/L alum dose for a 5 NTU influent. It was assumed that there was a linear relationship between influent turbidity and alum dose, thus the alum dose for various influent turbidities could easily be calculated.

After determining the influent turbidities that the filter will produce water under U.S. EPA standards of 0.3 NTU for at least 24 hours, we will be able to provide clear instructions for appropriate use of the filter. These instructions are important because while running the filter under high influent turbidities provides lower effluent turbidities, it also makes foam collapse happen much more quickly. [Foam collapse](#) is a failure mechanism that permanently alters the structure of the foam, and its ability to effectively filter water.

- [Experiment Set 1: 30 ppi foam](#)
- [Experiment Set 2: 60 ppi foam](#)
- [Experiment Set 3: 90 ppi foam](#)