

## **Investigating Suspended Sediments Caught behind Faucet Strainers in Nassau County, Long Island**

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There have been many reports and even a lawsuit about contaminated tap water on Long Island. These contaminants can be very dangerous and there is limited reliable data about suspended sediments or microplastics in tap water. Suspended sediments or other substances that flow with tap water can range in size depending on the velocity of the water flow, and including but not limited to possible water distribution network contamination accidents or other reasons. The velocity of tap water makes it likely that some sand and fine grains are trapped behind faucet strainers. This research takes the sediments found in faucet filters within and around Hofstra University and Nassau County and examines them to determine their composition. The samples were tested with a scanning electron microscope (SEM) and with energy-dispersive x-ray spectroscopy (EDS) to determine their structure and composition, respectively. We have confirmed the presence of suspended sediments in the water supply of Nassau County that also includes fragments like microplastics. Under SEM, these were detected as organic matter and carbon. Further geochemical analysis has been scheduled to identify these in the other samples of suspended sediments caught in faucet filters. This research could help change the way tap water is managed and filtered, raise awareness in the community about possible pollutants in water including microplastics, inform about the importance of water filters, and remind the necessity of emergency response management and dissemination during water supply accidents.