DIY OIL TESTING TOOLKIT

By Jeffrey Warren, Stevie Lewis, and Gretchen Gehrke

As the Gulf Oil Spill of 2010 unfolded, Public Lab began developing a toolkit for community science in the wake of the Deepwater Horizon disaster. We were fortunate to have a diverse group of scientists and community leaders who were interested in the idea of a DIY oil testing kit. This group was both interested in the idea of a DIY oil testing kit and in the potential of community science. We were able to bring these two interests together to create a toolkit that could be used by anyone to test for oil in their community.

The kit consists of a simple spectrometer, a kit of oil and water samples, and a set of instructions. The spectrometer is a simple, inexpensive device that can be used to measure the spectrum of light from a sample. The oil and water samples are provided to help users understand the different types of oil and water that can be detected. The instructions are designed to guide users through the process of testing for oil in their community.

To learn more about the Oil Testing Toolkit, please visit our website at https://publiclab.org/kit/diy-oil-testing.
On a cold day, Willis Elkins (North Brooklyn Boat Club and Newtown Creek Alliance) took me on a boat ride across Newtown Creek to look for some random oil sheens which are sometimes floating on Newtown Creek. We planned to visit several places where we would have a higher chance to find them. First we decided to focus on the Dutch Kills area in Queens and then on other spots along the creek.

Shortly after we entered the Dutch Kills, we noticed several 2” - 5” thick strings of sheens which reminded us of coal tar rather than oil. We collected them with our newly acquired Coast Guard Oil Collection Kit. Then we proceeded deeper into the Dutch Kills looking for more sheens. We could not find any until we came by the 49th Ave Bridge. Then we realized that we are floating in the middle of a huge oil sheen which spans most of that area of the creek. We did not notice it first, because the whole water surface was a sheen so there was virtually no clean spot of water to compare and see the difference. We collected samples and returned home because we already had enough material to test.

As the kit manual suggests we collected also a water spec from the same area to compare. (into a small bottle which came with the kit). For the second large sheen we used two PIG Mats and also larger glass bottle to collect water and the sheen.

We will attempt to analyze the collected sheens during our workshop at the Sunview Luncheonette using (also testing) the new LED Cuvette frame for our OTK, Freezing Method, and pressure methods for the PIG mats.

For more information please read the complete research note
https://publiclab.org/notes/Matej/02-12-2016/collecting-oil-sheen-on-newtown-creek-dutch-kills-queens-ny