

US EPA ARCHIVE DOCUMENT

## Daily Report: Tracking the Plume of Dispersed Oil using Particle Size Distribution Measurements and Fluorescence Intensity Ratios

July 17, 2010

Water samples were collected at four stations for particle size distribution measurements using the LISST-100X particle counter. A total of 58 LISST samples were analyzed, including duplicates. Samples at depths of elevated fluorescence or other significance were selected from the CTD trace for fluorescence intensity ratio measurements and analyzed using a Quantech Life Sciences fixed wavelength fluorometer.

Station	Latitude	Longitude
BM131	28.668142	-88.486125
BM132	28.634733	-88.473843
BM133	28.636438	-88.466968
BM134	28.6333	-88.43683

All 4 stations showed moderate-high small particle concentrations in the surface water layers (0-50m). Evidence of a subsurface plume between 1385m depth and 1460m depth was observed at stations BM131, BM132, and BM133 but station BM134 showed little evidence of this plume.

All stations showed lower fluorescence intensity ratios in surface waters than at depth. Stations BM131 and BM132 showed lower fluorescence intensity ratios at depth than those observed at stations BM133 and BM134 which were each approaching 3.

Due to CTD misfires at station BM134 only the surface (bucket) and deep water samples were retrieved.



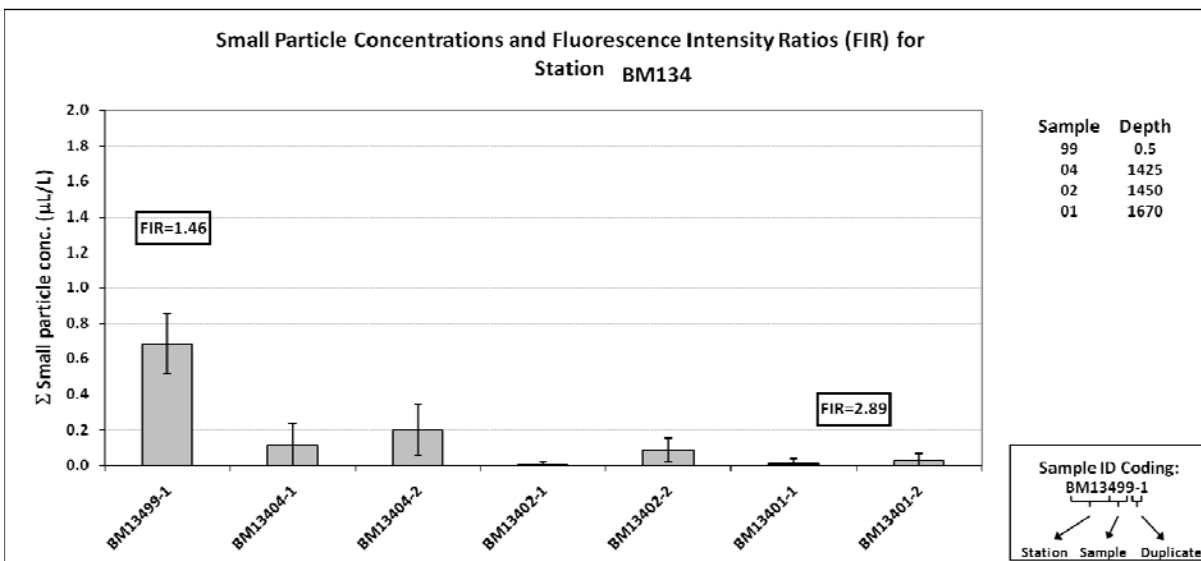
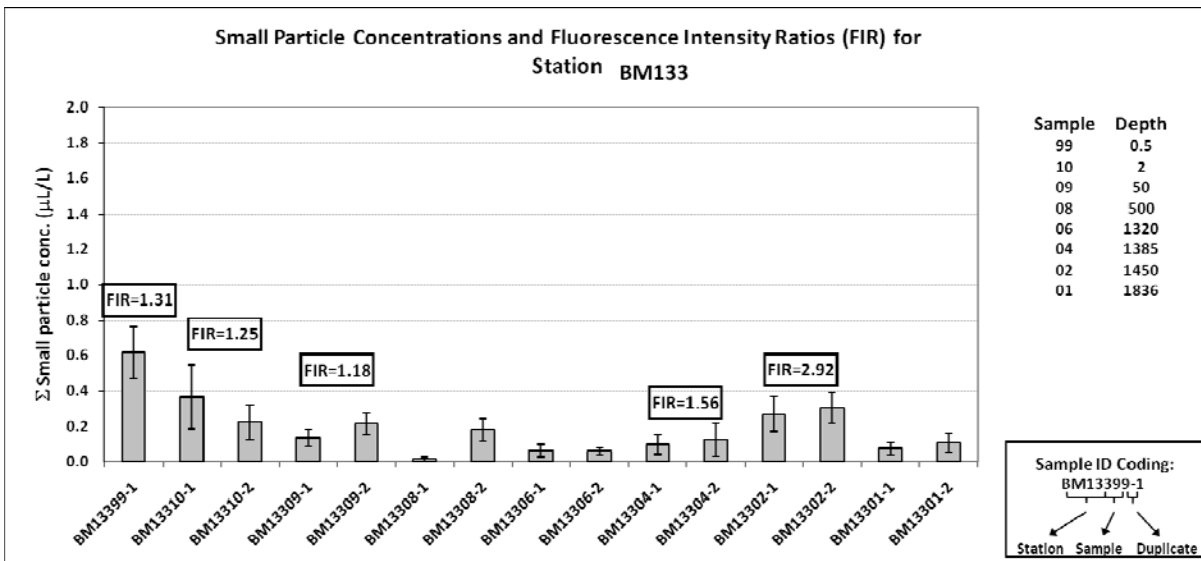


Figure 1: Average small particle concentrations and fluorescence intensity ratios as a function of depth for stations BM131 to BM134.