

US EPA ARCHIVE DOCUMENT

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

**July 31, 2010**

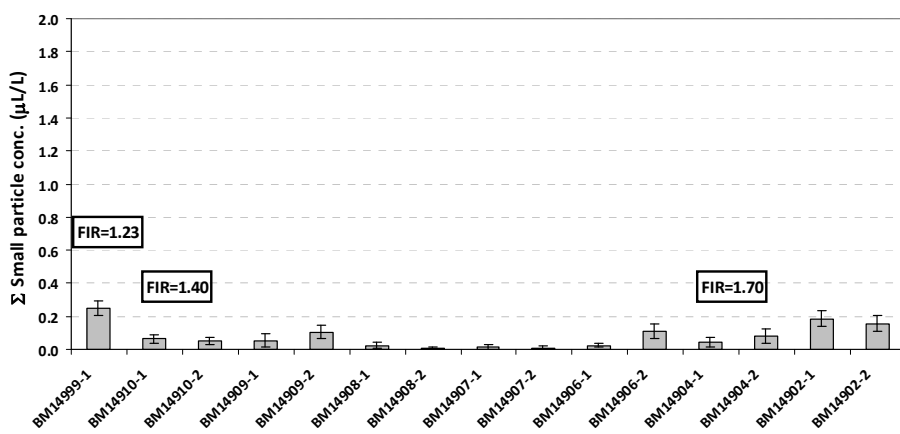
Water samples were collected at five stations for particle size distribution measurements using the LISST-100X particle counter. A total of 77 LISST samples were analyzed, including duplicates. Samples at depths of elevated fluorescence or other significance were selected from the CTD trace for fluorescence intensity ratio measurements and analyzed using a Quantech Life Sciences fixed wavelength fluorometer.

Station	Latitude	Longitude
BM149	28.446980	-88.758778
BM150	28.345700	-88.777950
BM151	28.324841	-88.938187
BM152	28.235683	-89.128995
BM153	28.131220	-88.998907

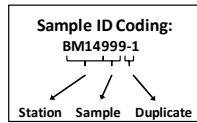
All 5 stations sampled showed low small particle concentrations at all depths with the exception of sample BM15007-2 and BM15107-2 which were slightly elevated. CTD *in-situ* fluorometry profiles from all stations did not show elevated fluorescence throughout the water column.

Fluorescence intensity ratios were measured at the surface along with depths where changes were observed in the CTD *in-situ* dissolved oxygen profile. The results of fluorescence intensity ratios showed that low ratios were observed in both the near surface waters (3m or less) and in the deeper water samples.

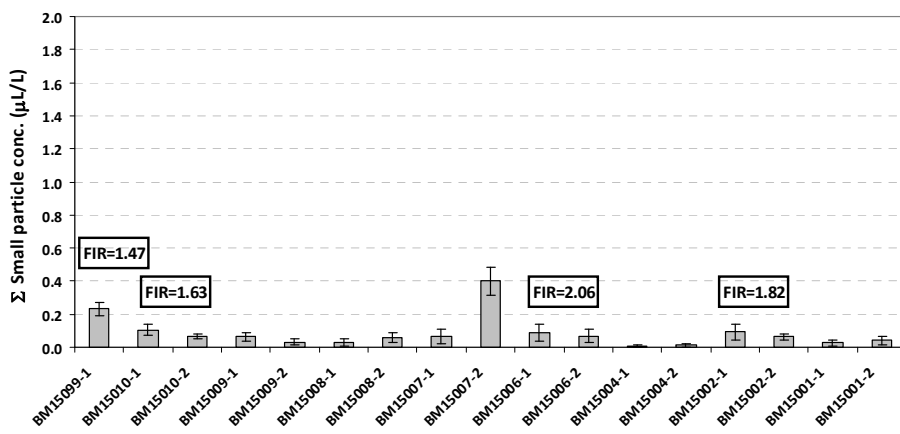
### Small Particle Concentrations and Fluorescence Intensity Ratios (FIR) for Station BM149



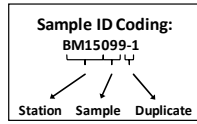
Sample	Depth
99	0.5
10	2
09	250
08	500
07	1049
06	1151
04	1184
02	1269



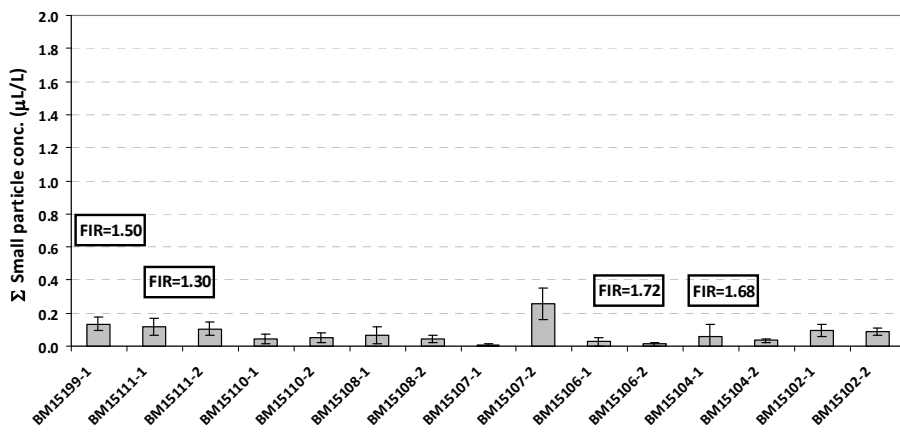
### Small Particle Concentrations and Fluorescence Intensity Ratios (FIR) for Station BM150



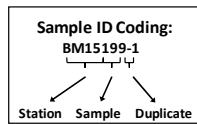
Sample	Depth
99	0.5
10	2
09	250
08	500
07	1049
06	1099
04	1199
02	1240
01	1426



### Small Particle Concentrations and Fluorescence Intensity Ratios (FIR) for Station BM151



Sample	Depth
99	0.5
11	2
10	250
08	500
07	1050
06	1124
04	1149
02	1193



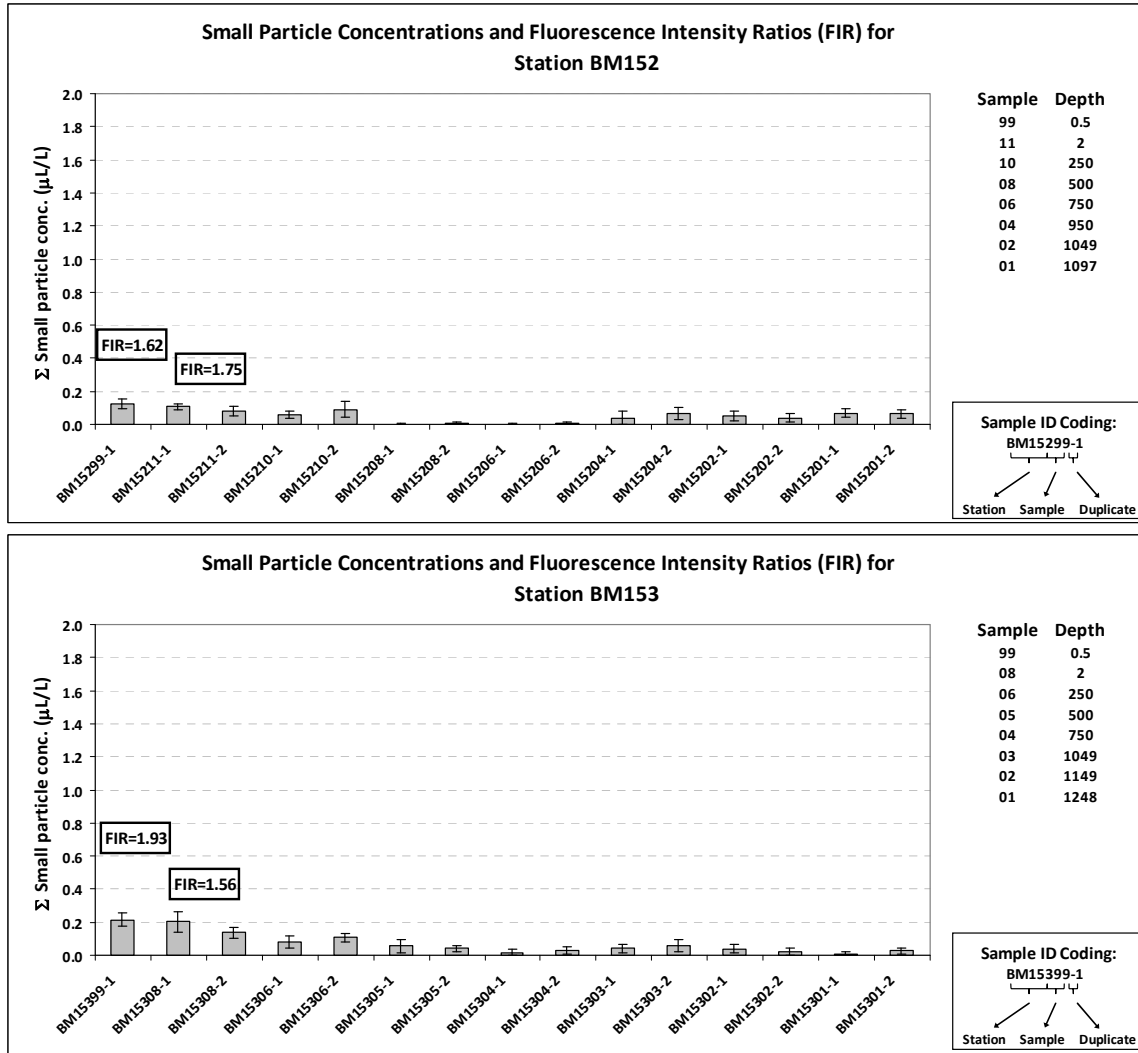


Figure 1: Average small particle concentrations and fluorescence intensity ratios as a function of depth for stations BM149 to BM153.