

US EPA ARCHIVE DOCUMENT

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

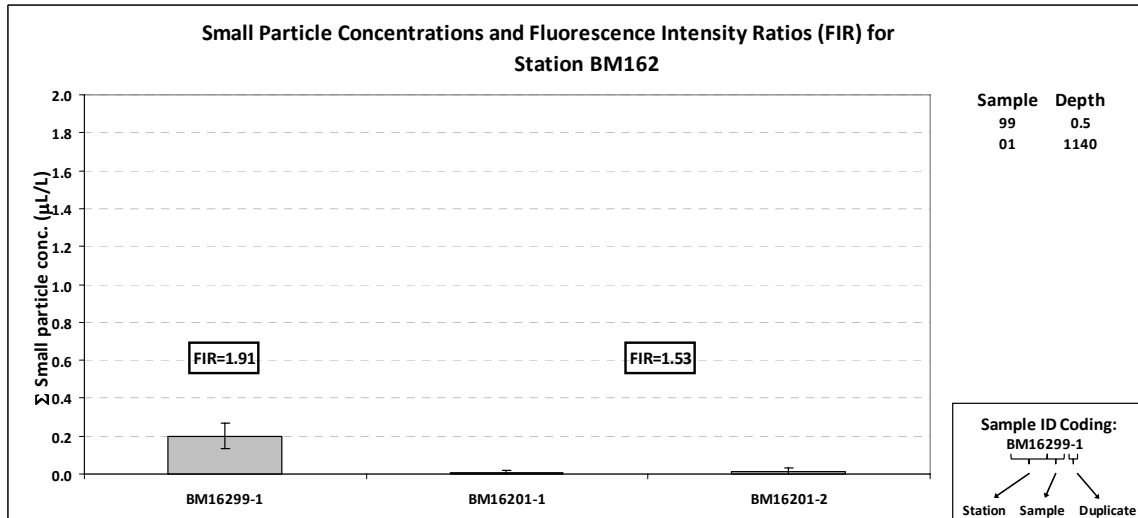
**August 06, 2010**

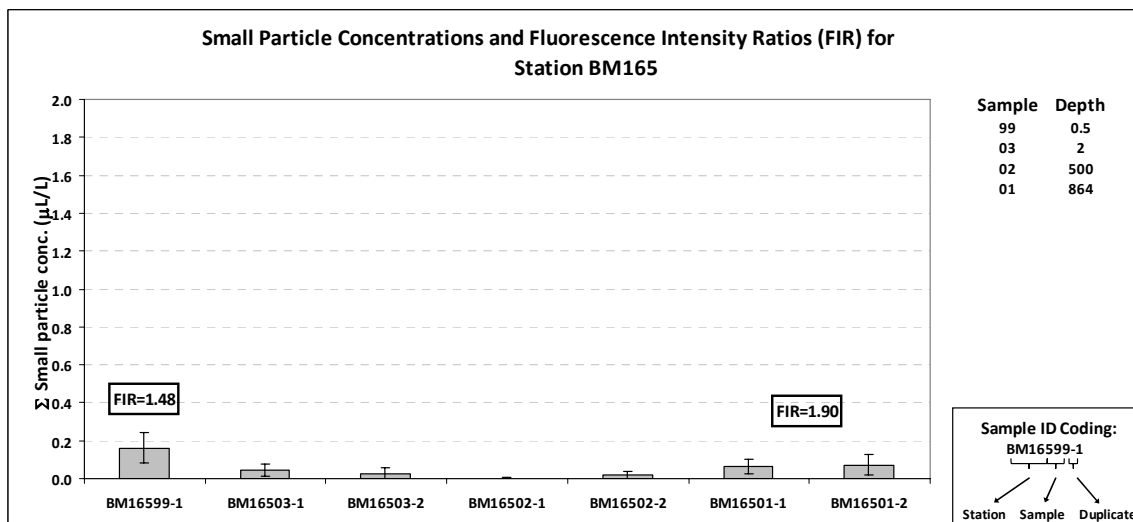
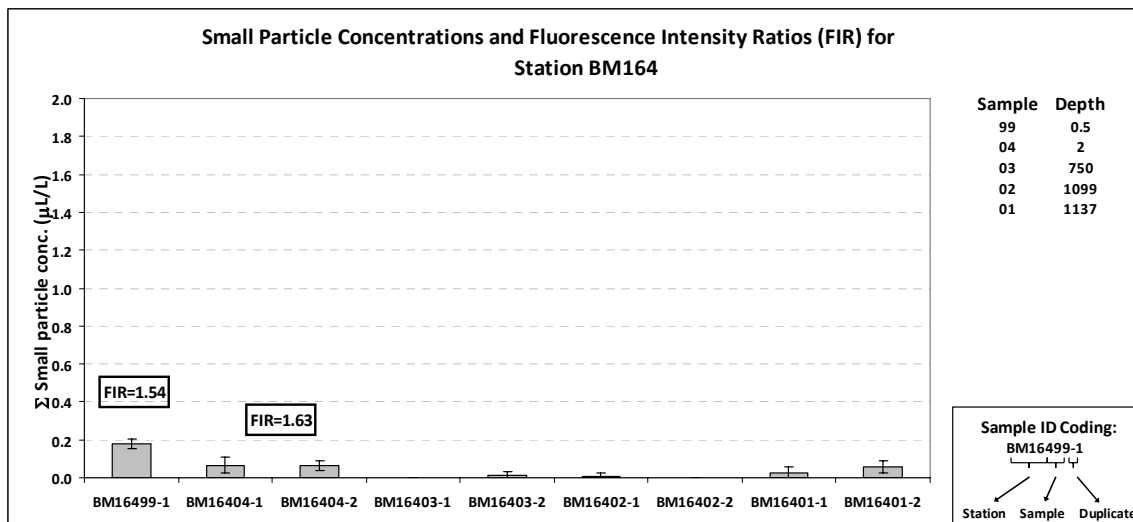
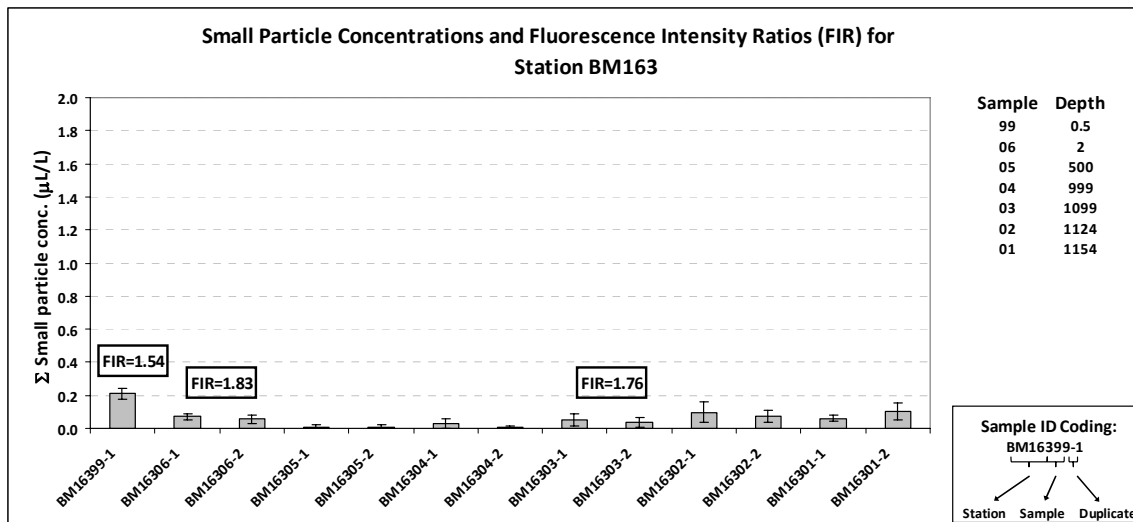
Water samples were collected at six stations for particle size distribution measurements using the LISST-100X particle counter. A total of 43 duplicate LISST samples were analyzed. Samples at depths with elevated CDOM fluorescence levels and/or oxygen anomalies were selected for fluorescence intensity ratio measurements using a Quantech Life Sciences fixed wavelength fluorometer.

Station	Latitude	Longitude
BM162	28.247272	-88.899780
BM163	28.312755	-88.970812
BM164	28.249603	-89.043393
BM165	28.319215	-89.107955
BM166	28.385975	-89.177977
BM167	28.145580	-89.419190

Small particle concentrations were  $<0.2 \mu\text{L/L}$  at all depths with the exception of the surface “bucket” samples (0.5 m) at Stations 162 ( $0.200\mu\text{L/L}$ ) and 163 ( $0.210\mu\text{L/L}$ ). The CDOM *in-situ* fluorometry profiles from all stations did not show elevated fluorescence.

Fluorescence intensity ratios were measured at the surface along with depths where a slight depression was observed in the *in-situ* dissolved oxygen profile. The results of these analyses showed low fluorescence intensity ratios ( $<1.91$ ).





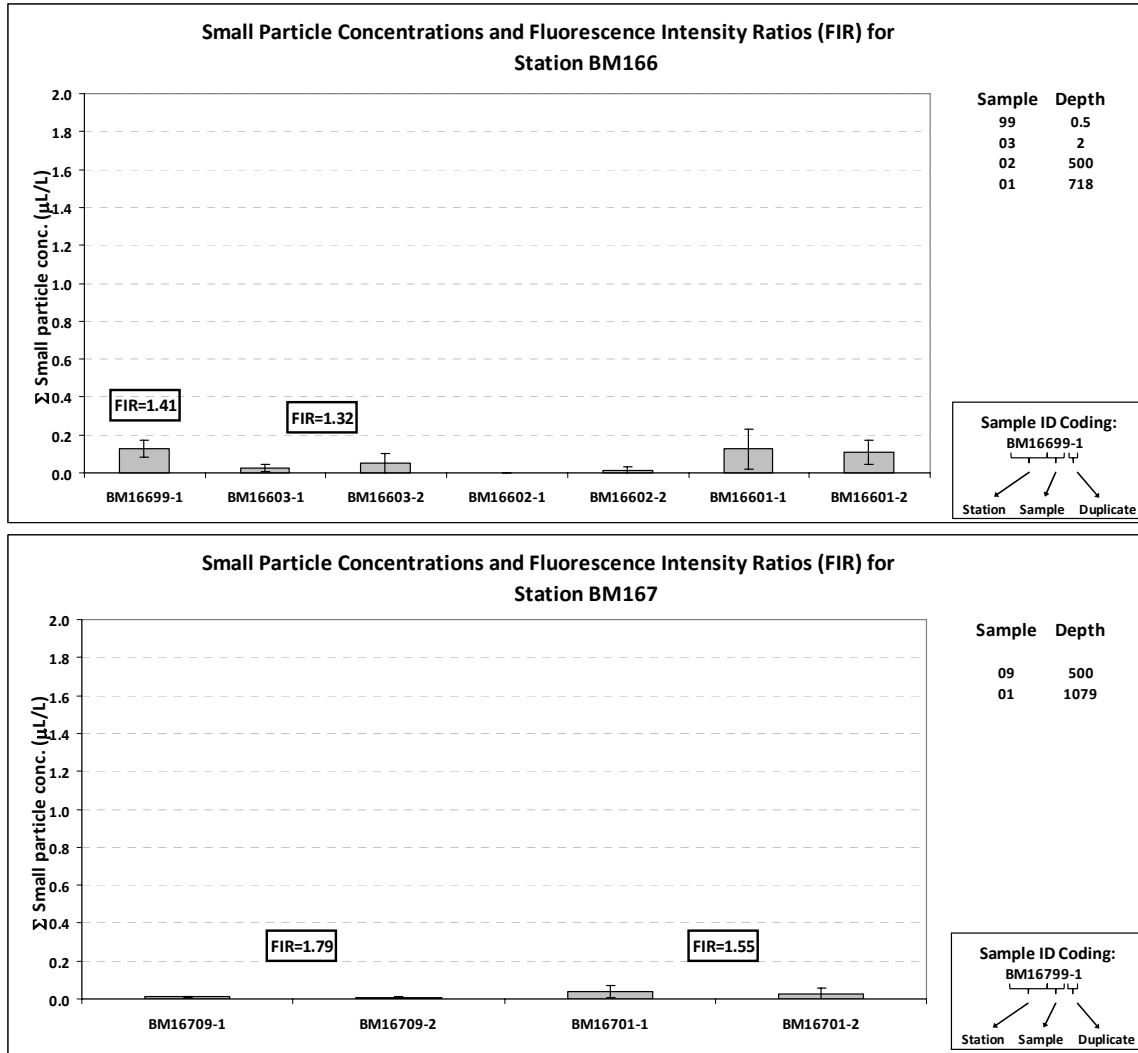


Figure 1: Average small particle concentrations and fluorescence intensity ratios as a function of depth for stations BM162 to BM167.