

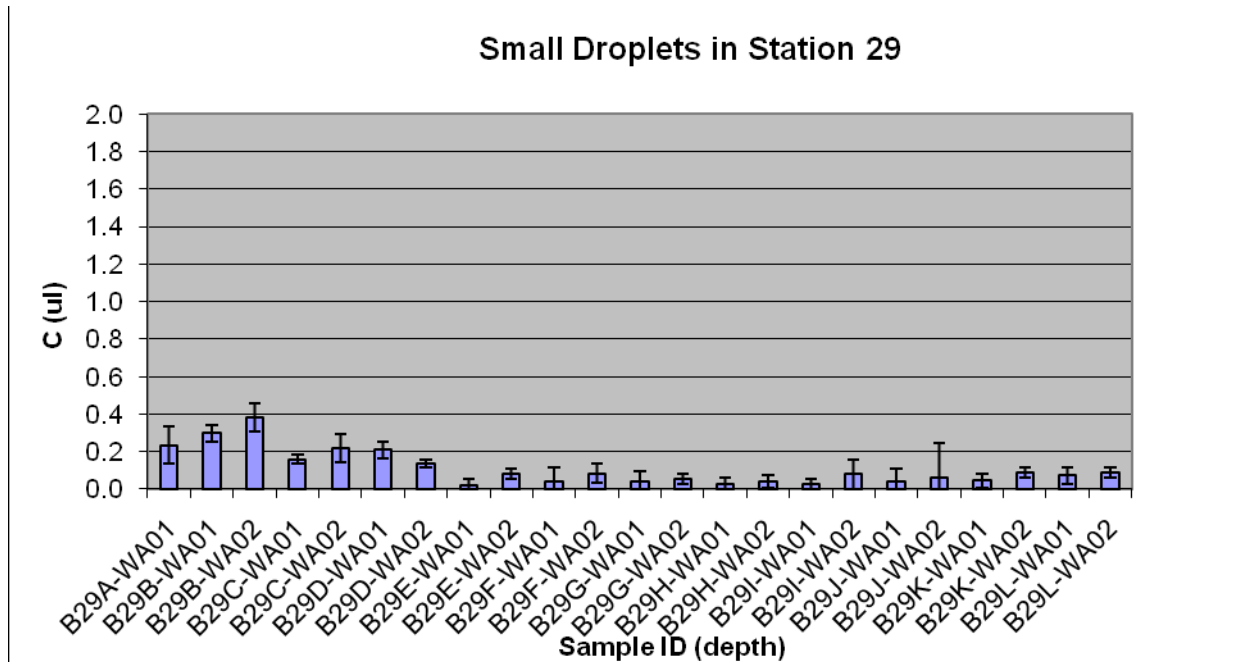
US EPA ARCHIVE DOCUMENT

Evidence of dispersed oil droplets using the LISST-100X particle counter
May 19, 2010

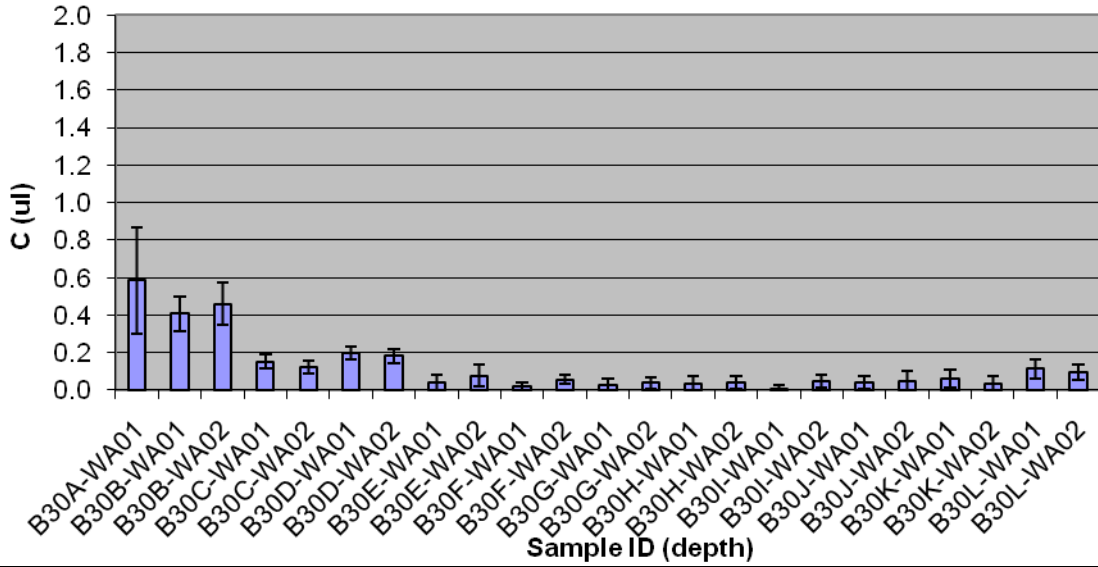
Five stations were sampled for water column CTD, particle size distribution (LISST), and hydrocarbon analysis.

Figure 1 presents the small droplet particle size data for stations 29 through 33. In general, the small droplet concentrations were low throughout the water column. Consistent with the observations made on May 15-17, the data illustrates that the surface (0.5 to 2m) samples contained higher concentrations of small particles. The second highest small droplet concentrations were observed at from 100 to 200 m for all four stations. Concentrations were lower at depth (>1000m) than observed previously (i.e. Stations 24 and 26). These results appear to correlate with the *in situ* fluorometry measurements, most noticeably at the surface.

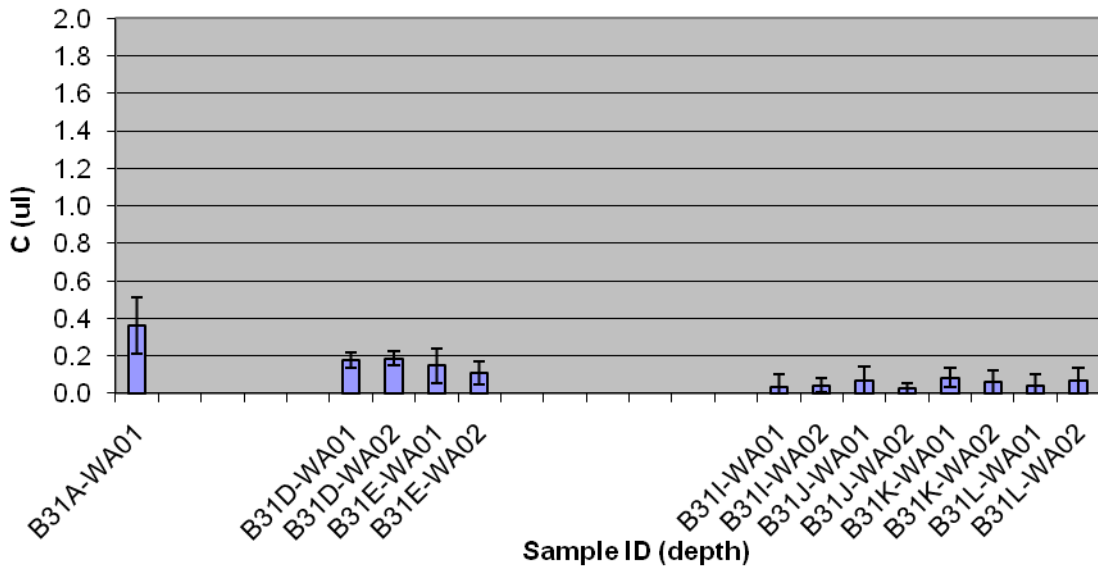
Intensity ratios obtained from a shore based Shimadzu RF-5301 fluorometer have supported the detection of dispersed oil by the LISST. Since this instrument cannot be operated at sea due to its sensitivity to vibrations, samples must be transported back to shore for analysis. The use of fixed wavelength fluorometers would allow for intensity ratio measurements to be made at sea, enabling rapid comparison with the LISST data.



Small Droplets in Station 30



Small Droplets in Station 31



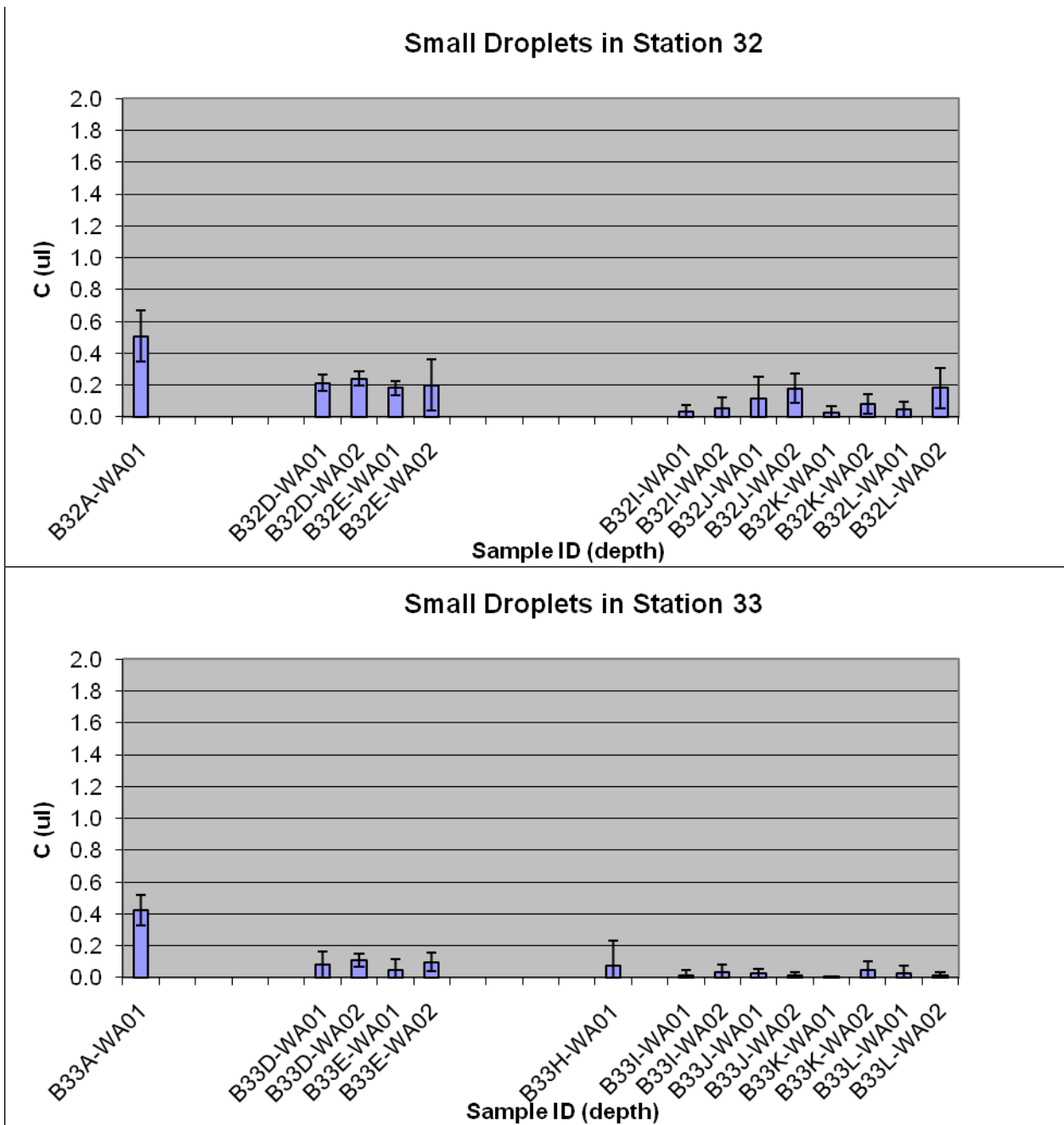


Figure1: Average small droplet concentration as a function of depth from stations 29 - 33.