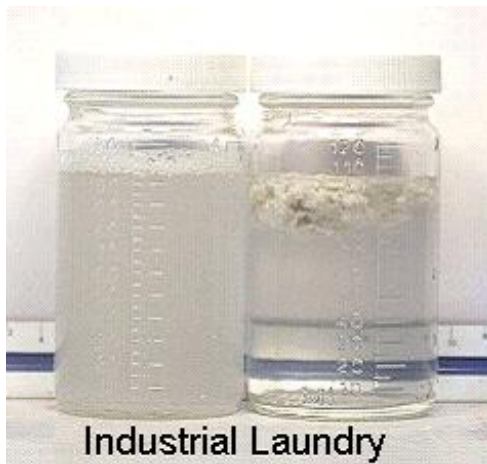


## Nigerian Drilling Platforms

Wastewater on a self-contained drilling platform comes from several sources. The following examples are samples obtained from the seven oil-drilling platforms off of the coast of Nigeria. The first platform had samples from the industrial laundry, kitchen, emulsified, cutting oily-water and drilling mud. The samples were treated individually and then combines so as to simplify the platform operations with only 2 treatment systems. All samples treated easily with the Floc Agents. To meet reuse or discharge limits, post treatment with micro-filtration and reverse osmosis will be added to the treatment process.

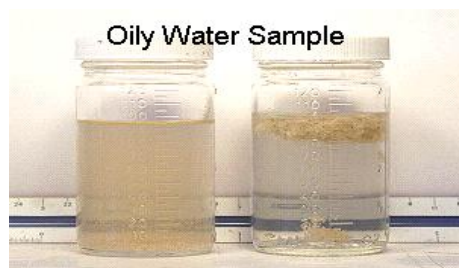


The Industrial Laundry sample was received at a pH of 6.6. It

TDS	472.5 ppm	673 ppm
Conductivity	905.1 $\mu$ S	1,363 $\mu$ S
Suspended solids	335 ppm	15 ppm

treated easily with Floc at

a or



dosage of 0.12 grams in 100 ml about 10 lbs/1,000 gallons.

Constituent  
Untreated  
Treated



The Oil/Water sample was received at a pH of 8.5. The sample was treated with Floc at a dosage of 0.1 gram/100ml or 8.3 lbs/1,000 gallons. Note the drop in TDS/Conductivity.

Constituent	Untreated	Treated
TDS	9,006 ppm	8,977 ppm
Conductivity	15.33 mS	15.29 mS
Suspended solids	171 ppm	56 ppm

The Kitchen Wastewater sample was at a pH of 5.0 so caustic was added to bring it up to 6.0. The sample was treated with Floc at a dosage of 0.1 gram/100ml or 8.3 lbs/1,000 gallons. Note the drop in TDS/Conductivity.

Constituent      Untreated      Treated



TDS	557.1 ppm	457.3 ppm
Conductivity	1,063 $\mu$ S	876.2 $\mu$ S
Suspended solids	421 ppm	11 ppm

The Drilling Mud sample was at a near 7.0 pH. The sample dewatered well using 1.2 grams per 100ml sample making fairly clean water. The sludge dewatered further with pressure from squeezing.

Constituent      Untreated      Treated

TDS	12.41 ppt	42.04 ppt
Conductivity	65.5 mS	65.5 mS
Suspended solids	6-10% solids	85 ppm

### Combined Wastewater Samples

The 50% Kitchen to 50% Laundry wastewater sample was at a pH of 5.0 so caustic was added to bring it up to 6.5. The sample was treated with Floc™ K at a dosage of 0.1 gram/100ml or 8.3 lbs/1,000 gallons.

Constituent	Untreated	Treated
TDS	411 ppm	515 ppm
Conductivity	790 $\mu$ S	912 $\mu$ S
Suspended solids	250 ppm	12 ppm



### Cutting Oils & Mud ratio 5:1



The 1 part Drilling Mud to 5 parts Cutting Oils wastewater sample was at a pH of 6.5. The sample was treated with Floc™ at a dosage of 0.1 gram/100ml or 8.3 lbs/1,000 gallons.

Constituent      Untreated      Treated

TDS	9,566 ppm	9,865 ppm
Conductivity	16.25 mS	16.74 mS
Suspended solids	1,375 ppm	61 ppm