

Oil Industry Operation Wastewater Treatment

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 wastewater, cutting oily-water and drilling mud. The samples were treated individually and then combined so as to simplify the platform operations with only 2 treatment systems. All samples treated easily with the FloccinAgents™. To meet reuse or discharge limits, post treatment with micro-filtration and reverse osmosis will be added to the treatment process.

Industrial Laundry



The Industrial Laundry sample was received at a pH of 6.6. It treated easily with Floccin™ at a dosage of 0.12 grams in 100 ml or about 10 lbs/1,000 gallons.

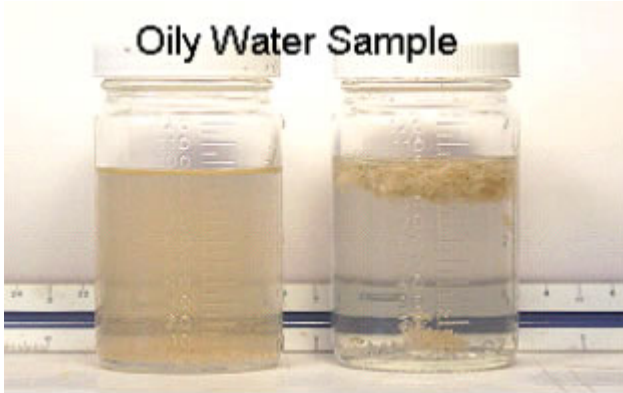
| Constituent | Untreated | Treated |
|------------------|---------------|---------------|
| TDS | 472.5 ppm | 673 ppm |
| Conductivity | 905.1 μ S | 1,363 μ S |
| Suspended solids | 335 ppm | 15 ppm |

Oily Wastewater Sample

40308 Greenwood Way
Oakhurst, Ca. 93644

Phone (559) 683-8284
Fax (559) 683-8913

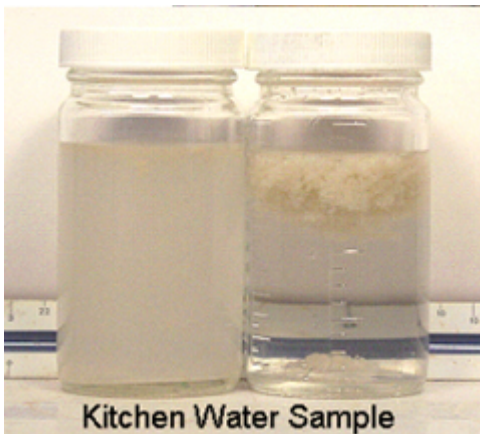
www.WeCleanWater.com
Sales@WeCleanWater.com



The Oil/Water sample was received at a pH of 8.5. The sample was treated with Floccin™ 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 |

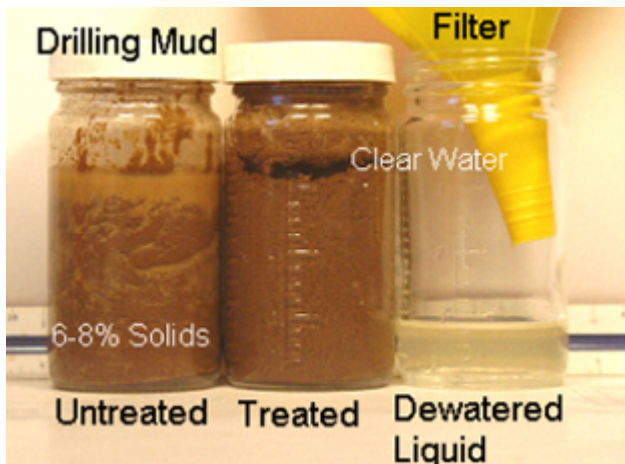
Kitchen Wastewater Sample



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 Floccin™ 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 μ S | 876.2 μ S |
| Suspended solids | 421 ppm | 11 ppm |

Drilling Mud Wastewater Sample



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

| 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

Kitchen and Laundry Wastewater



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 Floccin™ K at a dosage of 0.1 gram/100ml or 8.3 lb s/1,000 gallons.

| Constituent | Untreated | Treated |
|-------------------------|------------------|----------------|
| TDS | 411 ppm | 515 ppm |
| Conductivity | 790 μ S | 912 μ S |
| Suspended solids | 250 ppm | 12 ppm |

Cutting Oils and Mud Wastewater Sample



The 1 part Drilling Mud to 5 parts Cutting Oils wastewater sample was at a pH of 6.5. The sample was treated with Floccin™ 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 |

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