

CASE HISTORY

SEMICONDUCTOR
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CHEMICAL
OIL AND GAS
MINING
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Toveko Filters

ESSO Purfleet, Treatment of Oily Wastewater



Background

Just outside London, Esso Oil has a storage and re-loading plant for oil products. Handling of oil products frequently causes oil spills. Within the storage area, road tankers are also cleaned out. All wastewater and rainwater from this area is collected into a lagoon that contains a floating skimmer used to skim off the tramp oil. Before installation of a Toveko filter, the water in this semi-treated wastewater was discharged to the municipal sewer.

Plant design

A Toveko filter has been added to the existing lagoon system to improve the discharge quality. No chemicals are added and the treatment process is therefore purely mechanical.

A Toveko filter, Model S-150 was installed to handle a normal peak flow of 10 m³/h with a maximum flow of 12 m³/h.

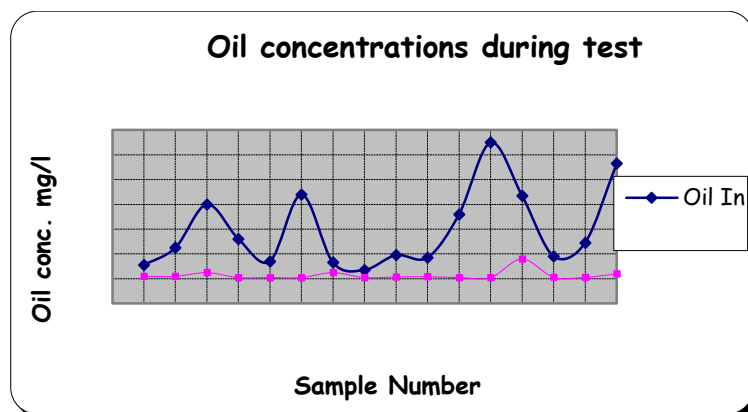
Results

Influent and effluent values were recorded by Esso over a one-month intensive surveillance period. A summary of the results from the 16 samples taken during this investigation are given below:

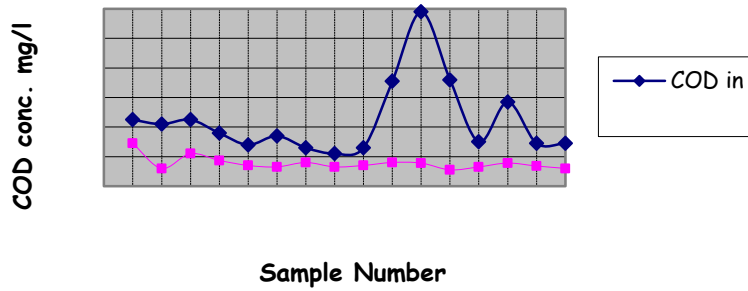
Determinand	Inlet Range (mg/l)	Outlet Range (mg/l)
Oil	6-110	0.3-3.0
pH	4.4-9.0	4.4-9.0
BOD ₅	5-78	1.5-7.5
COD	110-590	50-105
Suspended solids	21-205	2-35

Graphs showing the full test results are shown on the next page.

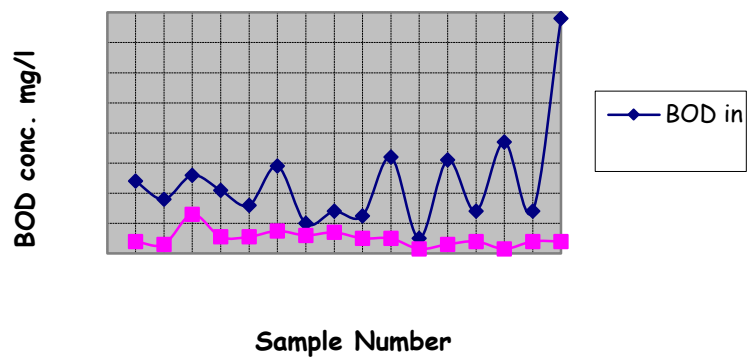
The requirement for this plant is that the oil content be less than 5 mg/l



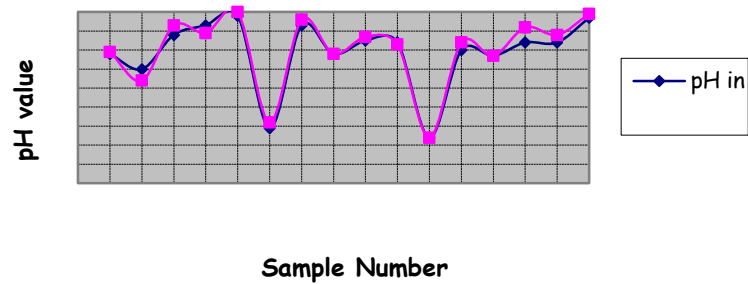
COD concentrations during test



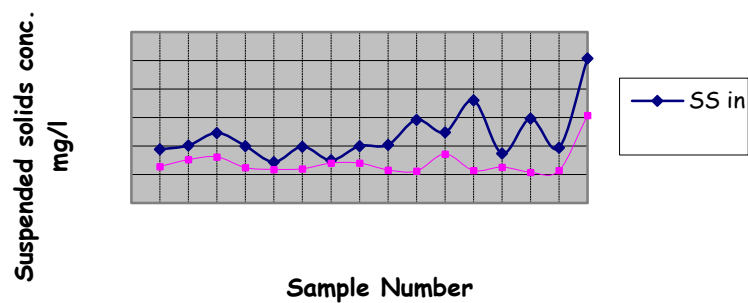
BOD concentrations during test



pH values during test



Suspended solids concentrations during tests



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