

PARTICLE AND OIL REMOVAL FROM OILY WATER BY INDUCED AIR FLOTATION

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ABSTRACT

Water resulting from the dewatering process of petroleum storage tanks was treated in a pilot separator to investigate the effectiveness of the combined action of a coagulant (aluminum sulfate) and a cationic flocculant (Nalco 71403). Central composite design of experiments was used to construct second order response surfaces for the turbidity, suspended solids and oil content as optimization parameters. The coagulant and flocculant concentrations and pH were used as design factors. The separator constructed for this purpose proved to be suitable for fast and reliable investigation of multivariable systems and for search of the optimum via statistical design of experiments.