TITLE:	To investigate the fouling of a Reverse Osmosis Polyamide membrane
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Purification systems utilizing polymer membrane filtration, such as reverse osmosis are a good alternative to traditional filtration and chemical treatment systems. Reverse osmosis filtration systems produce water similar in quality to demineralized or distilled water.

The membrane used for this specific application is the composite polyamide membrane possessing a plate and frame configuration. For this project, the sea water sample was taken at the Yacht club, San Fernando.

The benefit of membrane is the accuracy of the separation process and the high quality of filtrate that can be recovered. However, one of the limitations on membrane performance is that the permeate rate can be reduced by fouling. Experiments were carried out to determine the rate of fouling by applying different parameters. Parameters that monitor the rate of fouling are temperature, pressure and pH.

The performance of the reverse osmosis unit, in terms of physical, chemical and biological parameters through the membranes, was assessed before and after fouling. The sea water sample was analyzed before fouling by Desalcott at Point Lisas Trinidad and after fouling the membranes were tested by Cariri at St. Augustine Trinidad.

These results were correlated with microscopic examination at the surface of the membranes. The electron micrographs were taken at Mt. Hope where the

presence of salts and micro-organisms was observed at the surface of the membranes.

Foulants are commonly problematic in membrane systems with inefficient pretreatment or ineffective scale inhibition and preventative measures must be implemented.