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# Why Conducting a Feasibility Study is Important

## White Paper

# Why Conducting A Feasibility Study Is Important

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## IT'S MORE THAN JUST INITIAL CAPITAL COST... OPEX AND FOOTPRINT ARE JUST AS IMPORTANT!

We recently completed a feasibility study for a client to evaluate the re-use potential of their produced water from a polymer flood application. The study was driven by the need to look at alternative water sources as their future demands were going to outweigh the freshwater requirements they currently have.

Part of the feasibility included conducting bench “screen” testing of ceramic membranes at our Boston facility. We wanted to investigate the separation step of treatment that included oily water and remnants of old polymer from the polymer flood operation. We were looking at alternatives to a conventional treatment scheme that included chemical pretreatment, DAF, media filtration and water softening. We wanted to evaluate the replacement of the chemical pre-treatment, DAF and media filtration with Ceramic UF (CUF).

The testing proved to be valuable and produced results that gave confidence that the CUF option would be a viable alternative. As part of the feasibility study we considered capital cost (CAPEX), operational cost (OPEX), and footprint. While the CAPEX of CUF was 20% more than the conventional setup, the OPEX (chemical costs, sludge costs, disposal, operations) for a 15 year life was significantly less (close to 10x less!) and would have a capital return on investment (ROI) of only 5.5 years. There would also be an approximate 20% savings in footprint that will give the client the option to fit within a tight existing space or a smaller building extension requirement. This would contribute to a decreased installation cost for the Ceramic UF advanced treatment system.

In the end, the OPEX savings, ease of operation and reduced footprint, resulted in the Client wanting to further evaluate this advanced treatment option. It was an option not previously considered and benefits not realized without conducting this feasibility. The next phase of this project would be to move towards piloting at site.

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