



## Mobile Chemical Clean-in-Place for Produced Water Applications

As a premier specialty chemical supplier to the oil and gas industry, ChemTreat has partnered with Viking CIP to offer produced water customers a specially formulated, proprietary line of cleaning products.



**Viking CIP** is an industry leader in the heavy industrial chemical cleaning market, providing innovative solutions to help clients meet environmental, social, and governance (ESG) goals.

This partnership has delivered excellent results for equipment contaminated with both inorganic and organic/hydrocarbon deposits.

## **Industry-Leading Mobile CIP Solution**

Viking CIP produced water heat exchanger chemical cleanings provide a series of advantages over competitive offerings.

Industry Standard	Viking CIP Solution
Significant time requirements for mobilizing and demobilizing equipment setup	Modular setup for easier application thanks to the limited number of parts and their interchangeability
Open-flame, diesel-powered fluid heating systems for the ignition source	Electric fluid heating systems eliminate the need for a source of ignition
No containment on hard piping on hopper for chemical mixing, increasing chances of chemical spills	Hopper is hard-piped to the mixing tank with its own recirculating pump, reducing the potential for spills
Substantial greenhouse gas emissions from diesel usage	"Plug and play" setup does not emit any greenhouse gases because the full system is powered by 480V
Inconsistent flow rates caused by PTO pump systems	Continuous 3,600-rpm power and delivery of consistent flow for better cleaning and debulking
High-temperature diesel flame comes into direct contact with the steel fluid coiled tube, degrading and evaporating cleaning chemical	In-line electric fluid heaters do not raise the temperature above 250°F, helping preserve chemical integrity
Oval-shaped mixing tanks cause 100% of the fluid to get recirculated	Tanks carefully designed to retain solids without recirculating them



Before Viking CIP cleaning



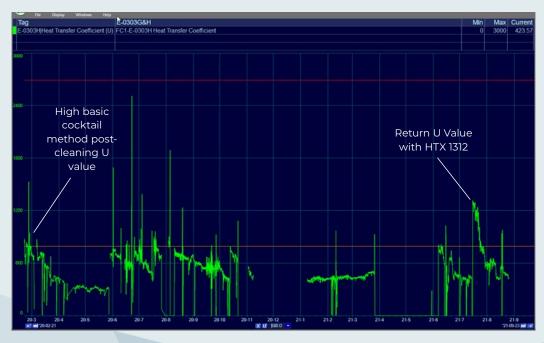
After Viking CIP cleaning

## Case Study: Produced Water Heat Exchanger Cleaning for a Large Commercial SAGD Facility

A facility in the Alberta oil sands marketplace historically cleaned their produced water heat exchangers with a high-percentage sodium hydroxide solution program.

In July 2021, ChemTreat and Viking CIP partnered to provide their specialty cleaning program to the SAGD plant and achieved significantly higher U-values post-cleaning versus the incumbent's chemical cocktail program.

The solution achieved a "best cleaning" acknowledgment from the producer, who will continue to use the ChemTreat/Viking CIP system moving forward.



## Solutions for the SAGD Industry

ChemTreat strives to provide best-in-class treatment solutions to our SAGD customers.

In addition to heat exchanger cleanings, our offerings for produced water applications include:

- In-house analytical laboratory services for heat exchanger deposit and cleaning solution evaluation
- Experienced technical experts strategically located to help support our customer base
- Specialty chemical treatment and cost-savings solutions

