



Fuel Samples:
Before, During, and After
Fuel Polishing.

FUEL DIALYSIS?

*Environmentally Sensible
Financially Sound*

With over thirty-five years of experience in the restoration and construction industry in the Rocky Mountain region, Geof Stimack knows better than most what will shut down a critical mechanical device faster than anything: substandard fuel quality.

Fuel-related issues are the second most common failure of emergency power generators and diesel engines. Equipment failure, lengthy after-hours service calls and costly repairs result from owners allowing their fuel supply to deteriorate. Roughly eighty percent of service calls and repair work is due to lack of scheduled attention to fuel quality.

Stimack believes he has an answer to this persistent problem. Fuel Polishing. CriticalFuel.com owns and maintains a variety of mobile units that will put a high-gloss polish onto a customer's fuel supply. "It makes sense to restore the fuel that they already have. Besides, it saves the environment by not having to pump out and discard the old fuel."

Fuel polishing clients include industrial and manufacturing facilities, data centers, government, communications, institutional facilities, health care, truck fleets, mining operations, and a myriad of other entities that use diesel fuel. Applications range from small portable tanks to large industrial clients who keep thousands of gallons of fuel in multiple fuel containers.

While most owners diligently maintain their engines and generators, many are unaware or neglectful

concerning the quality of the fuel stored in their tanks. Diesel fuel stored longer than half-a-year in a tank may naturally degrade and will soon gum up the working parts of an engine or generator.

Injectors plugged with contaminants will eventually result in blown pistons and other mechanical failures requiring expensive engine overhauls costing up to \$20,000 in many large power units.

During business travels to Florida, Stimack researched a technique to filter contaminants, or polish, fuel rather than removing and discarding it. Cleaning and polishing fuel on location is much more cost effective for consumers than replacing it, especially with regards to environmental and safety concerns.

While fuel polishing has gained a foothold on the east coast, west coast, and Gulf coast, there are only a handful of fuel polishers in the central states. Recognizing the opportunity, Stimack decided that he was going to fill the regional niche and add fuel polishing to his other successful business ventures.

HOW IT WORKS

One could say that Fuel Polishing is similar to kidney dialysis in humans. In a closed-loop configuration, the fuel is extracted from the fuel tank, passed through a series of filters, and returned to the tank, free of pollutants.

Simply filling a contaminated tank with fresh fuel will not resolve the problem. All that does is dilute the contaminants, but they're still there. Diesel fuel is inherently unstable due to the catalytic cracking processes used at the refinery. The 'cracked' fuel molecules tend to clump back

together to form sludge. To make matters worse, water in the tank leads to microbial growth including algae and yeast that adds to the slime-like deposit found in the fuel filters and on the bottom and sides of the tank.

The end results are poor combustion, carbon buildup, decreased engine or burner efficiency, potential engine failures, plugged filters and poor emissions.

In addition to having a cleaner fuel source, Stimack notes that engine efficiency increases which allows for better fuel usage.

Customer awareness and familiarity seem to be the only stumbling blocks. Many people have yet to hear about fuel polishing. "That's why I have a job," says Stimack.