

VAPOR PHASE CLEANING

for railcars + pressure vessels

location: Eureka, Montana USA
client: Super Major Oil and Gas Operator
railcar spec: 30,000 gallon capacity, 184 cars

A super major operator (Client) was facing a tight turn around for the cleaning of 184 railcars at a remote facility outside of Eureka, Montana. The client reached out to Path Environmental Technology to deploy its unique Vapor Phase Railcar Cleaning solution. Path specializes in remote operations in both the above ground storage tank and mobile vessel cleaning sectors.

Path's unique approach incorporates mobile equipment and crews that can be setup for custom processing systems on site to provide a tailored cleaning solution for various mobile vessels.

In this case, 184 railcars previously containing a variety of distillates including gas oils, lights fuels, and alcohols were in need of cleaning for a change in service. Path's 5 person crew set up the Path high-volume steam generator as well as the chemical injection system in order to efficiently plan and stage the cleaning of multiple railcars at a given time. Path set up for 4 railcars to be cleaned at a time to increase steam and chemical consumption efficiency. During the project, Path heated railcars and utilized its proprietary chemistry in vapor phase to liquify residual hydrocarbons so that they could be drained from the bottom of the car without entering the car. This process averaged 45 minutes per car to result in 0% LEL and H2S inside the railcars. Overall, Path's Vapor Phase process resulted in less waste typically seen in railcar cleaning operations. The process allowed for around 10 gallons of recovered oil per car with around 40 gallons of non-hazardous water generation.

Of the 184 cars cleaned, the Path process only required entry to 8 cars for final cleaning resulting a 96% reduction in manned entry compared to conventional railcar cleaning processes. During the project, Path averaged cleaning around 12 cars per day, with a peak single day total of 22 cars. Since Path's process does not require entry, around \$85,000 was saved by the operator with the elimination of the need for flaring and purging. Additionally, Path's ability to mobilize a solution to the location of the railcars in need of service meant that the client save \$200,000 in logistics. It is estimated that disposal costs were reduced around \$25,000. With a perfect HS&E record, Path exceeded the client's expectations and saved them over \$1,500 per car cleaned.

results

- Reduction in manned entry cleaning by 96%
- Cleaned 184 cars, averaging 12 cars per day
- Up to 22 railcars cleaned in a single day.
- Client saved an average of \$1,500 per car

challenges

- Remote location requiring path to deploy equipment and setup process on site.
- Time restrictions required novel multi-car stage approach to increase efficiency.