

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. Utilizing our own proprietary process, Path is truly elevating the way railcar and storage tank cleanings are being handled, especially from a safety, environmental and efficiency standpoint.

In this case, 184 railcars previously containing a variety of distillates including gas oils, light 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. Only after all hazardous toxins were removed from the car did we then proceed with low-risk manned entry to complete any final detail work and to perform our rigorous inspection protocol for verification of cleanliness to our client's standards.

Out of the 184 cars cleaned, only 8 cars required further detail work after the completion of our vapor phase processing system, resulting in a 96% reduction in manned entry cleaning compared to conventional railcar cleaning processes. Path's vapor phase process also resulted in a reduction of waste, allowing for 10 gallons of recoverable oil per car and only 40 gallons of non-hazardous water generation. It is estimated that disposal costs were reduced by around \$25,000 utilizing the Path process. During the project, Path averaged cleaning of 12 cars per day, with a peak single day total of 22 cars. Additionally, Path's ability to mobilize a solution to the location of the railcars in need of service saved the client \$200,000 in logistics. 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.