

case study

CRUDE TANK OUTAGE REDUCED & OIL RECOVERED

location: Jones Creek, Texas, USA
client type: Refinery

The client used a conventional method to clean the sister-tank of nearly identical size and product with inferior results. The contractor estimated one month from when the tank is stripped of its product until the tank reached gas-free condition. The tank owner was initially unable to lower the LEL and Benzene levels to permit entry. As a result, almost 20,000 barrels of off-spec diesel flush were executed multiple times to create a safe tank entry atmosphere. As the contractor began sludge removal, the activity generated vapors which again elevated LEL and Benzene levels above permissible concentrations. The crew was required to exit the tank to allow these high levels to subside, and the same problem continues to occur several times throughout the project.

The actual total duration from stripping the tank to gas-free was close to 6 months. The contractor encountered multiple issues concerning handling oil containing wastes generated and disposed of in vacuum and roll-off boxes. Other problems included leaks and spills while transporting due to sloshing. In total, the contractor had to dispose of 17 roll-off boxes with high hydrocarbon content.

Path performed the cleaning of the second tank with the Path Athos® system. The overall duration, including mobilization, crude oil wash, cutter wash, water wash, and demobilization, was 24 days. The process involved approximately 2,500 barrels of off-spec diesel used as a cutter resulting in only two roll-off boxes of dry solids generated. After Path completed the cleaning, the LEL was 0%, and Benzene was non-detectable. Of the 2820 barrels of sludge in the tank, Path achieved a recovery of approximately 2700 barrels as viable liquid hydrocarbons.

tank particulars

- **Service:** Light Sweet Crude Oil
- **Design:** External Floating Roof
- **Diameter:** 165'd x 48'h
- **Capacity:** 150,000 Barrels
- **Sludge Level:** 9"

savings to client

- **90+ days cleaning time**
- **\$2,497,500.00 in total**
 - financial breakout below

BENEFIT	DESCRIPTION	MULTIPLIER	TOTAL SAVINGS
Duration	90 days saved vs other contractor	\$15,000/day	\$1,350,000
Reduced Cutter Stock	17,500 barrels	\$50/barrel	\$875,000
Disposal Reduction	15 roll-off boxes	\$3,500/roll-off box	\$52,500
Recovered Oil	2,700 barrels crude	\$35/barrel	\$94,500
	2,500 barrels diesel	\$50/barrel	\$125,500

total savings \$2,497,500