CASE STUDY

North Dakota

Situation:

An established Williston Basin producer with production in the core Bakken area with many multi-well pads and lots of undrilled acreage. The producing sites were often making in excess of 2,000 Bbl/d. The site facilities included high and low pressure treaters, used LACT units for oil transfer, and had access to a gas gathering system operating at approximately 150 psi. The vertical heater treaters were operating between 115ºF and 138ºF.

Issues:

North Dakota has put in place well-publicized rules on flaring with annually declining limits. This is being done to address the concerns regarding wasted resources, royalty matters, unnecessary emissions, and light pollution associated with flaring on a large scale.

This producer was up against the flaring limits and had additional wells to complete and bring on line. Unless a long-term solution to the current flaring could be found and put in place, the producer would have to choke back production, either from the new completions, or established wells, or both, in order to stay within the rules.

The operator also had near-term concerns about leaking or venting tanks. Their tank hatches had springs that were been upgraded to 12 ounce pressure relief points. However, during production spikes the tanks were still exceeding this pressure limit and allowing gas to vent at times.

Furthermore, particularly during the winter, the producer was struggling to meet Reid Vapor Pressure (RVP) limits set by the state for rail transport.

Toughest issue – based on their previous experience, senior management had determined that vapor recovery units were ineffective and unreliable, so the threshold for acceptable performance was very high.

Solution:

EcoVapor offered a 30 day trial to test whether an ERS70 system could meet the jointly defined goal of maintaining oil tank pressures at 4 ounces or below, thereby capturing the flared gas, making the flare dormant and preventing fugitive tank emissions via pressure relief valve.

EcoVapor install a new ERS70 system with a cold weather package in late February. Within 24 hours of commissioning, average tank pressures dropped from ~6 ounces to less than 1 ounce and were maintained at an average of 1 oz. for the month.

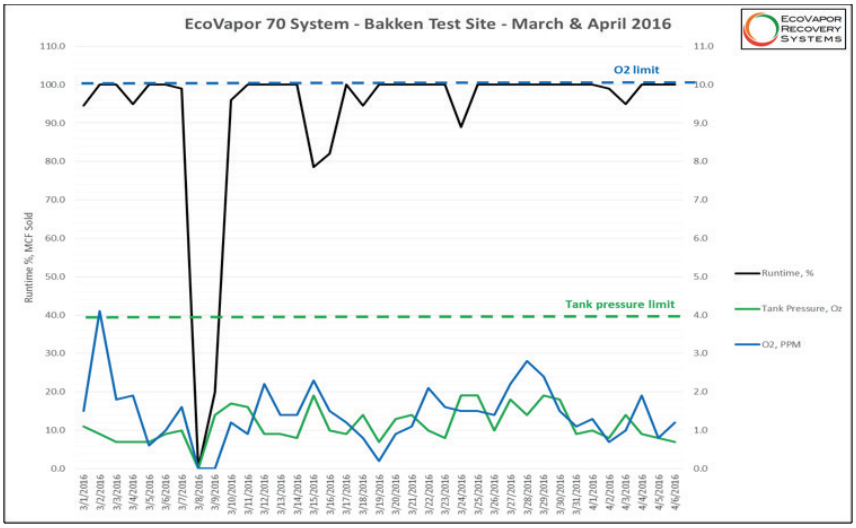

Figure 1 Operational Performance Data

The EcoVapor system operated above 95% uptime. The receiving gas pipeline reported no increases in oxygen, confirming that oxygen was effectively removed prior to gas selling to the pipeline. After having proved the effectiveness of recovering the 2400 Btu, 26 GPM flash gas from the tanks, the producer tied our system to the low pressure treater flare gas and recovered all the gas going to the flare at the site.

Conclusion:

EcoVapor's systems are an excellent choice for North Dakota operators who are looking for long-term solutions to flaring limitations along with reducing waste and emissions. They also address the immediate need to reduce tank pressures by pulling the ultra-rich gas from the tanks. The EcoVapor patented oxygen removal system was again proven effective by the receiving pipeline.

EcoVapor Recovery Systems

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