



# APCOTANE eliminates H<sub>2</sub>S allowing for Pipeline Specification Approval.

Midstream Company realizes economic spread by eliminating H<sub>2</sub>S.

## CHALLENGE

Find a cost effective hydrogen sulfide (H<sub>2</sub>S) treatment for sour oil in the Bakken Formation in North Dakota.

## SOLUTION

Apply Apcotane to improve H<sub>2</sub>S treatment efficiency while increasing per barrel price.

## RESULTS

- ▶ Eliminate H<sub>2</sub>S levels to allow for safe trucking.
- ▶ Economically treat sour oil thus transforming the bottom-line.
- ▶ Add 20% margin to the bottom-line.



## Eliminate Hydrogen Sulfide in sour crude oil.

Hydrogen Sulfide is naturally produced from the Bakken Shale Formation. The levels can range from a few ppm up to 50,000 ppm hydrogen sulfide and must be reduced to below pipeline gas specifications, which are typically less than 5 ppm. In addition to reducing product value, hydrogen sulfide exposes producers to environmental and safety risk and increases the chance of corrosion.

Midstream Company desired to purchase oil with high H<sub>2</sub>S volumes. They were able to purchase the oil in a favorable economic position allowing for a spread if Apcotane is able to perform with agreed upon dosage matrix.

## Apply Apcotane to treat oil, increase profits.

The operator tasked Apollo with lowering the overall treating cost and improving the treating efficiency of hydrogen sulfide. Apollo recommended Apcotane, the H<sub>2</sub>S mitigation product which is a bi-soluble, non-corrosive, and irreversible product.

Apcotane is formulated to eliminate potential calcium carbonate scale precipitation common among triazine products by not allowing precipitation to occur.

The team provided targeted, direct injection of Apcotane and implemented a robust monitoring and optimization program. The optimization is also largely due to the bringing online of the static mixers.

## Reduced H<sub>2</sub>S levels to oil pipeline specifications

Apollo injected Apcotane in two different applications to verify most cost effective. Apollo introduced Apcotane at the well-head transfer location into the Midstream companies truck to allow for mixing on the way to to lac. Producer was able to reduce 40,000 ppm to zero in a 30 min resident time. Producer then decided to batch treat in tanks which allowed for dosage to be cut in half due to increased residence time and optimized mixing. Client has been able to treat 1,000-3,500 barrels per day using batch treatment process for over one year. Product has been approved by Enbridge pipeline and treated oil has been refined in refinery for over one year.

Due to the winter conditions extra attention was devoted to verify Apcotane could treat H<sub>2</sub>S laden oil in North Dakota winter. Apcotane performed exceptionally well even at -25 Fahrenheit.