

Departing Pipeline Paraffin Blockage Removal in Gulf of Mexico Well

BACKGROUND

An oil producer on the deep shelf in the Gulf of Mexico had a departing oil pipeline fouled with paraffin. The producer was unable to sell the oil produced at this location. Their chemical treatment provider pumped 3,800 gallons of solvent for 11 days with no positive results.

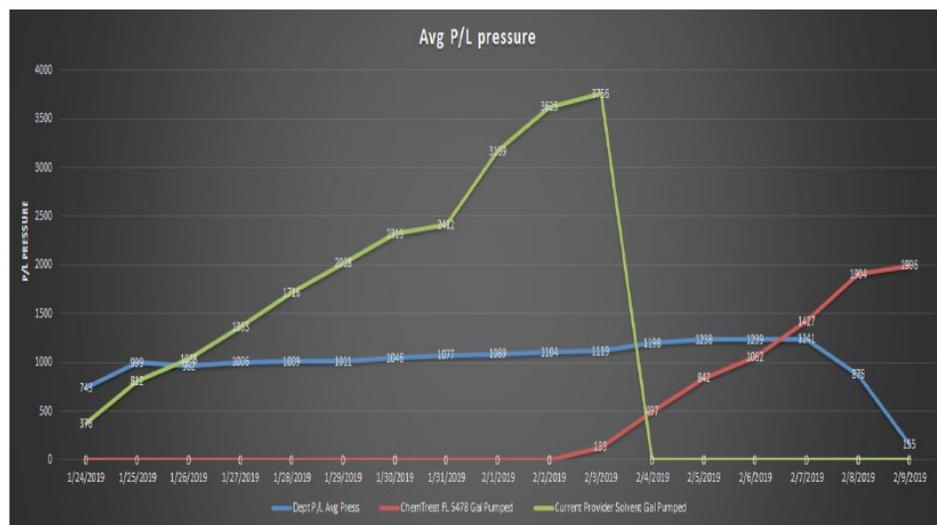
ChemTreat was asked to review the issue and come up with a solution. During our assessment, we found that the paraffin restriction started approximately 1,800 feet below the platform but could not determine how long the restriction was.

We recommended pumping 2,000 gallons of our FL5478 oil converter continuously until a reduction in fouling could be observed. The normal departing pipeline pressure is 250 psi, but it was up to 1,100–1,200 when ChemTreat began treatment. The pipeline ID was 5.876 inches, and the volume capacity up to the restriction was 1,827 gallons.

PRODUCT PERFORMANCE

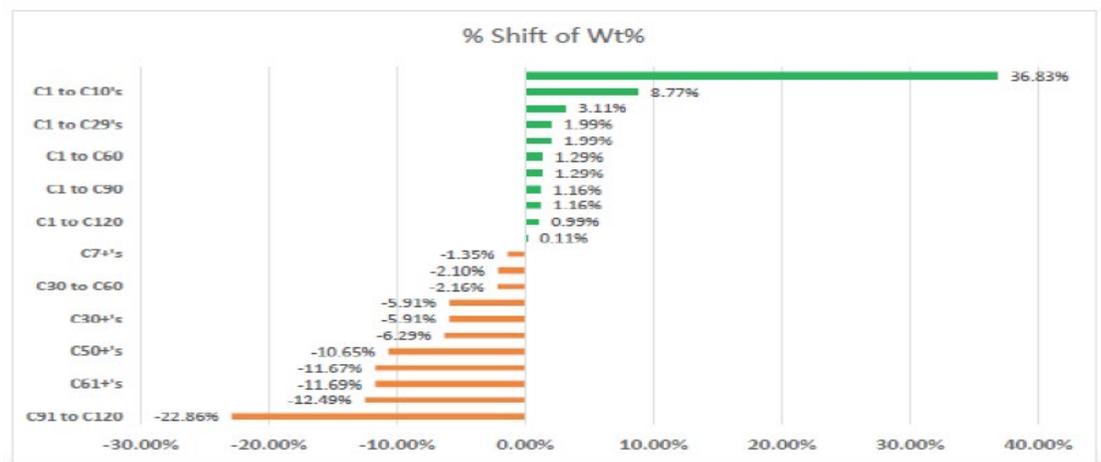
After six days of pumping FL5478, the restriction was removed, and the pipeline pressure was 155 psi. The customer was concerned about bringing production back on-line at a normal rate, because they thought this would move the restriction further down the line.

ChemTreat assured the customer that the restriction was no longer present thanks to our product, which converted the paraffin back into oil. Production was brought back on-line with no spike in pipeline pressure. ChemTreat stayed on location and monitored the situation for five days to ensure results stayed consistent and no further issues arose.



FL5478 Oil Converter

ChemTreat is working with a new organic molecule formulation that breaks down long hydrocarbon chains such as paraffin and asphaltene. During the reaction, our chemistry becomes part of the oil phase and prevents the long chain hydrocarbons from reconnecting, permanently changing the oil quality and preventing paraffin and asphaltene from reforming.



Activation Mechanism

- Multi-reactionary liquid compound that was originally designed to enhance the quality of heavy, paraffinic or asphaltene-laden oil by a cold (not thermal) transformation.
- High-energy response originating from the carbon cations created during FL5478 contact with the hydrocarbon causes the hydrogen protonation process to break down the carbon bonds.
- An energy transformation occurs under a cold, permanent, and non-reversible method in the long hydrocarbon chains.

The formula contains no aromatic solvents.

Resulting Benefits

- Shortening the paraffin and asphaltene hydrocarbon chains in crude oil prevents associated precipitation and hydrocarbon scale build-up
- Liquid hydrocarbon surface tension reduction makes the product an effective demulsifier
- Other components of this compound assist with H₂S reduction
- The product is immiscible in produced water and does not impact product water quality