PolyFlow Inc.®

Technology for Fluid Transport

Thermoflex® Oil Gathering Line
Installation Case Study

Background:

A customer of Polyflow's in Northwestern West Virginia has several oil wells requiring new gathering line piping. The lines required an operating pressure of approximately 500psi to incorporate the hydrostatic head associated with the severe hills in the area. The flow rate of oil was estimated at 200bbl/day with little or no brine in the flow.

A 1.75" Thermoflex tube was selected with a Fortron liner to eliminate the potential for paraffin build up in the pipe and for hydrocarbon resistance. The pipe was rated for 1,000psi operating pressure.

The first line was to connect two wells to an existing gathering line, while the second line connected wells and replaced an existing steel line.

Installation:

Because of the rough terrain, trenching occurred prior to the unspooling of pipe. The first line was completed at the start of the installation while the longest leg was trenched for the second line. An excavator was utilized to trench the lines with a two foot wide bucket. While this was not required for the Thermoflex tubing, it was required for additional lines for the first line.

The pipe was set up on a spooler and was set up near the termination of the first line. The pipe was pulled off the spool by hand and with a bulldozer for approximately 1,200 ft. The couplings were installed and then welded to steel risers. Per the instruction manual, care was taken in welding the couplings to the risers by putting a heat sink (wet towel) on the coupling to keep the temperature at the ferrule below 250F. The tubing was dropped into the hole, pressure tested then backfilled all the same day.

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Welded Tubing to Steel Riser

The second line had a much more severe terrain. After slow trenching the first 2,200ft line was pulled in about an hour. This was done by hand and pulled with a rope in the steep areas.

Tubing immediately after pull

Steepest Section

It should be noted that no special backfill of removal of the existing steel was required. The same coupling and welding techniques were performed, the product was pressure tested and the line was put in line.