

Southeast U.S. Distributor of...

WELS Hot Rod™

A Better Way to Remove Paraffin[™]

- Heats up to over **250°** Fahrenheit and melts the accumulated paraffin as it is lowered into the tubing.
- Usually takes 2 ½ -3 hours as compared to 1-3 days for other methods.
- Still works even if tubing is totally blocked



- Is faster, cleaner and less expensive than other methods of paraffin removal when the cost of well down time is factored in.
- In just one visit, an e-line company can do both, paraffin removal and an e-line job.
- Works very fast on hydrates

IT IS SIMPLE, QUICK, CLEAN AND EFFECTIVE

WELS HOT ROD™

A Better Way to Remove Paraffin™

The Wels Hot Rod™ and Reasons to Use it

1) How the WELS Hot Rod™ Works

- a) The Hot Rod is a 4.5 foot long, 8 pound tool that is lowered into the tubing of a well on electric wireline (e-line) of 20,000 ft. or less.
- b) Electric power from the surface travels down the e-line to the tool and causes the Hot Rod to heat up which melts the paraffin allowing it to float to the surface and, subsequently, out of the tubing bore.
- c) The well can be produced at a restricted rate while the paraffin is melted to accelerate its removal from the well.
- d) Paraffin usually melts at less the 175 degrees Fahrenheit but the tool can be heated to over 250 degrees Fahrenheit.

2) Advantages of using the WELS Hot Rod™

- a) Very Fast – 1½ to 3 hours not including the time to rig-up and rig-down.
- b) Doesn't damage tubing like mechanical cutting does or the formation like hot-oiling can and is much faster and safer than chemical solvents.
- c) It reduces the erosive effect of hot oil by eliminating fluids introduced into anulus.
- d) Can be used just as easily when the tubing is completely plugged or only partially plugged with paraffin regardless of tubing size.
- e) Very effective on hydrates.

3) Other methods currently being used for paraffin wax removal

- a) Mechanical cutters can take much longer (sometimes several days), removing all of the paraffin and often leaves solid paraffin on the surface of the wellsite. The scrapes and nicks inside the tubing provide locations for the paraffin plug to reform more quickly than they otherwise would. If the paraffin is hard, mechanical removal is often accompanied with a hot oil truck to soften the paraffin so the cutter can work.
- b) Hot oiling, except for gas-lift valve damage, has the same disadvantage as mechanical cutting. Further, because the oil used for the process usually comes from the bottom of the production tanks, the oil can be full of solids and saturated with paraffin. When pumped into the well some of hot oil often ends up in the reservoir which can reduce the zone's permeability.

4) Benefits for the well operator

- a) Less well down time - 1-½ to 3 hours versus 1-3 days.
- b) Removes all the paraffin from the tubing.
- c) Paraffin removal needs to be done less often.
- d) Substantially reduces environmental risk.
- e) Removes hydrates which can be almost impossible to remove.

5) What SOS provides

- a) A tool for 2 3/8" tubing, a tool for 2 7/8" tubing, a backup tool for each and attachments for different sizes of tubing or casing.
- b) The WELS proprietary, portable, transformer.