



PARALAX® Treats Heavy Oil Wells in Turkmenistan

Conditions in a 38-well operation in Turkmenistan required a customized PARALAX® treatment to improve and stabilize production where wax buildup required three crews to work daily to keep production going. A two-step, coiled tubing PARALAX® treatment generated an increase in production that paid for the treatment in one week and created a wax-free environment for 2 months.

Location: Turkmenistan

Prior to Treatment: **3 crews working daily to treat wax**

After Treatment: **PARALAX® treatment every 60-90 days**

Results: **2 months wax-free**

Benefits: **Production increased 20% and PARALAX® costs recouped in first week of treatment**

CONDITIONS PRIOR TO TREATMENT

A 38-well operation in Turkmenistan had been cleaning wells with gasoline using a coiled tubing system.

Production was impacted by wax buildup and high tar (61%), high paraffin (21%) and high pour point (+36C) conditions. Slickline with wax cutting was not an option for these wells because of the hardness of the wax and instead a coiled tubing dressing with a drift rig while jetting gasoline solvent was chosen for the treatment.

THE PROCESS

The conditions of these wells required a customized PARALAX® treatment and was the first time this coiled tubing procedure was used. The high pour point prior to treatment suggested that a gas condensate would work best to stop wax production. The treatment required a two-step process: coiled tubing wax cleanout with gasoline, followed by well treatment with PARALAX® treated oil.

PARALAX® was mixed at a rate of 10m³ of condensate with 55 gal of oil to create the PARALAX® treated oil. A batch mixer was used to create a finer mixture which was pumped into the well with a high pressure pump truck. PARALAX® was tested on two of the operations wells to determine the best treatment method and observe the results.



Figure 1: Pump and tank trucks to prepare PARALAX® treated oil



Figure 2: A batch mixer is used to create a fine PARALAX® treated oil for treatment

RESULTS

Post-treatment monitoring was done every 2-4 days. Results showed an initial increase in tubing head pressure, annulus pressure and flow rate for two weeks followed by stabilized flow rates. This was an improvement from the intermittent flow rates prior to the PARALAX® treatment. Well 1 saw an increase in production of 20% with Well 2 showing similar results. The first week of increased production paid for the cost of the PARALAX® treatment.

Four weeks after the PARALAX® treatment, the operator ran a slickline wax cutter on the treated wells to observe the conditions. There was no wax buildup in the tubing and the wells continued to operate wax-free for 2 months. All 38 wells of the operation are now being treated with PARALAX® every 60-90 days reducing the treatment cost, production loss and labour requirements for wax treatment significantly.

