

WAXY CRUDE OIL WELL SURVEILLANCE

Amieibibama Joseph
University of Port Harcourt
NIGERIA
vonkarma@yahoo.com

Joseph Atubokiki Ajenka
University of Port Harcourt
NIGERIA
jajienka@yahoo.com

Essien E. E
SPDC
NIGERIA
essien.e@yahoo.com

ABSTRACT

Generally, waxy crude oils are difficult to handle because of their high pour points compared to the ambient temperature. Waxy crude oils exhibit non-Newtonian flow behaviour at temperatures below the cloud point because of wax crystallization, which cause production problems. In order to manage waxy crude oils field profitably, a well surveillance process has been developed to enable field engineers to monitor and troubleshoot well problems and recommend timely remedial actions such as wax cutting, solvent soaking and injection of wax inhibitors. The surveillance process includes problem diagnostic charts developed through modeling the temperature profile. With these, the point of deposition in the production tubing can be predicted as well as the critical rate below which severe deposition will take place. Case studies on the application of the process are presented

Keywords: Diagnostic plots, pour-point, Wax appearance temperature, Well surveillance, Waxy crude oil, Wax deposition.