



Radial Drilling Launches A Multi-Directional 45 Degree Circumferential Drainage Pattern (CDP) System



This new system allows the operator to identify a thick reservoir section and create circumferential drainage channels by penetrating & removing formation. To create the drainage pattern, the system introduces 4 x 45 degree inclined laterals on one horizon, with the option of placing additional 45 degree laterals in as little as a half meter vertical displacement.

Challenge

In a homogeneous target formation, introduce a series of open laterals to create a vertical circumferential drainage pattern thru the height of the target reservoir & extending in to the reservoir up to a distance of 75 meters from the near wellbore.

In a highly laminated & inter-bedded formation (shale) introduce a series of open laterals to create a vertical circumferential drainage pattern, providing matrix connectivity both horizontally & vertically thru the height of the target reservoir & extending in to the reservoir up to a distance of 75 meters.

Solution

Utilizing CDP, commencing in the lower section of the zone of interest, place four 45 degree inclined laterals of up to 100 meters length each. Work up the zone of interest placing an additional phase of four laterals in as little as a half-meter vertical displacement.

Results

A christmas tree drainage pattern traveling vertically and laterally through the formation. Multiple open laterals are created bypassing near well bore damage and opening up additional flow channels to the main wellbore. In highly laminated formations the thin inter-bedded reservoir horizons are connected 100 meter vertically & up to 75 meters horizontally, providing unparalleled matrix connectivity.

Higher production with increased efficiency and reduced cost.

Multiple penetrations on multiple horizons escapes potential near well-bore damage, enhances connectivity of naturally occurring fractures, creates matrix connectivity in highly laminated formations as well as opening additional natural flow channels. This creates higher production flow rates as well as accessing previously stranded hydrocarbons.

