CASE STUDY

CLEARWELL[™] SUCCESSFULLY TREATS H₂S SCAVENGER SCALING IN ALBERTA

LOCATION:Montney Shale, Alberta, CanadaAPPLICATION:Surface Processing, Unconventional Oil, Artificial Lift

BEFORE CLEARWELL[™]

Hydrogen Sulphide (H_2S) is a highly toxic and pungent gas that causes problems in oil production. H_2S produced in oil and gas wells is frequently removed using chemical scavengers. This treatment is well-known, commonly practiced and can be effective. However injection of the most common, triazine-based, H_2S scavengers often results in scaling problems due to a change in pH.

At a well in Alberta, surface production pipework was suffering from severe calcium carbonate deposition as a consequence of H_2S scavenger injection. Scale formation was observed downstream of the scavenger injection point, through the mixer and on 2-3 m of pipe. The operator was injecting a chemical scale inhibitor (and a corrosion inhibitor) but needed process system shut downs every 75-90 days to clean out the pipework and remove the scale, costing money, production and potentially exposing staff to toxic H_2S gas.

Clear

Oilfield Solutions

Continuous Scale Control

AFTER CLEARWELL[™]

ClearWELL technology was installed for a 90-day trial period, after which an inspection was carried out to determine its effectiveness. The pictures below show the results of the inspection, and that ClearWELL[™] had successfully treated the calcium carbonate and associated barite scaling. The operator retained the unit, ceased injection of the chemical scale inhibitor and the well has been successfully operating without any further downtime due to scaling since June 2016.

Before and 90 Days after implementing the ClearWELL[™] system



THE PROCESS

- The ClearWELL[™] unit is connected to production equipment at the surface wellhead no intervention required, no loss of production.
- The unit transmits a pulsed radio frequency signal down into the wellbore or along flowlines and equipment. The pulsed signal delivers energy to the scaling ions, controlling precipitation, keeping the liquid below saturation and minimising scale growth on production equipment.
- ClearWELL use satellite monitoring to ensure optimum unit performance. Where required, personnel perform regular non-intrusive equipment checks.
- ClearWELLTM systems are low power consumption and certified Class 1, Zone 1. The AC signal system is corrosion neutral.

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