

Critical Cased Hole Fishing in Ecuador Recovers 2300 ft Wire and Electrical Submersible Pump (ESP) BHA

Wellbore Integrity Solutions' (WIS) team recovers 4-inch OD artificial lift BHA left in hole after workover deviation.

Unplanned fishing operation achieves full recovery, avoiding well abandonment.

WIS' Red Baron team in Ecuador supported an important Oil & Gas Operator in achieving a significant milestone with successful artificial lift retrieval of an ESP BHA and 2300 ft of electrical wire left in hole.

As an urgent corrective action, WIS was contacted to mobilize fishing tools along with experienced personnel to location due to an unexpected deviation in the workover plan that led into the ESP BHA left in hole. Based on the evidence and the amount of electrical wire to be recovered the fishing plan was defined. Thus, a complete set of wireline spears were mobilized, in which the heavy duty Center Prong and Crankshaft gave the best results. The Center Prong retrieved 167 ft of wire on average, and the best run caught 340 ft. The Crankshaft retrieved 324 ft of wire on average, and the best run caught 528 ft. The objective was to complete this operation with minimal runs and within a short time frame, which was successfully achieved.

The fishing BHA was equipped with an 8 $\frac{1}{8}$ inch Overshot, 8 $\frac{1}{8}$ inch Overshot Upper Extension, 8 $\frac{1}{8}$ inch Washover Rotary Shoe, and a 4 inch Basket Grapple. The ESP BHA was lying inside the 9 $\frac{5}{8}$ inch casing, above the 7 inch Liner Hanger at 10,523 ft. The fishing operation was challenging due to the presence of electrical wire and the unknown condition of the BHA left in hole. Moreover, jarring was constrained to the weakest latching point, EUE coupling.



The successful recovery was confirmed by observing 6,000 lbs of additional weight while pulling out of hole, resulting in 100% of fish retrieval in surface.

Well Information:

Location: Ecuador

Casing Size: 9 $\frac{5}{8}$ inch (53.5# - N80)

Top of Fish Depth: 10,380 ft

Fish Total Depth: 10,523 ft

CHALLENGE

Perform a 9 $\frac{5}{8}$ inch cased hole fishing operation to retrieve a 142 ft ESP BHA and 2,300 ft of electrical wire. The goal was to recover all components in minimal runs, restore the workover intervention, and mitigate time loss.

SOLUTION

WIS recommended and deployed a set of heavy duty wireline rope spears (Crankshaft and Center Prong) along with an 8 $\frac{1}{8}$ inch Overshot FS integrated with a 4 inch Basket Grapple and 4 $\frac{1}{2}$ inch Mill Control to be able to retrieve all the electrical wire left in hole prior to effectively latch the fish and retrieve the ESP BHA.

RESULTS

- Successful latch on the ESP BHA in a single run, after retrieving 2300 ft of electrical wire, exceeding customer expectations.
- 100% of fish retrieved as planned.
- The variety and high quality of tools allowed a flawless job execution.

