... rigless, retrofit, through tubing, live well, cable deployed, downhole pumping ...
ESP Operations – the need for change?

What’s the problem?
- Rigs needed for installation and replacement;
- Replacement delayed due to rig availability;
- High rig cost and lost / deferred production;
- Opportunity cost for using rigs to work-over failed ESP wells;
- Risk of reduced PI due to kill fluid;

A better way: Slim-line, through tubing, cable deployed pumps, installed using established spooling methods and conventional PCE

Zilift SpeedDrive 2625 assembly

US land well demonstration
ESP Operations – the solution

SpeedDrive - A slim-line centrifugal pump system made possible by using Permanent Magnet Motors

Delivering:
✓ Rigless, retrofit intervention
✓ Live well workover
✓ Rapid replacement
✓ Improved safety

Applications:
✓ Contingency ESP (over failed conventional)
✓ Primary ESP
✓ Temporary install:-
  ✓ well kick-starting
  ✓ for appraisal wells (operating through w/l PCE)

Remote Monitoring and Control Package
Variable Frequency Drive with Embedded Automation
Existing X-mas Tree
Cable Hanger / Penetrator Spool Piece
Tubing Hanger
Safety Valve Control Line
Tubing Deployed Safety Valve
Insert Safety Valve with Cable Feedthrough
Completion tubing
Power and Deployment Cable
Cable Head / Monitoring Sub
PM Motor / Seal Section
Pump discharge ports (to tubing)
Pump
Retrievable Through Tubing Packer
Pump intake

Applications:
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Cable deployment key enablers

- A through-tubing pump assembly
- Anchor / latch
- Deployment / power cable
- Pressure control equipment
- Winch and sheaves system
- Variable frequency drive
- Insert Safety Valve when required
- Flush spoolable cable connector for retrieval
Wellhead Cable hanger and termination

Wellhead tubing bonnet
- Can replace bonnet for existing ESP installations
- Installed on standard GS running tool

Flow through hanger arrangement

Split phase wellhead penetration system comprising:
- API Single spool piece
- 4140 or 13Cr materials
- 5,000psi pressure rating
- ¼” control line ports
- 4kV, 35A, 125°C rated
- ATEX and IECEx certified
First (cable) Deployment Test in 2016

Presentation video removed

This first trial was conducted at a drilling training centre in Oklahoma.

The objective was to demonstrate:
- Anchor / latch setting;
- BHA free spools from lubricator;
- RIH
- BHA latching / unlatching
- POOH

Completed under simulated live well conditions

Exercise completed 5 times without incident
Trials were a complete success
Click the link to see the presentation video:
https://preview.tinyurl.com/y8tlsfzw

The system can be run, operated and retrieved, without a rig
Cable deployment experience

5 trials completed under live well conditions with full pressure control:

- No safety incidents, no damage to equipment;
- System self spooled to depth;
- System successfully landed out in anchor packer;
- Surface termination successfully completed;
- System powered up and fluid confirmed on surface and;
- Successfully re-connected to the deployment cable and retrieve to surface under live well conditions.
- Fully horizontal deployment demonstrated

A Rigless through tubing Cable Deployed ESP using high speed permanent magnet motor technology