.... rigless, retrofit, through tubing, live well, cable deployed, downhole pumping ...



# EuALF 2018 - Results from field trials of an all new rigless cable deployable ESP

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### **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**



#### **Cable deployment key enablers**



## **Wellhead Cable hanger and termination**

#### - Wellhead tubing bonnet

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







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 conduced 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

#### **Complete Deployment**



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

#### The full operational life cycle: Run. Operate. Retrieve.





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

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