

# Workover & Well Servicing Operations



## Workover & Well Servicing Course Outline Wild Well

### ORIENTATION

Rapid Fire Competition  
Case History Stages  
Well Control Training Approach  
Situational Awareness

### COMPLETION AND WORKOVER

Completion Design  
Workover  
Mechanical Failure  
Clean Out and Workover Operations  
Features of Workover  
Workover Operations  
Well Control: Drilling vs. Workover

### PRESSURE BASICS

Hydrostatic Pressure  
Understanding Depths  
Bottomhole Hydrostatic Pressure  
Formation Pressure  
Relationship Between BHP and FP  
Sucker Rod Pump Retrieval  
Rod Pump Retrieval: A Quick Turnaround  
Rod String Retrieval  
Casing, Packer or Tubing Leaks  
Formation Damage/Low Permeability  
Countering Liquid Hold Up or Gas Slip  
Excess Water/Gas Production  
Controlling Sand and Other Fill/Debris

### BARRIERS

Barrier Classification  
Barriers: Production Tree  
Production Tree  
Subsurface Safety Valves (SSSVs)  
Operating the Simulator: Choke Console  
Operating the Simulator: Drillers Console  
Well Control Safety Meeting  
Pressure Bleed-Down Exercise  
Drawing Conclusions

### THE BULLHEAD METHOD

Calculate Fluid Gradient  
Calculating Hydrostatic Pressure  
Calculating Kill Weight Fluid  
Calculating Formation Pressure  
Fluids  
Water-Based Fluids  
Calculating Volume for Bullheading  
Calculating Strokes for Bullheading

Backpressure  
Calculating Volume on Backside  
Calculating Tank Volume  
Plotting the Kill  
Bullheading Breakover  
Graph Paper  
Pressure Limits & the Killsheet  
Well Control Safety Meeting  
Bullhead Exercise  
Drawing Conclusions

### BULLHEAD KILLSHEET

Preparing for the Killsheet  
Well Control Safety Meeting  
Bullhead w/ Killsheet Exercise  
Drawing Conclusions

### DOWNHOLE COMPLICATIONS

Packers  
Permanent Packers  
Retrievable Packers  
Well Control Safety Meeting  
Identifying Complications Exercise  
Drawing Conclusions  
Unconventional Well Control Techniques

### REVERSE CIRCULATION

The Well as a U-Tube  
Circulating Pressures  
Circulation and Bottomhole Pressure  
ECD  
Downhole Communication  
Reverse Circulation Method  
Well Control Safety Meeting  
Reverse Circulation Exercise  
Drawing Conclusions

### INFLUXES

Causes of Influxes  
Understanding Warning Signs  
Warning Signs  
Consequences of Not Responding  
Blowout  
Reacting to an Influx  
BOPs: Annular and Rams  
Accumulators  
Full Opening Safety Valve (FOSV)  
Well Control Safety Meeting  
Reverse Circulation 2 Exercise  
Drawing Conclusions

### FORWARD CIRCULATION

Choke Adjustments and Lag Time  
Well Control Safety Meeting  
Forward Circulation Exercise  
Drawing Conclusions

### LUBRICATE & BLEED

#### WELL CONTROL METHOD

Lubricate & Bleed Method  
Well Control Safety Meeting  
Lube & Bleed Exercise  
Drawing Conclusions

### END-OF-THE-DAY CONSIDERATIONS

Force and Area  
Buoyancy Factor

### PRACTICAL APPLICATION: MULTIPLE WELLS WITH INFLUXES

Review  
Well Control Safety Meeting  
Multiple Influx Exercise  
Drawing Conclusions

### COMPLICATIONS

Stuck Pipe: Packoff  
Stuck Pipe: Mechanical  
Industry Practices  
- Barriers  
- Accumulators  
- Function Tests  
- Pressure Tests  
- BOP Tests



4.5 Days

SUPERVISOR

# Workover & Well Servicing Operations



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### COILED TUBING

- Coiled Tubing Operations
- Washing Sand and/or Fill
- Tubing Scale Removal
- Remedial Cement
- Drilling Plugs
- Thru-Tubing Fishing
- Setting/Retrieving Bridge Plugs
- Reservoir Stimulation
- Siphon String Installation
- Formation and Drilling Data Acquisition
- Perforating With Coiled Tubing
- Other Coiled Tubing Operations
- Various Coiled Tubing Units
- Path of Coiled Tubing Downhole
- Coiled Tubing Reels
- Reel Drum
- Gooseneck
- Gooseneck or Tubing Guide Arch
- Tension
- Tubing Injector Head
- Inside Tensioners
- Stripper Assembly (or ABOP)
- Strippers
- Ram BOPs
- Stacks
- Causes of Coiled Tubing Failure
- Pitting, Tension, Buckling, Abrasions
- Injector Induced Damages
- Ballooning, Necking, Ovality
- Reel Log
- Emergency Response

### SNUBBING

- Equipment Selection Considerations
- Snubbing vs Stripping
- Dead Wells vs Live Wells
- Live Well Operations
- Types of Snubbing Units
- Snubbing Unit Components
- Snubbing Unit Well Control Equipment
- Volumetric Well Control
- Well Control Issues Unique to Snubbing
- Snubbing Exercise

### WIRELINE

- History
- Wireline Operational Procedures
- Types of Wireline
- Special Wireline Tools
- Wireline Well Control Equipment
- Well Control Issues unique to Wireline
- Well Kill with Wireline in Hole



4.5 Days

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