



## **Vorenkamp Well Control Training**

1167 Oak Harbor  
Morgan City, Louisiana 70381  
Main: 855-888-0323  
Main: 337-451-4685  
[www.vwellcontroltraining.com](http://www.vwellcontroltraining.com)

### **IADC WellSharp Service Company Equipment Operator Coiled Tubing Well Control**

#### **Course Outline**

**Prerequisites:** This course shall have no formal pre-requisite. The individual should have no history of a disabling medical condition, which may be sufficient reason for disqualification.

**Course Length:** 8 hours - Course length shall vary depending on the number of delegates. Total course time includes breaks and meals.

**Class Size:** The maximum number of delegates that may be trained and tested per instructor shall be twelve (12) in the classroom session.

#### **Course Objective**

The curriculum identifies a body of knowledge and a set of job skills that can be used to provide well control training for coiled tubing operations personnel.

#### **Course Design**

- Power Point© / Lecture / Audio Video / Visual Aids
- Demonstrations
- Practical Simulations Exercises
- All students are supported with Laptops for online reviews, sample testing, support material, manuals and data sheets. Testing is online controlled by IADC thru their website. All support material is soft copied to each student thru thumb drives.

#### **Successful Course Completion**

- Requires a minimum score of 75% or better.
- Delegates will have no more than three hours to complete the exam.
- Grades shall be calculated online by IADC and be proctored by Llyod's Registry personnel, all questions are multiple choice.
- An Immediate retest after review is available or within 45 days of the initial test failure. The delegate must score a 60% or better to qualify for the re-test option.

#### **Course Content Summary**

- Classroom
- Practical's

**Breaks:** 10-15 minutes (approximately every 1.5 hours)



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### **Course Topics**

#### **Risk Awareness and Management**

- Human elements
- Live/Dead Well
- Risk Management
- Pre-job Communication
- Handover for Tour Change
- Safety Margins
- Bridging Documents
- Emergency Procedure/ ICS
- Pressure Control Equipment / Barrier Envelope Considerations
- Equipment Requirements
- Load Bearing & tie down considerations

#### **Well Control Principles & Calculations**

- Pressure Fundamentals
- Pressure Fundamentals
- Volume/Displacement Calculations
- Tubing Collapse and Casing Burst Principles
- Pre-recorded Well Information
- Securing Well Conditions

#### **Barriers**

- Types of Barriers
- Levels of Barriers
- Barrier Management
- Pressure Control Device
- Primary Barrier
- Secondary Barrier
- Emergency Closures
- Barrier Hierarchy

#### **General Overview of Surface and Subsurface Wellbore Equipment**

- Tree (Components, Purpose and Function of the Tree)
- Pressure Control Equipment (PCE)
- Accumulators
- Fluid Measuring



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- Coiled Tubing String
- Workstring and Production Tubing
- Completion Equipment

### **Procedures**

- Monitoring and Recording During Shut-in
- Securing the Well and Verification of Secured Well Conditions
- Well Monitoring During Operations
- Coiled Tubing Pressure Control Contingency Procedures (API RP 16ST, 2nd Edition)

### **Rigging Up**

- Connection between Coiled Tubing Equipment and the Well

### **Pressure Control Equipment Barriers**

- Barrier Envelope
- Dynamic PCE
- Static Barrier
- Emergency Closures

### **Operational Considerations**

- Operational Limitations
- Coiled Tubing Limitations

### **Preparation for Well Interventions**

- Objective of Pressure Control Techniques
- Bullheading
- Circulation

### **Special Situations**

- Blockages, restricted access and Trapped Pressure in Tubing / Wellbore
- Hydrates
- H<sub>2</sub>S considerations
- Operations with Specific Pressure Control Concerns
- Complication with Hydraulic Fracturing Operations
- CO<sub>2</sub> Influx and corrosion complications
- Safety Systems and Emergency Shutdown Devices (ESDs)

### **Coiled Tubing Service Complications and Solutions**

- Collapsed Coiled Tubing



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### **Organizing a Well Control Operation**

- Personnel Assignments
- Pre-Recorded Information
- Plan Responses to Anticipated Well-Control Scenarios
- Communications Responsibilities

### **Testing**

- Pressure and Function Tests
- Well Control Equipment Testing
- Testing of Surface Tree Equipment

### **Government, Industry and Company Rules, Order and Policies**

- Regional and/or local regulations
- API and ISO recommended practices

### **Ancillary Considerations**

- Gas Detection
- Fluid-Gas separators
- Choke Operations
- Wellhead Control Panel

### **Testing**

### **Practical Session**

- Shall verify skills using table top exercises and interactive digital simulation.

### **Training Center Provided Material**

- Course Materials

### **Delegate Requirements**

- None

### **Reference Material / Documents**

IADC WellSharp  
API STANDARD 53  
API 16 ST  
30 CFR 250.617