



## 2018 Murchison Drilling Schools Course Schedule

### Operational Drilling Technology

#### OBJECTIVE:

Our objective is to train drilling supervisors how to properly supervise a drilling operation. This ten-day course covers drilling practices and problems from spud to completion for all levels from assistant driller to drilling manager. The course is taught by hole-intervals starting with top-hole problems related to big-hole and normal pressure. After an appropriate casing string has been set, drilling continues into the abnormal pressure zone and heavy mud practices and problems are discussed. Well control is introduced as one of the drilling problems and taught by hole-interval, with training enhanced by hands-on simulator practice. Associated problems such as lost circulation and stuck pipe are discussed along with well control. IWCF Level 4 and IADC WellSharp Supervisor Well Control certifications are offered through this course. Students must select which certification they desire when enrolling in the course. Individual student evaluation reports are written at the end of the session and these, along with the extensive workshops and exercises required, enable the instructor to assess the student's operational or technical strengths or weaknesses.

#### TOPICS:

- Pre-Spud Meeting & Considerations
- Drill String Design
- Drillout Considerations
- Leak Off and Formation Capability Tests
- Limitations to Control Capability
- Salt Water Flows
- Kill Sheets
- Simulator Training
- Methods of Well Control (Driller's Method, Wait & Weight, Volumetric & Lubrication, Modified Wait & Weight)
- General Mud Topics
- Shallow Gas and Kicks
- Diverting
- Surface Casing
- Top Hole Cleaning and Trends
- Hydraulics
- Well Control Problem Diagnosis and Solutions
- Mud Solids
- Lost Circulation
- Deviation and Stuck Pipe
- Difficult Well Control Situations
- Tripping Practices and Considerations
- H<sub>2</sub>S Safety
- Causes of Abnormal Pressure
- WC Red Flags & Transition Zone Indicators
- Managed Pressure Drilling
- Shale Problems
- Wellhead Installation
- Casing & Cementing
- Good Mud Practices
- Logging and Perforating
- BOP Equipment
- ECD Drilling
- UBO and Barite Plugs
- Overview of Optimization Procedures
- Bits
- Differential Sticking and Freeing Techniques
- Kick Off Plugs
- Drill Stem Test Considerations
- Gas Cap Drilling
- Liner Cementing
- Squeeze Cementing and Production Squeezing
- Completion Methods and Workover Fluids

#### METHODS:

Lecture, exercises, workshops, tests, simulator practice, PowerPoint slides and discussion.

## MDS 2018 Class Schedules

### ALBUQUERQUE TRAINING CENTER:

March 5-16

May 7-18

July 9-20

November 5-16

### HOUSTON TRAINING CENTER:

January 15-26

April 16-27

August 13-24

February 12-23

June 11-22

October 8-19

### COURSE FEES:

- \$5,100.00 for IADC WellSharp – Supervisor certification
- \$5,500.00 for IWCF – Level 4 certification
- \$200.00 additional fee for IADC WellSharp Workover & Completion certification

### DAILY SCHEDULE:

- Classes will begin at 7:00 A.M.
- Daily dismissal varies due to simulator schedules. Students are usually finished testing by noon on the final day.

### IWCF CANDIDATE NOTES:

- Candidates for IWCF Level 4 must have been previously certified at Level 3 or Level 4 (by either IWCF or IADC).
- IWCF candidates must register for an account on FORUM. Once registered and approved by the IWCF, a candidate ID number will be issued. IWCF candidates will need their candidate ID before registering for a well control course. IWCF candidates can register on FORUM at [www.IWCF.org](http://www.IWCF.org).
- The IWCF requires IWCF testing centers to order the IWCF tests ten days prior to the exam date. Therefore, MDS requires all course participants to enroll at least one week prior to the first day of the class. Participants must indicate at the time of enrollment the following information: Type of Certification (Surface or Combined Surface/Subsea), Units of Measurement (API, Metric), and Language for written test.
- All candidates must bring their passport and present to assessor and invigilator before tests are administered. (U.S. citizens born in the U.S. who do not have a passport may present their driver's license.)

### IADC CANDIDATE NOTES:

The IADC has an online WellSharp Practice Exam to help those trainees who have test anxiety and want to become more familiar with the process of taking an online WellSharp exam. Four exams are currently available: Driller-Surface Stack, Driller-Combination Stack, Supervisor-Surface Stack, and Supervisor-Combination Stack. For access to these exams, go to the website listed below.

<http://www.iadc.org/wellsharp/sample-wellsharp-exams/>

## MDS 2018 Class Schedules

### Practical Drilling Technology

#### OBJECTIVE:

The objective of this five-day drilling technology course is to equip drilling personnel with the technical tools needed to become effective supervisors. This is Part I of a two-course series in drilling technology. This course is suited for operator, contractor, and service company personnel who want more understanding about drilling operations.

#### TOPICS:

- Communication
- Hole Trends
- Problem Solving Model
- Bits
- Drill String Basics
- Tripping Practices
- Deviation & Stuck Pipe
- Circulation System
- Casing & Cementing
- Abnormal Pressure
- Mud & Mud Solids
- Drillout Considerations
- Leak-Off Tests
- Formation Integrity Tests
- Well Control Red Flags
- Shallow Gas Kicks
- Diverting
- BOP Equipment Considerations
- Salt Water Flows and Kick Identification
- Well Control (Driller's Method and Wait & Weight)
- Kill Sheets
- Lost Circulation in Vugular Formations
- H<sub>2</sub>S Safety
- Workover and Completions

#### METHODS:

Lecture, exercises, workshops, tests, PowerPoint slides and discussion.

#### ALBUQUERQUE TRAINING CENTER:

Feb 12-16                      Jun 11-15                      Sep 10-14

#### HOUSTON TRAINING CENTER:

Jan 29-Feb 2                      Apr 2-6                      Jul 9-13                      Nov 5-9

#### PERMIAN TRAINING CENTER:

Mar 12-16                      Nov 12-16

#### COURSE FEES:

- \$2,800.00

#### DAILY SCHEDULE:

- Classes will begin at 7:00 A.M.
- Students will be dismissed by noon on the final day.

## Advanced Drilling Technology

### OBJECTIVE:

This five-day course is the sequel to the PDT. Participants are recommended to complete the PDT and a well control course prior to enrolling in the ADT. This is a supervisor level course that is suited for experienced operator, contractor, and service company personnel.

### TOPICS:

- Pre-Spud Meeting
- Communication
- Hole Trends
- Problem Solving Model
- Drill String Design
- Casing & Cementing
- Drillout Considerations
- Leak-Off Tests & Formation Integrity Tests
- Tripping
- Limitations to Control Capability
- Salt Water Flows & Kick Identification
- Methods of Well Control (Driller's Method, Wait & Weight, Volumetric & Lubrication, Modified Wait & Weight)
- Underground Blowouts
- Lost Circulation From Propagation Losses
- Deviation and Stuck Pipe
- Freeing Techniques
- Kick-Off Plugs
- Advanced Mud
- Advanced Mud Solids
- Hydraulics
- Top Hole Cleaning
- Shallow Gas and Diverting
- Causes of Abnormal Pressure
- WC Red Flags and Transition Zone Indicators
- Logging and Perforating
- High Press/High Temp Considerations
- Shales
- BOP Equipment Considerations
- Subsea Equipment Considerations
- Gas Cap Drilling
- Squeezing for Holes in Shoes & Top of Liners
- Liner Cementing
- Production Squeezes

### METHODS:

Lecture, exercises, workshops, tests, PowerPoint slides and discussion.

### ALBUQUERQUE TRAINING CENTER:

Apr 9-13                      Aug 20-24                      Oct 15-19

### HOUSTON TRAINING CENTER:

Mar 5-9                      May 7-11                      Sep 10-14                      Nov 26-30

### COURSE FEES:

- \$2,800.00

### DAILY SCHEDULE:

- Classes will begin at 7:00 A.M.
- Students will be dismissed by noon on the final day.

## **Stuck Pipe and Fishing**

### **OBJECTIVE:**

The objectives of this three-day course are to present methods of preventing and freeing stuck pipe, and also to present the philosophy and methodology of fishing. A review of common fishing tools and their uses will also be presented. The course is designed for supervisors with knowledge of normal drilling operations.

### **METHODS:**

Lecture, exercises, workshops, tests, simulator, PowerPoint slides and discussion.

### **HOUSTON TRAINING CENTER:**

Jan 30 - February 1  
Mar 20-22

May 29-31  
Jul 31 - Aug 2

Sep 25-27  
Dec 11-13

### **COURSE FEES:**

- \$1,800.00

### **DAILY SCHEDULE:**

- Classes will begin at 7:00 A.M.
- Students will be dismissed by noon on the final day.

## **Managed Pressure Drilling 101 (taught by Altus Well Experts)**

### **OBJECTIVE:**

This comprehensive course is a three-day, close-up study of managed pressure drilling including basic concepts of the pressure window in addition to more in-depth exposure to operational processes and equipment. This is an operational course that includes some in-class problem solving and hand calculations. This course is intended to be both an in-depth introduction for managers as well as a primer for those who will be directly involved in managed pressure drilling operations prior to rig-specific training, or for engineers who wish to become involved in planning and job design.

### **HOUSTON TRAINING CENTER:**

Apr 17-19

Oct 16-18

### **COURSE FEES:**

- \$1,800.00

### **DAILY SCHEDULE:**

- Classes will begin at 8:00 A.M.

## **Advanced Casing Design (taught by Altus Well Experts)**

### **OBJECTIVE:**

This advanced Casing Design course is a three-day tubular fundamentals course including basic concepts of axial, burst, and collapse in addition to more advanced theory on biaxial, triaxial, and thermal loads including Annular Pressure Build-up (APB) and wellhead movement. This is a theory course and includes hand calculations and exercises. Participants are recommended to complete this course prior to taking a StressCheck or WellCat course. This course is ideal for drilling engineers and engineers requiring tubular theory fundamentals.

### **HOUSTON TRAINING CENTER:**

Feb 26-28

Sep 17-19

### **COURSE FEES:**

- \$1,800.00

### **DAILY SCHEDULE:**

- Classes will begin at 8:00 A.M.

## Well Control - Driller Level 3

### OBJECTIVE:

The objective of this five-day course is to teach well control competency to drillers and others requiring a Level 3 Driller certification. A secondary objective is to prepare participants for the IWCF well control exams. Certification is given for Surface or Combined Surface and Subsea. BOP equipment, kick detection, shut-in procedures, kill sheets, and methods of well control are taught. The simulator work in the course focuses on detecting kicks, and closing in the well, and handling an assortment of simulated problems.

### TOPICS:

- |                            |                                     |                                     |  |
|----------------------------|-------------------------------------|-------------------------------------|--|
| - U-Tube                   | - Limitations to Control Capability | - Causes of Abnormal Pressure       | - BOPE & Accumulator Considerations          |
| - Shoe Pressure Case Study | - Salt Water Flows                  | - Transition Zone Indicators        | - Subsea Well Control Considerations         |
| - API Rules                | - Mud Considerations                | - Well Control Problems & Solutions | - Tripping Practices Related to Well Control |
| - Kill Sheets              | - Well Control Drills               |                                     |  |
| - Simulator Workshops      | - Shallow Gas                       |                                     |  |
| - Well Control Principles  | - Diverting                         |                                     |  |

### METHODS:

Lecture, exercises, workshops, tests, PowerPoint slides and discussion.

### HOUSTON TRAINING CENTER:

<u>IWCF</u>			
Jan 15-19	Apr 16-20	Jul 30 - Aug 3	Nov 5-9
Feb 5-9	May 7-11	Aug 27-31	Dec 3-7
Feb 26 - March 2	Jun 4-8	Sep 17-21	
Mar 19-23	Jul 9-13	Oct 15-19	

### COURSE FEES:

- 5-Day IWCF Surface/Subsea: \$2,250.00

### DAILY SCHEDULE:

- Classes will begin at 7:00 A.M.
- Daily dismissal varies due to simulator schedules. Students are usually finished testing by noon on the final day.

### IWCF CANDIDATE NOTES:

- Candidates for IWCF Level 3 must have been previously certified at Level 2 or Level 3 (by either IWCF or IADC).
- IWCF candidates must register for an account on FORUM. Once registered and approved by the IWCF, a candidate ID number will be issued. IWCF candidates will need their candidate ID before registering for a well control course. IWCF candidates can register on FORUM at [www.IWCF.org](http://www.IWCF.org).
- The IWCF requires IWCF testing centers to order the IWCF tests ten days prior to the exam date. Therefore, MDS requires all course participants to enroll at least one week prior to the first day of the class. Participants must indicate at the time of enrollment the following information: Type of Certification (Surface or Combined Surface/Subsea), Units of Measurement (API, Metric), and Language for written test.
- All candidates must bring their passport and present to assessor and invigilator before tests are administered. (U.S. citizens born in the U.S. who do not have a passport may present their driver's license.)

## Well Control - Supervisor Level 4

### OBJECTIVE:

The objective of this course is to teach well control competency to drilling personnel. A secondary objective is to prepare participants for either the IWCF or IADC WellSharp well control certification exams. Certification can be taken for Surface or Combined Surface and Subsea. BOP equipment, drilling fluids, barrier management, kick detection, shut-in procedures, kill sheets, various methods of well control, and organizing a well control operation are all taught in this course. A thorough understanding of how well control problems develop, how they should be solved, and how to prevent them are discussed. There is an extensive amount of simulator work in the course with an assortment of simulated problems.

### TOPICS:

- |                            |                                     |                               |                                     |
|----------------------------|-------------------------------------|-------------------------------|-------------------------------------|
| - U-Tube                   | - Limitations to Control Capability | - Causes of Abnormal Pressure | - BOPE & Accumulator Considerations |
| - Shoe Pressure Case Study | - Salt Water Flows                  | - Transition Zone Indicators  | - Subsea WC Considerations          |
| - API Rules                | - Mud Considerations                | - WC Problems & Solutions     | - Tripping Practices Related to WC  |
| - Kill Sheets              | - WC Drills                         |                               |                                     |
| - Simulator Workshops      | - Shallow Gas                       |                               |                                     |
| - WC Principles            | - Diverting                         |                               |                                     |

### METHODS:

Lecture, exercises, workshops, tests, PowerPoint slides and discussion.

### HOUSTON TRAINING CENTER:

<u>IADC WellSharp</u>			
Jan 8-11	Apr 2-5	Jun 25-28	Sep 24-27
Jan 15-18	Apr 9-12	Jul 9-12	Oct 1-4
Jan 22-25	Apr 16-20	Jul 16-19	Oct 8-11
Jan 29 - Feb 1	Apr 23-26	Jul 23-26	Oct 15-18
Feb 5-8	Apr 30 - May 3	Jul 30 - Aug 2	Oct 22-25
Feb 12-15	May 7-10	Aug 6-9	Oct 29 - Nov 1
Feb 19-22	May 14-17	Aug 13-16	Nov 5-8
Feb 26 - Mar 1	May 21-24	Aug 20-23	Nov 12-15
Mar 5-8	May 29 - June 1	Aug 27-30	Nov 26-29
Mar 12-15	Jun 4-7	Sep 4-7	Dec 3-6
Mar 19-22	Jun 11-14	Sep 10-13	Dec 10-13
Mar 26-29	Jun 18-21	Sep 17-20	Dec 17-20

<u>IWCF</u>			
Jan 15-19	Apr 16-20	Jul 30-Aug 3	Nov 5-9
Feb 5-9	May 7-11	Aug 27-31	Dec 3-7
Feb 26-March 2	Jun 4-8	Sep 17-21	
Mar 19-23	Jul 9-13	Oct 15-19	

### COLORADO/WYOMING/NORTH DAKOTA TRAINING CENTER:

<u>IADC WellSharp</u>			
Jan 22-25 WY	Apr 9-12 CO	May 21-24 CO	Sep 24-27 CO
Jan 29-Feb 1 CO	Apr 23-26 CO	Jun 25-28 CO	Oct 15-19 CO
Feb 19-22 CO	Apr 30-May 3 CO	Jul 23-26 CO	Dec 3-6 CO
Mar 12-15 CO	May 14-18 WY	Aug 6-9 CO	



## PERMIAN TRAINING CENTER:

<b><u>IADC WellSharp</u></b>			
Jan 8-11	Apr 25-28	Jul 16-19	Oct 1-4
Jan 29-Feb 1	Apr 30-May 3	Jul 23-26	Oct 10-13
Feb 12-15	May 9-12	Jul 30-Aug 2	Oct 15-18
Feb 21-24	May 14-17	Aug 8-11	Oct 22-25
Feb 26 - Mar 1	May 21-24	Aug 13-16	Oct 29-Nov 1
Mar 7-10	May 30-Jun 2	Aug 20-23	Nov 5-8
Mar 19-22	Jun 4-7	Aug 27-30	Nov 28-Dec 1
Mar 28-31	Jun 13-16	Sep 5-8	Dec 3-6
Apr 2-5	Jun 18-21	Sep 10-13	Dec 10-13
Apr 11-14	Jun 27-30	Sep 17-20	Dec 17-20
Apr 16-19	Jul 9-12	Sep 24-27	

## COURSE FEES:

- 4-Day IADC WellSharp - Surface: \$1,350.00
- 4-Day IADC WellSharp - Surface/Subsea: \$1,400.00
- Workover and completion: \$300.00. WOC will be taught on Friday after the 4-day well control course.
- 5-Day IWCF Surface/Subsea: \$2,250.00
- Add IADC certification to 5-Day IWCF course: \$250.00

## DAILY SCHEDULE:

- Classes will begin at 7:00 A.M.
- For the 4-day well control course, students are finished testing by 4:00 P.M.
- For the 5-day well control course, students are usually finished testing by noon.

## IWCF CANDIDATE NOTES:

- Candidates for IWCF Level 4 must have been previously certified at Level 3 or Level 4 (by either IWCF or IADC).
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## IADC CANDIDATE NOTES:

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<http://www.iadc.org/wellsharp/sample-wellsharp-exams/>

## **Enrollment/General Information for All Classes**

### **Contact/Enrollment Information**

Training Coordinators (for enrollments):  
Veronica Allison and Claudia Lemons  
Phone: (281) 494-0371  
email: [htcadmin@murchisondrillingschools.com](mailto:htcadmin@murchisondrillingschools.com)

General Information Contact  
email: [info@murchisondrillingschools.com](mailto:info@murchisondrillingschools.com)

### **In-House Contact Information**

All in-house classes are coordinated through  
Bill Murchison.  
Office: (505) 293-6271  
email: [billjr@murchisondrillingschools.com](mailto:billjr@murchisondrillingschools.com).  
Website: [www.murchisondrillingschools.com](http://www.murchisondrillingschools.com)

### **CANCELLATIONS:**

We request that all cancellations be received at least one week before the class start date. You may reschedule this class without any penalty. However, a \$250 fee will be charged for cancellations received less than one week before a class begins and for no-shows. Cancellation penalties and any fees incurred by Murchison Drilling Schools will be deducted from refunds.

### **TRANSPORTATION:**

- Students will be responsible for their own transportation.
- The hotel does provide shuttle service to and from our training centers.

### **HOTEL ACCOMMODATIONS**

- Hotel accommodations are provided for MDS students at a special rate at a preferred hotel nearby.
- Students are responsible for making hotel reservations.
- Companies wanting to set up direct billing with the preferred hotel will need to fill out a direct billing application.