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## IADC Rotary Drilling Well Control for Drillers and Supervisors

Delivery Method	:	Classroom and Field Training (English)
Fee	:	Available on request
Location	:	PetroTalent, INDIA
Duration	:	5 days

### Course Information

#### Overview

The objective of this five-day course is to teach well control for all levels from assistant driller to drilling manager and to prepare them for the IADC test. A thorough understanding of how well control problems develop, how they should be solved, and how to prevent them are discussed. 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. Certification is given for Surface Stack.

#### Training Outline

##### **Written Test Syllabus**

##### **Day - 1**

##### Session - I

- Kick
- Blowout
- Primary well control
- Secondary well control
- Tertiary control
- Pressures –
  - Hydrostatic
  - Bottom hole

- Formation
- Effect of hyd. Pressure with different density fluids in the hole

#### Session - II

- Leak off test
- Maximum allowable annular surface pressure
- Kick tolerance
- Top hole drilling
- Major hazards of shallow gas influx
- Shallow gas control procedures

#### Session - III

- Gas Cutting
- Swab and surge effects
- Trip margin
- Slow circulation rate
  - § When to record
  - § Approximate Calculations
- Causes of kicks
  - Indications
    - § While tripping
    - § While drilling

#### Session - IV

- Positive kick signs
- Shut in procedures
  - Hard shut in
  - Soft shut in
- Shut in pressure interpretation
- Shut in drill pipe pressure
- Shut in casing pressure
- Bringing the pump to kill speed
- Type of influx

### **Day - 2**

#### Session – I

- Gas influx behavior
- Open well migration
- Closed-in conditions migration
- Closed-in conditions circulating
- Well killing method
- Driller's method
- Preparation of kill sheet
- Kill rate

- Initial & final circulating pressures
- The rig floor procedure
- Pressure profile of surface pressure in annulus
- Action in case of excessive pressure
- Merits and demerits over other methods
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#### Session - II

- Wait and weight method
- Preparation of kill sheet
- Kill rate
- Initial & final circulating pressure
- The rig floor procedure
- Pressure profile of surface pressure in annulus
- Action in case of excessive pressure
- Merits and demerits over other methods
- Volumetric method
- Lubrication or top kill
- Stripping and snubbing operations
- Recommended stripping guidelines
- Stripping using annular Preventer
- Stripping using ram Preventer

#### Session - III

- Unusual situations in well control
- Plugged or washed bit nozzles
- Partial plugging
- Total plugging
- Washed out bit nozzles
- Pump failure
- Plugged chokes
- Washed chokes
- String washout

#### Session - IV

- Lost circulation
- Partial loss
- Total loss
- Control operations
- With heavy mud
- With barite plug
- With gunk plug
- BOPs :
- Annular
- Ram type
- BOP stack arrangements
- Advantages and disadvantages of various arrangements

- Criteria for selection of appropriate arrangement
- Choke line manifold
- Kill line manifold

### **Day - 3**

#### Session - I

- Special equipment
- Inside BOP
- FOSV
- Bit Float
- Fast shut off coupling
- Drop in check valve
- Function testing of blow out preventers
- Pressure testing of blow out preventers
- Closing and opening ratios

#### Session - II

- Pressure test procedure for choke and kill manifold
- BOP drills
- Why to be conducted?
- How to be conducted?
- Responsibility assignment to drilling crew during well control operation and BOP drill
- Variable ram
- Session - III
- Rotating head
- Cup tester
- Test Plug
- PVT
- Flow sensor
- Mud gas separator

#### Session - IV

- Pressure test procedure for choke and kill
- Ring joint gaskets
- Flanges
- Experience sharing on few typical well kicks converted into blowouts
- Interaction with the participants on few cases of well kicks / blowouts encountered by participants

### **Day - 4**

- Practical Training and Test on (IADC Compliant)
- Drilling work over Simulator Model DS-20-SP
- Acclimatization on Simulator
- Practical instruction on simulator
- Test of about 2 hours for each batch of two

**Day - 5**

Theory Papers (IADC)

Part -I

- Equipment
- 1 hour for Drillers
- 1 hour for Supervisors

Part -II

- Principles and Procedure
- 1 ½ hour for Drillers
- 2 ½ hour for Supervisors

**Certification**

Successful candidates in the written test programme will receive an IADC Drillers/Supervisory certificate with a validity period of two years.

Training Venue

PetroTalent. , INDIA

Accommodation:

PetroTalent is equipped with excellent guest house facility for outstation candidates in Pune only at very reasonable rate. For more details contact [sharad.petrotalent@gmail.com](mailto:sharad.petrotalent@gmail.com).

Batch : Available on Request

Fees : Available on Request.