



Angola Mud School

Drilling Fluid Center



IADC
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About Drilling Fluid Center (DF.CENTER)

Drilling fluid Center is a dedicated company on professional training in drilling fluid and cementing engineering.

The appearance of Drilling fluid center comes to respond the needs of market on training quality and continuous learning development for professionals on drilling activity.

DF.CENTER brings together a range of engineers from different oil & gas company with best and higher experiences, local and international experiences on drilling and completion fluid, and Cementing engineering.

With decentralized strategy DF.CENTER continues investing on its human resources, cooperating with higher local universities such as ISPEC (Polytechnic Higher Institute of Technology and Sciences), UCAN (Catholic University of Angola) and partnerships with international accredited companies such as IADC (International Accredited Drilling contractors) represented in Angola by WWS (World Wide service).



ABOUT US



Vision

Improving the training offered to the Oil & Gas professionals, allowing them to be prepared to face challenges on drilling and completion operation anywhere in the world.



Our mission

Our mission is not simply to train professionals in the field of engineering, but it is also our responsibility to transmit values and life general knowledge so that they take it to their respective organizations and experiences.



Our values

Quality-Excellency-Innovation-Commitment-Inclusion and unity

We are a team of professionals with participation of all society members, united by the common objective of successfully delivering to our customers and looking with satisfaction for outstanding work that responds the companies needs and the professionals providing training solutions that add value to the company's workforce

We follow the highest ethical and technological standards, demonstrating honesty and fairness in every action we take.





DRILLING FLUID CENTER COURSE PACKAGES

With best and higher international and local experiences of DF.CENTER engineer team, the following courses are offered with best practice and service.

- Basic Drilling Fluid Course
- Drilling Fluid Course
- Basic Cementing Course
- Solid Control And Waste Management
- Filtration Operation Course



Course Length: 1 Week (from monday to saturday)

Who Should Attend: Lab technicians, drilling and completion engineer, drilling crew and all engineers working in oil and gas fields.

Description

This course is dedicated for non fluid specialists.

Who Should Attend:

Dedicated to Non fluid specialists such as Lab technicians, drilling and completion engineer, drilling crew and all engineers working in oil and gas fields.

Course Overview

This course is to ensure the competency & professionalism of individuals working in the drilling Fluids Industry. Will also be able to mention the functions of drilling Fluids as well as the Fluids properties and performing the recommended API drilling Fluids tests. Perform Hole Volumes Calculations. Information about Drilling Fluids composition, WBM and OBM fluid chemistry, Clay & Polymer Chemistry, Material Balance, Solids analysis and common drilling Fluid contaminants, effects & treatment will be covered during Lab session.

Course Content:

1. Introduction to Drilling Fluids:

- Introduction to drilling fluids universe;
- Drilling fluids composition, Chemical additives, function and description;
- Mud circulation system and solids control;
- Engineering calculation;

2. Fluid properties and Testing:

- Physicals properties of drilling fluids;
- Chemicals properties of drilling fluids;
- Solids analyses calculation;
- Lab section.

3. Material Balance and Mix Fluid

- Weight Up and Cut down of MW
- Adjusting OWR;
- Engineering calculation;
- Lab section.

4. Contamination and Treatment of Drilling fluid:

- Clay and Polymers Chemistry;
- OBM and WBM Contamination;
- OBM and WBM treatment;
- Lab section.

5. Reservoir and Completion Fluid:

- Reservoir Mud
- Completion Fluids
- Displacement
- Lab Section

Course length: 8 weeks and can be done in 8 full weeks or in break down mode(modules)

Description

This course is dedicated for fluid specialists.

Who Should Attend:

Lab technicians, fluid supervisor, drilling crew and all engineers working in oil and gas fields.

Course Overview

This course is to ensure the competency & professionalism of individuals working in the drilling Fluids Industry. Attendee will be able to identify Rotary drilling operations & describe the components of a rotary drilling circulating system. Also will List the functions of drilling Fluids as well as Drilling Fluids properties & testing, perform the recommended API drilling Fluids tests and fill the Mud Report Form. Perform Hole Volumes Calculations. Information about Drilling Fluids composition, Water and base fluid chemistry, Clay & Polymer Chemistry, Material Balance, Solids analysis and common drilling Fluid contaminants, effects & treatment will be covered during the Course. Non- aqueous Drilling Fluids Basics, Formulations & testing.

Course Content:

1. Introduction to Drilling Fluids:

- Fundamentals of drilling engineering;
- Drilling Rig Systems;
- Introduction to drilling fluids universe;
- Drilling fluids composition, Chemical additives, function and description;
- Safety Data Sheets (SDS or MSDS);
- Mud circulation system;

2. Drilling Fluid System and Testing:

- Chemicals and physicals properties of drilling fluids;
- Water based mud system and Testing;
- Oil based mud system and Testing;
- Pneumatic Systems
- Lab section:

3. Wellbore geometry:

- Oil field and metric conversion factor;
- Fundamentals well design and General wellbore calculation;
- Drilling Hydraulics;

4. Basic Chemistry

- Common chemicals reaction in mud chemistry;
- Clay Chemistry;
- Polymers and function;
- Engineering calculation;
- Lab section.

5. Mass Balance:

- Drilling fluid density control (WU and Cut down);
- OWR and WOR calculations;
- Maximum dilution required/build up mud
- Engineering calculation
- Lab section

6. Drilling challenge:

- Loss circulation, Stuck pipe, kick, surge and wab, Torque and drag;
- Problem solving;
- Engineering calculation;
- Lab section

7. Solids control equipment, Reservoir Drill-in Fluids and Completion Fluids:

- Solids control and equipment's;
- Environment and Waste Management;
- Reservoir Drill-in Fluids and Completion Fluids;
- Displacement operation;
- Lab Section;

8. Final lab Project:

- Contamination and treatment;
- Cost of drilling fluid operation;
- Drilling Mud Report;
- Project evaluation.

Course Length: 1 Week (from monday to saturday)

Who should attend: Lab personnel, Technical staff and drilling engineers

Course Overview:

This course is for students already familiar with the basic concepts of well cementing and treatment design. The course provides specific engineering design considerations for a broad range of cementing, applications including; long term zonal isolation, deep water cementing, extreme high temperature high pressure cementing, permafrost cementing and gas well cementing. Specialized slurry designs for additional applications will also be covered. Instructors encourage an open and enjoyable atmosphere in which to share examples and ideas for improved cementing operations. The course is designed to augment the student's knowledge base in the increasingly broad discipline of well cementing.

Course Content:

- **Basic cements**
- **Cementing Chemistry and Additives**
- **Casing Design and Cement Equipment.**
- **Blending and Mixing equipment**
- **The Ways to Help Ensure a Successful Cement Job.**
- **Cementing Laboratory Testing.**
- **Cementing calculations**
- **Primary cementing and equipment**
- **Secondary cementing and equipment**
- **Cement job design and execution**
- **Rig site cement job practical**



Course Length: 1 Week (from monday to saturday)

Who should attend: Rig personnel, mud engineers, Fluid supervisors, service technicians, and any other rig personnel with a minimum of knowledge about solids control.

Course Overview:

Drilled solids in a drilling fluid can, and usually do, cause many problems while drilling wells. Drilling fluids containing excessive drilled solids increase trouble costs or Visible Non-Productive Time [NPT]. These costs are usually easily visible because the drilling rig can no longer drill. Drilling performance can be impacted by drilled solids and, frequently, be unnoticed. This higher drilling cost penalty is frequently accepted as 'normal'. Drilling performance is significantly affected by excessive drilled solids in the drilling fluid and might be considered an Invisible NPT. The Invisible NPT cost can be significantly larger than the Visible NPT.

Drilled solids can be extremely detrimental to drilling rig operations if not properly managed. Solids Control equipment is the most cost effective way to remove drilled solids. This course guides learners through an entire fluid system and the implications related to drilled solids. Emphasis is placed on optimizing equipment that removes sequentially finer drill solids. Overall, this is an introductory course to enhance an individual's knowledge of solids control operations.

Course Content:

1. Introduction to solids control:

- History of Oilwell Drilling;
- Drilled Solids;
- Rheology;
- Drilling Fluids.

2. Operation with solids control equipment Part 1:

- Primer & Flo-Divider;
- Shale Shaker Overview;
- Screen Technology;
- Competitive Shale Shakers.

3. Operation with solids control equipment Part 2:

- Pumps;
- Degasser
- Hydrocyclones;
- Mud agitators.

4. Engineering calculations:

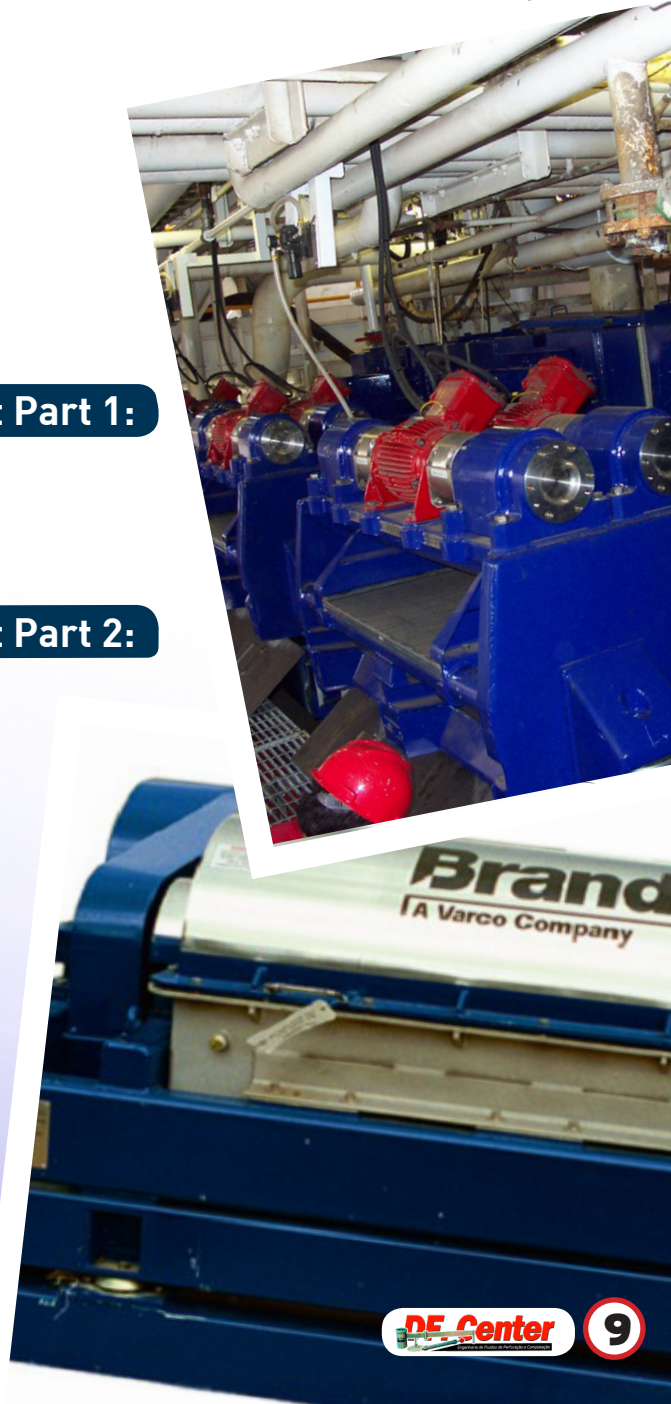
- Solids Removal System Design;
- Drilled Solids Calculations;
- Retort Analysis.

5. General information about reports:

- Retort analysis reports;
- Solids Control Review.

6. Environment and Waste Management;

- Cutting Skips and Disposal;
- Slop and Residual Water.



Course Length: 1 Week (from monday to saturday)

Who should attend: Who should attend: Rig personnel, mud engineers, Lab technicians, and any other rig personnel with a minimum of knowledge about filtration control.

Course Overview:

The filtration of the completion fluids must be carried out for effective completion of a well bore which maximize the production of oil and gas.

Therefore, it's important the operator to understanding the whole filtration process, types of filtration units, chemicals handle operation and trouble shooting.

Course Content:

1. Theoretical aspects:

- Fluid circulating system
- Introduction to completion fluid
- Filtration of Completion Fluids
- Placement of Completion Fluids/Applications and purpose of brines
- Diatomaceous Earth usage for Filtration
- DE safe Handling



2. Technical aspects

- Filter Press Technology
- Filter Press Operation
- Vertical Pressure Leaf Filters (VPL) Operation
- Vertical Pressure Leaf vs Filter Press
- Typical VPL/DE and Dual Vessel Filter Installation
- Dual Vessel Cartridge Filtration System
- Dual Filter Press DE and Slurry mix tank
- 4x4 Diesel Pumps

DRILLING FLUID CENTER

The blood  of the well

Angola mud school

Message from Director

Congratulations on taking the first step towards obtaining your goals and future success!

Our goal is to serve our local community by providing high quality technical education, resulting in a skilled workforce and a rewarding career.

All programs are aligned with state and industry standards upon successful completion to offer the opportunity to earn a recognized industry credential or license. Our instructors are experts in Oil & Gas industry, and

they bring to the classroom years of experience and network with local and international companies in the Oil field. The instructors work hard to ensure students are equipped with the knowledge, skills, and work habits that lead to success.

In addition, we offer internship programs, accredited mud lab test and Workforce and we do all necessary to help all students to reach their full potential. Thank you for choosing Drilling Fluid Center, we look forward to meeting you.

PARTNERS





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