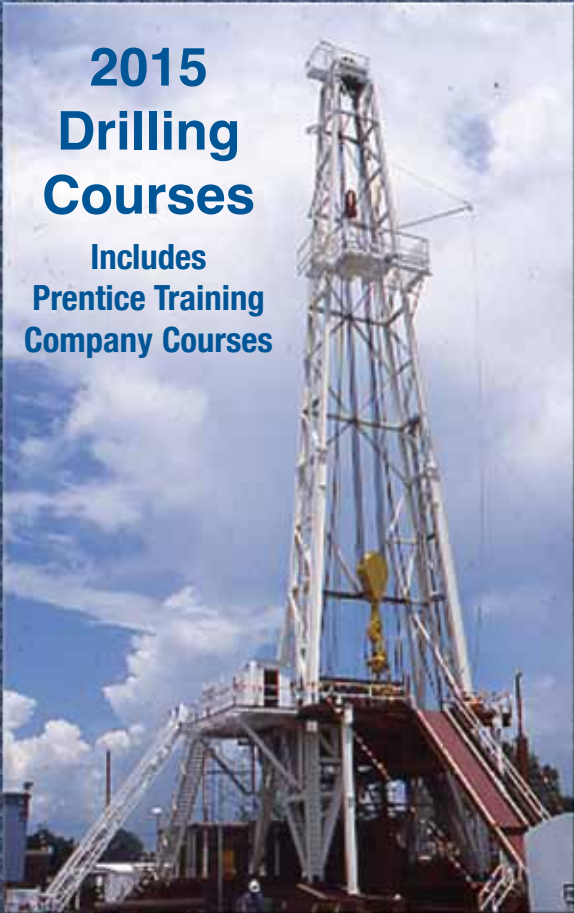


# NORTHSTAR TRAINING

## 2015 Drilling Courses

Includes  
Prentice Training  
Company Courses



Taught By: Calvin Barnhill



The background of the document is a faded, light-colored image of an oil drilling rig. The rig is a complex structure of metal towers and ladders, with a tall derrick in the center. The image is semi-transparent, allowing the text to be clearly visible over it.

## FAREWELL

2013 has drawn to a close and with it my professional teaching career has ended. I have thoroughly enjoyed almost 40 years in the classroom, during which I have worked with great people, travelled to interesting places and presumably taught good drilling practices along the way. Retirement, with no set schedule, is very appealing and I am looking forward to it.

The drilling courses I have created and taught will continue with the perfect successor. Mr. Calvin C. Barnhill BS, MS, PE, a man of integrity, energy and vision will take over effective January 1, 2014. Calvin is extremely knowledgeable in all areas of drilling operations. The courses will be taught under Northstar Training as "Prentice Training Company Courses". Calvin is an experienced instructor and has the ability to relate to students at all levels of experience.

The transition will be seamless and the integrity of all the courses will be maintained. I have complete confidence the courses will remain sources of pride for me. Please visit [www.northstartraininginc.com](http://www.northstartraininginc.com) to see the 2015 schedule.

Thank you for the friendship and support you have afforded me over the years.

Best Regards,  
*Charlie Prentice*  
*Prentice Training Company*

## NORTHSTAR TRAINING

**Northstar Training** is very excited to be able to continue to teach the “Prentice Training Company Courses”. I have known Charlie Prentice for the past 35 years, having taught and worked with Charlie on multiple projects during that time. My goal is to offer the same quality courses created and taught by Charlie and to continue Charlie’s goal of offering the best training in the drilling industry.

I hold both undergraduate and graduate degrees in Petroleum Engineering from Louisiana State University (LSU) and am a member of the Petroleum Engineering Honor Society. After graduating from LSU, I became licensed as a registered professional petroleum engineer and have maintained my license in full force and effect since that time.

My work career spans over 40 years in the oil and gas industry. Over my career, I have worked on a wide variety of drilling, production and reservoir projects both domestically and internationally for a wide assortment of companies. These companies include major and independent oil companies, drilling contractors and service companies. I have worked on both onshore and offshore projects worldwide. The offshore projects have ranged in water depths from shallow bay work to deepwater projects in water depths approaching 9,000 feet. Well projects have ranged in depth from 500 feet to 32,000 feet and have included HTHP environments, acid gas environments and ERD/horizontal projects. Further, I have been heavily involved in well control projects throughout my career, having worked on multiple well control projects, surface blowout projects and subsurface blowout projects worldwide.

Training has also been an integral part of my career as I have taught well control and various other drilling courses worldwide. I have taught for LSU, the University of Texas through its PETEX division, the University of Louisiana at Lafayette and various industry training services to include the original Prentice and Records Enterprises, Inc., which was a forerunner of Prentice Training Company. While with Prentice and Records, I was part of the first federally certified well control school and was one of the first certified well control instructors recognized by the US federal government. I was also actively involved with many of the other drilling courses offered by Prentice and Records.

*Calvin Barnhill*

# 2015 TRAINING SCHEDULE

## LAFAYETTE, LOUISIANA

### Advanced Casing Design

February 9 - 13, 2015

September 28 - October 2, 2015

### Advanced Well Control

April 13 - 17, 2015

October 12 - 16, 2015

### Drilling Practices

October 19 - 23, 2015

### Drilling Practices/Supervision

February 2 - 6, 2015

### Primary and Remedial Cementing

In-House School Only

### Stuck Pipe Prevention

In-House School Only

### Well Completion

March 16 - 20, 2015

September 28 - October 2, 2015

### Well Planning I

March 2 - 6, 2015

September 14 - 18, 2015

### Well Planning II

March 9 - 13, 2015

September 21 - 25, 2015

## ABERDEEN, SCOTLAND

### Well Planning I

May 11 - 15, 2015

### Well Planning II

May 18 - 22, 2015

## **PRENTICE TRAINING COMPANY'S ADVANCED CASING DESIGN**

This short course is one of our most popular courses. It provides explanations and examples of all the aspects of oilfield tubular design. Both uniform and non-uniform loading is covered. Combination loading considerations are envisioned and design procedures are outlined and practiced. Design of tubulars for use in a corrosive environment is new addition.

### **What You Will Learn**

- The basis for the published API tubular strengths.
- How to design drive pipe to sustain a compressive load.
- How to design conductor, intermediate, drilling liners, and production casing strings for burst, collapse and tension.
- How to select connections.
- How to take biaxial and triaxial loading into account.
- How to design for bending, point loading, ballooning, and buckling.
- How to take wear into consideration.
- How temperature reduces yields strength.
- Recommended sequence for combination considerations.
- A complete integrated procedure for designing oilfield tubulars.

### **What Will You Take Away**

- Complete knowledge of tubular design.
- Confidence that a casing string you design will stand up to practical applications.
- Both a manual with notes and briefcase size casing operations book for reference.
- Design considerations and applications for H<sub>2</sub>S, CO<sub>2</sub>, and high CI individual and combine corrosion environment
- Software to make all pertinent tubular related calculations and to aid total design.

### **Who Should Attend**

Engineers and engineering aids involved in tubular design, as well as practical supervisors who want to understand the basis for the design of the tubulars being run in their wells.

**Lafayette, Louisiana**

**February 9 - 13, 2015  
September 28 - October 2, 2015**

**\$ 3,500.00 USD**

## **PRENTICE TRAINING COMPANY'S ADVANCED WELL CONTROL**

This Advanced Well Control School offers the student a higher level of well control training as compared to what is offered in conventional well control schools. Northstar Training recommends that students extend and enhance their well control training by attending the Advanced Well Control School in the intervening year between the years attending a standard well control school for a well control card.

The Advanced Well Control School's curriculum is based on a combination of advanced well control concepts and actual real life well control situations. This adaptive approach does not lend itself to the standardized cookie cutter conventional well control school approach.

To maintain control of the Advanced Well Control course curriculum and to be able to adapt that curriculum to cover multiple real world well control situations, Northstar Training (as did its predecessor Prentice Training Company) has made the conscientious decision not to offer this course under the guise of a standard well control school that has a fixed and regulated curriculum.

While the student will receive advanced well control training and have the benefit of actual real world experience from an instructor who has been involved with many of the highest profile well control incidents, the purpose of the school is not to issue a well control card. The purpose is to advance well control knowledge and understanding.

Calvin Barnhill, the instructor, has been involved with many actual well control incidents worldwide. These incidents include well kicks, well pressure situations, surface blowouts, underground blowouts and surface explosions. They involve land based and offshore operations including shallow water, deep water and ultra deep water situations.

The best known incident is the Deep Water Horizon – Macondo Well blowout. However, this is only one of many different well control situations that Mr. Barnhill has worked and can present in the Advanced Well Control School.

Furthermore, Mr. Barnhill has full access to the extensive well control information and data base of Prentice Training Company, which also has information and data from Drilling Well Control. This company was involved with the control of thousands of wells and with the well control planning for many more wells.

The combination of real world experience coupled with actual information and data and advanced well control concepts makes this Advanced Well Control School a powerful addition to the well control training for any student serious about well control.

This short course picks up where basic well control stops. Topics such as volumetric well control (monitored, non-monitored, lubrication and bleeding), deep water well control (bubble chopping - riser kills), underground blowouts (dynamic and “sandwich” kills), gas solubility in oil muds, hydrates, and many other special considerations are identified and explained. Horizontal well control including gain rate and special considerations is covered. Slim Hole well control is discussed. A practical knowledge for safe application of these “trouble well control” concepts is transmitted.

### **What You Will Learn**

- How to minimize surface pressures and downhole equivalent mud weights.
- How to kill an underground blowout.
- How to minimize hydrate problems in deepwater well control.
- How to maximize your chances of killing any kick.
- How to minimize any kicks chances of killing you.
- How to use a horner plot to determine accurate kill mud density in tight kicks.
- How to choose a safe kill rate considering all five (5) controlling factors.
- Why the “Soft Shut In” is dangerously foolish.
- Why the “Drillers Method” is never better than the Wait and Weight.

### **What Will You Take Away**

- The reasons why you should kill a well in a particular manner.
- The logical sequence to follow in the determination of which procedure to implement.
- How to maximize your chances of killing the well.
- How to recognize when standard well control has become trouble well control.
- Comprehensive knowledge of well control.
- The ability to recognize well control situations for the dangers they present and the knowledge of how to proceed.
- A confidence in dealing with well control situations that only knowledge can promote.

### **Who Should Attend**

All personnel involved in drilling, completion, and workover operations who might be involved in a well control situation and want to know as much as possible about it.

**Lafayette, Louisiana**

**April 13 - 17, 2015  
October 12 - 16, 2015**

**\$ 3,500.00 USD**

## PRENTICE TRAINING COMPANY'S DRILLING PRACTICES

Drilling Practices is a five (5) day applications short course. The course covers all of the drilling systems, and is designed both for the new hire in drilling and as a refresher for the experienced hand. The Drilling Practices short course was created to provide "State of the Art," practical procedures for the operational driller.

The course is presented in the same sequence as the well is drilled. Planning, equipment selection, design, operations systems, and troubleshooting are the essence of the successive topics.

Calculations are part of the course, however, these are the same calculations which must be made while drilling a well.

### What You Will Learn

- Formation characteristics including pressures, stresses and strengths.
- Casing point selection procedure.
- Tubular design considerations for casing and the drill string.
- Rig selection and specification.
- Hydraulic considerations:
  - Friction Loss
  - Swab And Surg
  - Cuttings Transport
  - Optimization
- Drilling Problems:
  - Stuck Pipe
  - Lost Circulation
  - Crooked Hole
  - Well Control
  - Slow Penetration Rate

### What Will You Take Away

- A complete understanding of the drilling process, drilling systems, and drilling problems.
- Confidence to make decisions regarding drilling systems or problems.
- A means for optimizing drilling parameters.
- The knowledge of how drilling systems interact, and how best to compromise solutions.
- Confidence that you are current in your knowledge of drilling practices.

### Who Should Attend

Drilling Practices is a must for anyone in a responsible rig-based occupation, including drilling engineers, foremen and managers, directional drillers, tool pushers, mud engineers, drillers and mud loggers.



## **PRENTICE TRAINING COMPANY'S DRILLING PRACTICES/SUPERVISION**

This five (5) day course covers the drillstring including components, configuration, wear, loading, directional control and design. Drilling fluids with regards to type, how to run, and drilling considerations are discussed. The hydraulics section includes friction loss and pressure surge determination, cutting transport considerations and optimization procedures. Abnormal pressure detection is covered. Drilling problems and solutions including lost circulation, stuck pipe, kicks, slow penetration base, and crooked hole are covered.

### **What You Will Learn**

- The reasons drilling problems occur.
- The warning signs of drilling problems.
- How to recover from problems.
- How to prevent the problems occurring.
- How to optimize a system to maximize drilling minimize lost.

### **What Will You Take Away**

- Knowledge of what can happen and why.
- The understanding of state of the art technology available to help you.
- A logical sequence of steps to take to recover from stuck pipe or loss of circulation or crooked hole, etc.
- Confidence that you understand the pitfalls of drilling and how to avoid or handle them.

### **Who Should Attend**

Drilling foremen, drilling engineers, toolpushers, drilling supervisors and drilling managers.

### **What is the Difference Between Drilling Practices and Drilling Supervision**

- There is some duplication of subject matter, but Drilling Supervision is taught as an operational “how to” course where Drilling Practices covers theory much more deeply.
- Drilling Supervision is more an experienced practical personnel course.
- While some subject matter is duplicated, more subjects are addressed in Drilling Supervision than in Drilling Practices.
- Drilling Practices covers subjects more deeply than does Drilling Supervision.
- Drilling Practices is more an engineering introductory course.

## **PRENTICE TRAINING COMPANY'S PRIMARY AND REMEDIAL CEMENTING**

The Primary and Squeeze Cementing short course is a four (4) day course that covers the well cementing process. It is designed as a practical applications course. It covers all aspects of primary and remedial cementing and is reinforced with a problem set of "real job" cementing problems.

### **What You Will Learn**

- What oilwell cement is, how it is made, what it contains and how it works.
- The API classification system for cement.
- Non-API cements and their applications.
- Cement equipment and accessories, what they do and when and how to use them.
- The complete range of cementing operations.
- What cement additives do.
- How to design a cement slurry.
- How to design a cement job.
- How to maximize the success of a cement job.
- Which cementing squeeze procedures to use and how.
- How to successfully set a cement plug.
- How to evaluate a cement job.

### **What Will You Take Away**

- A complete understanding of oilwell cementing.
- The confidence and knowledge necessary to plan and supervise the execution of a cement operation.
- A course manual, completed problem set and thirty-two (32) hours of class notes covering and reinforcing cementing from A to Z.

### **Who Should Attend**

Service personnel, technicians, engineers, foremen, and supervisors in drilling, completion, production and workover application who in any way deal with cementing operations.

**In-House School Only**

## **PRENTICE TRAINING COMPANY'S STUCK PIPE PREVENTION**

The single most frequent and expensive unscheduled event while drilling is stuck pipe. If you attend this three (3) day seminar, you will learn all of the twenty-seven (27) causes of stuck pipe, what causes each, how to identify them, what immediate action can be taken, what to do for most efficient recovery, and most importantly how to prevent the sticking in the first place.

The course is presented with class discussion and participation is required. Case histories provide practical examples of the problems, recovery methods, and preventive means being discussed. The building of a team concept with maximum coordination and communication capabilities is stressed.

### **What You Will Learn**

- A working knowledge of all the mechanisms which result in pipe becoming stuck.
- Complete diagnostic methods for identifying a specific mechanism.
- The methods and procedures available to minimize or eliminate a potential sticking problem when it is encountered.
- The knowledge to plan the most effective and least expensive procedure to recover from sticking that does occur.
- How to plan a well and then implement that plan to prevent pipe sticking.

### **What Will You Take Away**

- Complete knowledge of the phenomena of pipe sticking.
- Confidence that you will recognize virtually all pipe sticking warning signs.
- A working knowledge of how to preplan and implement the drilling of a well to prevent the vast majority of pipe sticking problems
- A team concept for well drilling operations.

### **Who Should Attend**

Derrickmen, Shaker Attendants, Mud Personnel, Assistant Drillers, Drillers, Tourpushers, Toolpushers, Drilling Foremen, Drilling Superintendents, Drilling Technicians, Drilling Engineers, Wellsite Geologists, Mud Loggers, Directional Drillers, MWD & LWD Personnel, and any other service personnel who are included in a drilling operation.

**In-House School Only**

## PRENTICE TRAINING COMPANY'S WELL PLANNING I

Based on over 35 years of student evaluations, this short course is rated as the "Best in the Business". It is an applications short course covering the design of a well. As in any engineering design, the objective is to affect a "safe" design for minimum "expense". By attending this short course, you will learn how to choose the criteria for design, how to logically and efficiently perform the design sequence, and how to present the resulting well plan in a usable form.

The short course is presented in lecture form and reinforced first with practical example solutions and finally with a question - response discussion. A final project is performed in class to tie all aspects of the course together.

### What You Will Learn

- The sources of abnormal formation pressures and how to quantify their magnitude.
- The models available for fracture gradient determination.
- The ethics of design.
- The criteria of design for any well.
- The actual selection of the casing points for a mechanically sound well program.
- The basics of casing design.
- The actual design of conductor, surface, intermediate, drilling liners, production liners, and the back casing strings.
- The basis for understanding and using API BULL 5C3, API Spec 5C5 and NACE MRO 175-90.

### What Will You Take Away

- A working knowledge of how to quantify the formation pressure/fracture gradient system for a well you plan to drill.
- Full understanding of why casing needs to be set at certain points in a well as well as how to determine those points based on your specific criteria for design.
- Comprehension of the strengths of casing and how a specific area/well casing design is performed.

### Who Should Attend

Certainly everyone who might be called upon to contribute any portion of a well program or prognosis should attend this course. Also, anyone in the operations, contract, or service industry who might have cause to follow parts of a well plan or prognosis will benefit from attending the course.

**Lafayette, Louisiana**

**March 2 - 6, 2015  
September 14 - 18, 2015**

**\$ 3,500.00 USD**

**Aberdeen, Scotland**

**May 11 - 15, 2015**

**\$4,500.00 USD**

## PRENTICE TRAINING COMPANY'S WELL PLANNING II

Well Planning II short course is designed to complete the well planning procedure. Information previously presented in Well Planning I is used as a basis for rig selection, cement program, mud program, logging program and AFE generation.

### What You Will Learn

- To design at he drillstring for the planned well.
- To describe the ideal rig specifications for the well being planned.
- To write a request to bid letter to drilling contractors specifying minimum rig requirements.
- To identify potential problems on a hole section basis.
- To write a general well program.
- To select the right drilling fluid for the well being planned, and generate a complete mud program.
- To design and specify a complete cementing program.
- To generate a logging program.
- To estimate all associated costs involved in drilling the planned well, and to generate an AFE (Authorization for Expenditure) for the well.

### What Will You Take Away

- Comprehension of the sequence and procedure of well planning.
- A complete example problem, done by you, of a well plan.
- The foundation on which your future experience in well planning can successful build.
- The confidence to take on and complete any well planning assignment.

### Who Should Attend

Personnel involved in well planning on a day to day basis and those who must execute the plan after its development. It provides further training to those individuals who have previously completed Well Planning I.

**Lafayette, Louisiana**

**March 9 - 13, 2015  
September 21 - 25, 2015**

**\$ 3,500.00 USD**

**Aberdeen, Scotland**

**May 18 - 22, 2015**

**\$4,500.00 USD**

## **WELL COMPLETION (WELL PLANNING III)**

This short course picks up where Well Planning II stops. The student will be introduced to the concepts of basic well completion. This course will cover topics that range from understanding the basic reservoir concepts that are needed to design a successful completion to the design of the completed wellbore.

### **What You Will Learn**

- The various types of completions.
- Basic reservoir mechanics to include drive mechanisms, damage issues and formation deliverability.
- The well completion interface between the wellbore and the reservoir to include perforation operations and damage control.
- The design of the well's tubulars and selection of the associated downhole equipment; completion cementing design and evaluation, to include zonal isolation; completion fluid selection; an introduction to the issues of sand control, acidizing, fracking and water control; and an understanding of the AFE process for budgeting the completion.

### **What Will You Take Away**

Upon completing the Basic Well Completion course the student should have an understanding of the planning process, complete with plan preparation.

### **Who Should Attend**

The short course is presented in lecture form and reinforced first with practical example solutions and then with question and response feedback. The class will participate in a class project designed to tie all of the topics discussed together so that the student better understands the concepts of actual well completion design.

**Lafayette, Louisiana**

**March 16 - 20, 2015**

**\$ 3,500.00 USD**

## How To Register

**Telephone:** (337) 269-1662  
**Fax:** (337) 269-4056  
**Email:** office@northstartraininginc.com  
**Mail:** Northstar Training  
101 Feu Follet Rd., Ste. 207  
Lafayette, LA 70508-4234  
United States of America  
**Website:** www.northstartraininginc.com

## Registration Form

**Course Name** \_\_\_\_\_

**Course Date** \_\_\_\_\_

**Course Location** \_\_\_\_\_

**Student Name** \_\_\_\_\_

**Company** \_\_\_\_\_

**Address** \_\_\_\_\_

**Address** \_\_\_\_\_

**Address** \_\_\_\_\_

**City** \_\_\_\_\_

**State** \_\_\_\_\_

**Zip** \_\_\_\_\_

**Country** \_\_\_\_\_

**Phone** \_\_\_\_\_

**Fax** \_\_\_\_\_

**Email** \_\_\_\_\_

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