



ESP Workshop

2013 ESP WORKSHOP The Woodlands Waterway Marriott Hotel, The Woodlands, Texas Continuing Education Classes

All courses are subject to change and may be cancelled if minimum participation requirements are not met.

ELECTRIC SUBMERSIBLE PUMPING 101

Monday, 22 April 2013 - 8:00AM to 5:00PM
INSTRUCTOR: David L. Divine, P. E.

COURSE DESCRIPTION

This one-day course will provide instruction on the design, installation, and application of Electric Submersible Pumps. An electronic text and worksheets will be provided to the student for manual solutions. A laptop computer is recommended for the course. "Solutions" ESP Sizing Software will be available to load onto the student's computer. A Certificate of Completion is provided at the end of the course.

COURSE OUTLINE

1. ESP COMPONENTS

This is an introduction to the equipment and accessories that make up the Electric Submersible Pumping system. This chapter also introduces basic sizing principles. The student will solve basic pump, motor and cable problems.

2. WELL PRODUCTIVITY

A brief introduction of the concepts of PI and IPR are discussed along with the importance of correctly matching well productivity to pump performance

3. PUMP SIZING

This chapter carries the student through the steps to correctly size an Electric Submersible Pump (ESP). An example problem is solved, and then the student uses the example to size an ESP.

About the instructor: David L. Divine

David Divine has a Bachelor of Science degree in Electrical Engineering from Texas Tech University, and is a Registered Engineer in the State of Texas. Mr. Divine has 39 years experience in the oil industry and has been a member of SPE since May of 1971. His experience includes service with Texaco Inc. where his duties included production operations, oil field automation, and oil field electrification. While with Texaco, he developed the first practical variable speed submersible pumping system and is the author of several papers on this topic. He co-founded Submersible Oil Systems, a company that designed and manufactured a variable speed controller for submersible pumping. After SOS was acquired by Centrilift-Hughes, he served as Vice President over the Systems Division of Centrilift-Hughes. He was a co-founder of Electric Submersible Pumps, Inc. (ESP, Inc.) As Vice President in Charge of Engineering he helped develop all of the current standards for the testing of used submersible equipment and has improved many of the standards for the testing of new equipment. In 1997 he became an independent consultant. Mr. Divine began working for Baker Hughes Incorporated as a Technical Representative at the Educational Development Center in Claremore, Oklahoma for Centrilift in September of 2002. In July of 2007 Mr. Divine began work with Wood Group ESP, Inc. as a Principle Engineer. Mr. Divine is a member of the Electrical Engineering Academy and has been a member of the Industrial Advisory Board at Texas Tech University. He is the 1995 recipient of the Slonneger Award presented by the Southwestern Petroleum Short Course to individuals who have advanced the field of artificial lift. Mr. Divine has been presenting seminars and schools on submersible pumping for the past 34 years. He is the co-author of a textbook and software on the subject of electric submersible pumping.