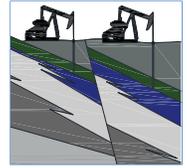


OILFIELDS 101



COURSE SUMMARY

This course is an overview of oilfield operations from the bottom of the well to the sales meter. Topics include wells, drilling, completions (including fracking), production, piping, tanks, pumps & compressors, and a little of everything else! A lot is changing in the industry, and we will set off to navigate the waters of this change!

LEARNING GOALS

Goals for the participants include:

- Understand the context around the bits and pieces they already know
- Grapple with acronyms and jargon, and recognize that they are not the only one who doesn't understand them
- Relate concepts about fluids, pressure, and rate to the operations that take place in oilfields
- Describe the structure of the industry and the organizations within it, and identify communication paths within and between organizations as well as key vocabulary terms and scheduling processes
- State information about key points of environmental compliance
- Recognize the function of equipment items, procedures, and mechanical devices used in the oilfield developments
- Recognize practices that improve efficiency in operations

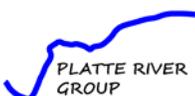
WHO IS THE CLASS FOR?

- Stakeholders such as royalty interest owners, adjacent landowners, and regulators
- Accountants and financial professionals
- Technicians
- Administrative personnel
- Human resources personnel
- City & county engineers & land use planners
- Managers, especially those moving from other aspects of industry to upstream oil and gas
- Insurance personnel
- Environmental, health, and safety personnel
- Operations and production personnel

TYPICAL AGENDA

The class can be customized for your needs. Topics typically included are:

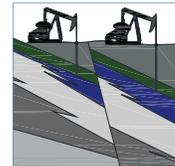
- Types of organizations (companies, regulators). Different groups of people within the oil company.
- What are upstream, midstream & downstream? How is "midstream" changing? What is midstream water?
- Terminology about wells. Does anybody understand this jargon?
- Geologic formations, what reservoir engineers do
- Oil, drip, NGL's, LPG, condensate, gas, etc. Heavy & light oil. Dry & wet gas. Emulsion.
- Can we liquify methane? Have we always done this or is it new?
Water. Produced, frack flowback, fresh, filtered, waste water: why so many kinds?



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OILFIELDS 101



- Drilling rigs, drilling mud, drill bits and the like
- Casing pipe, cementing, how to know if the cementing was done right
- Directional drilling
- Perforating holes in the pipe
- Kinds of equipment: pumps, tanks, pressure vessels, level switches, pressure gages, temperature probes, etc.
- What is a valve, exactly? Kinds of pipe.
- Rod pumps and other “artificial lift.” Measuring oil & gas.
- Fracking (or frac’ing). Why it’s done. How, and how far the fracks go.
- Examples of what can go wrong, how to know if you have a problem, mitigating problems.
- Squeeze cementing to repair wells.
- Urban drilling or drilling near homes. Mitigation of impacts (sound, vibration).
- Regulations – what is typical? Where can we find out about regs?
- Tanks, separators, metering & other facilities.
- Pollution from tanks and burners. What causes it? What can we do about it?
- Flares, Emission Control Devices (ECD’s), etc. Heater treaters.
- Gas. Why are people always cooling it and compressing it? What are chokes for?
- Is there a typical production pressure for gas from wells?
- Is there standard terminology for “collection” systems and “gathering” systems per PHMSA and FERC?
- What’s a P trap? Or is it a pee trap?
- Is CO2 in gas bad? What’s wrong with oxygen in gas? How can we get water out of gas? H2S?
- What are hydrates?
- How can we recycle and reuse water? What must be done to reinject it?
- How is well plugging done?

COST

This class is scheduled periodically through www.EUCI.com, with a typical per-person cost of \$1500, and can also be arranged as an in-house course. To get a quote for an in-house course, contact Lee Denke at 661-547-2770 or lee.denke@gmail.com, or through EUCI, contact Erin Burba at 303-770-8800 or eburba@euci.com.

A free preview of some sections of the class is online at <http://www.oftrain.com/>. Navigate to the “Free Class Examples.” This button will take you directly to previews. A small green arrow  starts the video.

INSTRUCTOR

Lee Denke started off by getting a bachelor’s in electrical engineering from the University of Wyoming, then took a job cementing, acidizing and fracturing wells with Schlumberger in Worland, Wyoming, and has worked in California, North Dakota, and the Rocky Mountain area. Additional jobs included both subsurface and facilities engineering, as well as project management for Texaco, Aera and Berry. Lee understands the contract side of the business as well, having worked for the consulting firms TJ Cross, Ken Small, and Processes Unlimited. Lee currently works as a consultant in downhole and facilities operations and is licensed as a mechanical engineer in Wyoming and Colorado.



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