

The seminars are offered **FREE OF CHARGE**.

Echometer Company offers seminars on the topics listed below:

ECHOMETER TECHNOLOGY & FUNDAMENTALS OF WELL ANALYSIS (2-DAY)

MARCH 19-20 ODESSA, TX

APRIL 9-10 SAN ANTONIO, TX APRIL 30-MAY 1 BAKERSFIELD, CA

MAY 21-22 EDMONTON, AB, CANADA

JULY 16-17 SHREVEPORT, LA **JULY 30-31** HOUSTON, TX **AUGUST 25-26** CASPER, WY **AUGUST 28-29** GREELEY, CO **SEPTEMBER 8-9** CARLSBAD, NM SEPTEMBER 11-12 **FARMINGTON. NM SEPTEMBER 24-25** WILLISTON, ND **OCTOBER 8-9** CANONSBURG, PA

NOVEMBER 12-13 ODESSA, TX

Objective: Focus on applications of the Echometer Wired Well Analyzer and Wireless System, and use of the TAM software for analysis, troubleshooting and optimization of well performance.

Who should attend: Field technicians, pumpers, production operators, tech supervisors and engineers currently involved in well troubleshooting.

Day One:

- TAM Software Navigation, Utility, and Function.
- Basics of fluid level acquisition and obtaining quality data for analysis with Echometer Wireless Equipment and Well Analyzer.
- Three methods of fluid level analysis (Automatic Collar Count, Acoustic Velocity, Downhole Marker)
- Gaseous liquid columns.
- Calculation of bottomhole pressures from casing pressure and acoustic liquid level depth measurements.
- The effects of static and producing bottomhole pressures on well production.
- Problem wells and common production methods are discussed.

Day Two:

- Dual Shot with Wired and Wireless equipment. Technique used to identify tubing casing communication points such as holes in tubing or passing Gas Lift valves.
- Basics of Dynamometer measurements using a Polished Rod Transducer or Horseshoe Load Cell.
- Dynamometer data acquisition and analysis.
- Using fluid level and dynamometer data to troubleshoot wells.
- Plunger Tracking (if requested)
- Gas flowing wells (if requested)
- Pressure Transient Testing (if requested)

It is recommended that each person bring a laptop with TAM software loaded to use during the workshop.



INTRODUCTORY WELL ANALYZER WORKSHOPS (2-DAY)

FEBRUARY 20-21 WICHITA FALLS, TX
JUNE 19-20 WICHITA FALLS, TX
OCTOBER 23-24 WICHITA FALLS, TX

Objective: Focus on set-up of the Wired Well Analyzer and Wireless Equipment, as well as basics of TAM software for well file setup, data acquisition, liquid level, dynamometer and electrical power measurements.

Who should attend: New users of Echometer Equipment

This Workshop will focus on set-up, data acquisition, and TAM software use for the Well Analyzer and Wireless System liquid level and dynamometer acquisition and analysis.

The workshop covers:

- TAM Software Navigation, Utility, and Function.
- Set-up, operation and maintenance of the Well Analyzer and Wireless Equipment
- Acoustic fluid level data acquisition and quality control
- Calculation of accurate fluid levels and producing and static bottomhole pressures
- · Acquisition and quality control of dynamometer data
- Basic data analyses are also discussed and applied to detecting the most common abnormal well operation.

During the workshop, the participants will be expected to participate in hands-on exercises in both the classroom and the field to practice acquisition of the data.

Echometer Company requires that during field practice and demonstration, each participant follow his/her company's safety rules and regulations and use their recommended safety equipment. It is recommended that each person bring a laptop with TAM software loaded to use during the workshop.

TOTAL ASSET MONITOR 5-DAY SEMINAR

FEB. 24-28 WICHITA FALLS, TX
JUNE 23-27 WICHITA FALLS, TX
OCT. 27-31 WICHITA FALLS, TX

Objective: Focus on applications of the Echometer Wired Well Analyzer and Wireless System, and use of the TAM software for analysis, troubleshooting and optimization of well performance.

Who should attend: Field technicians, lease operators, production supervisors and engineers with some experience using the Wired Well Analyzer or Wireless System and TAM software.

Echometer Company is offering a five-day Well Analyzer seminar to be held in Wichita Falls. The seminar will cover the efficient production of oil wells and the use of the Well Analyzer and Wireless System to obtain a complete analysis.

The seminar will cover:

- Single shot acoustic analysis
- TAM Software Navigation, Utility, and Function
- Echometer equipment maintenance
- Field data acquisition demonstration
- Gas Lift and Dual Shot with Wired and Wireless equipment. Technique used to identify tubing casing communication points such as holes in tubing or passing Gas Lift valves.
- Dynamometer data acquisition and analysis
- Motor power/current data acquisition and analysis
- Breakout Sessions on:
 - o Remote Asset Monitor (RAM)
 - Plunger Lift, Gas Wells, Gas-Lift Wells
 - Motor Power and Torque Analysis
 - Hands on equipment demonstrations in the field



ADVANCED DYNAMOMETER, TORQUE & POWER SEMINARS (3-DAY)

APRIL 8-10 WICHITA FALLS, TX SEPTEMBER 17-19 WICHITA FALLS, TX

Objective: Advanced class that focus on the analysis of Sucker Rod Lift Dynamometer, Counterbalance, and Power data collected using the TAM software and Echometer Well Analyzer and Wireless Systems. Seminar consists of short formal presentations followed by hands-on analysis of actual example data.

Who should attend: TAM users who have attended a previous Echometer seminar and are interested in more details in the analysis of Sucker Rod Lift data.

This advanced 3-day seminar offered by Echometer provides guidance on using Dynamometer, Counterbalance, and Power data collected using the Echometer Well Analyzer and also the Echometer Wireless System. Analysis of the data will allow the participant to identify and solve sucker rod pumping problems.

The general format of the seminar will be a collection of one-hour mini-topics. Each mini-topic will consist of a 30-minute presentation followed by the class participants using TAM software installed on their individual laptops to investigate the presentation's highlighted topic. Knowledge gained from attending this seminar will increase the participant's skill in troubleshooting sucker rod lifted wells.

After attending this seminar, the participant should be able to identify well problems and recommend corrective actions. Application of these analysis techniques to sucker rod lifted wells will increase profitability due to decreased repair cost and increased production.

PLUNGER LIFT SEMINAR (3-DAY)

APRIL 1-3 WICHITA FALLS, TX OCTOBER 1-3 WICHITA FALLS, TX

Objective: Focus on plunger lift analysis methods and troubleshooting using Echometer TAM software.

Who should attend: Production supervisors, field technicians, operators and engineers concerned with analysis and optimization of plunger lift installations and gas well deliquification operations.

Part of workshop includes data acquisition and use of the data to troubleshoot Plunger Lift Wells. Topics presented during this seminar are Gas Well Deliquification, Identifying Liquid Loaded Gas Wells, and Analyzing & Trouble Shooting Plungers in Various Wells. A technique will be shown to identify when to install a unconventional plunger prior to onset of liquid loading. Additional plunger lift options such as Hybrid Gas Lift/Plunger Lift System, Plunger Assisted Gas Lift, Gas Assisted Plunger Lift, Multi Stage Plunger Lift will be discussed.

Workshop will show various performance features and operation issues using many example data sets acquired on by-pass and conventional plunger lifted wells. The operator will be able to determine the optimum shut-in time for plunger lift installation. Key events such as plunger fall rate, plunger arrival at the liquid level in the tubing and plunger arrival at the bottom of the tubing are identified.

Please contact Kaili <u>kaili@echometer.com</u> to register for a seminar. If you have any questions regarding which seminar to attend, we'll be happy to help you get into the right class.

We look forward to seeing you!