



# **BASIC GOHFER TRAINING COURSE AGENDA (3 Day)**

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**Objective:** To demonstrate, along with class participation, the GOHFER project workflow with actual data while discussing individual inputs, functions and features of the application. Provide basic understanding of how to use and navigate the user interface and apply the program to individual projects. This course targets individuals who are new to the GOHFER software or those who want a refresher course.

## Day 1 – Administrative / Vertical Well Class Example

### Introductions

#### Software Overview

- Installation
- License Access

#### Vertical Well Class Example

- Simple Project Workflow Example
- LAS (Log Processing)
- Input Data Requirements
- Mechanical Property and Stress Profile Construction
- Geologic Section
- Define wellbore segment(s) – treatment string / wellbore fluid
- Define Grid Dimensions
- Treatment Design
- Perforations
- Pump Schedule
- Engine Output Viewer
- Output Grid Data
- Production
- Conductivity & Well Performance

#### Pressure Diagnostics

- Import Data / Analysis Input
- Input File Preprocessor
- Pre-Falloff / Closure / After Closure Analysis
- Synchronize 2 Data Files
- Rate Schedule

## Day 2 – Vertical Well Example (continued)

### Vertical Well Class Example – History Match

- How to build an actual pump schedule
- Pressure Matching Strategies
- Matching Stresses (Pore pressure, Closure pressure, PZS) and leakoff
- Matching Frictional Effects (Pipe / perf / near wellbore)

### Class Exercise - Economic Optimization

- Design / Production / Economic Optimization

### GOHFER Variable Sensitivity

- Demonstration / discuss individual input variables and impact on the model

### GOHFER Databases

#### Proppant Database

- Review proppant database inputs and functions

#### Fluid Database

- Review fluid database inputs and functions

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- How to add a fluid to the fluid database

#### **Reports**

- Report management/editing
- Adding images to reports

### **Day 3 – Horizontal Well Examples**

#### **Horizontal Transverse Shale Model & Production Example**

##### **Treatment / Reference Wells**

- 3D Surveys
- LAS (Shale / Carbonate Log Processing)

##### **Treatment Stage**

- Longitudinal vs. Transverse Fractures
- Breakdown Pressure
- Fracture Orientation
- Breakdown Gradient / Breakdown Angle

##### **Treatment Design**

- Perforations
- Interference / Stress Shadowing / Stress Anisotropy
- Single Horizontal Transverse (single stage / multiple cluster)
- Multiple Horizontal Transverse (multiple stages / multiple clusters)
- Ball Drop Horizontal Transverse (single treatment / multiple stages)

##### **Engine Output Viewer**

- 3D Grid Output
- Production
- Longitudinal / Transverse production parameters

##### **Wrap-up / Discussion**

##### **Optional Topics**

##### **Microseismic Class Example**

- Import Microseismic data into GOHFER

##### **Real-Time Data Acquisition Demonstration**

- Real-Time Settings / Monitoring
- Real-Time Pressure Diagnostics / Pumping Schedule Creation / Simulation