

## ***Well Stimulation***

### **Course Objective:**

This course presentation format consists of *three segments*. They are presented in logical order. First, the complete suite deals with the fundamental and advanced aspects of hydraulic fracturing; frac design and optimization. Second, all aspects of matrix and fracture acidizing. Third, new and emerging technologies are covered in the final portion.

### **Who Should Attend:**

Engineers, geologists, technologists and operations personnel who want to learn or advance their knowledge of Hydraulic Fracturing and Acid well stimulation.

### **Course Instructor:**

**D.R. "Denis" Gaudet, P.Eng.** is President of DRG Resources. He has over thirty five years of worldwide engineering, operations, and executive management experience with three international service companies (Halliburton, Nowsco and Fracmaster). He has substantial international experience in the land-based and offshore service industries, with emphasis in Europe, Middle East, and Africa. In his role as President of DRG Resources Ltd. He is working in consulting operations in Canada and international operations in drilling, completions, and workover operations. Mr. Gaudet also instructs a number of courses international in the subjects of Well Completions Workovers, Hydraulic Fracture Stimulation, Drilling and Completions, Cementing, Acidizing, and Sand Control Management. Mr. Gaudet is qualified, authorized and experienced in presenting the courses. Mr. Gaudet has served as Canadian Section Chairman for the Society of Petroleum Engineers.

## **Course Agenda:**

### ***Part 1: Fundamentals of Hydraulic Fracturing***

Assessing well performance and formation damage

Fracturing theory

Selecting propping agents

Deciding which wells to fracture

Basic treatment sizing

Predicting results of fracturing

Equipment and operations overview

Selecting fracturing fluids

### ***Part 2: Advanced Hydraulic Fracturing***

Information collection

On-site use of 3D simulators

Importance of laboratory work

Decision-tree for on-the-fly use

Development of best strategy

Operational guidelines

Best design use of 3-D simulators

Quality assurance procedures

Economic optimization

Fracture Diagnostics and Mapping

### ***Part 3: Matrix and Fracture Acidizing, New Stimulation Technologies***

Types of acids and applications

Effective matrix acidizing

Sludges, emulsions, iron, precipitates  
success

Factors affecting fracture acidizing

Acid placement techniques

New developments and emerging  
stimulation technologies

## **Detailed Agenda:**

### **Day 1**

Assessing well performance and formation damage  
Fracturing Theory  
Rock Mechanics  
Deciding which wells to fracture stimulate

### **Day 2**

Predicting results of fracturing  
Selecting fracturing fluids  
Selecting propping agents  
Basic treatment sizing

### **Day 3**

Equipment and operations overview  
Information collection  
Importance of laboratory work  
On-site use of 3D simulators  
Decision-tree for on-the-fly use  
Development of best strategy

### **Day 4**

Operational guidelines  
Best design use of 3-D simulators  
Quality assurance procedures  
Economic optimization  
Fracture Diagnostics and Mapping

### **Day 5**

Types of acids and applications  
Sludges, emulsions, iron, precipitates  
Acid placement techniques  
Effective matrix acidizing  
Factors affecting fracture acidizing success  
New developments and emerging stimulation technologies