# MATRIX STIMULATION

31 October - 3 November 2005 Marriott Grand Hotel Moscow, Russia

#### An SPE Applied Technology Workshop



### WORKSHOP STEERING COMMITTEE

**Reinhard Pongratz (Co-Chairman)** Halliburton

Kieran O'Driscoll (Co-Chairman) **BJ** Services

> Mary van Domelen Halliburton

> > **Ravil Ibatullin** TATNIPINEFT

Leonard Kalfayan **BJ** Services

> **Erwin Kroell** Wintershall

Matt Miller Schlumberger

**Igor Mishchenko** Gubkin University

Vladimir Svavkin Sibneft

Ismail Talaat TNK-BP

Mauro Tambini **ENI E&P Division** 

#### **Return your Application Today!**



**Application Deadline:** 24 June 2005

# WORKSHOP DESCRIPTION

Matrix stimulation, in particular matrix acidising, is perhaps the most used, although often overlooked, method to enhance well production or injection and extending the useful life of wells in mature fields. With the broad range of challenging environments found within Russia, from naturally fractured limestones to sandstones with complex mineralogies, it is vital that the industry build and retain a firm foundation of knowledge expertise and experience in this area. This workshop will discuss formation damage mechanisms, candidate selection, a comparison of matrix versus fracture acidising in carbonates, placement techniques including coiled tubing, diversion, practical consideration and QA/QC as well as two special sections on Russian case histories and "exotic" methods. Throuah presentations and your contribution in discussions, we will review existing and future technologies and current day practices, which are required to optimise matrix stimulation treatments. This ATW provides stimulation and production technologists with the opportunity to discuss problems and issues with industry peers.

### WORKSHOP OBJECTIVES AND DELIVERABLES

#### • To share best practices

- To exchange ideas and experiences in the application of technology
- To discuss barriers to developing, utilising and exploiting technology • Identify and recommend best practices in the application of
  - technology in order to manage mature fields profitably • To open the mind set for new business drivers and emerging

business models

#### WHO SHOULD ATTEND

The workshop is a limited attendance meeting for up to 70 people, designed for professionals in the oil and gas industry who apply modern management techniques and latest relevant technology to boost productivity and recovery from mature or maturing reservoirs. The workshop is aimed at people whose principal job area falls into any of the following categories:

Stimulation Specialists Asset Management Geosciences & Reservoir Engineering Facilities Engineering Production Engineering

Petroleum Engineering Project Management Well Engineering



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#### WORKSHOP TIMETABLE

#### MONDAY 31 OCTOBER

From 1500 hours:	Hotel Check-in
1630-1800 hours:	Registration
1800 hours:	Welcome Reception
1900 hours:	Welcome Dinner

#### **TUESDAY 1 NOVEMBER**

0830-0930 hours:	Session 1: Chairmen's Introduction
0930-1000 hours:	Coffee Break and Posters
1000-1200 hours:	Session 2: Formation Damage Mechanisms
1200-1300 hours:	Lunch
1300-1500 hours:	Session 3: Candidate Selection
1500-1530 hours:	Coffee Break and Posters
15.30-17.30 hours:	Session 4: Russian Case Histories

#### WEDNESDAY 2 NOVEMBER

0830-1030 hours:	Session 5: Carbonates - Matrix Stimulation
1030-1100 hours:	Coffee Break and Posters
1100-1300 hours:	Session 6: Fracture Acidising
1300-1400 hours:	Lunch
1400-1600 hours:	Session 7: Diversion and Placement
1600-1630 hours:	Coffee Break and Posters
1630-1800 hours:	Session 8: The Role of Coiled Tubing in Matrix Stimulation

#### **THURSDAY 3 NOVEMBER**

0830-1000 hours:	Session 9: Practical Considerations and QA/QC
1000-1030 hours:	Coffee Break and Posters
1030-1200 hours:	Session 10: Non-Conventional Methods in Matrix Stimulation
1200-1300 hours:	Lunch
1300-1500 hours:	Session 11: Breakout Session/Wrap-Up/Networking

# **TENTATIVE TECHNICAL AGENDA**

### **TUESDAY 1 NOVEMBER 2005**

#### 0830-0930 hours: Session 1: Chairmen's Introduction Session Managers: Reinhard Pongratz and Kieran O'Driscoll

This session will be an introduction by the workshop Chairmen. They will give an overview of the workshop including a run through of the technical agenda and what they expect to achieve from the workshop. This will be followed by a keynote session.

#### 1000-1200 hours: Session 2: Formation Damage Mechanisms Session Managers: Leonard Kalfayan and Ravil Ibatullin

Production enhancement is the ultimate goal of matrix acidising. Identifying the formation damage mechanisms holds the key for a successful matrix acidising treatment. The discussion will unveil the effect of formation damage to the acidising exercise and what was done by the industry to identify and manage formation damage.

#### 1300-1500 hours: Session 3: Candidate Selection Session Managers: Ismail Talaat and Leonard Kalfayan

Matrix acidising is a cost effective way to enhance oil production in both sandstone and carbonate reservoirs. However, to identify the right candidates to optimise production enhancement in a particular field is very critical. This session will focus on the discussion around how to select the proper candidates. Well performance issues, reservoir characterisation, fluids sampling and lab testing will be discussed.

#### 1530-1730 hours: Session 4: Russian Case Histories Session Managers: Matt Miller and Igor Mishchenko

Unknown to many, in particular in the international world outside Russia, thousands of matrix stimulation treatments are performed every year in Russia. Different techniques are being used over a variety of reservoir and well conditions. This section will present case histories from Russia and/or former CIS countries.

# WEDNESDAY 2 NOVEMBER 2005

#### **0830-1030** hours: Session 5: Carbonates - Matrix Stimulation Session Managers: Mary van Domelen and Ravil Ibatullin

Matrix acidising in carbonates plays a very important role for production enhancement in many fields anywhere in the world. However, the task is different compared to sandstone reservoirs. Just to mention two important points: Negative skins can be achieved and in many carboate reservoirs natural fractures do exist. This session will discuss the issues to the matrix stimulation of carbonates.

#### 1100-1300 hours: Session 6: Fracture Acidising Session Managers: Mary van Domelen and Erwin Kroell

Very often carbonates show low matrix permeability and just creating wormholes in the near-wellbore area may not be sufficient to produce the reservoir economically. Fracture acidising is the technique that is being used to achieve the task of providing a conductive path deeper into the formation. This session will discuss all relevant topics that surround fracture acidising.

# WEDNESDAY 2ND NOVEMBER cont....

#### 1400-1600 hours: Session 7: Diversion and Placement Session Managers: Mauro Tambini and Reinhard Pongratz

The success of matrix treatments depends on the placement of the treaing fluid to remove near-wellbore damage and ensure injection into the zones of interest. The challenge of zonal coverage becomes increasingly difficult with larger intervals and/or when there are large permeability contrasts within the formation to be stimulated. This session will examine various mechanical and chemical methods for diversion.

# **1630-1830** hours: Session 8: The Role of Coiled Tubing in Matrix Stimulation

#### Session Managers: Mauro Tambini and Erwin Kroell

Coiled tubing plays a major role in matrix stimulation and is largely viewed as a tool to aid placement and diversion of acids. However, there are many applications for coiled tubing particularly in horizontal wells where coiled tubing is used to enhance matrix stimulation through the deployment of tools and other methods. This session will discuss different techniques that are deployed via coiled tubing.

# **THURSDAY 3RD NOVEMBER 2005**

# 0830-1000 hours: Session 9: Practical Considerations and QA/QC Session Managers: Ravil Ibatullin and Matt Miller

Although preplanning and proper job design are essential for a successful matrix stimulation treatment, practical considerations and on site QA/QC play an equally important role. This session will discuss operational issues and constraints, in particular in remote areas, as well as a mandatory QA/QC system.

# 1030-1200 hours: Session 10: Non-Conventional Methods in Matrix Stimulation

#### Session Managers: Mauro Tambini and Ismail Talaat

The industry is constantly striving towards identifying new technologies that can be used to enhance production. Many technologies were developed in Russia or other former CIS countries that can be classified as exotic or innovative. This session will discuss those non-conventional matrix stimulation techniques developed both in Russia, but also other parts of the world.

#### 1300-1500 hours: Session 11: Breakout Session/Wrap-Up Session Managers: Kieran O'Driscoll and Reinhard Pongratz

# WORKSHOP FORMAT

#### FORMAT

Evening dinner on Monday 31 October 2005 followed by two and a half days of informal sessions, with a number of short presentations and breakout discussion per session. Full details will be provided with the registration pack.

#### **POSTER SESSIONS**

The Steering Committee plans to hold poster sessions during the workshop. Please indicate on the application form if you would like to present a poster.

#### ATTENDANCE

Up to 70 persons from relevant disciplines with proven experience and/or knowledge of the subject areas being covered. The Steering Committee will evaluate the applications for a balance of companies, geographic origin and individual experience. Those selected to attend will receive full registration and joining instructions by mid July 2005.

#### SCRIBES' REPORT

The Steering Committee will appoint a scribe to make a full report of the workshop. The Scribes' Report will be produced after the workshop, summarising all presentations and discussion. This report will be circulated to all attendees. The copyright of the Scribes' Report will belong to SPE.

#### **ATTENDANCE CERTIFICATE**

All attendees will receive a certificate from SPE attesting to their participation.

#### **CONTINUING EDUCATION UNITS**

This workshop qualifies for SPE Continuing Education Units (CEU), at the rate of 0.1 CEU per hour of the workshop.

#### **COST INFORMATION**

Attendance at the workshop is non-residential The workshop will be held at Marriott Grand Hotel, Moscow, Russia

**Non-Residential Rate: UK £475** to include welcome dinner on Monday 31 October, 3 lunches, coffee breaks all workshop sessions and scribe's report. Delegates are responsible for their own hotel accommodation.

#### VISAS

All accepted applicants will need to organise a visa support letter in order to obtain a visa for Russia (if applicable). More information will be provided in the Joining Instructions which will be mailed in mid July 2005.

#### LANGUAGE

There will be simultaneous translation for both English and Russian language.

An SPE Applied Technology Workshop **APPLICATION FORM MATRIX STIMULATION** 

Please pri	nt or	type	in	black	ink

**a** 

Title (Mr/Mrs/Ms/Dr)	_ Name (first)	Family Name (last)	
Company			
Address			
Town/City	Postcode	Country	
Telephone		Facsimile	
Email		_ SPE Member No	
Details of Relevant Experience			
Do you wish to present a poster?	o Yes	o No	
If yes, please indicate which subject y	you would like to present your	poster on:	

Please indicate what category below most clearly describes your job area:

o Asset Management

- o Production/Facilities Engineering
- o Production Engineering
- o Geoscience & Reservoir Engineering
- o Petroleum Engineering
- o Project Management o Stimulation Specialist
- o Well Engineering

#### COST

**GBP 475 (£)** to include welcome dinner on 31 October, coffee breaks each day, 3 lunches and workshop sessions

Please return this form to: Society of Petroleum Engineers 3rd Floor, Portland House, 4 Great Portland Street, London, W1W 8QJ, UK Telephone: +44 (0) 20 7299 3300 Facsimile: +44 (0) 20 7299 3309 Email: formslondon@spe.org To submit your application online, please visit the SPE Web Site at: **www.spe.org** 

# Application Deadline is: 24 June 2005