



Society of Petroleum Engineers

25-27 June 2007

South Shore

Harbour Resort

League City, Texas

Seismic While Drilling

Technical Program Committee



**Chairman
Bob Radtke**
Technology
International

Schlumberger

Andy Hawthorn
Schlumberger



Flavio Poletto
OGS Geophysical Institute



Gopal Amruthapuri
Chevron Corporation



Brian Hornby
BP Exploration



Jamie Rector
University of California,
Berkeley



Shivaji Dasgupta
Saudi Aramco



Bruce Marion
Z-Seis Corporation

Fritz Reuter
Consultant



Mike Ming
RPSEA



Art Schroeder Jr.
Energy Valley

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Ron Deady
Halliburton



Francesco Miranda
Eni



Larry Wisniewski
SensorWise



Bob Hardage
University
of Texas at Austin

ConocoPhillips

Carl Montgomery
Conoco Phillips

Welcome to **Seismic While Drilling Emerging Technology Workshop**. This workshop offers a field's-eye view of the latest technology and best practices. We remind you that this is an interactive event and thus depends on audience participation. Attendees will be asked to process a large volume of technical information presented over a short period of time. This is by design. The strength of the ETW format is its interactivity. With that in mind we have asked the speakers to keep their remarks brief to allow more time for discussion.

To make this event a success, we encourage all attendees to actively participate by asking questions, airing comments, and sharing their observations. The committee has designed a well-rounded technical program featuring timely case studies, however the workshop relies on the audience to provide input and ensure critical topics receive the time and attention they deserve.

Outside the conference hall there will be numerous opportunities to mix with both speakers and other attendees. We encourage everyone to make the most of the opportunities offered during meals, coffee breaks, and receptions. Open discussion of critical issues and exploration of new methods will ensure this workshop has a lasting positive effect on our understanding of this important topic.

Seismic While Drilling

Abstract: Top international E&P operator, service company, and applied research personnel will gather to discuss the latest advances in source at surface, source downhole, and processing of Seismic While Drilling (SWD) data. This workshop will explore the need for drillers and petrophysicists to work together developing SWD applications and technology.

Conventional Vertical Seismic Profile (VSP) surveying techniques use wireline systems with recording tools in the borehole. Interruption of the drilling process increases operating costs and risks. Drillbit seismic helps overcome the higher costs and risks, provides the geophysicists and drillers with valuable information to optimize drilling efficiency, and guides to the target with the ability to predict pore pressure ahead of the bit and verify reservoir models in real-time. In this way the application of SWD can offer an economic, as well as technological, advantage.

SWD Adoption Issues:

- Economic Value of Applying SWD
- Customer Driven Solutions
- Operator Identified Resolution Needs
- Applications Mapping to the Systems Type/Existing Methods

Sponsoring Organizations:

Welcome Reception Sponsor: **HALLIBURTON**

DOCUMENTATION

Proceedings from the workshop will not be published; therefore, formal papers and handouts are not requested of speakers or panel members. Note-taking by individual attendees is encouraged, but should be limited to ensure participation in the open discussion. A URL containing released copies of the workshop presentations will be available to attendees several weeks after the workshop.

CONTINUING EDUCATION UNITS

The Society of Petroleum Engineers (SPE), through SPE Professional Development, will award Continuing Education Units (CEU) for participation and completion of SPE short courses, distance learning programs, emerging technology workshops, and sanctioned learning activities. One CEU equals 10 contact hours of participation in SPE continuing education activities. A permanent record of a participant's involvement and awarding of CEU will be maintained by SPE. SPE will provide a copy of the participant's record upon request at www.spe.org.

Attendees will receive 1.8 Continuing Education Credits.

Monday, 25 June 2007

5:00–7:00 p.m.

Welcome Reception – Sponsored by: **HALLIBURTON**

Tuesday, 26 June 2007

7:30–8:30 a.m.

Registration & Continental Breakfast

8:30–10:00 a.m.

SESSION I: OPENING SESSION

Chairmen: Bob Radtke, Technology International
Jorge Lopez, Shell

Opening Remarks & Presentation of Legends of SWD Award

Chairman: Bob Radtke, Technology International

Keynote Address:

The Technology Factor: How It's Changing Upstream Performance

Nansen Saleri, Saudi Aramco

Scene Setting: Review EAGE/SPE SWD Joint Workshop

Andy Hawthorn, Schlumberger

Seismic While Drilling - State of the Art

Ron Deady, Halliburton

Panel Discussion

Andy Hawthorn, Schlumberger

Ron Deady, Halliburton

Nansen Saleri, Saudi Aramco

Francesco Miranda, Eni

Brian Hornby, BP Exploration

10:00–10:15 a.m.

Coffee Break and Posters

10:15 a.m.–12:15 p.m.

SESSION II: EMERGING TECHNOLOGIES

Chairmen: Brian Hornby, BP Exploration
Ron Deady, Halliburton

Presentation 1: Acoustic Geosteering

Presenter: Joachim Oppelt, Baker Hughes

Presentation 2: High-Speed Real-Time Drill String Telemetry

Presenter: Monte Johnson, Grant Prideco

Presentation 3: Redefining "Real Time" – a Seismic LWD Tool for the High Speed Drill Pipe Network

Presenter: Chris Durrand, Novatek

Presentation 4: Experience & Forward View on SWD Technology

Presenter: Brian Hornby, BP Exploration

12:15–1:30 p.m.

Lunch Break

1:30–3:00 p.m.

SESSION III: SOURCE AT SURFACE

Chairmen: Andy Hawthorn, Schlumberger
Tom Catlett, Chevron

Presentation 1: Overview

Presenter: Ramin Nawab, Total

Presentation 2: Drilling in Time: Geosteering a Well Using Real Time Borehole Seismic Measurements – a Case History from the Gulf of Mexico

Presenters: Peter Deri, Schlumberger
Tony Skeryanc, Pogo Producing Company

Presentation 3: Multi-Sensor SWD

Presenter: Ron Deady, Halliburton

3:00–3:15 p.m.

Coffee Break and Posters

3:15–5:00 p.m.

SESSION IV: SOURCE AT DOWNHOLE

Chairmen: Francesco Miranda, Eni
Jamie Rector, University of California, Berkeley

Presentation 1: SWD with a Swept Impulse Source and PDC Bit

Presenter: Jack Kolle, Tempres

Presentation 2: Lessons Learned from the Look Ahead Acoustic Ranging (LADAR) Project

Presenter: Paul Rodney, Halliburton

Presentation 3: Working Drill Bit as a Seismic Downhole Source

Presenter: Flavio Poletto, OGS Geophysical Institute

5:00–7:00 p.m.

Reception & Poster Session

Posters Presentations:

RPSEA
Knowledge Systems
Schlumberger
Halliburton
Total
IntelliServ

Wednesday, 27 June 2007

7:30–8:30 a.m.

Registration & Continental Breakfast

8:30–10:00 a.m.

SESSION V: SWD APPLICATIONS

Chairmen: Larry Wisniewski, SensorWise
Gopal Amruthapuri, Chevron

Presentation 1: Estimating In-Situ Stress and Wellbore Stability While Drilling: What Do We Need to Measure?

Presenter: Arthur Cheng, Cambridge Geosciences

Presentation 2: Pore Pressure Ahead of the Bit

Presenter: Ken Williams, Knowledge Systems

Presentation 3: Processing Array Acoustic Logging Data to Image Near Wellbore Geological Structures

Presenter: Doug Paterson, Baker Hughes

10:00–10:30 a.m.

Coffee Break and Posters

10:30 a.m.–12:00 p.m.

SESSION VI: PROCESSING OF SEISMIC WHILE DRILLING DATA

Chairmen: Bruce Marion, Z-Seis Corporation
Flavio Poletto, OGS Geophysical Institute

Presentation 1: SWD Processing: a Comparison with Wireline VSP

Presenter: Les Nutt, Schlumberger

Presentation 2: Surface Source/Downhole Receiver SWD Data Processing

Presenter: Bruce Cornish, Halliburton

Presentation 3: Drill-Bit SWD Data Processing: Uses and Abuses of SWD Data

Presenter: Jamie Rector, University of California, Berkeley

12:00–1:00 p.m.

Lunch Break

To *unleash the energy*, tap into ours.

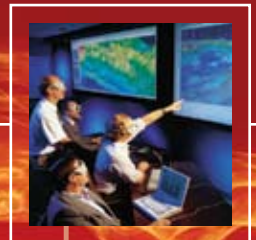
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1:00–3:00 p.m.

SESSION VII: CASE STUDIES

Chairmen: Fritz Reuter, Consultant
Shivaji Dasgupta, Saudi Aramco

Presentation 1: Gulf Coast Applications

Presenter: Gopal Amruthapuri, Chevron Corporation
Neil Kelsall, Schlumberger

Presentation 2: Current Applications and the Potential Way Forward for Seismic While Drilling

Presenter: Andy Hawthorn, Schlumberger

Presentation 3: SWD Experiments in Ghawar Field, Saudi Arabia

Presenter: Shivaji Dasgupta, Saudi Aramco

Presentation 4: Drill Bit SWD Experience

Presenter: Francesco Mirada, Eni

3:00–3:30 p.m.

Coffee Break and Posters

3:30–5:00 p.m.

SESSION VIII: PANEL DISCUSSION

Chairman: Bob Radtke, Technology International

Panelists:

Joachim Oppelt, Baker Hughes
Ashok Belani, Schlumberger
Shivaji Dasgupta, Saudi Aramco
Tom Catlett, Chevron

Flavio Poletto, OGS Geophysical Institute
James Jackson, VSFusion
Jorge Lopez, Shell

SPE Workshops United States/Canada – 2007



Society of Petroleum Engineers

United States/Canada

2007

18-20 July	Probabilistic Subsurface Assessments	Houston, TX Sheraton Suites
31 Jul- 2 Aug	Life of Field Surveillance for Unconventional Gas Reservoirs	Santa Fe, NM Hotel Santa Fe
19-21 Sept	Advances in Performance Diagnostics for Fractured and Horizontal Wells	Banff, Canada Rimrock Hotel
23-25 Sept	Deepwater Roadmap: Navigating Completions from Sandface to Interface	Galveston, TX San Luis Resort
2-4 Oct	Microbially Influenced Corrosion in the Oil & Gas Industry	Calgary, Canada Telus Convention Centre
October	Subsea Standardization	Galveston, TX
October	Artificial Lift Reliability	Calgary, Canada
December	Stimulating Shale Reservoirs	Pittsburg, PA
12-14 Dec	Tight Gas Completions: Technology Applications and Best Practices	Keystone, Co Keystone Resort and Conference Center



Society of Petroleum Engineers

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1 NAME

I am applying for New Admission Reinstatement Change of Status (from student to member) _____
Member Number (if reinstating or changing status)

Please check one: Mr. Mrs. Ms. Dr.

Last Name (Family Name) First Name (Forename) Middle Name

Badge Name (if different from first name)

Birth Date: _____
Month / Day / Year Note: Some member classifications are designated by a combination of continuous years of SPE membership and age.

Please check the box below to confirm your qualifications.

I am employed in work related to the petroleum industry, AND I have a university degree equivalent to a four-year bachelor's degree or higher in engineering, basic or applied sciences; or a two-year science or engineering degree; or a four-year degree in a field other than science or engineering; or six years of active practice in support of petroleum engineering or in the application of science in the petroleum industry.

Note: If you are under 30 years of age and have a four-year bachelor's degree or equivalent in basic or applied science, you may be eligible for a free book offered through the AIME Seely W. Mudd Memorial Fund. To qualify, be sure to provide your birth date and education in the areas provided. SPE will send you more information should you meet the requirements.

2 CONTACT INFORMATION

Preferred Address: Mail should be sent to (select one) Company Address Alternate Address

Section Assignment: Upon your election for membership, you will be assigned to an SPE section on the basis of your preferred mailing address.

Company Name Title

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Street Address 1

Street Address 2

City State/Province (if applicable)

Country Zip/Postal Code

Phone Country Code Area/City Code Number

Facsimile Country Code Area/City Code Number

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