



Thirty Years of Innovative Thought and Accelerated Results

8–13 August 2010

Park City, Utah, USA

Application
Deadline:
25 May
2010

Lost Circulation and Wellbore Strengthening

Chairpersons:

David Beardmore
ConocoPhillips

Donald Whitfill
Halliburton

Committee:

Mark Alberty
BP

Mohammed Azeemuddin
Chevron

Dave Clark
Baker Hughes

Fred Dupriest
ExxonMobil

Jim Friedheim
M-I SWACO

Giin-Fa Fu
ConocoPhillips

Gang Han
Hess

Fersheed Mody
Apache Corporation

Weldon Nance
Hess

Ronald L. Rock
Shell

Hong (Max) Wang

Gary Young
Oxy Oil and Gas

FSIC-WH Liaison:

Earl B. (Chip) Claiborne Jr.
Chevron

Lost circulation is one of the larger contributors to drilling non-productive time. It is one of the more difficult segments of drilling operations in which to make timely economic decisions. Estimations of economic impact in this segment vary widely, but it is safe to say that it represents a very large portion of the total non-productive expense for drilling a well. Any technology that reduces drilling non-productive time can translate into millions of dollars in reduced operating costs.

Engineered solutions designed to improve wellbore strength and reduce drilling non-productive time caused by lost circulation require an approach to lost circulation problems that includes both planning software and specialized materials. Lost circulation planning includes both prevention and remediation methods. While it is critical that losses be stopped once they occur, it is equally important that they be prevented whenever possible.

One important part of a preventive plan is the design of "borehole stress, or stress-cage treatments". The goal of these treatments is to improve the ability of the wellbore to contain higher pressures without losing circulation. This forum will provide a concise examination of the current and future methods and materials to conduct wellbore strengthening and remediate lost circulation. These discussions will provide improved understanding of the methods and more efficient application of the materials, leading to improvements in both present and future applications.

SPE Forums: Innovative Thought and Accelerated Results

SPE Forums offer an exclusive opportunity to discuss complex industry challenges with top technologists, innovators, and managers. The forums' limited size and intensive format maximize your opportunity to contribute. The objective is to stimulate thought, accelerate innovation, and inspire the development of new technology.

To create a cohesive group in which discussion is free flowing, only committee-selected applicants are invited to attend. Participants are encouraged to come prepared to contribute their experience and knowledge, not to be spectators or students.

If you have a role to play in meeting the challenges of tomorrow head-on, apply today. Participants will be selected based on their ability to contribute to the discussion and to represent their stakeholder group.

How Participation Benefits You—and Your Organization

- Learn in days what usually takes months—even years—of research to learn.
- Effectively focus on a topic that directly relates to your work.
- Gain insight and perspective through conversations with peers who share your same interests.
- Meet with other experts from international companies, research institutes, and universities in an off-the-record format.
- Form professional relationships that will continue after the forum has ended.

www.spe.org/events/10fus5



Society of Petroleum Engineers



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Lost Circulation and Wellbore Strengthening

These exciting topics will be discussed in an open setting designed for optimal input from all participants.

Foundation: Scope and Frame-Up

Session Manager: Don Whitfill, Halliburton

Session Manager: Dave Beardmore, ConocoPhillips

Depending on the root cause, there are several different engineering approaches to take for the prevention and treatment of lost circulation. An understanding of the root cause and possible mechanisms of both the loss and the treatment is the key to determine the approach. A common language and understanding of these terms and mechanisms from both rock mechanics and drilling-fluids perspectives is imperative to enable effective discussion throughout the forum. This session identifies the basic principles to set the stage for more in-depth discussion in the remaining sessions.

Foundation: Maintain Borehole Stress

Session Manager: Mohammed Azeemuddin, Chevron

Session Manager: Dave Clark, Baker Hughes

This session focuses on the current and future methods to maintain borehole stress and how to raise the stress level to that of an intact wellbore when borehole irregularities cause losses. The theory of how different irregularities cause problems and how to possibly correct problems will be reviewed.

Foundation: Create Borehole Stress

Session Manager: Dave Clark, Baker Hughes

Session Manager: Giin-Fa Fuh, ConocoPhillips

This session focuses on how to create or build borehole stress beyond what naturally exists. Theories of both discrete stress building treatments and continuous stress building treatments will be discussed. Both water-based mud (WBM) and non-aqueous fluid (NAF) discussions will be included. This session is essential to the forum and appears at the beginning so that improved future techniques can be developed during the forum.

Diagnostics

Session Manager: Fred Dupriest, ExxonMobil

Session Manager: Gang Han, Hess

This session will discuss diagnostic practices that are used to determine the specific loss mechanism in the field and to select the treatment with the greatest likelihood of success. Field practices for measuring the wellbore integrity directly will also be discussed, along with logging techniques to identify in-situ or induced fractures and estimate the stress field indirectly. Understanding these practices within this session will lead us to advance new concepts for the future of diagnostics.

Application Information

Participants at SPE Forums are selected by a steering committee on the basis of ability to contribute to the discussion of the topic. You can apply via the web, mail, or fax. You must apply by **25 May 2010** to be considered.

Online: www.spe.org/events/10fus5

Mail: SPE FORUM SERIES, PO Box 833836, Richardson, TX 75083-3836 USA

Fax: +1.972.852.9292

An electronic version of the printed application form is available for downloading and printing at www.spe.org/events/10fus5. You may also contact SPE at +1.972.952.9393 or service@spe.org to receive a printed registration form via mail, fax, or email.

Please obtain appropriate approvals from your supervisor **BEFORE** applying to the forum. Include enough information about your experience and knowledge to enable the steering committee to evaluate your potential contribution to the forum.

Vugs, Natural Fractures, and Other Formations

Session Manager: Weldon Nance, Hess

Session Manager: Jim Friedham, M-I SWACO

Case histories of losses and treatments in the environment of naturally conductive fractures and vugular formations will be considered. Current operator practices and new technology from operators and service companies are examined. Impacts of pressured formations open in the same wellbore section will be reviewed. The session identifies gaps that new or unconventional solutions could bridge.

Laboratory Methods for Assessing Fracture Sealing and Loss Circulation Control

Session Manager: Jim Friedham, M-I SWACO

Session Manager: Ronald Rock, Shell

This session reviews the current lab methods for assessing fracture sealing, controlling downhole losses, and evaluating wellbore strengthening in relation to field applications. The purpose is to determine which areas of loss circulation that are simulated well and the areas that need improvement. Where should the testing expertise reside—the operators, services companies, or universities? Ideas for improved or new facilities will be proposed.

Field Application Needs

Session Manager: Gary Young, Oxy

Session Manager: Hong (Max) Wang

This session encourages discussion on current and future lost circulation material (LCM) and wellbore strengthening field applications. Applications that involve optimum placement procedures such as remote monitoring and particle-size distribution measurements will be discussed. Additionally, the session will consider present and future downhole placement equipment and surface recovery and mixing equipment requirements.

Session Issues/Topics

Session Manager: Fersheed Mody, Apache Corporation

Session Manager: Mark Alberty, BP

This session explores innovative ideas that were previously raised by participants during the earlier sessions. Participants will build on these ideas incorporating a multi-discipline mindset. The session could incorporate a discussion of out-of-the-box ideas not covered in the earlier sessions.

Lost Circulation and Wellbore Strengthening—The Path Forward Looks Like?

Session Manager: Dave Beardmore, ConocoPhillips

Session Manager: Don Whitfill, Halliburton

The final session summarizes what was discussed in the previous eight sessions, including the identification of points that are still contentious. Actions that the industry should take to further develop lost circulation management and wellbore strengthening techniques will be summarized. Finally, potential joint industry project (JIP) concepts, including lab or field studies, will be discussed.

If the committee approves your application, you will receive registration materials, including more detailed information on housing, transportation, and fees. If your application is placed on a waiting list, you will receive notification of that fact. After notification of acceptance, your registration form with payment must be returned by **24 June 2010** to ensure your place in the forum.

The forum fee is USD 2,995 and includes

- Registration to attend all nine forum sessions
- Five nights of hotel accommodation based on single occupancy
- Monday evening reception and dinner
- Daily breakfast buffet
- Thursday farewell reception
- Morning and afternoon continuous coffee breaks throughout the duration of the forum

Please note: The base registration fee does not include accompanying persons. The registration fee is not transferable. The full fixed fee is charged regardless of the length of time a registrant attends the forum. Attendees are expected to attend the entire forum.



Lost Circulation and Wellbore Strengthening

8–13 August 2010
Park City, Utah, USA

The Forum Series Format

The SPE Forum Series provides nine alternate morning, afternoon, and evening sessions of scheduled and unscheduled presentations with maximum time available for informal discussions and exchange of experience. Presentations are generally limited to three or four slides. Breakout sessions for discussions are common. A short, written summary of major issues and consensus arising from the forum may be prepared and distributed to attendees after the forum at the discretion of the program committee and with appropriate SPE approval.

Forum Guidelines

- Participants are expected to attend every session.
- To promote maximum discussion, lengthy, formal presentations are discouraged.
- SPE Forums are conducted off the record to support the free interchange of information and ideas.
- Written papers are prohibited, and extensive note taking is not allowed.
- Mechanical recording of any portion of the forum in any form (photographic, electronic, etc.) is prohibited.
- Information disclosed at a forum may not be used publicly without the originator's permission.
- Participants are requested to omit reference to forum proceedings in any subsequent published work or oral presentation.

The 2010 SPE Forum Series Program

10–14 May 2010

Reservoir Simulation—Beyond Tomorrow
Langkawi, Malaysia

16–21 May 2010

Advancing Well Integrity Technology
Tunisia, Africa

27 June–2 July 2010

Geosteering Technology
Colorado Springs, Colorado, USA

27 June–2 July 2010

Petrophysics Meets Well Testing
Colorado Springs, Colorado, USA

8–11 August 2010

Getting to Zero
An Incident-Free Workplace: How Do We Get There?
Park City, Utah, USA

8–13 August 2010

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Park City, Utah, USA

26 September–1 October 2010

Accelerating the Time to 1st Hydrocarbons: Towards Robust Fast-tracking of Development Planning and Execution
Paris, France

3–8 October 2010

The Future of Reservoir Management
Paris, France

10–15 October 2010

The Automated Well Construction Factory
Paris, France