Joint GRC-SPE Workshop

High Temperature Well Cementing

September 14-16, 2020
San Diego, California, USA

More information at https://cement.mygeoenergynow.org/
GRC/SPE Workshop: High-Temperature Well Cementing and Well Integrity

Exploring Geothermal and Oil and Gas Synergies

The joint workshop will enable both the geothermal and oil & gas industries to share their experiences, technologies, technical procedures and best practices on this important aspect of well completion. The workshop will highlight cement formulae and slurry blends, placement methods, remedial procedures and result evaluations. Case studies will be discussed and analyzed. All drilling personnel, both geothermal and oil & gas drilling and production engineers, well-site supervisors, cementing engineers and interested personnel are welcome to attend and participate.

Agenda

**Monday 14 September**

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>7:30-8:30</td>
<td>Registration Check-in&lt;br&gt;Continental Breakfast</td>
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<td>8:30-8:45</td>
<td>Chairperson's Welcome and Introduction&lt;br&gt;&lt;i&gt;Louis Capuano, Jr. and Todd Zahacy&lt;/i&gt;</td>
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<td>8:45-10:00</td>
<td>OPENING PANEL SESSION&lt;br&gt;Panelists: &lt;i&gt;Steve Pye, Daniel Bour, and Jeff Spence&lt;/i&gt;</td>
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<td>10:00-10:30</td>
<td>Coffee Break</td>
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<td>10:30-12:00</td>
<td>SESSION 1: The Function of Cement in Well Construction&lt;br&gt;Chairs: &lt;i&gt;Susan Petty and Kyriacos Agapiou&lt;/i&gt;</td>
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<td>1. Technical Challenges for Cementing Super-Hot Geothermal Wells&lt;br&gt;Presenter: &lt;i&gt;Daniel Bour&lt;/i&gt;</td>
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<td>2. A Discussion on Casing-Cement Bonding at Elevated Temperatures and its Implications to Well Integrity&lt;br&gt;Presenter: &lt;i&gt;Catalin Teodoriu&lt;/i&gt;</td>
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<td>3. Cement strength with silica&lt;br&gt;Presenter: &lt;i&gt;Arpita Bathija&lt;/i&gt;</td>
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<tr>
<td>12:00-13:00</td>
<td>Lunch</td>
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More information at [https://cement.mygeoenergynow.org](https://cement.mygeoenergynow.org)
13:00-14:30  
SESSION 2: Slurry Blends  
Chairs: Hamid Najafi and Jeff Spence

1. A Review of Thermally Responsive Cement Case Studies  
Presenter: Nicolas Droger
2. Hexagonal Boron Nitride Reinforced Multifunctional Well Cement for Extreme Environments  
Presenter: Rouzbeh Shahsavari
3. Mitigating Strength Retrogression Using Tailored Cement Designs  
Presenter: Samuel Lewis

14:30-15:00  
Coffee Break

15:00-17:00  
SESSION 3: HT/HP Cements  
Chairs: Giorgia Bettin and Axel-Pierre Bois

1. Extended Surface Batch Mix Cement Slurry For HPHT Drill-in Liner In Depleted Reservoirs  
Presenter: Martin Herriot
2. Evaluation of Cement/Casing & Cement/Rock Bond Integrity during Well Operations  
Presenter: Abdelfattah Lamik
3. Cement Replacement System for HP-HT High Stress Applications  
Presenter: Daniel Bour

17:00-18:30  
Reception

**Tuesday 15 September**

7:00-8:00  
Continental Breakfast

8:00-9:30  
SESSION 4: Placement Procedures  
Chairs: Steve Pye and Ramon Viso

1. Proper centralization for optimum cement coverage and long-term wellbore integrity in hot and corrosive drilling environments  
Presenter: Rafael Hernandez
2. Managing challenging loss zones in high temperature applications; fallback and lost circulation  
Presenter: Simon Iremonger
3. Duvernay Formation Thermal -Low Rheology-Variable Densities Cement Design For Long, Production Casing: Case History  
Presenter: Afshin Ahmady

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9:30-10:00  Coffee Break

10:00-11:30  SESSION 5: Other Uses of Cement/Research and Development
Chairs: Marc Brennen and Mileva Radonjic

1. Graphene Enhanced Wellbore Cement
   Presenter: Mercy Achang

2. Methods for Improving Cement Performance and Integrity in Thermal Wells
   Presenter: Simon Iremonger

3. Self-Repairing Polymer-Modified Wellbore Cements with High Thermal and Chemical Stability for Enhanced Geothermal Systems
   Presenter: Carlos A. Fernandez

11:30-12:30  Lunch

12:30-14:30  SESSION 6: Problems and Solutions
Chairs: Bob Pilko and Catalin Teodoriu

1. Experimental Method Development to Evaluate Cements at Elevated Pressure and Temperature
   Presenter: Stephen J. Bauer

2. Reservoir Depletion Needs to be Included in Top of Cement Selection to Prevent Leakage
   Presenter: Jarrett Wise

3. Shear Bond Strength of Oil Well Cement in Carbonic Acid Environment and the Effects of Pressure and Temperature
   Presenter: Catalin Teodoriu

14:30-15:00  Coffee Break

15:00-16:30  SESSION 7: What is Needed for Future Cement Blends and Cement Placement Technologies
Chairs: Mileva Radonjic and Daniel Bour

1. Designing Robust Barrier Materials: Learning the Lessons of Nature
   Presenter: Mercy Achang

2. Smart Expandable Fiber Additive to Improve Zonal Isolation in Geothermal Wells
   Presenter: Arash Dahi Taleghani

   Presenter: Yunxing Lu

More information at https://cement.mygeoenergynow.org
Wednesday 16 September

7:00-8:00  Continental Breakfast

8:00-10:00  SESSION 8: Case Histories and Past Experiences
            Chairs: Pablo Gutierrez and Carlos Fernandez

1. Non-Portland Cement Slurry Development and Application for Ultrahigh-
   Temperature Geothermal Well with Supercritical Conditions (SPE-190974-MS)
   Presenter: Guido Di Martino

2. Two-Stage Cementing Operations in the Salton Sea Geothermal Field (A Case
   Study)
   Presenter: William (Billy) Thomas

3. Long Term Wellbore Integrity Assessments in the Gulf of Mexico – Results from
   Reactive Transport Modeling
   Presenter: Temitope Ajayi

10:00-10:30  Coffee Break

10:30-12:00  SESSION 9: Conclusion
              Moderator: Susan Petty
              Panelists: Bob Pilko and Catalin Teodoriu

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