

# **SPE Produced Water Handling & Management Symposium 2015**

Galveston, Texas, USA  
20 – 21 May 2015

ISBN: 978-1-5108-1161-4

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2015) by the Society of Petroleum Engineers  
All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact the Society of Petroleum Engineers  
at the address below.

Society of Petroleum Engineers  
P. O. Box 833836  
Richardson, Texas 75083-3836

Phone: (800) 456-6863  
Fax: (972) 952-9435

[books@spe.org](mailto:books@spe.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

<b>All High Pressure Spoolable Composite Pipes Are Created Equal . . .Or Are They?</b> .....	1
<i>S. Swanstrom</i>	
<b>Chloramine: An Effective Biocide for Produced Waters</b> .....	8
<i>A. Boal, C. Mowery</i>	
<b>The Concept of Smart Water Discharge (SWD), The Next Revolution in Produced Water Treatment</b> .....	16
<i>F. Richerand, Y. Peymani</i>	
<b>Design and Installation of a Water Management Infrastructure for Newfield Exploration Company's Cana Woodford Shale Play</b> .....	32
<i>D. Tipton</i>	
<b>Detection and Monitoring of Biofilm Growth in the Seawater Sulfate Removal Units</b> .....	42
<i>P. Baldoni-Andrey, N. Lesage, P. Pedenaud, M. Jacob</i>	
<b>Improving Flotation Methods to Treat EOR Polymer Rich Produced Water</b> .....	56
<i>F. Richerand, Y. Peymani</i>	
<b>Misapplication of Solids Control Chemistries May Stress Microbes Towards Dormancy</b> .....	74
<i>T. Tidwell, R. Ryther, Z. Broussard, V. Keasler</i>	
<b>Offshore IOR/EOR Implementation Through Weight and Footprint Reduction</b> .....	95
<i>L. Henthorne, S. Pelt, H. Johnson</i>	
<b>Permian Unconventional Water Management: Collaboration to Develop Full Cycle Solutions</b> .....	105
<i>K. McLin, J. Freeman, S. Aarekol, E. McKean, R. Sharma, J. Rincon, J. Speaker</i>	
<b>Produced Water Treatment - Preparing for EOR Projects</b> .....	112
<i>P. Dwyer, E. Delamaide</i>	
<b>Souring Development Associated with PWRI in a North Sea Field</b> .....	125
<i>P. Evans, E. Nederlof, W. Richmond</i>	
<b>A Sustainable Choice for Water Treatment/Recycling When Injection is Not an Option or Water Supply is Limited</b> .....	141
<i>K. McManus, D. Ertel, J. Bogdan</i>	
<b>Author Index</b>	