



FINAL PROGRAM
FIRST ANNUAL SOUTHEASTERN *IN SITU*
SOIL AND GROUNDWATER
REMEDICATION CONFERENCE



Redox Tech and the Groundwater Professionals of North Carolina (GWPNC) are sponsoring the First Annual Southeastern *In Situ* Soil and Groundwater Remediation Conference on February 26 and 27th 2008 in the Research Triangle Park near Raleigh, North Carolina. The conference will provide a forum for providing the state of the art for a wide range of in situ remediation technologies. On the first day of the conference, recognized speakers from around the country will present on their area of expertise. On the second day, case studies will be provided by consultants and vendors on the application of emerging technologies, with lessons learned. The Conference should provide a valuable opportunity for groundwater professionals to keep abreast of recent develops in remediation technologies, while potentially earning continuing education credits.

February 25, 2008

Pre-registration, sign-in and display booth setup is from 6:00 p.m to 8:00 p.m. Pre-registration is advised but registrations openings may be available at the conference.

February 26, 2008

- 7:15 to 8:15 Continental Breakfast Provided as Part of the Conference Registration
- 8:15 to 8:25 Opening Remarks, Dr. John Haselow, Redox Tech, LLC
- 8:25 to 9:00 In Situ Chemical Oxidation Design Protocol and Technology Practice, Professor Robert Siegrist, Colorado School of Mines
- 9:00 to 9:30 Catalyzed Peroxygens, Professor Rick Watts, Washington State
- 9:30 to 10:00 Surfactant Enhanced In Situ Chemical Oxidation, Dr. George Hoag, VeruTEK
- 10:00 to 10:30 Mid-Morning Break
- 10:30 to 11:00 Klozur Activated Persulfate, Dr. Phil Block, FMC Chemicals
- 11:00 to 11:30 Permanganate, Matt Dingens, Carus Chemicals
- 11:30 to 12:00 Field Application of Fenton's Chemistry, Dr. Dan Bryant, Geo-Cleanse International
- 12:00 to 1:00 Lunch Provided as Part of the Conference Registration
- 1:00 to 1:30 Thermally Enhanced Remediation, Dr. Bo Stewart, Praxis
- 1:30 to 2:00 Zero Valent Iron Technology, John Vogan EnviroMetal Technologies, LLC
- 2:00 to 2:30 Combined Reductive Bioremediation and ZeroValent Iron, Dr. Jim Mueller, Adventus Americas
- 2:30 to 3:00 Mid-Afternoon Snack
- 3:00 to 3:30 Anaerobic Bioremediation-Biostimulation and Bioaugmentation, Dr. Robert Steffen, Shaw Group
- 3:30 to 4:00 Enhanced Natural Attenuation Protocol, Dr. Brian Looney, SRNL
- 4:00 to 4:30 REMChlor: Remediation Evaluation Model for Chlorinated Solvent Sites, Professor Ron Falta, Clemson
- 4:30 to 5:00 Designing Efficient Systems for Emulsified Oils, Professor Borden, NC State
- 5:00 to 6:00 Social Hour - Sponsored by Redox Tech and Adventus Americas
- 5:45* Chartered Bus departs for NHL Hockey game RBC Center

*Tickets are available for \$60 (face value) for the Carolina Hurricanes versus the New Jersey Devils at RBC Center in Raleigh. The price includes round trip bus service from the Hilton Hotel and RBC.

February 27, 2008

- 7:15 to 8:15 Continental Breakfast provided as part of the conference registration
- 8:15 to 8:50 Recent Advances in Remediation, Dr. Richard Brown, ERM
- 8:50 to 9:10 Rebound of a Coal Tar Creosote Plume following Partial Source Zone Treatment with Permanganate, Professor Neil Thomson, University of Waterloo
- 9:10 to 9:30 Ex-Situ Treatment of Petroleum Saturated Soils Using Chemox, Isaac Aboulafia, MEC^x
- 9:30 to 9:50 Groundwater Circulation Wells as Hydraulic Delivery Systems for Soil and Groundwater Remediation, Dr. Eric Klingel, Zapata Engineering
- 9:50 to 10:10 In Situ Stabilization of Zinc in Soil and Groundwater, Bernd Rehm, Resolution Partners
- 10:10 to 10:30 Mid-Morning Break
- 10:30 to 10:50 Integrated In-Situ Soil/Groundwater Treatment Approach to Electroplating Metal Waste, Brandon Fagan, Haley & Aldrich
- 10:50 to 11:10 Using Emulsified Oil Substrate for In Situ Bioremediation of a TCE Source Area, Janet Macdonald, Solutions-IES, Inc.
- 11:10 to 11:30 Remediation of Mixed Chloroethanes and Chloroethenes in Groundwater via Biostimulation and Bioaugmentation, Dr. Neal Durant, Geosyntec Consultants
- 11:30 to 11:50 Enhanced Bioremediation of Carbon Tetrachloride and TCE using Emulsified Oil, Christie Zawtocky, Hart and Hickman
- 12:00 to 1:00 Lunch provided as part of conference registration
- 1:00 to 1:20 Multiple Amendment Pilot Testing for Full-Scale CVOC Remedial Design, Timothy Adams, Roux Associates
- 1:20 to 1:40 Use of Mixed Technologies to Remediate Chlorinated DNAPL at a Brownfields Site, David Robinson, The Whitman Companies
- 1:40 to 2:00 Design and Implementation of a Full-Scale Enhanced Reductive Dechlorination System, Dr. Matt Zenker, ENSR
- 2:00 to 2:20 Bioremediation of Chlorinated Solvents Under Aerobic Conditions: Opportunities to Improve Remediation Effectiveness, Michael Saul, CL Solutions
- 2:20 to 2:45 Mid-Afternoon Break
- 2:45 to 3:05 Results of Field Pilot Study Applications of Magnesium Sulfate Solution to Remediate Petroleum Impacted Groundwater, James Cuthbertson, Delta Consultants
- 3:05 to 3:25 Pumping Iron: Two Case Studies Illustrating the Recent Success of nZVI Technology, Dr. Michael Borda, Golder Associates
- 3:25 to 3:45 Using Direct Sensing and Environmental Informatics in Designing Remediation Strategies and Getting to Closure, Ned Tillman, Columbia Data
- 3:45 to 4:05 Persulfate Oxidation of PCE in Solids Containing Reactors, Dr. Jed Costanza, Georgia Tech
- 4:05 to 4:25 Ion Chromatography for Persulfate and Total Oxidant Demand Analyses, Dr. Joe Rossabi, Redox Tech, LLC
- 4:25 to 4:30 Closing Remarks, Dr. John Haselow Redox Tech, LLC

POSTER SESSION

The poster session will be on Tuesday, February 26th from 4:00 to 6:00 p.m. The Poster Session is being held in the same room as the Social Hour so you can enjoy potent potables at the same time. Below are the accepted poster presentations for the Conference:

Enhanced Electron Donor Distribution: Impact of Substrate Hydrophile/Lipophile Balance, Scott B. Wilson and Bob Kelley, PhD, Regensis

Lines of Evidence for Monitored Natural Attenuation of Perchlorate, Sheri L. Knox, P.E. and M. Tony Lieberman Solutions-IES, Inc., Robert C. Borden, NCSU Shawn Jorgensen, Naval Support Facility, and William Lucas, Alliant Techsystems, Inc.

Impact of pH Adjustment and Bioaugmentation on Enhanced Reductive Dechlorination of Trichloroethene, Robert C. Borden and Jason Tillotson, NCSU, Tony Lieberman and Janet Macdonald, P.G Solutions-IES, Inc

Modified Active Gas Sampling as a Tool for Characterizing NAPL Volatiles in Soil, Steven Folsom, P.E., Richard Lewis, Ph.D. and Brian Moore, P.E., HSA Engineers

High-Pressure Lance Injection of an Advanced, High Volume Electron Donor, Dale Markley, Philip Environmental Consulting Services

Innovative Technology Enhances In Situ Injection, Pat Hicks and Brad Carlson, ZEBRA Environmental

SUPPORTING VENDORS



Advanced Technologies for Contaminated Site Remediation



Full Service Analytical & Environmental Solutions



CONFERENCE DETAILS

The cost of registration for the conference is \$250, and the registration includes continental breakfast, snacks and lunch. **Members of the Groundwater Professionals of North Carolina receive a \$50 discount on registration.** Each participant is responsible for their own dinner and lodging. Redox Tech is the promoter and main sponsor of the conference and is not directly profiting from the conference. The cost covers direct costs such as the conference room, lunch, beverage, snacks and A/V equipment rental. Participation is limited to the first 200 registrants. Registration is fully refundable up to two weeks prior to registration, less an administrative fee of \$25. If you cannot attend, your registration may be transferred to another participant. Single day registrations are not available.

The conference is being held at the Hilton in the Research Triangle Park in North Carolina. The hotel is a short drive from the Raleigh Durham Airport (RDU). The hotel offers free shuttle service. The hotel is located at Exit 282 off Interstate 40 (I-40). A block of rooms has been reserved at a discounted pre-registration rate of \$149 per night. The block of rooms is being held until February 1st, 2008. There are other hotels located in the area, but if you will need a room, reserve one because hotels in the area have limited availability.

REGISTRATION INFORMATION

Name _____
(name as you wish it to appear on your badge)

Company _____

Mailing Address _____

City _____

Phone (office) _____

Fax _____

E-mail _____

Payment Method (payment must accompany this registration form)

Payor _____ Company _____ Individual _____

_____ Check Enclosed (Payable to Redox Tech, LLC)

Please charge my credit card

_____ Mastercard _____ Visa _____ Corporate Card _____ yes _____ no

Card Number _____

Expiration Date _____

Cardholder's Name (please print name as it appears on card) _____

Cardholder's Signature _____

Mail completed registration form to :

Redox Tech, LLC
200 Quade Drive
Cary, NC 27513

or fax to 919-678-0150,
Attn: Conference

or by e-mail to
conference@redox-tech.com

The Evening of February 26th - NHL Hockey

Tickets to the Carolina Hurricanes vs. the New Jersey Devils hockey game are \$60 each.

No. of Tickets _____
Total _____

HOTEL INFORMATION

RTP Hilton Raleigh-Durham Airport at
4810 Page Road
Durham, NC 27703
Phone: 919-941-6000