

REMEDICATION • RENEWAL • RESULTS

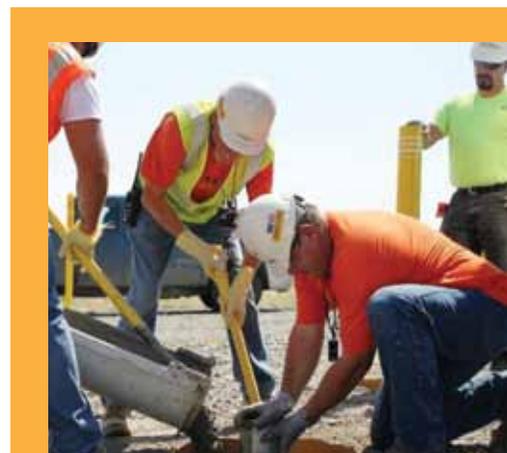


PRODUCED BY:



EnviroBlend[®]

Metal Waste **Treatment** by Premier Magnesia, LLC



2012 RE3 CONFERENCE PROGRAM

Nov. 12th –14th ■ Atlantic City, New Jersey ■ www.RE3Conf.com

I would like to personally welcome each of you to the inaugural RE3 Conference



Over the past year of planning, I have had the pleasure of meeting and working with so many environmental professionals that shared in the RE3 vision; to create an event that comprehensively addresses the who, what, where, why and how's with regards to dealing with contaminated sites and properties.

What began primarily as a technical conference focusing on applied technologies and methodologies for treatment of heavy metals and organics, has expanded to something much greater. RE3 grew organically throughout the planning process. In attempt to truly create an event for the "industry, by the industry", the program is a result of months of gathering input from industry professionals, private and public organizations and associations, state and federal regulators, well as our prestigious advisory board. You asked, and we answered, with the end result being a two track program including not only technical information, but also a full program designed for property owners and developers who want to learn more about liabilities, funding programs, policy and experience with regards to site redevelopment.

Whether you are responsible for cleaning up soil or groundwater contamination, if you are considering buying a contaminated property for redevelopment, or if you currently own a site that has become an environmental liability, RE3 will help to provide you with details to help in your decisions.

With environmental issues continuing to push to the front and center of media attention, and with financial pressures being at their height, we have all been forced to both be creative in opportunity, and simplified in our processes within our respective niches. Keeping abreast of the latest technologies, understanding the shift in the way projects are run, and making connections with the right people are all a part of the process of staying successful in an ever-changing industry.

I encourage you to use this event as a way to expand your horizons. RE3 exists not only to help us to further our knowledge of our day to day work, but also to gain better understanding of the supporting functions surrounding our a variety of endeavors. I trust you will take advantage of the learning and networking opportunities, and please, feel free to give us feedback throughout the event. By working together towards a common goal, we can create a smoother path to a successful future in remediation, renewal, and results. ■

Charis Gehret

*Executive Director, RE3 Conference
EnviroBlend Division of Premier Magnesia, LLC*

Welcome to the RE3 Conference



On behalf of the **Association of Environmental and Engineering Geologists (AEG)**, I would like to personally welcome you to the RE3 Conference in Atlantic City. AEG is proud to be the Association Partner for this event.

Your RE3 Advisory Board has worked long hours to bring you an outstanding program, including technical sessions, tours and networking events focused on the applied technologies for the treatment of heavy metal and organic wastes.

I encourage you to take the time to network with your fellow attendees. The RE3 Conference was structured to draw the best from all aspects of the industry in order to provide the information you need immediately in your business.

AEG would like to thank the Advisory Board and EnviroBlend staff for presenting such a high-quality event for this industry. ■

Matthew Morris

AEG President



Greetings from the HONORABLE LORENZO T. LANGFORD



As Mayor, it is my pleasure to welcome you to **Atlantic City for the RE3 Conference**, held November 13-14, 2012 at the Revel Resort.

I wish to recognize and commend the organizers of the RE3 Conference for their outstanding efforts to provide a forum to obtain

comprehensive information regarding opportunities available for redeveloping sites contaminated with heavy metals and organics. Furthermore, the RE3 Conference is designed for all parties involved in site clean-up, whether

related to the technical, regulatory, development or ownership aspect, and provides significant resources for remediation and redevelopment.

While you're here for the conference, be sure to "DO AC" and take advantage of all that Atlantic City has to offer... from our world-famous boardwalk, to fine dining, excellent entertainment, superb shopping and non-stop casino excitement...Atlantic City has something special for everyone!

Thank you for coming to Atlantic City. We appreciate your patronage and look forward to making your visit most memorable and enjoyable. ■

Lorenzo T. Langford

Mayor of Atlantic City



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As the in-situ chemical remediation field continues to evolve, Geo-Cleanse has expanded our services to incorporate the advances occurring within the industry and we have consistently provided innovative remedial solutions to our diverse clientele network.

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- Site Review and Evaluation
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Reagents Utilized

- Catalyzed Hydrogen Peroxide
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- Activated Sodium Persulfate
- Zero Valent Iron

Chlorinated Solvents

- MAHs/PAHs
- Pesticides

Contaminants

- Petroleum Hydrocarbons
- Chloromethanes
- Energetics
- NAPLs

MGP Constituents

- GRO/DRO/TPH/EPH
- VOCs/SVOCs

400 State Route 34, Suite B • Matawan, NJ 07747
(732) 970-6696 • Contact@GeoCleanse.com
www.GeoCleanse.com



5 – KEY EVENTS	14 – DEVELOPER PRESENTERS
6 – AGENDA	16 – EXHIBIT HALL MAP
8 – TECHNICAL PROGRAM DESCRIPTIONS	18 – EXHIBITOR LISTINGS
12 – TECHNICAL PRESENTERS	19 – SPECIAL THANKS TO OUR SPONSORS & ADVISORY BOARD

 The logo consists of a circular icon with a black and white yin-yang-like pattern, followed by the text 'ReResolution Partners LLC' in a sans-serif font.

ReResolution Partners LLC



ReResolution Partners delivers unique solutions for remediation of heavy metals and volatile organic compounds (VOCs). Our services integrate creative remediation strategies and best-fit remediation technologies to achieve cost-effective site closure. The ReResolution Partners approach provides remediation cost certainty with guaranteed, performance-based services.

Services

- Treatability studies
- Remedial options evaluation
- Treatment technology development
- Closure-focused remedial design
- Full-scale implementation

Applications

- Soil and groundwater remediation
- Metals stabilization
- Organics destruction
- In situ and ex situ methods

resolutionpartnersllc.net • 608.669.1248

Welcome Reception

Monday, November 12
6:00 PM
Ocean Prefunction

Join Enviroblend and help kick off the start of the first official RE3 conference! Mingle with other attendees while enjoying cocktails and hors d'oeuvres.

Sponsored by:



BREAKFAST KEYNOTE

Tuesday, November 13
8:00 AM
Oceans E-H

KEVIN DESANCTIS, CEO REVEL ENTERTAINMENT

With over 30+ years of diverse experience managing and developing gaming properties throughout the United States, Kevin DeSanctis is the Chairman and Chief Executive Officer of Revel Entertainment. Revel Entertainment was formed in 2006 and opened its first venture, Revel Atlantic City, a \$2.4 billion beachfront destination in Atlantic City, New Jersey in April 2012. Come hear about Kevin's experience with Revel Atlantic City's transformation.



INSPIRATION LUNCHEON

Tuesday, November 13
12:15 PM
Oceans E-H

BRENT BISHOP

Brent Bishop, the son of the late legendary climber Barry Bishop, was the first American legacy to follow in his father's footsteps and summit Mt. Everest. National Geographic produced the documentary, Surviving Everest, based on his climbs. In 1994 Brent co-founded, the Sagarmatha Environmental Expedition (SEE), an organization committed to cleaning trash off the slopes of Everest.

Reception with Exhibitors

Tuesday, November 13
4:30 PM
Oceans A-D

Take some time to network with peers and exhibitors in this reception hosted by Pennoni Associates Inc. and Stradley Ronon Attorneys At Law.

Sponsored by:



LUNCH KEYNOTE SPEAKER

Wednesday, November 14
12:30 PM
Oceans E-H

J. BRIAN O'NEILL, CEO O'NEILL PROPERTIES

Learn how environmental challenges that deterred other developers spurred O'Neill Properties to acquire remediation skills and expertise that have made O'Neill the nation's leading private developer and recycler of brownfields. J. Brian O'Neill, Chairman & CEO of O'Neill Properties Group, is a real estate entrepreneur and philanthropist developing luxury residential, retail, office, and mixed-use projects in the most affluent communities on the eastern seaboard.



CLOSING OF THE RE3 CONFERENCE

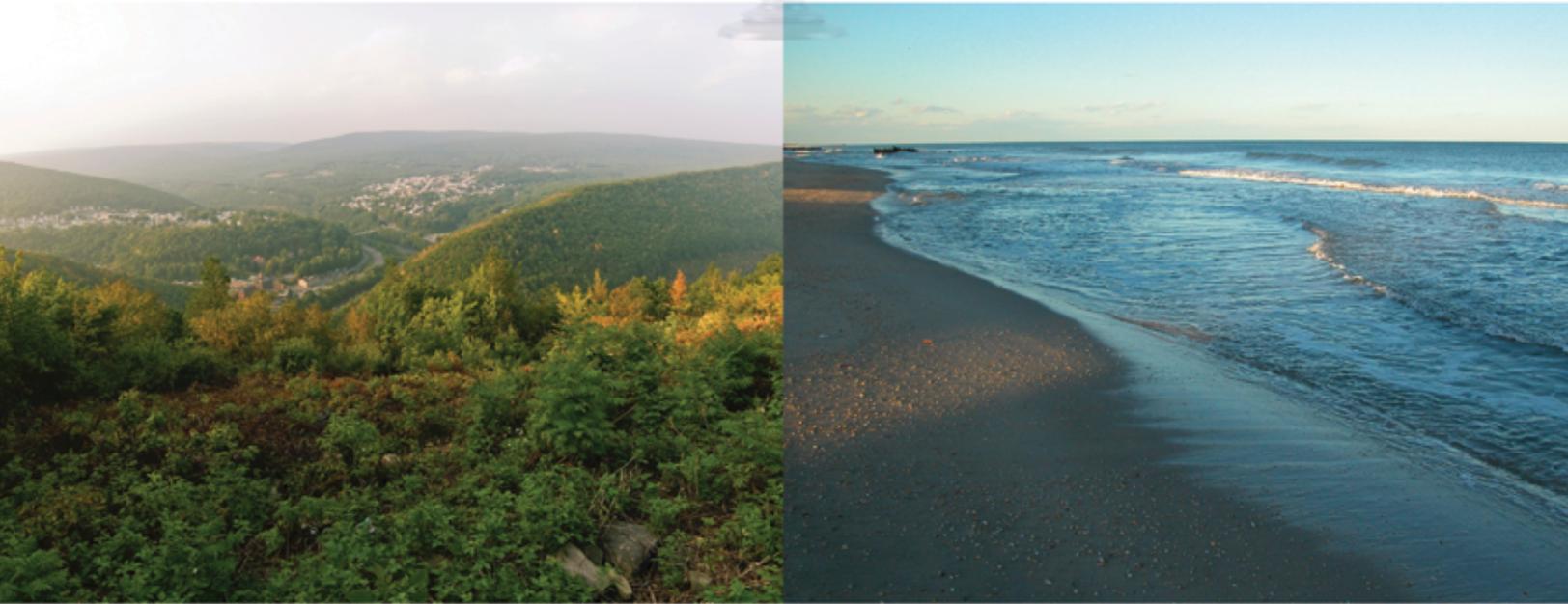
Wednesday, November 14
4:00 PM
Oceans E-H

NJDEP COMMISSIONER BOB MARTIN

Bob Martin was named by Governor Chris Christie to serve as Commissioner of Environmental Protection. Commissioner Martin has worked to transform the DEP into a more efficient agency in order to more effectively protect New Jersey's air, land, water and natural resources.

DAY 1			Monday, November 12, 2012		
12:30 PM	ATLANTIC CITY REVITALIZATION TOUR, MEET IN THE OCEAN PRE-FUNCTION SPACE— Lasts until 5:30 PM (Plan Accordingly)				
3:00 PM	CONFERENCE REGISTRATION, OCEAN PRE-FUNCTION SPACE				
6:00 PM	WELCOME RECEPTION, OCEAN PRE-FUNCTION SPACE				
DAY 2			Tuesday, November 13, 2012		
7:00 AM	BREAKFAST, OCEANS E-H				
8:00 AM	RE3 KICKOFF & BREAKFAST KEYNOTE, OCEANS E-H				
	TECHNICAL PRESENTATIONS		DEVELOPER PRESENTATIONS		
	TANK 8	TANK 7	OCEANS E-H		
9:00 AM	Aerobic Cometabolic Bioremediation— <i>Gary Birk</i>	A Practitioners Perspective on Achieving Remediation in a Cost-Constrained World— <i>Scott Barker</i>	How to find a Contaminated Site—State & Federal Frameworks, Selecting a Team, Corporate Policies on Holding Contaminated Real Estate, Selecting a Team, & Due Diligence <i>Moderator: Cathy Ward</i> <i>Speakers: Ken Goldstein, Bill Lindner, Marshal Granor</i>		
9:30 AM	Advancements on the Biodegradation Chlorinated Solvent Mixtures-Dehalobacter our Latest all in Site Remediation— <i>Sandra Dworatzek</i>	Influence of ISCO Catalysts, Activators, and Chelators on Secondary Metals Mobility in Soil & Groundwater— <i>Andy Wenzel</i>			
10:00 AM	COFFEE WITH EXHIBITORS, OCEANS A-D				
10:45 AM	Ex-Situ Contaminated Soil Remediation— <i>Richard Cartwright</i>	Improving In-Situ Metals Stabilization Design— <i>Bernd Rehm</i>	Case Studies of Brownfield Sites—NJDEP Oversight Case, EPA Brownfields Case, Future of Brownfields Programs, Brownfields Developers, Corporate Ownership Issues, & Municipality Involvement <i>Moderator: Rachelle Knight</i> <i>Speakers: Jerry Ostranger, Bob Carter, Tom Scannapieco, Tom Tomasetti</i>		
11:15 AM	Proof of Concept Evaluation Process: Destruction of DNAPL Through a Green Technology— <i>Kent Armstrong</i>	Reliably Achieving Lead Remediation Objectives at Firing Ranges— <i>Bob Stanforth</i>			
11:45 AM	Field Demonstration of a Monitoring Toolbox for In-Situ Biogeochemical Transformation— <i>Ryan Wymore</i>	Real-Time Performance Monitoring of Chemical Fixation Treatment— <i>Paul Lear</i>			
12:15 PM	INSPIRATIONAL LUNCHEON—KEYNOTE BRENT BISHOP, OCEANS E-H				
1:45 PM	The Use of 3D Modeling and Visualization Software for the Environmental Industry— <i>Brian Congiu</i>	Sustainable Remediation: An Overview of the Principles and Practices— <i>Stewart Abrams</i>	Brownfield Design—Incorporating Remediation/Contamination into Site Plans, Case Studies, & Use of the Waiver Rule in NJ <i>Moderator: Kevin Davis</i> <i>Speakers: Joe Gonnelli, Frank Cotilla, Chris Purvis</i>		
2:15 PM	Integrating Heat with Biological, Chemical, and Physical Processes for Soil & Groundwater Remediation— <i>Mark Kluger</i>	Recent Uses of In-Situ Stabilization, In-Situ Chemical Oxidation, and In-Situ Chemical Reduction Using Soil Mixing— <i>Daniel Ruffing</i>			
2:45 PM	COFFEE WITH EXHIBITORS, OCEANS A-D				
3:30 PM	The Effect of New Jerseys LSRP Program on the Investigation & Remediation from Metal Working Facilities— <i>Bob Blauvelt</i>	Remediation of Pentachlorophenol in Groundwater using ERH-Activated Sodium Persulfate— <i>David Fleming</i>	Remediation Framework (Federal)—Comfort Letters, Prospective Purchaser Agreements, EPA Grant Programs <i>Moderator: Dennis Toft</i> <i>Speaker: John Morris</i>		
4:00 PM	Advantages of Catalyzed Hydrogen Peroxide or Activated Sodium Persulfate at Petroleum Hydrocarbon Sites— <i>Stephanie Turkot</i>	Novel Activation Methods for Persulfate Oxidation: Combined Remedy Approaches— <i>Philip Block</i>			
4:30 PM	EVENING RECEPTION WITH EXHIBITORS, OCEANS A-D				
DAY 3			Wednesday, November 14, 2012		
7:00 AM	BREAKFAST WITH EXHIBITORS, OCEANS A-D				
9:00 AM	Identifying the Most Cost-Effective Zero-Valent Iron (ZVI) Products for Injection Into Contaminated Aquifers— <i>Lisa Congiu</i>	Innovative Monitoring Techniques for Fracturing & Injection Technologies— <i>Deborah Schnell</i>	Remediation Framework—State (NJ)—SRRA in NJ, LSP in Mass, Programs, Protections & Incentives for Remediating Parties, What's Coming... <i>Moderator: Jorge Berkowitz</i> <i>Speakers: David Sweeney, Kevin Kratina, George Vallone</i>		
9:30 AM	In-Situ Stabilization at MGP Sites: A Cost-Effective and Practical Remedial Alternative— <i>Paul Lear</i>	A Novel & Sustainable "Combined Oxidant" In-Situ Remediation Approach for Brownfield Redevelopment in N.J.— <i>Will Moody</i>			
10:00 AM	COFFEE WITH EXHIBITORS, OCEANS A-D				
11:00 AM	Ex-Situ Stabilization of Lead-Contaminated Soil: A Case Study— <i>Joe Starr</i>	Enhanced Physical Recovery of Petroleum NAPL from Groundwater – New Reagent of Mechanically Assisted Recovery— <i>Drew Baird</i>	Reducing Risk— Insurance Products, Guaranteed Fixed Price Remediation, Third Party Remediators/Investors, Entity Structure, & Legal Language <i>Moderator: Andy Levine</i> <i>Speakers: Harry Booth, Matt Winters, Scott Smith, Mick Warner</i>		
11:30 AM	Removal of Nickel from Waste Water Using Metal Binding Regents in an Industrial Waste Water Percolation Pond— <i>John Spencer</i>	Coupling Polymer Flooding with Bioremediation – Distribution of Biological Amendments & Microorganisms— <i>Sean Davenport</i>			
12:00 PM	Injection of Soluble Buffer & Emulsified Vegetable Oil to Promote Reductive De-Chlorination of an Acidic Aquifer— <i>Michael Lee</i>	In-Situ Chemical Reduction of CVOC & Chromium Facilitated Redevelopment of an Industrial Property— <i>Jim Mueller</i>			
12:30 PM	KEYNOTE—J. BRIAN O'NEILL—O'NEILL PROPERTIES, OCEANS E-H				
2:00 PM	An In-depth Look Into Design-Build Construction Projects. Advantages & Disadvantages— <i>Eric Brown</i>	Magnesium Sulfate: Enhance the Biodegradation of Dissolved Phas MTCE & TBA in Anaerobic Environments— <i>Richard Jasaitis</i>	Funding: State & Federal—Necessary Documentation, Creative Financing, Tax Incentives, & Related Programs (TIF, PILOT, Transit Hub, etc.) <i>Moderator: Adam Zellner</i> <i>Speakers: William O'Dea, Alan Miller, Steve Jaffe</i>		
2:30 PM	Matching Test Methods with Remediation Goals— <i>Bernd Rehm</i>	In-Situ Destruction of PCBs: A Full Scale Demonstration Project— <i>John Mateo</i>			
3:00 PM	COFFEE WITH EXHIBITORS, OCEANS A-D				
4:00 PM	CLOSING KEYNOTE—NJDEP COMMISSIONER BOB MARTIN, OCEANS E-H				
5:00 PM	CONFERENCE ADJOURNS				

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Stradley Ronon's Environmental Practice

Our Group

We focus on both legal and practical aspects of environmental regulation. Our environmental lawyers cross-practice in such areas as business, litigation, banking and real estate law, giving our practitioners a pragmatic edge in bringing realistic, cost-effective and creative solutions to environmental issues.

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- "Leader in Environment in New Jersey," *Chambers USA: America's Leading Lawyers for Business*
- Pennsylvania "Super Lawyers"
- Preeminent AV-rating by Martindale-Hubbell



Abstracts are listed alphabetically by speaker's last name.

SUSTAINABLE REMEDIATION: AN OVERVIEW OF THE PRINCIPLES AND PRACTICES

PRESENTER: STEWART ABRAMS • sabrams@langan.com • SURF — Board Director, Langan Engineering — V.P., Director of Remediation Technology

Cleaning up contamination and preparing impacted land for reuse requires substantial energy, water, and other natural resources. It also may involve excavation and movement of polluted soil and groundwater, installation and operation of large energy-intensive equipment, and possible discharge of harmful materials into the environment. To address these challenges, a group of environmental professionals organized the Sustainable Remediation Forum (SURF). Since 2006, SURF's primary objective is to provide a forum for various stakeholders in remediation — industry, government agencies, environmental groups, consultants, and academics—to collaborate, educate, advance, and...

PROOF-OF-CONCEPT EVALUATION PROCESS: DESTRUCTION OF DNAPL THROUGH A GREEN TECHNOLOGY—PCE SOURCE AREA BIOREMEDIATION

PRESENTER: KENT ARMSTRONG • karmstrong@plantprod.com • BioStryke Remediation

A Proof-of-Concept evaluation using Passive Release Sock (PRS) deployment units containing the proprietary electron donor additive ERDenhanced demonstrated the remediation of chlorinated volatile organic compound (cVOC) dense non-aqueous phase liquid (DNAPL) source mass. Reduction in Tetrachloroethene (PCE) concentrations by more than 81 percent (81.5%) were observed in less than 9 months, with concomitant generation and destruction of daughter products Trichloroethene (TCE) and cis-Dichloroethene (DCE). PRS based Proof-of-Concept evaluations provide stakeholders with a low-cost, low-risk method to confirm amendment efficacy, under actual...

ENHANCED PHYSICAL RECOVERY OF PETROLEUM NAPL FROM GROUNDWATER—A NEW REAGENT FOR INCREASING EFFICACY OF MECHANICALLY ASSISTED RECOVERY

PRESENTER: DREW BAIRD • DBaird@Regenesis.com • Regenesis

Dual-phase extraction (DPE) systems are widely used for the remediation of high concentrations of hydrocarbon nonaqueous phase liquid (NAPL) at contaminated sites. While the initial phase of DPE system operation typically achieves rapid reduction of NAPL the long-term effectiveness diminishes and the system often reaches an asymptote. Further operation of a system in asymptote conditions would provide little incremental benefit in treating soil or groundwater contamination thus negatively impacting both project costs and time. The leveling off of DPE effectiveness typically arises as a result of hydrocarbon distribution through zones of differential matrix...

A PRACTITIONERS PERSPECTIVE ON ACHIEVING SUSTAINABLE REMEDIATION IN A COST-CONSTRAINED WORLD

PRESENTER: SCOTT BARKER • sbarker@toterra.ca • Toterra Remediation Ltd.

Traditional approaches to site remediation in North America, and indeed much of the world, are based on costly and environmentally unsustainable practices that are also limited by severe technical constraints which undermine their effectiveness. This presentation examines the emerging trends and challenges in environmental remediation from a practitioner's perspective, gleaned from the past 10 years of project experience in jurisdictions ranging from across North America to Europe, Africa, and Asia. The presentation highlights a series of project vignettes from various environmental sectors (oil and gas, brownfield developers, superfund sites, etc) to showcase the...

REMEDICATION OF PENTACHLOROPHENOL IN GROUNDWATER USING ELECTRICAL RESISTANCE HEAT-ACTIVATED SODIUM PERSULFATE

PRESENTER: DAVID FLEMING • dfleming@thermalrs.com • TRS Group, Inc.

A full-scale in situ heat-activated chemical oxidation system was designed, installed, and operated to remediate an aqueous-phase pentachlorophenol (PCP) plume that was identified at a former wood preservative storage facility. PCP and its carrier solvent (diesel oil) were released to the shallow subsurface during the production process creating an aqueous-phase PCP plume approximately 15,000 square feet in area. In an effort to minimize the generation of hazardous waste with a RCRA waste designation of F027, an alternative/innovative remedial methodology was selected to meet the state regulatory cleanup levels for groundwater and allow for more traditional...

AEROBIC COMETABOLIC BIOREMEDIATION

PRESENTER: GARY BIRK • gary.birk@tersusenv.com • Tersus Environmental

A reemerging groundwater remediation practice area is cometabolic bioremediation. Co-metabolism is the simultaneous degradation of two compounds, in which the degradation of the second compound (the secondary substrate) depends on the presence of the first compound (the primary substrate). This underappreciated bioremediation strategy is being used on some of the most recalcitrant contaminants, e.g., TCE, DCE, VC, 1,4-dioxane. In aerobic cometabolic bioremediation indigenous bacteria are stimulated by adding oxygen and a cometabolic growth substrate to trigger the production of enzymes that can oxidize or degrade the target pollutant via cometabolism...

THE EFFECT OF NEW JERSEY'S LSRP PROGRAM ON THE INVESTIGATION AND REMEDIATION OF HEAVY METALS AND ORGANICS FROM METAL WORKING FACILITIES

PRESENTER: ROBERT P. BLAUVELT • rblauvelt@geiconsultants.com • GEI Consultants

In 2009 New Jersey joined a growing list of states that allow specially licensed individuals to approve the closure of sites where releases to soil and ground water have occurred. Now fully implemented, the Licensed Site Remediation Professional (LSRP) program and its enabling legislation—the Site Remediation Reform Act or SRRA—has resulted in a major paradigm shift related not only to how industrial and commercial properties are investigated and remediated, but also in re-defining the relationship between the environmental professional and the party responsible for conducting the remediation. The boundaries of this new paradigm are most evident when...

NOVEL ACTIVATION METHODS FOR PERSULFATE OXIDATION: COMBINED REMEDY APPROACHES

PRESENTER: PHILIP BLOCK • philip.block@fmc.com • FMC Corporation

Activated persulfate has been shown to be an effective, chemical oxidation technology to treat a wide range of organic compounds of concern. Several activator systems have been demonstrated on the field level, including use of metals and chelated metals, hydrogen peroxide and high pH (or alkaline) activation. Recently, large scaled applications of persulfate activated by cement in once instance, and electrical resistive heating in another have been performed. This presentation will discuss these projects and demonstrate that the activation methods may be ideal for certain sites heavily contaminant with recalcitrant contaminants. Cement can play several roles as an...

RISK IS NO LONGER A FOUR LETTER WORD, AN IN DEPTH LOOK INTO DESIGN-BUILD REMEDIAL CONSTRUCTION PROJECTS

PRESENTER: ERIC BROWN • Eric.R.Brown@tetrattech.com • TetraTech

For all types of design/build projects, a close cooperative relationship is required among the various stakeholders involved in the project. For hazardous waste cleanup design/build projects, however, the interrelationships must be even stronger, with common goals set to that the project is driven to remediation and closure. A brief review of the various roles of participants on design/build projects is followed by some real hazardous waste cleanup project examples where various types of project teams and organizations have been formed. The team members in Design and Build D&B projects, including owner's representative, contractor and architect/engineer, have to...

EX-SITU CONTAMINATED SOIL REMEDIATION

PRESENTER: RICHARD CARTWRIGHT • richard.cartwright@mecx.net • MECX

An innovative ex-situ soil and sediment treatment process has been developed and applied to safely and economically reduce the total contaminant mass of petroleum hydrocarbon in a saturated silty clay soil at a Brownfield Redevelopment Site. This process incorporated a dry chemical application program in treatment cells to allow full distribution of chemical oxidation chemicals prior to hydration. This process uses both persistent and controlled exothermic oxidation reactions to effectively dissolve and then oxidize contaminants in the dissolved phase. The innovative process presented is an enhancement of the proven Activated Sodium Persulfate (ASP) and Catalyzed...

For complete Abstract descriptions, visit www.RE3Conf.com

CONVEYING GEOLOGIC AND SUBSURFACE CONCEPTS THROUGH THE USE OF 3D MODELING AND VISUALIZATION SOFTWARE

PRESENTER: BRIAN CONGIU • brian_congiu@golder.com • Golder Associates, Inc.

The use of 3D software to model the subsurface has been widely used in the oil, gas, and mining industries for decades; however, the application of 3D modeling for the environmental industry has only recently begun to receive attention. Golder Associates recognizes the value and visual impact of transforming traditional 2D representations of data into three-dimensional space for development of environmental models, specifically for remediation projects and site conceptual models. Golder Associates has adopted the use of various 3D modeling software in order to quickly and efficiently compile, display, and interpret multiple types of data, including geology, hydrogeology, ...

IDENTIFYING THE MOST COST-EFFECTIVE ZERO-VALENT IRON (ZVI) PRODUCTS FOR INJECTION INTO CONTAMINATED AQUIFERS RESULTS FROM BENCH-SCALE REACTIVITY TESTS

PRESENTER: LISA CONGIU • lisa_congiu@golder.com • Golder Associates, Inc.

Zero-valent iron (ZVI) has been used widely for in-situ remediation of contaminated groundwater. Enhanced degradation rates have been attributed to greater surface area (smaller ZVI particle size) and the addition of metallic catalysts, such as palladium (Pd). However, the relative importance of these variables for field-scale applications remained largely unclear. Golder Associates conducted short- and long-term (3 hour and 3 day) bench-scale, chromium reactivity tests to assess the influences of iron loading, ZVI product type, particle size, longevity, and Pd concentration and preparation method. The main objective was to select the most cost-effect ZVI product for...

POLYMER FLOODING WITH BIOREMEDIATION ENHANCING THE DISTRIBUTION OF BIOLOGICAL AMENDMENTS AND MICROORGANISMS

PRESENTER: SEAN DAVENPORT • sean.davenport@caruscorporation.com • Carus Corporation

In situ bioremediation (ISB) has been successfully used to remediate a variety of organic contaminants worldwide. The application of organic substrates and/or microorganisms for the detoxification of emerging and recalcitrant compounds shows great promise for ensuring successful and complete remediation of contaminated sites. The coupling of shear-thinning polymer floods (e.g. xanthan polymer) with traditional in situ remediation technologies has shown great promise in improving the distribution of amendments in heterogeneous subsurface systems. Several microcosm experiments were performed to elucidate the timing and extent of xanthan polymer...

ADVANCEMENTS ON THE BIODEGRADATION CHLORINATED SOLVENT MIXTURES-DEHALOBACTER OUR LATEST ALLY IN SITE REMEDIATION

PRESENTER: SANDRA DWORATZEK • sdworatzek@siremlab.com • SIREM

Bioremediation of chlorinated ethenes including perchloroethene (PCE) and trichloroethene (TCE) in groundwater is a proven and cost effective remedial approach. Challenges often arise when contaminant mixtures are present. For example, 1,1,1-TCA and chloroform (CF) are potent inhibitors of many anaerobic microbial processes essential for bioremediation including methanogenesis and dechlorination. CF and 1,1,1-TCA are frequently found as co-contaminants with tetrachloroethene (PCE) and trichloroethene (TCE) and their presence, even at low concentrations, can prevent the complete dechlorination of PCE and TCE to ethene. Dehalobacter organisms have...

MAGNESIUM SULFATE: A METHOD TO ENHANCE THE BIODEGRADATION OF DISSOLVED PHASE MTBE AND TBA IN ANAEROBIC ENVIRONMENTS

PRESENTER: RICHARD JASAITIS • rjasaitis@kleinfelder.com • Kleinfelder East, Inc.

The initial biodegradation of a hydrocarbon spill site and resulting groundwater plume occurs by aerobic microbial processes which rapidly convert into anaerobic processes mainly due to the depletion of oxygen in the subsurface environment. Consequently, petroleum spill sites have multiple naturally occurring processes occurring simultaneously within the area of the groundwater plume with aerobic degradation occurring in the outer layers of the plume and anaerobic degradation processes occurring ideally sequentially inward with zones of nitrate reduction, iron III reduction, sulfate reduction, and lastly methanogenesis at the core of the plume (Chapelle, 2001). ...

INTEGRATING HEAT WITH BIOLOGICAL, CHEMICAL AND PHYSICAL PROCESSES FOR SOIL AND GROUNDWATER REMEDIATION

PRESENTER: MARK KLUGER • mkluger@dajak.com • Dajak, LLC

The primary mass removal mechanism of Electrical Resistance Heating (ERH) is soil vapor extraction subsequent to the conversion of volatile liquid phase contaminants to the gas phase. At sites where ERH has been implemented, it has been unexpectedly observed that heat enhanced chemical, biological and physical processes provide a significant amount of remediation activity. ERH involves placing electrodes in the contaminated zone. An electrode is a well that directs the flow of electricity through the formation. A power control unit delivers alternating current to the electrodes and the formation completes the electrical circuit. The resistance to the flow of electricity...

IN-SITU STABILIZATION AT MGP SITES; A COST-EFFECTIVE AND PRACTICAL REMEDIAL ALTERNATIVE

PRESENTER: PAUL LEAR • plear@wrscompass.com • WRScompass

WRScompass has completed in-situ stabilization (ISS) at over 20 MGP sites throughout the US. The primary goals of the remedial actions were to limit the leachability of the chemicals of concern, both organic and inorganic, by controlling both their solubility and movement. The organics stabilized included volatile organics and PAHs. WRScompass treated 32,000 cubic yards of former MGP waste using in-situ single auger mixing. WRScompass conducted bench-scale treatability testing to define and optimize reagent admixture rates. Three mix designs involving combining various addition levels of Portland cement, ground blast furnace slag, water, and a rheology...

REAL-TIME PERFORMANCE MONITORING OF CHEMICAL FIXATION TREATMENT

PRESENTER: PAUL LEAR • plear@wrscompass.com • WRScompass

The material requiring treatment at many remedial sites can vary in composition both chemically and physically. This variability may require modification of the treatment. For sites using chemical stabilization treatment, the mix design may need to be adjusted to account for the variability in the material to be treated. How and when to adjust the mix design may not be readily apparent in the field; leading to problems in attaining consistent successful treatment. At a site in Monaca, PA, lead-contaminated waste glass had been disposed of in a ravine, along with debris and soils. As part of the site remediation, this material needed to be excavated, the lead chemically fixed, and the...

INJECTION OF SOLUBLE BUFFER AND EMULSIFIED VEGETABLE OIL TO PROMOTE REDUCTIVE DECHLORINATION OF AN ACIDIC AQUIFER

PRESENTER: MICHAEL LEE • mlee@terrasystems.net • Terra Systems, Inc.

For many acidic aquifers, pH buffering will be required to bring the pH into a range of 6 to 8, which is favorable for reductive dechlorination. Various pH adjustment agents have been used including soluble materials like sodium or potassium bicarbonate, sodium carbonate, sodium hydroxide, calcium hydroxide (slaked lime) or less soluble materials like calcium carbonate, magnesium oxide, dolomitic hydrated lime, and limestone. Bicarbonates have the lowest pH for saturated solutions of these buffers, but also have the least buffering capacity and the potential for carbon dioxide production. Calcium carbonate or limestone is practically insoluble, but has an equilibrium pH...

IN-SITU DESTRUCTION OF PCBs, A FULL SCALE DEMONSTRATION PROJECT

PRESENTER: JOHN MATEO • johnm@rcc-net.com • Blue Lightning Underground Enterprises, LLC

A full scale implementation of in-situ chemical oxidation using ozone is currently underway for the destruction of Poly Chlorinated Biphenols (PCBs), as authorized by a US EPA Demonstration Permit under 40 CFR 761.60(e). Baseline soil sample results at a contaminated site in New Jersey indicated that PCB concentrations occur up to 9,000 PPM with an estimated total mass of 3,101 pounds. Predominant PCB Aroclors include 1242, 1248 and 1260. PCBs appear to be entrained in released hydrocarbons, which may constitute as much as 67,000 pounds of the Total Petroleum Hydrocarbon (TPH) mass at the site. After completing eighteen months of operation and injection of approximately 100,000...

A NOVEL AND SUSTAINABLE COMBINED OXIDANT IN-SITU REMEDIATION APPROACH FOR BROWNFIELD REDEVELOPMENT IN NEW JERSEY

PRESENTER: WILL MOODY • wmoody@geocleanse.com • Geo-Cleanse International, Inc.

A former chemical plant was demolished and the property has laid dormant for two decades in an economically-depressed area in central New Jersey. Soil and groundwater in part of the site were impacted with VOCs (primarily chlorobenzene, carbon tetrachloride (CT) and its breakdown products, including a DNAPL phase) and pesticides. An initial remedial design for the DNAPL-impacted areas called for sheet piling, dewatering, and soil excavation. However, this type of a design would consist of high remedial costs, large sustainability implications, and transport of thousands of truckloads of heavily contaminated soil through urban and residential areas. Based upon previous...

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IN SITU CHEMICAL REDUCTION OF CVOC AND CHROMIUM FACILITATED REDEVELOPMENT OF AN INDUSTRIAL PROPERTY**PRESENTER: JIM MUELLER** • jim.mueller@fmc.com • FMC Environmental Solutions

Doug Gray, Mike McKim and Taki Shinkawa (URS Corporation, Cleveland, Ohio, USA) Elizabeth Bishop and Wade Meese (Innovative Environmental Technology, Inc., Pipersville, Pennsylvania, USA) and Jim Mueller (FMC Environmental Solutions, Freeport Illinois) Overview. Safe implementation of efficient and cost-effective remedial solutions in the clean-up of impacted properties is paramount in returning brownfields and other impacted properties to viable use in the face of the recent real estate market declines. As part of the overall project area remediation effort, sustainable and innovative in situ remedial technologies were evaluated for use per proposed site...

MATCHING TEST METHODS WITH REMEDIATION GOALS**PRESENTER: BERND REHM** • brehm@resolutionpartnersllc.net • ReSolution Partners, LLC

Treatability studies can be used to evaluate achievement of multiple remedial goals for contaminated soil ranging from off-site waste disposal to beneficial on-site reuse of stabilized/solidified soil. Not all test procedures are applicable to all remediation goals and misapplication can result in costly remediation failures. The presentation will address the application of the Toxicity Characteristic Leaching Procedure (TCLP), the Synthetic Precipitation Leaching Procedure (SPLP), site-specific groundwater leaching tests, the Multiple Extraction Procedure (MEP), and bioaccessibility testing to meeting remediation goals. Examples of how these tests have been applied will be...

IMPROVING IN SITU METALS STABILIZATION DESIGN**PRESENTER: BERND REHM** • brehm@resolutionpartnersllc.net • ReSolution Partners, LLC

Uncertainty is an inherent feature of any stabilization design because perfect knowledge of the subsurface cannot be achieved. There are two areas of uncertainty where additional characterization can have significant payback in total project remediation costs: volume uncertainty and chemistry uncertainty. Volume uncertainty can be addressed with additional soil and waste sampling. The cost-benefit of such testing can be significant in controlling total project costs and preventing surprises upon...

RECENT USES OF IN SITU STABILIZATION, IN SITU CHEMICAL OXIDATION, AND IN SITU CHEMICAL REDUCTION USING SOIL MIXING**PRESENTER: DANIEL RUFFING** • druffing@geo-solutions.com • Geo-Solutions, Inc.

Soil mixing is widely being used for the in situ stabilization and treatment of a variety of waste types. Generally, stabilization is performed through the injection of Portland cement in a water based grout alone or in combination with other property enhancing reagents. Treatment reagents vary widely from project to project depending on the type and concentration of contaminants present, but conventionally are chosen to either oxidize or reduce the contaminants. This paper presents a brief overview of soil mixing as it relates to environmental remediation and presents recent soil mixing case studies chosen to emphasize interesting uses of in situ stabilization, in situ chemical...

INNOVATIVE MONITORING TECHNIQUES FOR FRACTURING AND INJECTION TECHNOLOGIES**PRESENTER: DEBORAH SCHNELL** • dschnell@panthertech.com • Panther Technologies, Inc.

The success of in situ remediation projects that require injection or fracturing lies in the contact of the amendment with the contaminant or the control of the fracture. Several real-time methods of tracking or mapping fractures or injections have been used, including pressure and temperature influence monitoring at surrounding wells, active resistivity, and surface deformation modeling. Newer innovative geophysical methods that map mechanically-induced fractures have been demonstrated in bench-scale tests. Typical post-treatment monitoring includes core sampling and the visual observation of remedial products or dye tracers that were injected in surrounding...

REMOVAL OF NICKEL FROM WASTE WATER USING METAL BINDING REAGENTS IN AN INDUSTRIAL WASTE WATER PERCOLATION PONDS**PRESENTER: JOHN SPENCER** • jspencer@geosyntec.com • Geosyntec

Geosyntec Consultants (Geosyntec) conducted a laboratory treatability study to evaluate the nickel stabilizing capacity of various soil amendments and the implementation of the selected amendment to the soil in the bottom of an industrial waste water pond. A series of tests were performed to identify and select appropriate metal binding reagents, evaluate the nickel binding capacity of the selected reagents, and test various mixtures of native soil and the reagent to...

RELIABLY ACHIEVING LEAD REMEDIATION OBJECTIVES AT FIRING RANGES**PRESENTER: ROBERT STANFORTH** • rstanforth@trcsolutions.com • TRC

A typical problem at firing ranges is underestimating the volume of lead contaminated soil requiring remediation. This can lead to the painful experience of implementing a remedy with insufficient funds to complete the project objectives. A characterization approach was developed to reliably identify lead contaminated soil when both particulate lead and soil-bound lead is present. The method was developed for investigations, but more importantly to reliably predict and then confidently meet the budget during remediation. The approach utilizes field instruments for measuring both particulate lead (bullets, bullet fragments, shot, and lead shards from shrapnel) and...

EX SITU STABILIZATION OF LEAD-CONTAMINATED SOIL: A CASE STUDY**PRESENTER: JOE STARR** • StarrJ@solutions-ies.com • Solutions-IES

Since 1992, the East Rim Firing Range at the Big South Fork National River and Recreation Area, TN has been used for law enforcement training and recreational shooting. Over time, the range's berm has received significant small-arms fire, resulting in lead concentrations above the EPA residential soil screening level (400 mg/kg). Subsequent soil screening (using XRF analyser) and TCLP analysis identified 150 tons of hazardous soil that required treatment prior to landfill disposal. Ex situ stabilization using a commercial reagent, EnviroBlend was selected to render the lead contaminated soil as non-hazardous. Solutions-IES received Special Waste approval from the TDEC to...

OUTLINING THE ADVANTAGES OF SELECTING CATALYZED HYDROGEN PEROXIDE OR ACTIVATED SODIUM PERSULFATE AT TWO DIFFERENT PETROLEUM HYDROCARBON SITES**PRESENTER: STEPHANIE TURKOT** • sturkot@geocleanse.com • Geo-Cleanse International, Inc.

Many factors must be considered when evaluating a site and assessing potential in-situ chemical oxidation (ISCO) approaches. One of the fundamental decisions to be made is which oxidant should be utilized. Catalyzed hydrogen peroxide (CHP) and activated sodium persulfate (ASP) are common oxidant systems used for ISCO. When selecting the oxidant system for the remediation of a site, it is important to have a firm understanding of each oxidant and its ability to destroy the constituents of concern (COCs) within site specific conditions. Some major factors that must be understood are the chemistries involved with the reactions, the activation methods that may be utilized, the oxidant demand on a stoichiometric basis, site conditions that may affect obtaining the treatment goals, the cost of the applications, and the timeframe in which the project needs to be completed. This presentation will provide a comparison of two petroleum hydrocarbon impacted sites and the application of ISCO utilizing ASP...

INFLUENCE OF ISCO CATALYSTS, ACTIVATORS, CHELATORS ON SECONDARY METALS MOBILITY IN SOIL & GROUNDWATER**PRESENTER: ANDY WENZEL** • andrew.wenzel@ursusremediationtesting.com • Ursus Remediation Testing and Technologies

Catalysts, activators, and chelators are commonly used in In-situ Chemical Oxidation (ISCO) to increase the oxidation potential of the applied oxidant, therefore increasing the oxidants potential to destroy a wide range of recalcitrant compounds. Limited information is available on the impact catalyst's, activators, and chelators have on mobilizing metals from the surrounding soil within the ISCO area. Catalyst's and activators are generally pH dependent; requiring a low or high pH for effective activation. Depending on the metal, under low and high pH conditions, metal solubility increases. This may lead to an increase in groundwater metal concentrations within and...

FIELD DEMONSTRATION OF A MONITORING TOOLBOX FOR IN SITU BIOGEOCHEMICAL TRANSFORMATION**PRESENTER: RYAN WYMORE** • wymorera@cdmsmith.com • CDM Smith

In situ biogeochemical transformation involves biological formation of reactive minerals that can destroy chlorinated solvents such as TCE without accumulation of toxic intermediates such as vinyl chloride (AFCEE et al., 2008). A field demonstration is underway to develop a monitoring toolbox to assess the extent of biogeochemical transformation at two existing mulch biowalls that were installed at Altus AFB to treat VOC-contaminated groundwater. Three segments of the Altus OU1 biowall are being monitored (1) segment recently rejuvenated with electron donor and iron (2) segment recently rejuvenated with electron donor only, and (3) segment with no...

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Technical Presenters biographies are alphabetically listed by speaker's last name.



**LANGAN
ENGINEERING**
Presenter:
Stewart Abrams

Stewart Abrams has more than 30 years of experience in site remediation, groundwater remediation, brownfields redevelopment, water treatment and engineering design. Recently he has become a leader in the emerging field of sustainable remediation, serving on the Board of Directors of the Sustainable Remediation Forum (SURF). ■



**TERSUS
REMEDICATION**
Presenter:
Gary M. Birk

Gary M. Birk, P.E., is the Managing Partner for Tersus Environmental. Well-known for his contributions to In-situ anaerobic groundwater remediation, Gary leads Tersus Environmental's engagement within Ventures Technologies to provide global sales management and marketing services. ■



MECX
Presenter:
Richard T. Cartwright

Richard T. Cartwright is a Senior Vice President of MECX, LP. He is a recipient of the prestigious "Pete Cook Founders Award" for distinguished lifetime leadership, dedicated service, and professional achievement within the hazardous materials management profession. Mr. Cartwright is the author of "Hazardous Materials Management 365 Days a Year" and the "CHMM Career Planning & Survival Guide". ■



CARUS
Presenter:
Sean Davenport

Sean Davenport, Ph.D. Candidate in Environmental Engineering, Colorado School of Mines. He has been an active team member on two DOD-sponsored research projects: ER-1486 (Multi-scale experiments to evaluate mobility control methods for enhancing the sweep efficiency of injected subsurface amendments) and ER-0912 (Cooperative Technology Demonstration: Polymer-Enhanced Subsurface Delivery and Distribution of Permanganate). ■



**BIOSTRYKE
REMEDICATION**
Presenter:
Kent Armstrong

Kent Armstrong has a diverse 30+ year background within the environmental industry to include waste water management and chemistry, on-site and laboratory based hazardous waste chemistry, environmental construction management, hazardous waste remediation and waste management, and the development and use of innovative in-situ remediation formulations strategies. ■



GEI CONSULTANTS
Presenter:
Bob Blauvelt

Bob Blauvelt is a geologist with more than 25 years' experience in the investigation and remediation of soil and ground water contamination at commercial and industrial facilities. He also has assisted clients in complex, multi-site due diligence assessments, compliance audits, and provided expert witness services in cost-recovery and liability allocation litigation. ■



**KLEINFELDER
EAST, INC.**
Presenter:
Samantha Sheer Clark

Samantha Clark is a Project Hydrogeologist with 12 years of experience in environmental consulting, subsurface site characterization, soil/rock core characterization and multiple remediation techniques, excavations and suburban settings) and aquifer testing. Samantha is also experienced in conceptual site modeling, analytical data interpretation and fate and transport modeling. ■



SIREM
Presenter:
Sandra Dworatzek

Sandra Dworatzek is an environmental microbiologist with advanced technical experience in laboratory treatability studies and anaerobic microbial culture growth. She has specific technical experience in the design of laboratory bio-treatability studies, the scale up of growth of anaerobic microbial cultures for bio-augmentation laboratory studies and field pilot tests, and evaluation of chemical oxidation and zero valent iron technologies in the laboratory. ■



REGENESIS
Presenter:
Drew Baird

Drew Baird is the East Region Manager for Regenesi. He joined Regenesi in January 2005 after spending five years as a consultant and geologist at an engineering firm in Greenville, South Carolina. His consulting experience primarily involved plume characterization and remediation at industrial facilities impacted by chlorinated solvents. ■



FMC
Presenter:
Philip Block

Philip Block is the technology manager for FMC Corporation's Environmental Industry team. Dr. Block's expertise is in new product development and new business development, and has brought many new products to market for a variety of applications. For the past nine years, Dr. Block has focused on chemical oxidation and bio-remediation products for the environmental remediation market. ■



**GOLDER
ASSOCIATES INC.**
Presenter:
Brian Congiu

Brian Congiu is a Staff Geologist with Golder Associates, Inc. Brian's work has concentrated on the development and refinement of complex site conceptual models. Most recently, his efforts have been focused on the application of 3D visualization and modeling software for use as effective interpretation and communication tools for complicated subsurface scenarios. ■



TRS
Presenter:
David Fleming

David Fleming has worked in the Environmental Health, Consulting, and Remediation fields for 25 years. He has held various environmental regulatory positions with the former Washington State Game Department, U.S. EPA Region 10, King County Solid Waste, and the Department of Environmental Health & Safety at the University of Washington. He is presently a founder, partner and vice president of marketing and sales for TRS. ■



**TOTERRA
REMEDICATION**
Presenter:
Scott Barker

Scott Barker is Managing Director and a Principal at TOTERRA Remediation Ltd., based in Burlington, Ontario, Canada. Scott has extensive experience in water treatment, chemical formulation, production, and distribution, and waste management and resource recovery. His current focus is on expanding the delivery of TOTERRA's soil enhancement, amendment emplacement, and subsurface mapping services in eastern Canada and the northeast U.S. ■



TETRATECH
Presenter:
Eric Brown

Eric Brown has over 30 years' experience in the environmental industry. His focus has been large scale turnkey remedial projects in Design / Build and remedial construction. Mr. Brown is an active member of the USWAG (Utility Solid Waste Activity Group), the Board of Directors for TBAEP (Tampa bay Association of Environmental Professionals), and served on the board of Directors of FAWQC (Florida Association of Water Quality Control). ■



**GOLDER
ASSOCIATES INC.**
Presenter:
Lisa Congiu

Lisa Congiu has been with Golder Associates for two years. Her graduate work focused on mercury biogeochemistry, specifically in identifying the role of microbes in transforming mercury to its toxic form in marine sediments. Along with being a member of the Golder ZVI team, Lisa builds 3D visualization models, assists with implementation of enhanced anaerobic bioremediation. ■



KLEINFELDER
Presenter:
Richard Jasaitis

Richard Jasaitis is a registered professional geologist and New Jersey LSRP with thirty years of experience with contaminant assessment and remediation in New Jersey and other States in the northeast and central portions of the United States. As a Senior Professional, he is a technical resource on fate and transport modeling, aquifer testing, and in-situ and ex-situ remedial technologies. ■



DAJAK
Presenter:
Mark Kluger

Mark Kluger is the founder and president of Dajak. Mark has extensive experience selling and marketing innovative remedial systems and field analytical and data acquisition, sampling and measurement instrumentation. Mark Kluger is an active member of the Interstate Technology & Regulatory Council (ITRC) and Sustainable Remediation Forum (SURF). ■



GEO-CLEANSE
Presenter:
Will Moody

Will Moody has over 10 years of environmental consulting and site remediation experience. Mr. Moody has supervised two of the largest in-situ chemical remediation projects in the U.S., and several projects in Europe. Mr. Moody is currently Director of Sales & Marketing and a Project Manager for Geo-Cleanse. ■



PANTHER TECHNOLOGIES, INC.
Presenter:
Deborah Schnell

Deborah Schnell, currently Senior Project Manager and Engineer at Panther Technologies, Inc. and GeoSierra Environmental, Inc. 20 years of Experience in design and construction of pilot scale and full scale innovative remedial strategies, including in-situ chemical oxidation and in-situ chemical reduction systems; design and construction of soil vapor extraction and air sparging systems; soil and groundwater investigations. ■



GEO-CLEANSE
Presenter:
Stephanie Turkot

Stephanie Turkot has a B.S. degree in Environmental Science from William Paterson University. Ms. Turkot has been working with Geo-Cleanse International, Inc. (Geo-Cleanse) for the past three years. Her roles at Geo-Cleanse include assisting in remedial designs and implementations of treatment programs, groundwater process monitoring, as well as assisting in the sales & marketing department. ■



WRS COMPASS
Presenter:
Dr. Paul Lear

Dr. Paul Lear, currently Vice President of Technology Applications for WRS Compass, has over 20 years of experience in hazardous waste treatment, laboratory management, and chemical process development. He has experience in the application of bioremediation, chemical treatment, dewatering, soil vapor extraction, soil washing, stabilization/solidification, and thermal treatment technologies as applied to soil, sludges, and waste water. ■



FMC
Presenter:
Dr. Jim Mueller

Dr. Jim Mueller received his Doctor of Philosophy Degree in Soil Microbiology & Biochemistry from Clemson University in 1988. In February 1990, Dr. Mueller formed SBP Technologies, Inc. (SBP) and joined the Research Staff as a Sr. Environmental Microbiologist and Chief Scientist. In 2003, he created Adventus Americas Inc. and established offices in the USA and Europe to facilitate the implementation of various environmental biotechnologies. ■



GEOSYNTEC
Presenter:
John Spencer

John Spencer is a hydrogeologist with Geosyntec Consultants. Mr. Spencer's primary responsibilities have been managing site assessments of various sizes, direct and indirect oversight of field investigations, interaction with client representatives, preparation and technical review of site reports, and preparation and review of site investigation data. ■



TERRA SYSTEMS, INC.
Presenter:
Dr. Michael D. Lee

Dr. Michael D. Lee is Vice-President of Research and Development at Terra Systems, Inc. (TSI). Dr. Lee has over 25 years of experience in bioremediation. Dr. Lee was a technical lead for the first successful demonstration of bioaugmentation to promote the complete anaerobic biodegradation of trichloroethene and cis-1, 2-dichloroethene for the Remediation Technologies Development Forum at Dover Air Force Base. ■



RESOLUTION PARTNERS
Presenter:
Bernd W. Rehm

Bernd W. Rehm, PG, is a hydrogeologist with 35 years of experience in consulting and as a co-owner of a remediation technology company. He works with owners, consultants, and contractors in completion of remediation sampling design, treatability testing, remedial design, remedial implementation, and process optimization for metals stabilization and organic contaminant destruction. ■



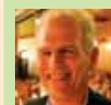
TRC
Presenter:
Robert Stanforth

Robert Stanforth is a Senior Applied Chemist at TRC Corporation. He has over 30 years experience in the treatment and remediation of metal contaminated soils and wastes. Bob has developed a number of new technologies for treating heavy metal contamination in soils and wastes, and holds over ten patents in the field, including some of the patents behind the Enviroblend process. ■



URSUS REMEDIATION
Presenter:
Andrew Wenzel

Andy Wenzel is the Principal of Ursus Remediation Testing & Technologies, an environmental testing laboratory that specializes in conducting heavy metal and organic treatability studies for consultants, contractors, industry, and government agencies. Mr. Wenzel has over 25 years experience in the environmental testing and remediation with a broad range of knowledge in evaluating and applying inorganic and organic treatment strategies to contaminated sites. ■



BLUE LIGHTNING
Presenter:
John M. Mateo

John M. Mateo is President of Blue Lightning Underground Enterprises, LLC (BLUE). Mr. Mateo has more than 30 years of professional experience in hazardous waste and natural resource consulting, environmental site assessments, investigations, and remediation projects located throughout the United States. Mr. Mateo was a former regulator with the US EPA Region II and the NJ Department of Environmental Protection. ■



GEO-SOLUTIONS
Presenter:
Daniel Ruffing

Daniel Ruffing serves as assistant project manager project engineer for Geo-Solutions, Inc. (GSI). His experience is based in research conducted during his undergraduate and graduate degrees supplemented by field project engineer experience, and project management at GSI. Daniel has been an author or coauthor on a number of papers relating to stress development in slurry walls and soil mixing applications. ■



SOLUTIONS-IES
Presenter:
Joe Starr

Joe Starr is a registered professional engineer who has provided environmental consulting services for over 17 years. Joe is the Federal Program Manager and a Senior Environmental Engineer at Solutions-IES a Woman-Owned Small Business headquartered in Raleigh, North Carolina. ■



CDM SMITH
Presenter:
Ryan Wymore

Ryan Wymore is a principal environmental engineer with CDM Smith in Denver, CO, where he serves as the company's environmental remediation market leader. He has spent the last 14 years specializing in innovative groundwater remediation technologies, particularly bio-remediation, monitored natural attenuation, and chemical oxidation. He also serves as the administrator for CDM's Research and Development Program. ■



WESTON SOLUTIONS, INC.
Presenter:
Harry J. Booth

Harry Booth has extensive experience working with major corporations, state and local agencies, and developers. He has been involved in a number of projects that involved risk transfer, remediation, sustainability and financial solutions to revitalize impaired properties. Some of Harry's key projects included remediation for a soccer stadium in Chester P.A., a 256-acre property serving as a state-run residential hospital, and a 56 acre industrial manufacturing facility in central Massachusetts. ■

Developer Presenters continue on next page.

Developer Presenters biographies are alphabetically listed by speaker's last name.



ROSEWOOD REAL ESTATE ENTERPRISES

Presenter:
Joseph Gonnelli

Joseph Gonnelli possesses over 25 years of experience in real estate development and brokerage, having worked with large and small companies during his career. Joe is a graduate of St. Joseph's University, earned a Master's Degree from the University of Pennsylvania. Joe's expertise includes land acquisition, leasing, operations/management, entitlements, financing and has managed the development of multiple build to suit office projects. ■



DEPARTMENT OF STATE, TRENTON, NJ

Presenter:
Alan Miller

Alan Miller is the Brownfields Program Manager in the Office for Planning Advocacy within the Business Action Center in the Department of State, Trenton, New Jersey. He is responsible for helping implement Brownfields redevelopment policy in the State of New Jersey. Mr. Miller received a B.A. from Temple University and his M.A. from Glassboro State(Rowan University). ■



SCANNAPIECO DEVELOPMENT CORPORATION

Presenter:
Tom Scannapieco

Tom Scannapieco is the president and CEO of Scanapieco Development Corporation (SDC). His real estate company specializes in historic rehabilitation with exceptional success following 35 completed conversions in a six year period. Many of SDC's projects have been featured in many professional journals including, Architectural record, Warfields, and the prestigious Urban Land Institute. ■



MARATHON ENGINEERING

Presenter:
Robert Carter

Robert Carter is a principal environmental scientist and Licensed Site Remediation Professional with Marathon Engineering. He has 18 years experience in the environmental consulting industry focusing on redevelopment throughout the Delaware Valley. Mr. Carter's expertise is in brownfield redevelopment, site investigations, remedial investigations and actions under various state and federal regulatory programs. ■



COMMUNITY MANAGEMENT SERVICE GROUP

Presenter:
Marshal S. Granor, Esquire

Marshal S. Granor is a partner in Granor Price Homes, a residential and commercial builder-developer, and is president of Community Management Service group (CMMSG, Ltd), a condominium and homeowners association management company. He practices law focused on real estate transactions, development, financing, and title insurance. He was principal author of Pennsylvania's Uniformed Planned Community act. ■



ELIZABETH DEV. COMPANY

Presenter:
William O'Dea

William O'Dea has spent over 20 years in roles where he has had to oversee and approve the deployment of capital into disadvantaged neighborhoods. Since 1995, he has served as Deputy Executive Director with responsibility over all EDC redevelopment activities. Mr. O'Dea has assisted in securing funding for various projects throughout the City and other municipalities, including \$300 million in financing for the Jersey Gardens Mall. ■



CODE ENVIRONMENTAL SERVICES

Presenter:
Thomas M. Tomassetti

Thomas M. Tomassetti is General Manager of Code Environmental Services, Inc., a full-service environmental and hazardous waste remediation firm based in Carteret, New Jersey. He has 30 years of experience in the environmental and general construction industries. Mr. Tomassetti's Project Team used GPS-Site Control technology and heavy equipment to blend preconditioning reagents into 17 individual Remedial Excavation Areas. ■



SUN NATIONAL BANK

Presenter:
Francisco Cotilla

Frank Cotilla manages and oversees all real estate transactions for Sun National Bank, including site selection and development for de novo branches. He joined Sun National Bank in 2009 and has more than 25 years of experience in real estate and project and construction management. Frank oversees the Facilities, Property and Construction Management groups and Sun's Procurement Department throughout the network. ■



PANASONIC / TUDOR DEVELOPMENT, LLC

Presenter:
Stephen R. Jaffe

Stephen R. Jaffe, President and Founder of Tudor Development, LLC., has had more than 25 years of real estate Development experience in the field of Brownfield Redevelopment. He holds a Business Degree from Muhlenberg College and a Master's Degree in Environmental Science from Vermont Law School. Steve has lead several major projects in various New Jersey municipalities and has excelled at procuring government approvals for both redevelopment and contaminated sites. ■



BRINKERHOFF ENVIRONMENTAL SERVICES, INC.

Presenter:
Jerald R. Ostrander

Jerald R. Ostrander is an Environmental Project Manager with the Manasquan NJ headquarters—office of Brinkerhoff Environmental Services, Inc. (Brinkerhoff). He is a graduate of Stockton State College with a Bachelor of Science degree in Marine Science. He is currently in charge of the firm's public portfolio of work for the New Jersey Schools Development Authority, the State of New Jersey Department of Property Management and Construction (DPMC), and the Casino Reinvestment Development Authority (CRDA). ■



HOBOKEN BROWNSTONE CO.

Presenter:
George T. Vallone

George Vallone, for over 32 years, has been developing real estate along New Jersey's Hudson River. He earned a Bachelor of Arts in Business Management from Gettysburg College and an MBA from Fordham's Graduate School of Business. Mr. Vallone has been redeveloping the former Van Leer Chocolate Factory site and two other Brownfield properties in downtown Jersey City. ■



NJ LICENSED SITE REMEDIATION PROF. ASSOC.

Presenter:
Kenneth Goldstein

Kenneth Goldstein has over 35 years of experience in the environmental industry. His experience includes over 19 years in the environmental consulting business in the Mid-Atlantic States, during which his responsibilities included: the management and direction of a staff of engineers and geologists, the management of environmental compliance and remediation, and performing strategic planning and workload analysis functions. ■



CASINO REINVESTMENT DEV. AUTHORITY

Presenter:
W. Rachelle Knight

Rachelle Knight is a Senior Project Development Officer with the Casino Reinvestment Development Authority. Ms. Knight has over 7 years of experience in the environmental industry having served in the private sector as an Environmental Scientist and Wet Chemistry Analyst. Ms. Knight holds degrees in Chemistry and Engineering Management from Rutgers University-New Brunswick and Rowan University. ■



PENNONI ASSOCIATES INC.

Presenter:
Chris A. Purvis

Chris A. Purvis, serves as the New Jersey Environmental Division Manager in the Haddon Heights, New Jersey office for Pennoni Associates Inc. Chris has more than 26 years of environmental consulting experience and is responsible for managing the soil and groundwater professional consulting practice for Pennoni in this region. He possesses comprehensive experience in Brownfields remediation, underground storage tank (UST) management, soil and groundwater investigations and remediation. ■



ENVIRONMENTAL QUALITY COMPANY

Presenter:
Mick Warner

Mick Warner has been working in the remediation industry for over 25 years. Mick started his engineering career with a national environmental consulting firm. In that role, he developed contract terms and technical specifications that equitably allocated risks and responsibilities between the owner, engineer and contractor, with an emphasis on projects that included the stabilization of heavy metals. ■



FRENKEL & COMPANY

Presenter:
Matt Winters

Matt Winters entered the insurance brokerage business in the beginning of 1997 following his tenure as Senior Vice President for an engineering consulting firm's Environmental, Health & Safety Management Division. Matt is a graduate of Lafayette College, received his MBA from St. Joseph's University and holds the distinguished Certified Risk Manager professional designation. ■

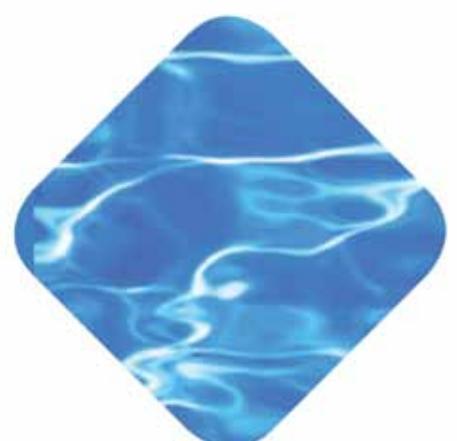


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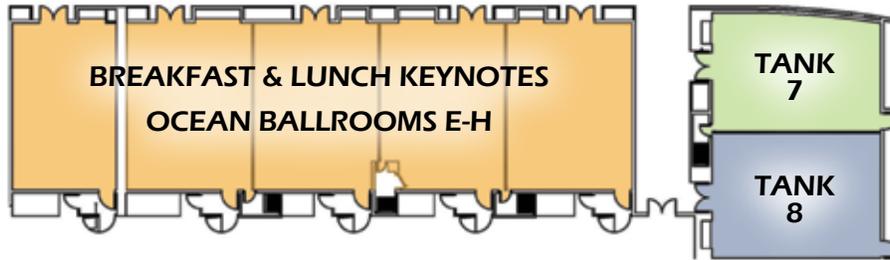
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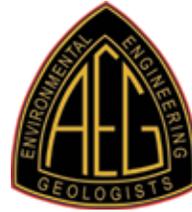


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