

Monday, July 15, 2019



## Missouri Annual Environmental Conference

July 14 – 16, 2019

Margaritaville Lake Resort • Osage Beach, MO

### SUNDAY, JULY 14

- 11:00 AM Golf Tournament – The Oaks, shotgun start
- 2:00 PM Exhibits set up – Paradise Ballrooms A, B
- 4:00 PM Registration – Foyer to Paradise Ballroom
- 6:00 PM WELCOME RECEPTION – Paradise Ballrooms A, B
- 8:00- 10 PM Board Reception for Young Professionals – Windgate 60-61  
New to Industry (less than 5 years)

### MONDAY, JULY 15

- 7:30 AM Registration and exhibits open – Paradise Ballrooms A, B  
Coffee available
- 8:30 AM **Breakfast – PLENARY SESSION** – Paradise Ballroom C  
*Steve Schnarr, Missouri River Relief*



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10:00 AM Break – Paradise Ballrooms A, B

10:30 AM **CONCURRENT EDUCATIONAL SESSIONS**

**SOLID WASTE SESSION - Nautical Wheeler**

- **EPA Update for Coal Combustion Residuals** – Clarissa Howley Mills, Attorney, and Bob Aston, U.S. EPA Region 7

This session will provide an update covering CCR data, regulatory compliance dates, updates on litigation and regulatory development, program implementation, and state program approval.

- **A Balancing Act – The Many Requirements at a Modern Landfill** – Doug Doerr, P.E., SCS Engineers

As landfills have become more complex, they have also become subject to more rules, regulations and requirements. Many times the involvement of different groups with different requirements and end goals lead to a well-run facility that is very environmentally protective. However, many times owners and operators find themselves trying to balance different, and sometimes competing, requirements. This presentation will discuss some of the instances when conflicts exist and provide insights on how to find balance.

- **So You Want to Develop a NEW, GREENFIELD Municipal Solid Waste Landfill** - Thomas R. Gredell, P.E., GREDELL Engineering Resources, Inc.

Sometime in the future (maybe the near future) a NEW, GREENFIELD municipal solid waste landfill site will be needed. What factors will determine when a new site will be needed? What should be expected in developing a new landfill site? Who will be the owner/operator? What types of twists and turns should be expected? What are the critical technical issues? What are the critical political issues? What are the critical public relation components? What issues should keep the new landfill operator up at night? This presentation will address these and other questions. The presenter will draw on almost 4 decades of experience, 100's of landfill site assessments and past project success to provide examples of Do's and Don'ts.

## ENVIRONMENTAL SESSION - Parasol I

- **The Long Term Effect of Enhanced Anaerobic Bioremediation on Secondary Water Quality and Its Implication for Vapor Intrusion** – Michael R. Sieczkowski, JRW Bioremediation

Because the process of adding an organic substrate to a system deliberately drives system highly anaerobic it can also lead to the formation of methane potentially causing a second vapor intrusion issue. Although these concerns can be significant, little data is available on if and how long this process can be a concern in an actual remedial setting. Data from a drycleaner site treated with a mix of emulsified vegetable oil and lactate was evaluated to look at the technology's long term impacts on secondary water quality as expressed through the production of VC and methane.

- **Vapor Intrusion: Balancing Regulatory Requirements and Cost Considerations** – Jennifer Martin, Attorney, HeplerBroom LLC; and Mary Juan, Environmental Operations, Inc.

Providing an overview of vapor intrusion (VI) and the process for assessing potential VI at impacted properties, this presentation will explain how VI is regulated by USEPA, and the current status of regulation in Missouri, Kansas and Illinois. The presentation will include a summary of sampling and analysis techniques and a discussion of mitigation strategies, as well as a look at some Missouri case studies.

## BROWNFIELDS SESSION - Windgate 62-64

- **The BVCP at Work: Helping Rural and Urban Communities Redevelop Brownfield Properties** – Scott Huckstep, MoDNR, Cordaryl "Pat" Patrick, St. Louis Economic Development Partnership, and Lloyd Clouse, Mayview Mo Foundation

This session will cover a basic review of the activities and offerings of the MoDNR Brownfields Voluntary Cleanup Program (BVCP). We will also hear community representatives tell us how the BVCP has helped their communities with economic development. Specifically, how the BVCP Assessment program helped a small rural community identify and address environmental concerns prior to redevelopment. And, how building partnerships with the BVCP and others has helped a metro community in their brownfield redevelopment plans.

## TANKS SESSION - Parasol II

- **Welcome, discussion of recent issues, discussion of upcoming topics, tech bulletins, trainings, webinars** – Laura Luther, MoDNR
- **Site discussion “showing MEP using short term MPE”** — Steve Lang, P.E., MODNR, and Theresa Ferguson, ATC Group Services LLC

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### 12:00 PM Lunch and award presentations

**Speaker: Cate Holston, U.S. EPA Criminal Investigation Division**

Receive an inside look into cases investigated and prosecuted by the EPA’s Criminal Investigation Division. Learn how to identify signs of criminal activity within your community. Understand the procedures EPA uses to investigate. Find out how we can work together to deter illegal activity.

1:30 PM

### CONCURRENT EDUCATIONAL SESSIONS

#### SOLID WASTE SESSION - Nautical Wheeler

- **Field Safety – Unique Safety Risks for Field Operations at Solid Waste Facilities** – Andrew Phillips and Austin Banks, Barker Lemar Engineering Consultants

Performing field services at a solid waste facility presents unique safety risks. Identifying activities and conditions that may expose individuals to potential safety risks is important to protecting staff, contractors, and customers. This session will present real-world examples of field activities that may expose individuals to safety risks and discuss strategies that can limit those risks.

- **Navigating Organics Management into the Future: The Intersection of Waste Diversion, Green Energy, and Financial Sustainability** – Robert W. Craig, Burns & McDonnell Engineering; Stan Slaughter, Missouri Organics Recycling; and Erick L. Roberts, City of Springfield

Many communities are challenged today with meeting ambitious waste diversion goals and fostering the development of renewable energy within the context of maintaining financially sustainable programs. This session will address the challenges with navigating organics management into the future including but not limited to composting, LFG to energy, and anaerobic digestion. Each panelist will provide a brief overview of their respective experience and applicable programs followed by a discussion among the panelists addressing a series of key questions.

## **ENVIRONMENTAL SESSION - Parasol I**

- **Dye Tracing to Understand Water Flow at Industrial and Waste Sites** – Shiloh Beeman, GeoEngineers

Groundwater tracing using fluorescent tracer dyes is a safe, easy-to-use, and cost effective tool for understanding water flow at industrial and waste sites. Dye tracing can be used to understand groundwater flow systems, water flow between surface waters and groundwater systems, infiltration and exfiltration of sewer systems, and cross connections in industrial piping. Although traditionally identified with karst settings, dye tracing has been used extensively at waste sites in recent years in all kinds of geologic settings. Although dye tracing is a specialized field, dyes and sample analysis are readily available and relatively inexpensive. In addition, multiple traces can often be performed concurrently.

- **Groundwater Monitoring System Design, Use What You Learned in School!** – Grant Elliott, Mikel C. Carlson, R.G., and Ken A. Ewers, R.G., GREDELL Engineering Resources, Inc.

During the design and installation of groundwater monitoring systems, optimized well screen placement within the zone of interest (typically the uppermost continuous aquifer) is imperative, but it's not always as easy as it appears. When the zone of interest is within a thick sequence of relatively nondescript carbonate bedrock, accurately screening the intended monitoring horizon is often difficult. Recognizing subtle but important changes in carbonate bedrock stratigraphy can be the key needed to unlock the ideal system design and implementation. These keys are elusive to traditional rotary drilling techniques, but with careful planning, critical thinking and alternative drilling and sampling methods you can avoid being locked in mystery.

- **U.S. EPA PCB Facility Approval Streamlining Toolbox (FAST): Streamlining the Cleanup Approval Process** – Annah Murray, U.S. EPA Region 7

In October 2014 U.S. EPA took a hard look at the process involved, and requirements for, approving PCB cleanup plans. This effort resulted in over 25 recommendations to reduce inefficiencies that were received from the various participants. These recommendations were then used in developing, and releasing, the 2017 PCB Facility Approval Streamlining Toolbox (PCB FAST) designed to help responsible parties and regulators alike reduce delays, improve communication, and increase efficiency in the cleanup and disposal of PCBs at a site. Come learn about the PCB FAST Tools available to you, and how the U.S. EPA Region 7 is using these to balance the many environmental and economic considerations at PCB cleanups sites.

#### **BROWNFIELDS SESSION - Windgate 62-64**

- **Financial and Technical Resource Assistance for Brownfields** – David Doyle, U.S. EPA Region 7, and Maggie Egbarts, K-State TAB Program

There are many different resources available to help with the brownfield redevelopment and revitalization process from brownfield location and tracking, to assessment and remediation, and finally redevelopment. Several resources are aimed at local communities to help them improve their community, complimenting the brownfield redevelopment. This session will provide a brief description of several of the available resources and how they can help advance brownfield projects.

#### **TANKS SESSION - Parasol II**

- **The Use of Remote Sensing Equipment in Faulted Karst Terrain to Optimize Gasoline Remediation** – Chris Schafer, CHMM, Sunbelt Environmental Services, Inc.

Multiple significant gasoline releases have occurred at a site within the Highlandville Fault System. Investigations have resulted in the installation of bedrock monitoring wells that indicated the presence of wide spread voids in addition to faults and fractures. Remediation strategies at the site have included excavation, hydraulic recovery, dual phase extraction, and vapor extraction. A vapor extraction system was effective at removing significant petroleum hydrocarbon mass when very specific groundwater elevations were present. Remote sensing equipment has been installed in a nearby groundwater monitoring well. The equipment allows real time access to data in an attempt to optimize the effectiveness of vapor extraction system, help in selecting vapor extracting sampling events, and potentially aid in estimating and predicting mass removal rates.

- **Utility Technical Bulletin Discussion** – Justin Buckler, MoDNR

Section 6.1.2.3 of the *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks* requires that underground utilities at petroleum release sites be evaluated. This is particularly important when the utilities are or could come in contact with free product or petroleum contaminated soil, groundwater, or vapors as utilities can serve as preferential contaminant migration pathways. This presentation will provide an overview of a technical bulletin created to guide the evaluation of underground utilities at petroleum tank sites.

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3:00 PM                      Break – Paradise Ballrooms A,B

3:30 PM                      **CONCURRENT EDUCATIONAL SESSIONS**

**SOLID WASTE SESSION** – Nautical Wheeler

- **Bridgeton Sanitary Landfill – St. Louis County, Missouri** – Mark Milward, R.G., St. Louis County; Erin Fanning, Republic Services; and Chris Nagel, MoDNR

Permitted in 1985, the Bridgeton Landfill ceased accepting waste in December 2004 as part of an agreement with nearby Lambert International Airport. The Bridgeton Landfill is adjacent to the West Lake Landfill, which contains radiologically impacted material (RIM) that is a byproduct of uranium processing for the Manhattan Project during and after WWII. The West Lake Landfill was listed on the National Priorities List and designated a Superfund site in 1990. In December 2010, operator Bridgeton Landfill LLC first identified through routine monitoring and later confirmed through subsequent landfill gas analyses that portions of the BSL were undergoing a subsurface reaction (SSR). Since that time, the SSR at the BSL, which has been contained within the South Quarry, intensified as evidenced by an increased rate of landfill gas and leachate generation, an increased rate of differential settlement, and changes in quality of landfill gas and leachate. Bridgeton Landfill, in collaboration with regulatory agencies, has applied an iterative approach of identification of an objective and collection of actionable and informative data, allowing for informed decision-making on the research, design, and implementation of systems to safely and effectively manage reaction symptoms. This presentation will discuss regulatory and operator challenges to address conditions at the site and the valuable lessons learned.



## ENVIRONMENTAL SESSION – Parasol I

- **OSHA’s Respirable Silica Standard**

Daniel Stark, MO Department of Labor, Division of Labor Standards

This presentation will provide a brief overview of OSHA’s new Respirable Dust Standard. Both General Industry and Construction standards will be covered.

- **Recent Changes to the Missouri Well Construction Rules**

Justin Davis, MoDNR, Missouri Geological Survey

Changes to the Missouri Well Construction Rules became effective February 28, 2019. All six chapters were amended and reorganized for clarity and ease of use. This presentation will highlight major changes with emphasis on changes to monitoring well construction and plugging.

## BROWNFIELDS SESSION – Windgate 62-64

- **BVCP Tech Talk – Chris Cady, Ph.D., Brian McCurren, and the Brownfields Project Managers, MoDNR**

Here is your opportunity for an open discussion with the Brownfields Project Managers. They are back by popular demand to answer all your questions – big or small, easy or difficult. They will help you learn more about the inner workings of the BVCP and how best to get your project through the program in the quickest and least expensive manner – all while keeping their pleasant demeanor. There will also be time devoted to a special presentation on the MRBCA update.

## TANKS SESSION – Parasol II

- **Off-Site Demonstration of Sonic Rotary Drilling Rig for Bedrock Monitoring Well Installations – Bobbilynne Koepke, R.G., Environmental Works, Inc.**

Recent shifts in regulatory agencies and available technologies have resulted in a push for better quality, more detailed, high resolution characterization of the soil and bedrock at tank sites, particularly in areas where drinking water or ecological pathways are at risk. This session will be a combination case study & equipment demonstration at a retail fueling site in Osage Beach, Missouri near Tan-Tar-A/Margaritaville. The site experienced a release that posed a risk to an adjacent stream. EWI’s emergency



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response activities were able to contain and clean up impacts to the stream and prevent additional downstream migration to the Lake of the Ozarks. Now, as the site progresses through the Missouri Risk Based Corrective Action (MRBCA) regulatory process, bedrock monitoring wells are warranted. Attendees will be able to watch an onsite demonstration of EWI's sonic rotary rig in action.

*\*\*Participants for this session should be in main lobby to go to Rapid Roberts site at 3:00 pm via golf carts.*

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5:00 PM                      RECEPTION – Bring the Family! - Paradise Ballrooms A, B

DRAFT

**TUESDAY, JULY 16**

7:30 AM Registration and exhibits open – Paradise Ballrooms A, B  
Breakfast available  
SWANA meeting – check for reserved tables

**8:30 AM CONCURRENT EDUCATIONAL SESSIONS**

**SOLID WASTE SESSION – Nautical Wheeler**

- **Incorporating Solid Waste Management into an Integrated Plan** – Errin Kemper and Erick L. Roberts, City of Springfield

Springfield is addressing the challenge of increasingly stringent environmental regulations from every front. The Environmental Protection Agency in June of 2012, released its “Integrated Municipal Stormwater and Wastewater Planning Approach Framework” which emphasized a commitment to work with states and communities to implement an integrated planning approach to address environmental objectives. In early 2019, Congress approved amendments to the Federal Clean Water Act which effectively codified the concept of an Integrated Plan. How are Solid Waste regulations to be addressed within the Integrated Planning framework? The City of Springfield, City Utilities of Springfield, and Greene County Missouri have coordinated on a plan to address this question. The holistic approach proposes to use local knowledge to examine the environmental resources related to wastewater and stormwater as well as solid waste, drinking water, and air quality. The planning approach has received written endorsement from the Missouri Department of Natural Resources and EPA Region 7.

- **Getting Wise About Your Waste** – Cynthia Mormile, MSW Consultants

Material compositions and characterization studies can be performed on many different organizational levels and to varying degrees of detail. Come hear what is involved in conducting various types of studies for municipal solid waste, recycling and construction & demolition wastes. A recent development allows facilities, agencies and other entities to more efficiently and economically conduct and track more frequent audits which can be integral in identifying contamination sources and resolving issues that impact recyclables marketability. Recycling characterization is a newer concept to identify and address contamination. C&D characterization can provide insightful information for planning diversion programs. This presentation will provide various methodologies and recent tools for characterizing and analyzing ongoing material streams for improved material management.

- **Waste & Recycling Audits – What’s There and What’s Next?** – Laura Drescher, P.E., Burns & McDonnell Engineering Company

Understanding the material composition of waste received at your landfill and material recycling facility is important to the review of the existing system and strategic planning of solid waste management activities. This presentation will review audit methods, the current state of the recycling economy, the effects of contamination, and how audit results can be used to meet a community's waste minimization and diversion goals and maximize solid waste management operational efficiency.

#### **ENVIRONMENTAL SESSION – Parasol I**

- **Injection Wells for Responsible Liquids Management** – Stephanie Hill, SCS Engineers

This presentation will highlight two case studies where deep well injection is being used to manage non-hazardous industrial wastewater at (1) an underground coal mine and (2) leachate from a landfill. This side-by-side comparison of each of these industry’s differing approaches will walk through their unique wastewater type and how they manage chemical compatibility of their injected wastewater and downhole reservoir fluids to ensure longevity of this capital asset.

- **PFAs in Landfill Leachates – Overview and Handling Options** – Viraj deSilva, Ph.D., P.E., BCEE, SCS Engineers

With the EPA positioned to take serious action on PFAS in late 2019, regulators in many states have already begun implementing measures of their own, while state and federal courts are beginning to address legal issues surrounding this emerging contaminant. These changes mean new potential liabilities and consequences for organizations that manufacture, use, or sell PFAS or PFAS-containing products, and the time to take action to protect your operations is now. A number of established treatment options to remove PFAS from landfill leachate are available, including activated carbon, ion exchange or high-pressure membrane systems.

#### **TANKS SESSION – Parasol II**

- **What Makes a Good Domestic Use of Groundwater Analysis?** – Brenna McDonald, MoDNR, Missouri Geological Survey

A back to basics presentation, from a geologist’s perspective, describing the elements necessary and required by the Missouri Risk-Based Corrective Action guidance document to fully evaluate the Domestic Use of Groundwater pathway. An evaluation

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that is complete, timely, and comprehensive will streamline decision-making and reduce confusion and headaches later.

- **Bedrock Drilling Discussion** – Matthew Stone, MoDNR

#### **LEGAL SESSION** – Windgate 62-64

- **Legal Update — Recent Legislation and Court Decisions** – Stephen Jeffery, attorney, Jeffery Law Group, LLC

This session discusses recent legislation passed in 2019 by the Missouri legislature, as well as recent Federal and State court decisions that concern environmental issues in Missouri.

- **Enforcement in an Era of Cooperative Federalism** – Roger Walker, RegForm

Essentially there have been reports in the media and in House subcommittees that suggest that EPA is "sitting on its hands." I went through the EPA enforcement numbers myself and discovered that this is totally not the case.

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10:00 AM            Break – Paradise Ballroom A, B

10:30 AM            **CONCURRENT EDUCATIONAL SESSIONS**

#### **SOLID WASTE SESSION** – Nautical Wheeler

- **Using GCL to Replace Compacted Clay Liner – Balancing the Environment and the Economy** – Daniel Landrum, Weaver Consultants Group; and Brady Stewart, Waste Connections

This session will provide a summary of the history and use of GCL as a liner component from the industry's/regulated community's perspective. A discussion of the equivalency demonstration, and the effectiveness of a GCL with respect to leachate & subgrade CEC.

- **Design and Construction of a ClosureTurf® Final Cover System – Dillon Baird, P.E., SCS Engineers**

As onsite borrow sources become depleted and Subtitle D landfills reach capacity and close, synthetic final cover systems such as ClosureTurf® are now being utilized as an alternative to a prescriptive final cover system. The construction and long term post closure maintenance costs of final cover systems are crucial factors when selecting which cover system is best for a site. Mr. Baird's presentation will provide a recap of the value engineering process that led to construction of a ClosureTurf® final cover system. Additionally, he will share some of the lessons learned during each phase of the project.

- **Avoidable Complications in Landfill Leachate and Condensate System Design – Tim Hasslen, EPG Companies**

This session will discuss 5 major factors that can have long term implications when designing and constructing a landfill cell.

#### **ENVIRONMENTAL SESSION – Parasol I**

- **PFAs and Waste – What to Do with It Now? – Harry Behzadi, Ph.D., SGS-EHS North America**

Thermal treatment and incineration are considered another option for PFAS impacted waste, however, this technology has its own drawbacks and issues. In this presentation, we discuss environmental issues that arise using both these technologies. In addition, we present 2 case studies. The first examines the environmental impact of PFAS in the carpet industry. Once released to the environment during product manufacture, use, or disposal, PFAS becomes part of a virtually closed cycle leading to chronic, lifelong human and ecological exposures. In the other case study, we discuss the release of PFAS to the environment by wastewater treatment plants (WWTP).

- **Available Treatment Options for PFAs/PFOs – Angie Martin, P.E., CHMM, Heritage Environmental Services**

Recent discoveries of PFAS/PFOs in drinking water in multiple states in the US has heightened interest in these emerging contaminants. Federal, state, and local agencies are formulating regulatory limits which vary greatly. These limits seem to be centered around drinking water, but these developments are driving disposal of existing stores of chemicals containing PFAS/PFOs and environmental media contaminated with PFAS/PFOs.

## TANKS SESSION – Parasol II

- **Plume Stability Analysis and other Groundwater Plume Analytics® Tools for Evaluating Petroleum Hydrocarbon Sites** – Joe A. Ricker, P.E., EarthCon

Converting numerical groundwater environmental data into unique, but easy to understand, visual graphics using statistics and mathematics is what we call “Groundwater Plume Analytics®”. It is an innovative evaluation technique to reliably and effectively communicate meaningful patterns in groundwater data and relies primarily on graphical displays to communicate valuable insight into groundwater plume behavior which leads to better site management decisions, from both a technical and financial perspective. The Ricker Method® is an example of a unique Plume Analytics® method of evaluating plume stability that overcomes limitations posed by conventional well-by-well analysis techniques. Outputs from the Ricker Method® can be used as a basis for primary analysis and other plume diagnostic tools that allow the user to further evaluate and communicate groundwater plume dynamics. Examples of the use of Groundwater Plume Analytics® tools for evaluating petroleum hydrocarbon sites will be presented.

- **Plume Stability Evaluations** – Justin Buckler and Todd Birky, MoDNR  
Section 5.9.3 of the *Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks* requires a determination of plume stability at petroleum tank release sites. This presentation will provide considerations for plume stability monitoring, tips for conducting well-by-well or whole plume stability evaluations, and how to deal with incomplete data sets.

## LEGAL SESSION – Windgate 62-64

- **Environmental Regulation, Permitting, and Enforcement in Today’s EPA and MoDNR** – James Price, attorney, Spencer Fane

There have been a number of important changes in recent years in how EPA and MDNR are addressing environmental issues. This session will review the latest developments, talk about what is new, and review some things that have not changed.

- **Emerging Contaminants: What’s New and What’s Coming** – James Price, attorney, Spencer Fane

New constituents (and reevaluations of more familiar ones) can require regulators and the regulated community to reevaluate potential community impacts, decisions made, and sites previously closed. This session will review the legal implications of emerging

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contaminants, evaluate the associated organizational risks, and discuss risk-based cleanups in this context. Examples include emerging constituents such as PFAS and 1,4-dioxane, as well as more familiar constituents being reevaluated such as PCBs and vapor intrusion pathways.

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12:00 PM                      Networking Lunch – Paradise Ballroom C  
Raffle drawing

1:00 PM                      **CONCURRENT EDUCATIONAL SESSIONS**

**SOLID WASTE SESSION – Nautical Wheeler**

- **Options for Managing Per or Polyfluorinated alkyl Substances (PFAs) in Landfill Leachate and Wastewater – Frank Marine, Texas Molecular**

Fluorinated polymers are widely used to make coating for everything from fabric protection to food containers to lubricants. In some cases these products produce wastewater or leachate with measurable levels of PFAS. In a growing number of jurisdictions, certain PFAS compounds are being regulated by very stringent discharge limits. Controlling PFAS discharges at impacted facilities is an important consideration for compliance with discharge limitations while controlling investment and operational costs. This presentation will review the criteria to help wastewater and landfill leachate operations determine the best option to manage and reduce PFAS discharges.

- **Solid Waste Management Program Rules Update – Greg Snellen, MoDNR**

Solid Waste Management Program staff will provide an update on all solid waste related rulemaking activities since last year's conference.

**ENVIRONMENTAL SESSION – Parasol I**

- **Mass Animal Mortality Events – Preemptive and Emergency Response Services – Fletcher Bone, R.G., Mo DNR, Missouri Geological Survey**

Mass animal mortality events most often occur suddenly and unexpectedly and may have lasting effects for CAFO operators, owners, and the environment. This is why the Missouri Geological Survey has partnered with the Department of Agriculture to provide preemptive and emergency assistance to help lessen the burden of the effected and to protect the groundwater of Missouri. Most mass animal mortality events occur due to fire, excessive temperatures, suffocation, influenza, power loss, and natural disasters. Disposal options for the carcasses include utilization of a rendering facility, composting,



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sanitary landfill, incineration, and on-site burial (least desirable). Preemptive and emergency response services will be discussed in this presentation, along with the potential impacts to groundwater in the event that on-site burial of the carcasses is chosen.

- **Passive Groundwater Sampling Is Now a Mainstream Method – If You Can Get Enough Water** – Sandy Britt, QED Environmental Systems, Inc., and Bill Reetz, A Better Earth, LLC

Passive groundwater sampling is about 10 years behind low flow groundwater sampling, but it's application fits many needs. Several types of devices are available to fit particular site requirements, analyte lists, and sample volumes. Cost savings are fairly substantial and waste reduction can approach 100%. Passive groundwater sampling is hitting the mainstream with a sustainable approach that saves days in the field and in some cases can improve data quality.

#### **TANKS SESSION – Parasol II**

- **UST Installation and Operational Compliance Updates** – Darryl Slade, MoDNR  
Recent changes in federal laws and state regulations have changed how the state will perform inspections. Additionally, the requirements of the tank owners/operators have also changed. The presentation will focus on providing updates on UST regulations concerning installation and operation of USTs.
- **“Ask the PM”** – Panel Discussion (Laura Luther, Matthew Stone, Justin Buckler, Steve Lang, Darryl Slade, Chris Veit)
- **The Benefits of HVDPE vs. Other Technologies** – Noel Shenoi, CalClean

#### **LAND DEVELOPMENT SESSION – Windgate 62-64**

- **Chlorinated Solvent Impact on Property Redevelopment: A Case Study** – Anthony Moore, Environmental Works, Inc.

This presentation includes a case study where chlorinated solvent contamination was present at an under-developed property with substantial redevelopment potential. As part of the overall property redevelopment approach, multiple data sets were collected to understand compound distribution and behavior, fate and transport, potential risk, and remediation potential. This presentation will specifically include a brief history of the site, details regarding the activities performed and data collected to accomplish project objectives, and a summary of the findings and how they relate to future use of the property and surrounding properties.

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- **Redeveloping the Former Blum Scrapyard in Dubuque, Iowa – Strategies in “Green Remediation” on Complex Brownfields Sites to Create an Equitable Community** – Emily Smart, Blackstone Environmental, Inc. and Maurice Jones, City of Springfield, Missouri

This presentation is a case study of the planning and execution surrounding the redevelopment of more than two City blocks in the heart of an underprivileged area of downtown Dubuque, Iowa. We'll discuss navigating widespread contamination from a large former scrap yard, EPA and DNR requirements, community input, City needs, and budgeting. A strong team producing a practical and achievable approach serves to streamline a complex Brownfields redevelopment that will produce an asset of incalculable value for under-served citizens of the City of Dubuque.

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3:30 PM

Adjourn conference