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US EPA Technical Workshop On Hydraulic Fracturing

With environmental concerns realized as energy companies advance the exploration for natural gas in shale plays such as the Marcellus, Barnett, Utica, New Albany, Devonian, and Woodford, the US EPA invited technical subject matter experts to participate in the Agency's first technical workshop on hydraulic fracturing. This workshop was conducted at the Agency's offices in



Natural gas drilling rig in the Marcellus Shale region in Pennsylvania.

Arlington, Virginia, on February 24 and 25, 2011. Upon invitation, Environmental Standards' participants included Principal Chemist Ruth Forman, CEAC; Quality Assurance Specialist David Thal; and Technical Director of Chemistry Rock Vitale, CPC, CEAC.

The stated objectives of this workshop were to understand the latest hydraulic fracturing techniques available and to

learn from the experiences of other individuals about the positive and negative aspects of the various hydraulic fracturing techniques. The workshop encompassed four technical themes as described below.

Fracture Fluid Chemistry

Fracture fluid formulations and their purposes were discussed with regard to the various factors that influence which formulations are used, such as rheological properties, the formation chemistry, and formation damage. Also discussed were

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Environmental Standards Joins Marcellus Shale Coalition

It is quite clear that stakeholders opposed to natural gas drilling



and hydraulic fracturing in the Marcellus Shale play and elsewhere have stepped up their scrutiny of the environmental data collected and analyzed by exploration and production companies and their contractors. For more than 23 years, Environmental Standards has been helping these companies ensure that their environmental data are defensible, reliable, and at their fingertips. To best support our clients, Environmental Standards has become a member of the Marcellus Shale Coalition (MSC) and is active on a number of key committees.

Founded in 2008, the MSC is an organization committed to the responsible development of natural gas from the Marcellus Shale geological formation and the enhancement of the region's economy that can be realized by this clean-burning energy source.

The "Producing" members of the MSC work with their partners across the region to address issues with regulators (local, county, state, and federal government officials) and communities about all aspects of producing clean-burning, job-creating natural gas from the Marcellus Shale.

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emerging trends in fracture fluid formulations.

Fracture fluid interaction with host materials was another important topic - participants considered how injected fluids interact with host rock and its chemical environment at high temperatures and pressures and the pathways of potential release of in-situ contaminants (e.g., radionuclides). Directly related are concerns regarding the chemical species that may form after host materials interact with fracture fluids, how the fracture fluids degrade, and evaluation of the methods for identification of the degraded fracture fluids.

Fingerprinting

Isotopic methods and other indicators of fracturing fluid migration have shown to successfully fingerprint fracturing fluid migration. Tracers have also been developed that could be entrained within the injected fracture fluids, although there are concerns about tracer durability, degradation, and proper analytical methods to detect and quantitate these indicators.

Similarly, there is a need to understand the gas composition or liquid composition of introduced fluids and fluids liberated by the fracturing technology. Applications and limitations of current analytical technologies and mixing models were discussed and provided a very good overview of available tools to help clarify liquid/gas compositional questions.

Field Sampling Challenges

For every environmental investigation, collecting, handling, and preserving representative sample is not a trivial undertaking. There are questions of timing such as the best timeframe in which to collect samples (e.g., prior to, during, and/or after fracturing events). During sample collection, there are issues such as controlling variables of pressure and temperature (viz., pressure bombs) and, of course, addressing safety issues associated with sampling hot, highly pressurized liquids. The workshop participants identified the need to carefully consider questions of representativeness, and rapid changes to solubility, based on temperature, pressure, and redox conditions.

Laboratory Analytical Challenges

Application of routine "standard" analytical methods may not always yield acceptable data when working with fracture fluids; it may be necessary to develop separate specialized methods. There are legitimate concerns with regard to the effects of sample temperature, pressure, and matrix interferences when attempting to perform trace-level quantitative analysis. The challenges associated with examining fracture fluids for radionuclides that contain high dissolved solids represent a practical example. An overview of appropriate quality assurance and quality control measures, along with a list of known interferences and resulting analytical biases likely to be present in samples impacted by the fluids and flow-back waters was presented in a white paper presented by Environmental Standards.

Environmental Standards will provide a summary of the late February 2011 US EPA workshop in the next published newsletter. For further details, contact Environmental Standards, Technical Director of Chemistry, Rock J. Vitale, CEAC, CPC. ■

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The Producing Members of the Marcellus Shale Coalition embrace and operate by the following guiding principles:

- Provide the safest possible workplace for our employees, with our contractors, and in the communities in which we operate.
- Implement state-of-the-art environmental protection across our operations.
- Continuously improve our practices and

- seek transparency in our operations.
- Strive to attract and retain a talented and engaged local workforce.
- Committed to being responsible members of the communities in which we work.
- Encourage spirited public dialogue and fact-based education about responsible shale gas development.
- Conduct business in a manner that will provide sustainable and broad-based economic and energy-security benefits for all.

The economic benefit combined with increased energy independence has highlighted the importance of tapping into this national resource in a manner that does not harm the environment. For more information about Environmental Standards' quality assurance services as directly related to natural gas exploration and drilling, please contact Director of Business Development Kevin Renninger at (610) 935-5577. ■

Permit Issued For Deepwater Drilling

The US Department of the Interior has approved the first Gulf of Mexico deepwater drilling permit since a freeze was imposed after the BP oil spill last April; a permit was issued to Houston-based Noble Energy, Inc. for the resumption of a project located approximately 70 miles southeast of Venice, Louisiana. Although the drilling ban in the Gulf of Mexico was lifted in October 2010, this is the first deepwater drilling permit to be

issued. In making the announcement on February 28, 2011, Director of the Bureau of Ocean Energy Management, Regulation and Enforcement Michael Bromwich indicated that Noble Energy's containment capability was critical to the bureau's decision (the firm has contracted with the Helix Well Containment Group to use its capping stack to stop the flow of oil should a well control event occur). Mr. Bromwich also stated that he expects

"further deepwater permits to be approved in coming weeks and months based on the same process that led to the approval of this permit." Noble Energy is expected to resume drilling in April 2011.

Environmental Standards will closely monitor this significant development in the Gulf of Mexico. ■

New Jersey E-Waste Management Begins

Discarded and unwanted televisions, old computers and cathode ray tube (CRT) monitors, or other computer monitors are items known collectively as electronic waste, or e-waste. As of the first of the year, these e-wastes must be recycled as required by the New Jersey Electronic Waste Management Act.

The new law bans the disposal of televisions and all personal or portable computers - including desktop, notebook, and laptop computers, as well as computer monitors - in the regular waste stream. Manufacturers of these devices will now be funding the collection of e-waste so that it is free for consumers.

The law prohibits residents from placing TVs, computers, and computer monitors on the curb for pickup under the state's regular solid waste collection programs. As a result, most residents will have to take these items to a drop-off point, such as a county or municipal solid waste collection center or a participating electronics retail store (NJ DEP's website lists such facilities - www.state.nj.us/dep/dshw/lrm/uwaste/ucomplist.htm). Some cities and towns already conduct special curb-side pickup programs for recycling of e-waste and are expected to continue these programs.

All 21 New Jersey counties and many towns already have e-waste recycling programs in place. These include special collection events and drop-off points. Best Buy stores and community-based service programs, most notably Goodwill Industries and the Salvation Army, also reportedly accept these materials. In many cases, manufacturers will simply pick up the cost of operating these existing programs.

New Jersey residents need to contact county solid waste agency or municipal recycling coordinator for e-waste recycling options currently available in their communities. These options will continue to grow in the coming year. The NJ DEP also is compiling a resource list to assist residents in finding collection points. A draft of the list is available at www.recyclenj.org.

Reportedly, electronic waste makes up about 2 percent of the solid waste disposed in New Jersey. Because of the



high consumer demand for new technologies, electronic waste is also growing two to three times faster than any other component of the solid waste stream, according to the US EPA.

TVs, computers, and computer monitors contain lead, mercury, cadmium, and other chemicals. CRTs, in particular, contain large amounts of lead that is used to shield consumers from radiation.

The NJ DEP estimates that the program will prevent 50 million pounds of electronic waste from being sent to solid waste facilities during its first year. The law also contains strict provisions to ensure that, once collected, the materials are recycled properly and in accordance with state and federal laws. Manufacturers must ensure that these devices are not exported for disposal in a manner that poses a risk to public health or the environment.

Manufacturers must be registered with the NJ DEP and participating in the program in order to sell covered devices in New Jersey.

The NJ DEP is currently developing rules for determining market shares for television manufacturers and return shares based on weight for other covered electronic devices for the purposes of apportioning responsibility for program costs among manufacturers. The development of these rules does not affect the ongoing establishment of collection programs.

The law does not cover cell phones, DVD players, VCRs, game consoles, or other electronic devices, although some retailers and service organizations reportedly provide opportunities for recycling these items as well. ■

Laboratory News

Accutest® Laboratories Acquires Gulf Coast Laboratory Operations

Accutest® Laboratories has announced the acquisition of the environmental testing operations of Southern Petroleum Laboratories, Inc. (SPL). The former SPL full-service facility is now known as Accutest/SPL Houston, based in Houston, Texas. Accutest is the nation's third largest operator of environmental testing laboratories.

Lancaster Laboratories, Inc. Acquired By Eurofins Scientific

Eurofins Scientific Group S.A. (Eurofins) has signed a definitive agreement to acquire Lancaster Laboratories, Inc. from its current owner, Thermo Fisher Scientific.

Eurofins, a publicly held company traded on the Paris exchange, provides laboratory services associated with pharmaceuticals, biologics, the environment, and food. Eurofins is a leading environmental testing laboratory network in Europe, as well as a global provider of dioxin testing. The acquisition of Lancaster Laboratories provides Eurofins with a very significant footprint in the United States and greatly enhances its global capabilities and capacity in pharmaceuticals, biologics, the environment, and food. The transaction is expected to be completed in the second quarter of 2011; until then, Lancaster Laboratories and Eurofins will operate as separate companies. ■

Executive Order To Improve Regulation And Regulatory Review

On January 18, 2011, President Barack Obama issued an Executive Order intended to improve regulation and regulatory review. United States government agencies are expected to evaluate current regulations and consider the potential impacts to American businesses when developing future regulations. In accordance with the Executive Order, agencies are required to allow more time for public participation as well as to adhere to the White House scientific integrity memorandum that was published in December 17, 2010. Refer to www.whitehouse.gov/sites/default/files/microsites/ostp/scientific-integrity-memo-12172010.pdf.

Many businesses have lauded this document as the first real meaningful sign that the current administration has an interest in seeing America's manufacturers and businesses move toward financial recovery.

Aric Newhouse, senior vice president of the National Association of Manufacturers, stated that "This is an opportunity for the president to demonstrate results by eliminating unnecessary regulations already in the pipeline or delaying poorly thought-out proposals that are costing jobs."

To see the full text of the Executive Order, visit www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order.

US EPA is inviting the public to provide feedback on its plan to review the Agency's regulatory effectiveness. Members of the public were able to participate in the process at a public meeting in Washington, DC, on March 14, 2011, or to submit input via the US EPA website through March 20, 2011. Listening sessions will be made available elsewhere in the country. By late May, US EPA will publish its retrospective review plan, as well as the initial list of regulations it plans to review. For more information, go to www.epa.gov/improvingregulations/. ■

Field Oversight In The Gulf Of Mexico

Environmental Standards has been conducting field oversight of sampling activities as part of the Quality Assurance services provided to BP since shortly after the Deepwater Horizon incident on April 20, 2010, in the Gulf of Mexico. On a typical day, Environmental Standards Geoscientists from our three office locations observed both off-shore and on-shore soil and water sampling and the collection of split waste samples at various waste staging areas. When there was a "push" in early October to wrap up sampling efforts this past fall so that data could be assessed and new plans could be developed for sampling in Spring 2011, our typical number of field oversights increased from one or two per day to five or six per day.

Environmental Standards Geoscientists provided oversight of sampling activities on board two deep-water vessels - *The Gyre* and *The Ryan Chouest*; these vessels were specifically commissioned to determine the presence or absence of crude oil and dispersants within surficial sediments and supernatant water and the subsequent (if any) environmental effects. The scope-of-work involved the acquisition of *in-situ* seafloor sediment and

supernatant water samples in the Gulf of Mexico. Sampling locations were selected to include the seabed along transects from the Deepwater Horizon location to known shore landings of oil.

Several Environmental Standards Geoscientists also provided oversights of field crews collecting co-located samples in association with US Geological Survey multi-media sampling teams conducting sampling activities in the coastal environments in Alabama, Florida, Louisiana, Mississippi, and Texas. The analytical results of the post-landfall samples will be compared to the results from pre-landfall sampling to provide a record of the changes to the coastal environments when crude product intrudes to the surf zone, beaches, and wetlands.

Other Geoscientists conducted oversights of waste characterization sampling; sentinel snare sampling; sand washing; and buried oil, tar mat, and long-term sampling activities. Although sampling activities decreased during the winter, Environmental Standards continues to have a dedicated Geoscientist and other professionals conduct oversight of routine and special project sampling activities. ■

Fluorescent Light Ballasts May Contain Dangerous PCBs

The United States Environmental Protection Agency (US EPA) has issued national guidance to regulate the maintenance, removal, and disposal of fluorescent lighting ballasts (especially in older schools) that historically have contained polychlorinated biphenyl compounds (PCBs). The Agency fear is that older ballasts will fail and subject individuals to health concerns over time.

PCBs were widely used in construction materials and electrical products prior to being banned by the US EPA in 1979. These man-made compounds have a high tolerance for heat, do not burn easily, are non-explosive, and are suspected to be present in light fixture ballasts for buildings constructed before 1979. Replacement of leaking ballasts is now required by federal law – all ballasts will eventually leak and pose a health concern. At a minimum, ballasts thought to

have been installed before 1979 should be inspected for leaks; various public and private funding programs are available to help pay for inspections and replacement.

More information on the guidance document is available online at www.epa.gov/pcb. For the handling and disposal of PCB-containing light ballasts, contact a US EPA-approved company; a list of companies is available at www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/waste.htm. ■



An intact ballast from a typical pre-1979 fluorescent light fixture. Photo courtesy of US EPA.

Computer-Based Training Modules To Assist In QA Program

Environmental Standards recently developed two custom Computer-Based Training (CBT) modules for our client to use as a training mechanism for its field technicians. Each CBT was developed to cover a specific Standard Operating Procedure (SOP) - one for the completion of Chains-of-Custody and one for the collection, handling, packaging, and shipping of environmental samples. The CBT modules, each approximately 10 minutes in length, contain graphics, text, and a computer-generated narration to describe each step in the procedure.

Why Develop a CBT?

CBTs provide learning stimulus beyond traditional learning methods - textbook, manual, or classroom-based instruction. CBTs are a great alternative to printed materials because rich media, including videos, animations, interactive quizzes, and audio narration, enhance the learning experience. Another advantage of CBTs is that they can be easily distributed to a wide audience at a relatively low cost once the initial development is completed. Costs for training can be dramatically reduced by leveraging a CBT across many training sessions for no additional cost.

Virginia Releases New Compliance Inspection Manual For Solid Waste Management Facilities

The Virginia Department of Environmental Quality (VA DEQ or Department) conducts periodic inspections of our clients' solid waste management facilities. In an effort to standardize these inspections, the Department has released a New Compliance Inspection Manual. The purpose of the manual is to promote uniformity and consistency among VA DEQ regional offices by providing guidance on how to conduct a legally defensible inspection. According to VA DEQ, the new manual "provides procedural guidance for performing inspections of permitted facilities and other sites subject to the Virginia Waste Management Act and its associated waste regulations."

The new procedures include direction for VA DEQ personnel regarding pre-inspection preparation, on-site inspection protocols, and post-inspection procedures for report preparation and responding to observations of compliance and noncompliance. Attachments to the manual provide boilerplate forms and letters used to note,

Environmental Standards can develop CBTs to be catered toward a client's corporate procedures, project-specific procedures, or regulatory procedures. Some general topics that may be taught with a CBT are:

- Project-specific sampling.
- Using specific sampling equipment.
- Completing field documentation, including the chain-of-custody.
- Interpreting analytical data.
- Using data management tools, such as the EQUIS® database.

Who Can Benefit From a CBT?

Clients who can benefit from the development of CBTs include companies that:

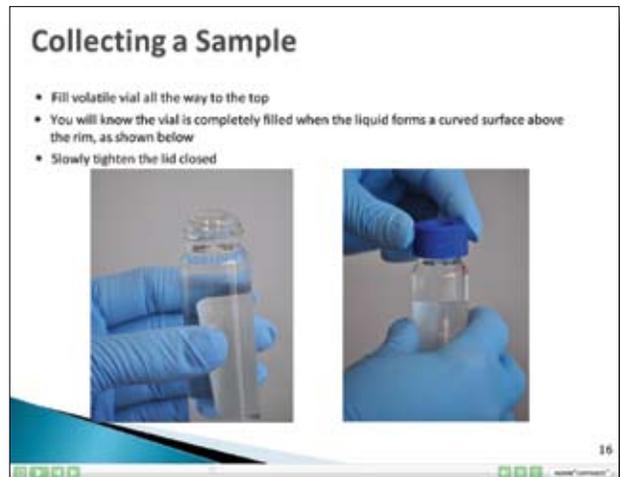
- Have large-scale, long-term environmental projects.
- Have untrained in-house staff responsible for environmental activities.
- Have made a commitment to

formalize, and publish inspection observations. Inspectors are being encouraged to use the forms to the maximum extent possible.

The manual was developed by VA DEQ to act as a Quality Management Plan for the Solid Waste Compliance Program. Where deviations from these procedures occur, regional program staff and management are encouraged to maintain appropriate written documentation and justification regarding the specific actions taken.

The need for such a manual has become clear over the past few years because there have been problems with the legality of certain aspects of site inspections. The procedures set forth in the December 2010 Manual are designed to promote uniformity and consistency throughout the Department to conduct a legally defensible inspection.

The manual provides guidance to VA DEQ staff conducting inspections under



- continuing education for its staff.
- Require annual training or certification refreshers.
- Have antiquated corporate or project-specific SOPs.
- Believe their consultants or staff are not reviewing existing manuals or written procedures.

If you are interested in learning more about our CBT development services, please contact Director of Information Technologies Dennis Callaghan at 610-935-5577. ■

the Virginia Solid Waste Compliance Program at solid waste management facilities (SWMFs) under:

- Chapter 80 - Solid Waste Management Regulations (Repealed as of March 16, 2011).
- Chapter 81 - Solid Waste Management Regulations (Effective March 16, 2011).
- Chapter 85 - Coal Combustion By-Product Regulations.
- Chapter 101 - Vegetative Waste Management and Yard Waste Composting Regulations (Repealed as of March 16, 2011).
- Chapter 120 - Regulated Medical Waste Management Regulations.
- Chapter 170 - Transportation of Solid and Medical Wastes on State Waters.

If you would like a copy of the new compliance inspection manual, it is available at: www.deq.virginia.gov/export/sites/default/waste/pdf/guidance/swcpim2010a.pdf. ■

New ACLs For Groundwater

On January 31, 2011, the Virginia Department of Environmental Quality (VA DEQ) published changes to the Alternate Concentration Limits (ACLs) for groundwater monitoring that were formally implemented on March 1, 2011.

The Virginia Solid Waste Management Regulations (VSWMR) provides the option for landfill owner/operators to use Groundwater Protection Standards (GPS) based on ACLs when no federally promulgated Safe Drinking Water Act Maximum Concentration Limit (MCL) or site-specific limit is available.

Because VA DEQ has fully adopted the US EPA Region 3 calculation equations, which were most recently revised in 2009, VA DEQ's updated ACL table (www.envstd.com/pubs/ACL_Changes_Jan_2011.pdf) has major changes in the ACL values as compared to the table in current use.

According to VA DEQ, the changes in ACL values are a result of:

1. Changes in toxicity values.
2. No more substituting oral toxicity values for inhalation and vice versa for volatiles.
3. Inhalation risk calculation using Reference Concentration (RfC) and inhalation.
4. Incorporating adjustment for early life-stages for mutagens.
5. Age-adjusted calculation for vinyl chloride.

Keep in mind that while the new ACL value for vanadium may provide a challenge for some facilities, the regulation for vanadium, like all metals, allows site-specific background to be used instead of the ACL. ■

Six-Year Review Of Current National Primary Drinking Water Regulations (NPDWRs)



The Safe Drinking Water Act (SDWA) requires the US EPA to review each NPDWR once every 6 years, revising

standards when technological advances, health effects assessments, analytical method improvements, or other factors suggest the need to do so.

In March of last year, US EPA announced the completion of its second review of existing NPDWRs. After reviewing 71 NP-

Educational Outreach

On February 18, 2011, Environmental Standards conducted an educational outreach event at Immaculate Conception Academy (ICA) in Douglassville, Pennsylvania. Geoscientists Joe Kraycik and Mark Haslett spent the afternoon discussing environmental science and water pollution with the 5th grade class. The class had recently completed a month-long project that involved each student researching and profiling a contaminated river located in the United States. This project evolved from a science fair inquiry the students conducted during which they germinated and nourished plants with liquids other than water. "This inquiry further ignited their interest in our planet's natural resources and the possibility of not having enough clean water to nourish life," said 5th grade teacher Marcella Kraycik.

During the event, Environmental Standards educated the students about the types of activities we conduct as environmental consultants and some of the interesting projects we have had the opportunity to be involved with. Several students donned Tyvek suits and other personal protective equipment. After a short slide show, class was moved outside to demonstrate a variety of equipment and instrumentation that is routinely used during water and soil sampling and monitoring.



Students were given the opportunity to get some hands-on experience with instruments such as photoionization detectors (PIDs), water quality meters, and turbidity meters. In addition, groundwater pumps and filters were demonstrated and Mr. Haslett demonstrated how oil can be removed from water using absorbent pads.

The students' enthusiasm and interest level was very high and increased as they moved through the stations. They appreciated the real-world application and hands-on approach to further their knowledge about water pollution. One student afterward remarked, "I want their job because of the things they do and places they get to go. Such a cool job." The fantastic event was further enhanced by sunny, warm weather conditions allowing the children to have class outside after a particularly cold and snowy winter. Environmental Standards would like to thank ICA, Principal Mrs. Foley, and Mrs. Kraycik for the opportunity to share our world with the students. ■

DWRs, the US EPA determined that 67 would remain unchanged and that four would be revised (acryl amide, epichlorohydrin, tetrachloroethylene, and trichloroethylene). In addition to the 71 NPDWRs reviewed, 14 others are currently undergoing regulatory actions.

Only existing NPDWRs are subject to the Six-Year Review process. Unregulated contaminants like those listed on the Contaminant Candidate List (CCL) do not fall under the current regulations.

The US EPA will review public comments and any recent, relevant peer-reviewed

data provided for the four NPDWRs listed for revision. The announcement of a change to an NPDWR is not a regulatory step. Rather, it is the start of the regulatory process, followed by detailed studies of health effects, analytical and treatment feasibility studies, occurrence, benefits, costs, and other regulatory-driven factors.

For more information on the Six-Year Review and a table of the 71 NPDWRs, visit water.epa.gov/lawsregs/rulesregs/regulatingcontaminants/sixyearreview/second_review/index.cfm. ■

Spring 2011 Conferences

Marcellus Shale Coalition - Representatives from Environmental Standards will attend monthly meetings.

Tennessee Environmental Conference, March 15 - 16, 2011, Kingsport, Tennessee. Environmental Standards exhibited.

Marcellus Midstream Conference, March 21 - 23, 2011, Pittsburgh, Pennsylvania. Environmental Standards exhibited.

DoD Environmental Monitoring and Data Quality (EMDQ) Workshop, March 28 - April 1, 2011, Arlington, Virginia. Geosciences Manager Stephen D. Brower, P.G., will present "Development and Implementation of a Quality Assurance Program for the TVA Kingston Ash Recovery Project" and Geoscientist Christopher K. Hawk will present "How the Use of a Quality Assurance Program Assisted in the Efficient and Legally Defensible Evaluation and Selection of Coal Ash Delineation Meth-

odologies in Response to the TVA Coal Ash Release."

Brownfields 2011, April 3 - 5, 2011, Philadelphia, Pennsylvania. Representatives from Environmental Standards will attend.

Environment Virginia Symposium, April 5 - 7, 2011, Lexington, Virginia. Principal Chemist David R. Blye, CEAC, will participate in a panel presentation "Addressing PCBs: Regulatory Approaches to Developing TMDLs."

Tennessee Solid and Hazardous Waste Conference, April 27 - 29, 2011, Gatlinburg, Tennessee. Environmental Standards will exhibit.

TCEQ Environmental Trade Fair and Conference, May 3 - 5, 2011, Austin, Texas. Technical Director of Chemistry Rock J. Vitale, CEAC, CPC, will present "Generating Meaningful Environmental Data in the Midst of an Environmental Response."

World of Coal Ash (WOCA) Conference, May 9 - 12, 2011, Denver, Colorado. Rock Vitale will present "Creating "Bullet-Proof" Environmental Information - A Case Study in Driving an Emergency Response to a Highly Managed Process" and Senior Geoscientist Joseph P. Kraycik, P.G., will present "Development and Implementation of a Quality Assurance Program for the TVA Kingston Ash Recovery Project."

Tennessee Oil and Gas Association Annual Convention, May 11 - 13, 2011, Nashville, Tennessee. Representatives from Environmental Standards will attend.

Western Dredging Association Conference, June 5 - 8, 2011, Nashville, Tennessee. Representatives from Environmental Standards will attend.

Tennessee Bar Association Annual Convention, June 15 - 18, 2011, Chattanooga, Tennessee. Representatives from Environmental Standards will attend. ■

US EPA To Develop Regulations For Perchlorate And Toxic Chemicals In Drinking Water

In a decision reversing a 2008 preliminary determination, the United States Environmental Protection Agency (US EPA) announced on February 11, 2011, that the Agency has decided to regulate perchlorate under the Safe Water Drinking Act (SWDA). The decision to undertake a first-ever national standard for perchlorate considers input from almost 39,000 public comments on three public notices (May 2007, October



Perchlorate is both a naturally occurring and man-made chemical that is used to produce rocket fuel, fireworks, flares, and explosives. Perchlorate can also be present in bleach and in some fertilizers.

2008, and August 2009) and comes after US EPA scientists conducted a thorough review of the emerging science of perchlorate. Perchlorate is both a naturally occurring and man-made chemical; scientific research indicates that perchlorate may impact the normal function of the thyroid, which produces important developmental hormones. Thyroid hormones are critical to the normal development and growth of fetuses, infants, and children. Based on this potential concern,

US EPA will move forward with proposing a formal perchlorate rule under the SDWA. This action does not in itself impose any requirements on public water systems (PWSs); however, this action initiates a process to develop and establish a national primary drinking water regulation (NPDWR). The process will include receiving input from key stakeholders as well as submitting formal rule to a public comment process. Once the NPDWR is finalized, certain PWSs will be required to

take action to comply with the regulation in accordance with a schedule specified in the regulation.

In a separate action, US EPA will also be developing one regulation covering up to 16 chemicals that may cause cancer. This group of volatile organic compounds (VOCs), which are chemicals such as industrial solvents, includes trichloroethylene (TCE) and tetrachloroethylene (PCE), as well as other regulated and some unregulated contaminants that are discharged from industrial operations. The VOC standard will be developed as part of US EPA's new strategy for drinking water, announced in March 2010. A key principle of the strategy is to address contaminants as groups rather than individually in order to provide public health protections more quickly and to also allow utilities to more effectively and efficiently plan for water-quality and system improvements.

For more information on perchlorate, visit water.epa.gov/drink/contaminants/unregulated/perchlorate.cfm and for more information on the drinking water strategy, visit water.epa.gov/lawsregs/rulesregs/sdwa/dwstrategy/index.cfm. ■



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