

Volume XIII Issue III Summer 2007

## Kathy Zvarick Appointed To PA DEP Board

Environmental Standards Manager of Risk Assessment and Toxicology Kathy Zvarick was appointed to the PA Department of Environmental Protection's (PA DEP's) Cleanup Standards Scientific Advisory Board (CSSAB). This prestigious, four-year appointment came directly from PA DEP Secretary Kathleen McGinty and is a testament to Ms. Zvarick's reputation as a scientist in the environmental community.

The CSSAB assists the PA DEP and the Environmental Quality Board in developing Statewide Health Standards by determining the appropriate statistically and scientifically valid procedures to be used, determining appropriate risk factors, and providing other technical and scientific advice as needed. Historically, Ms. Zvarick has been involved on the risk assessment and vapor intrusion subcommittees of the CSSAB.

The CSSAB consists of 13 members, each with background experience in areas such as engineering, biology, hydrogeology, statistics, medicine, chemistry, toxicology, or other similar scientific education or experience that relates to the problems and issues likely to be encountered in developing health-based cleanup standards and other procedures needed to implement the provisions of the state's Land Recycling and Environmental Remediation Standards Act (Act 2). CSSAB members typically include individuals from local government, the public, the academic community, and the regulated community, including

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# **Environmental Standards Goes Coast To Coast With Quality Assurance And Technical Support**

Environmental Standards was contracted in the spring by a major energy provider on the East Coast (Virginia) to provide quality assurance and technical support for the

firm's environmental quality assurance laboratory and field sampling programs. Similar services were requested by a client on the West Coast (California) as well.

The support in Virginia consisted of

audits of field and laboratory operations, quality assurance and methods training for field and laboratory personnel, establishment of a periodic review program (e.g., internal audits, systems audits, and laboratory performance testing samples), and an updating of quality assurance manuals and standard operating procedures (SOPs). Senior members of the Geosciences and Chemistry Quality Assurance Departments collaborated on this project.

**Environmental Standards determined** that an evaluation of sample collection and field processes was critical to improving the existing environmental management system. Field audits of the company's sample collection teams were conducted and indicated that the field teams were very committed to doing the best job possible but that the samplers were focusing on less consequential components of the sampling process. By working directly with the field sampling teams, providing constructive evaluations, and supplementing existing training with some "hands on." real field situation advice, Environmental Standards was able to simplify the sample collection process and improve sample collection quality.

During an intensive review of the laboratory's analytical procedures, Environmental

Standards was able to identify a significant number of additional quality improvements that were easily implemented -- the reduction of scope and complexity in the environmental

> program, improvements in documentation, improvements in accuracy of calculations, and improvements in reporting and archive practices.

The same quality

assurance chemist was called upon to investigate a data reporting issue when a medium-size city on the West Coast contacted Environmental Standards for assistance in meeting a very stringent requirement for the city's discharge water. The city was faced with the possibility of additional treatment of its effluent that would require the installation and maintenance of a reverse osmosis treatment plant to supplement current treatment processes. The municipality was required to bring metals concentrations in its effluent below the drinking water standard because an endangered species

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# **Surprising Soil Vapor Results Caused By Improper Ventilation**

Contractors rely on documents known as Material Safety Data Sheets (MSDSs) for specific information about the products they use. For a recent vapor intrusion project, however, the MSDSs did not provide all pertinent information.

The site was being evaluated for the presence of volatile organic and semivolatile organic compounds to demonstrate the effectiveness of the soil vapor extrusion (SVE) system in place.

Samples were collected for analysis and the analytical results were very surprising – three contaminants, benzene, acenaphthylene, and naphthalene, were observed in the air. The levels of these compounds were alarmingly high and not reflective of the results in the soil samples taken. In fact, the concentrations of several volatile and semivolatile organic compounds were several orders of magnitude above the exposure limit.

Investigation of the activities at the property revealed that the property had been painted about a week before sampling. To obtain an understanding of the products used at the site, the contractor was requested to provide the MSDSs for the products used at the property. The MSDSs listed 95% pure mineral spirits as the solvent for several of

the products. The product manufacturer was contacted and responded that the specification for mineral spirits was that it must be at least 95% pure and that no contaminant could be greater

than 1%; however, documentation of the types and concentrations of contaminants in a batch of mineral spirits was not retained. The manufacturer also indicated that the compounds observed at the site would be typical contaminants and that the safety instructions for the

products specified on the MSDSs should be followed.

The contractor should have realized that additional ventilation of the building was needed. The "up shot" for the project was that building ventilation was aggressively performed for approximately a week, which put the overall project behind schedule.

When setting up for a renovation project or as part of related activities, the project manager should ensure that there is appropriate ventilation for all impacted areas and that the ventilation is in place for as long as necessary. If you are interested in learning about renovation project planning or other indoor environmental issues, please contact Indoor Air Quality Professional Stephen Zeiner, CEAC, CRMI, at 610-935-5577.



Pictured above is Principal Geoscientist Gerry Kirkpatrick on vacation in Geocrab, Scotland. The staff has had a lot of fun with this picture.

### **State Regulatory News**

#### **New Jersey**

The New Jersey Department of Environmental Protection (NJ DEP) announced in June 2007 that approximately 129 lawsuits (natural resources damage claims) have been filed in an attempt to collect hundreds of millions of dollars in compensation from polluters who have damaged the state's natural resources. One of the lawsuits seeks compensation due to damage caused by methyl tert butyl ether (MTBE); New Jersey is the third state to file natural resource damage claims associated with this gasoline additive. NJ DEP has reportedly recovered more than \$51 million to compensate for damages at 1500 contaminated sites since the inception of the Natural Resource Damage Program in 1994.

#### **New York**

New York Governor Eliot Spitzer has proposed legislation to restructure New York's Brownfields Program. The legislation is intended to spur remediation and redevelopment in the state by redirecting state tax dollars to increase the funds available, offering dollar-fordollar credits for 100% of a site's cleanup costs (to provide additional incentive for redevelopment), requiring responsible parties to pay a greater portion of the cleanup costs, and expanding reporting requirements for tax credit recipients. If the state legislature adopts the Governor's proposal, the existing tax structure will remain applicable to projects with approved remediation plans and remediation in progress.

#### **Coast To Coast**

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was resident in the city's outflow canal. The city turned to Environmental Standards for a third-party review of the existing analytical data. Based on close scrutiny of the analytical methods and procedures used to generate the reported data, Environmental Standards provided compelling evidence that the reported exceedances in the plant outflow were actually due to analytical interferences and advised our client that it would be possible to reissue the data with a correction for the interference. Our very pleased client reported that the elimination of the requirement for the installation of a reverse osmosis treatment facility saved the city \$100 million. This contract for expert technical services was followed by a subsequent contract to conduct comprehensive on-site laboratory and data audits; ongoing support services are anticipated.

### US EPA Addresses Methods Update Rule Questions

As reported in the last edition of *The Standard*, the US EPA amended the requirements for sampling and analysis performed under the Clean Water Act; these changes were published in the *Code of Federal Regulations* (CFR) on March 12, 2007, and became effective on April 11, 2007. The amended procedures, known as the Methods Update Rule (MUR), encompass new, revised, and withdrawn methods and bottleware, preservation, and holding time regulations.

The Agency subsequently received numerous inquiries about the interpretation of the newly promulgated regulations. The inquiries included issues such as the precedence of MUR reporting requirements (versus method requirements), the modification of approved 40 CFR Part 136 analytical methods without US EPA oversight, the scope of allowable flexibility (e.g., modifications specifically not allowable and applicability to methoddefined parameters and drinking water methods), and the effect on the Alternate Test Procedure (ATP) Program. Refer to http://www.epa.gov/waterscience/methods/ update2003/questions.html to view the specific questions submitted and US EPA's responses. For more information about the effects of the MUR, contact Lester J. Dupes, CEAC, or Rock J. Vitale, CEAC, CPC, at 610-935-5577.

#### **Board Appointment**

(Continued from page 1) consulting and industry.

As Manager of the Environmental Standards Risk Assessment and Toxicology Department, Ms. Zvarick has established herself as an expert in the risk assessment industry.

Ms. Zvarick has an M.S. in Environmental Pollution Control from Pennsylvania State University and a B.S. in Comprehensive Science from Villanova University.

In addition to her new appointment, Ms. Zvarick is a member of the Executive Board of the National Brownfield Association's Pennsylvania Chapter; the Treasurer and Grant Committee Chair of the Society of Women Environmental Professionals of Greater Philadelphia; a member of the Society of Environmental Toxicology and Chemistry – Hudson Delaware Chapter; and a member of the Pennsylvania Association of Environmental Professionals.

# H.I.G. Capital (aka TestAmerica) Takes The Environmental Testing Marketplace By Storm

### A Commentary From Technical Director Of Chemistry Rock J. Vitale

Environmental Standards has been providing quality assurance chemistry consulting services to industrial clients for almost 20 years. During this time, I have witnessed the volatile nature of the commercial environmental laboratory marketplace – an era of expansion followed by an era of consolidation and closings. More recently, I thought that a stable, mature marketplace was evolving.

The laboratory marketplace has been "commoditized" as evidenced when some laboratories (many are now long gone) actually bid projects at a loss based on the illusion that some revenue is better than none. In the last decade, this lower pricing has clearly affected the caliber of personnel sitting behind the instruments. I used to see laboratories with staffs that consisted of a few analysts with PhDs, some analysts with Master degrees, and highly experienced analysts with Bachelor degrees. I no longer see this caliber of laboratory personnel in terms of education or experience.

On-site audits conducted on behalf of industrial clients have revealed staff turnover rates of up to 50% within the last 18 months. Indeed, many of our clients have felt the "sting" of getting "what they paid for" when they opted for low-priced analytical services in the past. These same clients now rely on Environmental Standards chemists to establish stringent technical requirements that laboratories must follow, to conduct audits of the laboratories they use, to validate the data used for critical decision-making, and to, essentially, serve as their "Analytical Data Watch Dogs."

A dozen or so multi-facility laboratory networks and thousands of single-facility laboratories were operating in 2003 (still) when a significant purchase was made; a firm named H.I.G. Capital purchased one of the larger multi-facility laboratory networks, TestAmerica. Then in 2004, under the retained name of TestAmerica, H.I.G. Capital purchased the Sequoia Laboratory Network, which included North Creek Analytical, Sequoia

Laboratories, and Del Mar Analytical. This second multi-facility laboratory acquisition, which generated a lot of attention within the marketplace, was followed in January 2007 by the purchase of the Severn Trent Laboratories, Inc. (STL) Laboratory Network. With this acquisition, the combined TestAmerica organization expanded to include 54 laboratory locations and dozens of service centers across the United States.

So who is H.I.G. Capital?
Headquartered in Miami, Florida, H.I.G.
Capital is a private investment firm with
more than \$4 billion of equity capital
under management. The obvious
reason that a private investment firm
would buy a substantial chunk of a
commoditized commercial laboratory
marketplace is to turn high profits.
How will that happen and how will our
clients be affected?

My guess is that, ultimately (if the H.I.G. Capital plan works), costs for analytical services will be driven up -- how high costs will go remains to be seen. Does H.I.G. Capital intend to acquire even more laboratories? These are interesting questions and their answers depend heavily on the amount of market share that TestAmerica will actually have.

Some "cleaning house," reorganization, and consolidation have already occurred at TestAmerica. I hope that these processes result in credentialed and experienced analysts, who are paid a fair compensation, returning to the environmental laboratory community. If the other six or eight multi-laboratory networks follow suit, this marketplace may finally stabilize and offer a reasonable choice of high-quality analytical service providers. Time will tell.

The Standard will keep our readers informed on developments in this arena. Please feel free to submit your questions and comments to Rock J. Vitale, CEAC, CPC at rvitale@envstd.com.

# **Sharing Project Information With Consultants Is Key To Successful Brownfield Redevelopment**

As Brownfield redevelopment projects and sale agreement negotiations become increasingly complex, project communication becomes more critical. It is important to convey general project information to consultants even though the information may appear to be superfluous to their individual roles. Consultants who have a basic knowledge of transaction information such as project financing (e.g., lender risk tolerance, escrow structures, and financial strength of the client), environmental insurance, document and record ownership, and opposing party expectations are better equipped to tailor their services to meet project demands.

A recent property transaction reported in a trade journal illustrates how lack of project knowledge can adversely impact project success. The technical consultant produced Phase I Environmental Site Assessment documents and compliance reports that aggressively identified virtually all real and potential environmental issues associated with the subject parcel. The efforts of the consultant established the many risks associated with the property purchase; however, the purchaser was attempting to secure financing from a very conservative private equity lender who became overly concerned about the potential environmental issues. Ultimately, the buyer had to obtain financing from a different lender at a higher interest rate, resulting in considerably higher project costs. The consultant may have been able to use an alternative investigation strategy or to skew the writing style of the documents had he known about the conservative tendency of the lender.

Sharing details "up front" with consultants about escrow agreement terms and operation of escrow prior to property closing can also prevent confusion and potential problems. Legal counsel and real estate management entities should remember that technical consultants are just that – technical consultants. How an escrow agreement functions on a day-to-day basis over the course of a property redevelopment project may be quite clear to buyers, sellers, and financiers but may not be at all clear to a technical consultant

expecting to receive draws from the escrow. The technical consultant should be made aware prior to closing the deal that payment terms are subject to

actively being sought, these documents could have been maintained in a more accessible location, thereby reducing both cost and response time.



certain buyer-lender obligations.

Perhaps one of the most important project details often not shared with the technical consultant is the financial strength of the client for whom his/her services are provided. The consultant should be informed at the proposal stage if consulting payment terms stipulate that payment will be made upon closing and settlement. A consultant taking the desperate action of "holding data ransom" for payment of past due invoices equates to project disaster.

Environmental insurance is a cornerstone of the brownfield transaction process, and it is imperative that the project technical consultant understands the role of environmental insurance in the redevelopment environmental risk management process. For example, a brownfield property redeveloper for a particularly complex site unexpectedly requested Environmental Standards to produce various documents (150 pounds of records/documents) multiple times in one year because different environmental insurance brokers and underwriters had been approached about writing a policy. Had we known that environmental insurance was

Details associated with document and record ownership should be discussed and agreed upon at the beginning of a project. "Work-for-hire" and "instrument of service" language should be included in redevelopment contractor documents. Clients are often very surprised to learn that Phase I Site Assessments. land surveys, AutoCAD and GIS files, structural reports, architectural files, and electronic forms of site data do not necessarily belong to them. If a client intends to complete a project and immediately re-sell the property or to secure investment financing from many sources, a consultant deserves to know those project details up front. Professional liabilities associated with the number and types of parties relying on generated information should be spelled out to the consultant before the work product is distributed and relied upon by others.

Effective communication is a key component of a successful brownfield redevelopment project. What a buyer or a seller chooses to reveal, or more importantly not to reveal, to the technical support team can negatively impact costs, timing, and even the project itself.

# **Environmental Standards Welcomes Senior Logistics Auditor**

Environmental Standards is pleased to welcome Ms. Lisa D. Quiveors to our technical staff. Ms. Quiveors, an accomplished environmental, health, safety, and security professional, brings over 15 years of multi-sector compliance and management systems experience to her position as Senior Logistics Auditor. Ms. Quiveors is poised and is very eager to drive the continued growth and strategic direction of the Logistics Auditing Department.

According to Department Principal Ruth L. Forman, "We are excited about the knowledge, experience, and leadership that Lisa adds to the department and to the organization as a whole."

Prior to joining Environmental Standards, Ms. Quiveors' career spanned the energy, nuclear, chemical, consulting, and government sectors. Most recently, she spearheaded the ISO 14001 certification of one of the largest non-federal hydroelectric projects in the United States, served as Chairperson of the Pennsylvania Electric Power Generation Association Water Quality Subcommittee, and was a member of the Delaware Bay & River Cooperative Board of Directors.

Ms. Quiveors received a Bachelor of Arts Degree in Biology from Texas Christian University in Fort Worth, Texas, and an MBA in Management from Eastern University in St. Davids, Pennsylvania.

Ms. Quiveors is active in a variety of civic and service organizations, including the Westtown Township, Pennsylvania Emergency Management Commission, the American Heart Association, and Chester County Hospital (West Chester, Pennsylvania).

#### **Did You Know?**

When the sun is directly overhead, its rays travel 93 million miles through space and then penetrate the atmosphere, a 20-mile thick layer of air that coats the planet.

## **Benefits Of A Corporate Laboratory Program**

#### Improves Quality, Customer Service, Consistency And Costs

An article in the Fall 2006 Issue of *The Standard* questioned if consultants were qualified to subcontract laboratory



services and presented the Top Ten Reasons for industrial entities to contract directly with commercial

laboratories. The article prompted a number of inquiries about the "best" way to contract for analytical services. Direct contracting as part of a well-developed Corporate Laboratory Program, which provides a mechanism for streamlining conventional contracting practices, has proven to be the "best" way for many of our industrial clients.

A Corporate Laboratory Program improves technical quality, customer service, laboratory consistency, and cost efficiency. When coupled with an aggressive Quality Assurance Program, procedural components are incorporated to monitor, identify, and correct problems before the project is negatively impacted by low-quality or unusable data. The significant advantages of a Corporate Laboratory Program can be divided into three categories – quality benefits, reduced "soft" costs, and reduced "hard" costs.

#### **Quality Benefits**

- Improved analytical data quality because laboratory vendors are contractually obligated to follow detailed technical specifications.
- Documented high-quality data because of program mandates that performance information be readily available to defend data in the event of a future challenge.
- Consistently generated and reported data that allow comparability because of the technical specifications that all program laboratories must follow.
- More efficient project planning because of improved communications among the industrial entity, the consulting partners, and the contracted laboratories.

- Enhanced services because of the incentive for the laboratory vendor to ensure that its industrial client is completely satisfied.
- Less likely incidents of questionable laboratory practices (e.g., data manipulation and fraud) because of the due-diligence efforts of the program.
- Enhanced continuous improvement processes because the program establishes and monitors quality, service, and cost metrics (feasible because of the reduced number of laboratory contracts).

#### "Soft" Cost Savings

- Less re-work required due to inadequate project planning and data that do not meet project data quality objectives.
- Reduced re-sampling efforts due to poor data quality because a meticulous reassessment of data that may have been deemed to be of little use can be performed as part of the program's QA component.
- Reduced consultant labor hours associated with preparing and bidding multiple projects to multiple laboratories for every site.

#### "Hard" Cost Savings

 Reducing the number of laboratory vendors by leveraging the total analytical spend *routinely* results in a savings of 20-35% per year (assuming the contracted laboratories invoice the industrial party directly for laboratory services).

Our clients have commented that the costs associated with the design, execution, and maintenance of a laboratory program are paid-back many times over by reduced analytical costs, improved efficiency, and streamlined communications. For more information about these extremely successful direct contracting programs, contact Technical Director of Chemistry/ Principal Rock J. Vitale, CEAC, CPC, at 610-935-5577.

## Remediation Success Story

#### **Brownfield News Features Phoenixville Foundry**



Foundry Building Before Renovation

## Foundry Building After Renovation



The National Brownfield Association (NBA) publishes *Brownfield News*, a bimonthly magazine, to keep the NBA's diverse membership (property owners, developers and investors, professional service providers, and government entities) apprised of issues associated with all aspects of brownfield redevelopment. The feature story in the August 2007 issue of *Brownfield News*, "A Pennsylvania Foundry Makes Good on Its Name," chronicles the success of a brownfield project at the site of a former iron and steel manufacturing facility in Phoenixville, Pennsylvania.

Environmental Standards is very proud of our association with this successful brownfield project; our firm has performed several site assessments and conducted a groundwater investigation at the foundry site. According to Principal Geoscientist Gerry Kirkpatrick, the foundry project "is such a centerpiece in the community that all stakeholders have worked, and continue to work, very hard to make reuse of the foundry a reality." The 14,000-square foot foundry building is being transformed into a state-of-the-art special events facility.

## Yangtze River Dolphin Declared Extinct

The Yangtze River Dolphin, which was classified as an endangered species in 1979, is officially extinct. This 20 million year old freshwater dolphin, which was up to eight feet long and could weigh as much as 500 pounds, was characterized by its shyness and tiny eyes. The population of these mammals steadily declined during the last fifty years; it

was estimated that only 17 of the white dolphins existed in 2006.

Experts believe that the demise of this species (nicknamed the "goddess of the Yangtze") was attributable to industrial activities that polluted the environment. Unfortunately, protection efforts initiated in 1975 were unsuccessful. Four species of freshwater dolphins remain.

## **News From The Charlottesville Office**

Environmental Standards Consulting Geoscientist and Charlottesville Office Manager Phil McKalips recently announced that Tim Corey, a senior geoscientist with 15 years of experience, has joined his staff. Mr. Corey, who has a Bachelor of Arts Degree in geology from the University of New Mexico (Albuquerque, New Mexico), formerly worked for an environmental consulting firm in the Richmond area. In addition, two recent

graduates of James Madison University

(Harrisonburg,

Virginia) with Bachelor of Science
Degrees in Geology and Environmental
Science have joined the Charlottesville
team -- Environmental Standards is very
pleased to welcome Scott Nash and
David Stiefel.

A new phase of work associated with the implementation of a fullscale Enhanced Bioremediation (EBR) Program at the Ivy Landfill in Charlottesville, Virginia, is scheduled to begin later this month (August 2007) with site-wide initial substrate injections. The program consists of the injection of substrate materials into the groundwater to enhance the dechlorination of constitutents of concern. Environmental Standards has completed the installation of 42 injection wells and has begun fabrication and installation of the injection system. Principal Geoscientist Gerry Kirkpatrick indicated that he was "extremely proud of Environmental Standards' work in Charlottesville" and commended Mr. McKalips and his dedicated staff for their outstanding efforts.

Mr. McKalips is becoming a member of the Waste Subcommittee of the Virginia Manufacturers Association (VMA) Environmental Affairs Commission. According to Account Executive Ann Marie Gathright, Charlottesville Office staff members are active in other similar organizations (e.g., Association of General Contractors, Shenandoah Valley Partnership, and Thomas Jefferson Partnership for Economic Development).

### Busy Conference Season For Environmental Standards Professionals

Environmental Standards professionals have been active participants at national and regional environmental conferences this summer. Below is a synopsis of their presentations at major summer conferences.

In July, Technical Director of Chemistry/ Principal Rock J. Vitale, CEAC, CPC, spoke at the New York Association of Accredited Environmental Laboratories/Pennsylvania **Association of Accredited Environmental Laboratories** (NYAAEL/PaAAEL) Conference. The theme of this year's event was Laboratory Quality & Ethical Practices; speakers addressed proper laboratory methods for handling safety, quality control, ethical practices, method changes, and fraud. Mr. Vitale's wellreceived presentation was entitled "Observations of Best and Worst Practices During On-Site Commercial Environmental Lab Audits: The Good, the Bad & the Ugly."

Also in July, members of the Charlottesville, Virginia, office attended the Virginia section of the American Water Works Association/Virginia Water Environment Association Good Laboratory Practices Conference. Consulting Geologist and Charlottesville Office Manager Phil McKalips, P. G., and Account Executive Ann Marie Gathright represented Environmental Standards.

This month (August 20-24), Environmental Standards will be a proud sponsor of the 2007 **National Environmental Monitoring** Conference (NEMC) in Cambridge, Massachusetts. The focus of this 23rd annual conference is on new approaches for analyzing conventional and emerging pollutants in water, soil, and air. Director of Information Technologies/Principal Dennis P. Callaghan and Mr. Vitale will participate in the Contaminated Sediments Session with their presentation entitled "A Modeling Methodology to Assist in Assessing Historical Data Quality for Sediment Characterization."

Environmental professionals from our Charlottesville, Virginia, office

## Website - New Look And Functionality



Environmental Standards new logo and design features have been introduced on our website, along with some new features that enhance the site's functionality. First and foremost is the "new look" that incorporates our enhanced water drop logo with stylish new graphics that represent our "think tank" approach to solving client environmental issues. With a clean, neat layout, information is easy to locate and view.

Secondly, information designed to keep you informed about our environmental professionals is available. The name of the key contact for each of services – Environmental Chemistry, Consulting Geosciences, Risk Assessment and Toxicology, Information Technology, Brownfields, Logistics Auditing,

TMDL, Sediments, and IAQ/Mold Assessment – is provided. In addition, our home page provides a link to important environmental conferences including dates, locations, topics, and presentations by our staff. A comprehensive list of current published articles is available in the "News and Publications" section.

Another website enhancement is the addition of a search function that enables site visitors to locate key information with just a word search.

Our electronic home is always evolving – save <a href="https://www.envstd.com">www.envstd.com</a> in your "favorites" list, check back often, and stay abreast of activities in the environmental community.

will be busy as well August 20-24 with a presentation at the Solid **Waste Association of North** America (SWANA) 2007 Quad State Conference and Exhibition in Pigeon Forge, Tennessee. Consulting Geologist Phil McKalips will again represent Environmental Standards with his presentation entitled "Maximizing Value for Groundwater Remediation Projects: A Case Study in Central Virginia." He will discuss the activities undertaken to characterize subsurface conditions prior to implementation of a pilot-scale in-situ bioremediation substrate injection and monitoring study at a former landfill

Closing the month, Environmental Standards brownfields experts will be active during the National Brownfield Association (NBA) Pennsylvania Chapter Annual Meeting, which is scheduled for August 30 in Lancaster, Pennsylvania. Environmental Standards is a sponsor of this event to be held in Clipper Magazine Stadium, a former brownfield and home of the Lancaster Barnstormers of the Atlantic League of Professional Baseball. A tour of brownfield sites in and around the city is planned.



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## Setting the Standards for Innovative Environmental Solutions



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Did you know?

The Bald Eagle was removed from the list of threatened and endangered species under the Endangered Species Act on August 8, 2007; the eagle population in the lower 48 states is estimated to have reached 10,000 pairs, up from a low of 400 pairs in 1963.