



THE STANDARD

Brownfields Summit Outlines Proposed Redevelopment Incentive Legislation

Environmental Standards Principal Geoscientist Gerry Kirkpatrick, along with representatives from the public and private sectors involved in economic and environmental redevelopment, recently attended the Brownfields Leadership Summit in Washington, DC. The summit participants were interested in the status of six separate bills designed to encourage communities and developers to take on more brownfields redevelopment projects.

The proposed legislation, introduced in the House of Representatives during 2005, offers various forms of financial incentives – from grants for brownfields site development and remediation tax credits to expanding the expensing of environmental remediation costs – for local governments and developers to become involved in the redevelopment of brownfields properties, thereby triggering economic rejuvenation in distressed communities. The proposed bills are listed below.

- H.R. 1237: “Brownfield Redevelopment Assistance Act of 2005.”
- H.R. 4480: “America’s Brownfield Cleanup Act.”
- H.R. 280: “Brownfields Redevelopment Enhancement Act.”
- H.R. 336: “Brownfields Improvement Act.”
- H.R. 877: “To Amend the Internal Revenue Code of 1986 to Expand the Expensing of Environmental Remediation Costs.”
- H.R. 1680: “To Amend the Internal Revenue Code of 1986 to Expand the Incentives for the Environmental Cleanup of Certain Contaminated Industrial Sites Designated as Brownfields.”

Following presentations by each bill’s sponsor, state agency and local government representatives from Kentucky, Pennsylvania, and Illinois commented on the proposed legislation and discussed brownfields needs from the public sector’s perspective. Next on the agenda was a panel discussion by property owners and developers, who



Environmental Standards Principal Geoscientist Gerry Kirkpatrick (pictured above, left) and Ohio Republican Congressman Michael Turner (right) met following a recent Brownfields Leadership Summit held in Washington, DC. Congressman Turner is a sponsor of “America’s Brownfield Cleanup Act.,” a bill pending in Congress.

presented the private sector point of view. A federal agency panel with representatives from such agencies as the US EPA and the US Army Corps of Engineers addressed the future of federal programs affecting brownfields. The day concluded with a group discussion of a “blueprint” for brownfields legislation.

Throughout the summit, participants expressed a consensus opinion

(Continued on page 2)

Vapor Intrusion Re-Opening Over 400 Closed Sites In New York

The New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) have recently issued documents that present New York’s strategy for re-opening and investigating sites where vapor intrusion may be an issue. The “re-openers” will occur on legacy sites that received No Further Action (NFA) letters prior to January 1, 2003. These sites, of which there are over 400, will be prioritized and addressed by either responsible parties or NYSDEC.

The unique joint approach by NYSDEC and NYSDOH has resulted in the publication of a draft policy by NYSDEC entitled “Evaluating the Potential for Vapor Intrusion at Past, Present, and Future Sites” (since renamed “Strategy for Prioritizing Vapor Intrusion Evaluations at Remedial Sites in New York State”) and a draft guidance by NYSDOH entitled “Guidance for Evaluating Soil Vapor Intrusion in the State of New York.” Although these complementary documents are still in draft

(Continued on page 2)

FEATURED TOPICS

Habitat For Humanity	3
Data Validation	3
High Court Ruling	4
Multi-State Assessments ..	4
Hazardous Waste Form.....	4
FACDQ Update	5
95% UCL	5
Formaldehyde	6
QAPP Approval	6
Soil Holding Times	6
“Best-Fit” Info Systems..	7

Vapor Intrusion Re-Opening Over 400 Closed Sites In New York

(Continued from page 1)

form, NYSDEC and NYSDOH are moving forward with site prioritization, which the agencies anticipate will be completed by the end of 2006. Under the program, responsible parties from the 400+ sites will be “invited” to address vapor intrusion at their sites through characterization and subsequent mitigation options, including demonstrating that no further action is necessary, taking approaches to identify the source and reduce exposure, monitoring, or implementing mitigation measures. For those sites where a responsible party cannot be identified or the responsible party refuses to take action (estimated to be about 150 sites), NYSDEC intends to take responsibility and to seek cost recovery.

Initially, NYSDEC will be addressing sites with known chlorinated volatile organic compound (CVOC) contamination that were “cleaned up” prior to 2003. These sites will be prioritized according to the total CVOC concentration, depth-to-contamination, soil characteristics, and land use adjacent to the site above CVOC-affected soil or groundwater. Each of these criteria will be assigned a quantitative weighing factor, and the factors will be totaled on a score sheet. Those sites with the highest scores will be the first sites targeted for investigation. At a minimum, NYSDEC’s investigations will involve a review of existing data to determine if a potential vapor intrusion pathway exists. Characterization activities may also include soil gas sampling, sub-slab soil gas sampling, and/or indoor air sampling. The NYSDOH guidance contains detailed procedures and protocols to be used for these different sampling approaches and for the analysis of resultant data.

Brownfields Summit Outlines Proposed Legislation

(Continued from page 1)

that there is a definite connection between brownfields redevelopment and improving the economies of neighborhoods where redevelopment projects occur. There was also a common belief that any negative effects of offering financial incentives for brownfields redevelopment now would be offset by significant benefits to communities over time.

“This summit provided an opportunity for those of us who work in environmental redevelopment to offer our perspectives on which incentive methods work best when trying to encour-

Although unoccupied or vacant sites are to be weighed less in the prioritization process, NYSDEC’s policy does not distinguish between residential and non-residential exposure scenarios at this time. A day-care center property and an industrial facility may be required to remediate to the same generic levels, which are currently appropriate for residential-type exposure durations and frequencies.

Vapor intrusion mitigation measures may include sealing foundation cracks, adjusting a building’s ventilation system to maintain a positive pressure, or installing a sub-slab depressurization system. NYSDOH’s guidance includes a decision matrix for determining if such measures are required. The combination of sub-slab soil gas data and indoor air data can be used in the matrix to determine if no further action is necessary, or if exposure reduction, monitoring, or mitigation activities are required.

Vapor intrusion risk assessment modeling (e.g., using the Johnson & Ettinger model) is not acceptable under the NYSDOH guidance as the sole means of evaluating the vapor intrusion pathway. For example, if modeling indicates that indoor air concentrations are within acceptable levels, indoor air or sub-slab soil gas sampling would still be required to verify the results of the model. Modeling can be used as a tool in the process, however, to help identify potential exposure pathways using site-specific information; to estimate potential exposures when field samples cannot be collected; to estimate potential past exposures where limited field data were collected (e.g., soil gas samples were collected, but not indoor air samples); and to determine a preferred order for sampling buildings by predicting

relative magnitudes of indoor air concentrations.

For sites with ongoing environmental evaluations, NYSDEC will require that the vapor intrusion pathway be investigated along with the other media (e.g., soil and groundwater). Sites not requiring an evaluation of vapor intrusion will likely be limited to those sites with no volatile constituents of concern, with contamination at significant depth, and/or with soil types (e.g., clays) that preclude vapor migration due to moisture, porosity, and density characteristics.

Turtles And Eagles Abound

Environmental Standards employees are very fortunate to be able to observe the wildlife that inhabits the area behind our corporate facility in Valley Forge, Pennsylvania. According to Environmental Standards founder and CEO Rock Vitale, “I was very much aware of the natural environment when we selected the site for the construction of our headquarters facility more than 10 years ago. Today, I appreciate that some of nature’s miracles can be



viewed from our offices and am proud of our employees who are very eager to protect the surrounding environment.”

When one of our geologists recently witnessed a snapping turtle laying eggs in a mulched area outside his office window, he was quick to alert other employees to stay on the sidewalk and not disturb the nest. The eggs are expected to hatch in about 90 to 120 days (early fall).

The Environmental Standards property received a lot of local attention last year when a bald eagle pair took up residence in a tree behind our building. A picture of “our” eaglet was featured on the front page of last summer’s edition of *The Standard*. The eagle pair returned to the nest this year and one of the “birders” on staff recently confirmed that there was at least one eaglet in the nest. Environmental Standards employees have become protective of the eagles and their habitat and enforce a “No Trespassing” policy so that the eagles are not disturbed.

Helping Habitat For Humanity Build Futures

Building new houses, and new futures, starts from the ground up. In the case of a recent Habitat for Humanity project, Environmental Standards assisted in that process by voluntarily assisting with the removal of soil excavated from foundations to make way for five new homes for low-income families in Delaware County, Pennsylvania.

Our Geosciences Department was asked to help with the management and assessment of the soils with regard to PA DEP's "Management of Fill" policy; Habitat for Humanity had secured a contractor to complete the excavation of a lot that was vacant since the 1980s. The state's fill management policy suggests that environmental due diligence should be performed, and in most cases, testing is required before soil can be moved from one location to another. Environmental Standards made plans to sample soil and assisted in securing a laboratory to analyze those samples.

Environmental Standards is proud of its history with Habitat for Humanity. In 2004, our Geosciences Department completed a site-specific sampling and analysis report for a brownfields site in Chester County, Pennsylvania, that was to be redeveloped by Habitat for Humanity. Plans called for the construction of several low-income housing units in a park-like setting. The site was formerly used for asphalt storage, concrete manufacturing, rail yard operations, and other industrial uses.

"We are pleased to have opportunities like this to assist communities with redevelopment projects designed to improve neighborhoods and create affordable housing," said Dan Claycomb, P.G., Director of Geosciences/Principal. "We are proud that an organization like Habitat for Humanity sees Environmental Standards as a reliable resource."

Volunteer Statistic

Since 1976, volunteers have provided the labor to build more than 200,000 Habitat for Humanity homes around the world.



Fine-Tuned Data Validation Strategy Can Reduce Project Costs

Environmental analytical data are routinely used for a wide variety of decision-making purposes, including compliance reporting, site characterization, remedial action, and waste disposal, to name a few. The degree to which these data are accurate and reliable can make the difference between a correct assessment, proper disposal, and an unnecessary cleanup effort. Many environmental professionals assume that laboratory-reported results are absolute, accurate, and reliable, which can be a costly mistake. Conversely, some environmental professionals recognize the need for independent data validation to define the quality and usability of project analytical results. The misconception that data validation is a luxury and not needed for routine projects has been fostered by the false assumption that laboratory certifications (state and independent agency) guarantee high-quality, valid data.

In general, data validation is a process that includes the verification and interpretation of environmental analytical data. This process provides the data user with an understanding of the quality, reliability, and defensibility of data – an understanding that will enable environmental professionals to determine the correct and most appropriate use of the analytical data. The depth of the review can be tailored to the needs of a project. The type and frequency of data validation, and even the entity that performs the data validation, are often dictated by the regulating agency (e.g., US EPA Region III Brownfields projects require an independent third-party data validation of all results) and the possibility of financial liability.

A commercial laboratory performs the analysis of environmental samples according to a defined published procedure commonly referred to as an analytical method. Methods have required quality control (QC) procedures, such as spikes (known concentrations added to a field sample to assess accuracy and matrix interference) and instrument calibrations (defining instrument re-

sponses), with associated acceptance criteria and corrective actions if the QC procedures do not meet the acceptance criteria. To further ensure that project data quality objectives (DQOs) are met, some companies have developed technical specification documents, which stipulate specific QC

requirements for performing analyses that are important to the company and the levels of data package deliverables. The data package is the mechanism through which the laboratory provides documentation that the proper analytical method was performed. A rigorous and non-biased re-

view by a qualified chemist of data generated by even the best commercial laboratories has often revealed serious analytical and sample handling problems associated with results that are to be used for major risk management and remedial design decisions.

Data validation involves the verification of reported results, which includes confirmation that the summarized data have been accurately reported, the sample results can be reproduced, and the qualitative identifications are correct. Data validation comes in a wide variety of "flavors." When considering data validation for a project, it is important to recognize that not all sample data must undergo the same type of data validation; a wide variety of data validation schemes can be utilized to address the specific concerns and DQOs of a project or site. For example, 10% of samples undergo a full data validation and the remaining samples undergo a reduced data validation. A second option would be for the volatile organic analysis to undergo full data validation and the metals and semivolatile analyses to undergo a reduced data validation. The development of a time and cost-efficient data validation strategy should include consideration for the DQOs of the project and associated liability.

After data have been validated, compliance with the requirements specified in the method, the technical

(Continued on page 4)



High Court Wetlands Protections Opinion Mixed

The US Supreme Court in June ruled 5-4 that the Sixth Circuit US Court of Appeals applied an incorrect standard to determine whether the wetlands in question in two separate cases qualified as “waterways” under the federal Clean Water Act (CWA). However, justices did



not rule on the extent of wetlands protection under the CWA regarding what constitutes “navigable water.”

The court’s decision, its first significant environmental ruling under Chief Justice John Roberts, sends the cases back to the Sixth Circuit for further consideration.

In one case – *Rapanos v. United States* – a property owner’s request to fill wetlands was denied because these wetlands were connected to navigable water located 20 miles away by small natural and man-made waterways. In the second case – *Carabell v. Corp.* – a property owner was denied permission by the US Army Corps of Engineers (US ACE) to fill wetlands. The Sixth Circuit ruled in both cases that drainage and surface water were sufficiently adjacent to navigable waters to establish CWA jurisdiction (see the spring issue of *The Standard* for more information regarding earlier proceedings in these cases).

Justice Antonin Scalia, writing the court’s majority opinion, opined that the phrase “the waters of the United

States” includes “only those relatively permanent, standing or continuously flowing bodies of water ‘forming geographic features’ that are described in ordinary parlance as ‘streams, oceans, rivers [and] lakes’...and does not include channels through which water flows intermittently or ephemerally, or channels that periodically provide drainage for rainfall.” Joining Justice Scalia in his written opinion were Justice Clarence Thomas, Justice Samuel Alito, and Chief Justice Roberts.

In a separate opinion, Justice Anthony M. Kennedy agreed with the majority only in its conclusion that the Sixth Circuit’s judgment for the government in both cases should be set aside and that the cases should be sent back to consider whether the wetlands at issue possessed a significant connection with navigable waters. He disagreed, however, with the majority’s interpretation of the CWA, contending that “important public interests are served by the Clean Water Act in general and by the protection of wetlands in particular.”

Justices John Paul Stevens, David Souter, Ruth Bader Ginsburg, and Stephen Breyer filed the court’s dissenting opinion, stating that they would uphold the government’s regulatory power. In his written opinion, Justice Stevens stated the US ACE’s decision to treat the wetlands in question as “waters of the United States” was a reasonable interpretation of the CWA.

Geoscientists Conduct Multi-State Site Assessments

Environmental Standards recently completed Phase I Environmental Site Assessments (ESAs) of industrial properties in Georgia, Ohio, and South Dakota on behalf of a prominent industrial corporation client. The properties housed active manufacturing facilities ranging in size from 9,500 square feet to 59,580 square feet. The assessments were conducted in general accordance with American Society for Testing and Materials (ASTM) standards for conducting Phase I Environmental Site Assessments (ASTM E 1527-05 standard) and the US EPA’s “Standards and Practices for All Appropriate Inquiries” (40 CFR Part 312, Federal Register Vol. 70, No. 210). Phase I ESAs are typically conducted to satisfy a portion of the environmental site assessment requirements necessary to qualify for the “innocent landowner defense,” the *bona fide* prospective purchaser defense, or adjacent landowner

defense associated with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. The overall objective of the services provided by Environmental Standards was to identify potential environmental issues related to the properties that could create a potential environmental liability for the owner, financier, or potential property purchaser.

Each Phase I included a review of reasonably ascertainable regulatory databases and historical records; interviews with personnel who might have knowledge about environmental conditions at the property; an assessment of user-provided information about the property; a reconnaissance of the property; and a report of findings associated with the investigation. The client continues to retain Environmental Standards to provide Phase I services for property acquisitions nationwide.

US EPA Modifies Hazardous Waste Disposal Manifest

Companies responsible for the proper transport and disposal of hazardous waste should be aware of a new hazardous waste disposal manifest form that the US EPA will require for applicable hazardous waste shipments as of 12:01 a.m. on Tuesday, September 5, 2006. A final rule was published by the Agency in 2005, but implementation of the regulation was postponed to solicit and await comments on the format and to review technological capabilities of the form itself. The US EPA solicited for vendors to print hardcopies of the new format document and maintains a listing of approved printers/suppliers on its website; waste haulers can choose to receive forms from any of the approved vendors listed. The previous version of the forms can be used until midnight on Monday, September 4, 2006 (which happens to be a federal holiday, Labor Day).

Environmental Standards Logistics Auditing can ensure that your company and your subcontracted carriers and other service providers remain in compliance with this and other regulatory requirements. For more information about Logistics Auditing services, please contact Shaun Folkerts at 610-935-5577.

Data Validation

(Continued from page 3)

specifications document (if applicable), quality assurance project plan (QAPP), or Work Plan is evaluated. An evaluation of the usability of the data is subsequently performed. Data usability refers to the “reliability” of the reported results (*i.e.*, unusable/rejected or estimated) and is determined by evaluating the QC results, understanding the various guidance documents for interpretation of the QC results, understanding the relationships of the reported data, and applying knowledge and professional experience to the evaluation of the results.

The Environmental Standards website (www.envstd.com) has additional information and descriptions of several types of data validation and guidance for developing a data validation strategy for any project.

Federal Advisory Committee Update

The Federal Advisory Committee on Detection and Quantitation (FACDQ), which is comprised of 20 representatives (four each from Industry, Public Utilities, Environmental Community, State Governments, and Environmental Laboratories), has met quarterly since January 2005. The Committee has made deliberate progress toward defining a method or methods to propose to the US EPA Office of Water for single-laboratory and multi-laboratory method detection and quantification limit procedures to replace the current 40CFR Part 136 Appendix B procedures.

A Technical Work Group of FACDQ members and other technically qualified individuals was formed to address technical issues associated with a new method. A second work group (Policy Work Group) was subsequently formed to evaluate and address any policy issues that might be encountered with the establishment of a new method. Each group's recommendations are to be presented to the full FACDQ for discussion and debate.

The Technical Work Group initially identified the goals for a new method and determined that there should be two major classifications of candidate methods – single-laboratory and multi-laboratory. Sub-groups were then formed to evaluate and recommend the methods to be further tested in a pilot project. The Technical Work Group is currently in the process of designing a pilot study (scheduled for fall 2006) that will be submitted to the FACDQ at the scheduled mid-July meeting. The Policy Work Group has evaluated issues associated with prescriptive versus descriptive detection and quantification limits and enforcement in the “gray” area between the detection and quantification limits.

After completion of the pilot testing in December, the FACDQ will meet to review the results and ensure that the selected methods meet the requirements (Method Quality Objectives [MQOs]) of having known maximum false positive and false negative rates and describing the precision and bias at these levels. Multi-laboratory and single-laboratory methods will be selected for recommendation and will be further “tweaked” to ensure that the methods meet the goals of the Committee before the methods are presented to the US EPA.

This update of FACDQ activities was provided by Mr. Steve Bonde of Pacific Northwest National Laboratory.

What Is A 95% Upper Confidence Limit?

One of the major advantages of site-specific risk assessments is the ability to use “averages” of contaminant concentrations as the exposure-point concentrations instead of using maximum concentrations or a comparison of sample-by-sample results to generic standards. Of course, in the interest of being conservative for the protection of human health and the environment, the US EPA stipulates that a lot of uncertainty is associated with the estimate of an exposure-point concentration; the Agency, therefore, requires that the 95% Upper Confidence Limit of the Mean Concentration (95% UCL) be used as the exposure-point concentration. So what exactly is a 95% UCL?

First, let's define exposure-point concentration – a reasonable estimate of the concentration likely to be contacted by a receptor (human or ecological) over time. The US EPA allows concentration “averaging” in the calculation of the exposure-point concentration because it is unlikely that the site maximum concentration of a contaminant will be contacted over a long time period (the exposure duration). When the exposure-point concentration is mathematically combined with other parameters such as body weight, exposure duration, exposure frequency, intake rate, and averaging time, a site-specific estimate of contaminant intake can be calculated. The site-specific intake level is then used to determine the potential for receptors to experience adverse health effects resulting from exposure to site contaminants.

So what is a 95% UCL? We're almost there. Before the 95% UCL concept can be understood, we need to clarify the difference between the true mean concentration of a chemical at a site and the mean concentration of the sample data for that chemical. Knowing the true mean concentration at a site would require sampling every last soil grain or drop of water at the property; clearly, this level of analysis is cost prohibitive. So instead, we collect samples from different areas of the site and refer to the samples as “representative of actual site conditions.” Actual site conditions will never be known; therefore,

the true mean concentration of a contaminant at a site will never be known. The sample mean concentration is only a reasonable estimate of the true mean concentration at the site. Are you ready? The 95% UCL represents a value that when calculated for a random data set equals or exceeds the true mean 95% of the time. So, let's assume we collected 100 samples at a site. We then randomly pick 20 of those sample results and calculate a

95% UCL on those 20 samples. We do this 100 times, resulting in 100 different 95% UCLs. Ninety-five of those 100 95% UCLs will be greater than the true mean concentration, which is why the 95% UCL is considered a conservative estimate of the true mean concentration at a site. The 95% UCL is referred

to as an “upper” confidence limit since we are seeking a value greater than (above) the true mean in order to develop a conservative exposure-point concentration.

At times, small data sets or great variability in measured concentration values can result in 95% UCL values that actually exceed the site maximum concentrations. This possibility exists because the 95% UCL is a statistic and is based on other data set characteristics (if you really need to know: $UCL = \bar{x} + t_{n-1, 1-\alpha} \times s/n^{1/2}$). In such instances, the US EPA allows the risk assessor to use the maximum site concentration as the exposure-point concentration instead of the unusually elevated 95% UCL. Data sets should contain at least 15 to 20 samples in order to calculate a reliable 95% UCL. Also, be aware that the 95% UCL calculation uses one-half of the detection limit for non-detect sample results. Elevated detection limits can also result in a falsely elevated 95% UCL.

If you have risk assessment related topics you would like to see covered in future issues of *The Standard*, or you have risk assessment questions in general, please contact Kathy Zvarick, Manager of Risk Assessment and Toxicology, at 610-935-5577 or kzvarick@envstd.com.

The 95% UCL represents a value that when calculated for a random data set equals or exceeds the true mean 95% of the time.

Indoor Environment Focus: Formaldehyde

Formaldehyde is a solvent used in a wide variety of applications, such as permanent paper products, furniture, resins, building materials, durable-press fabrics, and cosmetics.



Formaldehyde is also a combustion product present in cigarette smoke and vehicle exhaust. These applications result in human exposure to formaldehyde through skin absorption and inhalation.

Formaldehyde's chemical formula is HCHO and its Chemical Abstracts Number (CAS No.) is 50-00-0. Formaldehyde, which has a long list of aliases (e.g., Formalin, methylene glycol, BFV, Ivalon, and Morbicide), is colorless and pungent-smelling in vapor form.

Exposure to gaseous formaldehyde can cause watery eyes, burning sensation of mucus membranes, and difficulty breathing and is known to trigger asthma attacks. Dermal exposure to formaldehyde may cause skin rash or other allergic reactions. Formaldehyde is known to cause cancer in animals and is a suspected human carcinogen. The Occupational Safety and Health Administration (OSHA) and the National Institute of Occupational Safety and Health (NIOSH) have established per-

missible exposure limits for workers (8-hour time weighed averages). There is no established threshold below which there is no cancer risk from exposure to formaldehyde. Like all chemicals, reactions to formaldehyde are person specific and sensitive people can experience symptoms at concentrations well below established exposure limits.

There are several ways to reduce exposure to formaldehyde. For example, use alternative building products (such as metals or solid wood), wash durable-press fabrics before use, increase fresh air ventilation, and completely seal pressed-wood products. Formaldehyde can be identified in products by review of the ingredients listing (pay attention to aliases) or the Material Safety Data Sheets (MSDSs).

Inhalation exposure to formaldehyde can be identified and quantitated through several mechanisms, such as a passive air-monitoring badge. If you are concerned about potential exposure to formaldehyde in your office or production areas, please contact Environmental Standards for assistance. If you are interested in learning more about formaldehyde, the Environmental Standards website (www.envstd.com) provides several links regarding formaldehyde; select the "IAQ/Mold Assessment" link for details.

US EPA Publication Extends Soil Sample Holding Time For Several Key Analytes

The US EPA Office of Research and Development (ORD) has published the results of a study in which the stability of five contaminant groups in soil/sediment samples prior to preparation and analysis was evaluated. The study, which was conducted using SW-846 extraction and analysis methods, focused on polyaromatic hydrocarbon compounds (PAHs), polychlorinated biphenyls (PCBs), pesticides, hexavalent chromium [Cr(VI)], and other (total) heavy metals.

Based on analytical study data generated using various extraction holding times, the study suggested that the "extended" holding times listed below are appropriate for soil/sediment samples maintained in storage at 4°C.

PAHs	100 days
PCBs	260 days
Pesticides	217 days
Cr(VI)	140 days
Metals	364 days

When contacted, the US EPA SW-846 Methods Information Communications Service Center indicated that there were no immediate plans to revise the existing published SW-846 Method holding times but that the document ("Sample Holding Time Reevaluation," EPA/600/R-05/124) could be cited for project-specific application.

Environmental Standards chemists were active participants in several of the cited references in the ORD publication associated with the Cr(VI) holding time study. The complete holding time study report is available at www.epa.gov/nerlesd/cmb/research/bs_033cmb06.pdf. Technical Director of Chemistry/Principal Rock Vitale, CEAC, CPC, can be reached at 610-935-5577 or at rvitale@envstd.com to answer questions about the applicability of extended soil sample holding times for specific projects.

Environmental Standards Brownfield QAPP Receives Initial Approval By US EPA

Environmental Standards has a long and successful relationship with the Chester County Economic Development Council (CCEDC), a private, non-profit economic development organization in Chester County, Pennsylvania. A previous edition of *The Standard* reported that CCEDC had been awarded another round of US EPA funding to perform Phase I and II site assessments of recognized brownfields sites throughout Chester County (see *The Standard*, Vol. XII, Issue II, Spring 2006).

Environmental Standards, which was one of only a handful of consulting firms selected by the CCEDC to support county development, has played a key role in the process of converting dormant and/or underutilized properties to a higher use by authoring and updating Chester County's Program-wide Quality Assurance Program Plan (QAPP). This Plan prescribes the specific quality assurance and quality control meas-



ures to be followed by all CCEDC-contracted consulting firms when undertaking Brownfields project work under CCEDC's program funded by the US EPA. Environmental Standards was proud to implement the first CCEDC QAPP in 2003 and was requested to perform necessary updates of the lengthy and comprehensive document for the 2006-2007 rounds of funding and projects. The QAPP has undergone formal review by US EPA Region III and received first notice of approval on May 24, 2006. New projects throughout the county (including those involving Environmental Standards' oversight) are underway and all projects are guided by the specifications set forth in the newly updated QAPP authored by Environmental Standards.

Is This Your Newsletter?

Is this your co-worker's copy of *The Standard*? If so, visit our website — www.envstd.com/Newsletter.html — and register to receive your own hardcopy or electronic version of our quarterly newsletter.

Environmental Standards Personnel Participate In Upcoming Conferences

Environmental Standards has been linked to a number of key industry conferences occurring this summer and fall. These conferences and event information are provided below.

New York Association of Approved Environmental Laboratories (NYAAEL) and Pennsylvania Association of Accredited Environmental Laboratories (PaAAEL) Annual Convention and Exposition, July 30-August 1, Valley Forge, PA. Technical Director of Chemistry/Principal Rock J. Vitale, CEAC, CPC, is presenting during the first session on August 1 at the annual NYAAEL and PaAAEL gathering. The title of his presentation is "Difficulties of the Proper Implementation of the Methods Innovation Rule Within Commercial Laboratories – Educating the Analytical Buyers."

22nd Annual National Environmental Monitoring Conference (NEMC), August 27-31, Arlington, VA. Environ-

mental Standards is sponsoring this environmental analytical data-focused event, which brings together scientists, analysts, engineers, and managers from federal and state agencies, the regulated community, and laboratory and engineering support arenas. In addition, Mr. Vitale and Quality Assurance Specialist/Principal David R. Blye, CEAC, will be presenting a paper entitled "Performance-Based Measure Systems – A Double-Edged Sword...Buyer Beware." For more information on this conference visit <http://nemc.us/>.

Sediment Management Work Group (SMWG) Sponsor Forum and Fall Meeting, September 26-28, Nashville, TN. For the second year in a row, SMWG will host a Sponsor Forum along with its regular fall meeting. Environmental Standards joined the sponsor program last year and has continued to support the SMWG's efforts regarding the management of contaminated sediments. Most recently, the SMWG com-

pleted and summarized data on various sediment sites around the country to assist the National Academy of Science in a study on dredging. More information about the SWMG is available at www.smwg.org/.

Society of Environmental Toxicology and Chemistry (SETAC) North America 27th Annual Meeting, November 5-9, Montreal, Quebec, Canada. More than 2,500 environmental science professionals from around the world are expected to attend SETAC North America this year. Mr. Vitale's session – "Innovative Planning and Quality Oversight for the Characterization of Complex Sediment Investigations" – has met with favorable response; eight abstracts were submitted for inclusion in this session. The overall theme for this year's conference is "Global Environment and Sustainability: Sound Science in a World of Diversity." Additional information about SETAC and the conference can be found at www.setac.org.

Third-Party Should Determine "Best-Fit" Environmental Information Systems

Maintaining objectivity is an industrial client's best defense against a common pitfall of force-fitting a single information system solution for projects with varying characteristics and objectives (the proverbial square peg in a round hole). An objective, third-party approach can help determine the information system that is best suited for a project ("best fit") by evaluating project requirements and characteristics and weighing the incremental cost of supporting infrastructure and personnel.

Environmental Standards' extensive experience has shown that when management is oriented toward daily operations (often typical of ongoing compliance monitoring), atypical issues occur when the same management is faced with a large, complicated project. Managers oriented toward addressing the daily needs of operational issues may not easily adapt to the data management needs of a complicated new project — management must realize when a project requires a completely different approach. The complexity of some projects and the attendant problems of converting from existing processes and systems require the application of sophisticated and effective planning and control procedures over the entire project framework and project life

in order to ensure effective information management.

The systems and tools used to collect, manage, and deploy information are more critical for large, complex projects than for routine compliance monitoring projects. Controlled data collection and rapid information deployment are paramount when managing projects that involve many geographically distributed project teams. A properly managed data delivery system offers a well flowing interchange of information to support critical scientific decision-making.

Environmental Standards information system professionals have identified the following key control procedures to improve delivery of quality information for large-scale projects:

- Development of an Information Technologies Project Plan (may be incorporated in the Quality Assurance Project Plan).
- Defined business process and information flow.
- Defined data quality controls and monitoring.
- Development of Standard Operating Procedures.
- Effective personnel training.
- Regular, formal reviews to discuss

project progress and arrest problems or areas of concern.

Environmental Standards can provide third-party technical review and oversight at all stages of a complex project and can offer recommendations before a client embarks on a new project. Management concerns must be considered when deciding on the best-fit information systems for a project. Clients can also benefit from the opportunity to improve an existing project's efficiency. Recognizing that clients have invested heavily in information systems and training of personnel, our goal is to maintain objectivity when dealing with existing system and application vendors (including client-developed applications). Our information technologies personnel are adept in finding viable and cost-effective solutions for clients faced with systems that are inadequately positioned to support large-scale or complex projects. Establishing a balance between system infrastructure and support costs vs. real end value is a critical determining factor when evaluating information systems.

For more information about Best-Fit Environmental Information Systems, please contact Director of Information Technologies Dennis Callaghan at 610-935-5577.



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*Setting the Standards for
Innovative
Environmental Solutions*



THE STANDARD

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Did you know?

- Perchloroethylene, used in the dry cleaning process since the 1930s, has been found in at least 771 of the nation's 1,430 Superfund sites.
- According to a report in the journal *Environmental Science & Technology*, a lack of oxygen in highly polluted waters can sharply alter the sex ratio among fish, resulting in more males than females.
- A female snapping turtle typically lays 20 to 60 eggs in a nest; an estimated 90% of nests are destroyed by predators such as raccoons, skunks, and foxes.