
# THE STANDARD

*Setting the Standards for Innovative Environmental Solutions*

Volume X Issue III Summer 2004

## States Sue Power Plant Owner For CAA Violations

Connecticut, New Jersey, New York, and Pennsylvania agreed in May 2004 to take legal action against the owner of a Pennsylvania power company with coal-fired power plants in West Virginia. The four states intend to pick up where federal officials left off last November when the United States Environmental Protection Agency (US EPA) dropped its investigations of approximately 50 violations of the Clean Air Act (CAA).

Under the provisions of the CAA of 1970 (and as amended in 1977 and 1990), the US EPA establishes air quality standards for the "criteria pollutants" (carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide). Monitoring stations located nationwide and engineering estimates of emissions of the major pollutants (and 188 toxic air pollutants regulated under the CAA) are used to track air pollution. The New Source Review (NSR) Rule of the CAA exempted facilities that existed when the CAA was passed with the stipulation that modern pollution controls must be added if/when facility modifications/upgrades (resulting in increased emissions) were made; upgrading a facility without the addition of anti-pollution controls was, therefore, illegal.

In 2003, however, the US EPA adopted a less stringent interpretation of the NSR Rule

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## Timing Key In No. 2 Fuel Oil Spill Project at Elementary School

Municipal authorities, school district personnel, parents, and local residents received a first-hand education about the basics of No. 2 fuel oil when an approximately 7,000-gallon spill of heating oil occurred at a suburban Philadelphia elementary school. The spill, which contaminated soils and water surrounding the 16.8-acre facility, was discovered on December 26, 2003, and is believed to have originated within the fuel oil delivery line/drainage trench in the school's boiler room. The incident forced school administrators to relocate students and faculty upon their return from holiday break until the school could be safely opened on February 9, 2004.

The school's heating system was configured such that No. 2 fuel oil (synonymous with home heating oil, gas oil, and No. 2 burner oil) was stored in a 10,000-gallon underground storage tank (UST) in the main parking lot adjacent to the school building. When oil was discovered in a nearby stream, the school district called a local environmental emergency response firm to conduct initial oil recovery activities. Environmental Standards was subsequently contacted when the extent of the problem was realized and was responsible for the supervision of rem e-

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### FEATURED TOPICS

## States Sue Power Plant Owner For CAA Violations

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and halted on-going NSR violation investigations. Advocates of this new approach contend that litigation is too costly and time-consuming and that the ultimate goal of cleaner air can best be achieved by establishing caps on emissions and providing financial incentives for companies to voluntarily reduce pollution. Opponents argue that better air quality can be achieved using a more stringent interpretation of the NSR Rule. In a show of their opposition to US EPA policy, Connecticut, New Jersey, New York, and Pennsylvania announced in May that they intended to pursue one particular dropped investigation and would sue (based on violations of the CAA) the owner of a power company that operates coal-fired power plants in West Virginia.

Coal-fired power plants represent major sources of air pollution. Burning coal releases nitrogen oxide (an ingredient in smog), sulfur dioxide (forms acid rain), and toxic mercury (causes brain damage in small children and fetuses). According to the Natural Resources Defense Council, electric power plants represent the single largest source of several air pollutants (sulfur dioxide, nitrogen oxide, mercury, and carbon dioxide); coal-fired plants are reportedly responsible for 96% of the sulfur dioxide emissions, 93% of the nitrogen oxide emissions, 88% of the carbon dioxide emissions, and 94% of the mercury emissions generated by the electric industry.

The issue of how to enforce the provisions of the Clean Air Act will likely be debated "on the campaign trail" prior to the November elections because of the associated economic, environmental, and political implications. For a summary of the environmental positions of the major presidential candidates, please refer to the article on page 3.

**In 2003, the US EPA adopted a less stringent interpretation of the CAA New Source Review Rule**

# NPDES Sample Receipt And Storage Temperature Requirements — Confusion And Compliance

The Code of Federal Regulations (40 CFR 136.3, Table II) stipulates that aqueous samples must be maintained at 4°C between the time of sample collection and the time of analysis. In addition, samples must not be frozen, particularly if the samples are collected for microbiological analyses. While these requirements seem straightforward, there has been a great deal of interpretation and resulting confusion throughout the environmental industry relative to the appropriate temperature tolerance range for assessing aqueous sample temperatures. Tolerance ranges such as "< 4°C," "2-6°C," "0-4°C," and "1.0-4.4°C" are currently applied and applicability is dependent on the US EPA region, state or commonwealth, and regulatory program.

***Proper temperature preservation of analytical samples is essential***

Environmental Standards has experienced first-hand the "trials and tribulations" associated with temperature requirement confusion. In the strictest interpretation, a sample received or stored at any temperature other than 4°C could be deemed non-compliant for samples collected for National Pollutant Discharge Elimination System (NPDES) compliance monitoring. This interpretation, however, would render the analysis of the majority of samples collected for NPDES permits "not compliant" with the regulations. In practice, sample shipment and storage at exactly 4°C is impossible. Some regulatory personnel have indicated that as long as samples are received below 4°C and not frozen, the compliance requirement is met because the receipt temperature is more stringent than the absolute 4°C regulatory criterion.

Proper temperature preservation of analytical samples is essential to ensure that the samples remain representative of the sample location at the time of collection. Temperature preservation of analytical samples is necessary to suppress biological activity and to prevent volatilization of dissolved gases and organic substances by increasing the density of the aqueous sample. Most target analytes in samples collected are unstable, and therefore, sample preservation is necessary to minimize changes in analyte concentration or characteristics between the time of collection and analysis. Samples collected for compliance monitoring or remediation activities require temperature preservation to ensure the quality and reliability of the analytical results.

Sample temperature must be determined upon receipt at the laboratory. One good sampling/shipping practice is to include a bottle of tap water labeled "temperature blank" for use exclusively in measuring the sample temperature in a cooler containing samples. A temperature blank should be packaged in the same manner as samples and not preferentially treated (*i.e.*, frozen prior to shipment). The temperature of the temperature blank is determined using a calibrated thermometer or infrared (IR) gun of appropriate accuracy and precision. When a temperature blank is not included, an IR gun may be used to determine sample temperature. When neither of these options is available, the temperature inside the cooler must be recorded; however, this temperature is not necessarily representative of the actual sample temperature and must be noted as such.

Based on Environmental Standards' extensive laboratory audit experience, the vast majority of aqueous samples are typically stored at 4± 2°C prior to analysis. Some laboratories, such as laboratories certified by the state of North Carolina or US EPA Region IV, must adhere to a temperature criterion of "1-4.4°C" for NPDES samples. Although the usability of data is most likely not affected by the 4± 2°C storage conditions, compliance with the regulations is an entirely different matter.

The US EPA recently proposed changes to the sampling and analysis procedures for Clean Water Act and National Primary Drinking Water Regulations in 40 CRF Part 136 (see 69 Federal Register 18165, April 6, 2004). One of the proposed changes is raising the sample preservation/storage temperature criterion from "4°C" to "< 6°C." See related article on page 5.

# Election 2004: Where Do The Candidates Stand On Environmental Issues?

This article is intended to present an impartial summary of the environmental records/proposed initiatives of the two major party presidential candidates. There are less than 100 days until election day, and the focus on homeland security and terrorism, the world-wide deployment of American forces, and the volatile economy has left many voters uninformed and many politicians less concerned about important environmental issues.

The synopses below are based on the official websites of the candidates. President George Bush cites his track record of decisions made and legislation passed during his first term in office and presents his goals for the environment should he be re-elected on his official re-election campaign website (www.georgewbush.com/environment). Democratic Party candidate John Kerry provides his proposed environmental agenda should he win the election on his website (www.johnkerry.com/issues/environment).

**President George W. Bush**

Major Accomplishments

- *Great Lakes Legacy Act of 2002* – authorized the federal government to begin cleaning up pollution and contaminated sediment in the Great Lakes.
- *Brownfields Legislation* (2002) – accelerated the cleanup of abandoned industrial sites.
- *Healthy Forests Initiative* (2003) – implements provisions to help restore forests and rangelands, thereby helping to reduce the threat of wildfires.
- *Corporate Average Fuel Economy* – Corporate Average Fuel Economy (CAFE) standards were raised for SUVs, vans, and pick-up trucks.

Proposed "environmentally beneficial" initiatives for his second term

- *Clear Skies Legislation* – requires power plants to reduce their emissions of sulfur dioxide, nitrogen oxide, and mercury by approximately 70% during the next 15 years.
- *Hydrogen Fuel Initiative and FreedomCAR Partnership* – provides $1.7 billion over five years to develop hydrogen-powered fuel cells, a hydrogen infrastructure, and advanced automobile technologies that emit no air pollutants or greenhouse gases.
- *FutureGen* – $1 billion, 10-year international demonstration project sponsored by the United States to create the world's first coal-based, zero-emissions electricity and hydrogen power plant.

**Senator John Kerry**

Proposed environmental initiatives

- *Green and Clean Communities* – revitalize the nationwide Superfund program by reinstating a "polluter pays" tax on chemicals and oil products.
- *Environmental Justice* – create Environmental Empowerment Zones where federal cleanup dollars will be spent on a priority basis.
- *Conservation Covenant with America* – ensure balanced protection for public lands and adequate resources to enhance national parks through such initiatives as banning snowmobiles and jet skis from Yellowstone National Park and other sensitive areas.
- *Toxics Task Force* – create force within the US EPA to identify, evaluate, and prevent exposures to toxics.
- *Reduce Dangerous Air Emissions* – aggressive action to meet ozone and particulate air quality standards, stop acid rain, and reduce mercury emissions.
- *Restore America's Waters* – reinforce Clean Water Act by working with cities to tackle such issues as stormwater run-off and sewer overflows and pollution from factories and agricultural runoff.
- *Endangered Species Act* – entering into cooperative agreements with property owners to protect endangered species while granting correlative rights to landowners to conduct activities on their lands without risk of prosecution.

It is interesting to note that the environment is listed as the seventh and final agenda item on President Bush's website. Likewise, Senator Kerry's environmental plan is listed as the seventh and last of the major plans for his candidacy on his website homepage.

Regardless of your political opinions, Environmental Standards encourages eligible citizens to register to vote and registered voters to exercise their right to vote in the fall election. Our employees will be allowed sufficient time during the workday to vote in November, and we encourage other organizations to do the same.

## Homeland Security Incident Sample Analysis

The US EPA is currently seeking expert comments on a draft guidance entitled "Standardized Analytical Methods for Use During Homeland Security Events" (promulgated in July 2004), commonly referred to as "SAM." The Homeland Security Laboratory Capacity Workgroup was established to assess the nation's laboratory capabilities/capacity relative to analyzing environmental samples following the terrorist activities of 2001; this workgroup, which consists of representatives from multiple US EPA regions and offices, identified a critical need to establish "pre-selected, pre-evaluated, and standardized analytical methods to be used by all laboratories when analyzing homeland security incident samples." The draft document establishes the methods to be used to determine the nature and extent of contamination and the effectiveness of decontamination procedures in response to homeland security-related incidents.

## BEACH Act — Required Water Quality Standards To Be Incorporated Into Final Rule By End Of Year

The beach means summer, sun, hot sand, and a cool dip in the ocean to many vacationers. To many environmentalists, however, beach means the **B**eaches **E**nvironmental **A**ssessment and **C**oastal **H**ealth (BEACH) Act that was passed on October 10, 2000, to address public health risks posed by polluted beach water. Although beach water may appear to be clean, the water can contain microorganisms – bacteria, viruses, protozoa, and worms – that can cause illness.

Beach pollution is typically the result of polluted runoff and storm water. Large amounts of rain can contribute to pollution as raw sewage bypasses treatment systems at treatment plants. Microorganisms that can cause disease are typically present in beach water at very low levels; consequently, detection is not an easy process and can be expensive. US EPA studies in the 1970s and 1980s showed that *E. coli* is a good indicator of bacterial contamination in fresh water and that *enterococci* is a good indicator of bacterial contamination in all waters. *E coli* and *enterococci* do not actually cause illness, but rather they indicate the likely presence of fecal contamination.

The BEACH Act required each of the 35 states/territories with coastal recreational waters to adopt health-based bacteria standards by April 10, 2004; another provision of the Act empowered the federal government to propose criteria for those states/territories that did not comply. On July 9, 2004, the US EPA proposed water quality standards for bacteria based on values previously recommended by the US EPA in 1986. The Agency announced that public comment would be accepted until August 8, 2004. Publish of the final rule is expected by the end of the year.

## Indoor Air Quality (IAQ)/Mold Seminar, Round 2

Changing the regional focus did not alter the message as Environmental Standards joined three other organizations that deal with issues pertaining to indoor air quality (IAQ) and mold to present the second in a series of IAQ/mold seminars. Attendees at June's event learned that legal and insurance claims are being filed and successfully processed, whether or not toxic mold and other potential irritants are causing the degradation of IAQ.

Hosting this second half-day seminar along with Environmental Standards were Willis Americas Administration, Inc.; Buchanan Ingersoll PC; and Lewis Environmental Group. The location for this event was the Lehigh Valley, an economic region located approximately 60 miles north of Philadelphia, Pennsylvania. The first seminar was held in April in the city's western suburbs.

Attending the event were 30 professionals – everyone from property managers, builders, and realtors to school and municipal facility administrators – each looking to learn more about the potential effects of mold and other indoor air contaminants. Many had read articles about how IAQ issues are surfacing in communities nationwide, while others had first-hand experience with properties found to have mold.

Presenters – representing the areas of science, insurance, the law, and remediation – discussed the specifics of how different types of molds function in the environment and their potential health effects. From the insurance perspective, attendees heard about the rise in mold claims and the need to develop a risk management strategy. Legally, recent verdicts and settlements have favored plaintiff property and office building dwellers, but that tide is turning. And, from the remediation perspective, source control and removal issues dominated the discussion.

Other regional IAQ/mold seminars are being planned. For more information, please contact Kevin Renninger at 610-935-5577.

## More Environmental Investigations Likely To Include PBDE Analyses

Polybrominated diphenyl ethers (PBDEs) have been used for over 30 years in textiles (as a flame retardant), in the manufacture of high-impact plastics, and in electronic circuitry. Regulatory agencies are increasingly focusing on these compounds, which have over two hundred possible mono through decabromo congener possibilities, due to their toxicity. PBDEs are persistent in the environment, have the potential to bioaccumulate, and may have toxicity similar to the toxicity of polychlorinated bipehnyls (PCBs), polychlorinated dibenzodioxins (PCDDs), and polychlorinated dibenzofurans (PCDFs).

**Environmental Standards has the capability and experience to conduct on-site audits focused on HRGC/HRMS Methods**

Two factors indicate that PBDEs will likely be included in more environmental investigations — research and regulatory interest. A number of recent research papers about PBDE detection in various environmental media/biological tissues and fluids have been recently published; a significant amount of analytical research has been contracted by Environment Canada. In addition, regulatory agencies are frequently inquiring about including PBDEs in the characterization process for sediment characterization and dredging studies.

Several commercial laboratories in the United States have responded to the increased demand for PBDE analyses by offering analysis by high-resolution gas chromatography/high-resolution mass spectrometry (HRGC/HRMS) methods. The Environmental Standards chemistry staff has the capability and experience to not only conduct on-site laboratory audits that focus on HRGC/HRMS methods but also to perform validation on the data generated by these methods in order to assess the quality of the data. For information about our audit/validation services, please contact Rock Vitale, Technical Director of Chemistry, at 610-935-5577.

# Environmental Standards Reaches 700th Laboratory Audit Milestone

## *Includes Visits To More Than 295 Facilities*

Technical Director of Chemistry and Principal Rock Vitale recently determined that the 700th environmental laboratory audit in company history had been conducted and noted that the company's 17-year "laboratory audit trail" had taken its auditors into more than 295 laboratory facilities worldwide – from Prudhoe Bay, Alaska, to Orlando, Florida, and to international locations such as Mexico City, Mexico, and Budapest, Hungary. This milestone prompted some interesting office conversations.

Rock believes that our independent third-party approach to laboratory auditing, combined with our consortium approach to client cost sharing, has firmly established Environmental Standards as the premier choice for assuring quality laboratory results. He is the original Environmental Standards laboratory auditor and was appointed to the Environmental Laboratory Advisory Board last year because of his laboratory expertise. Rock finds auditing to be a very interesting occupation – one in which an auditor often has a limited amount of time to earn the trust and respect of a large number of total strangers working within a laboratory. Rock knows that it is critical to make inquiries in a way that keeps personnel at ease and has been able to put his ability to use different accents to good use. Rock, who grew up in Brooklyn, New York, recalled some "very bewildered expressions" when laboratory personnel tried to understand his "Brooklyn-ese," which he calls a great ice-breaker.

Senior Quality Assurance Chemist and veteran auditor Lester Dupes approaches audits of the technical aspects of laboratory operations with one specific goal in mind – not to just find problems but to offer suggestions for laboratory improvement. He maintains that "Establishing a good working partnership is critical to conducting a successful audit." While reminiscing about his audit experience, Lester recalled when a hurricane warning forced his evacuation before a scheduled audit, when a laboratory technician fainted upon being introduced to him, when he had to remain in a cage to look for polar bears before exiting a laboratory, and his many excursions into laboratory trash dumpsters.

Discussions about her world travel to conduct laboratory audits led another auditor, Quality Assurance Specialist and Principal Ruth Forman, to reflect about some of her unique experiences and the special challenges of international auditing. Ruth once followed audit protocols and requested pre-audit material from a laboratory she would be auditing so she could become familiar with laboratory practices and procedures; for one audit, she faced a special challenge. "When I visited a laboratory in Montreal and requested pre-audit material, I was informed by laboratory personnel that they could only provide their information in French. When the laboratory originally produced its quality assurance plan and SOPs in English as well as French, the government required the laboratory to recycle the English versions. Fortunately for me, my college French 'kicked in' and translation was not difficult. And then there was my audit in Budapest… ."


The official "Laboratories Audited by Environmental Standards Map" depicted above is prominently displayed at a central location at our corporate facility. The map is covered with pins indicating auditing locations. Our experienced auditors, however, are well aware of an audit schedule bulletin board in an inner office area and the audits yet to be conducted. Clearly, we are not limited by the size of the map or the number of pins available – our auditors have many more memories to make.

# Significant Implications Of Proposed Changes To 40 CFR Part 136

The Federal Register has published proposed changes to 40 CFR Part 136 for the wastewater analytical methods for National Pollutant Discharge Elimination System (NPDES) compliance monitoring. The proposed rule includes changes relative to container requirements, preservation techniques, holding times, alternate test methods, acceptance of methods not previously incorporated in Part 136, updates of method versions to the most current versions, withdrawal of old methods, and incorporation of new methods; however, there are significant implications associated with proposed Sections 136.6 and 136.7.

Proposed Section 136.6, by itself, is beneficial in that it defines method modifications that are allowable without regulatory approval. For example, the use of capillary columns for those methods that were written using packed column methods (outdated technology) is authorized. Furthermore, the use of 25-mL purge volumes as an acceptable modification for volatile organic purge and trap methods is also addressed; this purge volume provides increased sensitivity for these methods using a larger sample volume (already allowed in RCRA methods such as SW-846 8260B).

Proposed Section 136.7 (entitled "Reporting"), on the other hand, appears to codify US EPA's authority to establish a permit limit less than the level specified in the analytical method based on the supposition that method modifications as authorized in Section 136.6 place the technical onus of achieving substantially lower permit discharge limits than otherwise would be achievable (using the published analytical methods) on the permit holder (and the laboratory). Clearly, proposed Section 136.7 of 40 CFR Part 136 is fraught with potential liability for the regulated community and greater detail; clarity must be included or this section should be deleted from the final rule.

Proposed 40 CFR Part 136, Maximum Holding Time for Organic Tests – Revisions to Table II, which increases the holding time for the majority of the extractable analyses to "1 year," is also notable. This very significant holding time revision was not presented in the

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## Brownfields 2004 Conference September 20-22, 2004 St. Louis, Missouri

Environmental Standards will be well represented when three members of our staff join other environmental professionals in St. Louis, Missouri, next month for the Brownfields 2004 Conference – "Gateway to Revitalization." Considered the leading educational and networking event focused entirely on brownfields, this conference is the official US EPA and International City/ County Management Association (ICMA) co-sponsored forum on brownfields cleanup, redevelopment, and reuse.

Principal Geoscientist Gerry Kirkpatrick, Toxicology and Risk Assessment Department Manager Kathy Zvarick, and Director of Business Development Kevin Renninger will be at "the Gateway to the West" to participate in various interactive discussions and educational presentations and to network with other attendees from the business, government, and non-profit communities.

Specifically, Gerry will be joining a "Marketplace of Ideas" session involving a roundtable discussion of tips and advice for building relationships with community leaders and the public during brownfields redevelopment projects. Topics explored will include on-site contractor interaction with the public, agency assistance available to the redevelopment community, and legal advice on what to say and how to say it. Other panelists in this session include Brian J. Clark, Buchanan Ingersoll, PC; Colleen Kokas, New Jersey Department of Environmental Protection; and Sharon H. Williams, Pennsylvania Department of Environmental Protection.

Kathy will be giving a poster presentation entitled "The Kids Are Alright: An Evaluation of Vapor Intrusion At An Elementary School." In this presentation, Kathy will address volatile organic compound (VOC) vapor intrusion and indoor air quality issues associated with a No. 2 fuel oil release at a Pennsylvania elementary school (see article on page 1). Attendees will learn more about how the evaluation of indoor air quality during this project was confounded by the potential presence of background VOCs common in school supplies, as well as by the need to incorporate Pennsylvania Department of Environmental Protection vapor intrusion guidance published 4 weeks into the project.

Environmental Standards is very proud to be a sponsor of this important event during which many unique perspectives on the state of brownfields redevelopment nationwide will be addressed. More information about the September 20-22, 2004, conference is available at the official Brownfields 2004 website (www.brownfields2004.org).

## Methanol — The "Newest" Gasoline Oxygenate

Two Water Boards in California recently requested that methanol be added to the list of oxygenates that are to be examined in groundwater samples collected within their jurisdictions. The Clean Air Act explicitly prohibits the use of methanol in "substantially similar" unleaded gasoline; consequently, the intent of the Water Boards in requiring methanol to be examined is unclear. Including methanol in an environmental analytical program is plagued with a host of technical obstacles — methanol is routinely used as an equipment decontamination solvent in the field; methanol is used extensively as a dilution, extraction, and cleaning solvent in the laboratory; methanol can be derived as an hydrolysis artifact from methyl-*tert*-butylether (MtBE) under certain conditions; and most significantly, a technically appropriate analytical method does not currently exist for methanol. In fact, a number of peer-reviewed articles attest to the difficulties of analyzing samples for methanol due to its chemical properties that include low atomic weight, miscibility in water, and highly polar nature. The latest version of SW-846 Method 8015C states that purge and trap is not an appropriate method for methanol and that the performance of vacuum distillation for methanol has not been evaluated.

For the reasons specified above, analyzing environmental samples for methanol is problematic because data of suspect quality are produced and subsequently inappropriately relied upon as a basis for important environmental decisions. Until such time as the regulated community has thoroughly investigated the purpose and technical feasibility of evaluating groundwater for methanol in connection with gasoline-related releases, Environmental Standards urges that extreme caution be used before adding methanol to the analytical list of oxygenates.

## Achieving Our Goal Of Client Satisfaction

Environmental Standards was recently contracted to conduct a series of logistics service provider audits on behalf of a new client. Members of our Logistics Auditing Group "hit the road" in June to conduct the requested audits – a road trip that involved an extremely rigorous auditing schedule and many hectic days of travel. Our auditors responded to the challenge of this fast-paced project by completing the audits with professionalism and using auditing protocols that impressed both our client and the audited facilities. In fact, the client commented that the auditors "managed to pull it (the project) off without a hitch" and that they were "the best in the business." Provider feedback called the audit the most extensive audit ever experienced and a tremendous learning opportunity.

The summer audits were conducted on behalf of Rohm and Haas Company, one of the world's largest manufacturers of specialty chemicals with headquarters in Philadelphia and 150 manufacturing and research sites around the world. A major principle of Environmental Standards' business philosophy has always been that our success should be measured in terms of client satisfaction. We are very pleased to add Rohm and Haas Company to our list of satisfied clients.

## Timing Key In No. 2 Fuel Oil Spill At Elementary School

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diation contractor activities and investigation/assessment of the release to environmental media.

Environmental Standards geologists' investigation revealed that the fuel oil had been released to underlying bedrock via a sanitary lift station connected with underground piping to a floor drain in the boiler room's trench. The fuel oil eventually escaped the lift station, flowed down slope into the school's French drain system, discharged into an on-site detention basin, and then entered a tributary to a nearby creek. Although absorbent booms and pads were successfully employed to recover spill oil from the creek, the Pennsylvania Department of Environmental Protection estimated that 100 fish had been killed as a result of fuel oil in the water.

**A 9-week cleanup and remediation effort resulted in the excavation of approximately 2,600 tons of impacted soils**

The area of soil impact was determined to consist of underground piping and adjacent underlying soils, bedrock, and surface soils in the detention basin. Remediation activities were conducted during a 9-week nearly round-the-clock cleanup and remediation effort that resulted in the excavation of approximately 2,600 tons of impacted soils. Prior to backfilling, an interceptor trenching system was installed to recover fuel oil and impacted groundwater from the up-slope product source. This system employed oil recovery and groundwater treatment equipment to act as a collection and treatment system for free-phase and dissolved-phase oil. The French drain system piping was removed and replaced with new piping. Although soil remediation was a large part of this project, the establishment of a liquid-phase recovery system was important to show that recovery and precautionary measures had been implemented and maintained to prevent recontamination of soils at the school.

Environmental Standards installed and collected groundwater samples from 20 monitoring wells on school grounds as well as from 11 nearby residential wells. Assessment of laboratory analytical data for the residential wells indicated no impact to groundwater quality from the fuel oil release. Initial groundwater testing data from the monitoring wells indicated the presence of several No. 2 fuel oil parameters at trace levels well below the residential groundwater medium-specific concentrations (MSCs). Although current groundwater data indicate that there was minimal impact to groundwater quality at the school, quarterly sampling of monitoring wells at the school will continue.

Four pre-remediation air quality samples were collected on site at various locations inside the school building in conjunction with the spill investigation to assess potential effects of the spill on indoor air quality (IAQ). The locations for testing were selected based on faculty/staff complaints of fuel oil odors. Six post-remediation air quality samples were collected inside and outside the school building; sampling locations included the four pre-remediation sites and two additional areas. The pre-remediation IAQ testing indicated that several constituents exceeded applicable MSCs at several sampling locations; however, post-remediation IAQ testing yielded no MSC exceedances, thereby demonstrating the successful remediation of indoor air levels of No. 2 fuel oil constituents.

Environmental Standards geoscientists and risk assessors worked very closely with school district personnel to effectively and accurately communicate site events to concerned parents. Representatives of Environmental Standards attended numerous public meetings conducted by school district administrators to keep local residents apprised of the project's progress and to alleviate their concerns; they also met with homeowners in the vicinity of the school to address individual questions and concerns.

**Statistically Speaking….**

**Between 1.7 and 8.8 million tons of oil is released into the world's water every year; more than 90% is related to human activities.**

## Principal Participates In Brownfields Workshop

Principal Gerry Kirkpatrick participated in the Lancaster County Planning Commission's Brownfields Workshop in Lancaster, Pennsylvania, on July 22, 2004. The Lancaster County Planning Commission can boast that its brownfields program is regarded as one of the most successful county-level brownfields programs in the country. The workshop was designed to provide stakeholders in the brownfields redevelopment process with a better understanding of the redevelopment process and the challenges associated with land recycling projects.

Presenters included Mary Gattis-Schell, Lancaster County's land recycling specialist, and Rick Jackson, RLA, of ELA Group. In addition, Chuck Maneval, Director of Economic and Community Development for the City of Lancaster, and Michael Davis, an attorney with Barley, Snyder, Senft & Cohen, LLC, made presentations. Gerry addressed site assessment and remediation with a particular focus on land use controls such as deed restrictions and engineering controls.

## Significant Implications Exist With Proposed Changes To 40 CFR Part 136

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preamble summary of changes. A holding time of 1 year is sensible for many parameters (PCBs and PCDDs/PCDFs), but the US EPA should confirm its intention to establish a 1-year holding time for the other listed extractable analyses. In addition, the revised Table II requires clarification – is the new 1-year holding time applicable to both extraction and analysis? If the extraction only must be performed within 1 year, a holding time for the analysis of the extract should be specified. Environmental Standards will closely monitor the review process for the new rule.

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# THE STANDARD

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Did you know?

? Coal-fired electric power plants produce about 40% of all human-caused mercury air emissions in the US.

? The earth's surface temperature has risen by about 1 degree Fahrenheit in the past century.

? In 2001, US residents, businesses, and institutions produced more than 229 million tons of municipal solid waste.

? The US EPA estimates that the country's wetland loss rate has reached 58,500 acres annually.