



Environmental Health & Safety News

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Special points of interest:

- Higgins Joins Haystack Colorado CBS 4 Team
- Joe Nickels to take CIH exam
- New Addition: Tony Walker
- Higgins to Sponsor the United Cerebral Palsy of Colorado 4th Annual Straight Shot Sporting Clay Event

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HOSPITAL CONSTRUCTION AIR MONITORING & SAMPLING

One of the major problems of indoor air quality for health care facilities and hospitals is construction activities in the vicinity of nearby immunological-compromised patients. Nosocomial or hospital-acquired infections can occur when airborne non-contagious pathogens and particulates, such as fungi (mold) and dust become respirable and are inhaled by these patients.

According to the Centers for Disease Control and Prevention (CDC), four categories account for 78% of health-related infections each year: surgical site, central line-associated bloodstream, ventilator-associated pneumonia, and urinary tract. Total infections each year are estimated at 1,351,035 and deaths each year are estimated at 87,925. In some cases, the infection or death-related incident was at-

tributed to airborne contaminants generated from nearby construction activities.

A recent lawsuit in Florida claims that three children died from hospital mold. The lawsuit claims that the children were exposed to pathogenic fungi (mold) because the hospital failed to properly seal off an area under renovation. Tests confirmed the presence of pathogenic fungi. The patient rooms were located right above the construction activity, where renovation work may have created a moderate to high level of dust. Sometimes, the patients had to be transported right through the construction area.

The International Standard for Organization (ISO) 14644-01 [1999], *Cleanroom and Associated Controlled Environments*, provided guidelines for controlling the risk of such infections. They can

be managed by engineering controls (e.g., containment structures), air monitoring and sampling, regular cleaning of ceiling and air-duct grilles when rooms are not occupied by patients, and regular ventilation unit filter changes. Direct air monitoring involves the use of a particle counters. Air sampling consists of respirable and total dust sampling, as well as viable and bioaerosol sampling using agar plates and cassettes.

Higgins works closely with hospital and health-care facilities infection control committees and construction contractors by providing the following services: infection control risk assessments, in-house maintenance compliance reviews, daily inspections of containment structures, bioaerosol (fungal spore testing) and particulate air sampling, monitoring, and personnel training. - **Joe Nickels**

Higgins and Associates joins Haystack Colorado CBS 4 Team

Higgins and Associates is proud to announce their involvement in the Haystack Colorado CBS 4 professional service program. Haystack Colorado is a revolutionary service for the people of Colorado. Much more than a referral service, Haystack Colorado performs extensive and rigorous checks on every company prior to listing them on their Web site. They provide Coloradans with reliable resources in a wide range of industries and professions. Using this unique service saves you time and gives you peace of mind. You can be assured that the companies you find there will give you fair pricing, quality work and outstanding customer service.

Look for Higgins and Associates segments on the Saturday morning show as well as the Rachel Ray Show on our Web site.





Art Goguen on the set of the Haystack Colorado CBS 4 shoot



Mike on camera



Granite Counter Tops

There has been recent news media coverage and public concern regarding the presence of mold growth and radon gas production on residential kitchen and commercial break room granite countertops.

Fungi are present on and even in granite in the natural environment. The fungal spores germinate on the surface of granite, and if water is present, the hyphae are able to force their way into the spaces between crystals using osmotic pressure. The fungi also release organic acids that can assist in penetration of the rock. However, this process occurs over long periods of time, and results from this are generally not relevant to granite counter tops in the home or office. Although water may be present, it is usually transient and there is no time for fungi to gain a foothold. After the granite is manufactured, it is polished for retail.

Higgins has done a literature search looking for documented invasive fungal (mold) growth on granite and has found no studies. There are studies of bacteria sticking to granite

materials, but no more so than other kinds of counter top materials. As with any permeable, polished surface used for handling food, keeping granite clean and dry is the best defense against any possibility of mold growth and other microorganisms. Sealing the surface of polished granite can make it hydrophobic so that it is less likely to soak up any water. If the material remains wet for days at a time, surface mold growth can occur. Once the surface is dry, the mold can be removed using soap and water.

Granite typically contains 10-20 parts per million of natural uranium. Uranium naturally decays to produce radon gas. Although health physicists and other scientists do agree that granite countertops may emit radon, the levels are insignificant compared to background levels. Most countertops are located in well-ventilated kitchens, thereby, minimizing the risk of exposure to radon gas since it is readily dispersed in the air. The issue concerning radon in granite countertops remains controversial with health advocates and the granite industry. The main issue is:

just how much radon constitutes a health hazard. Studies from Rice University that tested 20 home samples found most to be completely harmless. The EPA maintains that most types of granite are not typically known to be major contributors of radiation and radon in the average home. Meanwhile, the potential for litigation is very real.

For many homeowners unaware of the radon issue, the realization that their countertop would emit some amount of radon would come as a shock, and for many the first inclination would be to banish the offender from the home, at substantial cost. That could form the basis of a lawsuit. Yet for those still concerned, Higgins does provide services using a radon test kit to determine emissions from countertops. Samples are analyzed through a AIHA-certified laboratory.

- Joe Nickels

Employee Profile: Art Goguen

Art Goguen has worked as an environmental, health & safety (EH&S) manager for over 30 years overseeing the operations of semiconductor & computer manufacturing, heavy industrial machining & manufacturing, and consulting. Art holds an advanced degree in environmental policy and management from Denver University. Art has held corporate positions in Fortune 500 companies where he has developed EH&S management system programs, worked on Superfund sites, US and international environmental remediation programs, supported multiple environmental litigation defense efforts, and conducted corporate EH&S audits and investigations around the world. Art is a founding member of the National Association of Environmental Management, and is an active member of other EH&S associations. Art also has extensive experience in infection control during hospital renovations.



Art, enjoying a rare quiet moment at the office



Providing Some Objectivity in a Subjective Science

Entering into my 20th year of “hands-on” environmental consulting, I have seen descriptions of soil which, for any given project, varies between geologist, environmental scientist, and engineer. What one person may call silt, is another’s clay. What one person observes as “grading”, another may observe “sorting”. Can sand be “hard” or should it be “dense”? Can a silt be “medium grained”? Sometimes presenting a cross-section of lithological soil borings may prove to be somewhat difficult when

more than one person is involved with the assessment activities on a particular project. The remedy? Either use only one person to perform all the assessment activities for the specific project (seldom accomplished) or have your field staff become familiar with the Unified Soil Classification System (USCS). The USCS provides a template for classifying the basic Six Soil Types (Gravel, Sand, Silt, Clay, Organic, and Peat). The ASTM standard provides detailed modifiers, terminology, and

brings consistency when documenting soil type and soil conditions for a particular project. The importance of classifying the correct soil type and soil conditions for assessment activities can determine the direction of remedial objectives, protection of human health and environment, and overall project costs. “Misdiagnosis” of soil types can jeopardize the success of a project, including site specific health and safety concerns. - **Charles Jensen**



SPCC Plan Compliance: Hitting A Moving Target

Did you know that existing facilities requiring a Spill Prevention, Control and Countermeasures (SPCC) Plan must have a plan prepared and implemented by July 1, 2009, and by January 10, 2010 for implementation of items in the 2008 amendments? The SPCC Plan Requirements Rule has been amended several times since July 2002, and deadlines for compliance have been moved several times as well. The final rule for the new compliance dates is under review and is expected to be published in the Federal Register prior to the current July 1, 2009 compliance date. The U.S. Environmental Protection Agency (EPA) requires sites that

have an aggregate aboveground petroleum storage capacity greater than 1,320 gallons and/or an underground oil storage capacity greater than 42,000 gallons to develop an SPCC Plan. Only containers 55-gallons or greater count towards the applicability criteria and need to be included in the SPCC Plan. The SPCC Plan describes the storage equipment, workforce, security measures, and procedures; as well as training to prevent, control, and provide adequate countermeasures for a discharge of oil. EPA Regional Administrators may require the preparation of an SPCC Plan for otherwise exempt facilities on a case-by-case basis, where necessary

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to carry out the purposes of the Clean Water Act. This plan must be certified by a Professional Engineer except for qualified facilities (i.e., less than 10,000 gallons total storage, no Federal reportable spill history, no non-compliance issues) that may self certify; and the plan must be reviewed every 5 years. Penalties for not complying with these laws can reach as high as \$25,000 per day per violation. If you need assistance with developing an SPCC Plan, contact Higgins and Associates L.L.C. at (303) 708-9846.- **Joe Nickels**

Higgins and Associates is a proud sponsor of the UCP Charity Sporting Clay Event

Higgins And Associates is proud to announce the addition of Tony Walker to our staff!

Tony is an environmental professional with over 15 years of progressive experience in environmental project management, compliance, and design. Mr. Walker has over twelve years of experience in the petroleum industry: exploration and production, unrefined product pipelines and storage, and refined product pipelines and terminals.

Tony came to Colorado via Texarkana Arkansas and has lived in the Denver area for over three years. He’s proud father of two with another on the way. When not busy being Dad or working Tony can be found in the sand traps on the local golf courses.



Tony Walker



More of the Haystack shoot



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