# The Newest Environmental Issues

# The Newest Environmental Issues
# Orange County Association Of Realtors
# August 30, 2011

HomePro New York

M. Douglas Myers

1-800-724-7088

www.HomeProNY.com

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# Looks Innocent Enough?

# Look A Little Closer!!

# Stachybotrys!!!

# Stachybotrys

# Aspergillus

# Penicillium

# Field Picture

# Field Picture

# Field Picture

# Field Picture

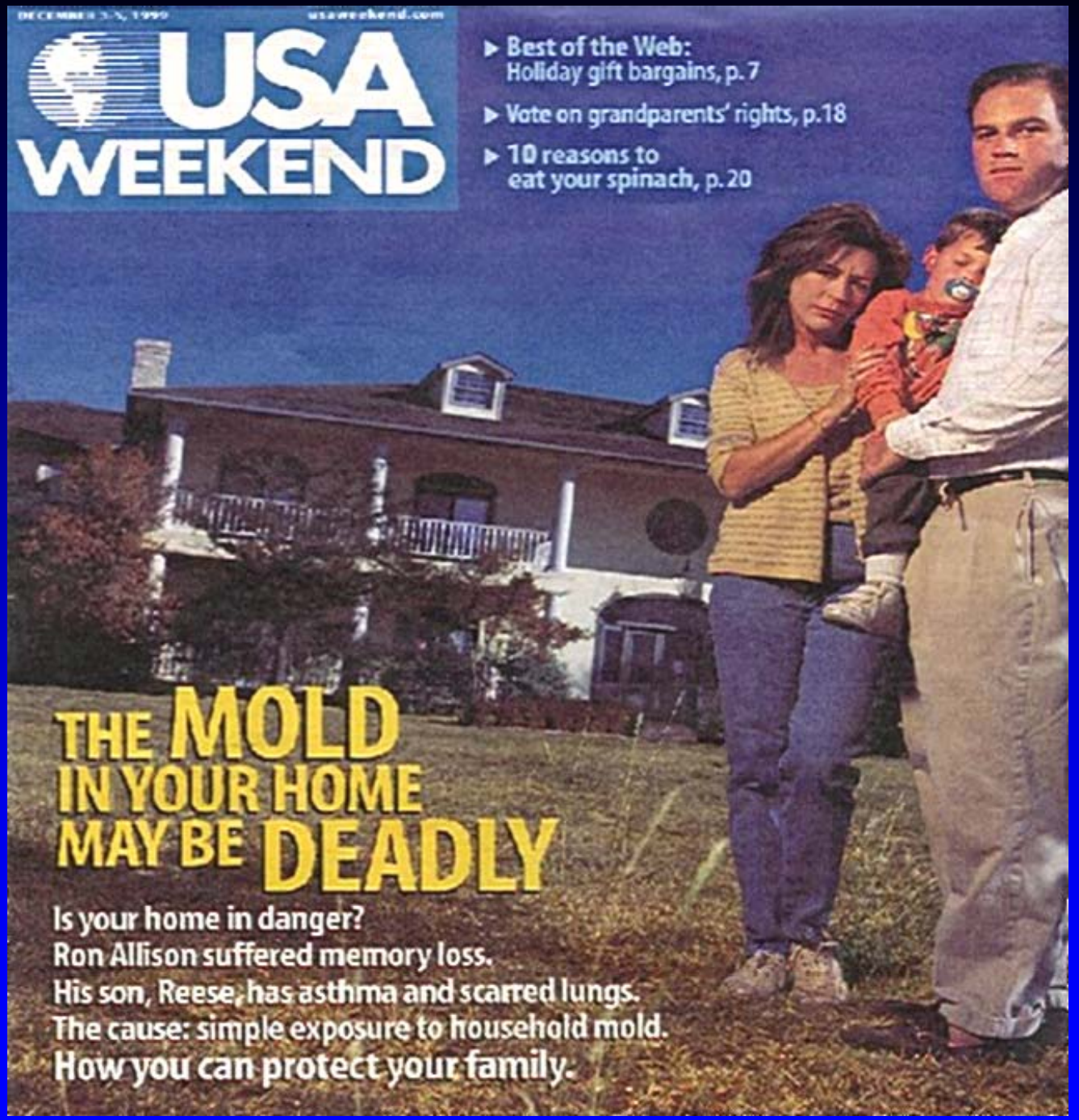
# Field Picture

# Encompassing Issue

- Causes structural deterioration
- Environmental hazard
- Can render a property uninhabitable
- Result of
  - Water entry
  - Moisture
  - Modern construction practices

# Public Awareness

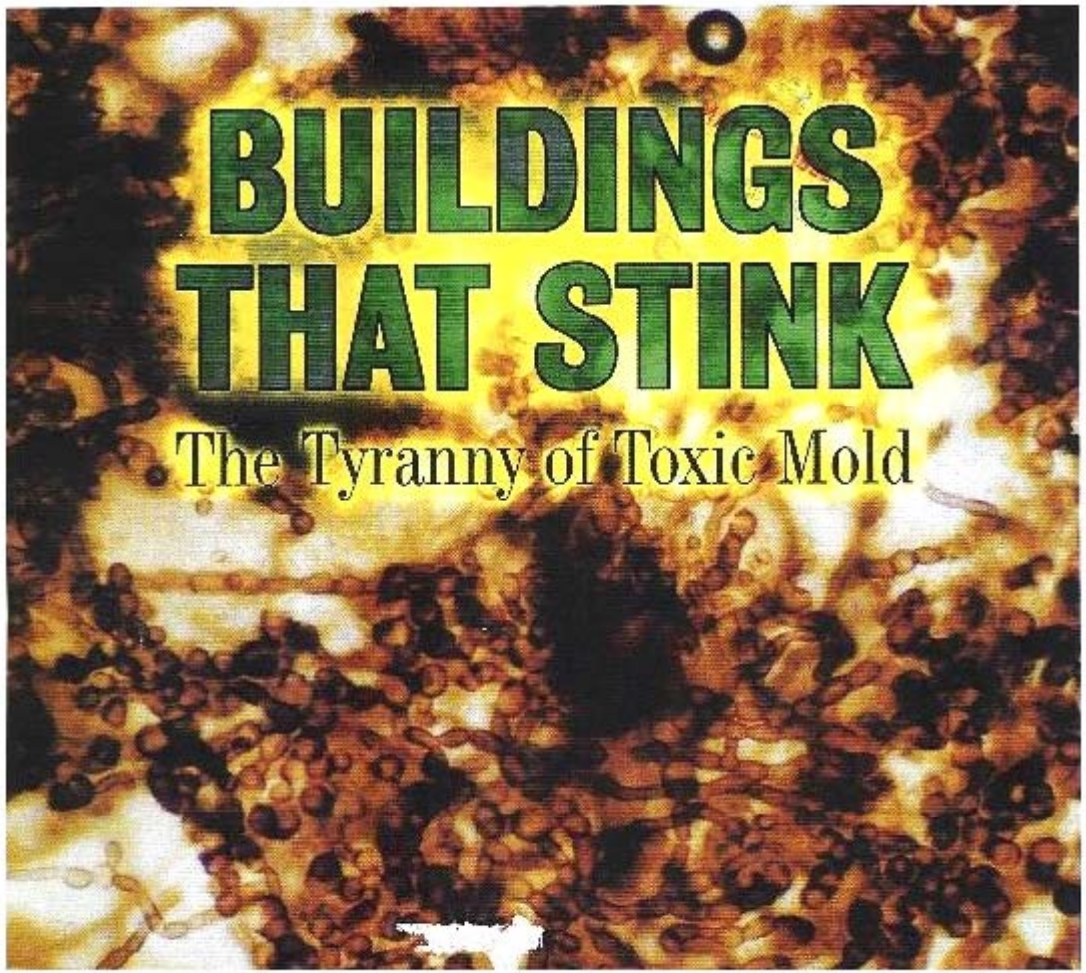
- Receiving Attention
  - Media
  - Medical
  - Legal

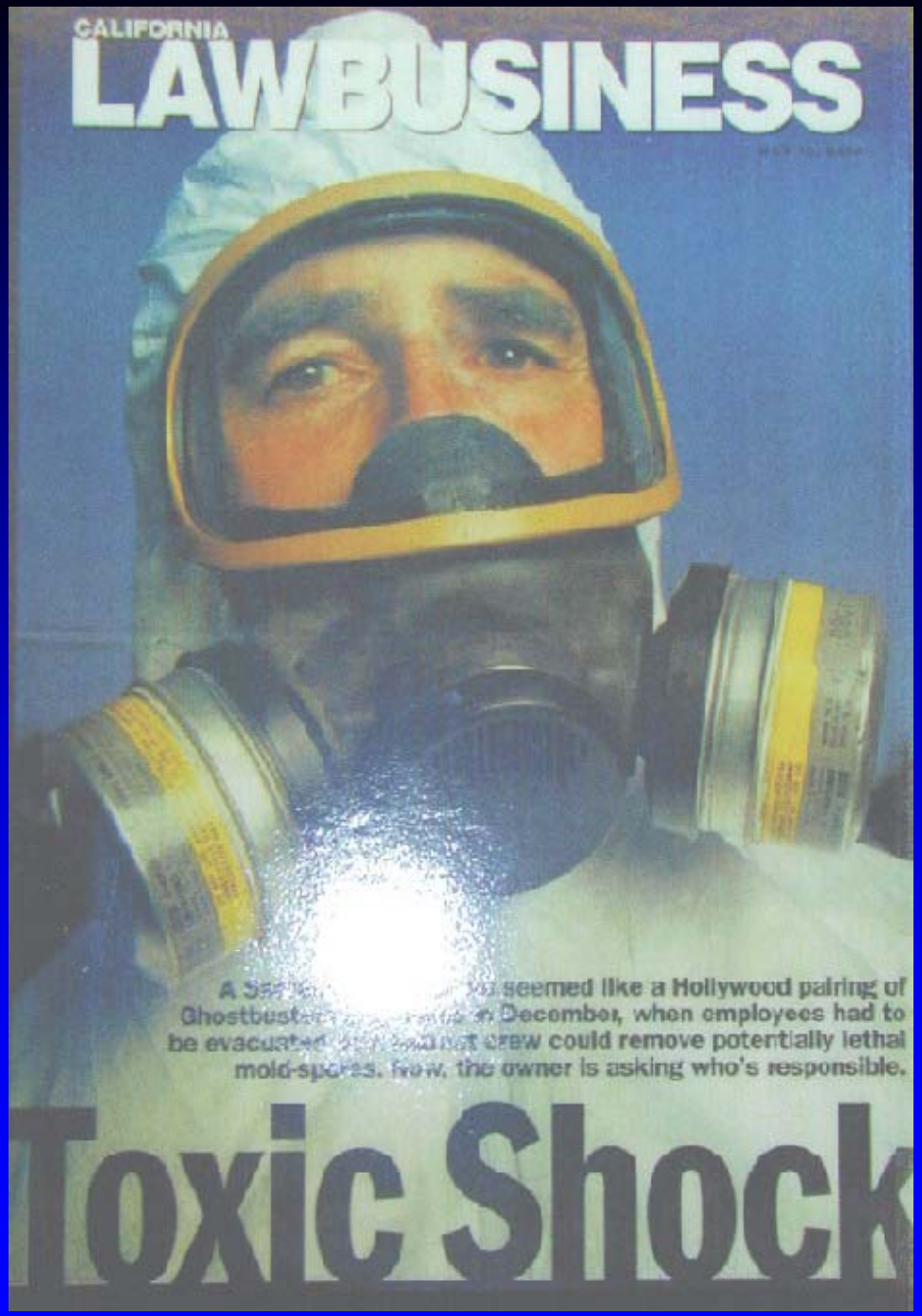

USA WEEKEND
▶ Best of the Web: Holiday gift bargains, p. 7
▶ Vote on grandparents' rights, p.18
▶ 10 reasons to eat your spinach, p. 20
THE MOLD IN YOUR HOME MAY BE DEADLY
Is your home in danger?
Ron Allison suffered memory loss.
His son, Reese, has asthma and scarred lungs.
The cause: simple exposure to household mold.
How you can protect your family.


USA WEEKEND
also in this issue
Why chewing gum is good for your brain
Plus 6 more intriguing, amazing food findings
Author Matthew Klam on making a difference
DANGER! MOLD
IS YOUR SCHOOL INFECTED?
Your child's classroom may be toxic. Across America kids are suffering nosebleeds, headaches, asthma – and worse. Find out where to look and what you can do

THE CONSTRUCTION WEEKLY

ENR
Engineering News-Record
1874 125th ANNIVERSARY 1999




CALIFORNIA
LAWBUSINESS
seemed like a Hollywood pairing of
December, when employees had to
crew could remove potentially lethal
mold-spores. Now, the owner is asking who's responsible.
Toxic Shock

**BONUS** 128-Page Supplement On Electronic Business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# BusinessWeek

JUNE 5, 2000 A PUBLICATION OF THE McGRAW-HILL COMPANIES

**China**
Counterfeit goods: A losing battle

**Cisco**
Does it have a Microsoft problem?

**Inside Story**
Why 3M banned Scotchgard

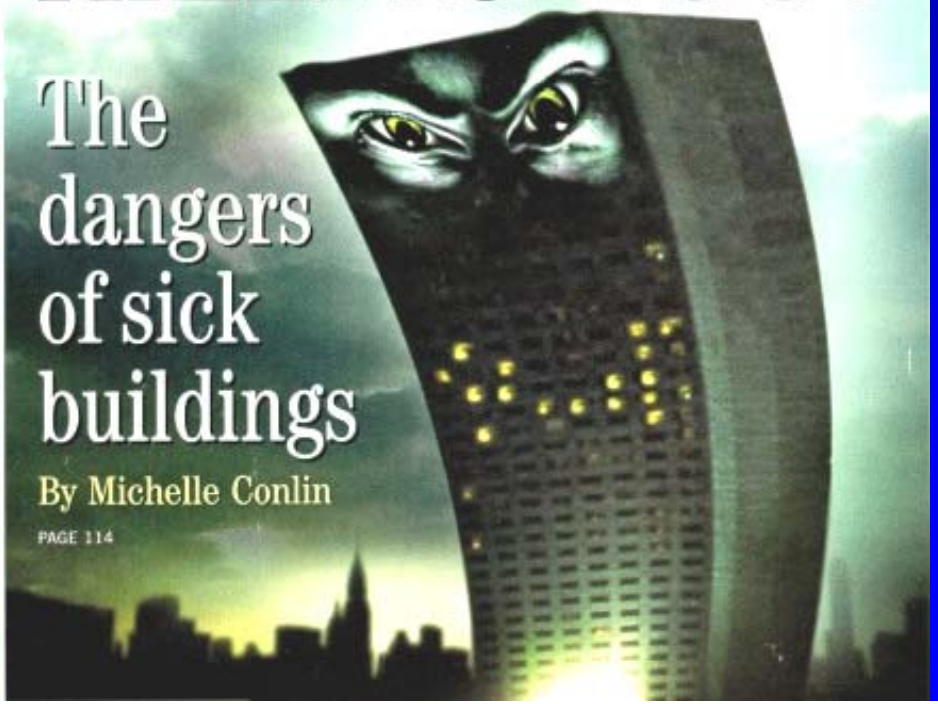
**Daimler-Chrysler**
The fight for control—the untold story

# IS YOUR OFFICE KILLING YOU?

## The dangers of sick buildings

By Michelle Conlin

PAGE 114



HOUSE CALL: Clockwise from top, Brennan finds fumes in the crawl space; bottled smoke detects air flow; equipment used to track fumes; and "house doctors" ask questions

# MOLD BUSTERS

**They come and give your house an environmental physical, often revealing all manner of bugs and fumes and gunk that can make your home—and everyone in it—sick**

CASE STUDY

# IMPROVED ASTHMA CONTROL AFTER REMEDIATION OF ENVIRONMENTAL *STACHYBOTRYS* CONTAMINATION

Christopher D. Miller, MD; Susan M. Flappan, MS, CIH; Jay M. Portnoy, MD

## INTRODUCTION

Fungal mycotoxins have been implicated in human and animal disease. In this case report, we propose that a non–IgE-mediated mechanism, and probably fungal mycotoxins, were responsible for a worsening of asthma symptoms in a toddler. We also demonstrate the importance of environmental assessment and the effects of environmental remediation.

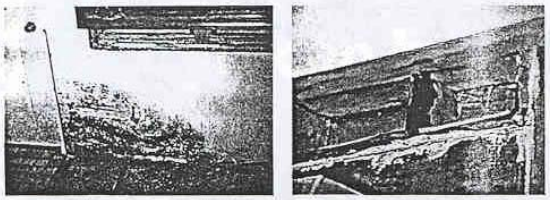


Figure 1. Walls contaminated with a black, slimy fungus later identified as *Stachybotrys*.

## CASE REPORT

A 2-year-old white male with a previous history of asthma was brought to our allergy clinic with asthma symptoms that were not well controlled by his current medical therapy of a β-agonist. The patient's symptoms of cough, rhinorrhea, sneezing, ocular irritation, and wheezing first arose when he was 8 months old. His symptoms were perennial and more prevalent in the morning and evening. His family history was negative for atopic disease.

Figure 2. Photomicrographs of *Stachybotrys* isolated from contaminated surface.

On physical examination, the patient appeared to be an active 2-year-old in no apparent distress. He was in the 20th percentile for height and weight and, according to his parents, his growth and development were normal. Physical examination was unremarkable except for pale nasal mucosa. Respiratory wheezing was documented during prior visits to his primary care physician.

Initial workup included prick skin testing, which yielded negative results for molds, cat, dog, dust, cockroach, and dust mite. The patient had appropriate positive and negative controls. His serum IgE was 27 IU/mL, with normal being 0 to 99 IU/mL.

Daily anti-inflammatory treatment consisting of fluticasone delivered through a spacer and mask was started. Long- and short-acting β-agonists were also prescribed for worsening or breakthrough symptoms.

Despite these interventions, the patient's symptoms persisted. Because the initial history revealed water leakage in the basement of his home, it was decided to perform a home environmental assessment—something for which his parents expressed a great deal of enthusiasm.

The patient's home was a 12-year-old, detached, bi-level house in an upper-middle-class suburb. It had a wood-burning fireplace, a central gas forced-air heating system, central air conditioning, and a finished walkout basement with carpeting. Severe water leakage in the basement occurred on two occasions after heavy rainfall. After the first event, the wet carpet pad was removed and the original carpet was reinstalled.

An inspection of the basement identified two areas of wallboard and wood structure with what appeared to be fungal contamination (Figure 1). Surface samples of these areas later revealed numerous fungal species, including *Stachybotrys*, *Chaetomium*, and *Cladosporium* (Figure 2). Air samples, collected with a volumetric grab sampler, revealed elevated spore counts throughout the house (Table 1). In particular, the spore counts were highest in the patient's bedroom and in the playroom located in the basement. *Stachybotrys* spores were also identified in the basement air samples.

It was therefore suspected that the patient's asthma symptoms might have been related to his exposure to fungi. However, further testing for *Stachybotrys* showed that the patient's IgG response to the organism was less than 3 µg/mL, with normal being less than 34 µg/mL. His IgE response to *Stachybotrys* was 279 counts, with normal being less than 3,600.

Nevertheless, his family arranged for environmental remediation in the home. This consisted of removing contaminated building materials, cleaning ductwork, steam-cleaning all carpets, using a vacuum cleaner with a high-efficiency particulate-arresting (HEPA) filter, and installing a pleated furnace filter.

The patient's quality of life, assessed with a tool described by Juniper et al,[1] improved dramatically with home remediation (Figure 3). In addition, he was weaned from his anti-inflammatory medications and has remained asymptomatic, with no further wheezing exacerbations and a significant decrease in rhinitis symptoms. Follow-up air

see CASE STUDY, page 32

TABLE 1

RESULTS OF AIR SAMPLE TESTS (SPORES/M³)*

| | Sample Dates | | |
|---|---|---|---|
| | 11/13/97 | 12/11/97 | 2/12/98 |
| Kitchen | 10,000 | 800 | 0 |
| Patient's room | 11,200 | 1,600 | 100 |
| Basement | 12,200* | 3,600 | 100 |

*Spores identified as *Stachybotrys*.

Dr. Miller is an allergy fellow, Dr. Portnoy is Program Director/Chief, and Ms. Flappan is an indoor air quality specialist, all at The Children's Mercy Hospital, Section of Allergy, Asthma and Immunology, Kansas City, Mo.

says Ob-Gyn David Campbell Walters, author of "Just Take It Out!" He says the evolution of the human head has made it too big to fit comfortably into the birth canal. A 1997 study found that 31 percent of female British obstetricians would prefer to deliver their own babies by cesarean.

Vaginal delivery can have serious—and costly—medical consequences. Especially if doctors use mechanical interventions, such as forceps, vacuum extraction or episiotomy, vaginal delivery can increase the risk of lasting problems like gas and urinary incontinence. And long labors—particularly when followed by unplanned C-sections (and lawsuits)—can add thousands to the overall price tag.

Vaginal births after cesareans (VBAC) can be dangerous. Many women with prior cesareans don't want to risk rupturing the uterus during labor, so they often reject the medical establishment's encouragement to undergo a VBAC. "If a woman ruptures her uterus, you have about 17 minutes to have the baby out before you begin to have [brain] damage," says Dr. Roger Freeman, chair of the American College of Obstetricians and Gynecologists task force on cesarean-delivery rates. ACOG said in August of 1999 that a physician should be "immediately" available, not just "readily available," during VBACs. That's not always possible, especially in rural areas. If a clinic isn't equipped to perform VBAC safely, cesarean delivery isn't just a convenience but a practical necessity.

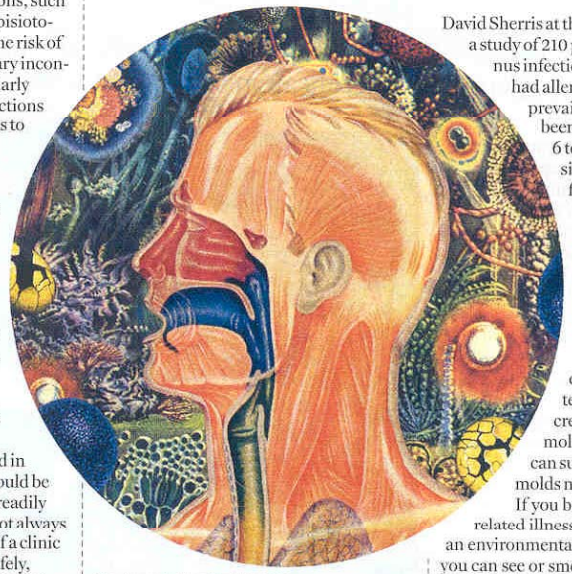
In the end, both sides are half right. Vaginal delivery is the cheaper method of childbirth—and, unlike a cesarean, is not major abdominal surgery. But from the perspective of some Ob-Gyns, restricting a woman's right to choose a form of childbirth makes no more sense than forcing her into the cheaper of two cancer therapies. "In natural childbirth," says Walters, "we don't even mention that there is an alternative. They're not told their bladder is likely to be negatively impacted. They're not told about the possibility of worse sexuality. We are keeping the advantages of cesarean delivery secret."

A cesarean isn't for everyone—and insurance may not cover it if you're doing it just for your own convenience. Talk to your doctor to decide whether a C-section is right for you. Wanting more peace of mind after a previous cesarean or being certain your own doctor is on hand may be reason enough. Just make sure you understand the risks as well as the benefits. ■

YOUR HOME

# A Hidden Health Hazard

## Sneezing and sniffling? Maybe the problem isn't a cold but mold. It's more dangerous than you think.



BY ANNE UNDERWOOD

DEENA KARABELL HAD LIVED in her New York City apartment for 15 years, so when she fell ill in 1983, she never suspected that her apartment itself could be to blame. Over the next 15 years she grew progressively weaker. Finally, in the spring of 1998, she lost 30 pounds and went into anaphylactic shock three times. She literally lay dying in her bedroom when a hired nurse noticed a strong odor of mold in the closet. Suddenly things clicked. Karabell's family moved her out immediately. Today—at a safe distance from the mold—she is almost back to normal. "People are amazed at my recovery," she says.

Molds have been an underrecognized health problem, but that is changing. Health-care professionals now know that molds can cause allergies, trigger asthma attacks and increase susceptibility to colds and flu. Anyone with a genetic predisposition can become allergic if exposed repeatedly to high enough levels. Last year Dr. David Sherris at the Mayo Clinic performed a study of 210 patients with chronic sinus infections and found that most had allergic fungal sinusitis. "The prevailing medical opinion has been that mold accounted for 6 to 7 percent of all chronic sinusitis," says Sherris. "We found that it was 93 percent—the exact reverse."

More rarely, molds appear to cause problems like Karabell's. These aren't just allergies but reactions to toxins. Certain molds produce poisons in order to kill off competing fungi and bacteria. Risks of toxicity increase with the amount of mold—and flooding and leaks can supply the moisture that molds need to thrive.

If you believe you have a mold-related illness, consult an allergist or an environmental-health specialist. (If you can see or smell mold, that's a good clue.) They will at least be able to confirm the diagnosis and proceed accordingly. The best remedy of all is simply to get rid of the mold. Small blooms on the surface of walls can be removed with a weak solution of chlorine bleach. Wear rubber gloves, open the windows for ventilation and throw out the sponge afterward. A face mask could also be a good idea. "Dead or alive, mold still contains the proteins that provoke allergies," says J. David Miller, a mold specialist at Carleton University in Canada.

If your home has more extensive water damage, remediation may be the only answer. Seek professional help. You need to fix leaks, replace moldy drywall and improve ventilation. Beware of built-in humidifiers in forced-air heating systems. "Molds and slime build up there and never get cleaned out," says Jack Spengler of Harvard. New York City has guidelines on remediation at www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html. California state also has fact sheets at cal-iaq.org//iaqsheet.htm to help you to a healthier home environment. ■

ILLUSTRATION BY JOHN CRAIG

# Building Owners Say Office Design and Construction To Change Significantly in Next Five Years

## *Key Driver Is Indoor Air Quality Concerns*

Has the barrage of headlines about indoor air quality: "Is Your Office Killing You?" "Are Toxic Molds Giving You Headaches, Asthma - or Worse?" affected the sentiments of the nation's owners and managers of commercial office space towards the future of building design and construction? Perhaps.

According to the fall issue of *Risk Watch*, a new survey just released by the Rockville, Maryland-based International Center for Toxicology and Medicine, 54% of the executives surveyed said they wouldn't quarrel with the statement: "Growing public and regulatory concern about indoor air quality (IAQ) will likely lead to significant changes in building design and construction within the next five years."

Specifically, 34% said they agreed with that statement while another 20% said they agreed strongly. Some 37% said they'd neither agree nor disagree, while only 9% disagreed.

More generally, 62% agreed that "indoor air quality is likely to become a more significant issue in the years ahead." Of the remaining respondents, 20% neither agreed nor disagreed with the statement while 18% disagreed.

In concert with the majority view, two-thirds (67%) of the commercial space owners and managers said they also wouldn't quarrel with the statement: "Indoor air quality is likely to become an even more challenging issue because concerns are often based on tenants' perceptions of problems rather than the problem that has been diag-

either currently developing or updating a plan and 15% said they expected to have a plan in place in the near future.

Additionally, the survey found only mixed concern among the respondents about the possibility of regulators modifying code requirements to address potential IAQ issues.

Moreover, only 17% of the building owners reported that they had had an indoor air quality problem and, of this group 36% said the problem was costly or very costly versus 30% who said it was not costly at all.

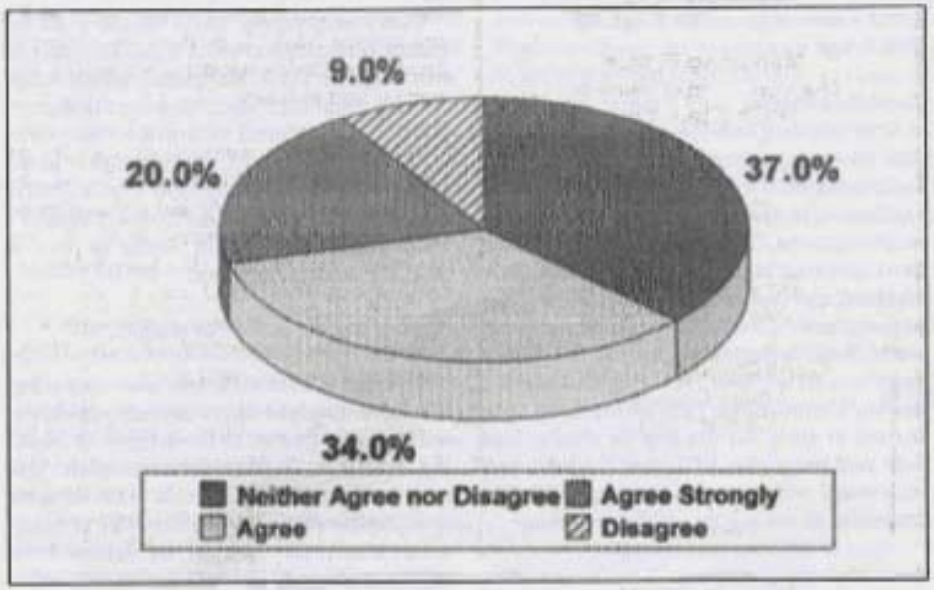
Likewise, 71% of those who reported an IAQ problem said the problem was "readily identifiable." Over half (53%) from this same group said the problem was either comfort-related or health-related (24%).

Over half (53%) said the IAQ problems they experienced were related to air conditioning, air exchange, allergies, asbestos, chemicals used in business operations, or various odors. Another 35% said the problem stemmed from molds; 24%, new office equipment odors; and 12%, cleaning chemicals.

**About this Survey**

This edition of *Risk Watch* is based on interviews conducted in August with 102 building owners from across the country.

The interviewees — all of whom were polled by telephone by an independent, Nashville-based opinion research firm - were drawn from the 1999 Building Owners




***Growing public and regulatory concern about indoor air quality will likely lead to significant changes in building design and construction in the next 5 years.***

*The preceding article was reprinted from the first edition of* "Risk Watch"*, a new publication from International center for Toxicology and Medicine (ICTM) covering timely, survey-based information on environmental health and risk issues. Four times a year* "Risk Watch" *will report the findings of independently conducted surveys of interviewees drawn from the ranks of building owners, municipal, state and Federal officials, corporate counsel, defense attorneys, risk managers, sands of toxic tort, mass tort and class action lawsuits.*

*From the earliest days of environmental regulations we have provided solutions to environmental risk matters – real, perceived and scrutinized by governmental agencies. We have been called upon by International Agencies to devise new risk-based standards. In communities frightened by chemical releases, explosions, degraded water quality and contaminated*

# Health Effects

- Very symptomatic
- Respiratory failure/asthma
- Flu symptoms/headaches
- Nose bleeds/bleeding lungs
- Neurological disorders
- Death

LAWYERS WEEKLY USA
THE NATIONAL NEWSPAPER FOR SMALL-FIRM LAWYERS

October 2, 2000 Cite this Page: 2000 LWUSA 853



Article of the week from *Lawyers Weekly USA:*

# TOXIC MOLD ... the Next Asbestos?

**By Sylvia Hsieh**

Claims for personal injury and property damage caused by mold growing inside buildings are on the rise, plaintiffs' lawyers and insurance defense attorneys tell *Lawyers Weekly USA* , and some experts predict they will be the next big tort wave.

"It is a trend. It's one of the hottest areas in construction defect as well as toxic tort law. I view these mold claims as similar to asbestos 30 years ago," says Alexander Robertson, a Los Angeles plaintiffs' lawyers who is currently representing over a thousand plaintiffs against hundreds of building owners for mold contamination.

Injuries from mold range from respiratory problems, skin rashes and headaches to lung disease, cognitive memory loss and brain damage, experts say.

"Mold is everywhere. There are no specific government guidelines and not a whole lot of medical information on it. It's ripe for lawyers to get into and expand it," says Sara Thorpe, a San Francisco defense lawyer.

"Anytime you have some water penetration in a building, you have potential for mold – and a lot of potential for litigation," says David Governo, a Boston toxic tort defense lawyer.

Claims include:

- property damage and personal injury claims against insurers;
- construction defect claims against builders, contractors and architects;

# Mold chasing 270 from apartments: Complex owners give residents until Nov. 30, offer some help

**By Andrew LePage**
Bee Staff Writer
*(Published Oct. 28, 2000)*

The owners of a 190-unit apartment complex in Antelope have ordered their 270 tenants to vacate by Nov. 30 so the units can be tested for and cleared of mold.

Those tenants of Deer Park Apartments, 8303 Walegra Road, have been offered between $2,000 and $4,000 to help clean or replace any contaminated belongings.

However, that is far below the $12,000 to $17,000 the owners agreed to pay some former Deer Park residents to settle a property damage claim of mold contamination, an attorney for the tenants said.

**Ohio chief justice speaks at seminar about fairness**

Ohio Supreme Court Chief Justice Thomas Moyer acknowledges racial unfairness in Ohio's legal system during speech in Cuyahoga Falls.

D4

# Local

**Election panel allows secret group's TV ad**

Ohio Elections Commission panel dismisses complaint against a TV ad opposing Ohio Supreme Court justice.

D3

The Beacon Jou
F
October 20,

www.ohio.com/b

# Mold cleanup starts at apartments

## Akron housing authority spending $800,000 to scrub Joy Park complex

By Bob Downing
Beacon Journal staff writer

The Akron Metropolitan Housing Authority will spend an estimated $800,000 to check for and deal with a potentially dangerous greenish-black mold in Joy Park apartment buildings in southeast Akron.

The agency also is in the process of removing the same slimy mold - called stachybotrys - from two of its empty apartments on Copley Road in southwest Akron.

Cleanup of the Copley Road apartments by Cardinal Environmental Services began yesterday, said AMHA Executive Director Tony O'Leary.

The cleanup involves removing carpeting, drywall and any wood that may have been contaminated by the mold, he said.

The mold was discovered in one Copley Road apartment by AMHA staffers after its tenants had moved out. It also was found in an area damaged by a leaky pipe in a second empty apartment in the same building.

No complaints were filed by the tenants, although the mold was "pretty obvious . . . and suspicious," O'Leary said.

The work at Joy Park, expected to begin Nov. 13, will include checking 23 empty buildings for the mold behind the walls and removing it, O'Leary said. In addition, new waterproof wallboard will be installed in the buildings to reduce the likelihood that the mold will come back.

"It's not yet resolved," he said of the mold problem. "It's something we're still working on very actively."

AMHA officials met yesterday with contractors, and bids for the Joy Park mold abatement work will be opened Oct. 31, O'Leary said.

The housing authority owns 41 buildings with 200 apartments at Joy Park: the 23 where the mold work will be done, two empty buildings to be razed and 16 occupied buildings, said construction manager Tom Gilbert.

He said the agency is unaware of any mold problems or complaints from tenants in the cupied and recently reno buildings.

AMHA intends to che mold in the occupied bui after the agency gets a idea of the scope of the pr in the empty buildings, O said.

He said the AMHA h knowledge that any Joy Pa idents have been exposed mold.

Please see Mo

DENNIS McCOY / SACRAMENTO BUSINESS JOURNAL

Tom Anderson, with son Alan, said Allstate offered $17,300 to do $30,000 in home repairs

# Mold verdict: $18 million

KELLY JOHNSON / STAFF WRITER

A federal court jury in Sacramento on Tuesday awarded a 96-year-old Placerville man $18 million in punitive damages in his bad-faith insurance claims-handling lawsuit against Allstate Insurance Co.

"Allstate could have repaired my house for a little over $30,000 to start with," Tom Anderson said after the decision.

Allstate, the nation's second-largest home and car insurer, plans to appeal.

Anderson's house was damaged more than 3½ years ago when a water pipe burst and mold took hold throughout the modest structure. He rejected Allstate's offer of $17,300 to repair the house and sued Allstate in July 1999.

"Thank God it's over," he said Tuesday.

Anderson won't collect any money while the case is on appeal. "Usually it's a two- to three-year process," said Ron Haven of the plaintiff's law firm, Shepard & Haven, in Sacramento. Anderson's lead attorney was Stan Parrish.

son said, he had killed down the mold, but didn't eliminate it. Now the house must be torn back down to the frame.

At trial, an Allstate expert disagreed.

Tom Anderson, who has been living with his son, misses his own home, yard and neighbors.

A year ago Alan Anderson figured that Allstate was waiting for his father to die because the bad-faith lawsuit would have died with him. Now, if Tom Anderson were to die before the appeal is decided, the economic and punitive damages would remain, while the non-economic damages would be lost, Haven said.

"It is a big victory," Alan Anderson said, "for the little guy."

Claims
COVERING THE BUSINESS OF LOSS

# Mold & Mildew: A Creeping Catastrophe

By Everette L. Herndon, Jr. and Chin S. Yang

In February 2000, a Texas grand jury found reason to continue a criminal investigation of child endangerment charges against an insurance company for its handling of a water damage claim. This investigation was prompted by a criminal complaint filed by the policyholder and follows the filing of a $100 million lawsuit in 1999 against the same insurance company for its handling of the claim. The policyholders say that the insurance company did not act properly or in a timely manner following the water damage claim. The allegation is that the house is now uninhabitable.

The family claims that, following the water damage, and while they were still living in the house during repairs, they were coughing up blood. The husband, the family claims, is now suffering from a cognitive dysfunction, among other injuries.

The problem? Mold. *Stachybotrys chartarum* (a.k.a. atra) to be specific. The mold developed following a water damage loss in 1998. The policyholders allege that neither the insurance company

# How Mold Is Affecting Home Inspectors And REALTORS®?

- Attorneys and courts are attempting to make it an issue for home inspectors and REALTORS®
  - New buyer experiences symptoms
  - Home testing occurs/mold discovered
  - Doctor orders buyer to move out
  - Testing expert says water problem was apparent and should have been disclosed
  - Buyer sues home inspector and REALTOR®

# Most Cases Involve Evidence of Water Penetration

- Although mold is disclaimed in the inspection agreement, attorneys allege that the home inspector is required to inspect and report on water damage/entry and should have disclosed to the buyer that these defects can cause mold to grow in the property which can result in structural deterioration and render the home environmentally uninhabitable

# Claims Are Based Upon…

- The allegation that our industries know or should have known about mold and its effects on property and disclosure should have been made to the buyer

NATURAL LIVING

# Is Mold in Your Home a Health Hazard?

## These pesky fungi may be more harmful than you realize

By Debra Lynn Dadd

Mold is ubiquitous. There's always a little in the air and on surfaces. It can easily enter your home by circulating through doorways, windows, climate-control systems systems. Airborne spores can also land on people and animals, which can bring them indoors. Mold only becomes a problem where it proliferates because of excessive moisture, from sources such as leaky pipes, a leaking roof or even water seeping from potted plants.

Recently, I received an e-mail from a reader concerned about a "killer mold" he'd heard about that had invaded homes and affected the health of children.

His apartment had been flooded four times from leaking pipes in the apartment above his. Water had blistered his kitchen ceiling, burst over his counters, flowed through the light fixtures and covered the entire floor two inches deep. Since these incidents, he has had poor health and a lung infection, despite the fact that the carpet was replaced and a large section of the ceiling had twice been cut out and patched back.

### Household mold

The question becomes, "Can mold harm me or my family?"

Relax. Most molds in homes are not a big deal. The most common indoor molds are cladosporium, penicillium, aspergillus, and alternaria, none of which are toxic.

Other indoor molds, however, have the potential to produce extremely potent toxins called mycotoxins, which are easily absorbed by the intestinal lining, airways and skin. Species of mold that produce mycotoxins include fusarium, trichoderma and stachybotrys

THE ASHI®

# REPORTER

APRIL 1999

Published by The American Society of Home Inspectors®, Inc.

# Indoor air quality: the good, the bad and mostly the moldy

*by R. Vincent Miller, Ph.D., Aerotech Laboratories, Inc.*

Molds have always had a love/hate relationship with humankind. Our early ancestors found out that molds and yeast could turn milk into cheese and fruit juice into wine. But other molds have been the plague of humanity. Mold infected rye with ergot toxins destroyed over 30,000 men in a single night in Alexander's army. And a mold destroyed the potato crop in Ireland resulting in one of the world's worst famines. Now it appears, if you believe all the newspaper articles, that we are yet again under siege by a mold, this time in the walls, ceilings, and carpets of our homes, schools and workplaces.

Public attention to molds in indoor environments really started from an incident that occurred in Cleveland, beginning in 1994. In this incident, cases of pulmonary disease in infants were associated with the presence of the mold, Stachybotrys, in the homes of the children. Subsequent research by scholars in the United States and Europe resulted in the isolation of a number of toxic and immunotoxic compounds from this organism. Pulmonary disease symptoms could be induced in laboratory animals with high dosages of spores containing toxin, whereas toxin alone did not induce symptoms and spores from non-toxic strains induced only an allergic reaction. From the

*See* **Mold**...*page 8*

*BUSINESS BRIEFS*

## Presenting the case for arbitration agreements

*by Kenneth B. Baker*

At ***Inspection '98*** in New Orleans, as well as at local meetings and in articles, I have recommended that an Arbitration Agreement be included in home inspection contracts. I advocate this practice even though a court may not always enforce an Arbitration Agreement, especially if the transaction is permeated by fraudulent conduct.

Such was the case in *Williams v. Aetna Furnace (1998) 83 Ohio St.3d 464*, where the Ohio Supreme Court refused to uphold an Arbitration Agreement. A jury found in favor of the plaintiff and, in addition to awarding $15,000 in actual damages, awarded $1.5 million in punitive damages.

The Williams case concerned a

*See* **Arbitration**...*page 10*

**Third annual ASHI golf tournament winners Orlando, January '99**

*(left to right) Everett Rawlings, Tom O'Connor, Jules Falcone and Ken Young finished at 2 under par to win the tournament. Even with the win, the team mourned the 4 under par they maintained to the 15th hole, where a 200-yard marsh "ate all their drives."*



Volume 16, Number 4

Complete Index on page 5

THE ASHI®

# REPORTER

Published by The American Society of Home Inspectors®, Inc.

OCTOBER 1999


## Bellefontaine, Hirsch, Staron sign on as chapter PR reps as Palczuk pitches ASHI to publications pictured above

*by S. Bourseau*

The push to promote ASHI through public relations activities is going strong at local and national levels.

The roster of chapter public relations reps continues to grow, with the addition of the following three volunteers:

- Charles M. Bellefontaine, Northern Illinois Chapter
- Bill Hirsch, Coastal Connecticut
- Paul Staron, Arizona

*See* **Public relations**...*page 12*

# The house-eating fungus

## Differences between this and other decay fungi

The water-conducting fungus (*Poria incrassata*) occurs mainly in the southern states, but may occur anywhere in the United States.

When *P. incrassata* attacks a building, spectacular damage often results: once well established it can destroy large areas of flooring and walls every year or two. Fortunately, control is relatively simple. i.e., the permanent elimination of the water supporting its growth.

Although *P. incrassata* is relatively rare, the rapid and extensive damage it can cause makes it desirable to understand the conditions leading to attack, the signs indicating an attack is in progress, and methods of prevention and control of an attack.

Water-conducting fungi differ from most other decay fungi in several respects:

1. Large, tough rhizomorphs (water-conducting strands) are formed which conduct water from a constant source (usually the soil) to dry wood in buildings, wetting it sufficiently to support decay. As decay proceeds, water is conducted to dry wood adjacent to that already colonized. In this manner, as long as the supply of water is available, water-conducting fungi can colonize and decay the wood in an entire house. (Note: The fungus will die if all rhizomorph strands are found and severed.)

Early control recommendations called for the removal of decayed

*See* **Fungus**...*page 8*

# Meet the Year 2000 challenge head-on now!

*by Cindy Wittrock, ASHI director of administration*

With the new millennium only a few short months away, the importance of becoming Year 2000 compliant is critical to every business entity worldwide. Don't wait...if you haven't already taken action, now is the time to get moving!

### Preparing for Y2K at ASHI

ASHI headquarters has been preparing for Y2K since the beginning of 1999. The computer system was assessed to identify any hardware or software applications that were not Y2K compliant. ASHI staff is using the services of long-time computer consultant, Bill Borshell of Falcon Systems, to manage and guide us through this crucial process. Borshell has spent

*See* **Year 2000**...*page16*



Volume 16, Number 9

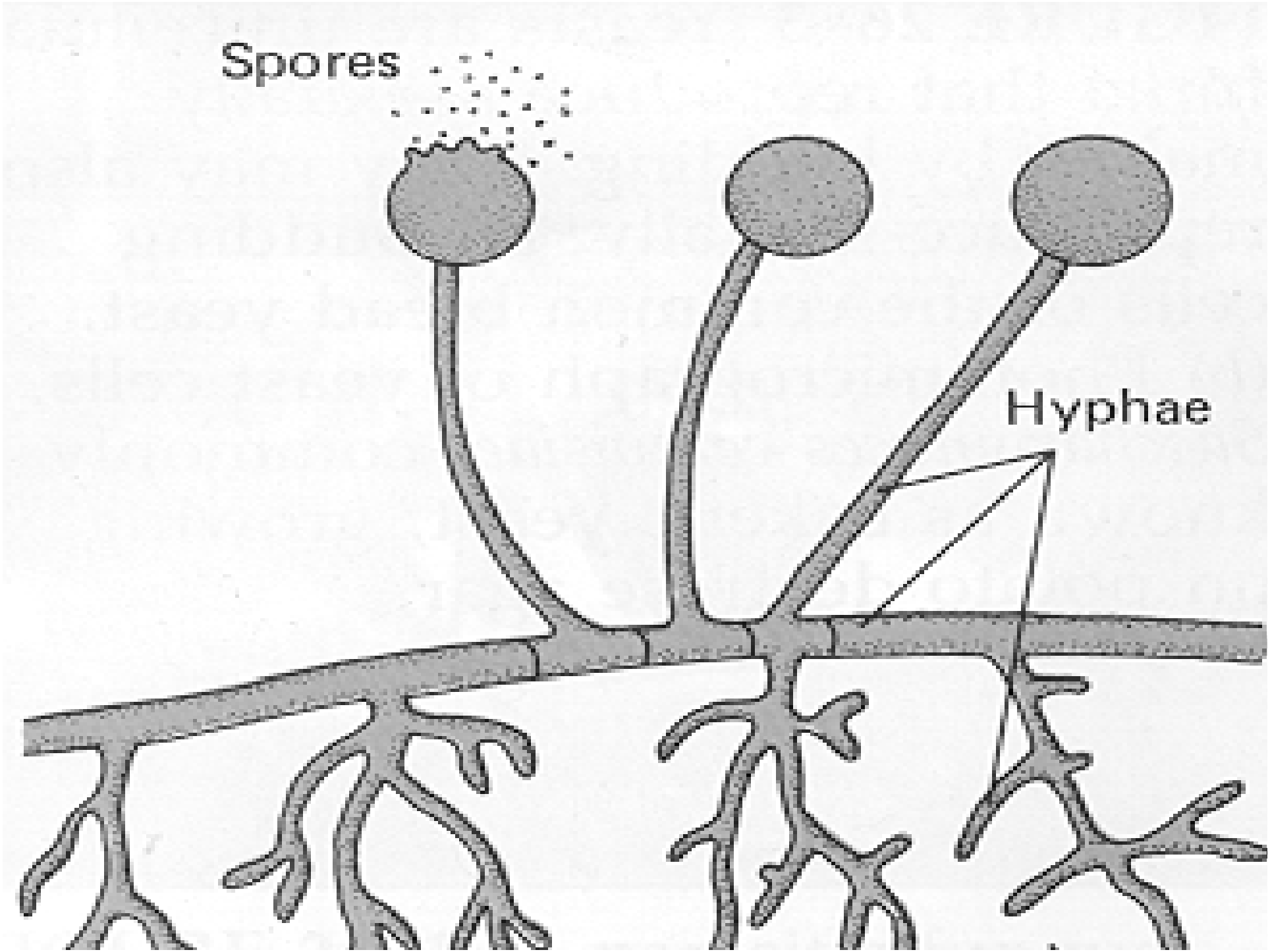
Complete index on page 5

# What Is Mold?

- Microscopic organisms whose purpose in the ecosystem is to break down dead materials
- Reproduce by airborne spores (some toxic)
- Produce toxic gas
- Is everywhere

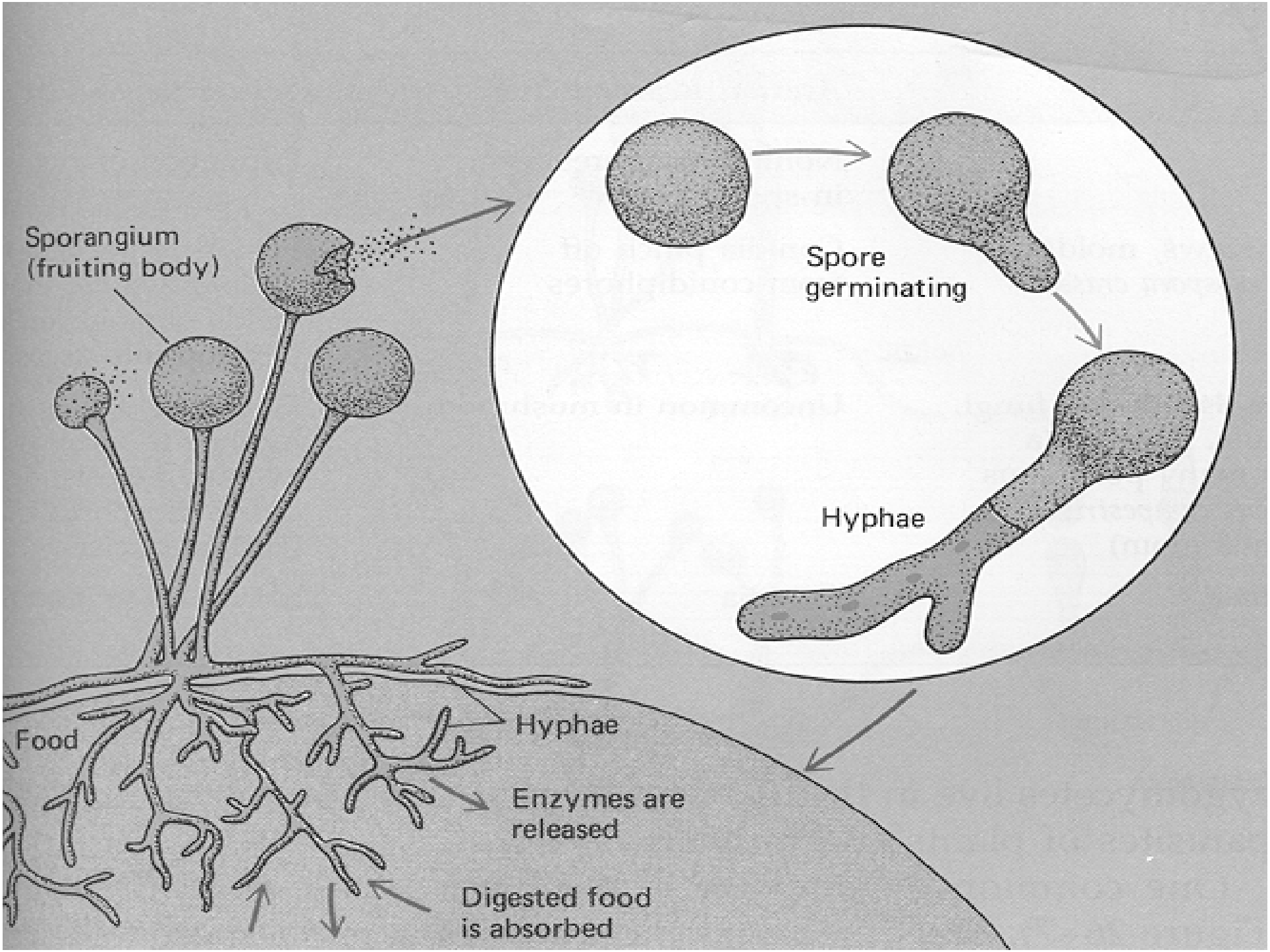
# What Is Mold?

- Fungus
  - Mushroom
  - Mildew
  - Mold
    - Allergenic
    - Pathogenic
    - Toxins


Spores
Hyphae

# When Is It A Problem?

- When:
  - Growing in large concentrations
  - Actively producing spores and gases that become airborne and are inhaled in large numbers
  - Breaking down building materials/eating the house


Sporangium
(fruiting body)
Spore
germinating
Hyphae
Food
Hyphae
Enzymes are
released
Digested food
is absorbed

THE ONLINE BUSINESS TOOL FOR REAL ESTATE PROFESSIONALS
REALTOR
MAGAZINE ONLINE

# *Sealed Houses Create Air-Quality Problems*

(October 3) -- Sealing air leaks in a building, which reduces the amount of air that must be heated or cooled, is recognized as a surefire way to improve energy efficiency. Because a tight housing envelope allows less fresh air into the interior of a home, this approach has some negative health implications for occupants.

Most notably, tightly insulated houses tend to have high levels of volatile organic compounds, which may off-gas from their products and create respiratory complications, among other problems. Used in the manufacture of carpet, flooring, paint, cabinetry, and other common household elements, VOCs especially present a health threat in just-built housing.

# What Causes Mold to Grow at Home?

- Moisture
- Building materials
- Ventilation
- Poor construction
- Tight houses
- Poor maintenance/unknown leaks

# How Mold Grows

- Finds suitable conditions
- Grows
- Spreads
- Eats the home
- Creates toxic environment


CAUTION
BIOLOGICAL
HAZARD
MOLD

# “Red Flags”

- Visible Mold
- Smell
- Evidence of water penetration
- Evidence of conditions that could allow water penetration
- Construction defects
- Dirty/Poorly maintained HVAC
- Improperly vented appliances

# Risk Management Practices

- Good Inspection
- “Red flags”
- Disclosure
- Recommend/test for mold
- Document
  - Put it in writing
  - Get it acknowledged

# Conditions That Allow Mold Growth


UNIT 47
BEDROOM


16407

# Testing

- Qualitative
  - Identify types of mold present
  - Swab Sampling
  - Carpet Sampling
- Quantitative
  - Identifies types and quantities of mold spores
  - Indoor and Outdoor Air Sampling

# Swab Sampling

- Sampling visible mold to determine type

# Swab Sampling

- Sampling visible mold to determine type
- Informs client of type of mold and guidance as to remediation

Simple test for serious hazards.™
hometest.com
Analysis by Aerobiology Laboratories

179 Smallwood Village Center
Waldorf, MD 20602

www.hometest.com
(800) 604-1995
(301) 893-0903 (fax)

# MoldSmart Analysis Report

**Client: Environmental Inspections Inc.**
**225 Heron Ave**
**Hillendale, PA 22339**
**Analysis by: Aerobiology Laboratory**
**Job ID: 20**
**Project: 511 Lafayette Farms, Hillendale, PA 22336**

**Date received: 12/26/2000**
**Date reported: 12/27/2000**

| | |
|---|---|
| **Hometest Number:** | 001226907 |
| **Sampling Location:** | Underside of Roof Deck |
| **Date Collected:** | 12/21/00 |

**Sample Number:** 001
**Volume/Area:**

**Test requested:** 1051 WIPE, Direct Microscopic Exam

**Results:** Numerous Stemphylium spores seen. Numerous hyphal elements seen. Numerous yeast cells seen. Numerous Penicillium/Aspergillus group spores seen. Moderate Cladosporium spores seen. Moderate pollen grains seen.

**Detection Limits:** N/A

**Date Analyzed:** 12/27/00

**Analyst:** Ann Atkinson, B.S., MT (ASCP)

# TO INTERPRET YOUR REPORT

1. Using the table below, locate the type(s) of mold identified on the reverse side of this report.
2. Moving across the columns, determine in which column(s) an "X" appears. The heading at the top of the column indicates the hazard associated with that type of mold.
3. Refer to the description section for more information.

## Descriptions

**Allergenic** molds are normally not dangerous, but they can cause allergic or asthmatic symptoms such as wheezing or runny nose. These molds can be abated safely without the assistance of a professional. It is suggested that personal protection, in the form of gloves and disposable particulate-removing respirator be used, especially in those who experience allergies and/or asthma.

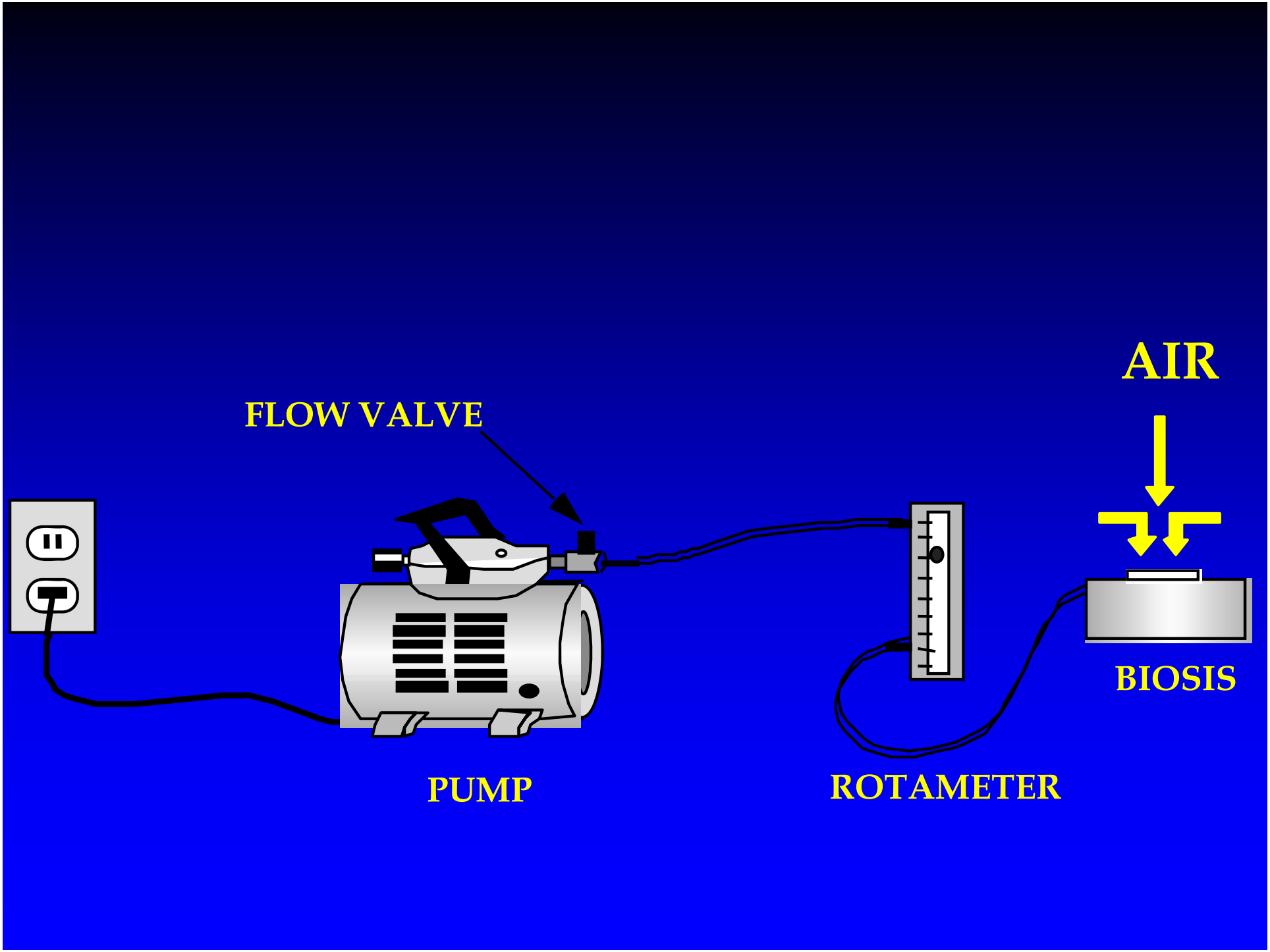
**Mycotoxic** molds can cause serious health effects in humans and animals. Health effects range from short-term irritation to immunosuppression to cancer and even death. If any toxic molds are identified in this report, it is suggested that you seek the advice of an Industrial Hygienist or other mold professional for guidance. The abatement of these types of mold should NOT be attempted by the average homeowner.

**Pathogenic** molds can cause serous health effects in persons with suppressed immune systems, those taking chemotherapy, those with HIV/AIDS, or auto-immunity disorders. If any pathogenic molds are identified in this report, it is suggested that you seek the advice of an Industrial Hygienist or other mold professional for guidance. The abatement of these types of mold should NOT be attempted by the average homeowner.

| Mold sp. | Allergen | Mycotoxin | Pathogen |
|---|---|---|---|
| *Absidia sp.* | X | | |
| *Acremonium sp.* | X | X | |
| *Alternaria sp.* | X | X | |
| *Aspergillus* | X | X | X |
| *Basidiomycetes* | X | | |
| *Bipolaris sp.* | | X | |
| *Chaetomium sp.* | X | | |
| *Cladosporium sp.* | X | | |
| *Curvularia sp.* | X | | |
| *Epicoccum sp.* | X | | |
| *Fusarium sp.* | X | X | |
| *Gliocladium sp.* | X | | |
| *Helminthosporium sp.* | X | | |
| *Histoplasma sp.* | | | X |
| *Humicula sp.* | | | |
| *Mucor sp.* | X | | |
| *Nigrospora sp.* | X | | |
| *Paecilomyces sp.* | X | | |
| *Penicillium sp.* | X | X | |
| *Phoma sp.* | X | | |
| *Pithomyces sp.* | | | |
| *Rhizomucor sp.* | X | | |
| *Rhizopus sp.* | X | | |
| *Rhodotorula sp.* | X | | |
| *Saccharomyces sp.* | X | | |
| *Scopulariopsis sp.* | X | | |
| *Sporobolomyces sp.* | X | | |
| *Sporothrix sp.* | | | |
| *Sporotrichum sp.* | X | | |
| *Stachybotrys sp.* | | X | |
| *Stemphylium sp.* | X | | |
| *Syncephalastrum sp.* | | | |
| *Torula sp.* | X | | |
| *Trichoderma sp.* | X | X | |
| *Trichophyton sp.* | X | | |
| *Trichothecium sp.* | | X | |
| *Tritirachium sp.* | X | | |
| *Ulocladium sp.* | | | |
| *Verticillium sp.* | | | |
| *Wallemia sp.* | | | |

# Air Sampling (Spore Trap)

- Conducted when “Red Flags” seen
- Collection of indoor air sample
- Collection of outdoor air sample
- Compare both results to identify potential indoor air quality problems
- Is a picture in time


AIR
FLOW VALVE
BIOSIS
PUMP
ROTAMETER

# Carpet Sampling

- Collect spores in the carpet pile using air pump
- Identifies type of mold
- Looking for uncommon types
- Provides historical information
- Appropriate with air sampling
- Appropriate when no “Red Flags” apparent

# What And How To Test

| Conditions observed | Swab Testing | Interior Air Testing | Exterior Air Testing | Carpet Sampling |
|---|---|---|---|---|
| **Visible mold** | Yes | | | |
| **“Red Flags” seen** | | Yes | Yes | Yes |
| **No visible mold, no “Red Flags”** | | | | Yes |

# Questions

# Underground Storage Tanks

- What are the issues
- How do know if there is an underground storage tank (UST)?
- How do you test a tank?
- How and why is a tank removed?

# What Are the Issues?

- Is there currently a tank in use?
- Is there an abandoned tank?
- What condition is the tank in?
- When to test?
- What to do if the test passes
- What to if the test fails

# Who Regulates Fuel Tanks?

- In New York State
  - The Department Of Environmental Conservation (DEC)
  - Counties can have more restrictive regulations then NYS
  - Localities can also regulate UST's

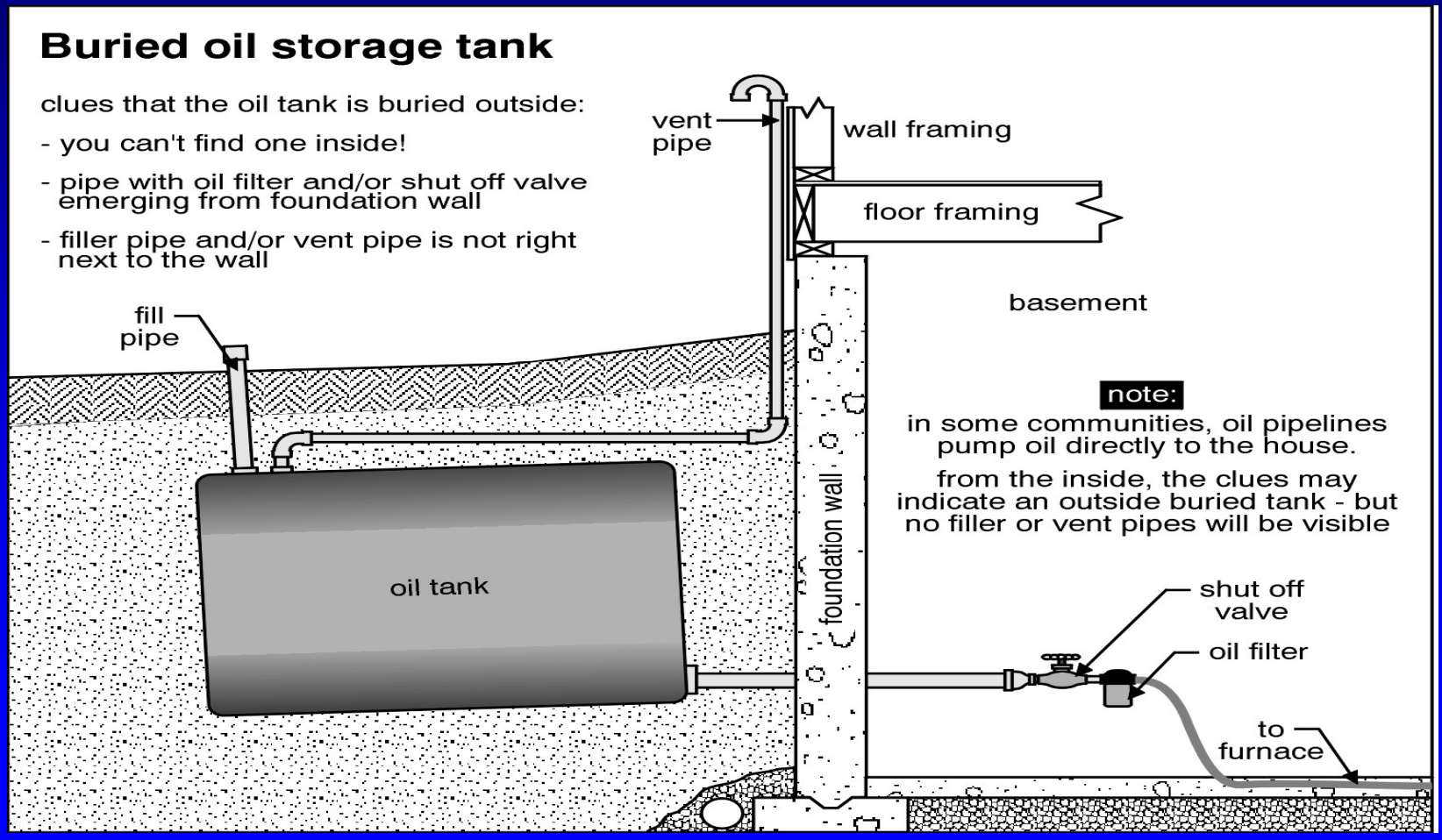
# What Are the Regulations?

- NYS does not regulate any UST under 1100 gallons total site storage.
  - In most cases there are no regulations for residential application
- Tanks over 1100 gallons must be registered with the DEC and receive periodic testing.

# When Does A Residential UST Come Under DEC Regulations

- When It Leaks ! ! !

# Locating a tank



# Current Tank In Use

# Possible Buried Fuel Tank??

- Possible Buried Tank Problem?

# Possible Buried Fuel Tank?

# Possible Buried Fuel Tank?

# Possible Buried Fuel Tank?

# Tank Testing

# Types of Testing

- Positive pressure testing
- Negative pressure testing
- Ultrasonic testing
- Dip stick with paste
- Soil borings and laboratory analysis

# Pressure Testing

- Puts either a positive or negative pressure on the tank for a period of time and a pressure gauge is monitored for a change in pressure.

- Sometimes can cause a leak in suspect lines.
- Doesn't tell where the leak is.

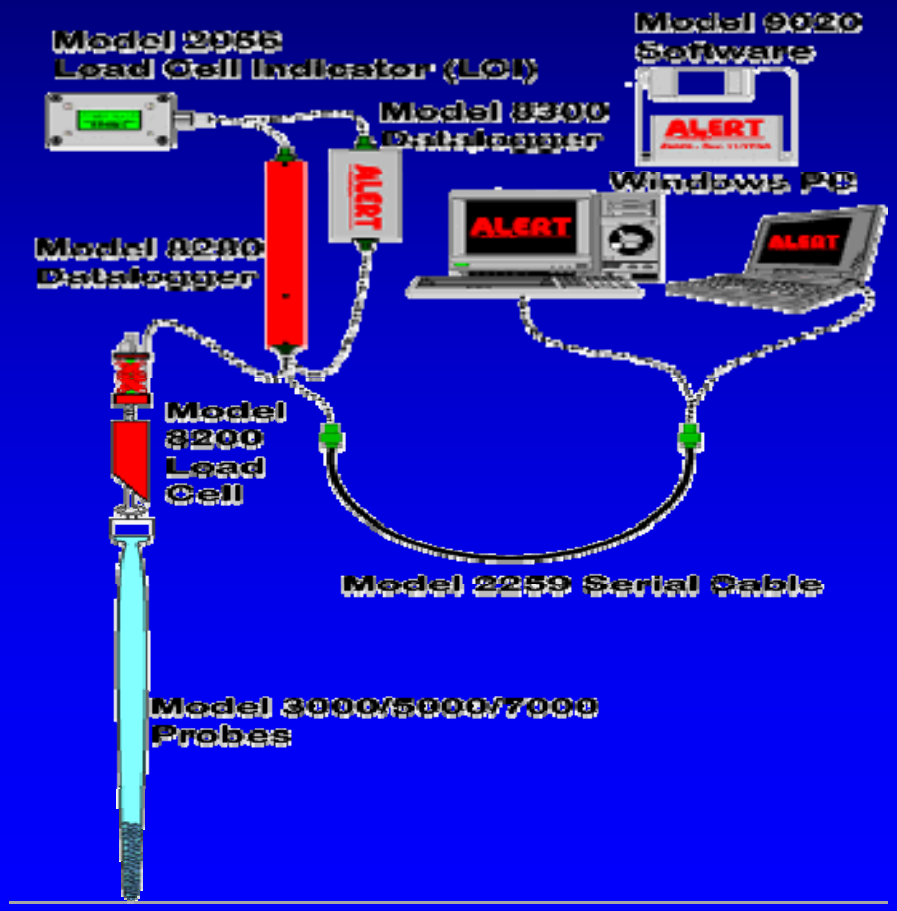
# Dip Stick With Disclosure Paste

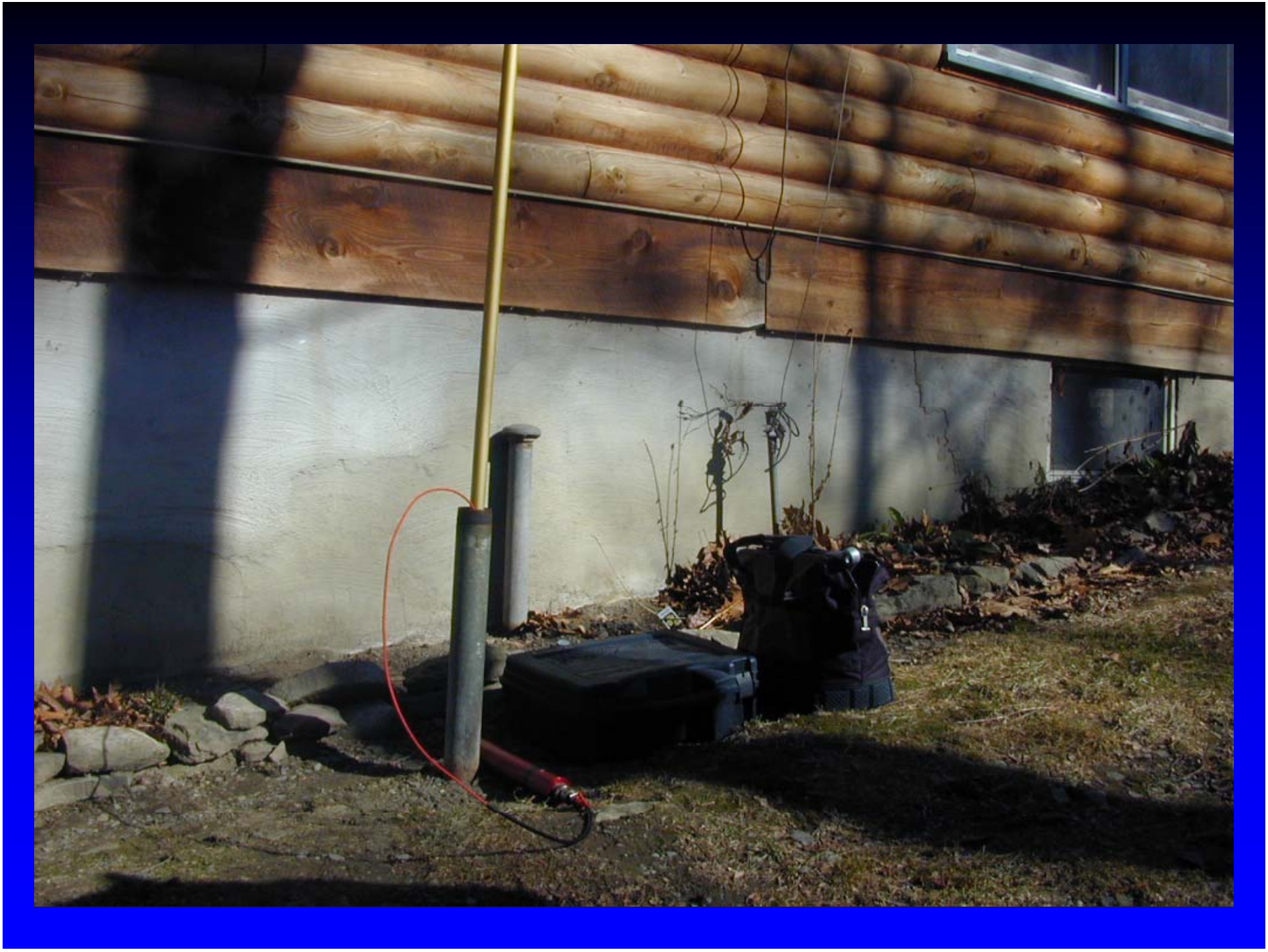
- Discloses whether or not there is water present in the tank.
- Will tell the amount of water in the tank.
- Will not determine if the tank is leaking or tight.

# Ultrasonic Tank Testing

- Inserts a test probe into the tank that emits ultrasonic waves that can test both the filled portion of the tank as well as the unfilled portion of tank
- Tank does not have to be filled.
- Tank does not have to be taken out of service.

# How does the ultrasonic Method Work





# What If The Tank Passes

- Consider decommissioning tank if aged and keep documentation that tank passed a tank test.
- Keep using tank and retest on a regular basis.
- Remove tank and install an above ground tank.  Keep documentation.

# What If The Tank Fails

- Decommission the tank by removal, install an above the ground tank and keep the documentation for reference.
- Any contamination from leaked fuel oil will have to be removed. The soil will be trucked to a special site for treatment.

# What Should Be Done?

- If there is a buried storage tank have it tested!

# Disastrous Delivery

SERVING THE HUDSON VALLEY AND THE CATSKILLS

TIMES HERALD-RECORD

ORANGE NORTH EDITION | MONDAY, JULY 5, 2004 | www.recordonline.com | 50 CENTS

Disastrous delivery

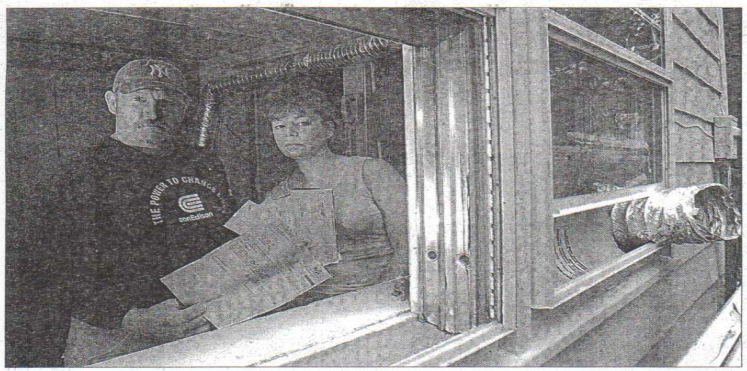
Fuel spill ruins 214-year-old house

PAGE 5

Times Herald-Record/JED EGAN

# Disastrous Delivery





For the Times Herald-Record/JED EGAN

John and Karen Cleary of Warwick still get bills from the oil company that accidentally pumped 964.2 gallons of oil into their basement. Fumes from the botched oil delivery still permeate their old stone home.

## Home not-so-sweet home

### Family fuming over oil delivery that ruined house

By Michael Scully
Special to The Times Herald-Record

**Warwick** – John and Karen Cleary weren't home on the January day when the white and yellow Wallace Oil truck turned onto Waterbury Road and pulled up to make an oil delivery.

The driver stepped out into the 20-degree day. He stretched the fuel hose, attached it to a spout and turned the pump on.

For more than 15 minutes, fuel flowed at a rate of 60 gallons per minute. Trouble was, there was no storage tank on the other side of the spout to catch the fuel.

The oil simply splashed onto their oldest son's dresser and poured into the Clearys' finished basement. The oil – all 964.2 gallons of it – filled the basement with a tacky, amber goo up to 6 inches deep.

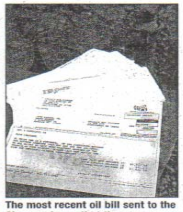
When John Cleary Jr. drove up, Waterbury Road throbbed with blue and red lights. Emergency workers and Wallace Oil employees buzzed around, tracking birch beer-colored footprints in the snow.

Inside, oil fumes permeated the house. Outside, oil seeped from beneath cellar doors.

"When I got there, I thought the house was on fire," Karen Cleary said. "My husband was standing there with six or eight people around him, and he just gave me this look that said, 'I can't fix this.' It was the same look he gave me the day he told me that my father died."

The Clearys had to vacate their home.

For the next five days, they wore the same clothes they were wearing the day of the accident. Five months later, they are still living out of suitcases, and servicemen are still trying to save the house. They have jackhammered the concrete floors and, digging down 10 feet in some places, exhumed nearly 40 tons of oil-tainted dirt. At least 200 gallons of oil has been drawn from the well. Consultants estimate about half the oil has been collected. Still, the house stinks of it. Some say the house is dead. Level it and start over. But this house, known locally as the Waterbury House, was built in 1790 and is one of maybe a dozen 18th century stone homes in Warwick Valley.



The most recent oil bill sent to the Clearys shows that they owe $1,026.29. They have not paid it because the oil in question was mistakenly poured into their basement through the pipe seen in the upper right, on the opposite side of the house from the pipe that leads to their oil tank.

The Clearys – John is a firefighter and hazardous materials expert with the New York City Fire Department, and Karen is studying to be a nurse – bought the house for $325,000 in 1999.

"I keep waiting for Wallace to do the right thing," Karen Cleary said. "But they haven't, and all I can think is shame on them."

In fact, Wallace Oil – a subsidiary of Star Gas Partners, the nation's largest heating oil distributor – has backed away from the project.

Steve Cortese, a general manager from Wallace, said his workers were told to leave the property and that the Clearys' insurance company was taking over the cleanup.

"We tried to do everything we could to help the Clearys and rectify the problem," Cortese said. "We wanted to get them back in the home within six to eight weeks."

But Karen Cleary says the remediation crew simply disappeared March 25, and her insurance company was forced to take over.

"They told me they'd be back the next Tuesday," she said. "But we never saw them again."

Today, the Clearys' only contact with Wallace Oil comes in the form of monthly late notices, the latest demanding $1,026.29, ostensibly for the last oil delivery – late fees included.

The Clearys have hired Goshen attorney Saul Strenger and are preparing to file a lawsuit. As for what happened, this accident was 20 years in the making.

Apparently, at one time, a new 1,000-gallon oil tank was brought in and attached to the furnace. Plumbers later removed the old, dormant 275-gallon oil tank from the basement, leaving the tank feed and exhaust vent extending from the house.

"Those pipes should have been removed from the property along with the tank," Cortese said. "Is that the responsibility of the homeowner? Absolutely."

On Jan. 31, the day of the accident, Cortese admits the Wallace driver misread the fuel slip and went to the wrong side of the house. He pumped the fuel into a spout that had been dormant for nearly two decades. After more than two years of service, the Clearys say Wallace probably should have known better.

"The driver was reprimanded, suspended for a week and sent away for retraining," Cortese said.

Karen Cleary said the cleanup went poorly from the start. "I've never seen anything so half-assed in my entire life," she said.

The night of the spill, she said Wallace had heavy machinery digging for oil. In the process, they severed the water line, and a plumber had to be called in at 11:30 p.m. to patch it.

"Without it, we wouldn't have had heat, and the pipes in the house would have froze," she said.

Since then, spring has come and gone. The Clearys are moving again, this time to Vernon, N.J.

As for the house: Inside, it looks like it did the day of the accident. The beds are made, the kitchen is clean, a school basketball schedule hangs on the refrigerator.

But mice are nesting in their clothes, cobwebs hang in the corners, and dust covers a line of photographs in the living room.

The pond behind the house, once wild with life, is surprisingly quiet. Their 10-year-old daughter, Erin, wonders what happened to the bullfrogs and dragonflies.

"What do you tell her?" asked Karen Cleary. "What can you say?"

**ON THE COVER**

**The Cleary family of Warwick – from left, Karen, Erin, John and John Jr. – have been driven out of their 18th century stone farmhouse because of a botched oil delivery last winter.**

## Community determined to rebuild synagogue

By Dave Richardson
Times Herald-Record
drichardson@th-record.com

**Warwick** – The burned-out shell still stands – both a stark reminder of loss and a symbol of hope for the future.

It's been more than four months since a fire destroyed the Congregation B'nai Torah synagogue in Greenwood Lake. Now its members, hoping to rebuild, are cautiously looking into the future.

The February fire burned through the building in minutes, destroying the synagogue's precious Torahs, turning its collection of irreplaceable memorabilia to ashes and leaving its 200-strong congregation without a home.

Since March, the congregation has been holding services in the village's old ambulance corps building on East Shore Road. The corps donated use of the building to the congregation indefinitely.

"It's a wonderful substitute for the time being," said longtime member Sylvia Levy. "I think it's more than generous – it's wonderful."

And while it's grateful for the help, the congregation is itching to move toward rebuilding its lost home.

"We're getting along here, but we can't stay here forever – we have to move forward," said congregation President Pat Weisslander. "We just don't know exactly what we're going to do yet."

Weisslander said an insurance settlement is expected in the coming months that should go a long way toward defraying the cost of building a new synagogue – likely to be $500,000 at the very least.

Committees are discussing possible rebuilding options, and fund-raising efforts have brought in about $30,000 so far, she said.

"The community has been really fantastic," Rabbi Brenda Weinberg said. "The brotherhood has really come out."

Weinberg said two soon-to-be-closing synagogues – one in New York and one in New Jersey – were considering donating their Torahs to the Greenwood Lake congregation.

"That's great because a Torah can run anywhere from $20,000 to $50,000, so we're taking these opportunities seriously," Weinberg said.

Meanwhile, the congregation is not just coping but thriving, Weinberg said.

"We've got the Hebrew school going, we've got our Friday and Saturday services and our Sunday brunches," she said. "We're doing OK."

Donations can be sent to Congregation B'nai Torah Building Fund, P.O. Box 967, Greenwood Lake, NY 10925.

# Looks Innocent

# Disaster Waiting To Happen

# Radon

- The current issues!
  - Testing for Radon
    - Proper Testing
    - Improper Testing
  - Remediation
    - Proper Installations
    - Improper Installations

# EPA Proper Indoor Radon and Radon Decay Product Measurement Device Protocols Testing Procedures

- **.6.1 Purpose**
- This protocol provides guidance for three similar methods that measure indoor radon air concentrations: grab radon sampling techniques (GB, GC, GS), pumps with collapsible bags as devices (PB), and three-day integrating evacuated scintillation cells (SC). Results of grab sampling are influenced greatly by conditions that exist in the building during and for up to 12 hours prior to the measurement. It is therefore especially important when making grab measurements to conform to closed-building conditions for 12 hours before the measurement.

Grab sampling techniques are not recommended for measurements made to determine the need for remedial action.

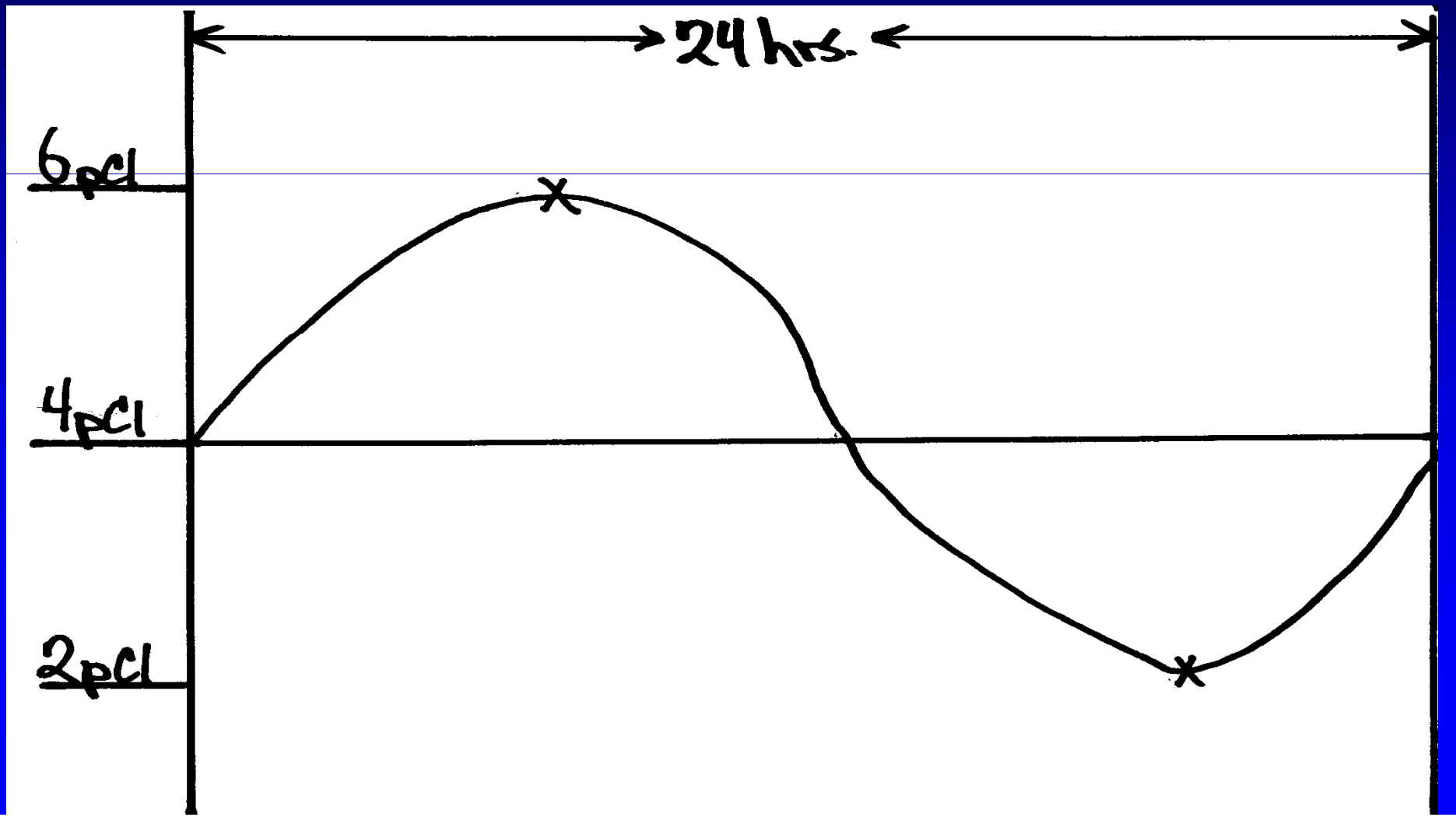
# EPA - Home Buyer's and Seller's Guide to Radon

- Whether you test for radon yourself or hire a state-certified tester or a privately certified tester, all radon tests should be taken for a minimum of 48 hours. A longer period of testing is required for some devices.

# Radon Test Device Placement

- EPA recommends that testing device(s) be placed in the lowest level of the home **suitable for occupancy**. This means testing in the lowest level (such as a basement), which a buyer could use for living space without renovations. The test should be conducted in a room to be used regularly (like a family room, living room, playroom, den or bedroom); do **not** test in a kitchen, bathroom, laundry room or hallway. Usually, the buyer decides where to locate the radon test, based on their expected use of the home. A buyer and seller should explicitly discuss and agree on the test location to avoid any misunderstanding. Their decision should be clearly communicated to the person performing the test.

# Radon Levels Curve



# 14.3 Radon Vent Fan Installation Requirements

- . 14.3.3Radon vent fans used in active soil depressurization or block wall depressurization systems shall not be installed below ground nor in the conditioned (heated/cooled) space of a building, nor in any basement, crawlspace, or other interior location directly beneath the conditioned spaces of a building. Acceptable locations for radon vent fans include attics not suitable for occupancy (including attics over living spaces and garages), garages that are not beneath conditioned spaces, or on the exterior of the building.

# Improperly Installed Radon Fan

# Improperly Installed Radon Fan

# Improperly Installed Radon Fan

# Improperly Installed Radon Fan

# Improperly Installed Radon Fan

# Improperly Located Radon Outlet

# Improperly Installed Radon Fan

# Properly Installed Radon Piping

# Properly Installed Radon Fan

# Proper Radon System Labeling

# Failed System

# Up Against A Chinese Drywall

During the construction boom years of 2002-2008, including reconstruction efforts in the Gulf Coast states following the 2004 and 2005 hurricane seasons, a shortage of domestic drywall forced many builders to purchase and install drywall that was manufactured in China.

Starting in late 2008, complaints were made that drywall:

- Emitted gases that when mixed with high humidity levels corroded components of electrical and HVAC systems, and other fixtures and appliances
- Emitted an unpleasant odor
- Caused illness and physical symptoms

# Problem with Chinese Drywall

- Chinese drywall contains higher levels of impurities than (most) domestic drywall (sulfur, strontium sulfide, and acrylic paint)
- When exposed to high relative humidity or heat:
  - Produces sulfur-containing gases
  - Can corrode copper piping and wiring and turns metal black
  - Causes appliances and electronics to fail (e.g. HVAC systems)
  - Smells of rotten eggs

# Scope of Problem

- As of mid October, 2009:
  - Over 1,500 complaints to Consumer Product Safety Commission from 27 states and the District of Columbia.
  - Approx. 550 million pounds imported into the U.S. between 2002-2008.
  - 350 million pounds in Florida alone
  -

# Scope of Problem II

- 6.21 million sheets of drywall have been imported into U.S. from China
- May be in as many as 100,000 homes nationwide, although predominately in Southeast (Florida, Louisiana, Alabama, Mississippi, Texas and Virginia)
- May have been recycled and used by U.S.
- manufacturers to make domestic drywall, increasing the scope of the problem
- Scope of the issue is still an open question
-

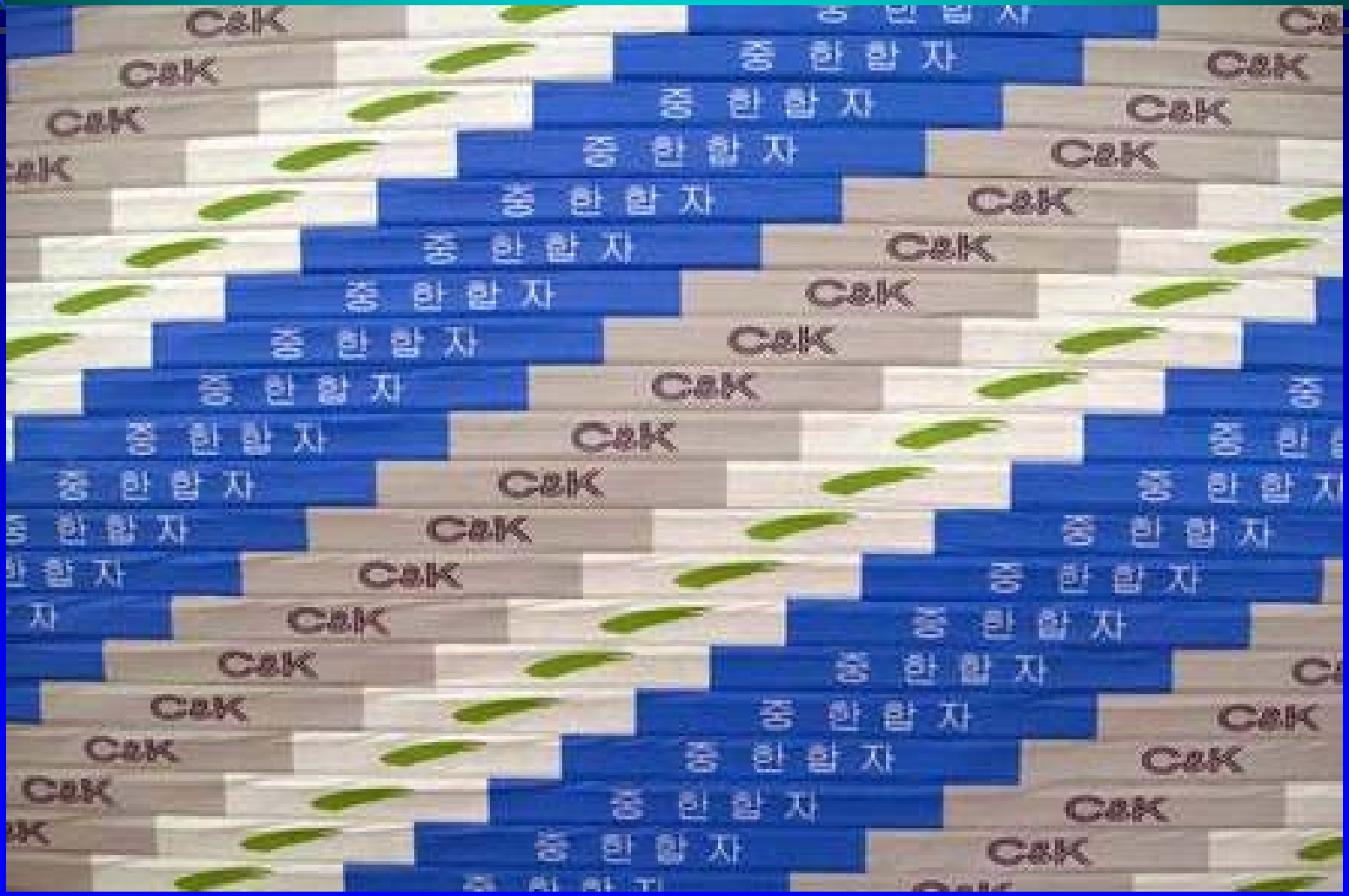
# Potential Damages

- Bodily injury
- Ongoing medical monitoring
- Property damage
  - Costs of removing or replacing the drywall +- $100,000.00 per house
  - Fixing associated damage (e.g., damage to HVAC systems, appliances, etc.)
  - Loss of use/temporary housing for displaced residents
  - Property values reduced

# Estimated Total Losses

- Economic losses could reach $25 billion

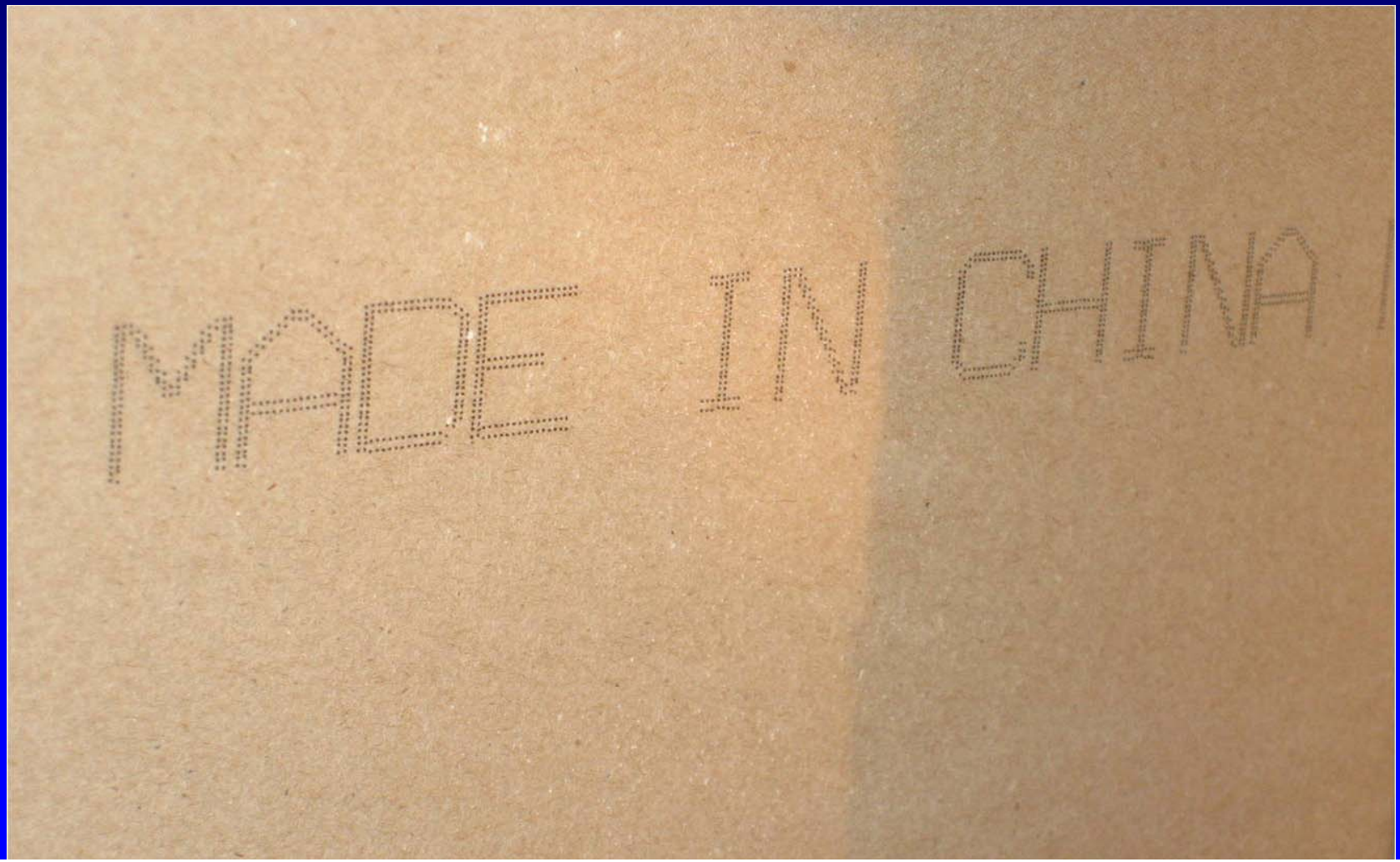
# This Is What We Are Looking For



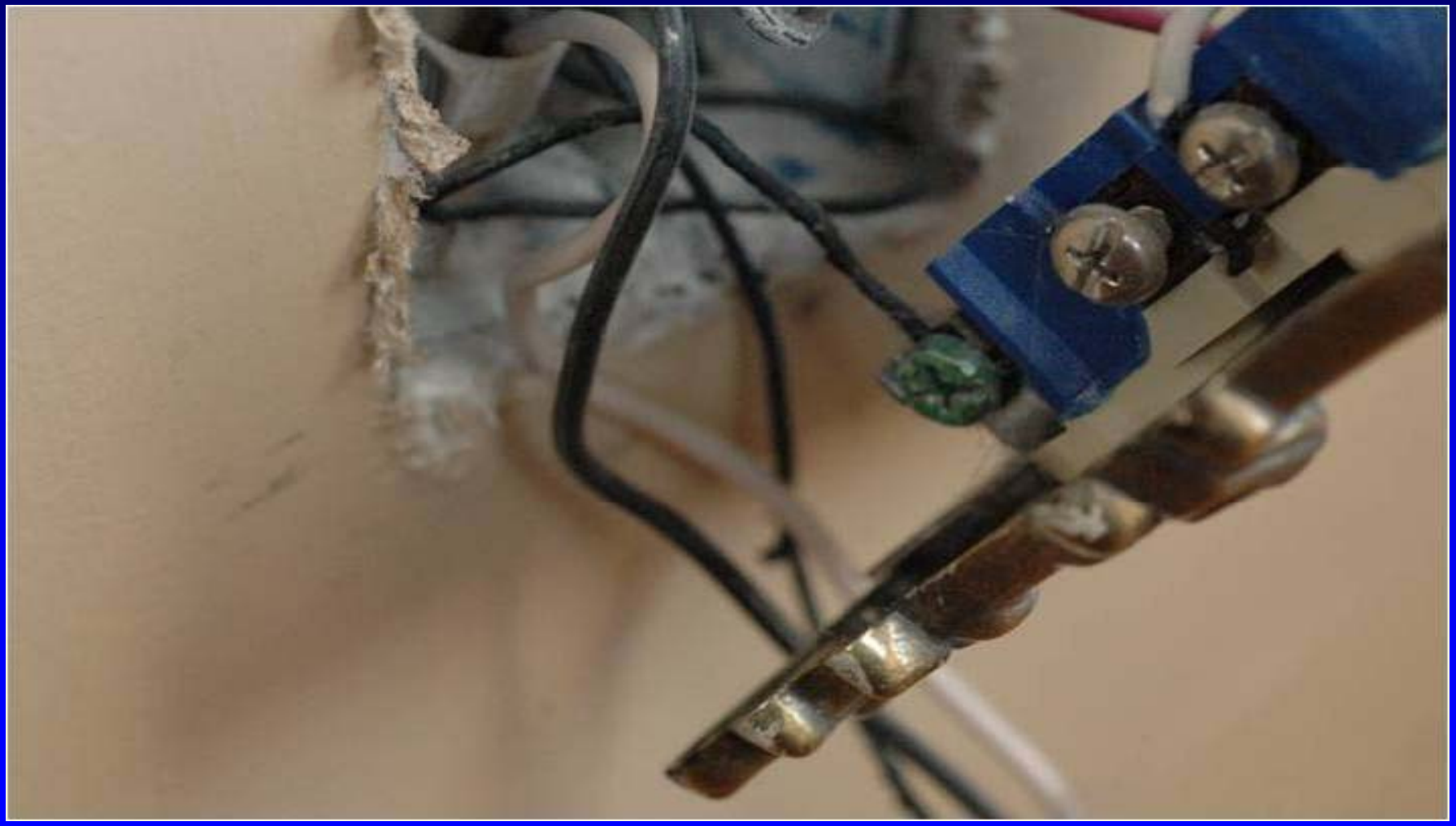
# Corrosion Caused By Chinese Drywall

# Inspection Methods

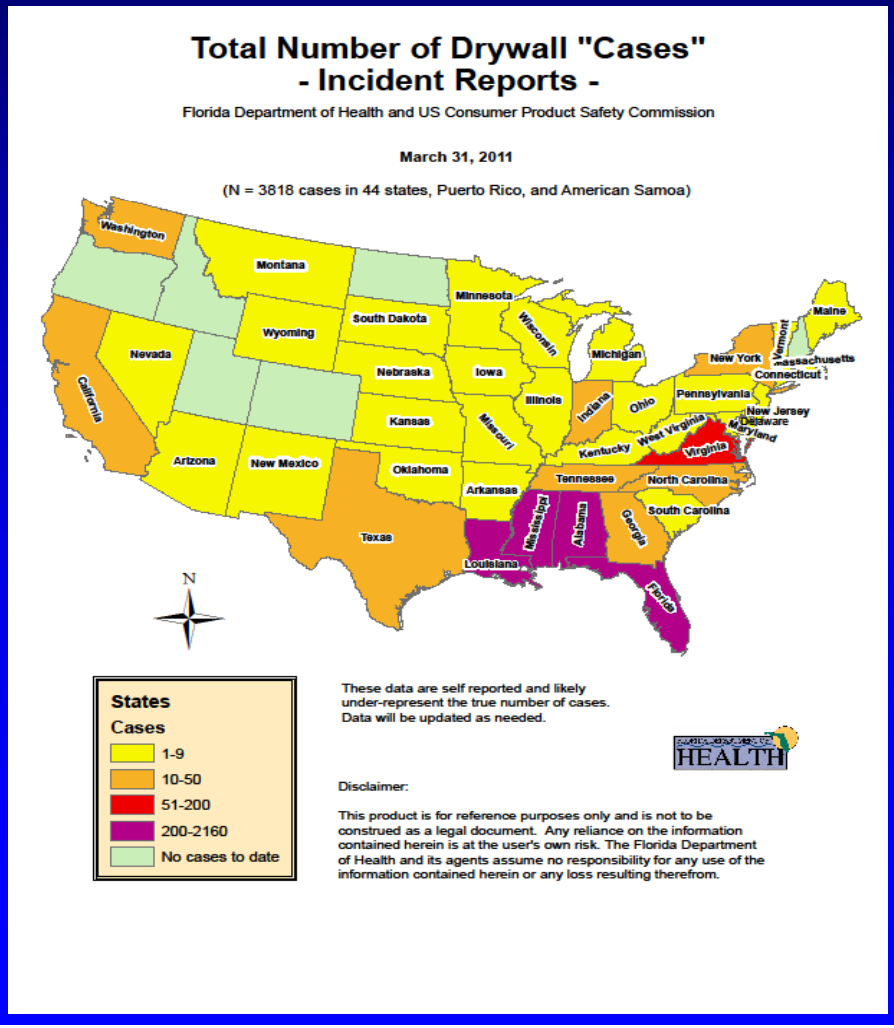
# Inspection Methods



# Corrosion Caused By Chinese Drywall



# Where Is The Problem



# Where Is The Problem II

## Drywall shipments from China

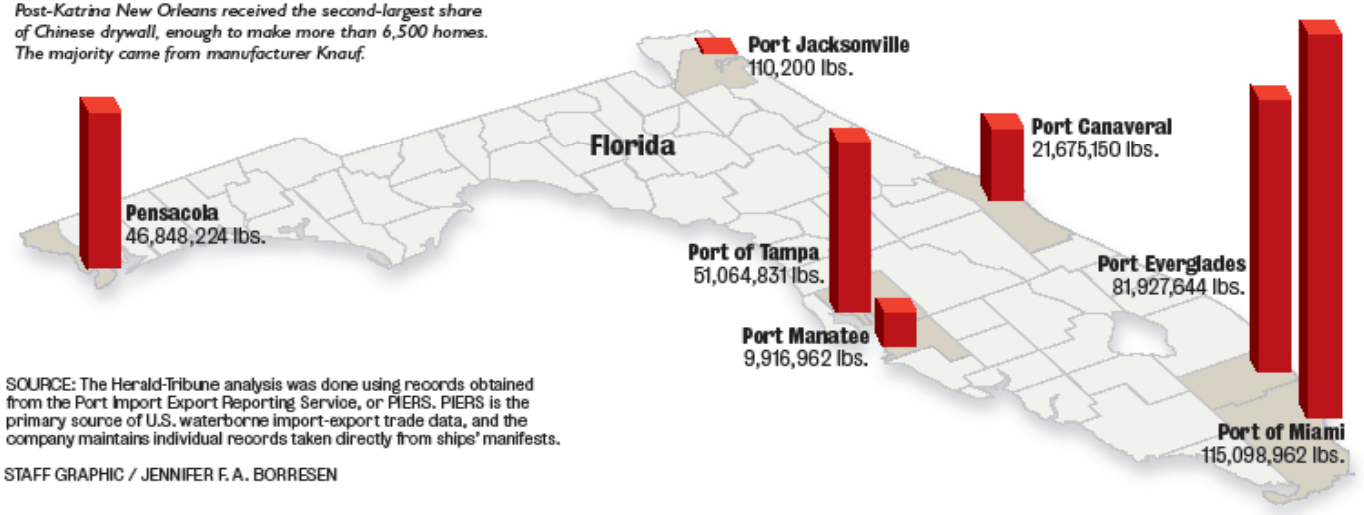
Since 2006, more than 550 million pounds of drywall were imported from China into the United States, enough to make tens of thousands of houses. Sixty percent of Chinese drywall came into Florida, through seven ports, including Port Manatee.

**States importing at least 1 million pounds of drywall from China since Jan. 1, 2006.**


*Post-Katrina New Orleans received the second-largest share of Chinese drywall, enough to make more than 6,500 homes. The majority came from manufacturer Knauf.*

Drywall experts say a standard 12-foot by 4-foot drywall board weighs about 90 pounds on average. A typical 2,000-square-foot home uses about 100 such boards. By that estimation, enough Chinese drywall entered the U.S. since 2006 to potentially make more than 61,000 homes, and more than 36,000 in Florida alone.

| | Number of pounds | Est. number drywall boards | Est. number of homes |
|---|---|---|---|
| **FL** | **326,641,973 lbs.** | **3,630,000** | **36,000** |
| LA | 60,153,501 lbs. | 668,000 | 7,000 |
| CA | 51,934,137 lbs. | 577,000 | 6,000 |
| MS | 27,261,276 lbs. | 303,000 | 3,000 |
| TX | 19,908,997 lbs. | 221,000 | 2,000 |
| SC | 18,797,475 lbs. | 209,000 | 2,000 |
| NC | 18,050,760 lbs. | 201,000 | 2,000 |
| NY | 15,864,470 lbs. | 176,000 | 1,800 |
| GA | 6,050,370 lbs. | 67,000 | 670 |
| WA | 2,437,491 lbs. | 27,000 | 270 |
| PA | 2,173,144 lbs. | 24,000 | 240 |
| NJ | 1,520,760 lbs. | 17,000 | 170 |




SOURCE: The Herald-Tribune analysis was done using records obtained from the Port Import Export Reporting Service, or PIERS. PIERS is the primary source of U.S. waterborne import-export trade data, and the company maintains individual records taken directly from ships' manifests.

STAFF GRAPHIC / JENNIFER F. A. BORRESEN

# What About?

- Bed Bugs?
- Lead?
- Water Contamination?
- Septic Problems?
- Asbestos?
- Drug Houses?
- Etc. , Etc. , ?

# Thank You