



# The Mulvaney Pipeline

**Mulvaney**  
MECHANICAL, INC.  
Mechanical Contractors  
July-Sept 2016

## NO COLOR, NO TASTE, NO SMELL

**With the heating season approaching** it is extremely important to have boilers checked properly. The fuel-to-air ratio should be tested on a regular basis as part of all boiler service. Carbon monoxide in the building can be due to many things (see partial list below). Carbon Monoxide, or CO, is an invisible, odorless gas that can only be detected with special instruments. It is dangerous because it displaces oxygen in the blood's hemoglobin and forms carboxyhemoglobin. Since the oxygen is replaced by the CO, the body's organs are starved for oxygen and nutrients, suffocating them. The standard measurement for carbon monoxide is parts per million or ppm. To understand how small a ppm is, consider this. One part per million is equal to: One day in 2,739 years or One inch in 16 miles. It has been theorized that the body actually prefers CO to oxygen, which is why it is difficult to remove from the body. Carbon monoxide has a half-life of five hours, which means the level of toxic gas will drop to half its current level after five hours and drop in half again after an addition five hours. However, exposure to a high level of CO could take too long to be removed naturally. In severe instances, a person may have to be inserted inside a hyperbaric chamber, which uses pressure and oxygen to force the carbon monoxide from the hemoglobin. The safest way to test for carbon monoxide presence in an equipment room is to use a calibrated CO detector. For proper operation, the detector should be calibrated yearly.

### POTENTIAL SOURCES OF CO POISONING

**Car left running in attached garage - Corroded or disconnected boiler/furnace or water heater vent pipe - Gas fireplace - Cracked or loose furnace exchanger - Improperly installed kitchen range or vent - Operating a grill indoors or in a garage - Gas heaters -Inadequate chimney/flue draft**

**ALL HOMES SHOULD HAVE CARBON MONOXIDE DETECTORS IN GARAGES, BOILER/FURNACE ROOMS AND ALL SLEEPING AREAS.**

CO Concentration In Air	Inhalation Time and Symptoms
9 ppm	ASHRAE maximum allowable concentration exposure in a living area
50 ppm	Maximum allowable concentration for continuous exposure in any 8-hour period
200 ppm	Headache, tiredness, dizziness and nausea after 2 to 3 hours.
400 ppm	Frontal headache within 1 to 2 hours and life threatening after 3 hours.
800 ppm	Dizziness, nausea and convulsions within 45 minutes. Unconsciousness within 2 hours. Death within 2 to 3 hours.
1,600 ppm	Headache, dizziness and nausea within 20 minutes. Death within 1 hour.
3,200 ppm	Headache, dizziness and nausea within 5 to 10 minutes. Death within 30 minutes.
6,400 ppm	Headache, dizziness and nausea within 1 to 2 minutes. Death within 10 to 15 minutes.
12,800 ppm	Death within 1 to 3 minutes.

### A Letter From College

Dear Mom,

School is really great. I am making lot\$ of friend\$ and \$tudyng very hard. With all my \$tuff, I \$imply can't think of anything I need, \$o if you would like, you can just \$end me a card, a\$ I would love to hear from you.

Love,

\$u\$an

P.\$ Thank\$ for \$ending the \$weater.

\*\*\*\*\*

Dear Susan,

I kNOw that astroNOmy ecoNOmics, and oceaNOgraphy are eNOugh to keep even an hoNO student busy. Do NOt forget that the pursuit of kNOwledge is a NOble task, and you can never study eNOugh.

Love,

Mom

P.S. Thanks for your NOte!!

### Clothes that Clean Themselves in the Sun?

A "hot-electron" textile could change the way people do laundry. Researchers at RMIT University, Melbourne, Australia, incorporated silver and copper nanoparticles into the textile's composition, allowing it to release heat in the presence of visible light. As oscillating electrons at the surface of each nanoparticle gain kinetic energy, the generated heat can be used to degrade various organic materials, including stains and dirt, so that a person's shirt can come clean as soon as they step out into the sun. 😊

### New England By Numbers

- 1993 - year the Rhode Island legislature proclaimed coffee milk the official state drink (July 29)
- 539,315 - number of riders each weekday on Boston's MBTA subway system
- \$11,990,000 - cost of the Cape Cod canal construction in 1914
- 12 miles per hour city speed limit set by Connecticut in 1901.
- 22,400 - number of fried clams sold on a summer weekend day at Woodman's of Essex (MA), where they were invented (1916)

### The Invention of Velcro

One day in 1941, after a walk in the Swiss woods with his dog, Georges de Mestral was astounded by the ability of burrs to stick to his dog's coat and his own clothes. When he got home, he shoved burrs under a microscope and saw that its barbed seed pods hooked easily with the looped fibers of his coat. He realized that he could produce a new type of fastening product. It was not an easy task, eventually taking him 10 years to perfect the product, initially using cotton, but settling on nylon. At first people laughed at the idea. By the time Georges de Mastrel (1907-1990) received a patent for the product in 1955, the idea for the "zipperless zipper" was well received. He named the product Velcro, from the French words velours (velvet) and crochet (hook). Today, Velcro is widely used in apparel, shoes, leashes, nuclear power plants, battle tanks, the space shuttle and more, all thanks to the burr plant.



### WHAT THE HECK IS IT?

**WIN A MULVANEY MECHANICAL LEATHER JACKET**

JUST LIKE THIS ONE

When e-mailing your entry, please write "Newsletter Contest" in the subject line to avoid our SPAM filter.

Send to: [MMI@mulvaneyinc.com](mailto:MMI@mulvaneyinc.com)

If multiple correct answers are received, one winner will be selected at random.



### Last Quarter's Puzzle: Column Clamp



Column clamp, used to clamp together materials such as panels, logs, post, or staves of a tank.

WE HAD ONE CORRECT ANSWER THIS TIME

Bill Sapienza - Sapienza Architects

### Did you know...



- John Tyler, the 10th president of the US, was born in 1790. He has a grandson that is alive today.
- An octopus has three hearts and its testicles are located in its head!
- It snowed in the Sahara desert for 30 minutes on the 18th February 1979.
- The Boston Marathon didn't allow female runners until 1972.
- The state of Ohio gives out different colored license plates for those convicted of DUI.
- The national animal of Scotland is the Unicorn.
- Approximately 1,000,000 dogs in the U.S. are named as the heirs of their owners' wills.
- When written down, the word 'almost' is the longest word in the English language to have all of its letters in alphabetical order.



### Email Pipeline to You?

Please send your request to [MMI@mulvaneyinc.com](mailto:MMI@mulvaneyinc.com)

### WHAT'S GOIN' ON?

Sept 12-14	ASHRAE IAQ Conference	Salt Lake City, UT
Sept 26-30	IPC Expo	Alberta, Canada
Sept. 28-Oct. 1	ASCE Conference	Portland, OR
Oct. 5-7	FMA World Workplace	San Diego, CA
Jan. 27-30	BOMA International	San Diego, CA

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