

On the Water Front

Rocky Mountain Water Quality Analysts Association

Fourth Quarter 2011

Tank Cleaning and Inspection

By Tom K. Martella, PG, RHSP

The first thing envisioned when the diving gear appears is the search for a lost Spanish treasure chest in the depths of the Caribbean. The Denver-metro area certainly is not the Caribbean, but there are divers.

The diver from Liquid Engineering, is wearing a diving helmet and weighted down to reduce buoyancy. On top of his helmet, the diver wears a video camera that records his activities and what he sees. For safety, the diver is harnessed and tethered in the event he needs to be pulled from the tank and two-way communication is maintained between the control trailer and the diver at all times.

If you think the diver dons his suit, straps on his harness and climbs into the tank, you'd be mistaken. Before being lowered into the drinking-water, filled tank, all of the equipment, including the diver, are sprayed with disinfectant.

After the sediment settles from being

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A tank diver from Liquid Engineering prepares to enter a tank managed by Ramey Environmental.

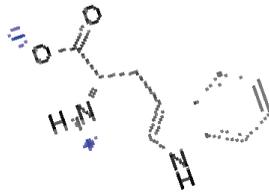
disturbed when the equipment and the diver are lowered to the tank bottom, visibility is good, but the diver still needs assistance. The diver has two support team members; one at the tank access and the other in the control trailer. As the diver works, he communicates his status and describes the condition of the tank. The technician in the trailer provides important information on the tank such as location of valves, drains, and other features.

Once on the tank bottom, the diver begins to suction up sediment. In this instance, the water source is groundwater. The sediment, consisting primarily of silt and iron oxide, is carried out of the tank via a 3-inch hose and discharged away from the tank. Once the sediment is removed, even small irregularities in the tank surface are revealed and the tank surface is visible.

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Turkey Talk

By Greg Moore
City of Golden



Picture a nice Thanksgiving morning. The oven is warming, the turkey was brined overnight, and the pumpkin pie, cranberry relish and sweet potato dishes are ready to go. The only things left to do are roast the turkey and sage dressing, whip up the green bean casserole (with fried onions on top of course) and mash the potatoes. Remember the fresh whipped cream for the pie!

By mid-morning, only a few more items need to be made. Sounds like a good time for a snack. Pie crust with cinnamon and sugar baked on with some coffee...yum! Wait! Already drank too much coffee in the morning...It's time for some Bloody Mary mix with lots of vodka, fresh lime, some left-over celery from the dressing *and* lucky for you there's even some of Annie B's spicy pickled green beans. Life is good.

Dinner is going as planned, everything turned out great in spite of the three Bloody Marys consumed before dinner. Both wines went well with the turkey and dressing. Dinner was fantastic and it's time for a little

Save the Date

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break on the couch before preparing the left-overs for the weekend. Snooze....

Rats, two hours passed too quickly. What happened? The dogs have performed some masterful acrobatics and have cleaned the carcass for themselves. They even helped themselves to the pie and are sleeping now too. There's no leftover turkey, dressing or pie and god only knows what the dogs are going to do in the middle of the night! It must have been the tryptophan in the turkey that caused this downhill spiral....WRONG!

While it's true that L-Tryptophan, if taken by itself on an empty stomach will cause sleepiness; it isn't effective in the presence of any other amino acids or proteins! The turkey has protein and amino acids. Everything else eaten had amino acids, alcohol, and/or carbohydrates which all contribute to the sleepy people and dogs.



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Greg Harp

October 11, 1954—September 18, 2011



While riding his motorcycle over Loveland Pass with his brother, Greg Harp experienced a terrible accident and passed away at the young age of

56 . On this tragic day, RMWQAA not only lost a valuable board member but a wonderful friend.

What really drew me to Greg was how open he was. The first time we met, he made me feel like we had known each other forever. He was extremely comfortable to be around and 3 months later he remembered everything we had talked about. He had an instant connection with everyone he met that was very special. -Kathy

Originally from Maryland, Greg moved to Greeley with his wife, Deb, in 1988. He worked in the insurance industry for many years before returning to school to obtain his BS and then MS in Watershed Science at CSU. Greg worked in the environmental industry for USGS, NPS, USFS, Shirazi & Associates, One Rain, and finally the City of Greeley where he became involved in RMWQAA. Greg promptly accepted the

database chair position and for the next 3 years participated in the RMWQAA wholeheartedly.

I shared an office with Greg for the past three years and got to know the funny little things you learn about people when you work closely with them. I really enjoyed sharing views on religion, politics, family and friends. It was very enlightening because it was so different from what I knew. I will also miss his sarcasm and witty comments that always made me laugh. Greg was a big part of my life and will always hold a special place in my heart.-Samantha

As we grew to know Greg, we discovered his great love of

I know he will be missed by many. He had a great sense of humor and was always so much fun to be around. He always had a smile on his face. -Lesa

snowboarding, chili beers, fine tequila, and New Mexico vacations. He loved his wife, his dogs, riding his motorcycle, and anything outdoors. He was an avid snowboarder, an assistant Scout leader, and a private pilot. Greg served on the

Association of Municipal Employees board and was a member of the Greeley Arts Picnic committee.

Greg was so easy going and genuinely nice. Even though I was only around him a handful of times, he felt like a friend. -Heather

Services were held at the YMCA of the Rockies Chapel in beautiful Estes. In memory of Greg, the City of Greeley and the AME Board planted two Hackberry trees in Greeley's Lincoln Park.

Greg, you will be greatly missed by all.



Greg cruising over the vernal pond at A-Basin on his cherished Never Summer snowboard.



Greg and Barley enjoying the streets of Santa Fe



Greg on the open road

Quagmire's

C o r n e r



What is Rhizosolenia?

A fellow RMWQAA member has asked for help with an interesting situation in their area. Here's what they have to say:

We are noticing an algae species that we have very rarely seen before in our area. Its name is Rhizosolenia. What is it and where does it come from?

Quagmire found from his research and his colleagues at CH Diagnostic (CHD) that rhizosolenia, a common diatom, is found up and down the Rocky Mountain area. CHD has seen it frequently along the Front Range and has determined for the most part that rhizosolenia is not a health concern.

There have been reports of very high rhizosolenia concentrations clogging the gills of fish resulting in fish kills. Although no reports have been recorded, filters used in the water treatment process can also be



This is a view of rhizosolenia from a microscope.

clogged by high numbers of this diatom. Another negative outcome of an increase in rhizosolenia is that as the diatom uses nutrients in the water column, the number of good phytoplankton may decrease. The good news is that this algae should cycle through as do other algae.

CHD staff started seeing rhizosolenia in late September in nearby reservoirs, but not in the river source water. In Longmont, rhizosolenia numbers are VERY high...higher than those seen of any phytoplankton or cyanobacteria for many years. After the early snow storm and freezing temperatures, the number of rhizosolenia in the bottom of the reservoir doubled.

If any other utilities are finding rhizosolenia in their source water, please let us know your problems, solutions, and what to do to prevent potential issues by emailing us at newsletter@rmwqaa.org. We will share all information collected by email or in the next quarter's newsletter. Thank you!

quag·mire *–noun*

1. an area of miry or boggy ground whose surface yields under the tread; a bog.
2. a situation from which extrication is very difficult: *a quagmire of financial indebtedness.*
3. anything soft or flabby. (What?!?)

Five Benefits of a Near-Miss Reporting Culture

By Adele Hinton-Rucker

City of Aurora

Prevention is much better than living with a responding to the next “fire” and trying to recover type of culture. A near-miss culture is about identifying close calls that might have turned into accidents, analyzing this close calls and putting measures in place to prevent them from occurring in the future.

There are several benefits to having a near-miss reporting culture in place, including:

- Enabling companies to pro-actively resolve hazards before a tragic or costly incident occurs
- Engaging the entire workforce at all levels to solve any identified issues
- Increasing safety ownership and responsibility
- Reinforcing workers’ self-esteem.
- Exposing valuable information that otherwise might not be discussed
- Developing a positive and necessary attitude surrounding safety

Information referenced from <http://myknowledgecenter.com/business-insurance/5-benefits-of-a-near-miss-reporting-culture/>

Congratulations to the analysts who took certification exams in October.

**2 people passed level I
1 person passed level III**



2012

2012 The Year of Water

The year 2012 is not only a milestone for Colorado water but the start of a statewide celebrator of water, its uses and its value. There will be events across the state that are designed to educate our citizens on water’s history and basic science, create awareness of current issues, highlight careers in water, create avenues for greater volunteerism and grow Colorado’s culture of stewardship.

RMWQAA will be celebrating the Year of Water every month in 2012 by visiting a water, wastewater, or industrial site. We will be touring & learning about treatment, process, and environmental stewardship.

This means, RMWQAA will be asking you to open your facility or ask a facility in your service area to host a tour for the RMWQAA lab rats. Get your facility on the Year of Water tour card by contacting us at newsletter@rmwqaa.org. For more information visit <http://water2012.org/>

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Guess what? All of the carbohydrates in the meal, the alcohol in the Bloody Mary and wine which as we all know is a depressant are additional factors. Also, guess where a bunch of your blood flow went to in order to process the meal? Well, let me tell you...it wasn't your brain! Of course, it didn't help that you ate enough to have to crawl to the couch and only made it to the floor in front of the couch.

L-Tryptophan is used by your body to form niacin and B-vitamins which can metabolize into serotonin and melatonin which are both neurotransmitters. It's the serotonin that gets you! The carbs you ate, and the ethanol you drank causes the pancreas to excrete insulin, which in turn, causes the amino acids that compete with tryptophan to move back into muscle tissue. This phenomenon leaves the tryptophan "alone" in the bloodstream. The tryptophan is then metabolized into serotonin which has the calming effect. So calm you could sleep.

If you look up the tryptophan content of other food items per 100 grams you'll find that beef, chicken, eggs, cheese and a lot of other foods have about the same content. In fact, the highest values are found in dried egg white and dried spirulina which has approximately 4 times the amount of tryptophan contained in turkey and pumpkin seeds are about 2.5 times.

So there you are—nothing else to blame but yourself and those yummy carbs and alcohol!

Have a good and sleepy Thanksgiving Day!



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Are you on Facebook or LinkedIn?
The RMWQAA would like to connect with you. We now have a new RMWQAA Facebook page and a LinkedIn profile.

Both of these sites are interactive networking forums where members can connect with other RMWQAA friends and colleagues

Find us at the links below and give us a "Like". We are looking forward to "seeing" you there!!

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View of tank using underwater camera

Once the tank is cleaned and the condition of the floor inspected, the tank walls are viewed for irregularities.

When the inspection was completed they found no elusive Spanish treasure, but the owners of the tank did receive both the video and report documenting the tank's condition. They also received a few recommendations for future activities, such as repairs and/or maintenance.

This entire process takes about 4 to 5 hours for a 120,000 gallon tank that is about 40 feet in height. The cost is about \$1,600 for a tank this size, but remember volume discounts can apply if several tanks are scheduled together.

This dive crew is on a long period of tank cleaning and inspections in Colorado that started the Friday before Labor Day. Once they were done with this job, they drove to a job further north before traveling south to the Colorado Springs area to work on a series of 16 tanks. Despite their fast schedule the work was performed in safe and professional manner.

Liquid Engineering Corporation is located in Billings, MT and is available in the United States for water tank, tower, and clearwell service as well as reservoir inspections, major and minor repair, maintenance, and a full range of support engineering services.

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What's Wrong with This Photo? From the Safety Files of Adele Hinton-Rucker, City of Aurora



Answer:

The sign above the shelf clearly says Fire Extinguisher, but there isn't one in sight. Instead, there's a shelf full of office supplies. This isn't the kind of mystery one hopes to find during of a fire.

The RMWQAA Website is Fixed!

The site is now up and running at the original address. No more messing with that camp8 temporary address.

Everything can be done at
www.RMWQAA.org

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