

RGI Announcements

Employees of the Quarter!



Logan Chinn

Collin McCracken



C/O 2018 Inductees Include: Paul Riley's Son Dylan Riley from Mount Si High School, Leah Allen's Son Tyson Holt from Glacier Peak High School and RGI's very own Elizabeth Wratten from University of Washington!



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Soiled Linens & Vapor?

Using Vapor Pins to Successfully Sample

By: Stafford Larsen
Project Geologist



RGI Installed Soil Vapor Pins

The Riley Group, Inc. (RGI) has been providing environmental consulting services for a dry cleaning facility located in Lynnwood, Washington. The building site has been occupied by dry cleaning facilities since the 1980's. Previous work has included subsurface investigations with associated soil, soil vapor, and indoor/sub-slab air sampling.

Data obtained from previous investigations indicate the soil adjacent to the dry cleaning machine and outside the building to the southeast contains tetrachloroethene (PCE) at concentrations above Model Toxics Control Act (MTCA) Method A Cleanup Levels for Unrestricted Land Uses. The depth of soil contamination ranged from 4 to 15 feet below ground surface (bgs). PCE was also detected in soil vapor and indoor air at concentrations exceeding soil vapor screening levels established by the Washington State Department of Ecology (Ecology) and MTCA Method B Indoor Air Cleanup Levels, respectively.

To further characterize indoor air quality and soil vapor concentrations of contaminants beneath the building, RGI recently installed two permanent soil vapor pins in the concrete slab of the building, providing a

means of transmitting soil gas through the slab for sampling purposes. One vapor pin was placed adjacent to the dry cleaning machine, and the other vapor pin was placed near the side sewer running underneath the building. The vapor pins were installed flush with the concrete slab with Teflon shroud creating an air tight seal thereby preventing any indoor ambient air from entering into the subsurface via the vapor pins. A helium leak detection test was performed to confirm ambient air was not entering the subsurface through the vapor pins. A shut-in test was also conducted on each vapor pin sampling apparatus to verify that there were no leaks in the above ground sampling assembly. Both vapor pin seals and the sampling apparatus were determined to be air tight prior to collection of the sub-slab soil vapor samples.

The vapor pin located next to the dry cleaning machine, was determined to have a PCE concentration of 400,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and TCE concentration of 370 $\mu\text{g}/\text{m}^3$. Both of these concentrations are above the Ecology Soil Vapor Screening Levels for PCE and TCE of 321 $\mu\text{g}/\text{m}^3$ and 12.3 $\mu\text{g}/\text{m}^3$, respectively. The vapor pin located in boiler room of the building, was determined to have a PCE concentration of 13,000 $\mu\text{g}/\text{m}^3$, which is above the Ecology Soil Vapor Screening Level of 320 $\mu\text{g}/\text{m}^3$. TCE was not detected at a concentration above the analytical reporting limit of 100 $\mu\text{g}/\text{m}^3$. No other contaminants of concern were detected.

Based on these findings, RGI determined the subsurface soil vapor PCE and TCE concentrations pose a potential threat to indoor air quality. Additional investigative work will be necessary after the dry cleaning machine is removed, and the interior of the building is thoroughly cleaned. At that time, RGI will assess indoor air concentrations of contaminants by collecting an indoor air sample from the interior of the building along with an ambient air sample outside the building to assess background concentrations of contaminants.

In This Issue

- Dry Cleaner Project, Lynnwood
- Behind the Desk: Ricky Wang
- RGI Safety Notice
- WA State's New PTAP
- Kelly's Favorite Pick: Nana's Famous Nana Bread
- EOQ Winners!!!

★ RECIPE ★

Kelly's Favorite Pick: Nana's Famous Nana Bread

Ingredients:

- 1 1/2 cups all purpose flour (sifted)
- 1/2 tsp. baking soda
- 1 tsp. baking powder
- 1/2 tsp. salt
- 1 tsp. cinnamon
- 2 tbsp. flax seed
- 2 tbsp. shredded coconut (optional)
- 2 large eggs (beat 1 at a time)
- 1/2 cup brown sugar
- 1/2 cup white sugar
- 5 tbsp. butter (cold)
- 1/4 cup milk
- 1 tsp. vanilla
- 4-5 completely black bananas (no substitutes!)
- 1/4 cup chopped pecans (optional)

Instructions:

Preheat oven to 350°F. Grease, or use parchment paper in, loaf pan. I

like to mix my dry ingredients first in a big bowl (flour, baking soda, baking powder, salt, spices, flax seed, coconut). Then combine the wet ingredients separately in a different big bowl using a hand held mixer, or use a Kitchen Aide mixer w/beater attachment, (fluff butter first, cream with the sugars, then add eggs and beat in 1 at a time, milk, vanilla). Add the bananas and increase the speed to high for 30 seconds. Make sure to incorporate the dry mix into the wet mix slowly and in batches, this will ensure the mixture is properly blended. If you're adding the pecans, stir them in by hand after both mixes are combined. Pour combined batter into the prepared pan evenly and bake for approximately 60 minutes until the toothpick comes out "almost" clean. Cool for about 10-15 minutes.

Variations: You can replace the butter with 1/2 cup of vegetable oil, use chocolate chips instead of pecans, change-up your spices with pumpkin spice and/or allspice, buttermilk instead of milk and of course your flour can be whole wheat or gluten free. This is by far the best banana bread my family has ever had - it's a breakfast staple all year long. Enjoy!~



Contact Us

Give us a call for more information about our services

The Riley Group, Inc.
17522 Bothell Way NE
Bothell, WA 98011

t: (425) 415-0551

f: (425) 415-0311

info@riley-group.com

Visit us on the web at
www.riley-group.com



Safety News

Behind The Desk

Ricky Wang, PhD, PE, GE

Position:

Principal Engineer

Years with RGI: 19

Family: Wife, Li & Sons, Evan (21, PhD student in Electrical Engineering at Stanford) and Allan (18, Undergraduate towards Bioengineering at UW).

What is your business day like?

My business day ranges from a normal 8 hour to sometimes longer 12 hour day. I plan my daily tasks the day before, but emergencies often occur. Typically, I communicate with clients, contractors, architects, and engineers to get updated schedules and to find out what they need from our team in order to keep projects moving forward. Also, I often conduct geologic field investigations when the nature or complexity of the project requires me to do so. I perform the majority of senior review on executed reports and documents, prepare proposals for new projects, conduct marketing and client outreach and coordinate with technical staff for the day-to-day tasks. It's always a busy, yet a productive day.

What is the some of the best advice you have received?

Many years ago, I was asked by a CEO of a Fortune 500 architecture firm: "There are hundreds of engineers as qualified as you, why then should a client choose you and not others?" His advice to me was to use effective communication. You don't have to prove that you are the most decorated Geotech in the state, however you do need to prove that you are the most qualified for that particular project and are the best fit to get the job done right. Most importantly, you need to earn the client's trust. Over the many years working at RGI, I have observed that over 80 percent of our work is from repeat clients. Some of those clients have been working with RGI for almost 20 years. Communication is key!

What's the most important thing you've learned on the job?

Making a quick independent decision. Problems often occur during development or construction phases and an immediate solution is sometimes needed from the project team. Over the years as a principal at RGI, working with many architects, engineers, contractors, and operators, I'm able to make these quick decisions without delaying the project.

What does the future hold?

The real estate market will continue to go up and down, therefore we try not to put all of our eggs in one basket. Over the years, we've established a diverse client base: residential, commercial, industrial, public works, and foreign investment. RGI is very optimistic about the future.



Does Your Hard Hat Need To Be Replaced?

By: Janelle Finley
Project Coordinator

While there is no official expiration date on hard hats, they do become less effective over time. Cracks, brittleness, fading, or chalky appearance are signs that you need a new one. Be sure to check yours for damage before each use.



Typically manufacturers recommend replacing your hard hat every 5 years even without visible indication. Look inside (usually on the rim) for two small circles to identify when it was manufactured. See the picture below for an example. The arrows indicate the month and day while the numbers on the interior of the circle indicate the year. Even the most hard-headed people need hard hats on construction sites. So inspect them often and stay safe out there!



Washington State's New Petroleum Technical Assistance Program (PTAP)

By: Clifford Nale, PG, LG
Project Geologist

RGI has worked with the Pollution Liability Agency (PLIA) many times to close heating oil tank sites under their Heating Oil Technical Assistance Program. This program provides PLIA's oversight and written recommendations regarding site assessment and remediation to meet the States Model Toxic Control Act (MTCA) cleanup standards. As of January 2018, PLIA has expanded the state's ability to respond to the high customer demand to clean up petroleum contaminated sites through the new Petroleum Technical Assistance Program or PTAP. This now has the statutory authority to provide technical oversight and write opinions and "No Further Action" (NFA) determinations on UST sites. Site owners and operators now have an alternative to Washington State's Department of Ecology's Voluntary Cleanup Program (VCP). The VCP program has historically been a long and arduous process for UST site owners and operators who want to cleanup contamination related to their USTs. Most recently, it has taken one to two years for a site just to enter into the VCP program. Mainly because VCP oversees other contaminated sites, such as dry cleaning facilities and other industrial-related processes. Petroleum-contaminated only, or "low-risk" UST sites, have been caught up in the log-jam of numerous other sites maintained under the VCP program.

PLIA's aim is to offer applicants the potential of lower cost associated with regulatory oversight and a commitment to faster turnaround times for opinions on "low-risk" UST sites. The nuance of PLIA's approach is to work more collaboratively with site owners and operators. For example, they plan to hold an intake meeting at the outset upon enrollment to review the site status with the applicant and set achievable milestones. PLIA is looking to provide more certainty upfront, and quicker, more pragmatic opinions and responses throughout the process. The goal is to efficiently move sites toward a NFA determination and, ultimately, allow the owner to return their site to a business asset instead of a liability.

The following low-risk petroleum UST sites are eligible for PTAP:

- Sites that DO NOT have a sediment and/or surface water pathway.
- Sites funded through PLIA's Loan and Grant or Reinsurance programs.

The following sites DO NOT qualify for PTAP:

- Sites with co-mingled, non-petroleum contaminants.
- Sites with known soil and/or groundwater contamination that has migrated off-site.
- Sites currently in litigation.
- Sites under active contract with the Department of Ecology (i.e., VCP sites)
- Sites within the bounds of or impacting, a Superfund, Nuclear Program-managed, Industrial Section, or Dangerous Waste site.



What is the PTAP Process?

PLIA is looking to offer a streamlined application and approval process, a one-time flat fee of \$7,500 for service (vs. hourly billing for review and opinions in the VCP), an intake meeting with senior technical staff to review your site (which does not typically happen in the VCP), and faster turn-around times for written opinions (a goal of 45 days with PLIA versus 90+ days with Ecology).

What are the Risks?

Depending on how much regulatory oversight is anticipated, a flat-fee of \$7,500 may not make sense for some sites. However, for more complex sites that may need multiple opinions over the life of the investigation and cleanup, that fee will likely represent a good value.

There are also certain factors site owners and operators will want to consider when determining whether their site qualifies for PTAP. As presented above, there can be no impacts to sediment or surface water and there can be no co-mingled, non-petroleum contamination. Additionally, sites facing litigation and sites that have impacted off-site properties do not qualify. If the site is disqualified for one or more reasons after enrollment in PTAP, it is unclear whether the enrollment fee is refundable. However, the decision to enter into PTAP can be made after the initial intake meeting with PLIA prior to submitting the \$7,500 enrollment flat-fee.

PLIA also expects actionable steps to be taken on the part of the applicant/owners to move forward with investigations and cleanups once accepted into PTAP. In other words, PLIA will not be a "safe harbor" for sites to enroll in (in order to avoid Ecology enforcement), as PLIA's oversight of these low-risk UST site will still comply with cleanup laws and regulations promulgated under the State's (MTCA). Sites may be disqualified from the program for inactivity and the enrollment fee may not be refundable. To learn more about PTAP: <http://plia.wa.gov/ptap/> or contact Cliff Nale, LG at cnale@riley-group.com.