

## Community Advisory Committee (CAC) for Soil Study Wednesday, July 18<sup>th</sup> 2018 Meeting Notes

**In attendance:** Dr. Tammy Milillo (TM-UB), Jackie James-Creedon (JJC-CSCR, Kenmore Resident), Katie Little (KL-UB, CSCR), Rich Mpelezos (RM, Buffalo Resident), Dr. Joe Gardella (JG-UB), Dr. Mike Milligan (MM-SUNY Fredonia),

**Guests:** Nellie Brown

COEM representatives including: Samantha Rodgers, Dr. Braden Reiter

UB students: Katherine Thompson, Carolyn Gibbins, Arianna Rothfuss, Laura Hare

**Absent:** Jeanine Justin (JJ, Grand Island Resident), Sue Mazur (SM, ToT Resident), Anne Bazinet (AB-ToT Resident), Jay Farqueson (JF, Grand Island resident)

### Notes from Nellie Brown's Presentation

- Nellie worked at the Allied Chemical, Semet-Solvay division for three years as a water chemist (1977-1980)
  - Performed chemical analysis of coal, coke, by-products, and wastewater
- Don Crane bought the assets for the company in 1978 and the facility was renamed Tonawanda Coke Corp.
- The coking process is not burning the coal. It is pyrolyzing in the absence of air.
  - **Pyrolysis** is the thermal decomposition of materials at elevated temperatures in an inert atmosphere.
- Coking is done with Bituminous coal, it cannot be done with anthracite coal.
- 1833 – Beehive ovens (named for their resemblance of a skep beehive) were operational in Pennsylvania
  - These ovens did not capture any emissions from the coking process
- ~1880s – By-product coke ovens were invented; these captured emissions for use in other applications
  - 1983 – Semet-Solvay built the first by-product coke oven in the US to capture ammonia (built in NY state)
- The process at TCC creates foundry coke, which creates a high quality, larger, purer product.
  - Blast furnace coke is a faster process which creates less pure, smaller pieces of coke
  - The coke is graded by size and sold to the buyer depending on their needs.
- OSHA was started in 1970
  - Nellie recalls people from the DEC coming to the plant to visit, does not recall people from OSHA visiting
- Different types of coals are blended to control the mineral content, etc. of the feedstock.
- Charging(filling)/pushing(emptying) is done every 7<sup>th</sup> or 10<sup>th</sup> oven to control the temperature so that the structure does not cool too much
  - You can't cool a coke oven. It is made of fire brick, and it would crack if it was cooled.
  - Gasses released in the coking process are collected and used as fuel to heat the coking ovens; the process is self-sustaining
  - It takes 30-36 hours to create foundry coke
  - The coking process is considered done when the carbon reaches 1000°C
  - The coke needs to be quenched immediately because it is red hot and burns when it touches the air
  - There are small leftover bits of coke called Breeze which are recycled back into the ovens to minimize cracks forming in the coke and thus increase its quality.
- There are tunnels and standpipes that bring oxygen to and emissions away from the ovens
  - A tunnel collapse would mean that the fires heating the ovens are starved for oxygen, which would create a smokier exhaust
- Wastewater effluent
  - Nellie tested for ammonia, phenol, cyanide, and temperature
    - Historically (before Nellie worked there) there were 1,000s of lbs of phenol, 100s of lbs of cyanide. Nellie was detecting fractions of those amounts when she worked there.
- Blast Furnace video: <https://www.youtube.com/watch?v=Xn7D8GsQS4E>
- Samantha from the Center for Occupational and Environmental Medicine at ECMC
  - Social worker and Outreach coordinator
  - Residents can contact the clinic directly to set up an appointment if they have concerns about environmental exposure.

### Soil Study update

(JG) We will be rolling out Phase 2 sampling soon. We will be taking soil samples on TCC property soon. We have to sign legal documents and go through a 2 hour safety course at TCC before going on site.

There will be two teams of people, morning/afternoon that will be led by JG and MM, respectively. The Research Foundation of SUNY has to provide liability coverage for those on site.

We will also scope out locations for air sampling when we are on site. We will decide a strategy and ask to be given access; TCC officials have said that their intention is to comply with the judge's order. They have been professional in all communication.

We have done walkthroughs at two school districts where we intend to take soil samples – City of Tonawanda and Grand Island. We are in the process of developing plans to sample at their campuses.

Over 20,000 flyers have been distributed to raise awareness about the soil study and upcoming community events. A list has been created that includes people who have expressed interest in getting their soil tested in Phase 1 and are in areas of interest, public places that are near areas of interest, and people who have responded to the flyers and expressed interest in getting their soil tested. The list contains about 500 locations.

We have contacted DEC/EPA to review the maps. We will be sharing around 170 maps with them and will pare them down to 8-10 essential maps to release to the public. DEC/EPA representatives are available the last week of July/ beginning of August. They will look at the maps individually and determine if we need a group meeting.

Source apportionment work will start, and graduate/undergraduate students will continue work in the fall semester.

We don't know the number of samples for Phase 2 yet because we will be sampling in stages. We have to test the edges, and will need to make decisions about the effort to determine the depth of contamination. The samples in Phase 2 will be taken closer together, not in a grid pattern.

We are going through the list of chemicals that were tested for in Phase 1 to eliminate some for Phase 2 sampling. There were many that were not detected in Phase 1 and reducing the number of analytes may reduce the cost of the sample. Results from Phase 1 had a lot of extra information that we don't need. There will be another purchase order for Phase 2 samples.

We will continue with preparation for Phase 2 until the maps from Phase 1 are shown to elected officials and released. We will have a public meeting in August to release the maps to the public because we promised that we would share the results of the study in the form of maps.

**Next meeting Wednesday August 15<sup>th</sup>, 2018  
6pm – 3200 Elmwood, Room 210**