

Philadelphia Refinery

L E G A C Y R E M E D I A T I O N

Evergreen's Fate and Transport Public Meeting *Comments and Questions*

Tuesday, May 24, 2022 @ 6 PM

Comments and Questions - Answered Live (see [meeting recording](#))

- Gwendolyn Toler - Hello my name is Gwendolyn Toler, as a child I remember our refineries being safe, and clean to our water, air and land I don't know what happened from that time until now. It seems caring for water, air and land went out of the window and I don't care came in it. I'm just saying we shouldn't have to fight to get these things back when they were already in existence....
- Lisa Hastings - People thought the refineries were clean and safe, but they never were.
- Vashti Bandy - So when we talk about inputs, the best you can do is predict them. To get that balance, you have to work on controlling the outputs right? How are we doing this? (even before we get to the contaminants I mean). Or does this matter? Am I looking at this the right way?
- Gwendolyn Toler - Yes people did and I am one of them and when we people thought they were clean and safe back then, then what's going to change it now????
- Juanda Myles - Please share the link for replay so everyone can review this material.
 - Denise Smith - <https://www.usgs.gov/special-topics/water-science-school>
- Lisa Hastings - The lower aquifer is not completely "confined" from the contaminated upper aquifer. Has potential contamination from the upper to lower aquifers been modeled?
- James M - How do you model /measure "biological degradation" (i.e. microbes breaking down the pollution). Just to be clear, once this model is complete, will we have an idea of how long the "natural breakdown" will take?

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- Juanda Myles - How many years will it take for this land to be remediate before development can take place. I know a company has bought it to develop. How long does he need to sit on this land?
- Marta Guttenberg - With so much contamination and its fate still being discovered, should redevelopment proceed while clean up is underway?
- Gwendolyn Toler - My question is what are you doing today to make refiriniers safe, healthy and clean for Humans and the Land , Animals too as well???? since they have not been since childhoods.
- Russell Zerbo - Evergreen's own RIR regarding the SRTF included information about how it's neither sand, silt or dirt. Mostly tires and other industrial waste dumped on the land in the early 20th century to fill in that swampland so they could develop on it. Evergreen even went on to say that is almost "unmappable" in terms of water movement because of how unique the foundation is
- James M - ^^ and, How much does the presence of tanks on the SRTF affect your ability to accurately project the geology beneath the site, and therefore the fate and transport?
- Russell Zerbo - The word "unmappable" is used in Evergreen's AOI 9 RIR
- Russell Zerbo - As well as PWD's mingo basin and water pump that just pumps all the groundwater from the site directly into the river
- Sophia Schmidt - What are the dark blue dots? I may have missed you saying it. Are they monitoring points? Or benzene input points (spills)?
- James M. - How did "pumping" lead to elevated concentrations of benzene in the lower aquifer? Was something being pumped downward? What was happening there?
- Juanda Myles - I met a student possibly Drexel U who was developing a way to clean water using charcoal. Can a technique of such be used to clean this water as it travels downward so as it moves it won't cause profound contamination in other areas. Benzene and other chemicals have been found in Eastwick.
- Nilly Dan - i thought rates if degradation are quite different for different hydrocarbons, and that under some conditions it degraded faster than other compounds. how representative is its presence? also , where there no tanks or processes that contained other compounds but not benzene?

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- James M - Is the model taking into account the additional risk of an Agnes-level hurricane or storm surge event due to climate change? It seems there's a real risk of that within ten years, let alone 30 ...and the impact that has on contamination
- Christopher Ahlers - Could you be more specific about the names and versions of the models that are being used?
 - One of the reports states that Evergreen will use "a calibrated, steady-state MODFLOW and transport model (e.g., MT3DMS model) to perform quantitative fate and transport." Is this correct? Could you say a little more about what the MT3DMS model does?
- Lisa Hastings - Can the biodegradation that is naturally occurring be augmented to speed it up as part of remediation?

Comments and Questions - Answered in the [Follow-Up Video](#)

- Madeline Shikomba - Contamination is so pervasive and wide spread It isn't possible to clean up this mess. It seems that the benzene is being allowed to be absorbed into the soil and little is being done to remove it. Does this mean that eventually the benzene has reached or will eventually reach ground water (if it hasn't already) affecting the current and .future health and well being of the people .
- Also, the contaminates that are being removed where are they being transported to and how.
- Peter Winslow - When the refinery was in operation, petroleum products were being actively recovered. Decommissioning of the two dedicated water treatment facilities (Girard Point & Point Breeze) will have residual petroleum unrecovered on-site and handled instead by Philadelphia Water Department facilities. Are Philadelphia Water Department facilities being upgraded to handle these deposits? How? What is then in the discharge?
- Peter Winslow - There are area of surface water (AOI-10 & AOI-6). To what extent are these "settling ponds" or stormwater collection points or interconnected with surface/subsurface flows?
- James Mullison - The tank question was in the context of knowing that Evergreen is doing additional sampling in certain areas under refinery units as they are demolished. If additional sampling is needed under process units, why is it not needed under tanks?

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- David Farrington - Does the F&T Model also model Methyl tert-butyl ether (MTBE) in addition to benzene, since the MTBE migrates much differently within the aquifer ?
- Juanda Myles - In the future we need to be recycling clean stormwater before it becomes 'grey, brown or black water. Divert it for something constructive and positive.
- Christopher Ahlers - One of the reports states that Evergreen will use "a calibrated, steady-state MODFLOW and transport model (e.g., MT3DMS model) to perform quantitative fate and transport." Is this correct? Could you say a little more about what the MT3DMS model does?
- Lisa Hastings (direct message to Denise) - Can we get copies of the draft reports BEFORE they are put out for comment?