

Philadelphia Refinery

LEGACY REMEDIATION

Evergreen Public Meeting

Thursday, February 17, 2022 @ 6:00 - 7:30 PM

Breakout Room Questions/Comments

(Notes as recorded by Hummingbird members during breakout rooms)



Nosa Avenbuan, MS
Public Engagement



Dave Marabello, P.E. (NY, NJ)
Remediation Design Engineer

James Mullison

- 1. Asked about exposure barriers, specifically capping. The root of the question is: Is capping going to be used?**
 - Evergreen's remediation will focus on below grade.
 - These technologies are the second step of the remediation section.
 - **Lisa Strobridge's Answer:**
 - Later on, they anticipate using pavement or concrete as a cap to minimize subsurface contaminants. We are early in these discussions, but these remediation technologies are anticipated down the road.
- 2. Do remedial steps happen in sync?**
 - Yes, we are in the remedial investigation phase; the next step is the cleanup phase, and remediation will be addressed here.
 - Interim remedial measures; There is a lot of documentation on the Evergreen website. (plain language summaries and technical documents)

David Szczepaniak

- 1. How is down water influence/how are you checking things down the Schuylkill river, how has the water table changed, and how are we expecting it to change?**
 - Impacts on the river will be evaluated, and the water body effects will be addressed.

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- Surface water standards that have to be evaluated, what is in the river today vs. before. Fate and transport model that they expect to see to DEP by June be on the lookout for it.
- 2. **What have been barriers to getting the fate and transport model out?**
 - We need to look at that site as a whole, and there were certain places where the delineation was not complete.
 - Reports AOI 4 and 9 were not approved, and then they were re-submitted and approved.
 - Evergreen has just approved mechanisms that will influence contaminants over time, and so now, they are developing the pathways.
 - The remedial investigation has just been approved.

Comment:

1. The outline was beneficial
2. Showing the remedial systems have been helpful

Mary Joy

1. **Fate and Transport: may need more explaining; how do you determine fate and transport?**
 - Answered after the breakout room

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Bria Calvin, J.D.
Public Engagement



Derek Jelinek, P.E. (PA, DE)
Remediation Design Engineer

Christine valentine

- 1. Will all the drilling in the ground loosen the ground? Is fracking involved?**
 - PADEP regulates drilling to how they are constructed. Wells have to be abandoned in a certain way.
 - Fracking is a different process for natural gas—no fracking for wells.
- 2. How long will this take?**
 - 2030 - deadline to have final report; all measures in place; not remediation complete.

Lisa Hastings

- 1. Doesn't PA have standard guidelines for wells? What standard is intended to incorporate? We can ask it in chat/respond later.**
 - David brown DEP: As the base guidance for abandoning wells, they must report when abandoned and how to handle them. It will get filled with material so no more water can flow.
- 2. Does State have regulations for it, or do they just issue guidance?**
 - Not 100% on regulators, but well abandonment is required to be recorded to natural resources agency in the state. DEP doesn't chase after or force but expects to be abandoned appropriately
- 3. Groundwater is charged to service plants or others. Is it Discharged to the sewer or both?**
 - They are sent to treatment plants. Developers are still accepting some discharges from evergreens activities. It intended to be sent to Philadelphia sewage treatment plants. The permits are in process.
- 4. The presentation said Fate & Transport and risk reports would come out on or before June 22?**
 - Request that public comment drafts be shared with the community involved, and rather than placing in the record and on the website, semi-final and final be sent

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directly to participants in the process to start reviewing before the comment period.

5. Which technologies are being used currently?

- Groundwater and LNAPL vapor recovery; past air sparging is not active.

6. Any underground treatment?

- It is not an immediate risk but is unsure if it has been used in the past; it is more of a long-term strategy.
- **Request** - abandoned wells comply with DCNR requirements, hopefully as stringent as our geologic survey. All well abandonment should align with our geological, most stringent requirements.

7. Area of groundwater remediation, after groundwater investigation, will Evergreen do remediation of absorbed soil?

- Part of the cleanup goals to be established is intended to incorporate future property use and risks. The building will consider potential impact; redeveloper using best practices during work w/ proper techniques/materials; cleanup goals may be different offsite; complying with standards.

Guy Sheets

1. Have they searched stormwater for PFAS and in wastewater treatment?

- Handled by the property developer. PFAS sampling to date in groundwater

2. What is Hummingbird's Role?

- Evergreen hired us for community and public engagement. We have updates in future slides. We are Community Engagement Experts/ Environmental Consulting Firm. We facilitate meetings, provide info to the community, etc.

3. Comment: wants to volunteer.

Eloise Chevrier

1. How clean will oil be at the end of the process?

- Will meet goals with EPA and DEP; human health and environment

2. Contaminants in vapors?? Vapor Intrusion work includes sample whether vapors are entering enclosed spaces to confirm if the remedy is needed for that risk; cant smell them; unlike touching contaminated soil, you need gloves and shouldn't inhale.

Comment:

- **GREAT SLIDES!!!!!!!!!!!!**

Brea Watkins

1. Please speak to if/how the flooding in the area affects the cleanup process.

- Consistent elevation rises and falls a few feet; adjacent to the river, and groundwater moves up and down with tides. There is fluctuation and changes in levels during disasters; no flowing really at the site. Refinery builds above the

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river's flood stage; climate change can cause impacts across groundwater across the area, but changes occur slowly. F&T will help implement technologies; water table elevation changes and factored in from operating technologies. Changes are not as significant as past times with heavy rain; pumping water/pumping oil - pumps do their job.

- **Key takeaway- soil and stormwater, flooding, great slides**

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Laura McKelvey, M.E.M.
Public Engagement



Tiffani Doerr, P.G.
Remediation Oversight

Questions

1. **How bad is the contamination in the water that triggers the cleaning of the wells?**
 - Less of a quality issue with oil being there. The location of the well and the contamination and exposure risk.
2. **Fenceline monitoring data available through 2020 when it stopped and when it will be back.**
 - This was not something we could answer. It is a Hilco issue.
 - **Russell: this is a recent permitting issue in the city to determine if fenceline monitoring will continue.**
3. **Are DEP vapor intrusion studies required? Have they been done, and when will they be available?**
 - That has been done onsite and is still being done going forward; vapor intrusion assessments may be referenced in future reports.
4. **Talk of using some part of the site as a tank farm; this sounds scary to people. What does that mean for remediation and ongoing monitoring?**
 - This is a decision for the current property owner. It will affect how Evergreen moves forward. Act 2 plans summarize remediation and goals but need to wait for the development plans because that will factor into the remediation plan.
5. **The remediation process looked like it was primarily volatiles; how about metals?**
 - Remediation includes vapors and liquid. The site does have lead, but since it doesn't migrate as much in water, they generally consider it in the soil removal and be held or contained or removed.
6. **Hilco has an advisory group. Can there be a one-stop place about how to have information be coordinated and synthesized?**
 - We are working with EPA, Hilco, and others on accomplishing this.

Comments

1. Interactive maps will be great with a remediation tab is one suggestion and considering.

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2. We need to develop more materials around vapor intrusion. A deep aquifer may not contribute to vapor intrusion, so we considered this part of the fate and transport.

Key take away

- The emphasis is that important information is missing or unavailable.
- There is an expectation that there is a joint presence between Hilco/evergreen in all outreach.
- Need an evaluation about public health concerns both in the clean-up.

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Denise Smith, Ph.D.
Public Engagement



Chuck Whisman P.E. (PA)
Remediation Design Engineer

David Steinberg

- 1. The resident in NJ is concerned about the aquifer in AOI 11 because it goes into NJ. Many companies take their water from the lower aquifer. In the future, could there be a problem with the migration of the pollution that is there now? Hoping to get answers**

- Chuck - From a general standpoint, we are horizontally and vertically delineating; site-specific CSM is where we visualize “what is the extent of my problem?”.

Jean Lynch

- 1. Remediation is done to a certain standard based on future use. Can you talk about that a little bit? My understanding is that it depends on the use.**

- Chuck - We may install a vapor barrier. The developer does not have final plans cannot talk to; industrial standard is different.
- One of the things we look at is the CSM to visualize what he has in compounds.

- 2. Jean (follow-up) question - How do people know that they use won't change?**

- Chuck - The land is deed restricted.

Joseph Ingrao, Clean Air Council Lawyer & Resident of West Passyunk

- 1. CSM will be finalized after the Fate & Transport report. Is that true?**
- 2. Since the schedule has changed, is there a formal amendment to the consent order and timeline?**

- 3. Change to lead standard (what's the new delineation)?**

- Chuck - Question for Tiffani; DEP is coming out with a new standard

- 4. Have you worked on other projects with a higher site-specific standard than statewide?**

- Yes, dissolved hydrocarbon mass.
- Since lead isn't typically as big as an issue (lead banned in gasoline by EPA).

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- Kevin Bilash - differentiate dissolved amount vs. site-specific lead (process to calculate used EPA guidance and DEP modeling); there has not been a change to the lead level yet; evaluating that as we are moving along.

Peter Winslow, Philly Thrive

- 1. Questions about the ambiguity of the process/CSM - Your work is confined within the fenceline. We have concerns about contamination going outside of the fenceline.**
 - Chuck - In the CSM, we want to know the receptors (including residents). What goes outside of the fenceline should be a part of the process.
- 2. What are the responsibilities? How are they being handled by Hilco and Evergreen?**
 - Chuck answered the question and closed it with, "We do as much as we can. As developer makes plans, we react and respond."
 - Peter responded that it was not precisely the answer to the essence of the question.
 - Chuck mentioned that Tiffani might be able to speak more to it.

Sophia Schmidt, Why

- 1. To clarify, is there a lead in some of the LNAPL?**
- 2. For me, very clear/user-friendly info about off-site impacts would be helpful.**