From:	Comitta, Senator Carolyn
To:	EP, SERO ECB
Cc:	Kauffman, Gregory
Subject:	Bishop Tube Public Comment
Date:	Friday, January 28, 2022 9:55:48 AM
Attachments:	CTC Bishop Tube Feedback 1-28-2022 FINAL.pdf

Please see attached my public comment for the administrative record on DEP's proposed Remedial Response Action for the Bishop Tube site.

Thank you.

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Senate of Pennsylvania

January 28, 2022

Dustin A. Armstrong
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RE: Bishop Tube Public Comment for Administrative Record

I am writing today to express my concerns and comments on the Pennsylvania Department of Environmental Protection's (DEP) proposed Remedial Response Action at the site of the former Bishop Tube facility in East Whiteland Township.

In compiling comments, my staff and I have consulted with local environmental scientists and engineers, reviewed DEP's extensive documentation and related materials, and participated in public hearings held by DEP on November 9, 2021, and by East Whiteland Township on January 20, 2022.

Throughout the process, the overriding concerns raised by my constituents and others in the community, including experienced professionals in environmental advocacy and remediation, involve a lack of clarity, and outstanding questions on the specifics of the recommended alternatives under the proposed action.

Specifically, it is challenging, if not impossible, to offer informed feedback on the recommended alternatives proposed for operable units (OU) 1 and 2 without knowing what amendments and doses would be utilized in Situ Chemical Oxidation and/or In Situ Chemical Reduction (ISCO/ISCR).

Per OU1, DEP-recommended Alternative 5: "Amendment selection and dosing would be determined through pre-design investigation to maximize effectiveness and minimize negative effects such as impacts to LVC or on-going natural attenuation of groundwater contamination."

Per OU2, DEP-recommended Alternative 3: "Potential amendments that might be injected include various chemical oxidants (known as in situ chemical oxidation – ISCO), reducing substances such as zero valent iron, or ZVI, capable of chemically reducing or destroying dissolved contaminants (known as in situ chemical reduction – ISCR), or nutrients like emulsified vegetable oil, sodium lactate, or molasses, and/or cultured bacteria to facilitate or enhance biological degradation of CVOCs (known as bioremediation)."

Regarding ISCO/ISCR, it should also be noted that the Remedial Response Action and recommended alternatives lack information on the potential for further contamination associated with byproducts resulting from these unknown parent compounds. During the January 20 call with East Whiteland Township, its consultant, BSTI, indicated that ISCO/ISCR could result in dangerous and harmful

byproducts. However, the Remedial Response Action appears to make no mention of this or the risk or likelihood of it occurring, despite the fact that members of the public deserve to know precisely what is at stake in the proposed remediation process and what specific amendments or chemical agents will be utilized via ISCO/ISCR.

Furthermore, before delving into direct feedback on the recommended alternatives as proposed by DEP, I am compelled to echo and re-emphasize the sentiments offered by Maya van Rossum, the Delaware Riverkeeper and leader for the Delaware Riverkeeper Network. As she and others have repeatedly and emphatically noted, any proposed Remedial Response Action at the Bishop Tube site must be fully and comprehensively assessed in the context of the potential residential development there. Given that the township has already approved the site for residential use and a development plan for nearly 90 homes, it is imperative that Remedial Response Action and recommended alternatives directly address its effectiveness and potential impacts in the scope of an anticipated residential setting – including families, expectant mothers, children, and senior citizens. In addition to the Riverkeeper Network, several other community members and stakeholders, including BSTI on behalf of East Whiteland Township, indicated they planned to highlight that very point in their written comments.

Additional Feedback:

OU1/Soil Contamination – DEP-recommended Alternative 5 - In Situ Chemical Oxidation/In Situ Chemical Reduction ("ISCO/ISCR"), Coupled with Soil Mixing

- **Comment:** The levels of on-site contamination from Chlorinated Volatile Organic Compounds (CVOCs) in soils are significant in several areas of the property. Alternative 5 involves the use of mechanical augers to drill contact points for soil augmentation, presumably in hundreds of locations based on a grid that covers the known areas of contamination. This drilling provides an additional pathway to groundwater since the borings will necessarily allow for rainwater migration. It is well established on this site that fractured bedrock is trapping contaminants that can't be logically impacted by soil mixing.

  Unfortunately, the shallow depth of the water table, when combined with known fractured bedrock, presents a high probability that additional CVOCs will migrate from the soils to groundwater, including the deep-water aquifer serving a large swath of central Chester County. While more expensive and intrusive, active excavation of soils to bedrock in the contaminated areas would both help to eliminate ongoing migration to groundwater and allow the property to be restored more readily to useful function, it would also provide greater protection of human health and reduce long-term operation and maintenance costs.

OU1 – Regarding Compliances to ARARs, DEP-recommended Alternative 5 notes: "Other potential impacts to surface water resulting from amendment injection would need to be assessed during a pre-design evaluation. Plans would be required for addressing fugitive emissions of dust and vapors during the mixing process. Building demolition would be performed in accordance with asbestos abatement regulations and notification requirements."

- **Comment:** Specifically, what potential impacts to surface water could result from ISCO/ISCR amendments, what would the risks be, and how does DEP plan to mitigate them? What could be expected regarding the emissions of dust and vapors during the mixing process, what would the risks be, and how does DEP plan to mitigate them? If building demolition is required, what risks, besides or in addition to asbestos, could be involved in the

demolition of a structure with a legacy of housing hazardous chemicals? And what, if any, additional measures are required for demolition on an HSCA site?

OU2/Site Groundwater - DEP-recommended Alternative 3 – In Situ Injection (ISCO/ISCR/Bioremediation)

- **Comment:** This may be the preferable option as presented though there are severe limitations to all proposed alternatives. It is difficult to address DNAPLs in groundwater because of the low solubility in water (<1%) and the high specific gravity of CVOCs such as TCE (1.4 specific gravity). Nonetheless, this alternative does address contamination in source areas of the site that are contributing to off-site contamination.

- **Comment:** While the recommendation notes that Alternative 3 "would be focused on limited hot spot areas of the Source Property, which continue to act as ongoing sources of groundwater contamination migrating beneath downgradient properties and resulting in the diffuse discharge of contaminated groundwater to LVC," it also notes the potential for negative impacts as a result. Specifically, the Remail Response Action plan states, "In situ injection may not be viable for hot spot areas (i.e., acid rinse spill area) in close proximity to LVC because of potential negative impacts to surface water." How, specifically does DEP plan to use this option to target and address hotspots without further negatively impacting surface water?

OU3/Drinking Water – DEP-Recommended Alternative 3 – Connection to the Existing Public Water Supply Waterline, Combined with Restrictions on the Use of Groundwater

- **Comment:** Although the connection of impacted wells to public water supplies is a vital and necessary action, significant additional investigation of downgradient groundwater/aquifer quality is warranted. All previous investigation at the Bishop Tube site indicates near free product conditions (>1 percent) in downgradient wells, with an understanding that the deepest wells contain the highest concentrations. There is no evidence of natural attenuation of these compounds due to the low rates of degradation, generally related to the lack of sufficient substrate for microbial growth. In essence, the extremely high levels of CVOCs in fractured bedrock hinder any bioremediation, either natural or through injection. However, no efforts to date have been made to determine the impacts stemming from the deep injection of supplements to stimulate abiotic or biotic transformation of these compounds.

  According to the Baker report of June 21, 2002, the velocity of the TCE plume in the fractured bedrock system underlying the site was determined to range from a minimum of 66 feet per year to a maximum of 558 feet per year. For reference, the greatest distance where groundwater has been sampled from the Bishop Tube site is 2700 feet, where significant levels of TCE were noted. In fact, all off-site wells that have been sampled showed levels of TCE well above regulatory levels for drinking water. In several cases, the levels were well above the 1 percent established pure phase solubility level for TCE, indicating the presence of free product. Two supply wells utilized by Aqua America to provide water supplies to Malvern and the surrounding area are located within 1.4 miles of the Bishop Tube site; one is located 0.7 miles northwest of the site and could well be impacted by ongoing and historic releases from soils and onsite groundwater. TCE has been found in a well located near Rt 29 and US 202 which may well have migrated from the Bishop Tube site.

In summary, TCE and other chlorinated hydrocarbons can travel great distances over a relatively short time. Using 1970 as an initial release date (a conservative estimate) and a median migration rate of 312 feet per year, evidence indicates the TCE plume can be estimated as of 2021 to have traveled 15,912 feet, or over three miles to date. This would place the leading edge of the TCE plume past Devault and into Valley Forge National Park, well on its way to the borough of Phoenixville located 7 miles to the northeast. It is imperative that additional groundwater studies be performed to attempt to locate the leading edge of the plume and consider off-site remediation of groundwater/aquifer supplies.

Given the concerns and questions raised in my comments above, including the lack of specific and clear information on the recommended actions involving ISCO/ISCR amendments, the lack of all the proposed and recommended remediation options addressing anticipated residential use of the site, and the very real potential and indications that the TCE plume may well have traveled farther from the site, contaminating more soil and groundwater in the process, I urge DEP to give further analysis and review to its proposed Remedial Response Action for the Bishop Tube site.

In addition, I strongly encourage DEP to consider making more information on this planned action available to the public and/or to further provide additional opportunities for public input when such important decisions are made.

In closing, I also want to remind DEP that while much of the focus of this project involved the remediation of trichloroethene (TCE), the history of the site and subsequent analyses show that multiple other harmful, toxic, and carcinogenic chemicals like Vinyl Chloride and heavy metals like Arsenic and Hexavalent Chromium are also present.

Respectfully, I also encourage DEP that the proposed Remedial Response Action should aim to fully and comprehensively remediate the site as soon as possible to the greatest degree. Public health and safety, environmental protection, and ensuring access to clean and safe air, land, and water must be the top priority.

As you know, we share both a moral obligation and a Constitutional duty to uphold the people's right to "clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment." Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

Thank you for your consideration,

Carolyn T. Comitta

Carolyn Comitta
State Senator - 19th District