



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Environmental Cleanup & Brownfields

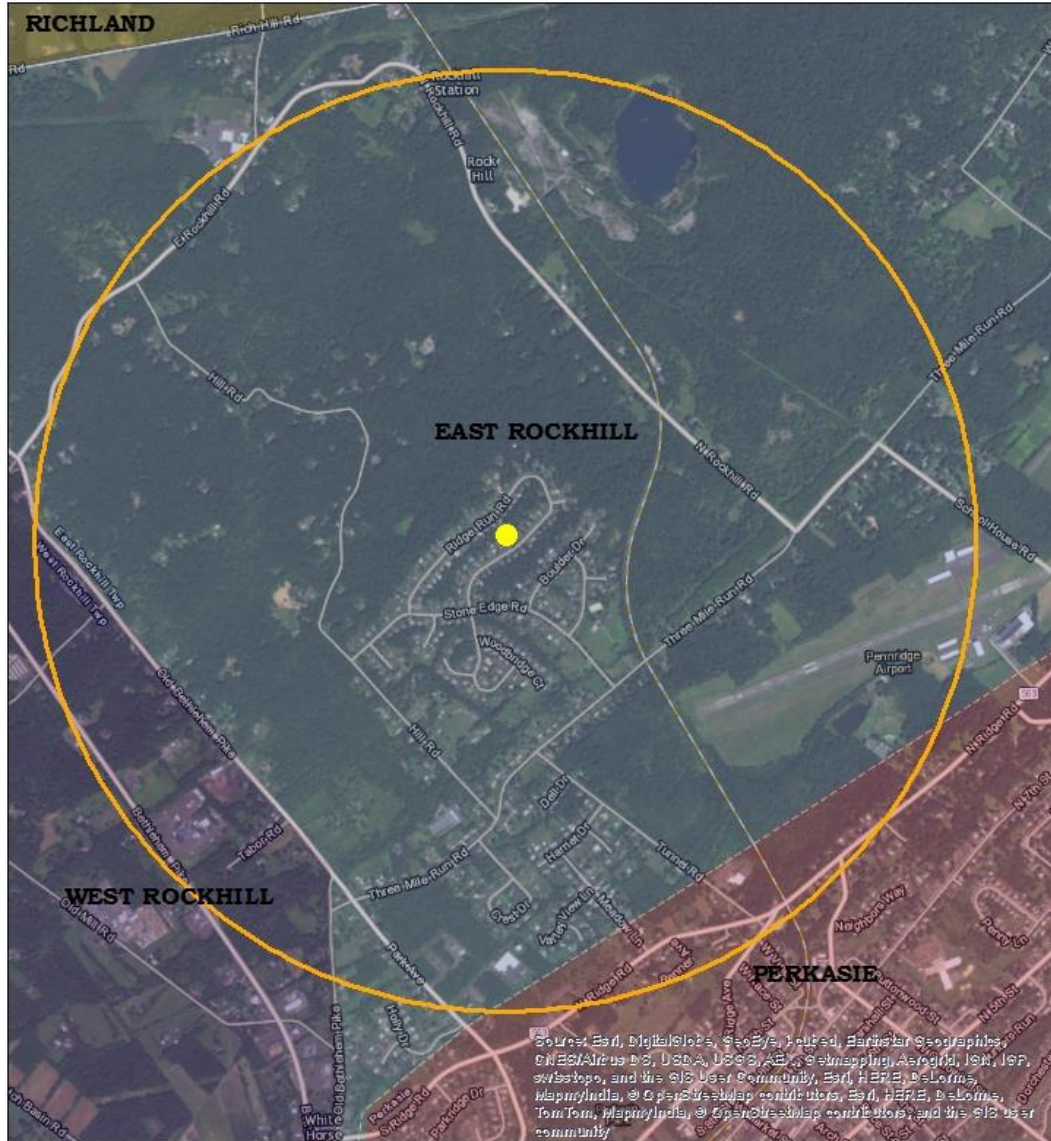
Ridge Run PFAS HSCA Site

Public Hearing
West Rockhill Township
July 11, 2018

Agenda

- Site background and investigation results
- Response alternatives for providing potable water supply in the Site area
- Public comments on PADEP's proposed response

Ridge Run PFAS Site

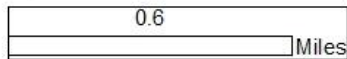


**Ridge Run PFAS
HSCA Site**



LEGEND

- 1 MILE Radius
- BUCKS CO MUNICIPALITY**
- EAST ROCKHILL
- PERKASIE
- RICHLAND
- WEST ROCKHILL



Ridge Run PFAS Site






- Groundwater is contaminated with Perfluorooctanesulfonic acid (PFOS) and Perfluorooctanoic acid (PFOA), which are both per-fluorinated alkyl substances (PFAS)
- PFAS are chemicals present in commercial, industrial, and residential products
 - Cookware, carpets, clothing, food packaging, firefighting foams, water repellent materials
- In May 2016, USEPA set a Health Advisory Limit (HAL) of 70 parts per trillion (ppt) for combined PFOA & PFOS in drinking water

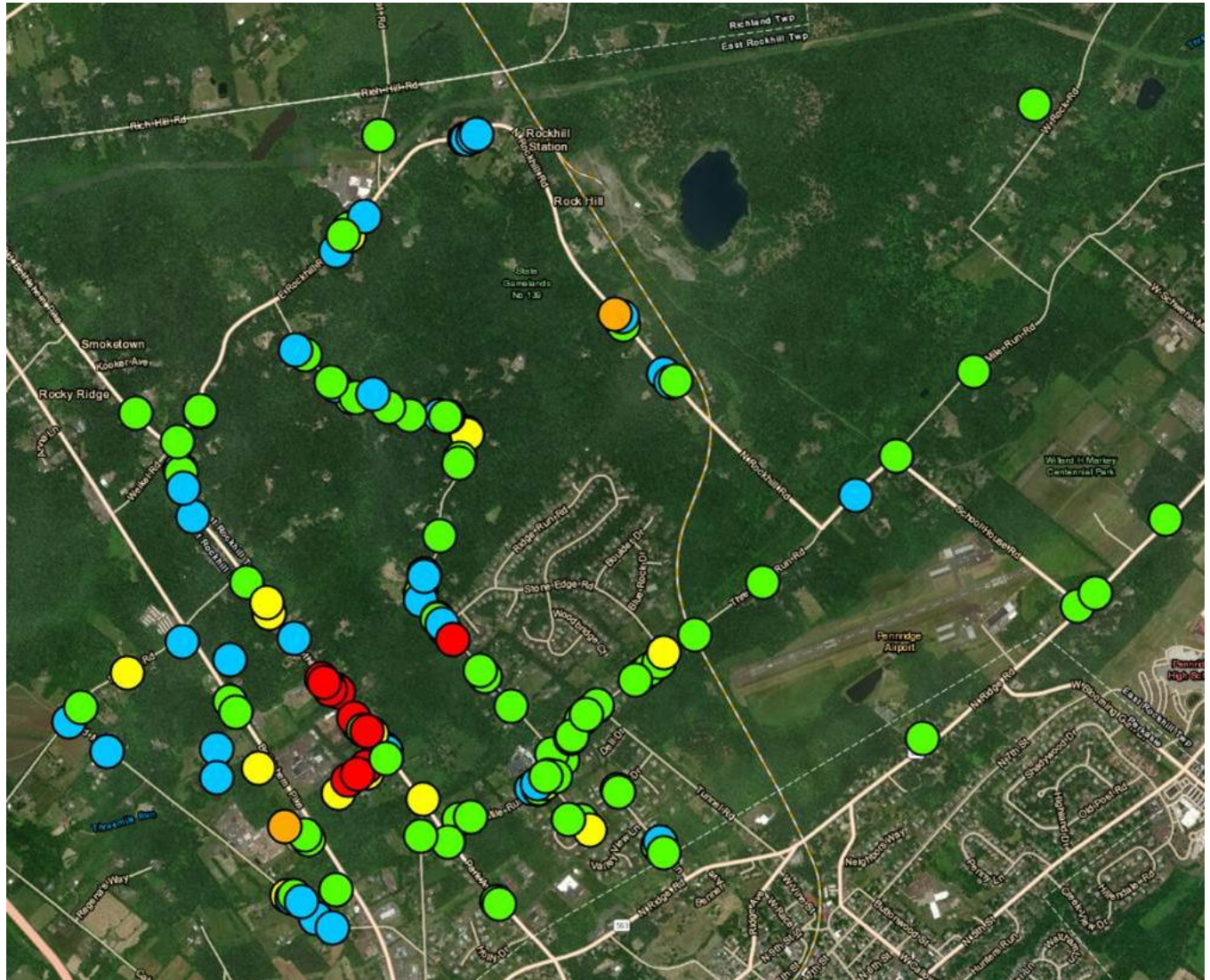
Site Background

- Aug 2016: North Penn Water Authority (NPWA) conducted voluntary sampling of public supply wells
 - PFAS detected at 2 wells
 - PADEP & NPWA customers notified, affected wells shut down
- PADEP met with Townships, created websites
- Nov 2016 – Present: PADEP contacted residents and sampled 156 wells in the area; provides bottled water to 9 residences with PFAS above HAL

Site Investigation

156 wells sampled total

-  > 70 ppt (12 wells)
-  40-69 ppt (2 wells)
-  20 – 39 ppt
-  ND – 19 ppt
-  No detection of PFAS



PADEP Activity

- Bottled water for affected residents as temporary measure during investigation period
 - 9 homes currently receiving bottled water
 - 3 carbon filters by residents
- Multiple sampling events of wells with detections above 40 ppt
- Analysis of response alternatives to evaluate possible response actions for residential drinking water

Response Alternative Evaluation Criteria

- Effectiveness
does it mitigate threats posed by the contamination?
- Time frame of the response
is it temporary or permanent; how long will it take to enact?
- Reliability
can it consistently comply with health based standards?
- Implementability
is it feasible to initiate, install, operate, and/or maintain?
- Cost
is it cost prohibitive, or cost-effective for PADEP and homeowners?
- Public, municipal, and organizational support
discovered through public comments

Response Alternatives

1. No action
2. Bottled water with restrictions on use of groundwater
3. Carbon filters with restrictions on use of groundwater
4. Public water line with restrictions on use of groundwater

Alternative 1

No Action (Baseline Alternative)

PROS

Implementable

No cost

CONS

Not effective

Not a permanent solution

Not reliable

Alternative 2

Bottled water with restrictions on use of groundwater

PROS

Implementable

Effective

Reliable

Cost Effective

CONS

Not a permanent solution

Inconvenient to use & store

Alternative 3

Whole-house carbon filters with restrictions on use of groundwater

PROS

Implementable

Cost effective

Effective*

Permanent*

Reliable*

* if properly maintained

CONS

Inconvenience

-requires monitoring &
maintenance

Alternative 4

Public water line with restrictions on use of groundwater

PROS

Effective

Permanent

Reliable

CONS

Inconvenience during
construction

Not cost effective

Not easily implementable

Restrictions on use of groundwater

Alternatives 2-3: Environmental Covenants

(PA Uniform Environmental Covenant Act, 2007)

Covenants would be required for homes with PFAS above HAL

- Agreement between PADEP and homeowner that documents presence of contaminated groundwater on the property deed
- Provides guidelines for filter monitoring & maintenance requirements
- Can be removed from property deed after attainment of drinking water health standards

PADEP can issue an Administrative Order (pursuant to HSCA 512) on the property deed if an agreement cannot be reached

Restrictions on use of groundwater

Alternative 4: Public Waterline

Mandatory hookup ordinance enacted by municipalities

Well abandonment required

Cost Analysis-PADEP funding

	Alternative 1 No Action	Alternative 2 Bottled Water*	Alternative 3 Carbon Units**	Alternative 4 Water line***
Water/ Equipment	\$0	\$5,640	\$24,000	\$5,487,637
Sampling/ maintenance	\$0	\$72,360	\$72,360	\$0
Total	\$0	\$78,000	\$96,360	\$5,487,637

* Alternative 2 estimate covers 1 year of bottled water and quarterly sampling for occupied homes with PFAS above HAL

** Alternative 3 estimate covers installation of filters at homes with PFAS above HAL, and 1 year sampling/maintenance of those systems

*** Alternative 4 estimate covers main and laterals for entire site area

Cost Analysis for Homeowners

Carbon filters*		Water line**	
Sampling event	\$440	Base rate (quarterly)	\$69.50
Filter change-out event	\$750	Rate per 1,000 gal	\$3.70
Electricity cost	\$200	Total Cost per quarterly water bill for average home (15,000 gal)	\$125
Total Cost for monitoring & maintenance event*	\$1,390	Total Cost (3 years)	\$1,500

*One sampling event and one filter maintenance event are estimated to be needed once every 3-5 years.

Response Alternative Comparisons

Criteria	#1 (No action)	#2 (Bottled water)	#3 (Carbon filters)	#4 (Water line)
Effective at mitigation?	NO	YES	YES (with proper maintenance)	YES
Permanent solution?	NO	NO	YES (with proper maintenance)	YES
Reliable?	NO	YES	YES (with proper maintenance)	YES
Implementable?	YES	YES	YES	YES (with difficulties)
Cost effective?	YES	YES	YES	NO
Pubic/municipal support?	To be determined based on public comments			

PADEP's Proposed Alternative

Alternative 3 Whole-house Carbon Filters

- Protective of human health
- Complies with health advisory level
- Most cost-effective
- Permanent solution, if maintained properly. The Department will take quarterly samples for the first year, and pay for the first carbon changeout, if needed within the first year. The Department will then recommend to each resident a carbon changeout schedule, and ongoing maintenance and sampling would become the responsibility of the resident.

PADEP's Proposed Alternative

Whole-house Carbon Filters



- Filters will be NSF-certified to remove PFAS
- Two carbon canisters and a sediment filter
- Three sampling ports
- Non-freezing location required
- Residents would sign a covenant for maintenance of a carbon filter and notice of contaminated ground water on their property



Bureau of Environmental Cleanup & Brownfields

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DEADLINE FOR WRITTEN COMMENTS:
August 31, 2018