



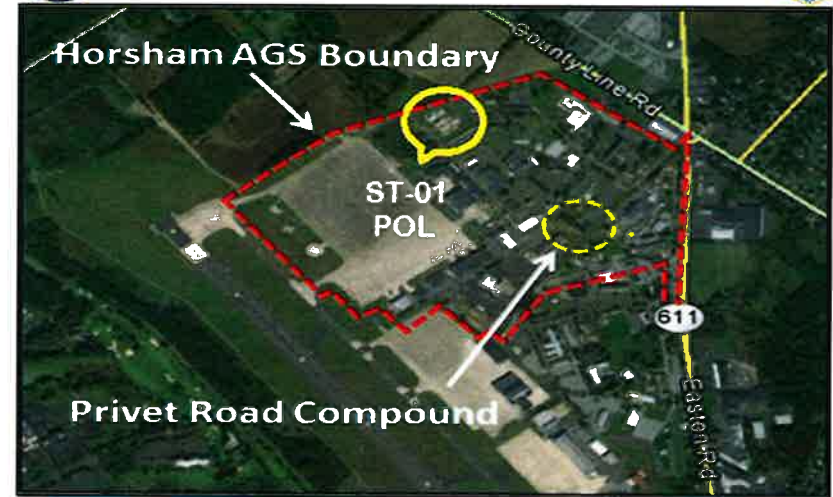
Restoration Advisory Board Horsham Air Guard Station

Keith Freihofer
NGB/A4OR
13 December 2017

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Environmental Restoration Program Sites



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Air Force Reserve ST-01 POL



- Former Air Force Reserve Petroleum Tank Area
 - Site originated from a jet fuel spill in the 1970's
 - Injections of persulfate and Epsom salt replaced the biosparge system in 2016
 - Petroleum tanks were dismantled in 2016 allowing for removal of any petroleum impacted soil that may be present under the tanks. 175 tons of presumed petroleum impacted soil removed from beneath tanks and disposed of at licensed facility. Confirmatory sampling programmed in accordance with 25 Pennsylvania Code, Section 245.310 of the Department of Environmental Protection (DEP)'s Rules and Regulations.

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Privet Road Compound



- Former waste management area for Naval Air Station Joint Reserve Base Willow Grove
- Sampling completed in June 2016 indicates trichloroethene (TCE) and tetrachloroethene (PCE) exist in the groundwater but levels are below maximum contaminant levels (MCL) set by the U.S. Environmental Protection Agency for drinking water quality
- Leidos, Inc. is contracted for continued long-term monitoring. Biannual groundwater sampling and land use control inspections will continue to be conducted pending a final site remedy

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Completed Tasks

- Initial results reported in Technical Memorandum (soil, surface water, sediment, existing wells, and tank sampling). Draft Memo – June 2016, Final Memo – October 2016.
- Shallow (11), intermediate (8), deep (7), and multi-level perimeter (8) wells installed. All new wells sampled twice.
- Rock coring at PMWs and geophysical logging conducted at 15 locations
- Packer Testing conducted at base supply wells and DMW-7.
- Completed water level monitoring study.
- Submitted Draft Final Facility Investigation Report (Preparing responses to stakeholder comments)
- Selected monitoring network and completed annual GW sampling event.
- Submitted Draft GW Sampling Report (Pending Draft Final to EPA).

Completed Tasks (continued)

- Prepared Work Plan for comprehensive stormwater study
- Conducted 2 stormwater sampling events:
 - Baseflow event 4-5 October 2017 (draft results available)
 - Precipitation event 24-25 October 2017 (results not yet available)
- Initiated NPDES permitting task
 - Conducted site walk
 - Submitted draft work plan

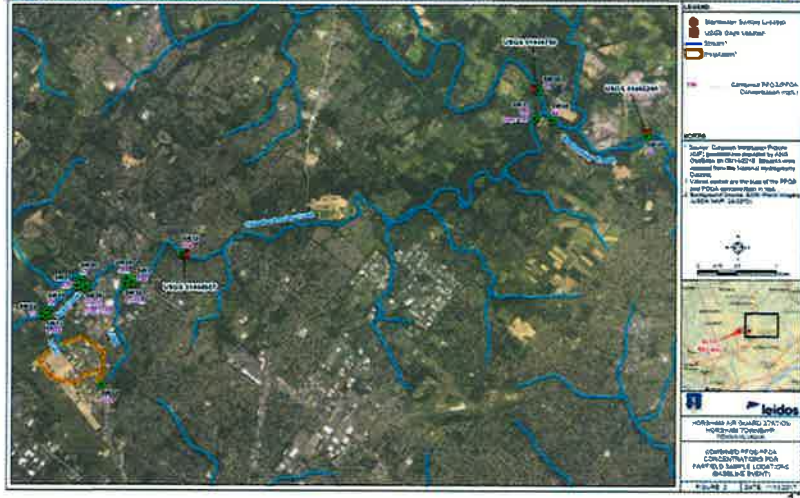
Monitoring Network for Annual GW Sampling Events



Status Update

- Draft Final FIR reviewed by EPA, PADEP, and stakeholders
 - Responses to comments underway
 - Elevated concentrations detected at PMW-01
 - Widespread detections between 1,000 and 5,000 ng/l
 - Deep zone contained several samples below Health Advisory
- Stormwater study workplan completed
 - Reviewed by EPA/PADEP/USGS and ANG.
 - Total of 4 sampling events
 - Baseflow event during early Fall 2017 and Winter 2018
 - Precipitation event during early Fall 2017 and Winter 2018
 - Monitor surface water concentrations on-Base, off-base, entering and leaving Base.
 - Completed Fall baseflow and precipitation events.

Draft Surface Water Sampling Results: Off-Base



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Next Steps



- Provide a comment response matrix and submit Final FIR.
- Finalize 2nd Annual GW Sampling Report. Submit to EPA/PADEP
- Awaiting comments on Draft work plan for NPDES permitting and sampling.
- Submit Draft Final work plan for NPDES sampling to PADEP
- Conduct NPDES sampling in Jan/Feb 2018
- Conduct surface water sampling event in March 2018

Questions on Base PFOS/PFOA Investigation?

Matthew Vest

Leidos - Project Manager

Office: 865.425.4026

matthew.b.vest@leidos.com

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PFOS/PFOA in Surface Water on Horsham AGS



- PFOS/PFOA has been detected in surface water leaving the Horsham Air Guard Station. This water flows from a storm water detention basin on the northwest boundary of the Base to Park Creek which flows to the Little Neshaminy Creek.
 - ANG is taking action to reduce this release of PFOS/PFOA to the Creek:
 - Temporary carbon filtration was installed on the outfall in September 2017. The system is designed to treat the dry weather flow; heavy storm flow will bypass the treatment. Sampling indicates the water leaving the Base at this point is 2 ng/L for combined PFOS/PFOA.
 - Leidos to study the storm water basin, determine the source of dry weather flow and propose long term engineered solutions to filter effluent from detention basin.

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PFOS/PFOA in Drinking Water



- The Air National Guard has a \$13.5 million Cooperative Agreement with Warrington Township to:
 - Connect residents with PFOS/PFOA impacted drinking water wells above the Health Advisory to municipal water and abandon the impacted private wells
 - Install water mains as needed
 - Installation and maintenance of carbon filters on five Township wells
 - Install municipal water system interconnections with North Wales Water Authority to ensure Warrington Township has adequate access to water until carbon filtration is installed on municipal wells
- The Horsham AGS water supply wells are filtered with carbon and have extracted and treated over 20 million gallons of water

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