



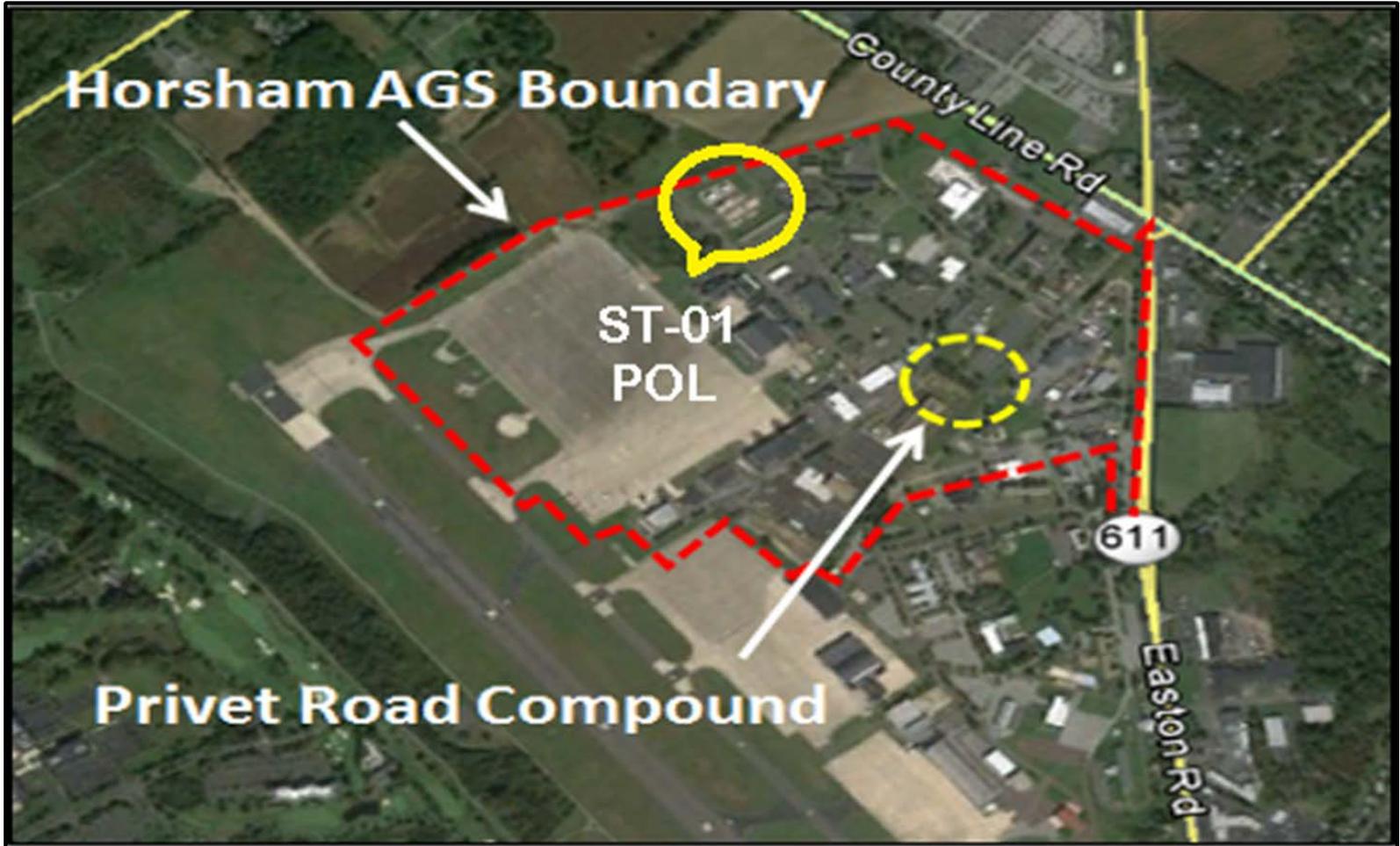
Restoration Advisory Board Horsham Air Guard Station

Keith Freihofer - Air National Guard
keith.e.freihofer.civ@mail.mil

13 September 2017

This Briefing is **UNCLASSIFIED**

ALWAYS ON MISSION



- 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 for future.

- Former waste management area for Naval Air Station Joint Reserve Base Willow Grove
- Sampling completed in June 2016 indicates very low levels of trichloroethene (TCE) and tetrachloroethene (PCE) exist in the groundwater; however, both TCE and PCE were below maximum contaminant levels 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

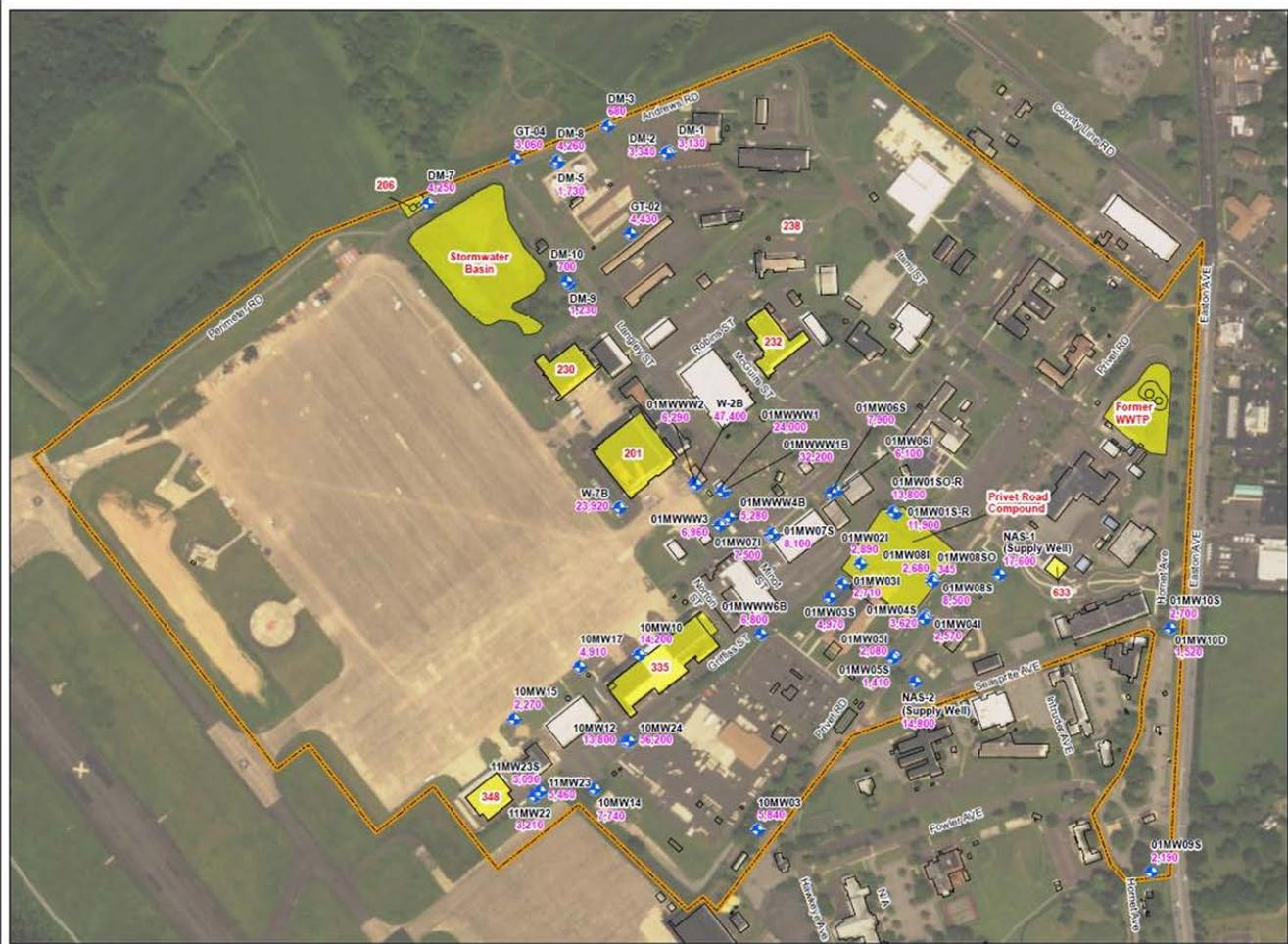
- In 2015, ANG completed a Preliminary Assessment of potential PFOS/PFOA release sites at the Horsham Air Guard Station (AGS)
 - Ten potential source areas identified in the PA include:
 - Buildings that contained foam fire suppression systems
 - Areas that may have received runoff from foam releases
 - Stormwater sediment basin
 - Former waste water treatment plant
 - Former storage area for wastewater treatment sludge
 - These potential source areas are being further investigated by Leidos in a PFOS/PFOA Facility Investigation

- Leidos tasked by the National Guard Bureau to complete a facility investigation (FI) for PFOS/PFOA at the Horsham Air Guard Station.
- The FI is being conducted in response to paragraph 41 of the Administrative Order issued by the U.S. Environmental Protection Agency (EPA) dated May 29, 2015.
- Project scope outlined in the *Statement of Objectives for Perfluorinated Compound Facility Investigation at Horsham Air Guard Station* for Project ZAQA20159150 (NGB 2015) and finalized in the March 2015 work plan approved by EPA and PADEP.
- Scope includes: records review; sampling of soil, sediment, fire suppression storage tanks, surface water, and groundwater across Horsham AGS.
- The scope also includes: well installation (11 shallow, 8 intermediate, 7 deep, and 8 multilevel), borehole geophysics, packer testing, rock coring, water level monitoring and potentiometric mapping, stratigraphic correlation, contaminant pathway analysis and receptor evaluation.

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.
- Draft drilling data, sampling results, and geophysical data provided to PADEP, EPA, and USGS.
- Completed water level monitoring study.
- Selected monitoring network and completed annual GW sampling event.

- Draft Facility Investigation Report under review by ANG
 - Elevated concentrations detected at PMW-01
 - Widespread detections between 1,000 and 5,000 ng/l
 - Deep zone contained several samples below Health Advisory
 - Draft Final FIR anticipated by 29 September 2017
- PFOS/PFOA Stormwater study will be performed to include four surface water 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.
- 2nd Annual PFOS/PFOA Ground Water Sampling Report
 - Anticipated 12 October 2017



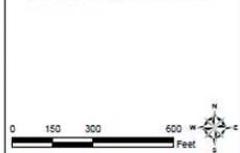
LEGEND:

- Monitoring Well
- Potential PFC Source Area
- Building*
- Installation*

288.3 Combined PFOS/PFOA Concentration (ng/L)

NOTES:

- * Source: Common Installation Picture (CIP) geodatabase provided by ANG GeoBase on 09/14/2015.
- 1. Values posted are the sum of the PFOS and PFOA concentration in ng/L.
- 2. Background Source: ESRI World Imagery (USDA NAIP, 08/2015).



leidos

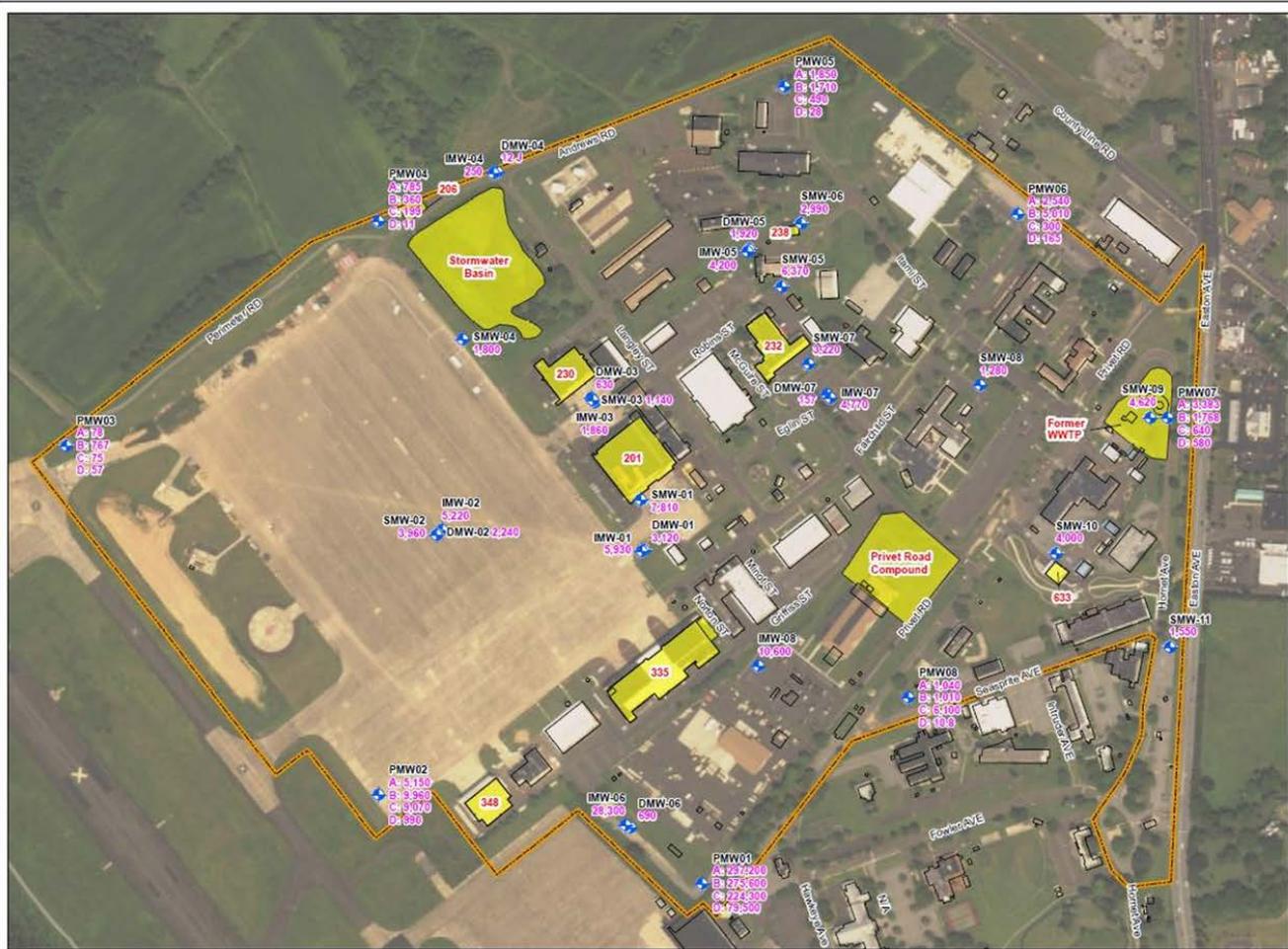
HORSHAM AIR GUARD STATION
HORSHAM TOWNSHIP,
PENNSYLVANIA

COMBINED PFOS/PFOA
CONCENTRATIONS:
EXISTING WELLS (APRIL - MAY 2016)

leidos

FIGURE: 7 | DATE: 7/13/2017

PFOA/PFOS Concentrations: New Wells



LEGEND:

- Monitoring Well
- Potential PFC Source Area
- Building*
- Installation*

288.3 Combined PFOS/PFOA Concentration (ng/L)

NOTES:

- * Source: Common Installation Picture (CIP) geodatabase provided by ANG GeoBase on 06/14/2015.
1. Values posted are the sum of the PFOS and PFOA concentration in ng/L.
2. Samples were collected as follows:
SMWs collected in August 2016,
IMW/DMWs collected October-November 2016, and PMWs collected April 2017.
3. In accordance with NGB guidance, initial and confirmatory samples were collected from each well. Values posted represent the higher concentrations of the two samples.
4. Background Source: ESRI World Imagery (USDA NAIP, 08/2015).

0 150 300 600 Feet

Area Shown

leidos

HORSHAM AIR GUARD STATION
HORSHAM TOWNSHIP,
PENNSYLVANIA

COMBINED PFOS/PFOA
CONCENTRATIONS: NEW WELLS

leidos

FIGURE: 8 | DATE: 7/13/2017

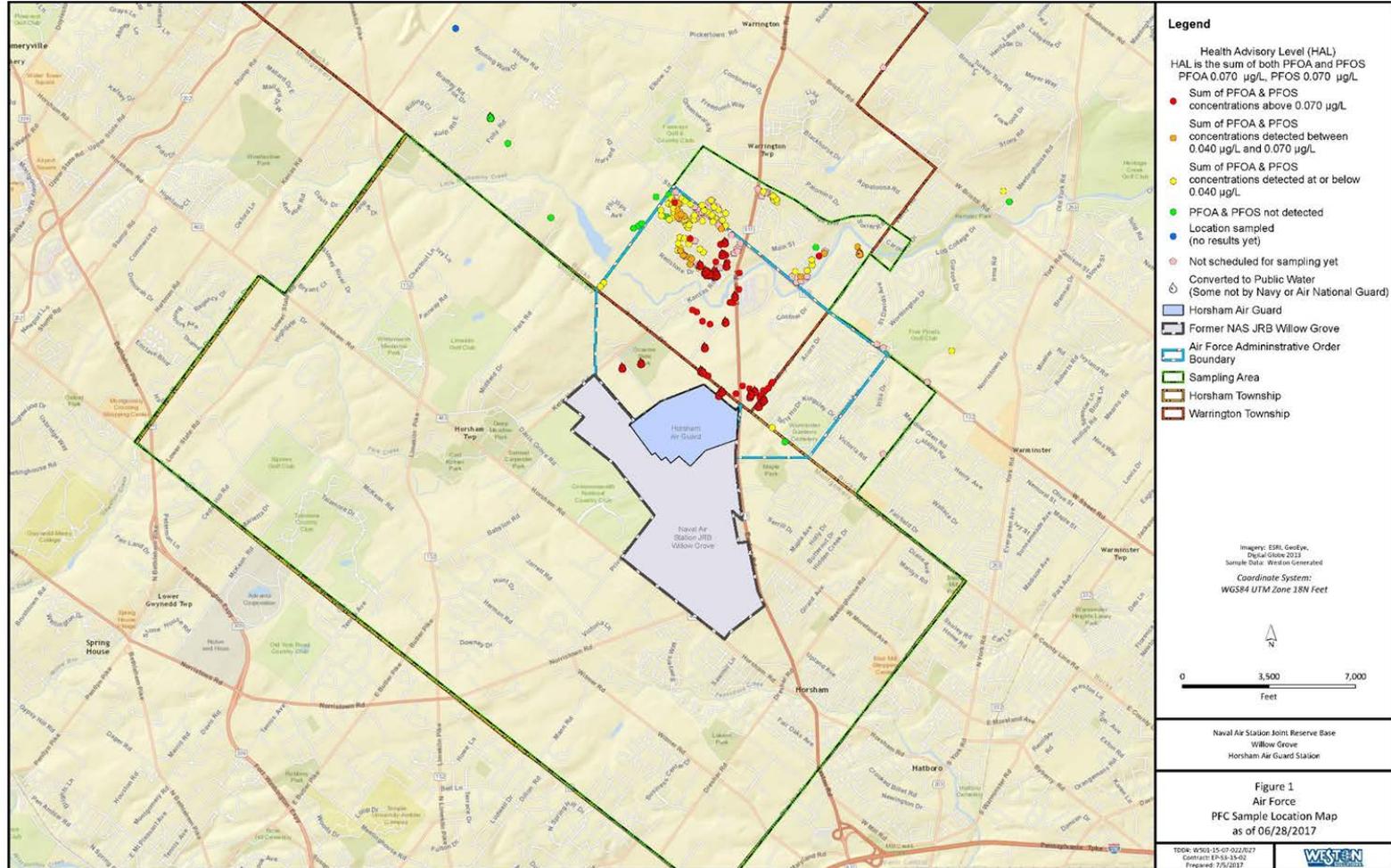
- PFOS/PFOA has been detected in surface water leaving the Horsham Air Guard Station. This water flows from a storm water detention basin on the northwest boundary of the Base to Park Creek which flows to the Little Neshaminy Creek.
 - ANG is taking action to reduce this release of PFOS/PFOA to the Creek:
 - 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.
 - 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.

- In October 2015, Air National Guard and Warrington Township entered into a \$5.8 million Cooperative Agreement 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 three Township wells
- Cooperative Agreement amended in 2017 adding \$7.6 million to:
 - Install carbon filtration on two municipal wells taken off line in May 2016 due to the new Health Advisory Level of 70 parts per trillion
 - 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

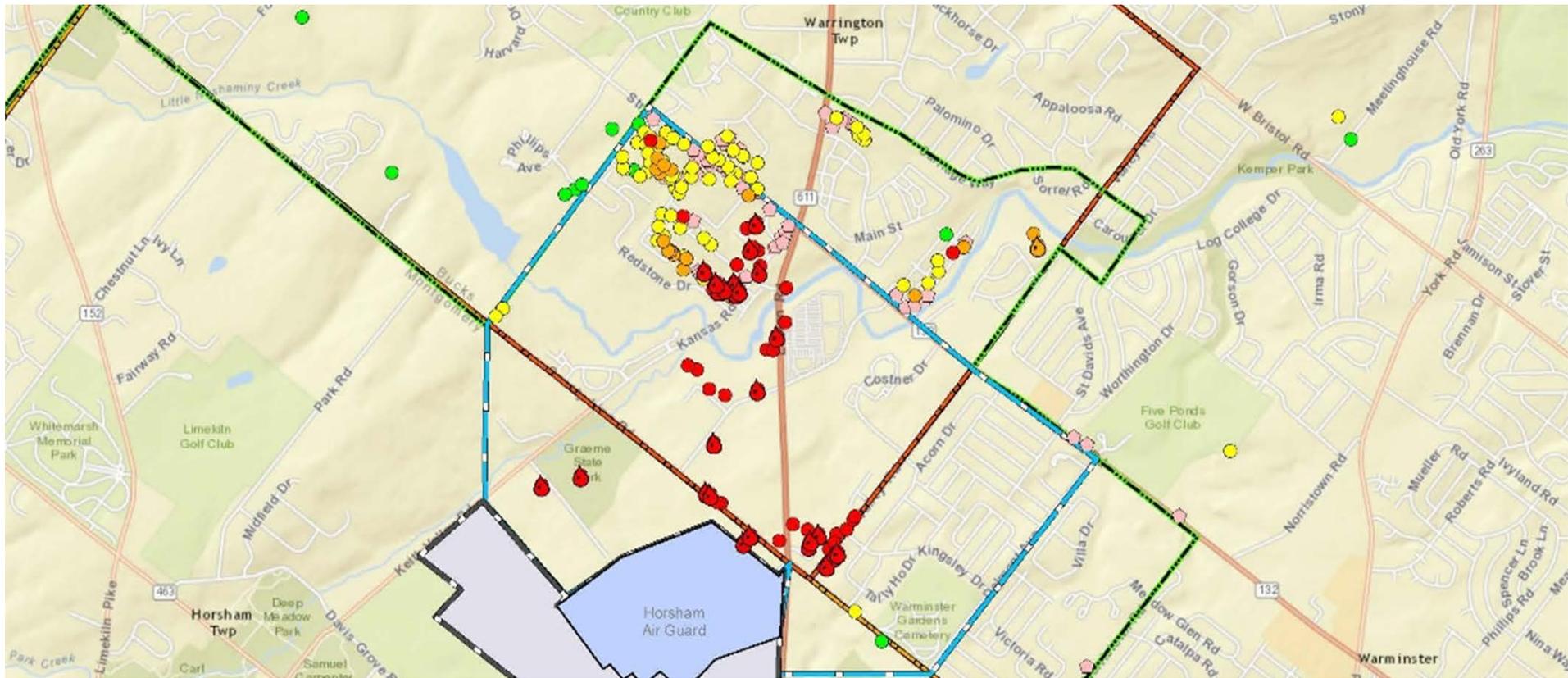
Private Well Sampling

- ANG has contract in place with Amec Foster Wheeler to provide PFOS/PFOA testing of private drinking water wells and supply bottled water to properties with PFOS/PFOA at or above the lifetime health advisory level (HAL) for residents within our area of responsibility in Horsham, Warminster, and Warrington
- The number of private wells sampled by ANG are:
 - Horsham: 4, all above HAL; 4 have been connected to municipal water
 - Warrington: 133, 45 are above HAL; 29 have been connected
 - Warminster: 14*, 11 are above HAL; 4 have been connected
- *Some of these properties are on Valley Road with Warminster mailing addresses but are located in Warrington Township
- Sampling contact for ANG area of responsibility: David Side at David.Side@amecfw.com or (610) 877-6111

Private Well Sampling Map



Private Well Sampling Map



AIR NATIONAL GUARD

QUESTIONS

Air National Guard Administrative Record:
<http://afcec.publicadmin-record.us.af.mil/Search.aspx>
select "Air National Guard", then "Horsham AGS", then click Search

ALWAYS ON MISSION
