



Restoration Advisory Board Biddle Air National Guard Base

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NGB/A4VR
11May 2023

Updates Since 16 Mar 2023



- Environmental Restoration Program Sites:
 - Willow Grove Site 1 (Privet Road):
 - Submitted Draft Final Five Year Review (BB&E) to EPA/PADEP 25 April 2023
 - Submitted Draft Final Work Plan Long Term Monitoring to EPA/PADEP February 2023
 - Meet with EPA and PADEP on 21 Nov 2022 to discuss way forward and closure standards
- Coordinating with EPA/PADEP on the transition from SDWA AO to Navy Federal Facility Agreement
 - ANG Staffing Final Amendment to Navy FFA to Secretary of the Air Force for Installations, Energy and Environment
- PFAS Remedial Investigation:
 - Draft UFP QAPP submitted to regulators for review on 22 February 2023
 - Leidos delivered the final technical memorandums for the rounds 11, 12, and 13 quarterly surface water sampling on 24 February.
 - Coordinating last ANG surface water sampling event as part of the RI (event 16)
- Interim Groundwater Action:
 - Submitted Draft Final UFP QAPP for review and comment to EPA/PADEP April 2023
 - Coordinating Pilot Test Discharge Permit



3 Month Forecast of Activities



- Sign Navy Federal Facilities Agreement:
 - Complete Surface Water Response Action Memorandum
 - Complete Residential Drinking Water Action Memorandum
- Continued drinking water response actions (sampling, bottled water, and coordination with North Wales Water Authority (NWWA) and Warminster
- Finalize UFP QAPP addenda for RI and Pilot Study.
- Submitted Draft Final Sampling Memo for Round 15
- Finalize Round 14 Sampling Memo
- Surface Water Sampling Event 16
- Continued storm water treatment operations (Warminster)
- Finalize Five Year Review Site 1 Privet Road
- Long Term Monitoring Groundwater Site 1 Privet Road

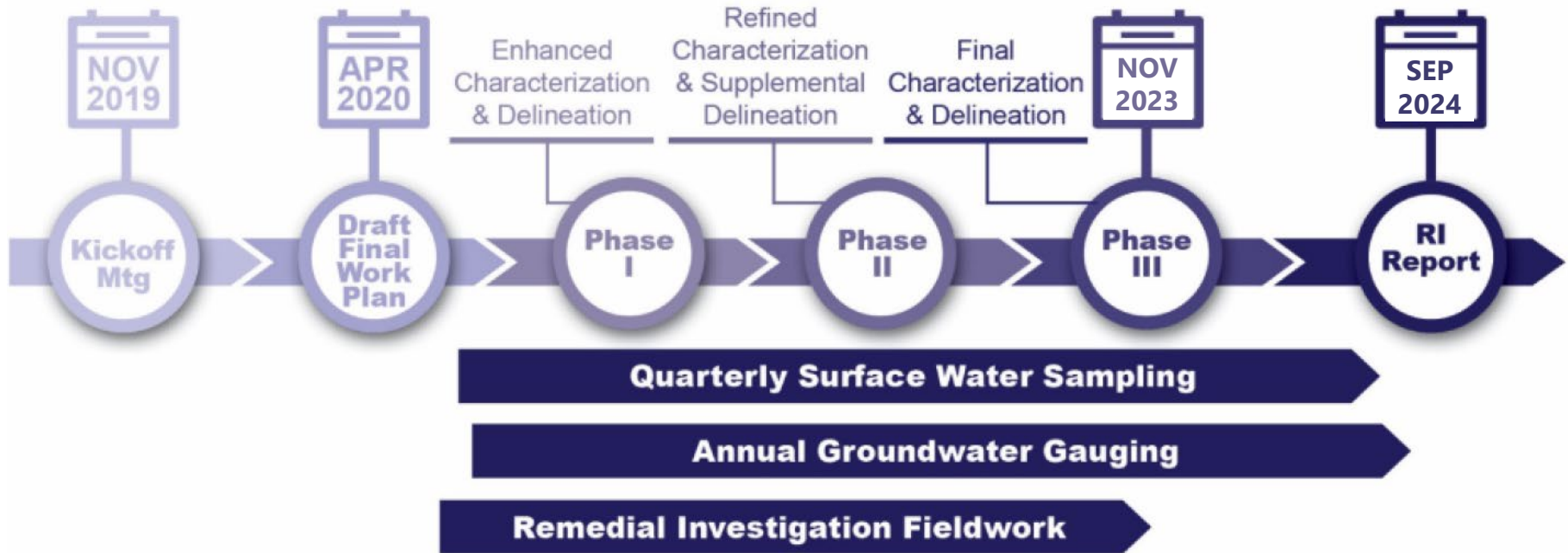


Remedial Investigation Project Objectives



- Delineate the nature and extent of PFAS contamination, the threat to human health and the environment and prepare a Remedial Investigation (RI) Report.
 - Collect soil, sediment, surface water, and groundwater PFAS data on and around Biddle ANGB.
 - Conduct Baseline Risk Assessment (BRA).
 - Investigate link between groundwater and unnamed tributary to Park Creek.
 - Obtain data required to inform future development of a Feasibility Study.
 - Conduct quarterly surface water sampling for PFAS in coordination with the Navy.
 - Conduct annual potentiometric gauging, as needed to support USGS model.

Remedial Investigation General Process and Schedule



Remedial Investigation Progress



- Submitted Draft Final UFP-QAPP Addendum to EPA/PADEP on 22 February
- Final Addendum estimated May 2023
- Field work tentatively planned for early June 2023
- Began preliminary risk assessment activities, will be refined as new data become available



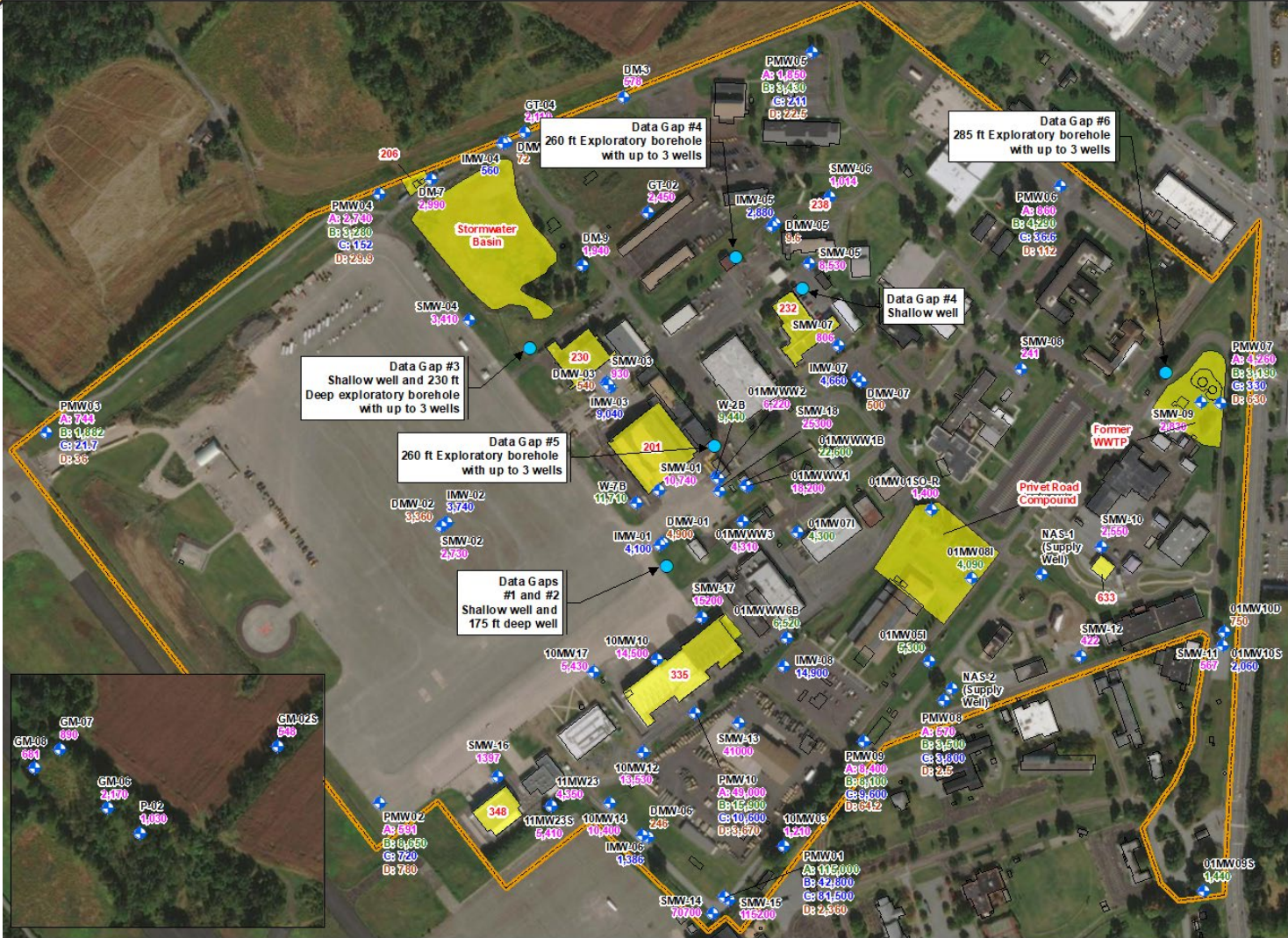
Remedial Investigation Progress



- Planned activities for the remainder of Phase 2 include:
 - 4 Shallow Wells
 - 12 Intermediate/Deep wells (up to 285 ft)
 - Borehole geophysical surveying at all intermediate/deep wells
 - Packer testing at all intermediate/deep wells
 - ‘Real-time’ data review and decision making with EPA/PADEP
 - Sampling of all new wells
 - Results, conclusions, and recommendations to be presented in Phase 2 Memorandum



Remedial Investigation Progress



Quarterly Surface Water Sampling



- Performed Round 15 Surface Water Sampling with Navy and USGS in March 2023
- Scheduled to conduct Round 16 in June (last event under scope)
- Submitted Draft Final Sampling Memo for Round 14 on 19 April.
- Preparing Sampling Memo for Round 15

Groundwater Pilot Study



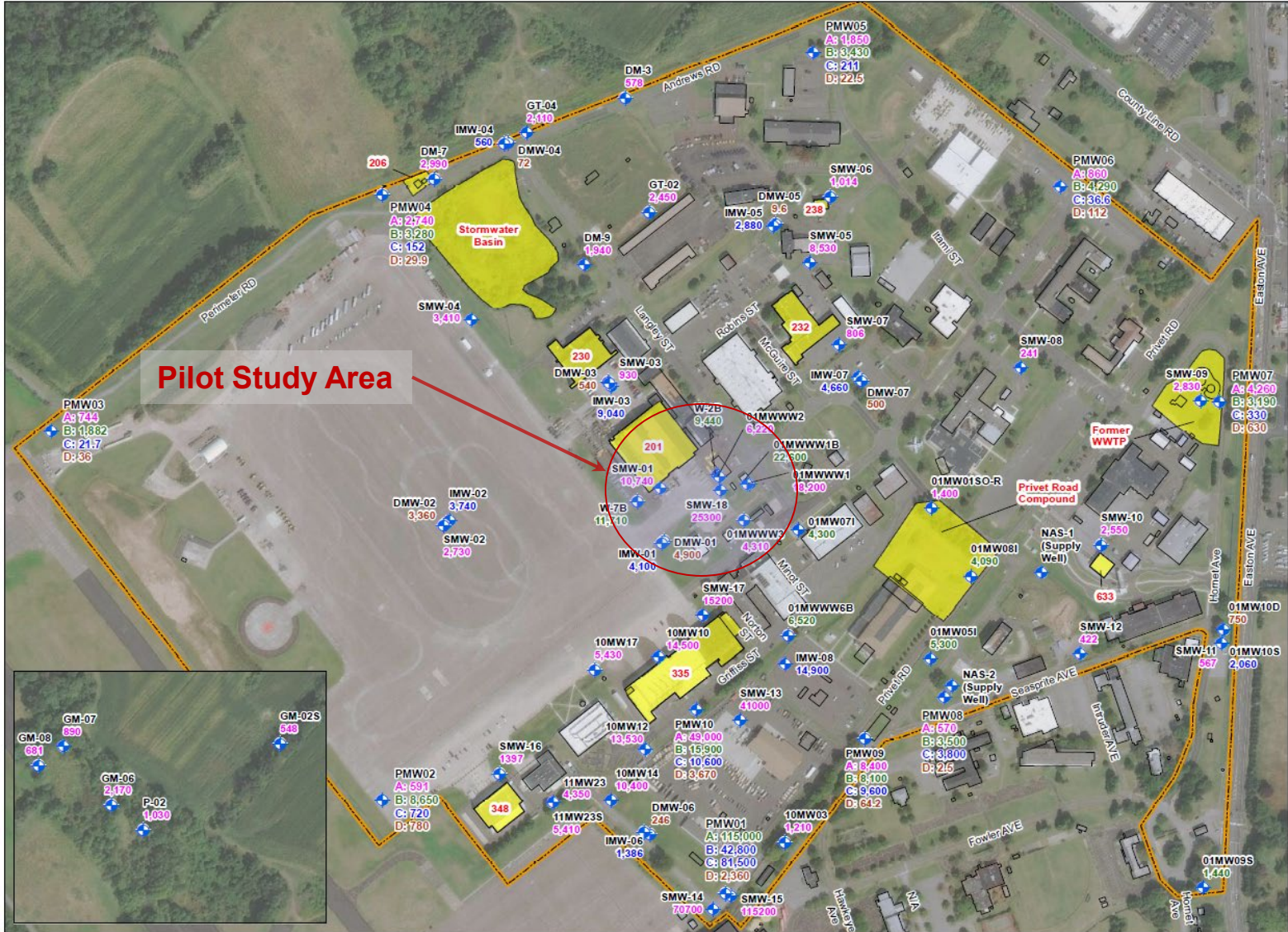
- ANG conducting Pilot Study to inform plans for subsequent interim groundwater action
- Pilot Study includes design, construction, operation of 30-day pilot test to evaluate feasibility of hydraulic containment of groundwater plume near Building 201
- Conducted 3 scoping sessions with EPA and PADEP to present, discuss, and refine plans
- Final scoping session held 23 February. General consensus amongst team regarding planned testing methods

Groundwater Pilot Study



- Three extraction wells with combined 50-75 gpm extraction rate. Wells to target unique depths/zone of the aquifer
- Pilot Study to include series of variable rate step-tests, followed by series of constant rate pump tests with hydraulic and chemical monitoring throughout 30 day period
- Results, conclusions, and recommendations to be compiled in Technical Memorandum
- Pilot Study will inform plans for full-scale interim action(s)
- Draft Final UFP-QAPP addendum under review by EPA/PADEP

Groundwater Pilot Study



Actions Planned for Next 3 Months



- Finalize UFP-QAPP Addendum for RI
- Finalize UFP-QAPP Addendum for Pilot Study, address comments when received
- Prepare Surface Water Memo for Round 15
- Conduct Round 16 surface water sampling event in June
- Begin RI Phase 2 field work (early June)
- Begin Pilot Study field work (August)

PFOS/PFOA Water Treatment

Biddle ANGB



- PFOS/PFOA has been detected in surface water leaving Biddle. This water is primarily groundwater that discharges to a storm water detention basin on the northwest boundary of the Base and flows to Park Creek which flows to the Little Neshaminy Creek.
- 500 gallon per minute treatment plant began operations on 11 August 2021. Approximately 200M gallons treated through April 2023.
- First media changeout in late 2022. Used media staged on base until final disposal.
- Algae reducing flow – exploring options to reduce impact.
- Treatment plant effluent PFOS+PFOA < 5ppt (<70 ppt required)
- Construction and O&M through Warminster Cooperative Agreement

NWWA Activities



- North Wales Water Authority assumed responsibility for Warrington water service area. Cooperative agreement for water system actions.
- GAC treatment for Wells 1, 2, 3, 6 and 9 is complete. Working on resolving Total Dissolved Solids issues for 4 of the wells.
- Main extensions and service connections completed.

Private Well Sampling



- ANG has identified 16 residential locations/properties with PFOS/PFOA at near or above the PADEP drinking water maximum contaminant levels (MCLs) for residents within our area of responsibility in Horsham, Warminster, and Warrington.
 - Office of the Secretary of Defense (OSD) Policy CERCLA Removal Actions (21 Dec 2021) for drinking water response actions to state drinking water MCLs:
 - If Component/Service is providing drinking water response action to residences with exceedances of the 2016 EPA HA of 70 ppt for PFOA/PFOS, the service/component can provide response action to residence near or above an approved/promulgated State Drinking Water MCL.
 - OSD recently conducted an internal screening of the PADEP Drinking Water MCLs and identified that the state drinking MCLs could be considered for applicable and or relevant requirements (ARAR)

Private Well Sampling



- ANG has contract in place with Weston to provide PFOS/PFOA testing of private drinking water wells and supply bottled water to properties with PFOS/PFOA at or above the EPA Health Advisory level (HA) for residents within our area of responsibility in Horsham, Warminster, and Warrington.
 - Horsham:
 - 6 wells sampled
 - 5 were above HA
 - 4 have been connected to municipal water
 - 1 well abandoned by Wood
 - Warrington:
 - 150 well sampled
 - 53 are above HA
 - 68 have been connected

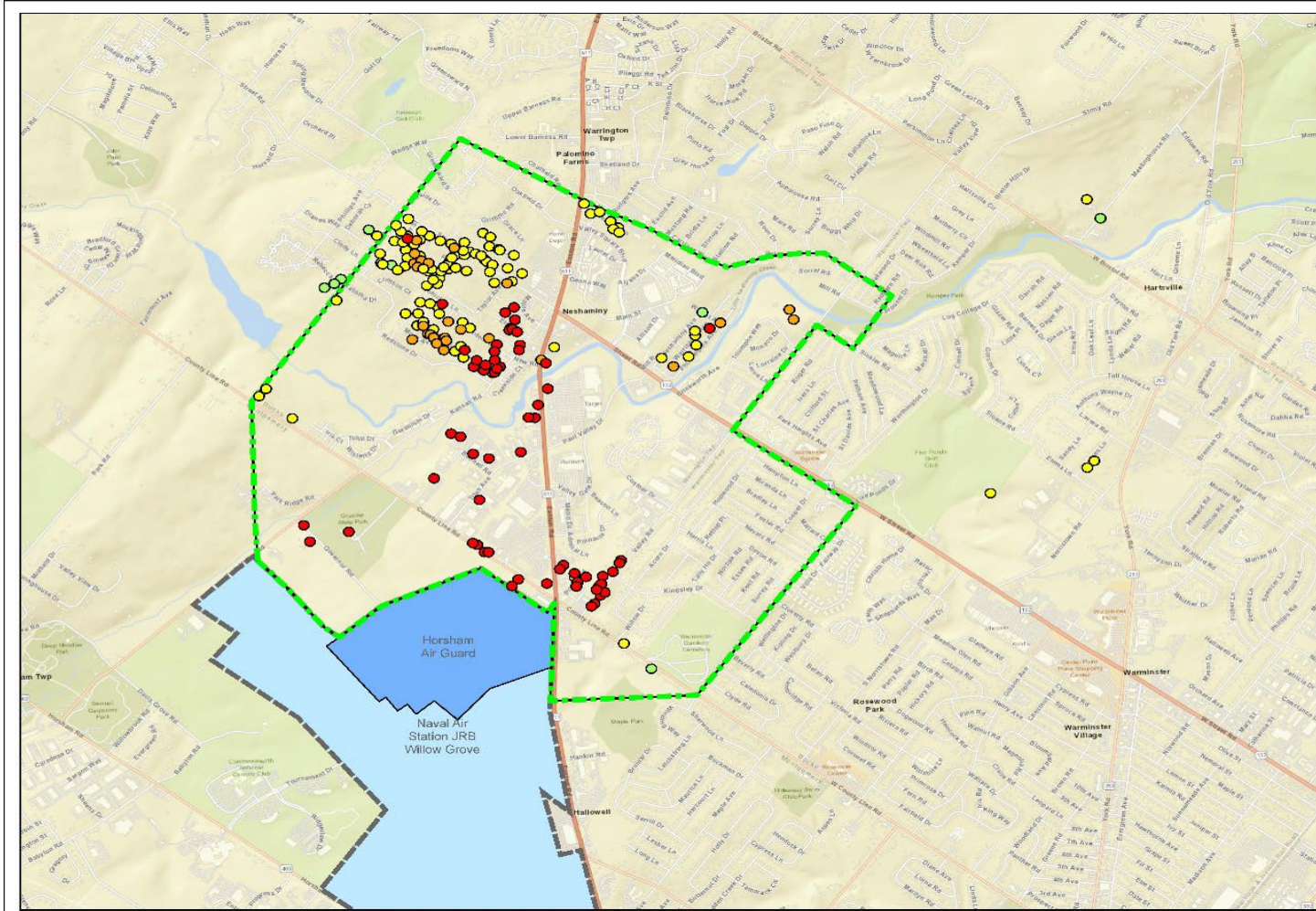
Private Well Sampling (cont.)



- Warminster: 12* well sampled
 - 11 are above HA
 - 10 have been connected municipal water
 - 1 residence above HA not connected
 - * Some of these properties are on Valley Road with Warminster mailing addresses but are located in Warrington Township
 - * ANG is using the US EPA 2016 Health Advisory standards, 70 part per trillion (ppt) for PFOA and PFOS
- Sampling contact for ANG area of responsibility: Transitioning to Weston, Mr. Bob Wagner, 570-466-4026, r.wagner@westonsolutions.com



Private Well Sampling Map



**PFAS Sample Results
for January 2022**
Biddle Air Guard Base
Horsham and Warrington
Townships, Pennsylvania

Legend

- PFOS+PFOA not detected
- PFOS+PFOA at or below 0.040 µg/L
- PFOS+PFOA between 0.040 and 0.070 µg/L
- PFOS+PFOA above 0.070 µg/L
- ANG Sampling Area
- Horsham Air Guard
- Former NAS JRB Willow Grove

Notes & Sources

Notes:
µg/L - micrograms per liter

PFAS - Per- and polyfluoroalkyl substances
PFOS - Perfluorooctanesulfonic acid
PFOA - Perfluorooctanoic acid

Health Advisory Level (HAL) is the sum of PFOS+PFOA (0.070 µg/L)

Base Map Source:
Street map data from ArcGIS Online map services.
Map service information available at:
http://gto.arcgisonline.com/maps/World_Street_Map



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