



# NAVAL AIR STATION JOINT RESERVE BASE (NAS JRB) WILLOW GROVE Restoration Advisory Board (RAB) Meeting Minutes

Meeting Date: February 15, 2017

Meeting Time: 2:00 p.m.

Meeting Place: Horsham Township Library

	<u>Name</u>	<u>Organization</u>
Attendance:	Willie Lin (R)	Navy, BRAC PMO (Co-Chair)
	Brian Helland (R)	Navy, NAVFAC
	Jim Rugh	NAS JRB Navy Caretaker's Office
	Marty Schy	NAS JRB Navy Caretaker's Office
	Greg Preston	Navy, BRAC PMO
	Lisa Cunningham (R)	EPA
	Eduardo Rovira	EPA
	Mark Leipert	EPA
	Andrea Barbieri	EPA
	Colin Wade	PADEP
	Jessica Kasmari	PADEP
	Andrew Frebowitz	Tetra Tech
	Lt Col Jacqueline Siciliano	PA Air National Guard
	Dennis Pinigis	Air National Guard
	Chris Botzum	PA Air National Guard
	Claudia Malone	Air National Guard
	Maj. Lydia Stefanik	PA Air National Guard
	Jim Kash	PA Air National Guard
	Lt. Christine Lloyd	ATSDR
	Bill Walker	Horsham Township
	Tina O'Rourke	Horsham Water and Sewer Authority
	Toby Kessler	Gilmore Associates/Horsham Water and Sewer
	Eleanor Dill	Montgomery County Health Department
	Christian Jones	Warrington Township
	Tim Hagey	Warminster Township Authority
	Tom Ames	HLRA
	Larry Burns	HLRA
	Mary Gemmill (R)	Resident (Community Co-Chair)
	Jim Ventrini (R)	Resident
	Ted Roth (R)	Resident
	Jayne Blake	Pennvest
	Brian Johnson	Pennvest
	Matt Machusick	Leidos
	Jackie Sellecchia	Tinius Olsen
	Mark Mayhew	ESE

Kyle Bagenstose	The Intelligencer
Brian Gallie	U.S. Congressman Pat Meehan's Office
Lorraine Sciuto-Ballasy	State Representative Bernie O'Neill's Office
Meghan Schroeder	U.S. Congressman Brian Fitzpatrick's Office
Sean Roche	U.S. Congressman Brian Fitzpatrick's Office
Dawn Byers	State Representative Kathy Watson's Office
Nancy Williams	State Representative Tom Murt's Office
Larry Schlippert	Commonwealth National Golf Club
Rep. Todd Stephens	State Representative
Larry Menkes	Bucks County Veterans Green Jobs Initiative
Hope Grosse	Resident
Joseph McGrath	Resident/Former Base Worker
Carl Meixsell	Resident
Thomas McLaughlin	Resident
Joseph Feliciani	Resident
Bruce Pallet	Resident
Jackie Selleccia	Resident
David Hagerty	Business Owner
Daniel Goldsmith	Property Owner
Other Unidentified Residents	
(R) Designates RAB Member	

Willie Lin, the Navy's Base Realignment and Closure (BRAC) environmental coordinator and RAB Co-Chair, opened the meeting by greeting the attendees. Mr. Lin noted that this meeting will include presentations from the Navy and Air National Guard (ANG). Mr. Lin acknowledged the presence of Mary Gemmill, the Community RAB Co-Chair and Dennis Pinigis representing the ANG. Mr. Lin asked RAB members and government representatives to introduce themselves. After introductions, Mr. Lin commenced with the Navy presentation.

Mr. Lin discussed the background and status of the radiological investigation. A historical radiological assessment started in 2013 identified 18 potential radiological sites for additional study. Field work, known as scoping surveys, to identify if radiological contamination was present at these 18 sites was completed in 2015. The scoping survey reports were submitted in three groups: buildings, footprints of former buildings, and landfills. The survey reports are available in the administrative record and copies are in the library.

The survey report for the 10 buildings was completed in June 2016 and no radiological concerns for future commercial use were identified. The landfill reports were completed in the summer of 2016 and reviewed by EPA and PADEP who concurred with the determination of unrestricted use. The landfill survey reports are currently being finalized with the results being incorporated into the feasibility studies for landfill Sites 3 and 12. The last report includes surveys for five building footprints. This report is currently under review by EPA and PADEP.

Mr. Lin continued with an update on Site 5, the former Fire Training Area. Current action at the site includes operation of an anaerobic bioremediation system which essentially degrades volatile

organic compounds (VOCs) which are present in the groundwater. The system is being maintained and monitored and is working well.

Mr. Lin began the presentation for the next agenda item, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) in groundwater. Mr. Lin provided background information on these compounds. They are unregulated man-made contaminants which break down slowly. They were used in many products including carpeting, food packaging, cookware, and firefighting foam. Sampling for these compounds in public water supplies was conducted between 2013 and 2015 under the Unregulated Contaminant Monitoring Rule (UCMR) program. At the time of the UCMR program, EPA established a provisional health advisory level of 0.2 micrograms per liter, or parts per billion (ppb), for PFOS and 0.4 ppb for PFOA. In mid-2014, sampling of Horsham and Warminster area public wells showed levels of these compounds above the provisional health advisory levels. The Navy, through EPA, proceeded to sample private wells around the Base. In May 2016, EPA established a lifetime health advisory level of 0.07 micrograms per liter, or 70 parts per trillion (ppt), for combined PFOA and PFOS in drinking water. These levels are set as a reasonable health-based concentration above which actions to reduce exposure should be taken. These levels include many safety factors to protect vulnerable populations.

Mr. Lin provided a summary of the Navy's private well sampling activities. Approximately 490 wells have been sampled in the townships around the former NASJRB Willow Grove Base, of which 89 have levels above the health advisory of 70 parts per trillion combined PFOA and PFOS. Of the wells above the health advisory, 62 have been connected to the public water supply and the remaining will be connected once water mains are constructed. Connections are being arranged through cooperative agreements with the townships. Bottled water is being provided. An additional 70 wells are being monitored as these wells show levels below the health advisory but above 40 parts per trillion combined PFOA and PFOS. The Navy is also funding treatment of impacted public supply wells through the cooperative agreements. Mr. Lin indicated that the ANG will discuss the response to drinking water impacts in Warrington Township during their presentation.

The Navy is also conducting a remedial investigation to better understand the nature and extent of contamination on the Base. The investigation includes installation and sampling of numerous groundwater monitoring wells, soil sampling, and surface water and sediment sampling. A report has been submitted to PADEP and EPA for review. The Navy has met with the regulators to discuss findings and identify additional data collection needs. The Navy intends to conduct the additional investigation and complete the remedial investigation in 2017. Data will be used to identify if source control actions are needed and how they would be implemented.

Mr. Lin presented slides with links to information on perfluorinated compounds (PFCs), including environmental and health effects information, the administrative record for the site, and regulatory agency and township websites. EPA contact information for private well sampling was also provided.

Mr. Lin asked if there were comments or questions. Ted Roth asked for clarification about the radiological assessment of the buildings. The buildings were cleared for commercial use, but Mr.

Roth said future plans may include residential use at the property. Mr. Lin replied that the buildings are configured as industrial buildings and there would be no residential reuse of those buildings where the radiological surveys were performed.

Mr. Roth asked about the duration of the Site 5 bioremediation system and how much longer that would operate. Andrew Frebowitz replied that recent sampling shows degradation of the volatile organic compounds is continuing and that cleanup standards for the original compounds were exceeded in only three or four wells closest to the source area; however, an exact timeframe for completion could not be determined. Mr. Roth asked who was paying for Horsham Water and Sewer Authority's (HSWA) purchase of water from the North Wales Water Authority. Brian Helland replied the Navy is paying for the water that would have been produced by the five public wells removed from service. Mr. Lin added that the Navy is paying for the treatment systems for the five wells to bring them back into service. There was additional discussion about a surcharge imposed by HSWA on residential water bills. Tina O'Rourke (HSWA) indicated she was available after the meeting to discuss this with residents.

Kyle Bagenstose asked if the 89 impacted wells mentioned by Mr. Lin in the presentation included just Horsham area but did not include wells near the former NAWC Warminster Base. Mr. Lin confirmed they were Horsham wells only as the NAWC Warminster wells are in a different area. Mr. Bagenstose asked if plume maps showing the PFC contamination are going to be prepared and made available to the public. Mr. Lin stated that the remedial investigation report, when completed, will provide data on the extent of the plume. Mr. Bagenstose asked if there is a timeline for source cleanup of PFCs to reduce concentrations in groundwater. Mr. Lin indicated that potential source control actions will be evaluated as part of the remedial investigation process and it is too early in the process to determine what actions will be taken.

Mr. Bagenstose asked if any health evaluations will be done; he thought the Agency for Toxic Substances and Disease Registry (ATSDR) may be working on something. Lt. Christine Lloyd of ATSDR indicated that the agency is looking at potential nationwide health studies at communities with PFC contamination. There needs to be a large enough population to conduct an evaluation; the Willow Grove and Warminster area potentially could be suitable for an evaluation but no final determination has been made. Lt. Lloyd confirmed a health consultation assessment for the former NASJRB Willow Grove is ongoing; however, there is no timeline for completion.

Joseph Feliciani asked if EPA is eliminated by an act of Congress, would the Navy continue to honor the commitment to address contamination at the 70 ppt level. Mr. Lin stated the Navy will continue to respond to contamination at that level.

Representative Todd Stephens asked for the most recent highest recorded levels of PFCs either off Base or on Base. Mr. Lin replied that he did not have that information at hand. Rep. Stephens stated that during a congressional meeting with military leaders in August 2016, it was indicated that the military would have a plan of action by the end of 2016, and if there was a plan in place. Mr. Lin replied that he did not know of the specific plan being referred to, but that investigation into the extent of contamination was ongoing. Rep. Stephens asked what steps have been taken to reduce the amount of PFCs leaving the Base to nearby streams and groundwater. Mr. Lin

replied that source control actions will be evaluated during the investigation including evaluating closing discharge culverts from the Base. Rep. Stephens replied that he understands the final plan may be extensive, but why couldn't easily implementable actions such as eliminating surface water discharges, which will ultimately be part of the final remedy, be addressed now. Greg Preston, the director of the BRAC Program Management Office East, indicated that the on-site caretaker's office monitors the flow/discharge from the culverts after rain events and there is only a small amount of flow. The surface water runs across the runways, where there are no PFCs, and to the culverts then off-Base. The PFCs are in the subsurface and that is where the Navy is concentrating the investigation. The Navy is looking at capping areas and closing off the culverts, but a final determination can't be completed until a complete hydrological investigation is completed so other unintentional adverse effects are not created. The Navy is looking at all options and working closely with the regulators to determine the best path forward.

Mr. Stephens stated that the presentation indicated the Navy was taking action above the 70 ppt health advisory level, but that isn't the case when it comes to contamination on the Base as there is contamination exceeding that but no action is being taken. Mr. Preston replied the investigation will determine the best response actions and implementing a remedy without full understanding of the effectiveness and potential impacts on hydrology would not be prudent.

Larry Menkes questioned why Navy was using the EPA health advisory level to take action since there are other studies indicating lower levels could pose a health risk. Mr. Preston replied that the Department of Defense does not set the action levels and must follow the federal regulations set by EPA.

Larry Schlippert of Commonwealth Golf Club stated that the golf course property is adjacent to the Base area with the highest levels of groundwater contamination and runoff. Mr. Lin replied the remedial investigation will evaluate the treatment options. Mr. Schlippert asked if the water the golf course uses for irrigation has any effect on the contamination. Mr. Lin replied more information would be required to answer that question.

Several residents/former Base employees discussed if former employees should be included in health studies. Lt. Lloyd suggested this issue could be discussed after conclusion of the meeting. Hope Grosse asked if the Warminster area will be discussed during the meeting and about blood testing and health effects. Mr. Lin replied that this meeting is to discuss cleanup activities at Willow Grove, and a Warminster meeting will be scheduled in the future, potentially in April 2017. Mr. Lin offered to discuss Warminster and other issues after the meeting.

The Navy session was concluded. Dennis Pinigis commenced the ANG presentation. Mr. Pinigis indicated he was filling in for Keith Freihofer, the ANG project manager. Mr. Pinigis began the presentation with an update on Site ST01 which was a former fuel tank farm where jet fuel had leaked in the 1970s. The tanks have been removed and ANG is remediating the soil. Approximately 175 tons of contaminated soil were removed.

Mr. Pinigis provided an update on the Privet Road Site. This was a former solid waste management area that has low levels of trichloroethene and tetrachloroethene in groundwater. Levels are below drinking water standards. ANG is continuing to monitor the groundwater, but

levels have been low for a while. There is an upcoming meeting with the regulators to discuss future site actions.

Mr. Pinigis began the presentation of the ANG response to PFC contamination. The ANG completed a preliminary assessment at the Horsham Air Guard Station and identified 10 potential PFC source areas. These include areas where PFCs may have been used or stored, such as hangars, or where firefighting foam may have been dispersed, such as the storm basin and waste water treatment plant. A technical memorandum of the initial investigation was finalized in October 2016. Additional investigation is ongoing; ANG installed shallow, intermediate, and deep monitoring wells; conducted rock coring and sampling; and performed geophysical logging and packer tests. This work was done in consultation with the regulatory agencies and the United States Geological Survey (USGS). Mr. Pinigis introduced Matt Machusick of LEIDOS, who is the ANG consultant for this work, to provide more details.

Mr. Machusick stated the investigation is ongoing. The initial investigation included sampling of soil, surface water and sediment across the Base. Samples from tanks where firefighting foam was stored were also collected. This information is in the Technical Memorandum submitted in October 2016. The well installation and geophysical investigation was then performed. Interim findings from the investigation identified variation in the subsurface. There are artesian, confined and semi-confined conditions which results in a complicated groundwater flow pattern. Shallow wells near source areas contained PFCs above health advisory levels; however, newer shallow wells near the Base perimeter showed lower levels of PFCs. The Base production wells showed PFCs at various levels decreasing with depth. Rock coring results show PFCs were not bound in the rock matrix. Mr. Machusick showed a figure with onsite monitoring well locations and showed where contamination was present. Deep and intermediate wells near the northern boundary showed low PFC levels. Wells near the southern boundary showed higher levels. Additional wells will be installed and sampled and aquifer testing will also be conducted to get a better understanding of groundwater flow.

Mr. Pinigis continued the presentation with a discussion on PFCs in surface water. The surface water leaving the site from the storm water basin on the northwest side of the Base contains PFCs. ANG is evaluating how to address this discharge including a determination if it is feasible to filter the water prior to leaving the Base.

Mr. Pinigis discussed the ANG response to drinking water contamination. A cooperative agreement with Warrington Township is in place to connect impacted residents to the public supply, install carbon filters at two municipal wells, and install interconnections with other water systems to provide an adequate supply of municipal water. ANG also has an interagency agreement with EPA to conduct private well sampling and provide bottled water for impacted wells until a permanent connection to the municipal supply is completed. Mr. Pinigis showed slides that showed the area of sampling and impacted wells. Mr. Pinigis also provided contact information for Keith Freihofer, the ANG project manager.

Mr. Pinigis opened the floor for questions. Eleanor Dill of the Montgomery County Health Department asked if wells are being abandoned after a property is connected to the public

supply. Major Stefanik replied that wells should be abandoned and they are working on that through the cooperative agreement with the Township.

Mr. Bagenstose asked about the status of the ANG production wells and drinking water supply for Base personnel. Mr. Pinigis and Major Stefanik confirmed the wells have a treatment system but are used only for toilets, showering and the boiler. Bottled water is still used for drinking purposes.

Mr. Bagenstose stated that contamination in the wells on the southern side of the Base had higher levels than wells on the northern side. He asked if that suggests the contamination is coming from the Navy property to the south. Mr. Machusick replied that it is too early in the data evaluation and collection process to make any determination. Mr. Bagenstose, noting that high levels of contamination were leaving the Base via the storm basin and reaching Park Creek, asked if there were any data trends regarding the concentrations. Mr. Machusick indicated that there were insufficient rounds of data to conduct trend analysis.

Mr. Bagenstose stated that his communication with Aqua Pennsylvania indicated there was a concern about the levels in Park Creek as this is a tributary to Neshaminy Creek which is a source of drinking water. Mr. Bagenstose asked if there was any communication between ANG and Aqua. Major Stefanik replied that Aqua contacted ANG once. There are issues with ANG working with a private company; however, ANG is working with Warminster Township to consider a temporary measure on the storm basin discharge until a permanent solution can be developed. Jim Kash of ANG added that ANG did respond to Aqua, but couldn't enter into an agreement with them. Aqua was informed that ANG is considering treatment of the discharge. Mr. Bagenstose asked if it was found that the source of contamination resulting in cleanup for future places like Park Creek was coming from the Navy property, would the Navy or ANG pay for the cleanup. Mr. Pinigis replied that it was premature to discuss this issue. Mr. Bagenstose asked if there was a timeline for cleanup of surface water. Major Stefanik replied that the goal is to have a temporary solution for treatment of the storm basin discharge this year with a permanent solution the following year.

A resident asked about the safety of the Warrington Township water supply and how to find out if their well was contaminated. Christian Jones of Warrington Township replied that he was available to discuss this particular well location after the meeting. Mr. Jones also stated the public supply was safe to drink.

Bill Walker, Horsham Township Manager, asked if the remedial investigation report coming out later this year will include an action plan to clean up the contamination. Mr. Lin replied that an evaluation of remedial and removal actions is included in the study and the Navy intends to implement applicable source control remedies; but more information is required to complete the evaluation. Mr. Walker asked about the status of a USGS regional groundwater model that was being prepared. Mr. Lin replied that USGS is working on the model with expectations that it could be completed by this summer, but doesn't know the exact status. An unidentified attendee asked what the model does. Mr. Lin replied the model will show regional groundwater flow pathways and effects of pumping wells on groundwater flow.

Mr. Walker provided an update on the status of the Horsham public water supply. He noted that he provides an update every month at the Township Council meeting. In May 2016, the water supply had a level of 18 ppt. The Council and HSWA adopted a Horsham standard of non-detect, and the township is moving forward on a remediation plan. The last result was 8 ppt. In addition, there are effects of contamination entering the Park Creek Sewage Treatment Plant. ANG has been filtering the production well water and replacing water and sewer pipes. In August 2016 influent into the plant was 3600 ppt and today the influent is 197 ppt. The sewer plant discharges treated water back to Park Creek. In August 2016, effluent ranged from 200 to 400 ppt. The effluent currently is around 30 ppt.

Rep. Stephens asked how the temporary treatment on the storm basin discharge will work. Major Stefanik replied that it will only treat storm outflow. Rep. Stephens asked if the Navy could implement a similar treatment. Mr. Lin replied that the levels of flow off the Navy portion of the Base is significantly lower than that from the ANG parcel and it is uncertain if the treatment will be effective until ANG constructs and operates the system. Rep. Stephens asked about the most recent levels in surface water runoff. Mr. Pinigis replied that it was 50 ppb (50,000 ppt). Mr. Machusick clarified that was the highest levels recorded in an onsite well. Rep. Stephens asked if that would be sampled again, and Mr. Machusick replied the investigation is a phased approach and additional samples will be collected. Rep. Stephens asked if the temporary treatment system will be able to address 50,000 ppt levels of contamination. Mr. Pinigis replied the 50,000 ppt was in groundwater and not surface water from the storm basin.

Mr. Menkes asked about the sources of water for Warrington Township and where, ultimately, the water ends up being treated and discharged after use. Mr. Jones stated the township currently gets water from Forest Park, which has been non-detect for PFCs, and from three wells which are far below the health advisory level. The other supply wells with PFC contamination have been shut off and are receiving treatment systems. After water is used, it enters the sanitary sewer system and is sent to the Log College Wastewater Treatment Plant in Warminster. Mr. Menkes asked if there has been an estimate of costs of treating water to 1 ppt. Mr. Pinigis replied that the federal action level is 70 ppt and that is what is being used.

Tom Ames asked about the status of the data summary report for the Willow Grove PFC Remedial Investigation and if the Navy is waiting for regulatory concurrence before proceeding with additional investigation. Mr. Lin replied that the Navy has met with the regulators, and preparing work plans to address the data collection activities.

Ms. O'Rourke asked if there was a timeframe for a permanent remediation plan for ANG. Mr. Machusick replied that the investigation report will recommend the next steps, but it is too early to determine what the steps would be. Based on the data collected, the recommendation could be for more investigation or an evaluation of remediation technologies.

Dawn Myers (State Representative Kathy Watson's office) asked about the frequency of home well testing. Major Stefanik replied that if a result is above 70 ppt, that property will be connected to public water. If the level is between 40 ppt and 70 ppt, the well is monitored quarterly. Monitoring is not continued if the level is below 40 ppt. Mr. Lin added the Navy is considering other long-term monitoring for wells below 40 ppt, but the current focus is those that

are at risk for exposure above 70 ppt and continued monitoring for wells ranging from 40 ppt to 70 ppt. Ms. Myers stated that Rep. Watson had concerns for wells with less than 40 ppt that are not sampled and may potentially become impacted at some future time and monitoring for all wells should be conducted. Major Stefanik stated that issue will be discussed with EPA and ANG.

Ted Roth commented that a simple solution may not be the best solution until all the problems are identified. Mr. Pinigis concurred and reiterated that additional work is needed to determine the best solutions. Ms. Gemmill commented that she recognizes the Navy and ANG are working towards a solution, but wanted to emphasize that the community is frustrated and is looking for answers regarding health effects as well as cleanup.

An unidentified audience member asked what happens to wells with levels above 70 ppt and if they get cleaned up. Mr. Pinigis responded that private wells above 70 ppt are abandoned after connection to the public supply. A discussion between various parties ensued regarding if the groundwater at impacted private wells should be remediated. Mr. Pinigis stated that the water at the private wells are not a source and these wells don't contaminate other wells; it is only water flowing through the groundwater system. The contamination is likely located on Base and migrating offsite and the effort is to locate and remediate the sources.

Ms. Grosse expressed concern about soil contamination at homes where groundwater contamination was present. Mr. Pinigis stated that contaminated soil at the source area is responsible for the groundwater contamination and the contamination is spread by groundwater flow. Soil at individual homes is not contaminated and isn't a source of exposure.

Comments from various attendees included the lack of coordination between agencies, responsibility for cleanup, health effects, blood testing, use of tax dollars for cleanup, and medical care provided by the Veterans Administration. This was a discussion of concerns rather than direct questions to the Navy of ANG.

Mr. Lin brought the meeting to a close by thanking attendees and noting the next RAB meeting will be scheduled for May 10, 2017.

Meeting adjourned.