



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

Meeting Date: March 14, 2019

Meeting Time: 6:00 p.m.

Meeting Place: Horsham Township Library

	<u>Name</u>	<u>Organization</u>
Attendance:	Willington Lin (R)	Navy BRAC PMO
	Brian Helland (R)	Navy BRAC PMO
	Jason Speicher	Navy, NAVFAC Atlantic
	Martin Schy	NAS JRB Navy Caretaker's Office, BRAC
	James Rugh	NAS JRB Navy Caretaker's Office, BRAC
	Sarah Kloss (R)	EPA
	Larry Brown	EPA
	Deborah Goldblum	EPA
	Matt Konfirst	EPA
	Rick Rogers	EPA
	Roger Reinhart	EPA
	Colin Wade (R)	PADEP
	Jessica Kasmari (R)	PADEP
	Andrew Frebowitz	Tetra Tech
	Lt. Col. Jacqueline Siciliano	PA Air National Guard
	Claudia Malone	PA Air National Guard
	Keith Freihofer	Air National Guard
	Lt. Christine Lloyd	ATSDR
	Lora Werner	ATSDR
	Toby Kessler	Gilmore & Associates/Horsham Water and Sewer
	Mike Pickel	Horsham Water and Sewer Authority
	Tina O'Rourke	Horsham Water and Sewer Authority
	Tom Ames	HLRA
	Bill Walker	Horsham Township
	Greg Nesbitt	Horsham Township Council
	Rep. Todd Stephens	PA House of Representatives
	Shea Bauersmith	Rep. Stephens' Office
	Sen. Maria Collett	PA Senator
	Correne Kristiansen	PA Senator Collett's Office
	Stephanie Wein	Penn Environment
	D. Tanner	Delaware River Keepers
	Kyle Bagenstose	Bucks County Courier Times
	Jackie S.	Tinius Olsen
	Chris Crockett	AQUA
	Joseph McGrath (R)	RAB, former employee and veteran

Ted Roth (R)	RAB
Eric Lindhult (R)	RAB
Jim Vetrini (R)	RAB
Carl Meixsell	Resident
Hope Grosse	Resident
Skip McClurg	Resident
Joe Messina	Resident
Lisa Cellini	Resident
Danette Richards	Resident
Rick Newsome	Resident
Eleanor Doherty	Resident
Monica Monaghan	Resident
Ray Heath	Resident
Joseph Feliciani	Resident
G. T. Wiley	Resident
Terry England	Resident
Mark Coker	Resident
Other Unidentified Attendees	

(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 the meeting will include presentations from the Navy and Air National Guard (ANG). Mr. Lin asked RAB members and government representatives to introduce themselves.

Mr. Lin informed the attendees that the handouts with the presentations and an EPA fact sheet are available. Mr. Lin also noted that representatives from the Agency for Toxic Substances and Disease Registry (ATSRD) are present and will be available after the RAB meeting to discuss health concerns. Mr. Lin also noted changes to the format of the Navy presentation in response to comments received during the previous RAB meeting. The new format identifies the most current actions while background information has been moved to the back of the handout.

Mr. Lin commenced with the Navy presentation. Mr. Lin discussed the purpose of the RAB and gave an overview of the means in which regulatory agencies exchange information with the community about environmental restoration status.

Mr. Lin introduced Andrew Frebowitz to provide an update on the cleanup sites, including landfill Sites 3 and 12, and Site 5, the former Fire Training Area. Mr. Frebowitz provided background on Sites 3 and 12 stating that they were former landfills used by the Public Works Department. Results from the remedial investigations (RIs) at both sites showed soils with elevated levels of metals and polycyclic aromatic hydrocarbons. In addition, groundwater at Site 3 showed elevated levels of the volatile organic compound (VOC) tetrachloroethene (PCE). Feasibility studies have been submitted for both sites to present various clean-up alternatives. The draft final for Site 3 has been submitted and the draft final for Site 12 is to be submitted soon. The next step is to prepare the proposed remedial action plan and record of decision selecting the cleanup remedy for the sites. A proposed date of May 30, 2019 has been targeted for a meeting regarding Site 3. A public notice

will be published and there will be a 30-day public comment period. A Record of Decision (ROD) presenting the selected remedy will be prepared. A response to all comments will be included in the ROD.

Mr. Frebowitz discussed the remediation for Site 5 groundwater. The site was a former fire training area where solvents were stored and burned. An active anaerobic bioremediation system is in place to reduce the parent compounds trichloroethene (TCE) and PCE. The annual monitoring sampling event of Site 5 is set to be conducted during May of 2019. Quarterly monitoring to assess anaerobic conditions and annual performance monitoring to obtain concentrations of VOCs is being conducted. Monitoring results show good conditions for bioremediation and a reduction in concentrations of VOCs. Additional injections of amendments for the treatment system will be conducted based on monitoring results.

Mr. Lin began the presentation for the next agenda item, perfluorinated compounds (PFCs)/perfluoroalkyl substances (PFAS). Mr. Lin provided a summary of the Navy's private well sampling activities. Tetra Tech., a Navy contractor, has assumed sampling responsibilities previously conducted by EPA. Slides were discussed comparing the private drinking water wells from February 2017 to ones showing the current wells that have been most recently sampled. A few additional wells above the EPA Lifetime Health Advisory Level have been identified since that time; however, the number of locations where connections to the public water supply are still needed have been reduced.

Mr. Lin moved on to discuss the RI for PFAS. A draft report was submitted in November 2016 summarizing the data collected and identifying data gaps and strategies to collect additional needed data. Additional data was collected and presented in the draft Phase I Remedial Investigation (RI) report which was submitted to the regulators in December 2018. The RI is available in the information repository at the library.

As part of the Phase I RI, a storm water and stream sampling investigation was conducted. The outfalls were sampled with results showing concentrations are lower during storm events. The outfalls to Park Creek on the northern end of the base have been closed and the outlet at the retention basin has been raised to hold more water back from discharging to the creek. Another round of sampling in the creek has been scheduled for Spring 2019.

Brian Helland described the previous Phase 1 investigation into the evaluation of where groundwater is entering the storm sewer on the facility. Some groundwater has been seen in the storm system during a dry period. Two miles of storm sewer lines on the base have been evaluated and reviewed. A report detailing recommendations and results of that study has been submitted to the regulators. As a result, funding to rehabilitate 1,400 feet of storm sewer line has been requested.

A Phase II PFAS investigation is now in preparation. Project scoping sessions were conducted and work plans are in development. The source areas that were identified in the Phase I RI, particularly the aircraft maintenance facilities and Site 5 will be investigated further. A Draft Pilot Test Work Plan was submitted to the EPA and PADEP in November 2018 to evaluate groundwater treatment options in the area near the aircraft maintenance facilities. The Phase II RI will also include the installation of additional monitoring wells to evaluate the extent of the contamination. Surface water discharge monitoring and additional soil samples will also be conducted.

Mr. Frebowitz discussed the upcoming pilot test for groundwater treatment in the aircraft maintenance facility area around Hangar 680 where the highest PFAS levels were identified. The final work plan is in preparation and is set to be completed at the end of March 2019. The pilot test construction is set to begin in April 2019. That will include electrical upgrades, installation of extraction wells, and fabrication of the treatment plant. Once startup testing begins, routine sampling should occur almost daily at the beginning and then move to biweekly as the project continues. An example of the treatment system was shown on a slide. The slide shows a shipping container with a series of treatment vessels. Mr. Frebowitz explained that the treatment vessels will contain carbon and ion exchange resin to treat PFAS to concentrations below the Health Advisory Level.

Mr. Lin stated a soil removal action near the fire station and Hangar 175 began in November 2018. The excavation work was completed at the end of January 2019. The removal targeted soils with the highest concentrations of PFAS. Approximately 3,500 tons of soil was excavated, and the soil will be disposed of at a RCRA Subtitle D lined landfill.

Mr. Lin introduced Jason Speicher to discuss environmental research programs funded by the Department of Defense (DoD) with relation to PFAS. Mr. Speicher explained the DoD is putting almost 50 million dollars into research related to PFAS, including, toxicology, chemistry, assessment, and remediation. Research is being conducted for soil, groundwater, and stormwater treatment, and assessment of transport of PFAS in waterways.

Mr. Lin referred attendees to the handouts for links to additional information and resources, then asked for questions from the RAB members.

Jim Vetrini requested to know if there was a time frame for when Site 5 will be clean. Mr. Frebowitz explained that there are currently only two or three wells that are above the remediation goals. The treatment that is occurring at Site 5 is reducing concentrations, but it is unknown how long the exact timeframe to clean it up below the remediation goals will be met. Eric Lindhult inquired about the trend of dechlorination sequence at the base and if DCE stall is occurring. Mr. Frebowitz responded that dechlorination is being observed and continuing through to chloroethane and DCE stall has not been observed.

Ted Roth requested about releasing the addresses of the private offsite wells that had been sampled. Mr. Lin explained that due to privacy considerations that could not be done.

Mr. Roth queried about discharge leaving the base, and the limit in which the Navy would like to achieve. Mr. Frebowitz answered that the goal is to get as low as possible but below the 70 ppt drinking water Health Advisory Level.

Tom Ames requested additional information on private wells that have tested over 70 ppt. Mr. Lin responded that once a well exceeds 70 ppt immediate action is taken. If the well does not exceed 70 ppt but is greater than 40 ppt, it is sampled on a quarterly basis. Mr. Ames asked if there are plans to sample wells below 40 ppt. Mr. Lin replied that there are no plans to regularly monitor wells below 40 ppt, but some samples may be collected to see if there are any changes in concentrations within a particular area.

Mr. Ames asked about the availability of the 2018 Draft RI report. Mr. Lin indicated the draft 2018 RI report is available through the library. Mr. Helland noted the Navy is only permitted to post final reports on the Navy Administrative Record website.

Lisa Cellini inquired about the last time firefighting foam was used at the base, and the relation that could have to PFAS levels being currently seen. Ms. Cellini asked why there has been no reduction of PFAS levels over time. Mr. Lin explained the air station stopped flight operations in 2010 so more than likely firefighting foam would have been around until then in case of an accident. Mr. Helland added that groundwater can take years to move, and the ongoing investigation is to find out how fast and far the migration is occurring.

Greg Nesbitt requested further details about the concentration levels of groundwater found on site and if there has been a reduction over time. Mr. Helland replied that levels over two rounds of sampling were consistent. Mr. Nesbitt asked about the discharge levels for the pilot study. Mr. Lin responded that the drinking water Health Advisory Level of 70 ppt would be the target. Additional discussion indicated that a permit equivalency from PADEP will be needed to set the discharge limit, but it will likely be 70 ppt.

Mr. Nesbitt continued inquiring for clarification on the soil standard that was used as compared to the groundwater standard of 70 ppt. Jason Speicher replied the soil concentrations cannot be compared directly to the groundwater concentrations. A statistical calculation was used to help determine a standard for soil as no current standard exists. A level of 1,027 parts per billion was calculated as the cleanup goal. Additional discussion continued regarding the treatment goal of the effluent from the pilot test. Mr. Nesbitt stated that the ultimate goal should be to treat as low as possible. Mr. Nesbitt also asked if was possible to show trends on the residential well map. Mr. Lin indicated that there has been very little variation over time; only one or two wells have levels that have increased above the Health Advisory Level in the past year or two.

Chris Crockett explained environmental impacts such as rainfall have an impact on the concentration levels that are reported. During wet weather concentrations appear to go down while in dry weather they are higher. The mass of contamination is important to look at because it takes into consideration the flow rate of the water as well as the concentration present in the sample collected, so just reporting results could skew the data if mass isn't considered.

Todd Stephens inquired about the measures that the Navy was taking in order to prevent any groundwater from leaving the base at more than 70 ppt. Mr. Lin responded that they have removed a large area of soil that could be part of the source area for the PFAS contaminants. The pilot test study will commence shortly and that will attempt to start reducing concentrations found in the groundwater. The Navy is also looking to expand the retention area in the northern part of the base.

Mr. Stephens requested additional details about surface water results related to the ANG retention pond. Mr. Lin indicated additional clarity in response to the question will be presented in the Air Force presentation to follow. Mr. Stephens emphasized that coordination between Navy, ANG, EPA, and PADEP is essential and asked if the regulators have requested additional surface water sampling. Rick Rogers stated that EPA has requested the Navy and ANG to do more regular sampling of the surface water and the Navy has initiated preparation of a plan. Mr. Lin added there are plans to conduct sampling in Spring 2019.

Hope Grosse asked for clarification on how long it takes to connect private wells to public water as well as the method in which residents are being contacted. Mr. Lin replied that they receive bottled water until they can be connected to public water. The time frame is dependent upon the water authorities and the distance from the closest water main. The residents are contacted by mail or phone calls. Tina O'Rourke added that although the presentation showed there are 13 wells remaining above the Health Advisory Level, there are 6 that are unused and 3 that have rejected a connection; therefore, there are only 4 locations left that require connections and two are currently in progress. Ms. Grosse asked for clarification on the private well monitoring program. Mr. Lin replied that locations between 40 ppt and 70 ppt were sampled quarterly and wells below 40 ppt had at least two samples that fell below 40 ppt.

Joe Feliciani asked if the soils in the aircraft wash rack area were also excavated during the soil removal. Mr. Lin replied that a portion of that area was removed. Mr. Feliciani asked if personnel from the Base fire department were ever contacted about the use of the foam. Mr. Helland replied that during source investigation study former fire department personnel were contacted for information. Mr. Feliciani inquired about the depths of the samples used for the statistical calculation for the soil standard. Mr. Speicher responded that a total of 300 samples were taken between the surface down to a depth of six feet in some areas. Surface samples generally showed higher concentrations. Mr. Feliciani asked about source of funding for SERDP and the projects that are underway. Mr. Speicher replied that the Department of Defense is the source of funding.

Ms. Cellini requested more information regarding the landfill where the excavated soil would be sent. Mr. Lin replied that arrangements for a disposal facility are being made, but the soil is currently covered and protected from wind and rain erosion.

There were no additional questions for the Navy. Mr. Lin introduced Mr. Freihofer to commence with the ANG presentation.

Mr. Freihofer gave a brief update on changes that have occurred since the last RAB meeting. A stormwater technical memorandum has been finalized for the PFAS Facility Investigation. A scoping session with the EPA and PADEP was held for the upcoming Remedial Investigation. A new temporary system is in design for surface water treatment on the stormwater outfall.

Mr. Freihofer provided an update on Site ST01, a former fuel yard where a jet fuel spill occurred in the 1970s. Groundwater remediation is being performed. The petroleum tanks were removed in 2016 to allow access to impacted soils. Approximately 175 tons of petroleum impacted soil was removed and disposed of at a licensed facility.

Mr. Freihofer continued the presentation with an update on the Privet Road Site. This was a former solid waste management area that has TCE and PCE in groundwater, but below EPA's Maximum Contaminant Levels (MCLs). Leidos has been contracted to conduct long-term, biannual monitoring. A five-year review was completed in September 2018.

Mr. Freihofer began the discussion on PFAS at the facility. A preliminary assessment conducted in 2015 identified 10 potential PFAS source areas. These include areas where PFAS may have been used or stored, such as hangars, or where firefighting foam may have flowed to, such as the

storm basin and waste water treatment plant. A treatment system has been put in at the storm basin outfall. The current system treats 60 to 70 gallons per minute. An improved system is in design now with the target of treating 250 gallons per minute. Plans to improve the stormwater basins is in progress to help it retrain more storm flow to be treated by the system.

Mr. Freihofer discussed PFOS and PFOA in drinking water. There is an agreement with Warrington Township to install carbon filtration on five of their supply wells and extend water mains for connections. Private well locations with detections above 70 ppt are being connected to the public supply. Mr. Freihofer presented a slide showing the number of private wells sampled with the number above the 70 ppt health advisory level and number of connections completed.

Mr. Freihofer presented the actions that are planned for the following three months from the RAB meeting. A request for proposals is expected so that a contract can be awarded to conduct a remedial investigation. A plan to improve the stormwater treatment system is also expected to be underway by the next meeting. Comments from PADEP regarding the stormwater permit application for the base are also expected to be complete. Quarterly sampling of private wells will continue.

Mr. Roth inquired about the outcome of water that goes into the storm basin. Mr. Freihofer responded that the water flows straight through the treatment system. It will need to be studied if lining the basin with an impervious layer would be beneficial.

Ms. Grosse requested an update on the plume with 300,000 ppt mentioned during the last RAB meeting. Mr. Freihofer said this was in the area where the Navy will be conducting the pilot test. Mr. Lin added that the pilot test study will be to help design a treatment system to address the plume.

Mr. Nesbitt commented that he would like to see larger maps and figures that combine Navy and ANG data and encourage the exchange of data between Navy and ANG. Mr. Nesbitt requested an explanation on what is downstream from the discharge of the base that is causing concentration levels to go above 70ppt off the base. Mr. Freihofer responded that during the remedial investigation it is expected to be determined what is contributing to the problem. It is not determined whether it is water overflowing from storm events or if it is surfacing groundwater off the base.

Mr. Feliciano asked about the concentrations in the retention pond and Mr. Freihofer responded samples have ranged from 300 to 330 ppt.

Ms. Grosse asked about the cooperative agreement with Warrington Township and what is covered by the Air Force. Mr. Freihofer replied that the agreement includes reimbursing the township for filtration of municipal wells and an emergency connection to the North Wales Water Authority supply.

Toby Kessler inquired about the possibility of contamination from the ANG site impacting Horsham supply wells. Mr. Freihofer replied that the remedial investigation is going to include off base sampling and off base monitoring wells to delineate the area of contamination. The location of the supply wells will have to be evaluated if it falls within the Navy or ANG area of

responsibility. Mr. Kessler asked is ANG following the same investigation process as Navy. Mr. Freihofer replied that although the reports may have different names, the path is similar.

There were no other questions for ANG, and Sarah Kloss commenced EPA's discussion. Ms. Kloss discussed the EPA's role in the project as well as provided an update on the oversight actions that have taken place since the last RAB meeting. In March 2019, the fifth quarterly coordination meeting was held with PADEP, USGS, Navy, and the ANG to share data and discuss remediation strategies. A site tour with EPA biologists took place, and an inspection of the outfalls and potential sample locations was discussed.

Ms. Kloss stated that the EPA is responsible for oversight of both the Navy and the ANG. The EPA is tasked with reviews of the data that has been collected and providing input on what needs to be investigated further. The primary role is to oversee the cleanup and make sure that the Navy and ANG are protecting human health and the environment.

Mr. Feliciani requested more information on the process of regulating similar compounds to PFAS. Mr. Rogers replied that the EPA is moving forward to determine a standard for PFOS and PFOA. It is currently under consideration to possibly regulate all the various compounds under one class.

Mr. Stephens inquired about the recommendations the EPA made regarding the outfall and the sampling that would occur there. Ms. Kloss responded that improvements can be made to expand the storm basin by making use of some underutilized space to allow more water to be retained. Mr. Rogers added that the Navy and the ANG have been asked to provide a surface water monitoring program plan to help gather more data and provide a better baseline. Surface water samples will be collected along the fence line, Park Creek, Little Neshaminy Creek, and other locations. The monitoring can be adjusted based on results to add or remove locations.

Mr. Stephens asked about regulatory oversight of the pilot test discharge. Ms. Kloss replied that while EPA has oversight of the cleanup, EPA and DEP are both making decisions. Discharge requirements are set by the state.

Ms. Gross requested a map showing all the surface water samples collected be made and available to the public. Mr. Lin responded that the reports with surface water data are available to be downloaded and copies at the library should be available shortly.

A discussion amongst multiple parties about regulatory authority was conducted with the result indicating the work being performed by the Navy and ANG was under a Federal Facilities Agreement (FFA) or an EPA drinking water enforcement order. The Navy has an FFA with EPA, the ANG does not, but it is EPA's preference to establish an agreement. Until then, work will proceed under the enforcement order.

An unidentified speaker asked about the spread of PFAS through southeastern Pennsylvania. Mr. Rogers explained that the compounds are ubiquitous and may be due to other sources. PFAS were used in a large number of consumer products which may have resulted in releases to the environment.

There were no other questions and Mr. Lin adjourned the RAB meeting. After a short break, Lora Werner of the Agency for Toxic Substances and Disease Registry (ATSDR) led a health discussion with community members.