RESTORATION ADVISORY BOARD MEETING NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP), CALVERTON VIRTUAL MEETING THURSDAY, NOVEMBER 12, 2020

The fifty-second (52nd) meeting of the Restoration Advisory Board (RAB) was online as a virtual meeting hosted by WebEx. Meeting attendees included a representative from the Navy (Lora Fly and Melvin Acree), New York State Department of Environmental Conservation (NYSDEC) (Henry Wilkie and Lynn Winterberger), New York State Department of Health (NYSDOH) (Steve Karpinski), Suffolk County Department of Health Services (SCDHS) (Andrew Rapiejko and Jonathan Wanlass), Town of Riverhead (Drew Dillingham, Catherine Kent, and Frank Mancini), Suffolk County Legislature (Al Krupski), Suffolk County Wading River Civic Representative (Steve Shapiro), Suffolk County Department of Environment and Energy (Amy Juchatz), RAB Community Members (Adrienne Esposito and Vincent Racaniello), Resolution Consultants (Robert Forstner), Tetra Tech (Dave Brayack, Kristi Francisco, Lauren Donston, Melissa Cushing, Jackie Boltz, Vin Varricchio, Will Yeung, and John Trepanowski), and a Congressional Representative (Mark Woolley). The list of attendees is included as Attachment 1.

WELCOME AND AGENDA REVIEW

The Tetra Tech representative Ms. Boltz began the meeting and identified call in users. The Navy representative, Ms. Lora Fly, welcomed everyone to the RAB meeting and introduced the meeting agenda. The agenda for the meeting is included as Attachment 2. Ms. Fly introduced the RAB members, regulators and contractors. Ms. Fly then Introduced Mr. Acree, who will be the new Navy representative for NWIRP Calverton.

Ms. Fly introduced the technical portion of the meeting, which consisted of presentations on the status of the remedial action at the Site 7 – Former Fuel Depot, a summary of the Five Year Review (FYR), summary of the Site 2 - Former Fire Training Area and Site 6A - Southern Area field activities, a summary of the Per- and Polyfluoroalkyl Substances (PFAS) Remedial Investigation (RI) at Site 2 – Former Fire Training Area and a summary of the Facility Wide PFAS Site Inspection (SI). The Navy presentations are included in Attachment 3.

Mr. Racaniello, the RAB co-chair, welcomed everyone to the RAB and said he had received correspondence from a potential RAB member. He then added that anyone who would like to become a RAB member can go to the Navy's public website under the community outreach link and click on how to become a RAB member to obtain an application. In addition, Mr. Racaniello indicated that the New York State promulgated

standards for PFOS and PFOA at 10 ppt and 1-4 dioxane at 1 ppm. He then inquired if the Navy had any 1-4 dioxane updates available. Mr. Racaniello thanked the Navy for posting presentations ahead of time and inquired about the Department of Defense (DoD) screening level for PFOA and PFOS.

Ms. Fly responded that the information about 1,4-dioxane and the DoD screening levels would be discussed during the presentations. She then introduced Mr. Rapiejko and informed the community that he would be providing an update on the Suffolk County private well sampling.

Mr. Rapiejko provided an update on private well sampling as follows. SCDHS has been sampling private wells since October 2020. About 125 properties have been identified that could possibly have a private drinking water well. Of the 125 homes identified, 75 drinking water samples have been collected. Out of the 75 samples, 33 samples have been analyzed. Two of the drinking water samples (at two homes) had results for PFOS and/or PFOA above the NYSDOH MCL of 10 ppt, four drinking water samples had detections but they were below the MCL, and 27 drinking water samples had no detections. SCDHS is also sampling drinking water for 1,4-dioxane, VOCs, and metals. Seven drinking water samples had detections of VOCs and one detection was above the drinking water standard of 5 ppt. SCDHS will continue to sample and requested that the community reach out to other in the area to respond to the sampling requests.

DISTRIBUTION AND APPROVAL OF MINUTES

RAB members Adrienne Esposito and Vincent Racaniello were in attendance. Ms. Fly said the RAB minutes were approved via email in November and will be finalized and posted to the website.

TECHNICAL PROGRESS – SITE 7 FORMER FUEL DEPOT UPDATE

Mr. Forstner (Resolution Consultants) provided an update on the status of Site 7 - Former Fuel Depot. The presentation is included in Attachment 3.

Mr. Racaniello inquired if the slab was above the water table. Mr. Forstner confirmed that is was. Mr. Racaniello further inquired if air sparge (AS) points were installed below the slab. Mr. Forstner responded there were AS wells installed below the slab but the slab impeded air flow.

Mr. Racaniello inquired if the contaminated soil was removed during the excavation. Mr. Forstner replied that approximately 1,100 cubic yards of contaminated soil was removed from the site. Mr. Rapiejko inquired if the new air sparge system piping will be installed above or below ground. Mr. Forstner replied that the piping will be installed above ground but there should be no hinderance in operation during winter months. He further explained that biosparge is forcing air into the groundwater at a much lower flow rate in order to encourage natural bacteria to enhance digestion of the compounds.

Mr. Rapiejko inquired if there were ideas on how to get volatiles out of the water and if it possible for them to go back into the groundwater. Mr. Forstner replied that the volatiles will not go back into the groundwater because the air is continually pushing upward.

Mr. Rapiejko inquired if rain would be an impediment. Mr. Forstner replied that rain might slow the upward air flow but that would be a transitory event. He continued to explain that he did not foresee rain being a significant retardation on the rate of movement on the VOCs upward and out of the groundwater.

Ms. Esposito inquired about Suffolk County's detection limited for PFOA and PFOS in drinking water. Mr. Rapiejko replied he believed the detection limit was 1 ppt or 2 ppt and confirmed that it was well below the 10 ppt.

Mr. Racaniello inquired if there was any concern with using air sparging without a soil vapor extraction (SVE) system. He also inquired if the excavation was backfilled with sand. Mr. Forstner replied that he did not have that concern because concentrations are not high, and further commented that he did not foresee potential airborne VOC impact. He also responded that the excavation could not be completely dewatered, so gravel was used to backfill the excavation up to the water table and then the excavation was backfilled with sand to the ground surface. Mr. Forstner added that an ORC to treat residuals was applied to the water table prior to backfilling activities.

FIVE YEAR REVIEW

Mr. Forstner (Resolution Consultants) provided an update on the activities that took place during the Five-Year Review (FYR). The presentation is included in Attachment 3.

Mr. Rapiejko commented that a FYR draft was submitted to EPA, NYSDEC, NYSDOH but not submitted to the county and inquired the reasoning as to why the County was not included on the review of this document. Mr. Forstner replied that they followed the state and federal regulations and guidelines on submittals and further commented that the FYR didn't disclose any new information. Ms. Fly added that the Navy normally sends documents to the State and knew the state would talk with Suffolk County if there

were any additional comments. She further commented that this is the guidance for FYRs under CERCLA. Mr. Rapiejko requested that Suffolk County be included during the next FYR. Mr.Karpinski commented that he was used to seeing the County copied on document submittal and apologized that Mr.Rapeijko wasn't copied this time.

Ms. Esposito commented that the community advisory is usually included as stakeholders as part of the FYR. She further commented that she has seen many FYRs and they welcome stakeholders for comments. Ms. Fly replied that the Navy is preparing a Community Implementation Plan this Spring and will review the list of stakeholders.

SITE 2 – FORMER FIRE TRAINING AREA SITE 6A – SOUTHERN AREA 2020 FIELD ACTIVITIES UPDATE

Ms. Francisco provided an update on the Site 2 and Site 6A field activities that took place in 2020. The presentation is included in Attachment 3.

Mr. Rapiejko inquired if there were private wells identified in the VOC area. Ms. Francisco replied that no private wells were identified in the area or downgradient of the VOC sites, so only groundwater samples have been collected.

Ms. Esposito inquired if all 78 monitoring wells were for groundwater. Ms. Francisco replied that the 78 wells are groundwater wells and monitoring wells and added that pore water and surface water samples were also collected. The results for the VOCs samples collected during the Spring event were below the cleanup levels and ecological benchmarks. She further commented that the Fall 2020 results are not available yet.

Ms. Esposito inquired when will the results be available. Ms. Francisco replied that the results will be presented during the Spring 2021 RAB.

Mr. Rapiejko inquired about the ecological values for VOCs and if they were determined prior to 1,4-dioxane being known as an issue. He further enquired whether 1,4-dioxane will undergo that same evaluation. Ms. Francisco replied that 1,4-dioxane will go through a similar evaluation.

PER- AND POLYFLUOROALKYL SUBSTANCES REMEDIAL INVESTIGATION, SITE 2 – FORMER FIRE TRAINING AREA

Ms. Fly introduced the per- and polyfluoroalkyl (PFAS) presentations. She began by summarizing that the drinking water samples collected downgradient of Site 2 and the 12 areas of concern (AOCs) were all below the EPA health advisory levels (HAL). Ms.

Fly added that based on DoD guidance, the Navy only has authorization to use environmental restoration funds to address drinking water exposures that exceed the HAL. The decision to take action on the state MCLs is being made by the DoD. Investigation activities are now being focused at site 2 and the 12 AOCs. Upcoming activities do not include any additional drinking water investigation at this time. Further sampling will be conducted if results identify a potential to impact drinking water from sources emanating from the former property.

Ms. Francisco provided an update on the Per- and Polyfluoroalkyl Substances Remedial Investigation at Site 2. The presentation is included in Attachment 3.

Ms. Esposito inquired about drinking water sampling for PFAS in 2020 and further inquired about the use of the DoD screening level of 40 ppt when there is now an MCL of 10 ppt. Ms. Fly responded that the Navy was collecting groundwater samples not drinking water samples. Ms. Esposito responded that the groundwater is a sole source drinking water aquifer. Ms. Fly responded that the private drinking water wells that may be impacted by chemicals from the facility have been identified, otherwise no one is currently drinking the groundwater.

Ms. Fly replied that results for the groundwater samples are compared to the screening level of 40 ppt. She further commented that the Navy has identified private drinking water wells that may be impacted and those wells were sampled in 2018 and 2019. Ms. Fly continued to explain that the next step is to focus on evaluating PFAS in groundwater to determine if further action is necessary. She further explained that the DoD is currently evaluating State standards and will make a determination on how to implement those values. Ms. Fly added that drinking water will not be included in these two presentations.

Mr. Karpinski added that using 40 ppt as a screening level is appropriate. He further explained that it is a process the NYSDOH is going through for the rest of the state and that they are going to evaluate what needs to be done to protect public health.

Mr. Rapiejko expressed his concerns about emerging contaminants and commented that he has been told for years that there are no standards. He further commented that the Navy was using 130 ppt for soil and further inquired if there was screening criteria for the protection of groundwater. Ms. Fly replied that the Navy did not have screening criteria for the protection of groundwater but was aware of the New York State's guidance document that proposed 1.1 ppt for PFOA and 3.1 ppt for PFOS for residential use. Ms. Fly commented that the Navy is using 70 ppt for drinking water to determine if a response action is appropriate. She further explained that the U.S. EPA calculator is used by the Navy to develop screening levels for groundwater and soil.

Mr. Rapiejko inquired if the Navy was evaluating precursors, performing Total Oxidizable Precursor (TOP) assays, and evaluating ecological impacts in soil and the Peconic River. Ms. Francisco replied that TOP assays have not been conducted but samples are analyzed for the 25 compounds on the New York State analyte list, which includes at least two precursors. Mr. Rapiejko asked for confirmation that all precursors were being analyzed when there could be thousands of these compounds. Ms. Francisco replied that only the precursors on the New York State list are analyzed at this time.

Mr. Rapiejko inquired how the Navy will assess bioaccumulation in fish. Ms. Francisco replied that the Navy was aware of ecological numbers and will continue to evaluate criteria as they become available so that bioaccumulation can be addressed.

Mr. Karpinski added that the NYSDOH is going to evaluate data against the MCLs, criteria in guidance documents, and any other standards that may come out in the future. He further commented that the Navy and the State are going to figure out what to do based on data.

Ms. Esposito expressed a concern about the detection limit and commented that the data would not be valuable if detections under 40 ppt are not included. Ms. Francisco replied the detection limits are approximately 2 ppt and the 40 ppt is a screening level. She further commented that the tag maps have been posted on the website and that the community would be able to see all results above the detection limit of 2 ppt.

PER- AND POLYFLUOROALKYL SUBSTANCES SITE INSPECTION, FACILITY WIDE

Ms. Francisco provided an update on the PFAS SI for the Facility. The presentation is included in Attachment 3. The community was then invited to raise hands to ask questions and questions submitted through the Webex chat were presented to the panelists.

Mr. Houghton inquired about the product in soil at Site 7 and whether the material was below the slab only or if it extended outward as well. Mr. Forstner replied that the soil below the slab was not tested but was removed during the excavation. He further commented that the LNAPL was floating on top of the water table. Mr. Forstner further explained that samples were collected at the bottom of the excavation but because the excavation had to be dewatered, it was unknown if fuel impacted material was beyond the excavation boundary.

Ms. Pope inquired about PFAS tracking with the VOCs. Ms. Francisco replied that PFAS areas of concern were sperate from the VOC Sites. She further commented that

1,4-dioxane will track with VOCs because both chemicals would have been released at the same time. Ms. Francisco commented that AFFF containing PFAS was released at Site 2 and may track with the VOCs but it was still early in the investigation to make this determination.

Mr. Krupski inquired about when the PFAS data would be released and at what depths the data was collected. Ms. Francisco replied that the majority of the data would be available in the Spring 2021 RAB and access agreements were still pending from property owners. She added that testing was conducted at depths from the water table (5 to 20 feet bgs) to the depth of the first clay layer at approximately 50 to 70 feet bgs.

Ms. McClinchy commented that she has heard very little about Grumman and enquired about their role. Ms. Francisco replied that Grumman was the contractor at NWIRP Calverton and that was a legal comment that could not be answered.

Ms. McClinchy commented that the residents to the south of the former facility are highly concerned about what is in their water and that the Navy is only doing groundwater testing not private drinking water well testing. She further inquired about the drinking water well that was recently sampled south of Site 2. Ms. Fly replied that Tetra Tech did contact a private resident about collecting a drinking water sample in 2020. She further explained that there is drainage from Swan Pond to the Peconic River near River Road and that there was a concern that PFAS from this drainage area would impact a nearby drinking water well. Ms. Fly confirmed that the Navy recently received confirmation that the homeowner would allow entry to the property, the drinking water was tested, and results have not been yet received from the laboratory.

Mr. Carey inquired about Site 7 and if fingerprinting was used. Mr. Forstner replied that he did not recall the use of fingerprinting at Site 7.

Mr. Carey inquired about the FYR and expressed the same concern as Mr. Rapiejko and Ms. Esposito. He further commented that the FYR was closed without any public input. Ms. Fly replied the comment period ended in 2019 prior to the promulgation of the NYSDOH MCLs for PFOA, PFOS, and 1,4-dioxane. She noted that the FYR was presented during the January 2020 RAB and this occurred before comments were received from NYSDEC and NYSDOH. Ms. Fly further commented that a community involvement plan will be prepared in the Spring and that the stakeholder list would be updated.

Mr. Carey inquired why for 1,4-dioxane was not tested during the drinking water investigation for PFAS. Ms. Francisco replied that the Navy's directive to test wells for PFAS was proactive, to make sure those wells located downgradient of areas of concern were not impacted. She further commented that typically,1,4-dioxane is

released with solvents and are detected at Sites with VOCs. Ms. Francisco continued to say that the VOC plumes at Site 2 and 6A have been delineation, and the only private drinking water wells located downgradient of these sites were at the Peconic River Sportsman's Club and a public drinking water line has already been extended to this area by the Navy.

Mr. Carey inquired about the FLTS being shut down and whether the treated effluent water in the discharge points and the infiltration galleries were tested for PFOS, PFOA and 1,4-dioxane. Ms. Fly replied that PFAS and 1,4-dioxane were both tested and results would be forwarded after the RAB meeting.

Mr. Carey commented that VOCs could be far offsite now and inquired whether the delineation has not been extended far enough now that the FLTS was shutdown. Ms. Fly replied that flow net studies were performed and based on the study, VOCs are flowing towards the Peconic River. She further commented that biannual sampling was conducted for porewater and surface water, and there are three sample locations to the east that are always non-detect. Ms. Fly commented that the Navy was confident that VOCs and therefore the extent of delineating 1,4-dioxane was known. She further commented that the Navy will continue to monitor the plume.

A resident inquired about the stakeholder group that was previously mentioned and expressed a concern that the Navy is still testing for PFAS at 40 ppt rather than new standards. Ms. Francisco replied that the method detection limit (MDL) is around 2 ppt, and that the 40 ppt is a screening level. She further commented that that Navy was not using the new standards during the SI phase and the figures with the results are posted on the Navy website for those that are interested in seeing all of the results.

Ms. Pope commented that her private well was outside of the drinking water investigation area and inquired if homes outside of the current plume are still being kept in mind for future drinking water investigations. Ms. Francisco replied the Navy considered all potential PFAS areas of concern when the boundary was created. She further commented that currently no other homes are being considered at this time but if new information comes to light, the Navy would reexamine the boundary.

Ms. Pope reiterate Mr. Carey's concerns and commented that they were located to the south on River Road. She expressed that testing against the current New York standard should come sooner rather than later. She further commented that a few years could make a huge difference for the rest of the homes downstream and nearby drinking well water.

Ms. McClinchy commented that the maps in the presentation were not very comprehensive and the maps with the results should b included in the presentation.

She further commented that there is a higher alert for 1,4 dioxane and inquired whether the Navy will test private drinking water for 1,4-dioxane. Ms. McClinchy commented that it has been over a year since PFAS was tested in private drinking water wells and that testing should be conducted again. Ms. Fly replied that the drinking water was tested in 2018 and 2019 and the second event was to determine a trend with PFOA and PFOS. She further commented that the New York State does not have a standard for the combined total for PFOA and PFOS. The highest concentration for PFOA was 11 ppt and for PFOS, 5 ppt. The results for the second sampling came back lower and were all below the proposed standard. Ms. Fly further responded that the information is posted on the website but the Navy was not allowed to release specific locations or concentrations. Ms. Fly added that the Navy was preparing a preliminary assessment to further evaluate 1,4-dioxane and would not be testing private drinking water wells unless new information becomes available.

Mr. Church inquired whether there was explicit instruction from the Navy to emphasize groundwater over drinking water in this presentation and further commented that it was repeated several times. Ms. Fly responded that the Navy did want to emphasize that the results were just for groundwater, so the public would understand that drinking water results were not being presented.

Mr. Church inquired, in the interest of protecting public health, why the Navy doesn't just connect the private wells to public water. Ms. Fly replied that the Navy is responsible for making sure that private wells are protected from releases that occurred on NWIRP Calverton and cannot take action for private wells that have no evidence of impact from past activities on the former facility.

Mr. Church inquired whether the Navy knows that the public is concerned about drinking water and further inquired if the Navy will test drinking water. Ms. Fly replied that the purpose of the RABs is to inform the community about the cleanup NWIRP Calverton. She further commented that part of the cleanup did include the testing of private wells but the Navy is now going back to the CERCLA process to determine if PFAS is emanating off the property in order to prepare a proper cleanup plan.

Mr. Wooley thanked the Navy and stakeholders for conducting the RAB meeting and commented that there is a lot of frustration and that the flow points are directly towards residents. He further commented that this has been happening for years and there is a need to protect the residents as best as we can. He continued to say that the effects over the years can only be imagined. Mr. Wooley stated that he is going to continue to work with the Navy and urge them to do its best and not leave anything unturned. He further expressed that the residents are concerned about their health and deserve to have all the work done on their behalf.

Mr. Wooley inquired if any effort has ever been made to interview former employees of Northrop Grumman, not only management but also custodial staff and if so, have they been asked if they have knowledge of burial sites that were never documented, and that may contain hazardous materials. Mr. Brayack replied that during the original investigations in the early 90's the facility was still active, so Grumman and Navy employees were questioned but now that it has been 25 years later, it is more difficult to identify additional sites from former employees but he expressed confidence in identifying most of the sites.

Ms. Pope inquired about the expected timeframe for making the determination whether responsibility emanates from the Navy property. Ms. Francisco replied that for PFAS, the Facility Wide Investigation is in the SI phase and Site 2 is in the RI phase and the timeframe for each will depend on the data.

Ms. Pope inquired about the next step in determining whether the drinking water investigation boundary would be expanded. Ms. Francisco replied that the Navy would continue step out sampling during supplemental investigations and a date could not be established until the data is evaluated.

Ms. Giglio inquired whether the Navy would extend a public drinking water line to the residents if there are high levels of contaminants in the Suffolk County drinking water results. Ms. Fly responded that the Navy would only be able to extend the public drinking water line if the detections in drinking water are the result of a release on the former NWIRP.

Mr. Carey commented that he would like Mr. Wooley write to the DoD and urge them to recognize the New York State standard of 10 ppt for PFOA and PFOS. He further commented that he thought this letter would go a long way if it was from Congressman Zeldin.

GENERAL DISCUSSION AND CLOSING REMARKS

At the conclusion of the meeting, Mr. Acree thanked the attendees for their participation and remined everyone additional questions must be submitted by November 19th by email or voicemail. Mr. Acree further comment that the additional questions would be captured in the RAB minutes. The next RAB meeting was planned for Spring 2021. The meeting was then adjourned.

LIST OF ACRONYMS AND ABBREVIATIONS

AFFF	Aqueous Film Forming Foam	
AOC	Area of Concern	
AS/SVE	Air Sparge/Soil Vapor Extraction	
bgs	Below ground surface	
BTEX	benzene, toluene, ethyl benzene, and xylene	
CERCLA	Comprehensive Environmental Response. Compensation, and Liability	
	Act	
DoD	Department of Defense	
EPA	Environmental Protection Agency	
FLTS	Fence Line Treatment System	
FYR	Five-Year Review	
HAL		
LNAPL	Light Non-aqueous phase liquid	
LTM	Long Term Monitoring	
LUC	Land Use Control	
MCL	Maximum Contaminant Level	
MDL	Method Detection Limit	
MEC	Munitions and Explosives of Concern	
MNA	Monitored Natural Attenuation	
ng/L	Nanograms per Liter	
NĂPL	Non-aqueous phase liquid	
ND	Non Detect	
NWIRP	Naval Weapons Industrial Reserve Plant	
NYSDEC	New York State Department of Environmental Conservation	
NYSDOH	New York State Department of Health	
OU	Operable Unit	
PA	Preliminary Assessment	
PFAS	Per- and Polyfluoroalkyl Substance	
PFBS	Perfluorobutane Sulfonic Acid	
PFOA	Perfluorooctanoic Acid	
PFOS	Perfluorooctane Sulfonate	
ppt	parts per trillion	
PRSC	Peconic River Sportsman's Club	
RAB	Restoration Advisory Board	
RI	Remedial Investigation	
ROD	Record of Decision	
RPM	Remedial Project Manager	
RSL	Regional Screening Level	
SCDHS	Suffolk County Department of Health Services	
SCO	Soil Cleanup Objectives	
SI	Site Inspection	
TCA	1,1,1-Trichloroethane	

TCE	Trichloroethene
TOP	Total Oxidizable Precursor
µg/L	micrograms per Liter
UST	Underground Storage Tank
VOC	Volatile Organic Compound

ATTACHMENT 1

NOVEMBER 12, 2020 RAB MEETING ATTENDEES

Attendees for the 52nd RAB meeting for NWIRP Calverton November 12,2020

1	Almskog, Kris
2	Carey, Stan
3	cdamaro,
4	Church, Robert
5	Cushing, Melissa
6	Dillingham, Drew
7	Doepp, Jeffrey
8	Donston, Lauren
9	Ebert, Bill
10	Esposito, Adrienne
11	Forrest, Melissa
12	Forstner, Robert
13	Gannon, Tim
14	Gordon, Robert
15	Houghton, Thomas
16	Howe, Robert
17	inthewoods31,
18	Jodi, Giglio
19	Juchatz, Amy
20	Karpinski, Steven
21	Kent, Catherine
22	Krupski, Al
23	Lauren, Shirley
24	Lawton, Hugo
25	Lennon, Kristin
26	Mancini, Frank
27	Mancini, Frank
28	McClinchy, Kelly
29	Neppell, Tom
30	Paquette, Douglas
31	Pope, Ashley
32	Racaniello, Vincent
33	Rapiejko, Andrew
34	Shapiro, Stephen
35	Speaker, RAB
36	Steve, Wick
37	Tauss, Stephen
38	Theurer, Rosemary
39	Todd, David
40	Trepanowski, John
41	Varricchio, Vin
42	Wanlass, Jonathan
43	Wilkie, Henry
44	Winterberger, Lynn
45	Woolley, Mark
16	Yeung, William

ATTACHMENT 2

NOVEMBER 12, 2020 RAB MEETING AGENDA

Agenda

Restoration Advisory Board Naval Weapons Industrial Reserve Plant Calverton

November 12, 2020

Virtual Meeting

7:00 p.m.

By Internet: https://tinyurl.com/CALRAB1120

By Telephone: +1-408-418-9388 Access code: 132 723 7143

Welcome and Virtual Meeting Instructions

Jacqueline Boltz, Tetra Tech

Welcome and Agenda Review

Lora Fly, NAVFAC Mid-Atlantic

Community Update

Vincent Racaniello, RAB Co-chair

Technical Progress

Site 7 – Fuel Depot Update Robert Forstner PE, Resolution Consultants

Five Year Review Robert Forstner PE, Resolution Consultants

<u>Site 6A – Southern Area 2020 Field Activities Update</u> Kristi Francisco, Tetra Tech

Per- and Polyfluoroalkyl Substances Remedial Investigation . Site 2 – Former Fire Training Area Kristi Francisco, Tetra Tech

Per- and Polyfluoroalkyl Substances Site Inspection. <u>Facility Wide</u> Kristi Francisco, Tetra Tech

> Closing Remarks Lora Fly, NAVFAC Mid-Atlantic

Presenters will be available after the program for questions.

ATTACHMENT 3

NAVY PRESENTATIONS - NOVEMBER 12, 2020 RAB MEETING

NWIRP CALVERTON Restoration Advisory Board



November 12, 2020 - Meeting Agenda

- Welcome
- Introductions
- Presentations (available at <u>https://go.usa.gov/x78Ya</u>)
- Q&A Session
- Updates

Thank you for joining us. The meeting will begin at 7:00pm.

If you are experiencing technical difficulties, contact WebEx by telephone at 1-866-779-3239.

<u>Closed Captioning</u>: Select Panel Options icon (3 dots in lower right of screen) and select Multimedia Viewer.





WELCOME

NAVAL WEAPONS INDUSTRIAL RESERVE PLANT CALVERTON RESTORATION ADVISORY BOARD

VIRTUAL MEETING NOVEMBER 12, 2020 7:00 P.M.



- Attendee microphones will remain muted except when recognized for questions
- > Webinar sign-in names will be used for the record
- RAB Members will have 10 minutes following each presentation
- Attendees will have an opportunity to ask questions or comments after all presentations are complete
- Please be respectful of others, even if you don't agree with their comments



Ask a question by typing it in the Q&A box.

Click three white dots "More Options" icon in bottom right of screen to open the Q&A box.



AGENDA



- Welcome and Virtual Meeting Instructions Jacqueline Boltz, Tetra Tech
- Welcome and Agenda Review, Lora Fly, NAVFAC Mid-Atlantic
- Community Update, Vincent Racaniello, RAB Co-chair
- Drinking Water Sampling Update, Andrew Rapiejko, SCDHS
- Technical Progress (panelists will have 10 minutes for Q&A after each presentation)
 - Site 7 Fuel Depot Update, Robert Forstner PE, Resolution Consultants
 - ➢ Five Year Review, Robert Forstner PE, Resolution Consultants
 - Site 2 Former Fire Training Area and Site 6A Southern Area 2020 Field Activities Update, Kristi Francisco, Tetra Tech
 - Per- and Polyfluoroalkyl Substances Remedial Investigation, Site 2 Former Fire Training Area, Kristi Francisco, Tetra Tech
 - > Per- and Polyfluoroalkyl Substances Site Inspection, Facility Wide, Kristi Francisco, Tetra Tech
- Attendee Questions and Answers until 10pm
- Closing Remarks, Melvin Acree, NAVFAC Mid-Atlantic





Vincent Racaniello – RAB Co-Chair Louis Cork – RAB Member Adrienne Esposito – RAB Member



SITE 7 – FUEL DEPOT UPDATE

November 2020 Restoration Advisory Board

NWIRP CALVERTON, NEW YORK

November 12, 2020

Introduction







- Several former underground storage tanks (USTs) removed by late '90s
- Tanks had leaked, resulting in groundwater & soil contamination
- Air Sparge (AS) and Soil Vapor Extraction (SVE) system started operation in 2005 (pilot)/2006 (full scale)
- Operated seasonally (April to December)
- System reached end of its functional life November 2013



System Performance



1992/1995, 2009, and 2011 to 2013 Plume Boundaries





- Quarterly and then semiannual sampling
- Observation of NAPL during October 2016 sampling event
 - Fingerprinting identified NAPL as weathered fuel
 - Appeared in three wells, up to 1.12 ft thick and then decreasing over time
 - No NAPL observed in any wells since March 2017





Presence of UST foundation slab at depth limited options





Post-Shutdown Activities (cont'd)



- Excavation Project Summer/Fall 2019
 - Twelve-week project from start to finish
 - Impacted materials removed:
 - 1,090 CY of soil, 206.11 tons of concrete
- Soil at bottom of excavation met NYSDEC Unrestricted Use Soil Cleanup Objectives (SCOs)





Post-Shutdown Activities (cont'd)



- Routine LTM program resumed
 - Spring 2020 summary:
 - Xylene MCL exceeded at three locations: SV2 (209 µg/L), SV4 (5.6 µg/L) and SV13 (7.6 µg/L)
 - Ethylbenzene MCL exceeded at SV2 (49 µg/L)
 - No detections at MW07S/07I, MW08S, MW09S, MW16S & SV15
 - No MCL exceedances at SV11



Path Forward



- Pilot installation of targeted AS/biosparge in vicinity of SV2
- Improved air flow expected after removal of UST foundation slab
- Use a direct-push drill rig to investigate several locations near and downgradient of SV2, collect groundwater samples
- Field analysis to evaluate fuel-related compounds



Path Forward



- Post-pilot actions
 - Continue semiannual monitoring
 - If VOCs remain above MCLs, determine if an additional three-month period of AS/biosparge pilot operation is needed



FIVE YEAR REVIEW

November 2020 Restoration Advisory Board

NWIRP CALVERTON, NEW YORK

November 12, 2020



- A Five-Year Review (FYR) is required when a remedy leaves hazardous substances behind
- The purpose of an FYR is to evaluate if the remedies are still protective of human health and the environment

Five Year Reviews – Content



- The evaluation includes:
 - Review of any new site data
 - Interviews with relevant site personnel
 - Community involvement (implemented via RABs in the case of NWIRP Calverton)
- As part of the FYR, three specific questions must be examined:
 - A. Is the remedy functioning as intended by the decision documents?
 - B. Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?
 - C. Has any other information come to light that could call into question the protectiveness of the remedy?
NWIRP Calverton Second FYR





NWIRP Calverton Second FYR



- Updates since First FYR
 - OU2 (Sites 7/10A)
 - Demolition of AS/SVE system and subsequent LTM results
 - Recently-completed excavation project
 - OU3 (ROD dated May 2012)
 - Site 6A/Southern Area
 - Site 10B completion report accepted by NYSDEC, September 2018
 - Chemicals of Emerging Concern (PFAS, 1,4-dioxane)
- Second FYR covered site activity through 2019
 - Draft submitted for NYSDEC, NYSDOH and EPA review in June 2020
 - NYSDEC & NYSDOH concurred with the FYR on August 25, 2020
 - Final FYR signed by the Navy on October 31, 2020



SITE 2 – FORMER FIRE TRAINING AREA SITE 6A – SOUTHERN AREA 2020 FIELD ACTIVITIES UPDATE

NAVAL WEAPONS INDUSTRIAL RESERVE PLANT CALVERTON, LONG ISLAND, NEW YORK

11/12/2020

Volatile Organic Compounds and 1,4-Dioxane



- Volatile Organic Compounds (VOCs)
 - Consumer products: cleaning products and paints
 - Industrial uses: metal degreasing agent, paints, and glue
 - Useful properties: solvent that removes grease and oils
- •1,4-Dioxane
 - Consumer products: deodorants, shampoo, and cosmetics
 - Industrial uses: paint strippers, dyes, greases, varnishes, and waxes
 - Useful properties: stabilizer for chlorinated solvents such as 1,1,1-trichloroethane (TCA)
- Known VOC and potential 1,4-dioxane Sites
 - Site 2 Former Fire Training Area
 - Site 6A Southern Area

Site 2 – Former Fire Training Area and Plume Boundary



- 1950's to 1996: Fire Training Area
- Groundwater at the site have been impacted by petroleum, chlorinated solvents, and other chemicals
- Two VOC-contaminated groundwater plumes
- Trichloroethene (TCE) and xylene are the primary contaminants
- •TCE plume extends offproperty
- Fall 2020: 17 monitoring wells (VOC and 1,4-dioxane analysis)



Site 6A – Southern Area and Plume Boundary



<u>History</u>

- 1950's to 1996: Site 6A Former Fuel Calibration Area used for the testing of aircraft fuel and engine systems
- Frequent, small fuel and solvents likely spilled during use at the Site
- Site 6A Southern Area: volatile organic compound (VOC) groundwater plume
- FLTS System operated from October 2013 to March 2019; removed 54.5 pounds of VOCs via air stripping
- Biannual Long-Term Monitoring
 (LTM)



Field Activities Site 6A – Southern Area

2020 Groundwater Monitoring Events

- Spring 2020: Peconic River Area sampling (VOC analysis)
- Fall 2020
 - Peconic River Area sampling
 - 78 monitoring wells
- VOC and 1,4-dioxane analysis Winter 2020 / 2021 – Groundwater Monitoring Event
- 27 monitoring wells located in the northeast portion of the property (VOC analysis)





Spring 2020 Event Site 6A – Southern Area



- Peconic River Sampling
 VOCs were below the cleanup levels at the two Peconic River Area monitoring wells
- VOCs in pore water and surface water were below the OU3 ecological values



VOCs and 1,4-Dioxane Path Forward



- Evaluate VOC and 1,4-dioxane data and reporting
- Continue monitoring for VOCs at Site 2 and Site 6A
- Preparation of a Preliminary Assessment for 1,4-dioxane at the former NWIRP
 - Literature search: Naval Information Restoration Information Solution (NIRIS) and Public databases (EPA and State of New York)
 - Site interviews
 - Site reconnaissance
 - PA Report: Summarizes findings and recommendations for Site Inspections





Questions?



PER- AND POLYFLUOROALKYL SUBSTANCES SITE 2 – FORMER FIRE TRAINING AREA REMEDIAL INVESTIGATION

NAVAL WEAPONS INDUSTRIAL RESERVE PLANT CALVERTON, LONG ISLAND, NEW YORK

11/12/2020

Site 2 – Former Fire Training Area



- Used as an active Fire Training Area from the 1950's until 1996
- Aqueous Film Forming Foams (AFFF) used to extinguish fires
- PFAS was used to manufacture AFFF from the 1960's to 2001
- Investigations for perand polyfluoroalkyl substances began in 2016



PFAS Investigations Site 2 – Former Fire Training Area



- Site 2 Remedial Investigation (RI)
 - June 2020: finalized Work Plan
 - July 2020: began field activities
 - Received access to locations on Suffolk County and the State of New York
- RI Components
 - Delineation of PFAS in soil and groundwater
 - Further evaluation of groundwater flow
 - Surface water and sediment sampling and PFAS analysis at McKay Lake and Swan Pond
 - Discharge sampling and PFAS analysis at McKay Lake





- United States Environmental Protection Agency (U.S. EPA) concern with two longchain PFAS: perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA)
- U.S. EPA Drinking Water Health Advisory of 70 parts per trillion (ppt) for PFOA, 70 ppt for PFOS, and if both are present, 70 ppt for PFOA and PFOS
- New York State
 - August 26, 2020: promulgated a public drinking water supply maximum contaminant level (MCL) of 10 ppt for PFOA and 10 ppt for PFOS
- Department of Defense (DoD) Screening Levels
 - Calculated using the U.S. EPA Regional Screening Level calculator
 - Tapwater: 40 ppt for PFOA and 40 ppt for PFOS
 - Soil: 130 ppb for PFOA and 130 ppb for PFOS (incidental ingestion for residential and industrial / commercial receptors)



- Department of Defense (DoD) Screening Levels
 - Calculated using the U.S. EPA Regional Screening Level calculator
 - Tapwater: 40 ppt for PFOA and 40 ppt for PFOS
 - Soil: 130 ppb for PFOA and 130 ppb for PFOS (incidental ingestion for residential and industrial / commercial receptors)
- Used to determine if an Area of Concern moves from an SI to a Remedial Investigation (RI)
- In an RI: Used to determine if additional step out is needed for delineation or mapping of the plume



Site 2 – Former Fire Training Area Conceptual Site Model





Site 2 – Former Fire Training Area Conceptual Site Model





Site 2 – Former Fire Training Area Conceptual Site Model





Site 2 – Former Fire Training Area 2018 On-Property Soil Sampling



- 5 surface soil samples (0 to 2 feet below ground surface [bgs])
- 12 subsurface soil samples
 - At depths where residual petroleum contamination was detected: 7 to 10 feet bgs
 - Above water table: 14 to 19 feet bgs
- All results below the DoD screening level (130 ppb) :
 - PFOA and PFOS not detected in 5 of the 17 samples
 - Maximum detection of PFOA: 5.52 J ppb
 - Maximum detection of PFOS: 30.0 ppb



Site 2 – Former Fire Training Area 2020 On-Property Soil Sampling



- Collected 46 subsurface soil samples from 23 locations
 - Native soil: 3 to 5 feet below ground surface (bgs)
 - Above water table: 10 to 21 feet bgs
- All results below the DoD screening level (130 ppb):
 - PFOA and PFOS not detected in 39 of the 46 samples
 - Maximum detection of PFOA:3.30 J ppb
 - Maximum detection of PFOS: 10.4 ppb



Site 2 – Former Fire Training Area 2019 Off-Property Groundwater Grab Sampling



- Collected 50 groundwater samples from 10 locations
- Results for 4 of the 50 samples were were above the DoD screening level (40 ppt)
- Maximum detection of PFOA: 54.9 ppt
- Maximum detection of PFOS: 22.8 ppt



Site 2 – Former Fire Training Area 2020 Off-Property Groundwater Grab Sampling



- Collected 22 groundwater samples from 5 locations
- All results are below the DoD screening level (40 ppt)
- Maximum detection of PFOA: 31.3 J ppt
- Maximum detection of PFOS: 16.6 ppt



Site 2 – Former Fire Training Area 20202 Off-Property Groundwater Grab Sampling



- September: collected 39 groundwater samples from 9 locations
- Validated results pending



Site 2 – Former Fire Training Area Piezometer Installation



- Installed 16 of 17 new piezometers
- Fall 2020:
 - Collected a round of water levels
 - Collected groundwater samples from 51 piezometers
 - Collected surface water and sediment samples from McKay Lake and Swan Pond
 - Validated results pending
- Next sampling event: Spring 2020



Site 2 – Former Fire Training Area McKay Lake



- Collection of discharge samples from each of the 6 inlets, if possible
- Collection of surface water from the outlet to Swan Pond
- Collection of groundwater samples from 4 piezometers
- Fall 2020: Collected first round of samples (validated results pending)
- Next sampling event: Winter 2020



Questions PFAS	NATAC

•Questions about the Site 2 PFAS RI?



PER- AND POLYFLUOROALKYL SUBSTANCES FACILITY WIDE SUPPLEMENTAL SITE INSPECTION

NAVAL WEAPONS INDUSTRIAL RESERVE PLANT CALVERTON, LONG ISLAND, NEW YORK

11/12/2020

Facility Wide Per- and Polyfluoroalkyl Substances (PFAS)



- 2019: Site Inspection (SI) began
- Supplemental SI
 - July 2020: finalized Work Plan
 - August 2020: began field activities
 - Access agreements: received signed agreements from 3 of 7 property owners



Location Map Areas of Concern





AOCs -01, -02, and -03 Aircraft Paint Hangars



- Aircraft Paint Hangars and Paint Stripper Building
- Equipped with fire suppression systems containing AFFF
- Installed 6 new piezometers
- Winter 2020: sampling event



AOC-04 Noise Suppression House



- Noise Suppression House
- Equipped with fire suppression system containing AFFF
- Installed 18 of 21 piezometers
- Collected 8 soil samples
- Winter 2020: groundwater sampling



Noise Suppression House Soil Sampling Results



- August 2020: 8 soil samples collected from 4 locations
- All results below the DoD screening level (130 ppb)
- PFOA range: not detected to 21.9 ppb
- PFOS range: not detected to 0.82 ppb



PFOA or PFOS detected

AOC-05 Fuel Storage Terminal



• Fuel Storage Terminal • November 2020: Installed 11 of the 14 piezometers • Equipped with a fire suppression • Winter 2020 / 2021: soil sampling, groundwater grab system containing AFFF sampling, and groundwater sampling at the piezometers **Fuel Leach Chamber** ST-TW03 Cesspools ST-TW04 FST-SB04 F PZ07I FST-SB05 DSV15 Former **Building with** AFFF tank FST-PZ02I FST-PZ106S FST-PZ1045 FST-PZ103S FST-PZ106 FST-PZ104I FST-PZ103I 🔎 ST-PZ106D FST-PZ104D FST-PZ103D

AOCs -07 and -08 Flight Emergency Shelter



- Flight Emergency Shelter
- Fire House; storage of AFFF inside the building
- Equipment Training Area; Discharged AFFF
- October 2020: installed 17 of 21 piezometers
- Winter 2020 / 2021: sampling



Flight Emergency Shelter Soil and Groundwater Investigation



- Winter 2020 / 2021: soil sampling and groundwater grab sampling from temporary wells
- 18 soil samples from
 9 locations (surface and above the water table)
- 9 groundwater grab samples at the water table


Area of Concern -09 Jet Fuel Spill



• Jet Fuel Spill Calverton D' • AFFF released at the spill location; location is uncertain • Installed 3 monitoring wells • Winter 2020: collection of samples from monitoring wells and four VPBs to collect groundwater AOC09-PZ06 grab samples AOC09-TW16 AOC09-TW18 AOC09-PZ06 AOC09-TW17 AOC09-TW15

Area of Concern -10 and -11 Crash Sites



- Aircraft Crash Sites
- AOC-10: F-111 crash
- AOC-11: EF-111 crash
- Winter 2020: Installation of two piezometers and 24 VPBs to collect groundwater grab samples



Groundwater Sampling Facility Wide





Area of Concern -13 F-14 Crash Site



- January 1970: F-14 crash occurred in the southeast buffer, south of the Long Island Railroad, and north of the Long Island Expressway (I 495)
- 2019 and 2020: conducted further evaluation to find location of the crash
 - Door-to-door survey in residential area to the east
 - Leaflets left on doors if homeowner was unavailable
 - Interviews with individuals familiar with the crash
 - Site reconnaissance



Area of Concern -13 F-14 Crash Site







Questions on the PFAS Supplemental SI?



2. Raise your hand to be recognized and have your microphone unmuted.

Raise Hand 🕖 in the Participants panel to signal a question

3. Phone-only attendees can dial *3 to raise their hand and have the opportunity to ask a question.





OUESTIONS/ANSWERS UNTIL 10:00 P.M.

POST MEETING



- Questions can be submitted 1 week after the RAB (November 19, 2020)
- Submit question to the Navy PAO (NAVFAC_ML_PAO@navy.mil) or leave a message at 888-469-2371
- Similar questions will be combined
- The post meeting Q&A will be available at the Navy's website and captured in the RAB meeting minutes
- The Navy's website: https://go.usa.gov/x78Ya