

Restoration Advisory Board Meeting Naval Weapons Industrial Reserve Plant (NWIRP), Calverton Tuesday April 5, 2022

The fifty-fifth (55th) meeting of the Restoration Advisory Board (RAB) was held in person at the Manorville Fire Department in Manorville, New York and as an online virtual meeting hosted by WebEx. Panelists for this meeting included representatives from the Navy (Jennifer Zingalie, Melvin Acree, Melissa Forest, and David Todd), New York State Department of Health (Shaun Surani), Suffolk County Department of Health Services (SCDHS) (Andrew Rapiejko and Jonathan Wanlass), RAB Community Members (Adrienne Esposito, Amanda Lauth, Catherine Karl, Frank Mancini, Kelly McClinchy, and Vincent Racaniello [RAB Community Co-Chair]), Management Edge (Gayle Waldron), and Tetra Tech (Ben Francisco, David Brayack, Jackie Boltz, Lauren Donston, and Vin Varricchio). Other meeting attendees included representatives from the Riverhead Town Council (Ken Rothwell), Suffolk County Legislators (Al Krupski, Irene Donohue for Bridget Fleming), Town of Riverhead (Dawn Thomas), Wading River Civic (Sid Bail), a Congressional Representative (Mark Wooley), and 30 other residents and members of the community. The list of meeting attendees is included as Attachment 1.

WELCOME AND AGENDA REVIEW

Ms. Jackie Boltz began the meeting at approximately 6:15 pm and reviewed virtual meeting instructions. Additionally, Ms. Gayle Waldron of Management Edge, a third party facilitator for the in person meeting reviewed the in-person ground rules. Mr. Melvin Acree, welcomed everyone to the RAB meeting and reviewed the agenda. Mr. Acree then introduced the RAB Co-Chair, Mr. Vincent Racaniello. Mr. Racaniello thanked everyone for coming to the meeting and provided a community update. As part of this community update the RAB members discussed the new funding allocated by the federal government for public water supply lines in the area.

COMMUNITY INVOLVEMENT PLAN COMMENT REVIEW

Ms. Zingalie reviewed the Navy's responses to comments from several of the RAB members on the Draft Community Involvement Plan (CIP) for NWIRP Calverton. The CIP will be available on the public website once it is finalized, which is anticipated to be before the November 2022 RAB meeting.

Ms. Esposito indicated frustration to response to comment #5 regarding the Navy not using New York State standards for PFAS. She stated that it is completely unacceptable and expressed concern that something will get missed by the Navy in the gap between 10 parts per trillion (ppt) (the NYS standard), 40 ppt (the EPA Groundwater RSL currently used by the Navy), and 70 ppt (the EPA lifetime health advisory for drinking water currently used by the Navy). Mr. Acree responded that when the Navy sends samples to the lab, the Navy does not restrict the lab from reporting results less than 40 ppt. In addition, the Navy provides the analytical results in the reports. Mr. Brayack added that PFOA and PFOS had higher detection limits in the early phases of investigations. In 2018 when private wells were tested by the Navy, the detection limits for PFOA and PFOS were in the 2 to 5 ng/L range. Ms. Esposito indicated that the bigger concern is that the people have results below 70 are not getting protection that New York State would recommend. Mr. Acree replied that the highest detection in the drinking water sampling from 2018 was 11 ppt, and when the well was re-sampled in 2019 it was 7 ppt. Ms. McClinchy clarified that there are two issues: houses were tested before the NYSDOH MCL came into play, and those houses have not been re-tested. She also expressed concern that when the Navy shows the maps with the results, the Navy does not flag anything over the 40 ppt, which makes it seem like there is not a problem. Mr. Acree responded that the Navy will flag 10 ppt on PFAS maps at the next RAB meeting for the public, however the reports and evaluation will still be based on a screening level of 40 ppt.

Mr. Mancini asked NYSDEC for their input because they are the agency that can push the Navy to regulate to state standards. Ms. Winterberger replied that when NYSDEC reviews the Navy documents the NYS standards are considered. She reminded the public that the drinking water standards are 10ppt for PFOA and PFOS and indicated that NYSDEC will push the Navy to use the state standards and not the screening level of 40 ppt.

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Mr. Shapiro asked when will CIP be finalized? Mr. Acree replied that once the Navy has addressed all comments it will be posted to the public website. It will also be available in print at future RAB meetings.

SITE 7- BIOSPARGE SYSTEM EVALUATION

Mr. Francisco provided a presentation on the Site 7-Biosparge System Evaluation. A copy of the presentation is provided in Attachment 2. The summary of the discussions, questions and answers regarding this topic are summarized below.

Ms. Esposito asked if there was a reason to start up the system again in summer not spring. Mr. Francisco replied that it will take some time to mobilize and install new sparge wells. Mr. Acree indicated that estimated date of startup is May 2022.

Mr. Shapiro asked how long the system has to be running to achieve clean up. Mr. Francisco replied that it is getting close. Concentrations for remaining compounds are still at about 60 to 70 micrograms per liter (ug/L) and the cleanup goal is 5 ug/L. The concentrations beforehand, at the beginning of 2021, were higher. Mr. Shapiro asked how long it would take until it is totally cleaned up. Mr. Acree responded that rebounding concentrations could be a concern and are being monitored. He indicated that the site will not go away, but that Long Term Monitoring will continue until there are at least 4 annual sampling events with all concentrations below the cleanup goals.

Ms. Karl asked if the results of the for these wells could be presented because they were difficult to find on the website. Mr. Francisco replied that this presentation is based on un-validated data and Mr. Acree said that at the next meeting the validated February 2022 data would be presented on tag maps. Ms. Karl asked if there would be another sampling event, in addition to February 2022 available to be presented at next meeting. Mr. Mancini added that there is concern that the Navy doesn't coordinate the sampling to have new data ready to present at the RAB meetings. Mr. Acree replied that the Navy is bound to the process and does what is possible to expedite sample results. Ms. Esposito asked for confirmation that data from February 2022 and the next event, which is tentatively scheduled for August 2022, would be available by the November 2022 RAB meeting. Mr. Acree agreed that the next sampling event will be completed in time to provide the results at the next RAB meeting.

Mr. Racaniello asked if there is any PFAS or 1,4-dioxane concern in the Site 7 Area and if there is any concern of the biosparge system moving it around. Mr. Acree replied that Site 7 was not identified in the Preliminary Assessment as a potential PFAS source area and therefore PFAS is not a concern. Mr. Acree also added that the 1,4-dioxane Preliminary Assessment is still in progress.

Ms. Esposito asked how large the plume is and how much water is being treated through the system. Mr. Melvin Acree replied that it is an air injection system and not a pump and treat system, so there is no volume of treated water.

SITE 2 TCE ANOMALY AREA

Mr. Francisco provided a presentation on the Site 2 TCE Anomaly Area. The presentation is provided in Attachment 2. The summary of the discussions, questions and answers regarding this topic are summarized below.

Ms. Esposito asked how far the anomaly area is from the source area. Mr. Rapiejko replied that he has been reviewing this information and that it is approximately 6600 feet. Mr. Francisco confirmed this distance.

Mr. Racaniello expressed concern that the Navy is not taking responsibility for the anomaly area because it is right in the middle of the plume that the Navy has been presenting for several years. Mr. Francisco re-

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iterated that the Navy has data all throughout the area, but high concentrations of TCE like those in the anomaly area don't show up anywhere else. Ms. Esposito asked why could it not have been a slug of contamination. Mr. Acree replied that the concentrations would have started breaking down before they reached this area, but results do not indicate this.

Mr. Mancini asked when parent products go down shouldn't daughter products go up? What are the depths? Mr. Dave Brayack replied yes, if it was a mature release and reiterated that the anomaly area is almost pure TCE. He added that the wells are approximately 60 feet deep and that there is a clay layer below that.

Ms. Esposito reiterated that it is a struggle for the community to understand because it appears to be right in the middle of the existing plume. She noted that it still needs cleaned up regardless of source. Mr. Acree replied that it may not necessarily be cleaned up by the Navy if the source is not the Navy. The public expressed concern regarding the Navy's stance and one resident requested that the Navy to take action to provide clean water.

Ms. McClinchy noted that for the past 10 years, the Navy has said that the plume is coming from Site 2 and that the November 2021 meeting was the first time that the Navy has called this new area an anomaly area. Mr. Acree replied that a plume has been coming from Site 2. However, the area of these two wells (FT-PZ460I and FT-PZ461I) has been considered an anomaly area since the high concentrations were discovered.

Mr. Racaniello asked where else the TCE in the anomaly area could have come from. Additionally, Mr. Mancini asked how recent the anomaly area release would have been and how much product would have been spilled to cause these concentrations. He asked if the Navy defined the size of the anomaly area. Mr. Dave Brayack replied that the source of the anomaly area is unclear. He noted that the anomaly area is approximately 10 feet thick and limited to the two wells. The Navy has data from extra borings around it and borings from the site all the way downgradient and cannot track the TCE back to the site. The Navy has hundreds of samples between the source area and the anomaly area, tracking a plume of 20-30 parts per billion (ppb), but the anomaly area has concentrations much higher than have been observed at the source area (max 600 parts per billion).

Ms. Esposito questioned the amount of TCE and how it was released at Site 2. Mr. Brayack responded that chlorinated solvents (for example TCE) were mixed in with waste oil that was burned in this area. Chlorinated solvents do not burn. Most of the residual chlorinated solvents were removed by previous remedial actions at the source area. There are more monitoring wells downgradient from these (for nearby Site 6A) and we do not see TCE in those wells.

Mr. Rapiejko attempted to explain why the TCE might not have broken down in groundwater. He stated that bacteria in the aquifer have an affinity for consuming fuel oil, which knocks down the Dissolved Oxygen in groundwater, so the aquifer loses capacity for groundwater to break down contaminants. He reiterates that the Navy had TCE on the site, and references report from 1995 indicating a well at Site 2 had DCE at 2,500 ug/L, so that indicates that TCE could have been at the site. They did mix solvents and waste oil and burned them and had drums of unknown materials. In the 1980s they did some remediation and could have dug out some of the sources. There are a lot of complexities at Site 2 but he is not convinced that the Navy is not the source of the anomaly area. He continued that TCE is located about 55 feet into the water table, and inquired how does it show up right at the source area that deep. He noted that where there is high TCE there are also high breakdown products in that same sample. Ms. Esposito explained that the challenge for the RAB members is that it does not seem conclusive that it isn't from the Navy. She expressed concern that the Navy is distancing from the anomaly area just because they cannot explain it. Mr. Brayack replied that the Navy has not walked away from this site and is still sampling it. Mr. Acree reiterated that the Navy has done extensive review of data and the chemical

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differences between the Site 2 results and TCE Anomaly Area results does not indicate that it comes from the Navy.

PFAS AND 1,4-DIOXANE UPDATE

Mr. Francisco gave a presentation on the status of the PFAS and 1,4-dioxane investigations at NWIRP Calverton. The presentation is provided in Attachment 2. The summary of the discussions, questions and answers regarding this topic are summarized below.

Mrs. Esposito asked what standard the Navy is using for 1,4-dioxane. Mr. Acree replied that the Navy is using 1 part per billion, which is the NYS standard. She further inquired when the 1,4-dioxane PA would be available. Mr. Acree replied that it is still in Navy review but will be provided to NYSDEC once the Navy review is complete. It will be available to the public once it is finalized.

Mr. Racaniello inquired if at the next meeting there will be new data to show for PFAS and 1,4-dioxane. Mr. Acree replied yes that the Navy will have new data for PFAS AOCs 10 and 11. Mr. Racaniello asked if the RAB members would be included in reviews for the data reports. Mr. Acree replied no, that RAB members only get final versions of data reports.

Mr. Mancini asked at what point within the CERCLA process the public can get involved. Mr. Acree reviewed the poster showing the milestones for public comment within the CERCLA process and highlighted the proposed plan and record of decision stages. Ms. Lynn Winterberger added that NYSDEC would not finalize a record of decision without a public comment period. Ms. Karl asked how the public will know when the public comment period is open. Ms. Winterberger replied that the Navy is required to put a public notice in the newspapers and NYSDEC advertises public comment periods as well. Ms. Karl asked if the RAB specifically can get notification. Mr. Acree agreed.

Ms. Karl asked if the RAB could get the results in a more appropriate format so that they can see the maps, perhaps an excel spreadsheet that lists the well names and results. Mr. Acree concurred that tables can be provided with maps in the future. She then asked if there is a search engine on the website where the public can access all of the data for individual wells. Mr. Acree replied that a search engine like that is probably out of the scope of the current Navy website, however, that is why the Navy provides the tag maps which show data for the last several events at each well and show trends over time. Mr. Brayack added that there are annual groundwater sampling reports that go out and these have all the data for all the wells. Ms. Carl expressed that there still needs to be some easier way to see the data because it seems not consistent and incomplete. Ms. McClinchy added that the website and everything presented is very technical. However, the general public are the ones that need to be able to understand what is being presented without a technical eye.

Mr. Mancini asked if in the 1,4-Dioxane PA the Navy is considering the area of the FLTS and infiltration galleries. Mr. Acree replied yes, the Navy is utilizing the existing well network in this area for 1,4-dioxane investigations at Site 6A.

QUESTIONS AND COMMENTS FROM THE PUBLIC

Throughout the meeting the public expressed continued concern that the Navy should take responsibility for contamination that is present outside of the former NWIRP property. They repeatedly requested Navy funding for public water lines for the Town of Riverhead so residents can have clean water.

WebEx user Karen submitted the following question via the Q&A box: Regarding Site 7, after the title transfer of EPCAL, and potential lease to a private entity, will the clean up be maintained and who will be

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overseeing the clean up. Mr. Melvin Acree replied that Site 7 is on navy-owned property, and is not included in the property that is being transferred. Ms. Kelly McClinchy inquired what would happen if there is some contamination that is found on former Navy property. Mr. Acree replied that it would be dependent on the legal documents from the transfer of the land.

Mr. John Cullen submitted the following question via the Q&A Box on WebEx: On the South side of Gruman Blvd there are 2 buildings what they were used for as they look industrial. Across the street north side is a sign that was put up last November which references unexploded ordnance. If there is a danger of unexploded ordnance, why is this not being cleared of ordnance now. Mr. Acree responded that this signage fulfills requirements of the Land Use Control remedial design which was approved by NSYDEC at Site 2. Mr. Francisco continued that what was disposed at Site 2 was expended ordnance from testing airplane guns. During the cleanup for Munitions and Explosives of Concern, the ordnance was screened from the surface soil to remove residual ordnance and the resulting ordnance pieces were disposed of by blowing it up with explosives in place. The signage is in place to communicate that there have been munitions been deposited there and not to dig below the surface. The two buildings on the south side of Grumman Blvd are not former Navy buildings, they were solely Northrop Grumman.

A community member asked if Site 2 wells have been tested for PFAS and 1,4-dioxane. Mr. Acree replied yes and added that both PFAS and 1,4-dioxane results at Site 2 require further investigation.

Another community member asked if the TCE anomaly area wells been tested for PFAS and 1,4-Dioxane been tested? Mr. Acree replied yes. Ms. Donston presented the maximum PFOA result of 54.3 ppt and maximum 1,4-Dioxane result of 19 ppb in the TCE anomaly area. Mr. Acree continued that PFAS and 1,4-Dioxane may be attributed to Site 2 and will continue to be investigated. However, the chlorinated solvent data does not support chlorinated solvents in the anomaly area are from site 2 based on chemical signature. Mr. Andrew Rapiejko expressed concern that this site is complex, and that one contaminant cannot be from the site when another is.

A third community member asked if the Navy did any testing on the western end of the former NWIRP and going north. Mr. Brayack replied no. He noted that an initial PA was done in 1986, and no sites were identified of concern on the property west of the western runway. As a result, no investigations have been done there. Additionally, no sites were identified in this area during the 2017 PFAS PA. The community members expressed concern that Swan Pond may be connected to streams/rivers to the south and west, near their homes.

Several community members expressed that the fence line boundary may not be correct on one of the maps. They insisted that the western border needed to be extended. Mr. Acree replied that the former facility fence line is consistent across all maps and figures and will be confirmed before the next meeting.

Mrs. McClinchy asked if closed Site 3 and closed Site 4, in that western area, have been tested for PFAS. Mr. Francisco replied that these sites did not get identified as potential PFAS sources during the PFAS PA and have not been tested. Ms. McClinchy asked if it is possible that that PFAS could have come from Site 3 and Site 4 and something was just missing in the archives, because results from Site 2 (along Grumman Blvd) came back with results of PFAS, although not above 10ppt. Mr. Acree responded that the Navy can provide more information from Site 3 and Site 4 regarding the history of the site and why it was not evaluated for PFAS as a result of the PFAS PA to the RAB members at a later date.

A community member asked what "recent" means regarding the TCE anomaly area and if the date can be determined based on the concentrations. Mr. Acree replied that the Navy cannot determine exactly when the spill at the TCE anomaly area occurred, rather just that based on the data it appears later than the TCE release at Site 2. The community inquired if there are other potential source areas on the property. Mr. Acree replied, that based on the available data, the Navy has no other potential sources on property.

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A resident asked about two test wells on Mill Road and the local powerlines (near PFAS AOC-13), specifically if they are owned by the Navy, when were they installed and if they are the furthest south from the EPCAL. The also requested the PFAS results at these wells. Mr. Francisco replied that yes these wells are Navy owned and were installed in 2020. Ms. Donston added that the PFOA and PFOS results at these wells ranged from non-detect to 0.91 ppt.

A community member asked about the schedule for sampling at Site 7. Mr. Francisco replied that Site 7 is currently on a semi-annual sampling frequency, with spring and fall events each year. Samples are collected at a depth of 20 feet which is approximately at the top of the water table.

A community member asked what does active monitoring mean in terms of 1,4-dioxane. Mr. Francisco replied that where the Navy has started monitoring for 1,4-dioxane where the Navy has known releases of chlorinated solvents. The 1,4-dioxane has been added at these sites because it is related to chlorinated solvent releases.

A community member asked if Donahue Pond tested for VOCs. Mr. Brayack replied no that only the Peconic River is tested for VOCs under Site 6A investigations. He added that high concentrations of chlorinated solvents have not been seen in the river in several years. The community member asked if the Peconic River had been tested for PFAS. Ms. Donston replied, yes and provided results for PFOA and PFOS in the river ranging from 4.4 to 9.81 ppt.

Mr. Mancini recommend using CDM modeling method which has been developed specifically for Long Island to model groundwater flow. Mr. Brayack replied that the Navy is using water level data from the monitoring wells to get local data which is different than the more regional data that CDM and USGS provide.

The representative for Congressman Zeldin made a recommendation to the RAB members that they have the public give RAB members questions and concerns in advance of these meetings so that the RAB members can raise the public questions during the meeting. He also requested that Navy consider expanding work and reiterated the request that the Navy use the state standards of 10 ppt for PFOA and PFOS. He added that Congress will continue to work at the federal level to do what is needed to get the residents clean water.

A community member noted that the board of health did tests at one residence in 1979 for TCE in the water and inquired how many gallons of TCE Grumman used over it's lifetime. Mr. Brayack replied that it was listed in catalog as safety solvent because it was not flammable but it was an excellent degreaser, and therefore Grumman probably used thousands of gallons. The public expressed concern about the rest of the facility and where these products could have been used. Several community members asked the Navy to advertise to get local information from community members or former Grumman employees. The community expressed concern over the number of anecdotal claims of disposal of chemicals and want to verify if these releases occurred. Mr. Melvin Acree encouraged the public to work through the RAB and the Public Affairs Office for open lines of communication. Mrs. Carl asked why the Navy doesn't take more aggressive steps to find people to interview. Mr. Brayack responded that the Navy has encouraged public and friends of friends but left open the idea of better outreach platform. Ms. Kelly McClinchy reiterated that there has to be an extra push by the Navy, but with sensitivity, and to consider using someone local to conduct interviews to establish trust. Mr. Acree replied that the Navy does not have a local presence since the facility is no longer active and therefore they rely on the RAB members and local community as the main connection to the public.

The residents and community members express more frustration that they want clean water, and requested the Navy take responsibility. They noted that other chemicals that were on the former NWIRP property are also showing up in Manorville residents' water. The residents want to know how they can get

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access to clean water. Mrs. Lynn Winterberger noted that NYSDEC does monitor wells in the Manorville Area. Ms. Dawn Thomas noted that the Navy seems more concerned with precedent than cost. Mr. Andrew Rapiejko indicated that SCDHS has a private well testing program where people can request samples if concerned. Additionally if SCDHS finds more reason to be concerned in an area they will conduct more active investigations. NYSDEC has funding to address these issues and cost benefit analysis is conducted. However, NYSDEC has to try to find the responsible party to reimburse the Superfund. Ms. Kelly McClinchy expressed concern that there are still no long term answers.

Ms. Adrienne Esposito asked the NYSDOH representative to speak on the matter. Mr. Shaun Surani indicated that the NYSDOH works directly with Suffolk county and NYSDEC to provide an alternate water supply for contaminated wells. Ms. Esposito re-iterated that if there is any funding help that the state can offer to TOR would be greatly appreciated.

Mr. David Todd, the Navy Public Affairs Officer addressed the upcoming changes to the Navy public website planned for June 2022. There will be a new platform, but the transition will be as seamless as possible. Mr. Acree added that any changes to links will be communicated to the public.

Mel Acree thanked everyone for attendance and closed the meeting. The meeting was then adjourned.

Attachment 1
April 5, 2022 RAB Meeting Attendees
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	Affiliation	Name
1	RAB Member	Adrienne Esposito
2	Suffolk County Legislator	Al Krupski
3	Community/Resident	Alek Lewis
4	RAB Member	Amanda Lauth
5	Community/Resident	Amy
6	SCDHS	Andrew Rapiejko
7	Tetra Tech	Ben Francisco
8	Community/Resident	Bob
9	Community/Resident	Call-in User_2 (845464****)
10	Community/Resident	Call-in User_3 (516429****)
11	Community/Resident	Calverton Civic
12	RAB Member	Catherine Karl
13	Community/Resident	Cecia Bicknell
14	Community/Resident	Clare Bennett
15	Community/Resident	Danielle Grecky
16	Tetra Tech	David Brayack
17	Navy	David Todd
18	Town of Riverhead	Dawn Thomas
19	Community/Resident	Donell Henderson
20	Community/Resident	Douglas Paquette
21	RAB Member	Frank Mancini
22	Management Edge	Gayle Waldron
23	NYSDEC	Henry Wilkie
24	Suffolk County Legislator	Irene Donohue - office of Legislator Bridget Fleming
25	Tetra Tech	Jacqueline Boltz
26	Community/Resident	James Balas
27	Community/Resident	Jane Kreiger
28	Community/Resident	Jeff Murphree
29	Navy	Jennifer Zingalie
30	Community/Resident	jim milligan
31	Community/Resident	John L Cullen
32	Community/Resident	John Newcomb
33	SCDHS	Jonathan Wanlass-SCDHS
34	Community/Resident	Karen
35	Community/Resident	Kathleen Moretti
36	RAB Member	Kelly McClinchy
37	Riverhead Town Council	Ken Rothwell
38	Tetra Tech	Lauren Donston
39	NYSDEC	Lynn Winterberger
40	Community/Resident	Marc Rogevin
41	Congressional Rep	Mark Wooley
42	Navy	Melissa Forest
43	Navy	Melvin Acree
44	Community/Resident	Peter Alp

Attachment 1
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45	Community/Resident	Ray Kreiger
46	Community/Resident	Robert Forstner
47	Community/Resident	Ronald Martz
48	Community/Resident	rosemary theurer
49	NYSDOH	Shaun Surani
50	Community/Resident	Sherry Johnson
51	Wading River Civic	Sid Bail
52	Community/Resident	Stan Carey
53	RAB Member	Steve Shapiro
54	Community/Resident	Tim G
55	Community/Resident	Toni Pawson
56	Tetra Tech	Vin Varricchio
57	RAB Member	Vinnie Racainello
58	Community/Resident	William Ebert

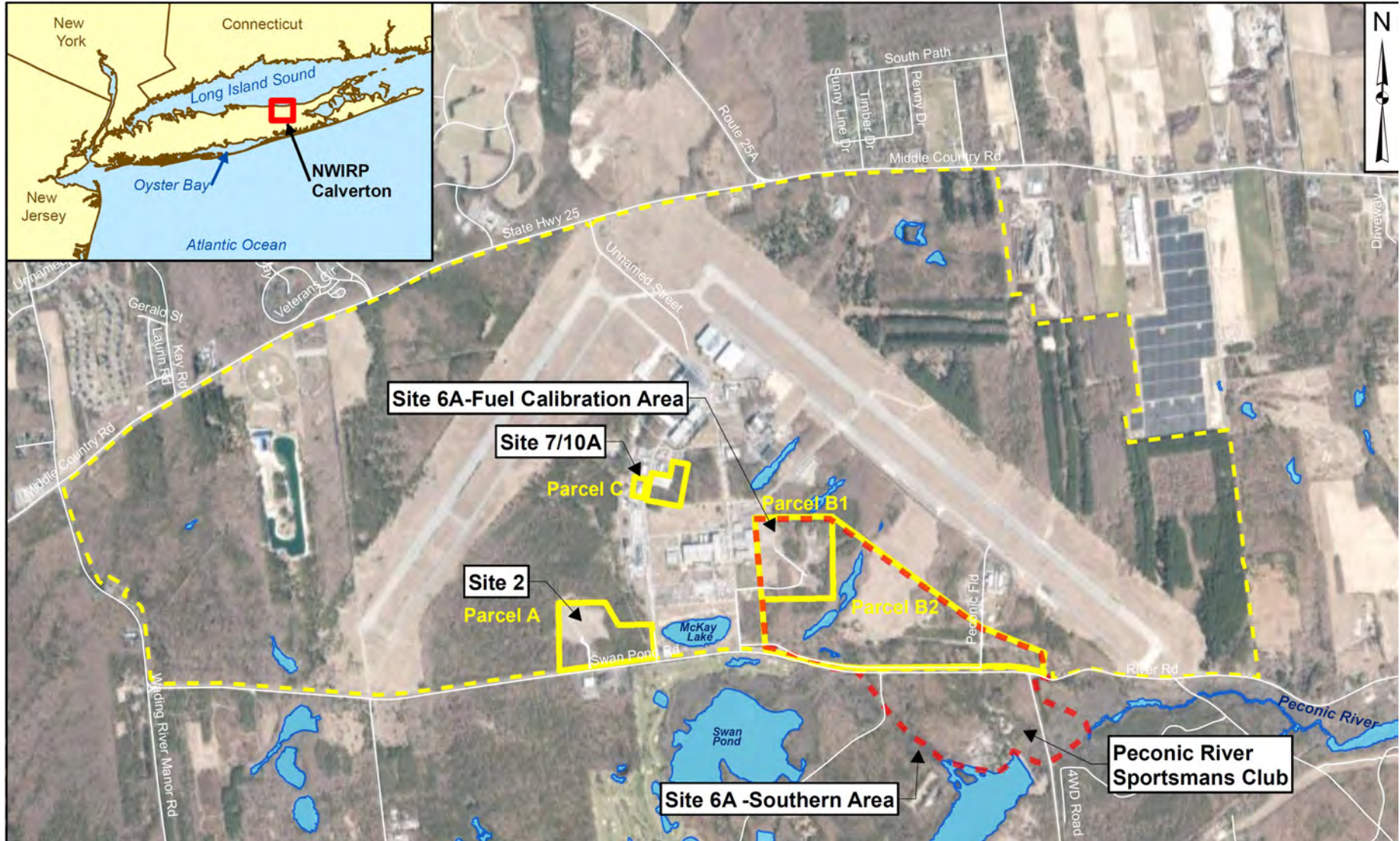


Site 7 – Fuel Depot Biosparge System Evaluation and Preliminary Recommendations

**Presented by:
Tetra Tech, Inc
NAVFAC Mid-Atlantic
5 April 2022**



Site 7 – Fuel Depot





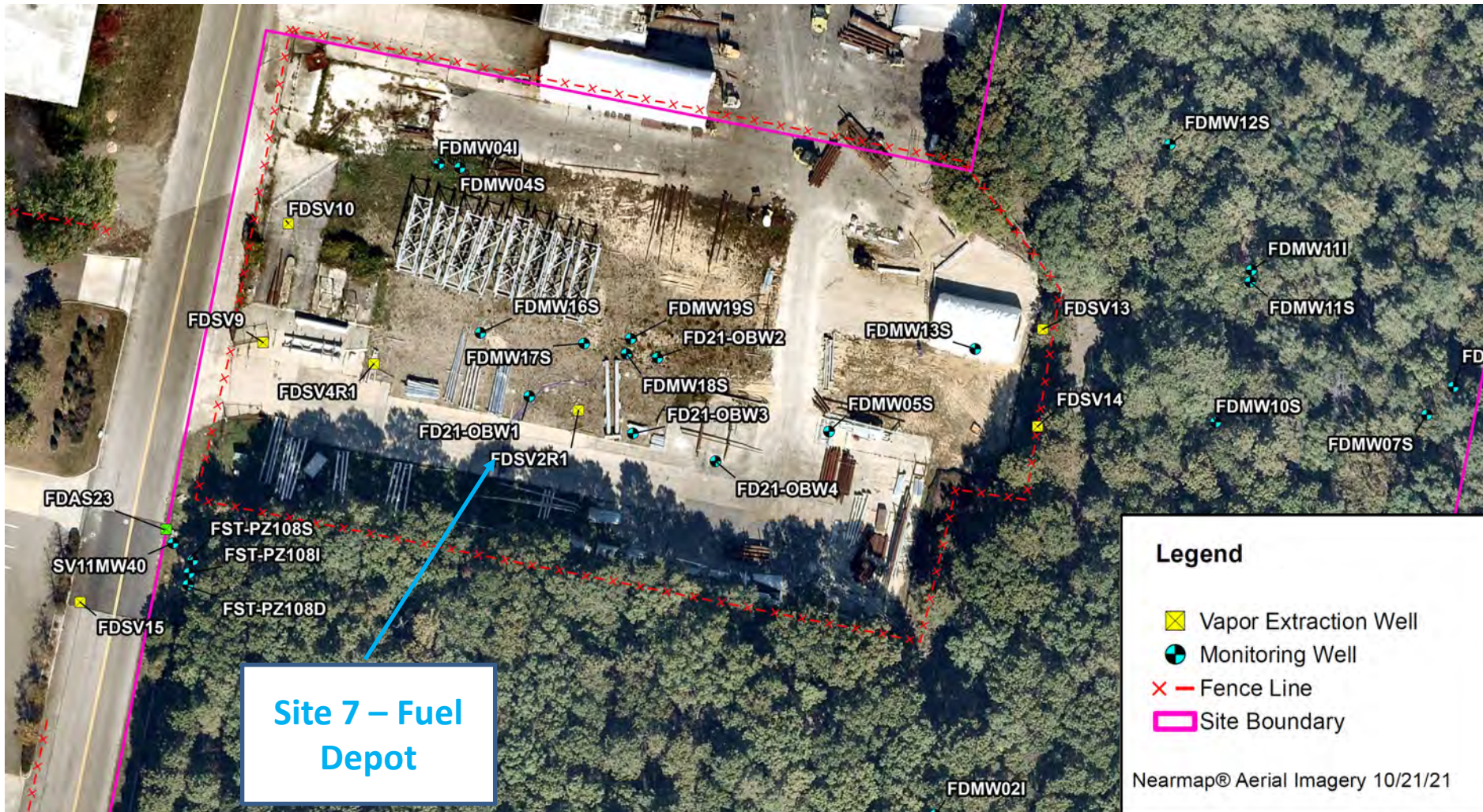
Site 7 History and Current Status

- **Site History:**

- Fuel depot area used for storage and distribution of jet fuel.
- Fuel was stored in underground storage tanks (USTs).
- Fuel was transferred to trucks for use in flight preparation areas.
- Remedial Activities:
 - 1997: Removal of USTs and fueling structures.
 - 2006 to 2013: Operation of air sparge/soil vapor extraction system
 - 2019: Removal of tank saddles, concrete pad, and contaminated soil associated with fueling structures and USTs. Resulted in effective cleanup of the source area.
 - 2021: Operation of a biosparge system south of source area.



Site 7 Layout

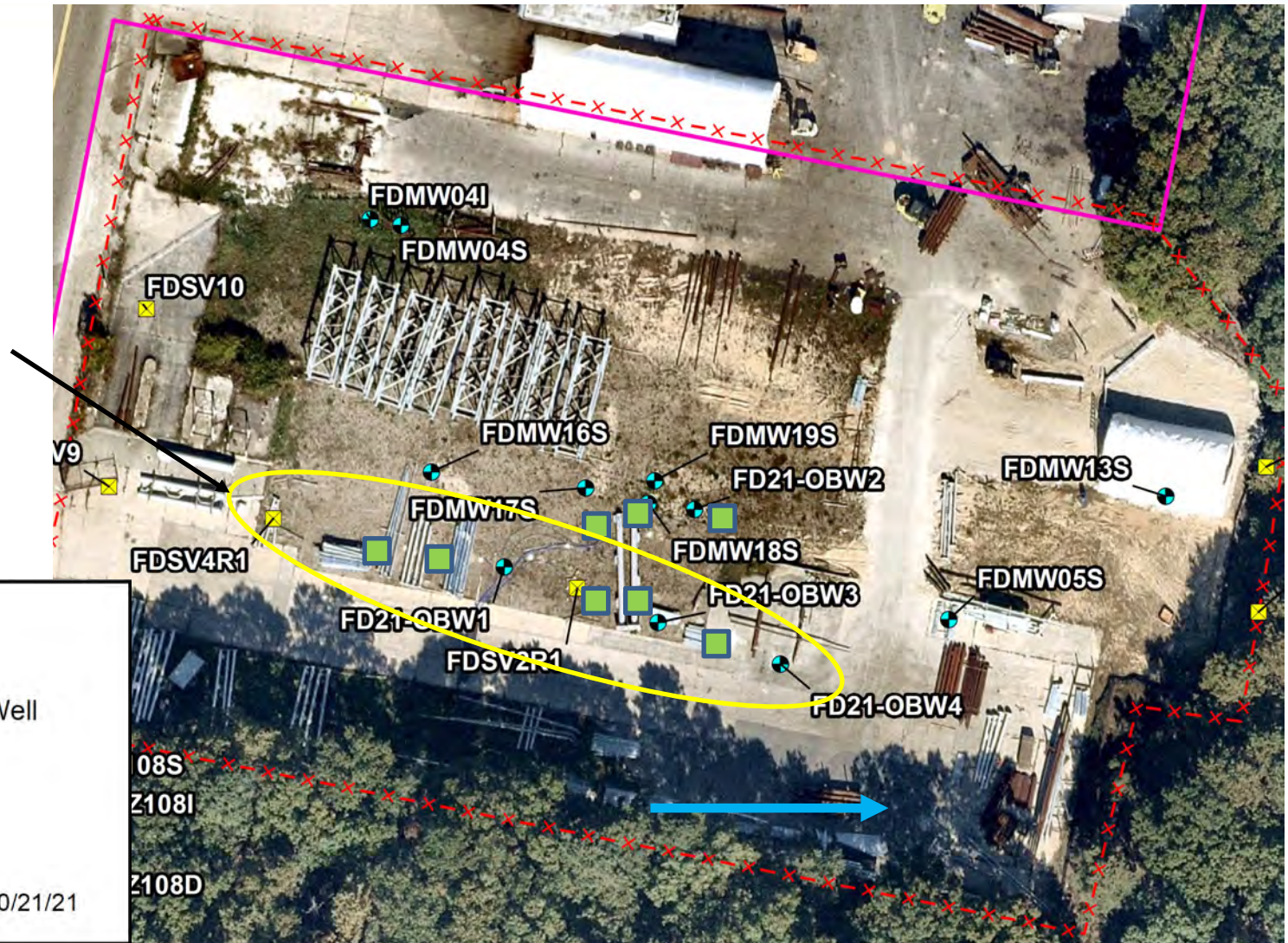




Data Evaluation

- **Most Recent Analytical Results (February 2022):**
 - Overall, the operation of the biosparge system further reduced the concentrations of petroleum related compounds.
 - Concentrations of petroleum related compounds (ethylbenzene and xylenes) remain above the cleanup levels at 5 wells.
 - These wells are located on southern portion of the site.
 - Maximum concentration of ethylbenzene was 61 ug/L (cleanup goal is 5 ug/L).
 - Maximum concentration of total xylenes was 75 ug/L (cleanup goal is 5 ug/L).

Locations Where Groundwater Results Remain Above the Cleanup Goals



Preliminary Recommendations and Path Forward



- Remobilize biosparge system in Summer 2022.
- Operate biosparge system for an additional 6 months. System will target southern portion of Site 7 where concentrations remain above the cleanup goals. Includes installation of new air sparge well to refine remedial system.
- Complete second round of monitoring in Fall 2022 to assess residual concentrations of volatile organic compounds (VOCs).



QUESTIONS?

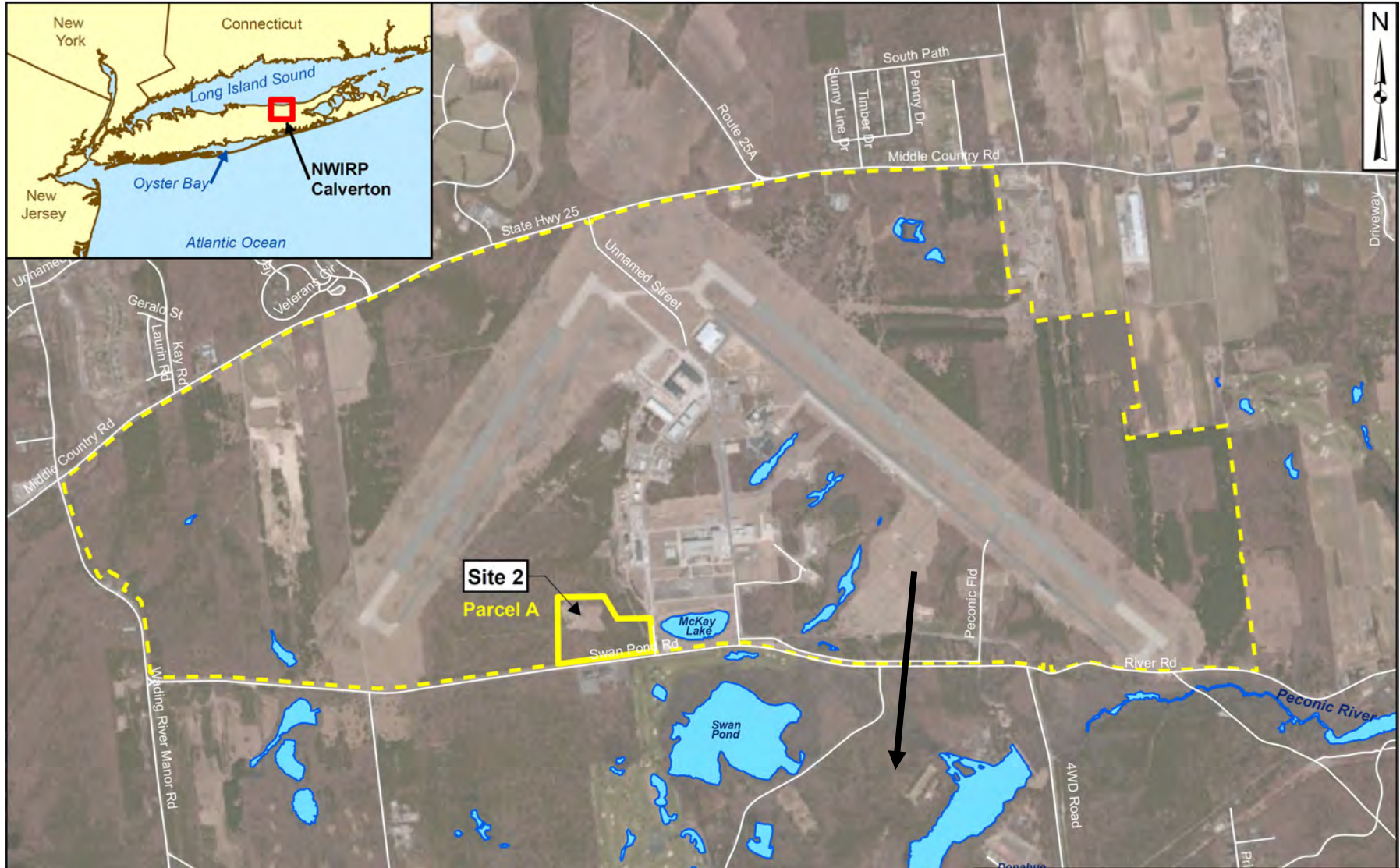


Evaluation of Site 2 – Fire Training Area and the TCE Anomaly Area

**Presented by:
Tetra Tech, Inc
NAVFAC Mid-Atlantic
5 April 2022**



Facility Map





History of Site 2 – Former Fire Training Area

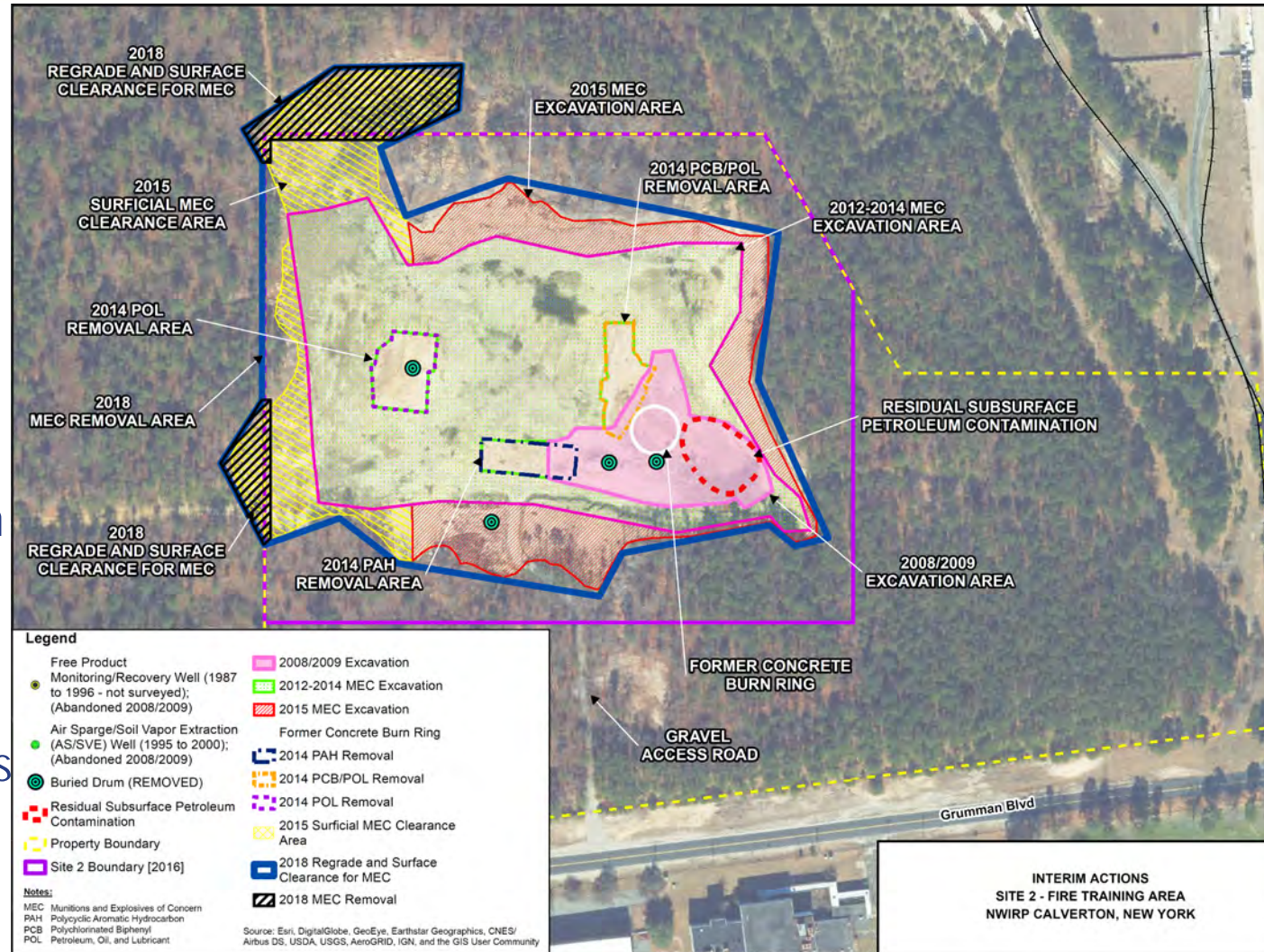
- Used from 1955 to 1996 for fire training. Flammable liquids (waste fuel, oil, and solvents) were ignited and teams of fire fighting personnel were trained to extinguish the fires.
- Prior to 1982, clearings and earthen berms built to contain fuels for fire training.
- After 1982, a concrete pit was constructed to contain liquids for fire training exercises.
- Aqueous fire-fighting foam, Halon, water, and dry chemical extinguishers used to extinguish fires.



History of Site 2 – Remedial Activities

• Remedial Activities (1986 to 2016):

- Spill cleanup of waste oil
- Removal of fuel storage tanks
- Operation of air sparge/soil vapor extraction system
- Excavation and off-site disposal of site structures and contaminated soil.



Trichloroethene (TCE) Background



- **Uses**

- Industrial and commercial solvent that removes grease and oils
- Main use is for degreasing metal parts
- Consumer products: paint remover, adhesives, rug-cleaning fluids
- Dry cleaning solvent
- Automotive: brake cleaner

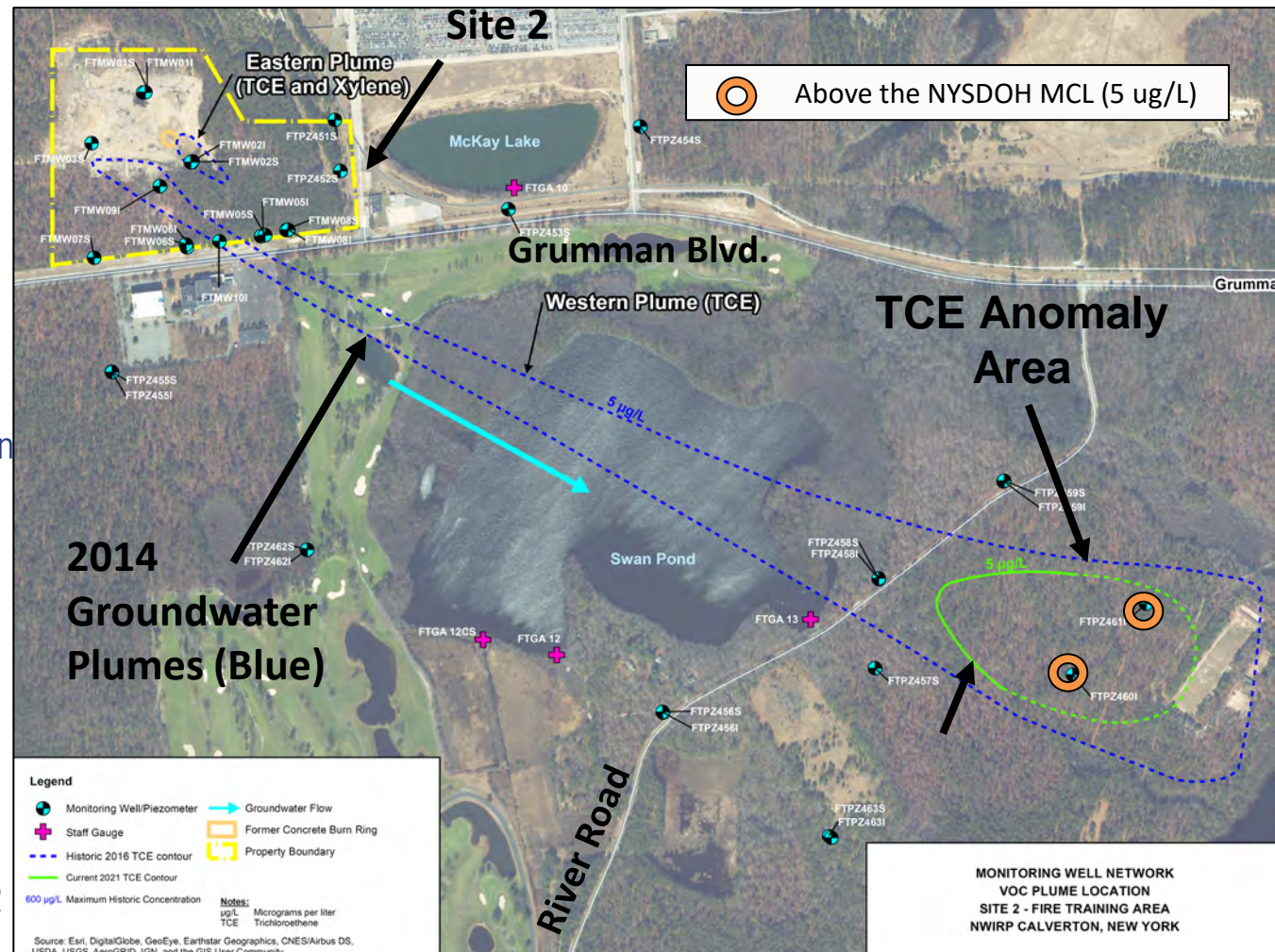
- **Properties**

- Colorless, volatile liquid
- Breaks down quickly in air
- Breaks down at a slower rate in soil and groundwater
- During the break down process, TCE (parent product) is converted into other chemicals (daughter products) such as 1,2-dichloroethene (DCE) and vinyl chloride.

History and Current Status of TCE Anomaly Area



- TCE Anomaly Area discovered in 2012. TCE above New York State maximum contaminant levels (MCLs) at 2 off-property wells located downgradient of Site 2.
- Current Status:
 - Site 2 has been monitored annually.
 - Navy coordinates with Suffolk County for collection of split samples to allow county to conduct independent analysis.
 - TCE in 2 off-property wells remains above MCLs.
 - VOCs at other wells off-property do not exceed the MCLs.
 - VOCs on-property at Site 2 have not exceeded the MCLs since 2020.



-

Site 2 as a Potential Source Area



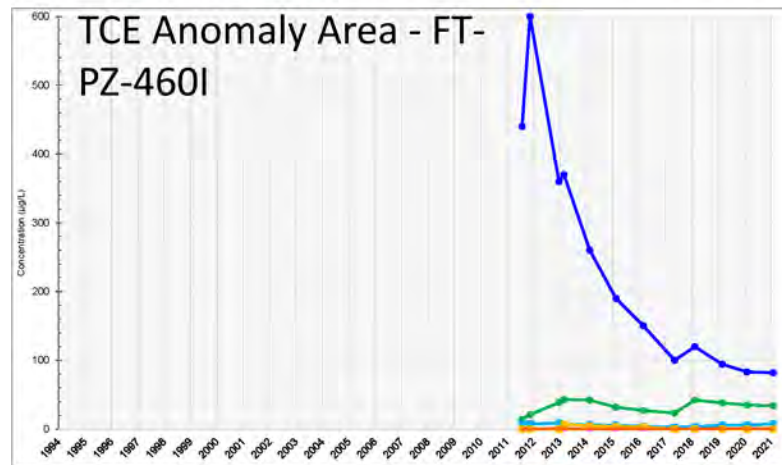
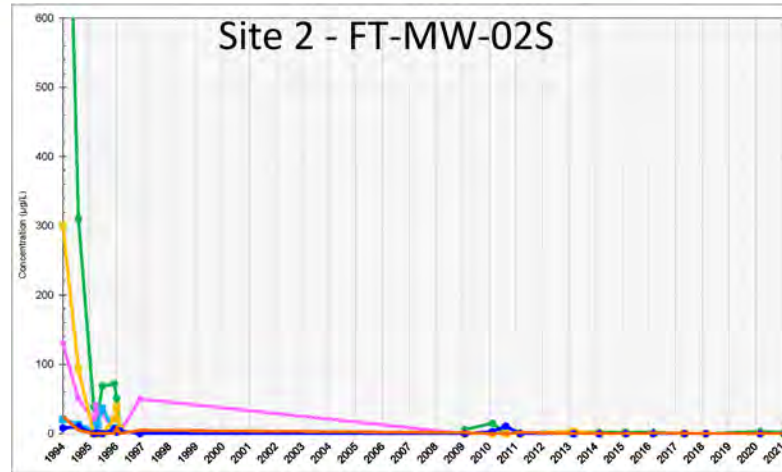
- Site conditions that would support Site 2 as the source of TCE at the TCE Anomaly Area:
 - The chemical signature or composition of the plume including the parent product (TCE) and daughter products would be similar.
 - Concentrations of the chemicals would be higher near the source area and decreasing with distance from the source area.



Comparison of TCE Anomaly Area to Site 2 Former Fire Training Area

- 2013 investigation findings:
 - Chemical signature or composition of plume is different:
 - Site 2 plume was primarily a release of TCA. Plume consisted of TCA and TCA daughter products. Relatively low levels of TCE were detected at source area.
 - In 2012, TCE Anomaly Area plume consisted of almost pure TCE. Currently, the plume consists of TCE and TCE daughter products. Since 2012 concentrations of TCE are rapidly decreasing and daughter products are increasing as expected in the aquifer.
 - Concentrations of TCE at the TCE Anomaly Area are significantly higher than detected at Site 2:
 - Maximum concentration of TCE at Site 2 – 87 ug/L.
 - Maximum concentration of TCE at TCE Anomaly Area – 600 ug/L.
- Based on differences in the chemical signature and higher concentrations of TCE downgradient of site, the investigation concluded that anomaly area is not related to Site 2 or NWIRP Calverton.

Comparison of TCE Anomaly Area to Site 2 Former Fire Training Area



1,1-DICHLOROETHANE 1,1,1-TRICHLOROETHANE TETRACHLOROETHENE
 TOTAL 1,2-DICHLOROETHENE TRICHLOROETHENE VINYL CHLORIDE



Path Forward

- All wells, with the exception of the TCE Anomaly Area, are currently below the cleanup goals.
- The Navy will continue to investigate other chemicals at Site 2:
 - PFAS – Currently in Remedial Investigation
 - 1,4-Dioxane – Currently in Site Inspection
- Once investigations are complete, the Navy will generate a decision document to identify the selected cleanup remedy.



QUESTIONS?



Update of Per- and Polyfluoroalkyl Substances (PFAS) and 1,4-Dioxane Investigations

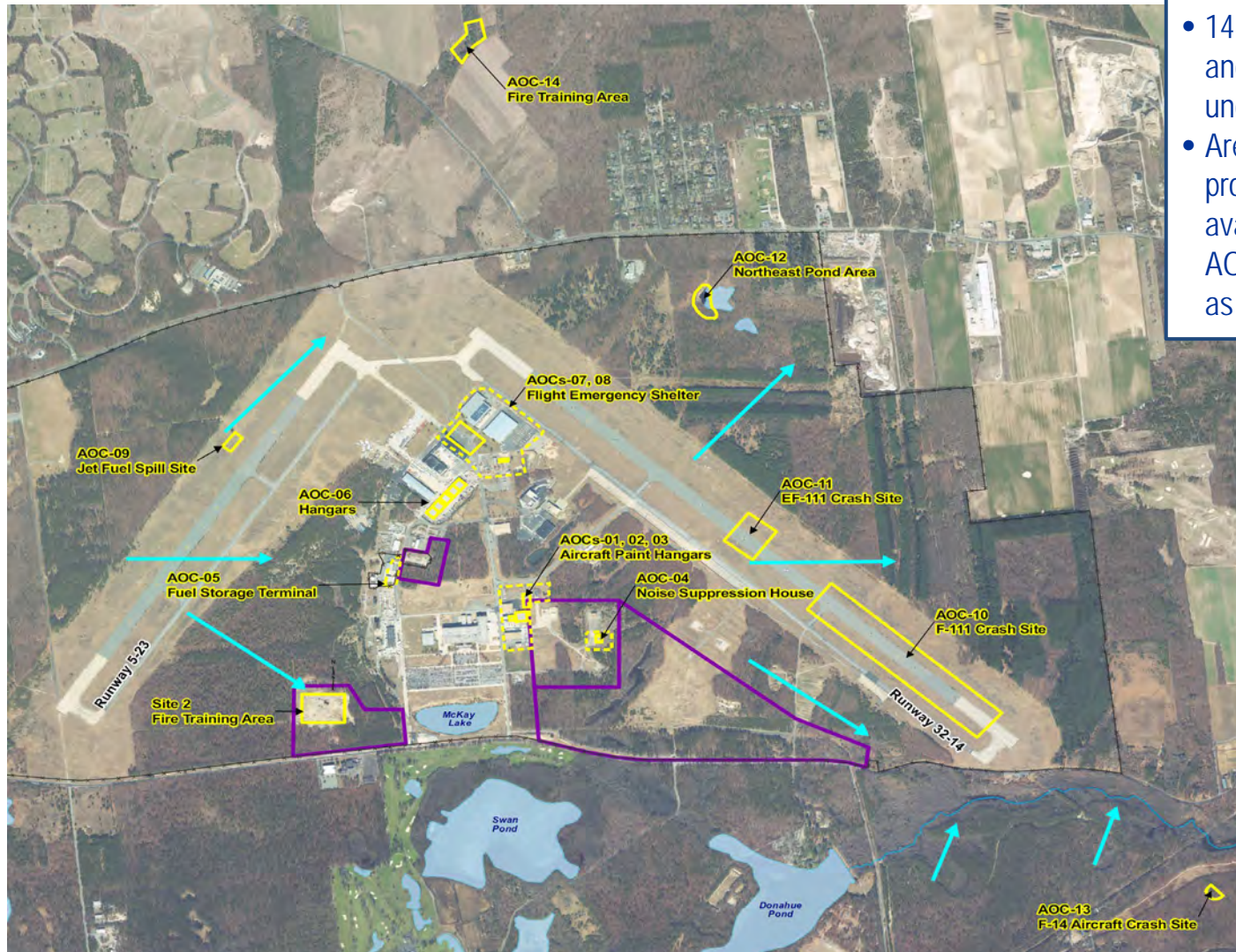
**Presented by:
Tetra Tech, Inc
NAVFAC Mid-Atlantic
5 April 2022**



PFAS Background

- Man-made compounds, used in commercial and industrial products since the 1950s in many products.
- Heat resistant and can repel, oil, grease, and water.
- Uses:
 - Non-stick cookware
 - Fabric stain protection
 - Food packaging
 - Personal care products
 - Fire-fighting foam

PFAS Areas of Concern



- 14 areas of concern (AOCs) and 1 existing site (Site 2) under evaluation for PFAS
- Areas consolidated based on proximity to one another and available PFAS results. Some AOCs have been designated as new sites.



CERCLA Process

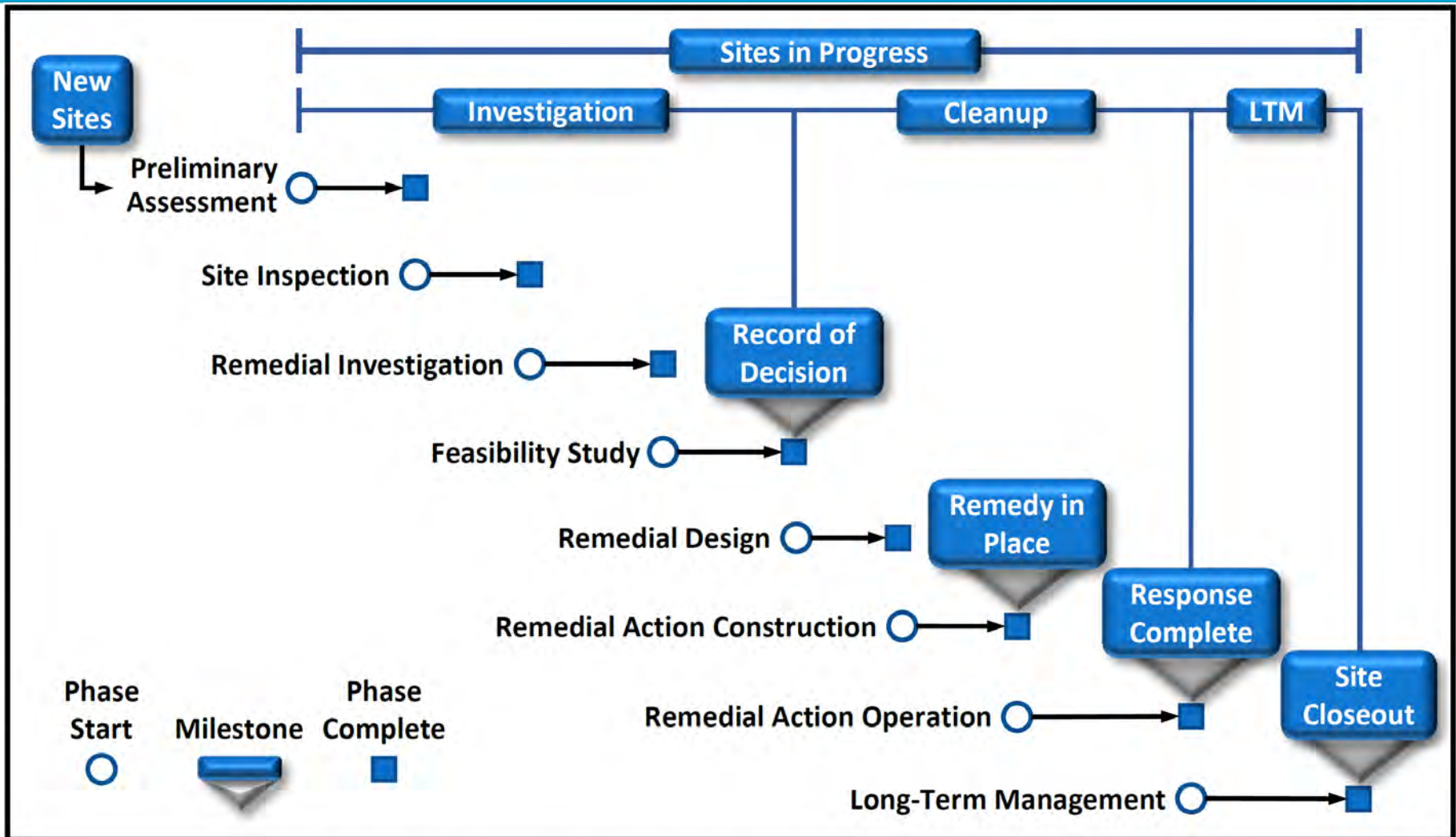


Figure 5-1 DON Environmental Restoration Process: Phases and Milestones



Current Status of PFAS Investigations

- Preliminary Assessment (PA) report completed in 2021. Identified 14 PFAS Areas of Concern (AOCs).
- Existing Site 2 was also identified as a potential PFAS source area due to site history.
- Site Inspection (SI) initiated to verify presence of PFAS at the 14 AOCs and Site 2.
 - Field work completed at - AOCs 01, 02, 03, 04, 05, 06, 09, 12, 13, and 14. SI Report is being prepared.
 - SI field work is ongoing at AOCs 10 and 11 to provide additional data.
- Based on initial SI data, Remedial Investigation (RI) initiated at some locations to characterize nature and extent of PFAS and evaluate risks.
 - Field work completed at Site 2. RI Report is being prepared.
 - Data under evaluation for AOCs 07 and 08/Site 16.



1,4 – Dioxane Background

- Man-made chemical found in variety of industrial and consumer products.
- Uses:
 - Industrial:
 - Most notably known as a stabilizer in chlorinated solvents, especially trichloroethane (TCA).
 - Solvent in agricultural chemicals, pharmaceutical preparations, photographic supplies, petroleum refining, explosives, semiconductors, plastics, rubber, and chemical manufacturing.
 - Consumer Products:
 - Cleaners, detergents
 - Shampoos
 - Deodorant
 - Cosmetics

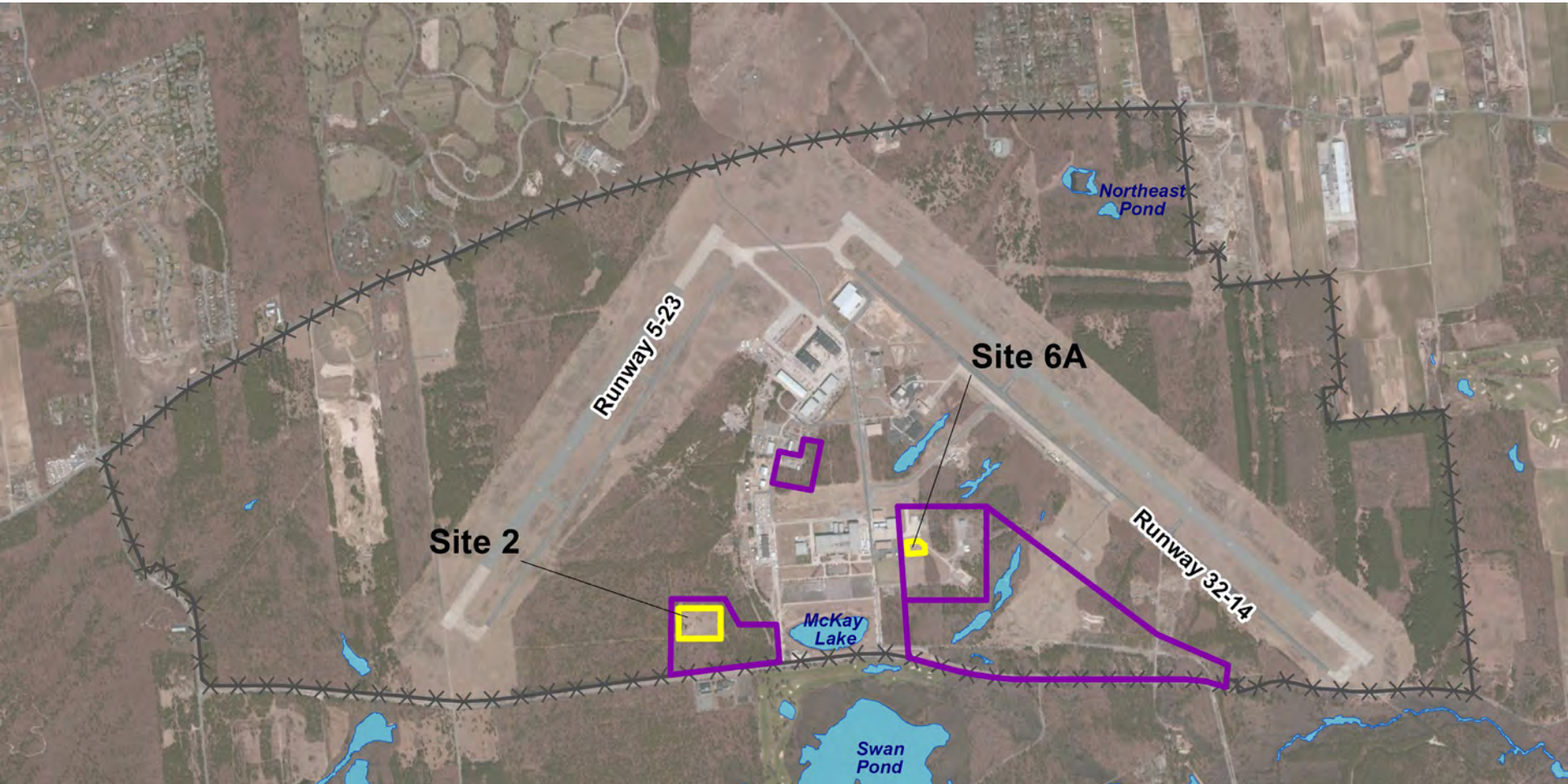


Current Status of 1,4 - Dioxane Investigations

- Preliminary Assessment (PA) for potential 1,4 – dioxane source areas is being prepared.
- Two existing sites with historical chlorinated solvent releases (Site 2 and Site 6A) are currently being monitored for 1,4 – dioxane.
- Next Steps:
 - Field investigations will be completed at potential source areas identified in the PA.
 - A SI report will be prepared summarizing the data and providing recommendations for a path forward for each potential source area.



1,4 - Dioxane Areas of Concern





QUESTIONS?