



Why is the Navy Sampling Private Drinking Water Wells?

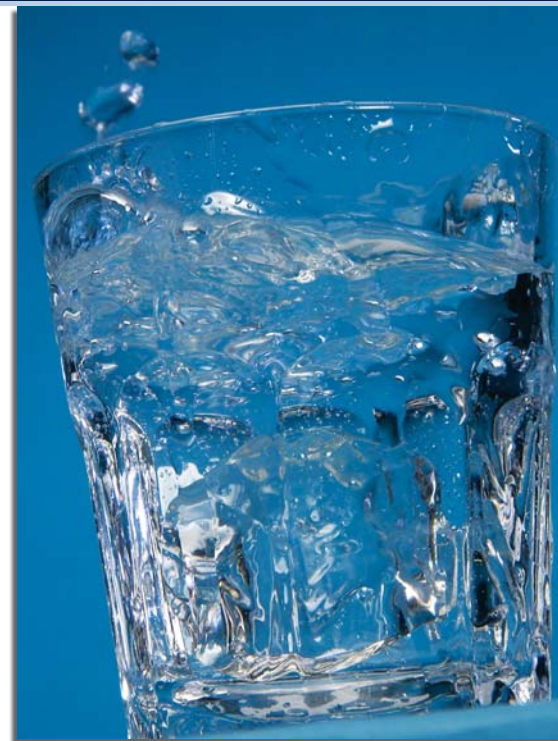
Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

The Navy is committed to protecting our neighbors' drinking water and taking responsibility for our previous operations.

- In 2016, the EPA established a drinking water lifetime health advisory (70 ppt) for two currently unregulated PFAS, specifically PFOA and PFOS.
- The Navy issued a protective policy to identify and address sites with the potential for exposure to PFOA and PFOS in drinking water.
 - The most common historical Navy use of PFOA and PFOS was in certain types of firefighting foam, which is no longer used for firefighter training.
- The Navy has started assessing bases to identify and address the potential for exposure to PFOA and PFOS.
 - Results from sampling indicated that PFOA and PFOS have moved off the NSA Cutler Fire Station property and are present in some nearby private drinking water wells at levels above the EPA lifetime health advisory.
 - The Navy developed a policy to proactively conduct PFAS testing and response which goes beyond Safe Drinking Water Act requirements.





NSA Cutler PFAS Investigation

Additional information can be found online at:
www.secnv.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

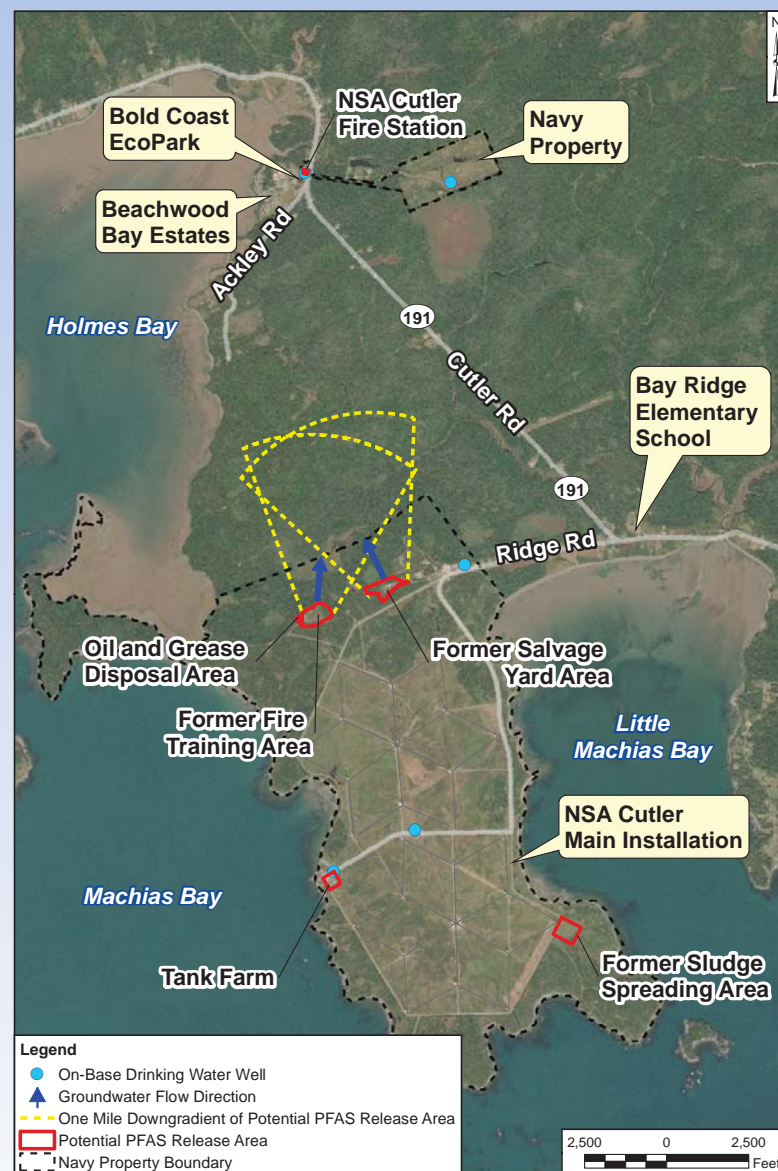
If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

■ Identification of PFAS release areas

- 2016 – Former Fire Training Area and Former Salvage Yard Area identified in review of environmental records
 - No off-base private drinking water wells identified within 1-mile downgradient of either area
- 2020 – additional PFAS release areas identified in basewide PFAS assessment and site inspection
 - Former Sludge Spreading Area
 - Tank Farm
 - Former Oil and Grease Disposal Area
 - NSA Cutler Fire Station (located north of Main Installation)

■ On-Base Drinking Water Sampling

- 2016
 - Main Installation: ranged from not detected (ND) to 24.3 ppt for PFOA+PFOS
 - Fire Station: ND for PFOA+PFOS
- 2020 (August)
 - Main Installation: ranged from ND – 23.8 ppt for PFOA+PFOS
 - Fire Station: 121.6 ppt for PFOA+PFOS





Off-Base Private Drinking Water Well Sampling

Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

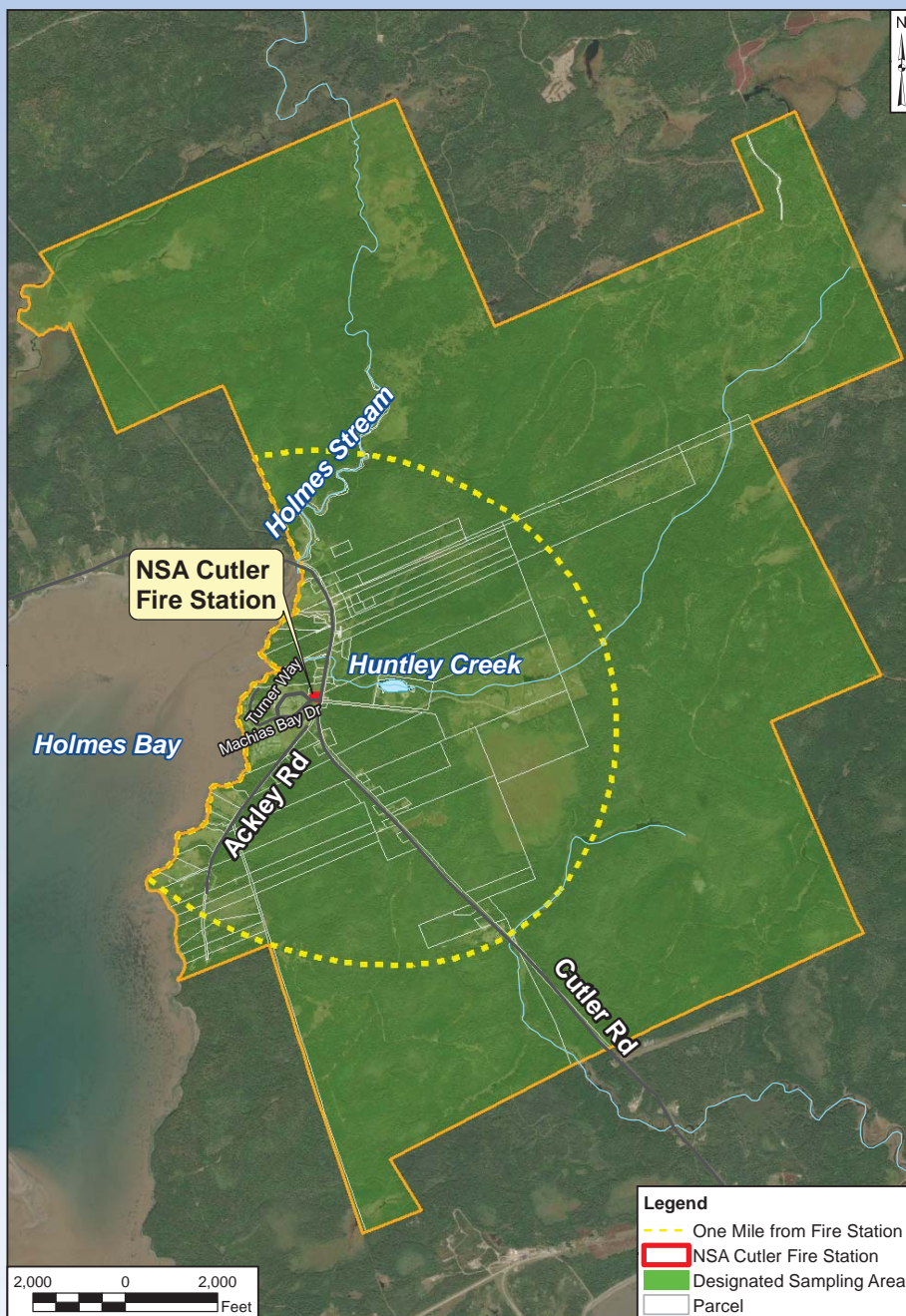
For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
 800-915-4705 or NAVFAC_ML_PAO@navy.mil

The initial results indicate PFAS have moved off the NSA Cutler Fire Station property in the groundwater and are present in some private drinking water wells at levels above the EPA lifetime health advisory.

Basis of PFAS Off-Base Private Drinking Water Well Investigation

- PFOA and PFOS detected in groundwater on NSA Cutler Fire Station property at concentrations greater than screening values during March 2020 site inspection
- Off-Base Designated Sampling Area
 - 1-mile radius from identified NSA Cutler Fire Station property boundary
 - Navy requested to sample private drinking water wells in designated sampling area



SUMMARY OF SAMPLE RESULTS

PFOA & PFOS	Number of Samples	Range (ppt)
above 70 ppt*	14	73.31 - 1263.27
below 70 ppt*	27	0.48 - 54.83
not detected	13	not detected

* 70 parts per trillion (ppt) is the EPA Health Advisory for Lifetime Exposure

Out of respect to residents' privacy, the Navy has provided individual results only to each property owner.

EPA U.S. Environmental Protection Agency
 ppt parts per trillion

PFAS per- and polyfluoroalkyl substances
 PFOA perfluorooctanoic acid

PFOS perfluorooctane sulfonate

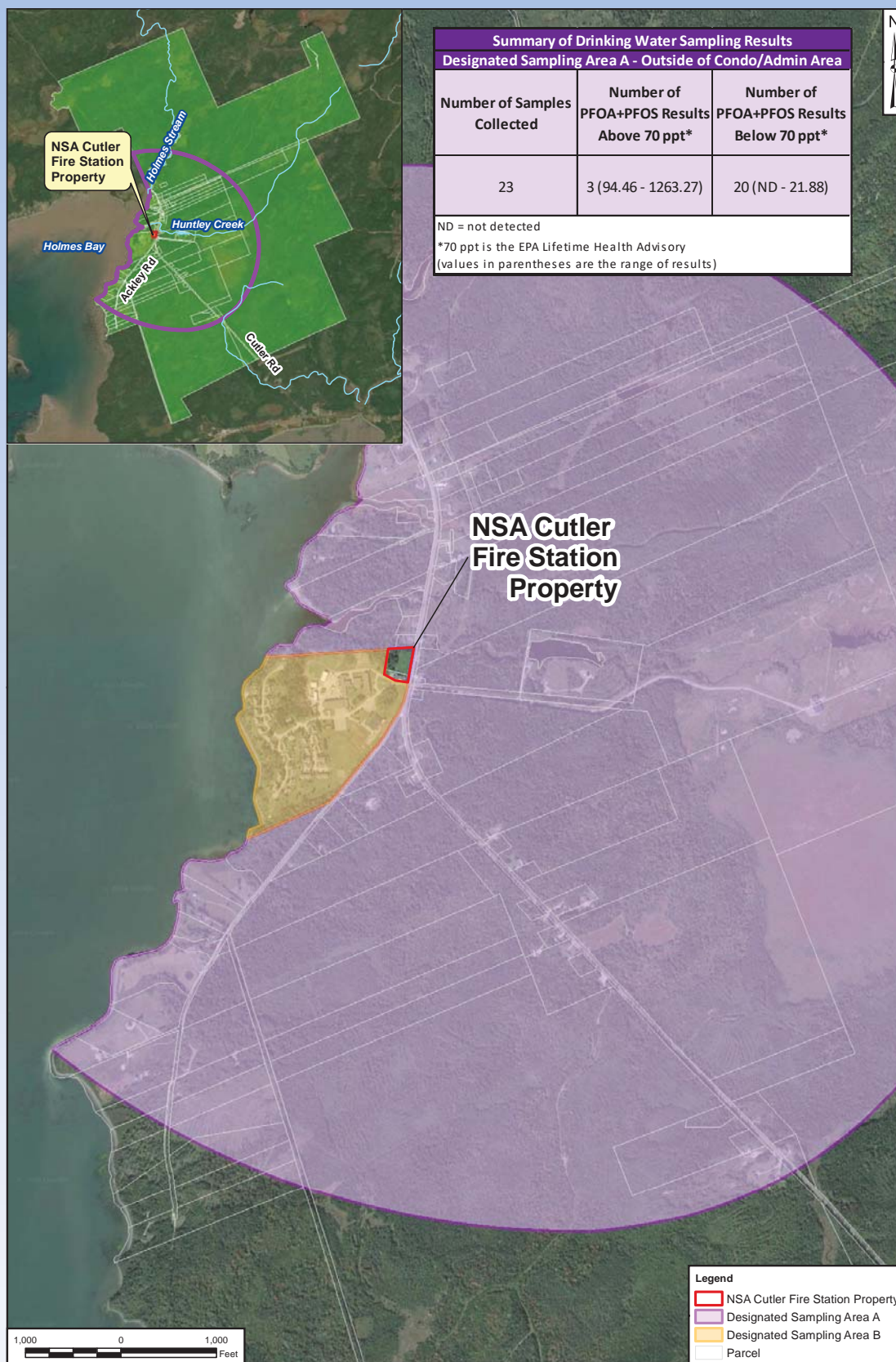


NSA Cutler PFAS Information and Sampling

Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil



Out of respect to residents' privacy, the Navy has provided individual results only to each property owner.

EPA U.S. Environmental Protection Agency
ppt parts per trillion

PFAS per- and polyfluoroalkyl substances
PFOA perfluorooctanoic acid

PFOS perfluorooctane sulfonate

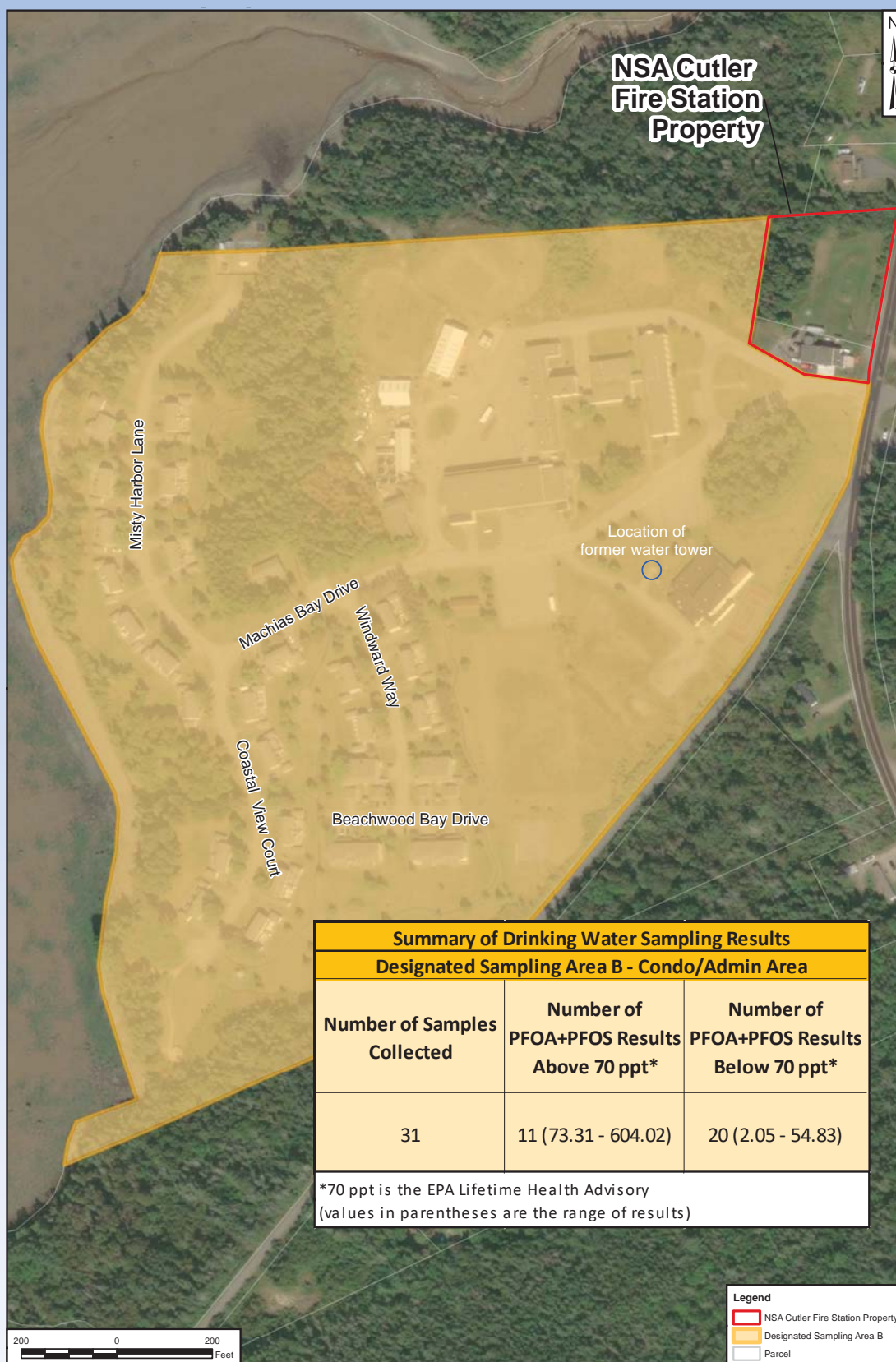


NSA Cutler PFAS Information and Sampling

Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil



Out of respect to residents' privacy, the Navy has provided individual results only to each property owner.

EPA U.S. Environmental Protection Agency
ppt parts per trillion

PFAS per- and polyfluoroalkyl substances
PFOA perfluorooctanoic acid

PFOS perfluorooctane sulfonate



Off-Base Private Drinking Water Well Sampling

Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

The initial results indicate PFAS have moved off the NSA Cutler Fire Station property in the groundwater and are present in some private drinking water wells at levels above EPA lifetime health advisory.

Sampling Results

- 54 wells sampled
- Bottled drinking water provided to residents of properties whose water exceeds the EPA's health advisory
- Based on the data, there are no plans to expand the sampling area at this time

SUMMARY OF SAMPLE RESULTS

PFOA & PFOS	Number of Samples	Range (ppt)
above 70 ppt*	14	73.31 - 1263.27
below 70 ppt*	27	0.48 - 54.83
not detected	13	not detected

* 70 parts per trillion (ppt) is the EPA Health Advisory for Lifetime Exposure

Out of respect to residents' privacy, the Navy has provided individual results only to each property owner.

Private Drinking Water Results Near NSA Cutler Fire Station

Sample Count	PFOA ppt	PFOS ppt	PFOA + PFOS ppt
1	772.12	491.15	1263.27
2	59.19	544.83	604.02
3	476.06	112.16	588.22
4	26.90	438.35	465.25
5	45.60	382.96	428.56
6	19.77	188.57	208.34
7	21.15 J	186.85 J	208.00
8	18.32	174.89	193.21
9	11.46 J	150.83 J	162.29
10	14.66 J	142.37 J	157.03
11	13.53	80.93	94.46
12	11.40	64.90	76.30
13	25.71	49.33	75.04
14	12.93	60.38	73.31
15	6.22	48.61	54.83
16	12.14	37.86	50.00
17	8.81	40.96	49.77
18	23.11	25.01	48.12
19	9.63	38.34	47.97
20	11.24	33.98	45.22
21	9.60	34.13	43.73
22	8.43	32.98	41.41
23	32.75	7.92	40.67
24	4.77	30.48	35.25
25	7.06	24.54	31.60
26	6.83	20.18	27.01
27	10.53	15.61	26.14
28	9.57	14.33	23.90
29	14.37	7.51	21.88
30	8.82	11.48	20.30
31	7.04	12.56	19.60
32	4.88 J	13.94 J	18.82
33	4.88	4.16	9.04
34	2.12 J	4.53	6.65
35	1.51 J	1.04 J	2.55
36	1.06 J	0.99 J	2.05
37	1.52 J	0.35 J	1.87
38	0.62 J	0.65 J	1.27
39	0.65 J	0.23 J	0.88
40	0.67 J	0.2 J	0.87
41	0.24 J	0.24 J	0.48
42	ND	ND	ND
43	ND	ND	ND
44	ND	ND	ND
45	ND	ND	ND
46	ND	ND	ND
47	ND	ND	ND
48	ND	ND	ND
49	ND	ND	ND
50	ND	ND	ND
51	ND	ND	ND
52	ND	ND	ND
53	ND	ND	ND
54	ND	ND	ND

J = Laboratory identified the compound; concentration is estimated.

ND = not detected

EPA
ppt U.S. Environmental Protection Agency
parts per trillion

PFAS
PFOA per- and polyfluoroalkyl substances
perfluorooctanoic acid

PFOS perfluorooctane sulfonate



Per- and Polyfluoroalkyl Substances (PFAS) and Exposure

Additional information can be found online at:
www.secnave.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact ATSDR Region 1 at:
617-918-1493 or tv44@cdc.gov

Where Do PFAS Come From?

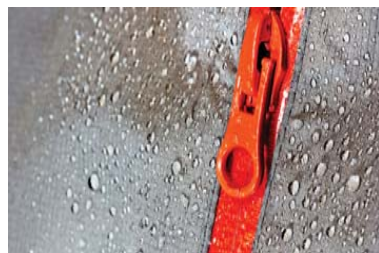
- Manufactured compounds, no natural occurrence.
- Used since 1950s in many products.
- Last a long time in the environment.



firefighting foam



stain-resistant carpets



water-resistant fabrics



personal care products



nonstick cookware



food packaging

PFAS in People

- Most people in the United States and other countries have probably been exposed to PFAS and have PFAS in their blood.
- Some PFAS stay in the body a long time.
- Blood testing for PFAS is available but is not a regular test offered by a doctor.
 - PFAS blood tests will not provide information on health problems nor will it provide information for treatment.
 - PFAS blood tests results can't tell you if PFAS exposure has caused your health condition.

How Are People Exposed to PFAS?

- PFAS may be in drinking water, food, indoor dust, some consumer products, and workplaces.
- Most non-occupational exposures occur through drinking water or eating food that contains PFAS.
- Very little PFAS exposure occurs during swimming, bathing, or showering.
- PFAS in a mother's body can move from her blood into her unborn child and from her breast milk into her breastfed baby.
 - However, based on current science, the benefits of breastfeeding appear to outweigh the risks for infants exposed to PFAS in breast milk.
 - If concerned, nursing mothers should consult with their primary care physician.



Possible Health Effects and Advisory Levels

Additional information can be found online at:
www.secnave.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact ATSDR Region 1 at:
617-918-1493 or tv54@cdc.gov

How Might PFAS Exposure Affect People's Health?

- At this time, scientists are still learning about how exposure to PFAS might affect people's health.
- High levels of certain PFAS may lead to the following:
 - Increased cholesterol levels.
 - Changes in liver enzymes.
 - Small decrease in infant birth weight.
 - Decreased vaccine response in children.
 - Increased risk of high blood pressure or pre-eclampsia in pregnant women.
 - Increased risk of kidney or testicular cancer.
- There are no medical interventions that will remove PFAS from the body.
 - The best intervention is to stop the source of exposure (such as drinking water).
 - This allows levels in the body to decrease over time.

What is the EPA's Lifetime Health Advisory?

- Sets a total concentration of 70 ppt for PFOA and PFOS in drinking water.
- Protects against harmful health effects to sensitive populations and the general public.
- Assumes exposure over a lifetime.
- Provides information to state agencies and public health officials on health effects and water treatment needs so they can take steps to reduce exposures.
- Is only an advisory and is therefore non-enforceable.

How was the EPA Lifetime Health Advisory Calculated?

- Based on studies of health effects from PFOA and PFOS in laboratory animals.
- Considers information regarding health effects on people exposed to PFOA and PFOS.
- Protects sensitive populations including the fetuses and nursing infants of mothers who are exposed.

The Navy will provide bottled water if your sampling results for PFOA and PFOS are above the EPA lifetime health advisory (70 ppt).



Environmental Cleanup Process

Additional information can be found online at:
www.secnave.navy.mil/eie/pages/pfc-pfas.aspx

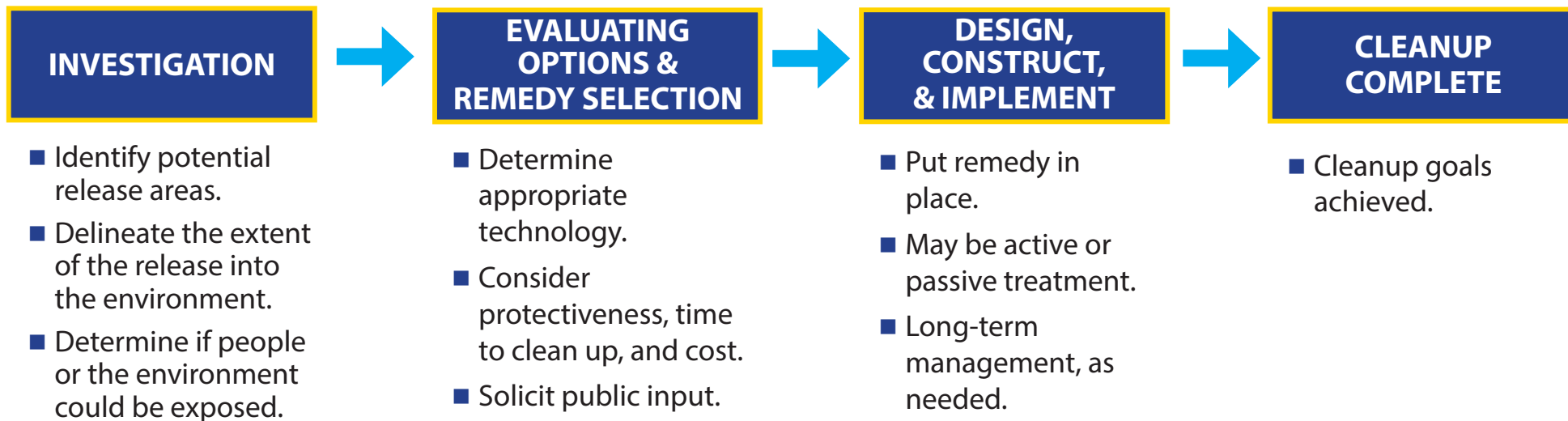
For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

PRIORITY: Protect Human Health & the Environment

- Structured process to identify and clean up historical releases of compounds into the environment.
- The Navy works closely with the Maine Department of Environmental Protection at every step of the process.
- Public input is welcome throughout the process and is formally solicited at certain points.
- It is a very thorough and comprehensive process.
- The Navy is here until the process is complete.

PFAS Environmental Cleanup Process



Interim Response Action may be implemented at any time within the Cleanup Process



Next Steps

Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

The Navy is still in the early phase of the investigation and is committed to a long-term solution for affected property owners.

Ongoing Actions

- Continue to provide bottled water to properties with a drinking water well that exceeded the EPA health advisory level.
- Continue on-site investigation to determine full extent of PFAS in groundwater.
- Continue to monitor the science and regulations related to PFAS.
- Continue to partner with Federal, State, and local agencies to determine the best path forward.
- Identify a long-term solution for wells that exceeded the EPA health advisory levels.

Community Involvement

- The Navy will continue to provide updated information as it is available.
- Stay involved. Make sure the Navy has updated contact information.
- Testing is still available for anyone within the designated sampling area that has not already had their well sampled.

The Navy is fully committed to addressing potential PFOA and PFOS exposure due to Navy activity in a timely manner. The Navy will be involved until necessary actions are complete.



Interim Response Action

May be implemented at any time within the Cleanup Process

Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

The Navy is expediting the normal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process by conducting an Interim Response Action for Drinking Water Wells Exceeding 70 ppt PFOA and PFOS.

Immediate Action:

The Navy is providing bottled water for drinking and cooking.

Near-term Action: Expedited Process for Installing Treatment Systems:

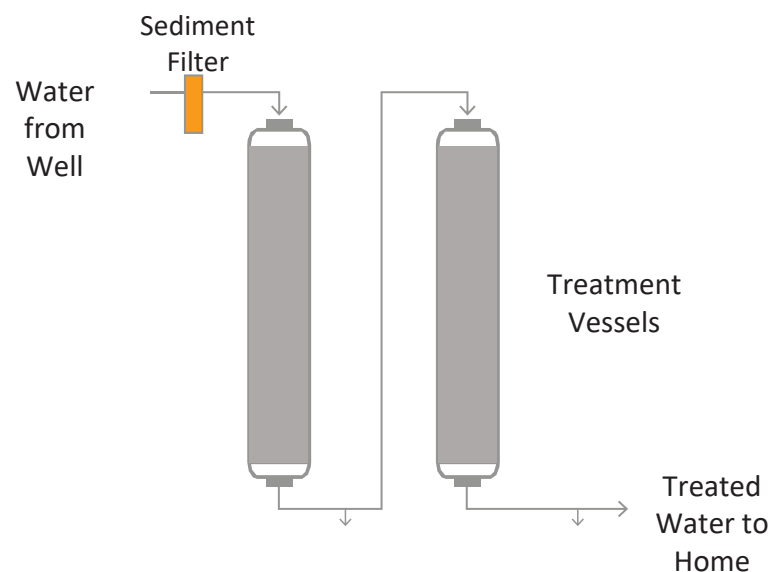
Interim Response Action: Point of entry treatment system (POETS)

Point of Entry Treatment System

- Well water is passed through a filtration system, consisting of one or two filtration vessels, to remove PFAS.
- The treated water will be routed through the main water inlet to the consumers' home.

Long-term Solution:

Evaluation of options will be conducted with our partnering agencies following the CERCLA process.





Understanding Laboratory Results

Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

Example of Lab Report with Definitions and Explanations



Project Client:
Project Name:
Project No.:

Client ID

Battelle ID I3392-FS
Sample Type SA
Collection Date 05/24/2019
Extraction Date 05/28/2019
Analysis Date 05/30/2019
Analytical Instrument Sciex 5500 LC/MS/MS
% Moisture NA
Matrix DW
Sample Size 0.260
Size Unit-Basis L
Analyte CAS No. Result (ng/L) DL LOD LOQ

The result for PFOA:
PFOA was not detected in the sample, represented as "ND".
The result for PFOS:
PFOS was detected in the sample at 0.13 J ng/L (0.13 J ppt).
The result for PFOA + PFOS:
PFOA + PFOS was detected in the sample at 0.13 ng/L (0.13 ppt).

Analyte was not detected in this sample.
Represented as "ND" (Non-Detect).

1 ng/L = 1 ppt
nanogram(s) per liter part(s) per trillion

Analyte	CAS No.	Result (ng/L)	DL	LOD	LOQ
DV QUALIFIER					
PFHxA	307-24-4	1.2	0.22	0.48	2.40
PFHpA	375-85-9	ND	0.22	0.48	2.40
PFOA	335-67-1	ND	0.19	0.48	2.40
PFNA	375-95-1	0.21 J	0.12	0.38	2.40
PFDA	335-76-2	ND	0.11	0.38	2.40
PFUnA	2058-94-8	ND	0.10	0.38	2.40
PFDoA	307-55-1	ND	0.13	0.48	2.40
PFTTrDA	72629-94-8	ND	0.10	0.38	2.40
PFTeDA	376-06-7	ND	0.21	0.48	2.40
NMeFOSAA	2355-31-9	ND	0.19	0.48	2.40
NEtFOSAA	2991-50-6	ND	0.16	0.48	2.40
PFBS	375-73-5	20	0.12	0.38	2.40
PFHxS	355-46-4	0.56 J	0.12	0.38	2.40
PFOS	1763-23-1	0.13 J	0.14	0.48	2.40
HFPO-DA	13252-13-6	ND	0.09	0.38	2.40
Adona	919005-14-4	ND	0.12	0.38	2.40
11CI-PF3OUdS	763051-92-9	ND	0.10	0.38	2.40
9CI-PF3ONS	756426-58-1	ND	0.12	0.38	2.40

Surrogate Recoveries (%)

Surrogate Recoveries (%)	Recovery
13C2-PFHxA	129
13C2-PFDA	113
d5-EtFOSAA	95
13C3-HFPO-DA	116

Data Validator's Signature

6/10/2019

The detection limit (DL) is the lowest analyte concentration that can confidently be distinguished from zero (or a blank) concentration.
The limit of detection (LOD) is the lowest analyte concentration that must be present in a sample to be confidently (i.e., consistently) detectable.
The limit of quantitation (LOQ) is the lowest concentration that produces a quantitative result within known and recorded precision and accuracy.

This is a data qualifier for this result. Possible qualifiers are:

"J" (Estimated Value) - Indicates the value reported for the analyte is greater than the DL but below the LOQ and was detected. The value reported is considered estimated.

"B" (Blank) - Indicates the compound also was detected in the method blank.



Understanding Laboratory Results

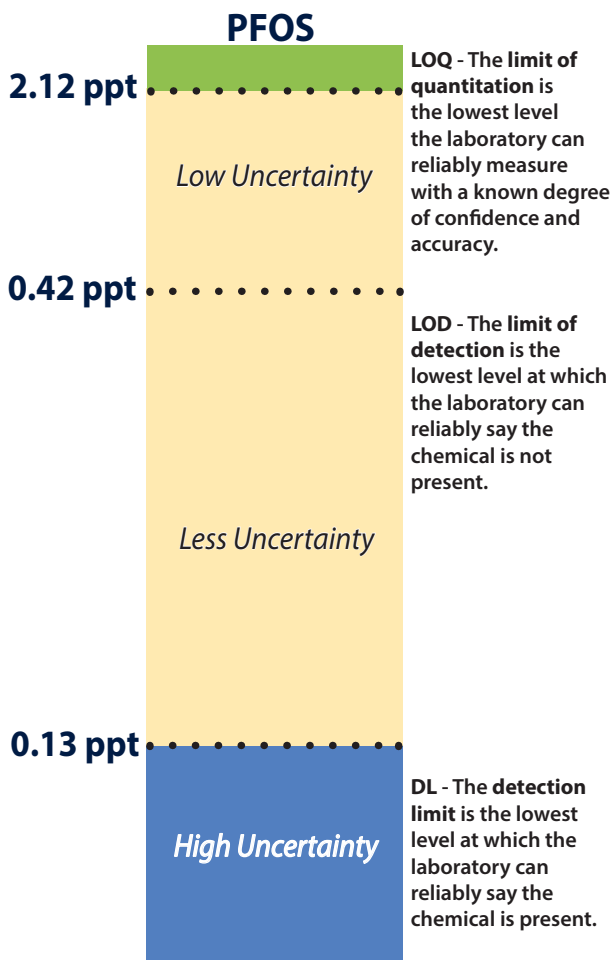
Additional information can be found online at:
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit:
<https://go.usa.gov/xwfdW>

If you have specific questions, please contact Navy Public Affairs Office at:
800-915-4705 or NAVFAC_ML_PAO@navy.mil

Instrument Measurements

- Laboratory method measures concentrations for 18 PFAS compounds
- Lifetime Health Advisory applies only to PFOA and PFOS
- Drinking water sampled and analyzed by EPA Standard Methods
- Sample analyzed by certified laboratory



How are Amounts of Chemicals in Samples Reported?

This table is an example of how PFOS results might be reported by the laboratory given the DL, LOD, and LOQ shown on the figure to the left.

Sample	Instrument Results	Reported Results
1	not detected	ND
2	0.15	0.15J
3	0.50	0.50J
4	3.0	3.0

J = Estimated
ND = Not detected

How are Analytical Measurements Reported?

A detected value above the LOQ may or may not be reported with a qualifier.

A detected value between the DL and LOQ is reported with a "J" qualifier flag (estimated value).

A not detected result is reported as ND.

