



Why is the Navy Sampling Private Drinking Water Wells Nationwide?

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

For updates as more information becomes available, visit
www.cnmc.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

If you have specific questions, please contact:
dave.ford@navy.mil or 904-542-4228

The Navy is identifying potential exposure to certain per- and polyfluoroalkyl substances (PFAS) in private drinking water.

- In 2016, the EPA established a drinking water lifetime health advisory (70 ppt) for PFOA and PFOS, two types of PFAS.
- The Navy issued a protective policy in 2016 to identify and address sites with the potential for exposure to PFOA and PFOS.
- The Navy has identified locations where PFOA and PFOS may have potentially migrated to off-base drinking water sources.
- The Navy is committed to protecting our neighbors' drinking water and taking responsibility for our previous operations.



The most common historical Navy use of PFOA and PFOS was in firefighting foam, which is no longer used for firefighting training.



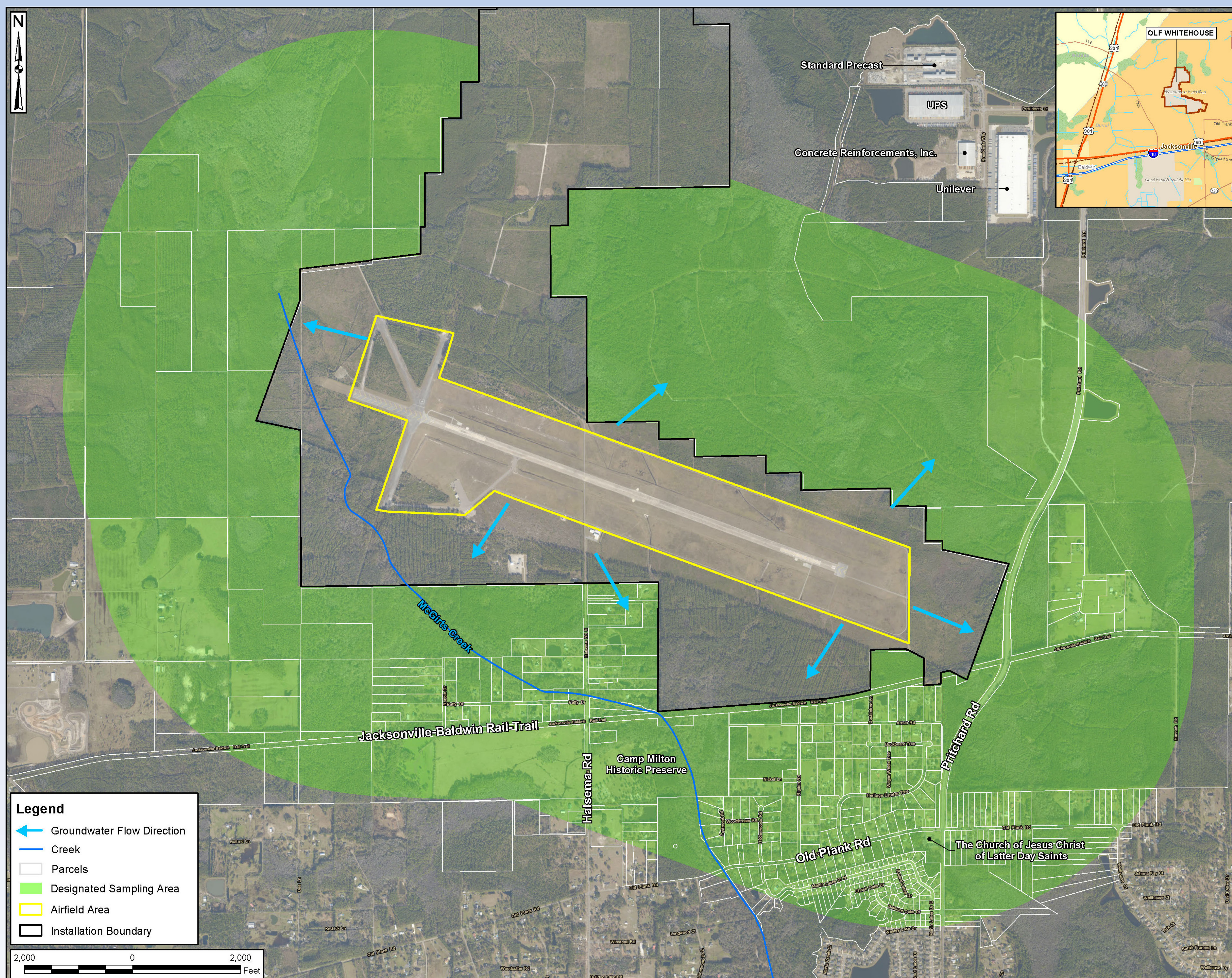
Off-Base Private Drinking Water Well Sampling

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

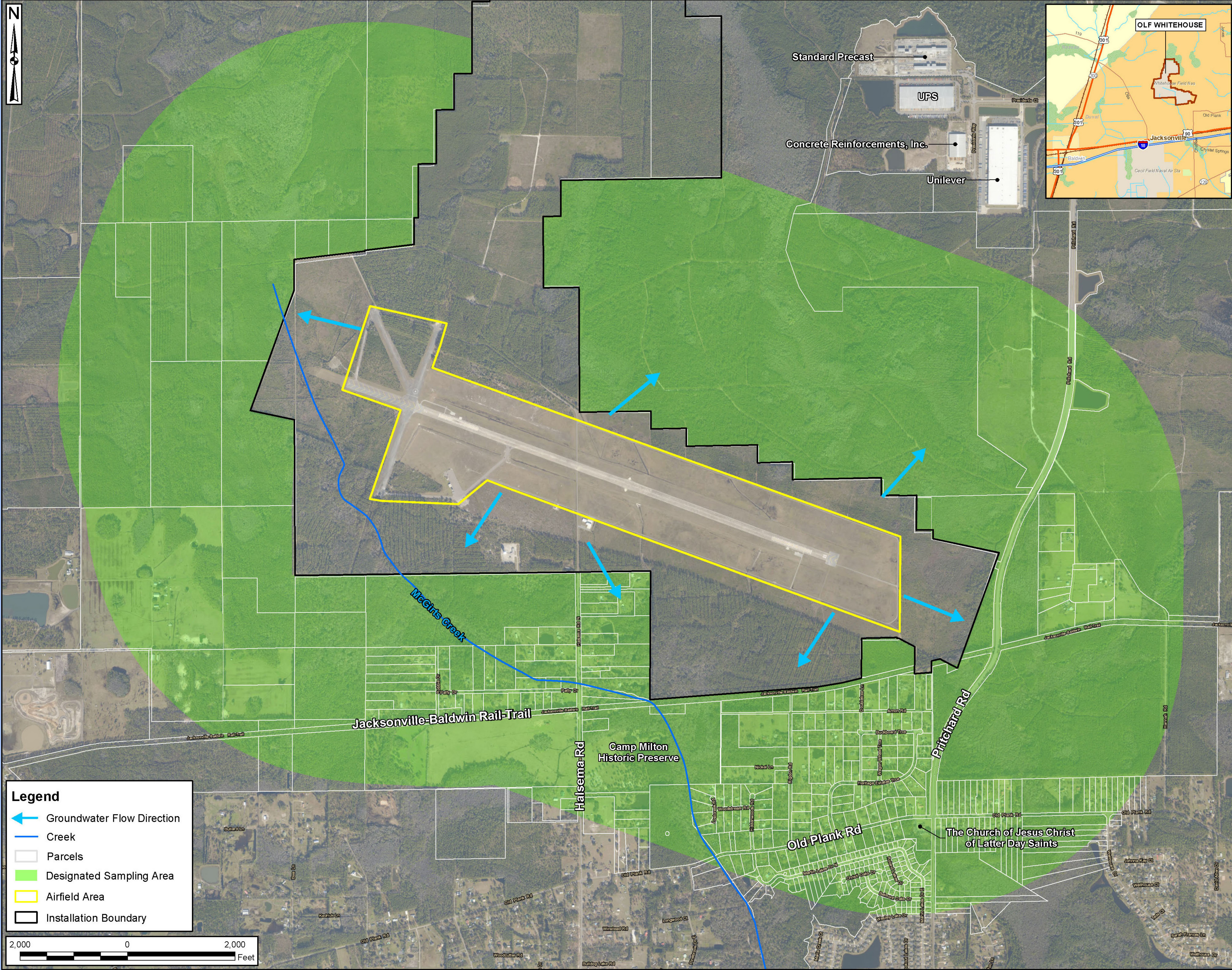
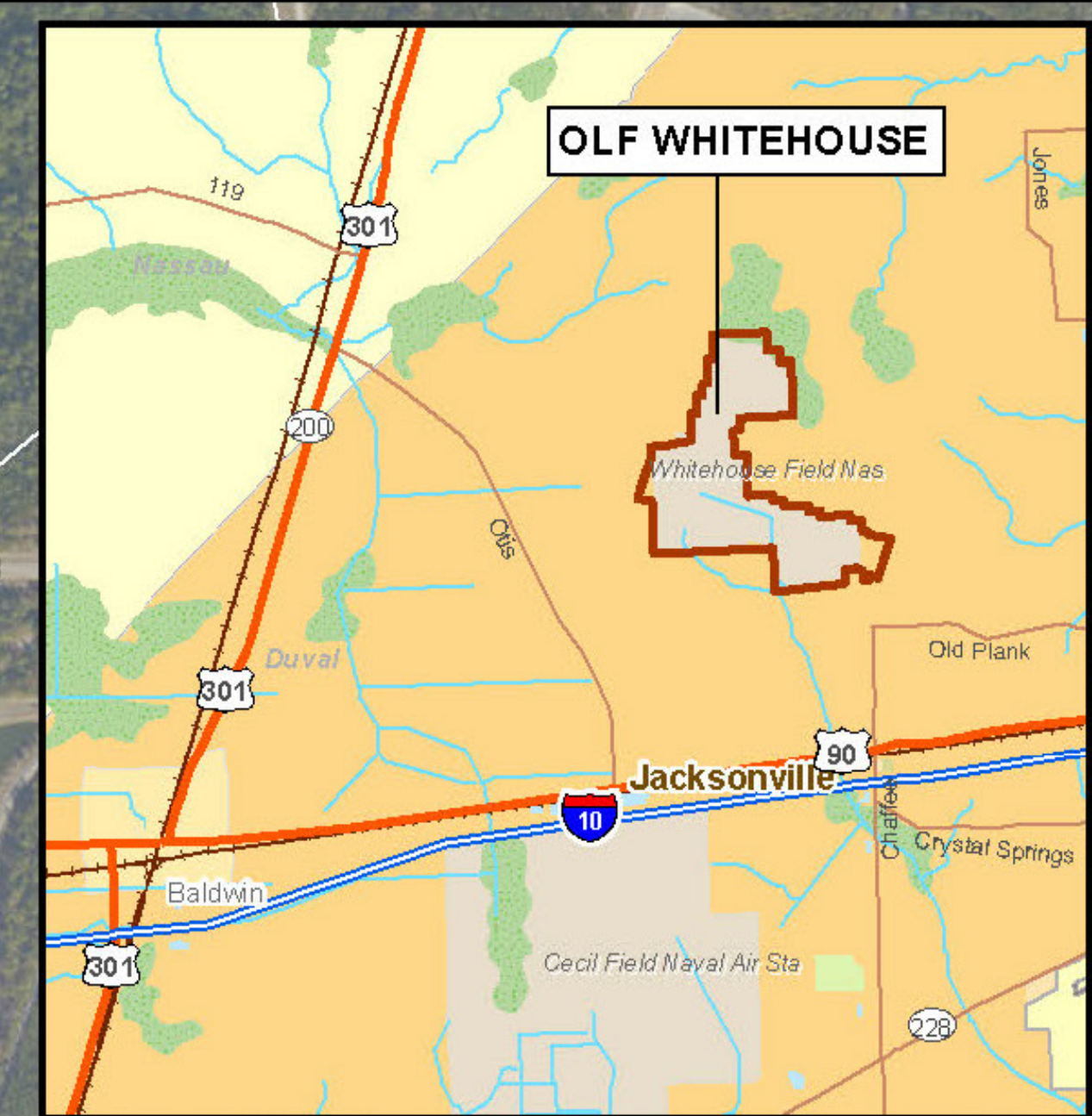
For updates as more information becomes available, visit
www.cnice.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

If you have specific questions, please contact:
dave.ford@navy.mil or 904-542-4228

The Navy Needs Your Cooperation to Sample Your Private Drinking Water Well

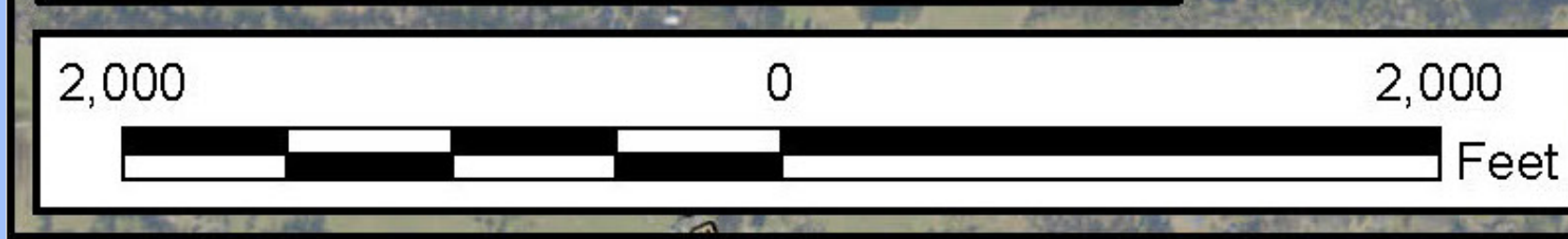


- Investigation is underway due to the use of firefighting foam.
- The designated sampling area is within one mile of the runway area.
- The Navy may expand the sampling area based on the results.



Legend

- Groundwater Flow Direction
- Creek
- Parcels
- Designated Sampling Area
- Airfield Area
- Installation Boundary





Per- and Polyfluoroalkyl Substances (PFAS)

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

For updates as more information becomes available, visit
www.cnmc.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

If you have specific questions, please contact:
allenbach.becky@epa.gov or 404-562-9687

Where Do PFAS Come From?

- Family of man-made compounds, no natural occurrence.
- PFOA and PFOS are the most studied and understood.
- Found in the environment (air, water, soil, animals, plants, as well as in people) around the world.
- Last a long time in the environment.
- Used since 1940s in many products, such as:



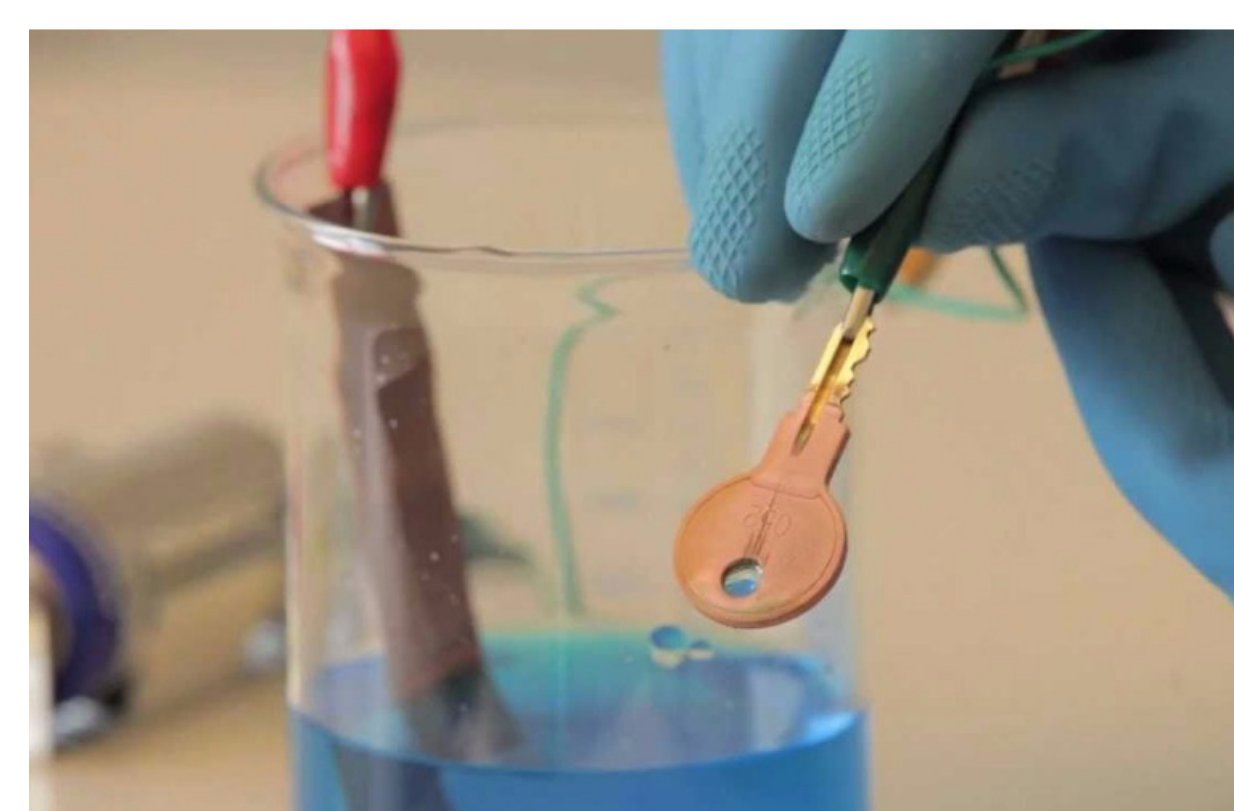
firefighting foam



stain-resistant carpets



water-resistant fabrics



electroplating



nonstick cookware



food packaging

What is the EPA's Lifetime Health Advisory for PFOA and PFOS?

- It is a lifetime health advisory of 70 ppt in drinking water.
- It protects against harmful health effects to sensitive populations and the general public, for lifetime exposure.
- It is currently not regulated/enforceable.

How is the EPA's Lifetime Health Advisory Calculated?

- It is based on studies of health effects from PFOA and PFOS in laboratory animals.
- It assumes 20 percent of overall exposure is from drinking water, and 80 percent of overall exposure is from other sources.
- It considers information regarding health effects of people exposed to PFOA and PFOS, including the fetuses or nursing infants of mothers who are exposed.

EPA U.S. Environmental Protection Agency
ppt parts per trillion
PFAS per- and polyfluoroalkyl substances

PFOA perfluorooctanoic acid
PFOS perfluorooctane sulfonate



Exposure and Health Effects

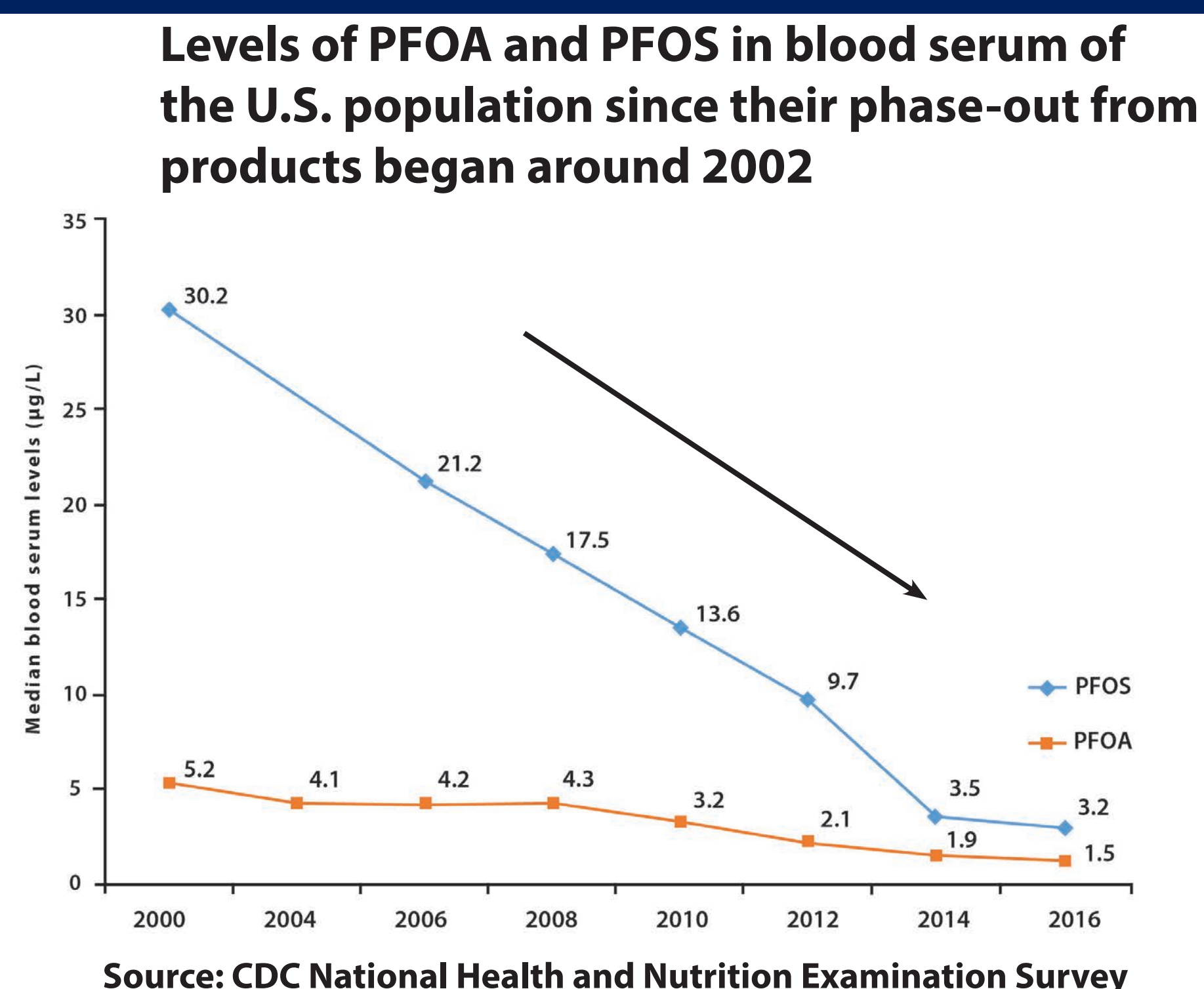
Additional information can be found online at
www.secnave.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit
www.cnice.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

If you have specific questions, please contact:
phtoxicology@flhealth.gov or 877-798-2772

PFAS in People

- CDC monitoring estimates that most people in the U.S. have PFAS in their bodies.
- Levels of PFAS in the environment and people are decreasing following their phase-out from use.
- PFAS can stay in the body a long time – there is no recommended medical treatment to reduce PFAS in the body.
- Will build up in the body until exposure stops.



Exposures to PFAS

- PFAS appear widespread around the world.
- Exposure is primarily through:
 - Ingestion of PFAS contaminated food, water, or soil.
 - Breathing air that contains PFAS contaminated dust from water/stain-resistant carpets, upholstery, clothing, etc.
- PFAS reach the fetuses or nursing infants of mothers who are exposed.
- Exposure is minor through skin contact when bathing or showering.

How to Reduce Exposure

- If water contains PFOA and PFOS above the EPA lifetime health advisory, you can reduce exposure by using a different water source for drinking, cooking, and brushing teeth.
- Use certified granular activated carbon or high-pressure membrane systems, such as reverse osmosis, to filter water. These treatment systems require ongoing maintenance.

Potential Health Effects

- More research is needed to confirm or rule out possible links between exposure and health effects.
- Animals exposed to high levels of PFAS had changes in liver, thyroid, and pancreas function; altered hormone levels; and increased rates of certain cancers.
- Potential health effects in people could include:
 - Increased cholesterol levels
 - Changes in growth, learning, and behavior of the developing fetus and child
 - Immune system changes
 - Decreased fertility
 - Altered hormone function
 - Increased risk of certain types of cancer (testicular, kidney, and prostate)
- The levels of PFOA or PFOS in drinking water do not predict what, if any, health impact might occur as a result of exposure.

Should I Have My Blood Tested?

ATSDR and CDC understand and acknowledge that you may want to know the level of PFAS in your body. However, there are some limitations with blood tests to consider:

- Test results will not provide clear answers for exposure source, existing or possible health effects or patient care.
- Blood testing for PFAS is not a routine test that health care providers offer.

Consult with your doctor for more information.

ATSDR	Agency for Toxic Substances and Disease Registry	PFAS	per- and polyfluoroalkyl substances
CDC	Centers for Disease Control and Prevention	PFOA	perfluorooctanoic acid
EPA	U.S. Environmental Protection Agency	PFOS	perfluorooctane sulfonate



Managing Your Private Well

Additional information can be found online at
www.coj.net/departments/neighborhoods/environmental-quality/groundwater-resources/well-permitting

Additional information can be found online at
www.floridahealth.gov/environmental-health/drinking-water/index.html

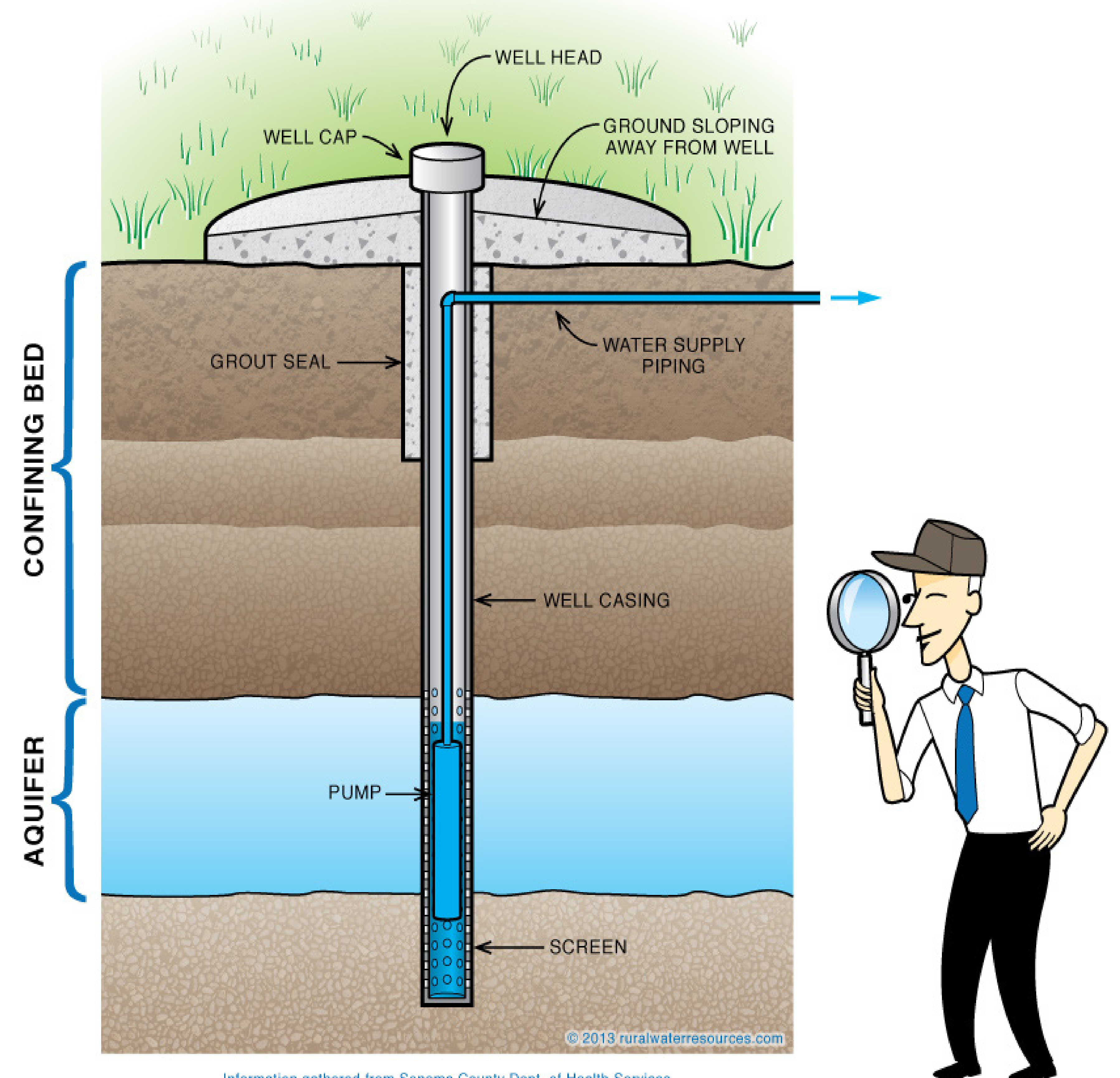
If you have specific questions, please contact:
AskEH@flhealth.gov or 850-245-4240

Managing the Risks

- Testing water once a year is a good idea. Routine water testing can ensure your water supply is safe.
- More frequent testing is recommended if your water changes in taste, color, or smell; or if you have recurrent incidences of gastrointestinal illness, infants living in the home, or a failing septic system.
- The Florida Department of Health recommends you test your water for bacteria and nitrates every year and for lead every three years. You should also consider testing for any other contaminants of local concern.
- Always use a state-certified laboratory to ensure the test results are valid.
- Have your well inspected regularly and prevent backflow (reverse flow in water pipes).
- Place your well uphill from pollution sources when possible, meeting or exceeding minimum distance requirements.
- Do not store or dispose of hazardous materials or chemicals on your property or near your well.

Typical Well Design

Typical Well Design



Information gathered from Sonoma County Dept. of Health Services



On-Base Sampling

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

For updates as more information becomes available, visit
www.cnice.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

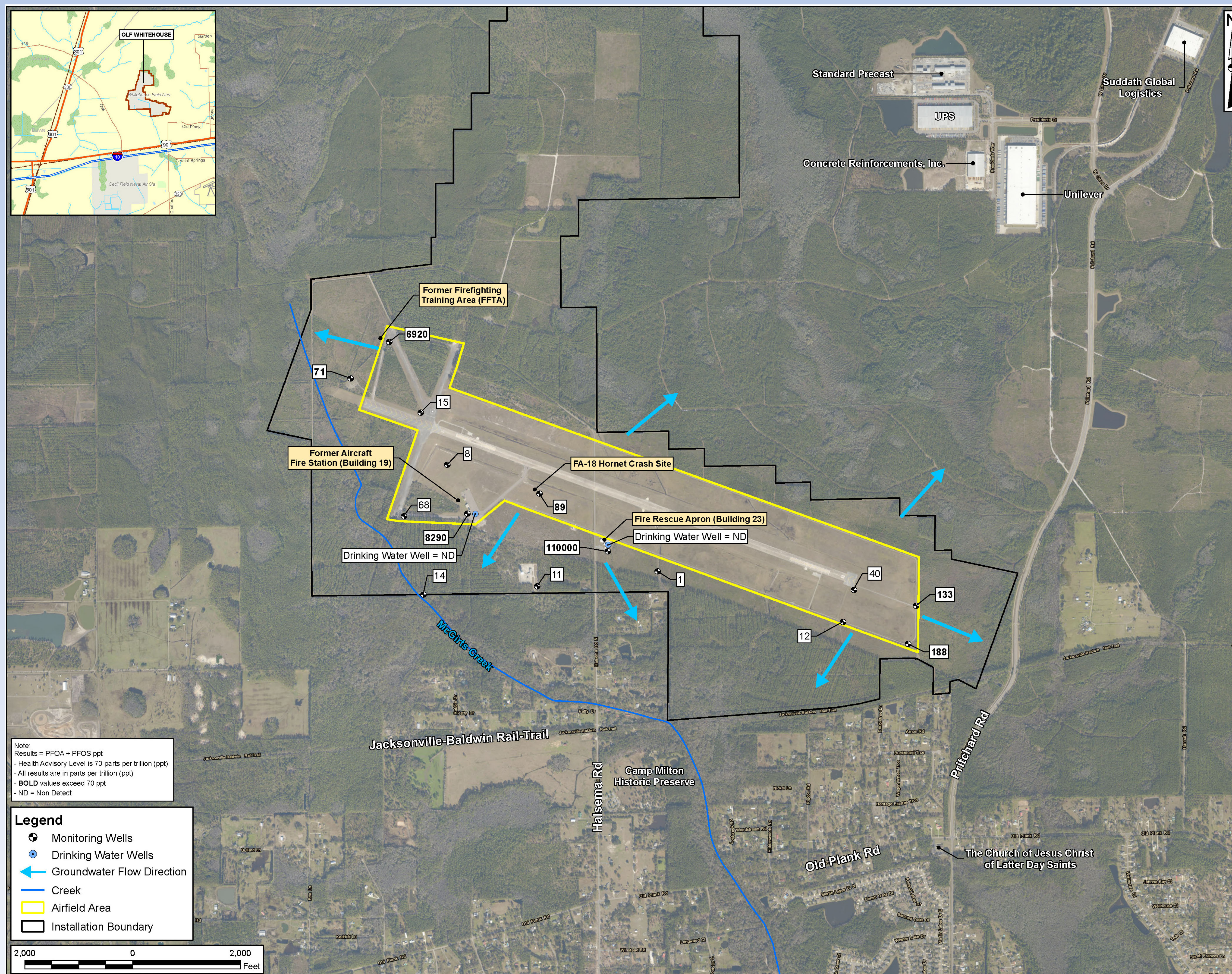
If you have specific questions, please contact:
dave.ford@navy.mil or 904-542-4228

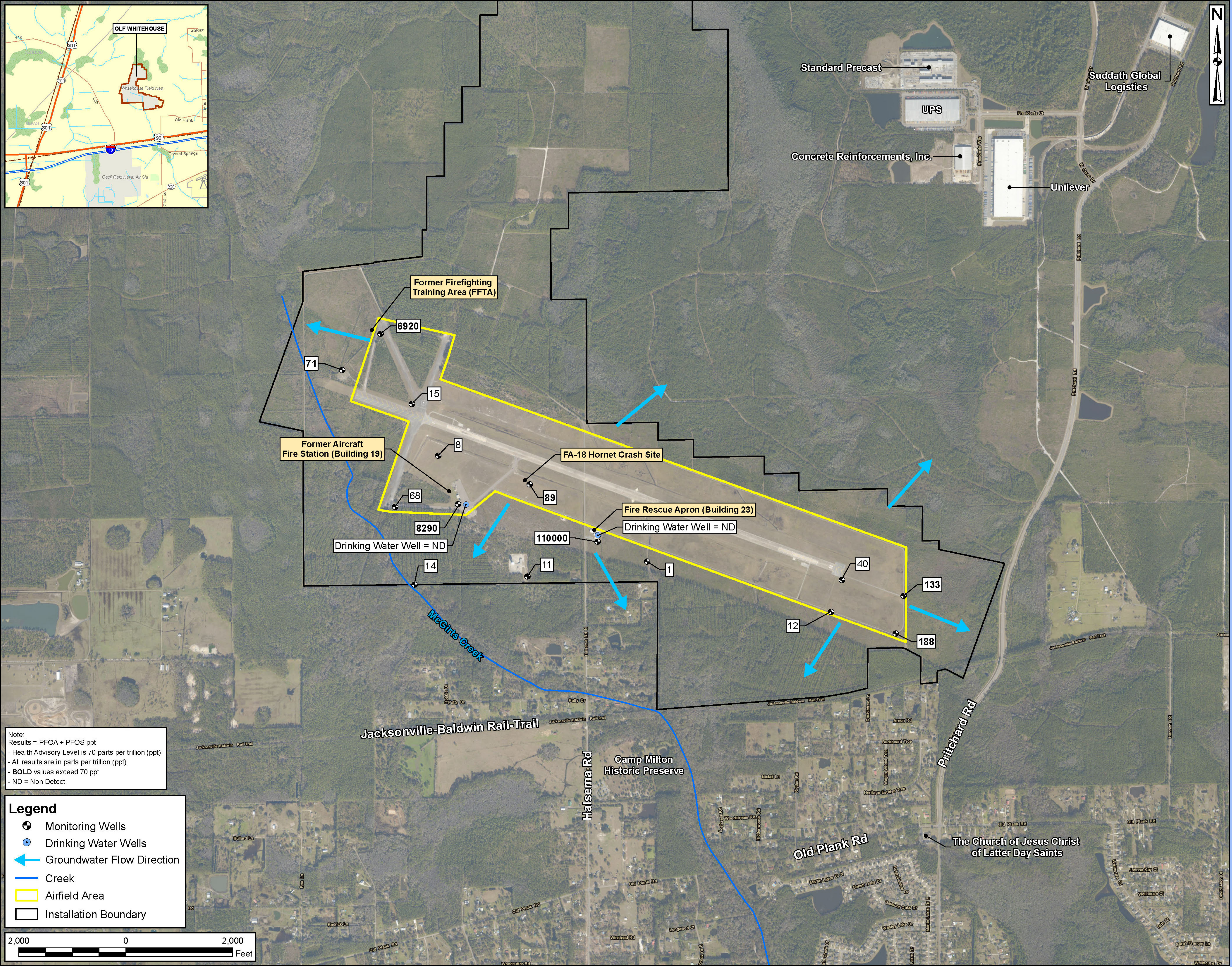
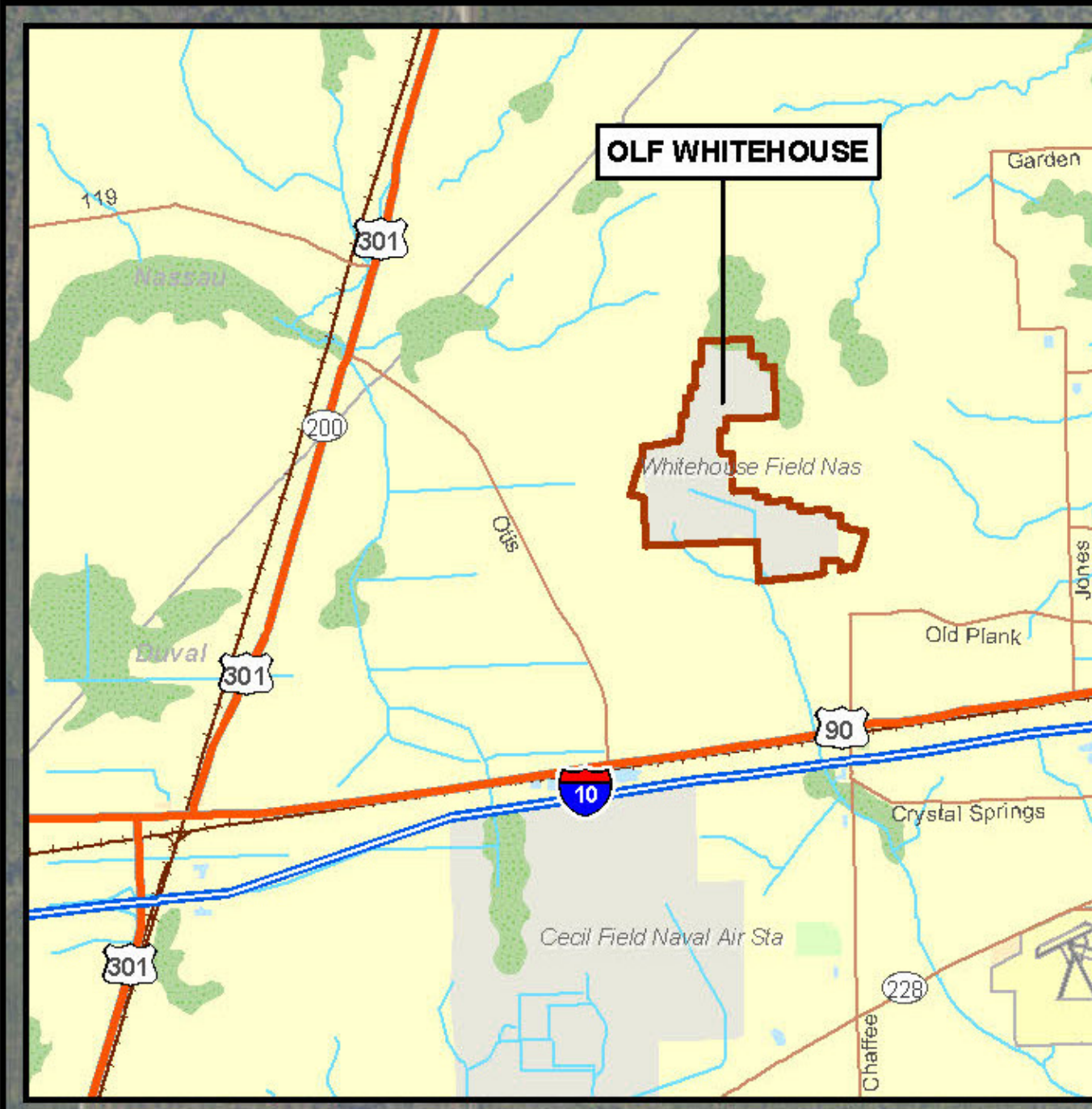
Drinking Water Sampling

- Drinking water wells were sampled October 2016.
- PFOA and PFOS were not detected in water supply wells.

Shallow Groundwater

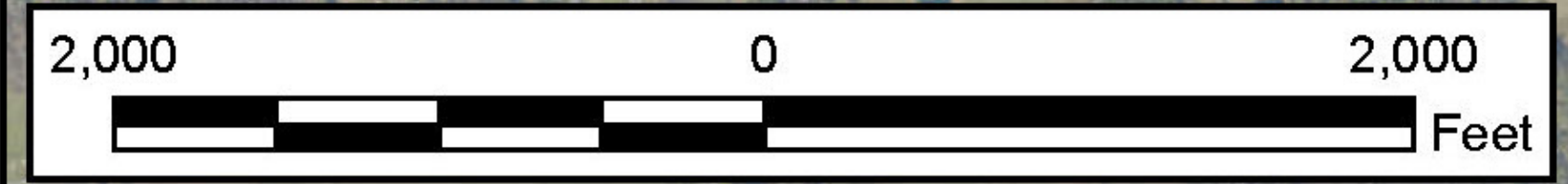
- All monitoring wells < 20 feet deep.
- 15 monitoring wells were sampled in March 2019.
- Monitoring wells results ranged from 1.09 ppt to 110,000 ppt.





Note:
Results = PFOA + PFOS ppt
- Health Advisory Level is 70 parts per trillion (ppt)
- All results are in parts per trillion (ppt)
- **BOLD** values exceed 70 ppt
- ND = Non Detect

- Legend**
- Monitoring Wells
 - Drinking Water Wells
 - Groundwater Flow Direction
 - Creek
 - Airfield Area
 - Installation Boundary





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
www.cnice.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

If you have specific questions, please contact:
dave.ford@navy.mil or 904-542-4228

PRIORITY: Protect Human Health & the Environment

- The structured regulatory process, shown below, will be used to identify and clean up contamination.
- Florida Department of Environmental Protection and EPA are working closely with the Navy and providing oversight at every step of the process.
- Public input is welcome throughout the process and is formally solicited at certain points.
- From the beginning to end, this process can be lengthy.

PFAS Environmental Cleanup Process



WE ARE HERE

INVESTIGATION

- Evaluate potential sources
- Determine where and how much contamination exists
- Determine potential exposures and risks

OPTIONS EVALUATION & REMEDY SELECTION

- Determine appropriate technology
- Consider protectiveness, time to clean up and cost
- Solicit public input

DESIGN, CONSTRUCTION & IMPLEMENTATION

- Put remedy in place
- Implement active or passive treatment, as appropriate
- Provide long term management, as needed

CLEANUP COMPLETION

- Achieve cleanup goals
- Implement land use controls as needed
- Solicit public input

The on-base PFAS evaluation is in its early stages. The first step is to identify potential sources of PFOA/PFOS. The second step is to determine where PFOA/PFOS are actually present.



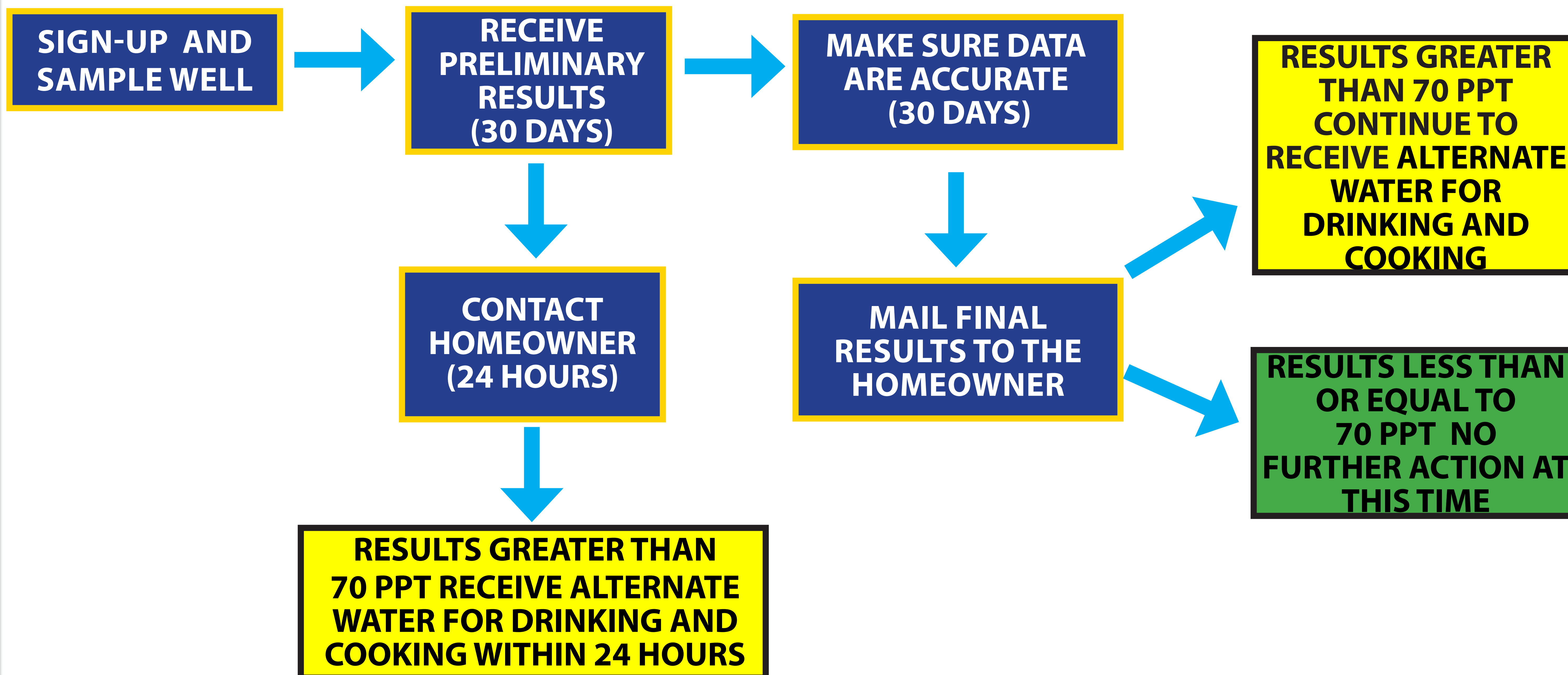
Next Steps

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

For updates as more information becomes available, visit
www.cnice.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

If you have specific questions, please contact:
dave.ford@navy.mil or 904-542-4228

Sequence of Events



Ongoing Actions

- Potentially expand the sampling area based on sampling results.
- Continue to communicate with residents.
- Continue on-base PFAS study.
- Continue to partner with Federal, State, and local agencies.



We Need Your Cooperation – Drinking Water Sampling 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
[www.cnmc.navy.mil/regions/cnrse/installations/nas_jacksonville/om/
environmental_support/OLF_WHITEHOUSE_PFAS.html](http://www.cnmc.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html)

If you have specific questions, please contact:
dave.ford@navy.mil or 904-542-4228

Sampling your private drinking water well is voluntary.

Sampling Process

- We need your cooperation to:
 - Make your appointment.
 - Complete the questionnaire prior to sampling.
- Sampling takes less than an hour.
 - Team of no more than three qualified professionals.
 - Water sample collected from point closest to the well.
 - Water will run for no more than 15 minutes prior to sampling.
 - Simple hand-held equipment will be used.
 - Samples will be collected and analyzed according to EPA procedures.
- You will be notified of results within approximately 30 days.

Ways to Schedule an Appointment

SCHEDULE YOUR APPOINTMENT HERE TODAY



To schedule an appointment after today,
contact Dave Ford at
dave.ford@navy.mil or
904-542-4228 or 904-542-4220



Sign Up for Your Sampling Appointment Here

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

For updates as more information becomes available, visit
www.cnmc.navy.mil/regions/cnrse/installations/nas_jacksonville/om/environmental_support/OLF_WHITEHOUSE_PFAS.html

If you have specific questions, please contact:
dave.ford@navy.mil or 904-542-4228

Off-base Private Drinking Water Well Sampling

- The Navy will be sampling private drinking water wells in the designated sampling area.
- Sampling began on August 21, 2019 and will continue through mid-September.
- Sampling appointments are available from 8:00 a.m. - 7:00 p.m. on these days.
- The homeowner must give permission for sampling and complete the questionnaire.
- Sampling takes less than one hour.
- An adult (18 years or older) must be present during sampling.

Private Drinking Water Sampling Activity Timeline



Open House Public Meeting

August 28, 2019

(Sign Up for Sampling)

Off-Base Drinking Water Well Sampling

August 21 through mid-September

Off-Base Drinking Water Well Sampling Results Available
beginning in late September

August

September

October