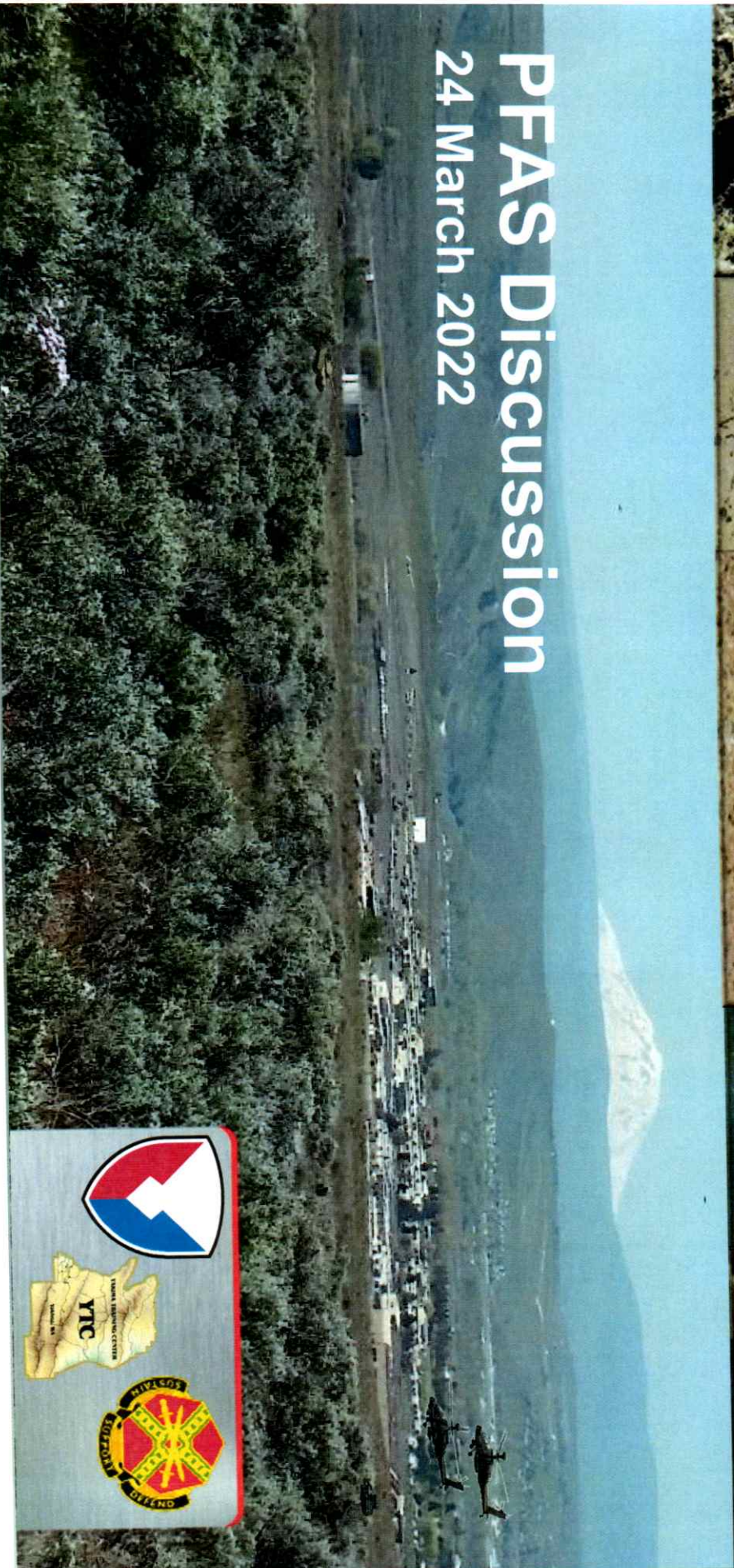




PFAS Discussion

24 March 2022





Agenda

- **Welcome**
- **What We Know**
- **What We Don't Know**
- **Where We Are in the Process**
- **Next Steps**
- **Question & Answers**





Lt. Colonel Luke Wittmer

Commander

Yakima Training Center (YTC)





Panel Members

- US Army
 - Mr. Roger Walton, US Army Environmental Command
 - Mr. Mark Mettler, YTC IRP Manager
 - Mr. Joseph Piek, JBLM Public Affairs
- Washington State Department of Health:
 - Ms. Barbara Morrissey, Toxicologist
 - Mr. Mike Means, Office of Clean Water
 - Mr. Dorothy Tibbetts
- Washington State Department of Agriculture:
 - Mr. Hector Castro
 - Mr. David Smith
- Washington State Department of Ecology:
 - Mr. Greg Caron
- Yakima County Department of Health
 - Mr. Shawn Magee





Mr. Roger Walton, P.E.

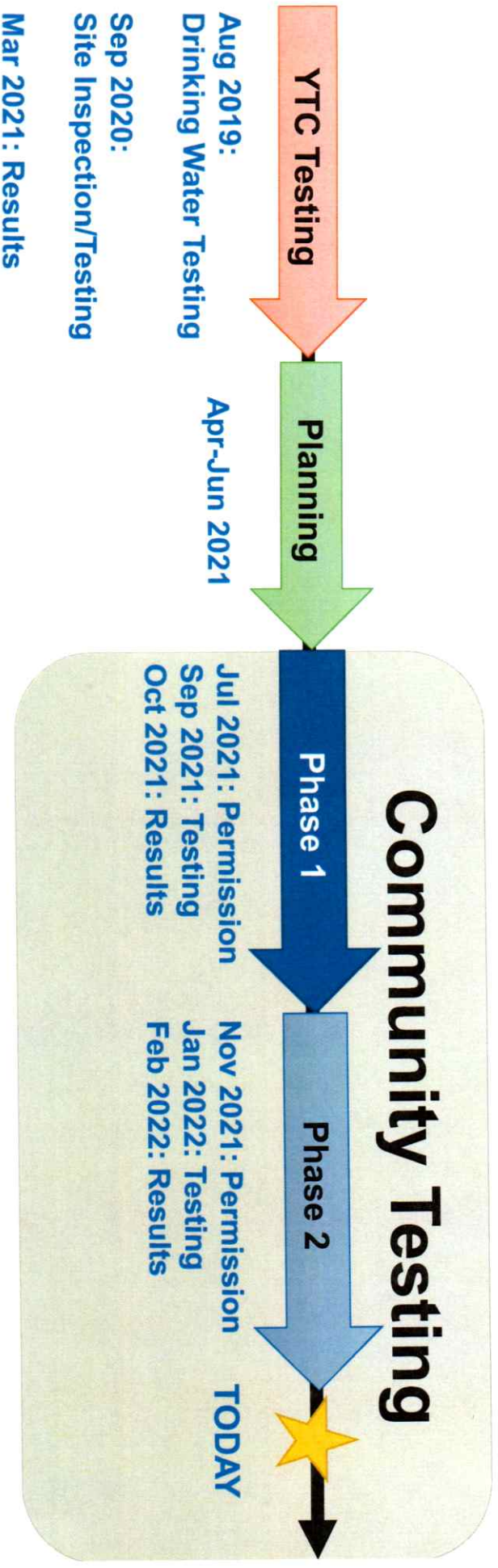
Environmental Engineer

US Army Environmental Command (USAEC)





Project Timeline to Date



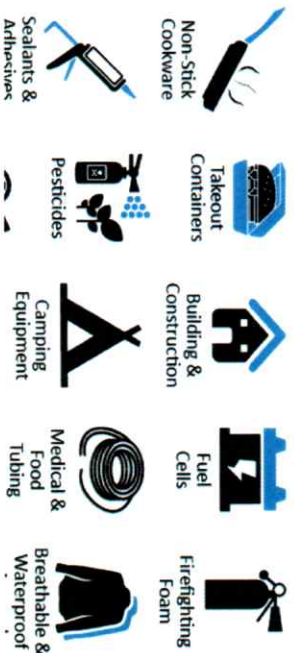
Legend of Terms

PFAS – Per- and Polyfluoroalkyl Substances



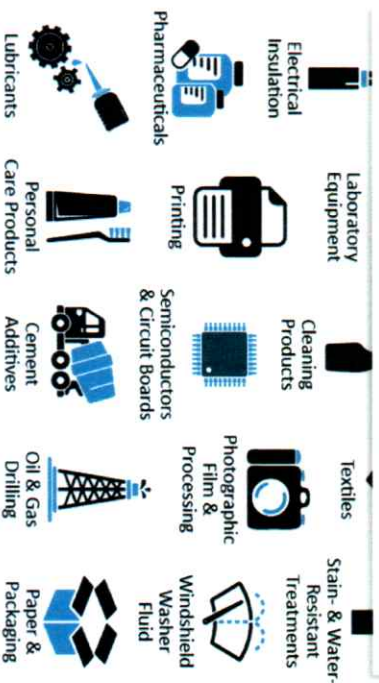


What is PFAS?



PFAS

A large class of substances that are used to make many products.

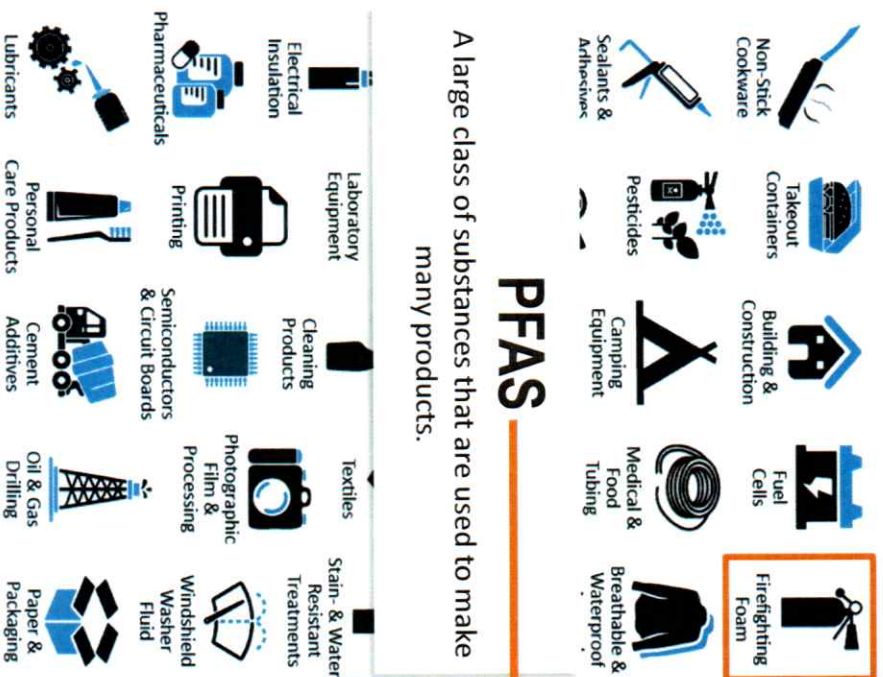


- Per- and Polyfluoroalkyl Substances (PFAS)
- PFAS is a large class of substances, potentially thousands of individual compounds
- These substances are found in many industrial and consumer products because they increase a product's resistance to heat, stains, water, and grease
- Many last a long time in the environment (persistent)
- If ingested, some compounds may stay in the body for long periods (bio-accumulative)
- Have been detected in people, wildlife, and fish worldwide





What is PFAS?



AFFF

DOD and others (local fire departments, the oil and gas industry, and commercial airports) use a certain kind of firefighting foam known as *aqueous film-forming foam*, or AFFF ("A triple F") to rapidly extinguish petroleum-based fires and protect against catastrophic loss of life and property



PFOS & PFOA

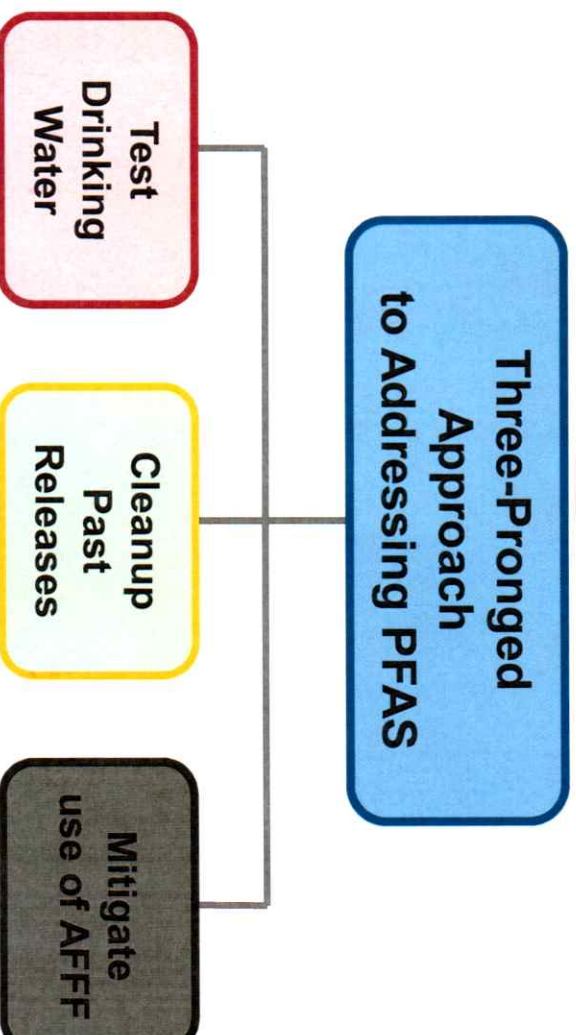
The U.S. Environmental Protection Agency (EPA) has issued Safe Drinking Water Act lifetime health advisories (HAs) for two PFAS: PFOS and PFOA. These HAs recommended the individual or combined levels of PFOS and PFOA in drinking water be at or below 70 parts per trillion (ppt)





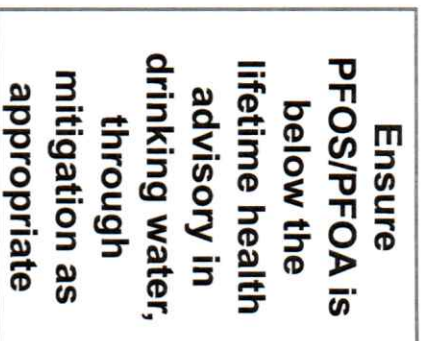
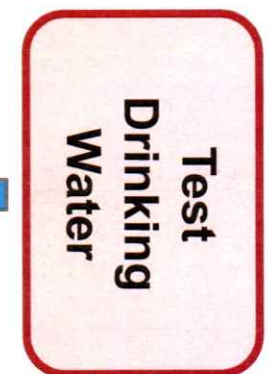
Army Priority on PFAS Issue

Army's first priority in PFAS response is to protect human health by preventing drinking water exposures above EPA's lifetime health advisory for PFOS/PFOA (70 ppt)



What We Know

Results to date:



- Phase 1 Testing
 - September 2021
 - 22 private wells tested
 - 8 wells serving 12 residences above 70 ppt
 - Results provided and bottled water delivery began Oct 2021
- Phase 2 Testing
 - January 2022
 - 86 additional private wells tested
 - 30 additional wells serving 44 residences above 70 ppt
 - Results provided and bottled water delivery began Feb 2022
- To Date: 38 Wells above 70 ppt, Serving 56 Residences





Ms. Barbara Morrissey, M.S.

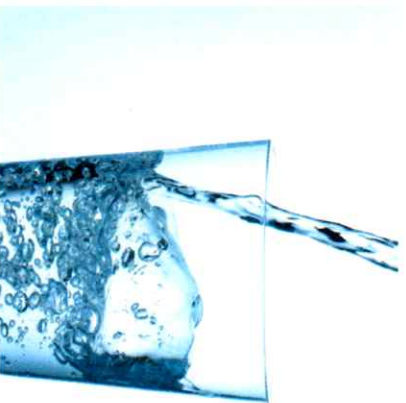
Toxicologist

WA State Department of Health (WA DOH)





Primary Exposures Routes to PFAS in drinking water



Drinking water



Foods and beverages prepared with that water

Not significant Exposure Routes

- Bathing
- Showering
- Hand washing dishes
- Running dish washer
- Doing laundry



Health Concerns

Toxicity observed in laboratory animals



- Liver toxicity
- Developmental toxicity
- Reproductive toxicity
- Immune toxicity
- Endocrine disruption
- Tumors in liver, pancreas, testes

In humans, PFAS exposure is associated with



- Increased cholesterol levels
- Altered liver enzyme levels
- Reduced immune response to vaccines
- Lower birth weight
- Blood pressure problems during pregnancy
- Increase risk of thyroid disease
- Increased risk of cancer (kidney and testicular)



Mr. Mark Mettler, M.S

Environmental Engineer

**YTC Installation Restoration Program
(IRP) Manager**

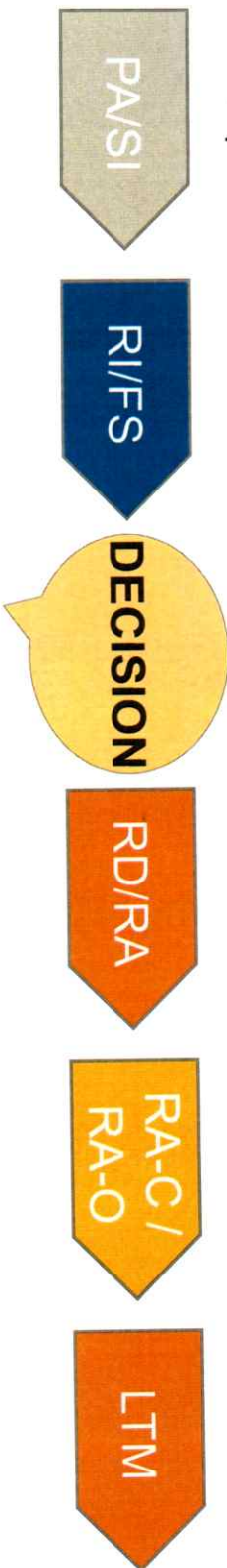




What is CERCLA?

- CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
- As an Army installation, YTC follows the CERCLA law.
- CERCLA provides a multistep process:

Interim Actions at Any Time (such as bottled water distribution)

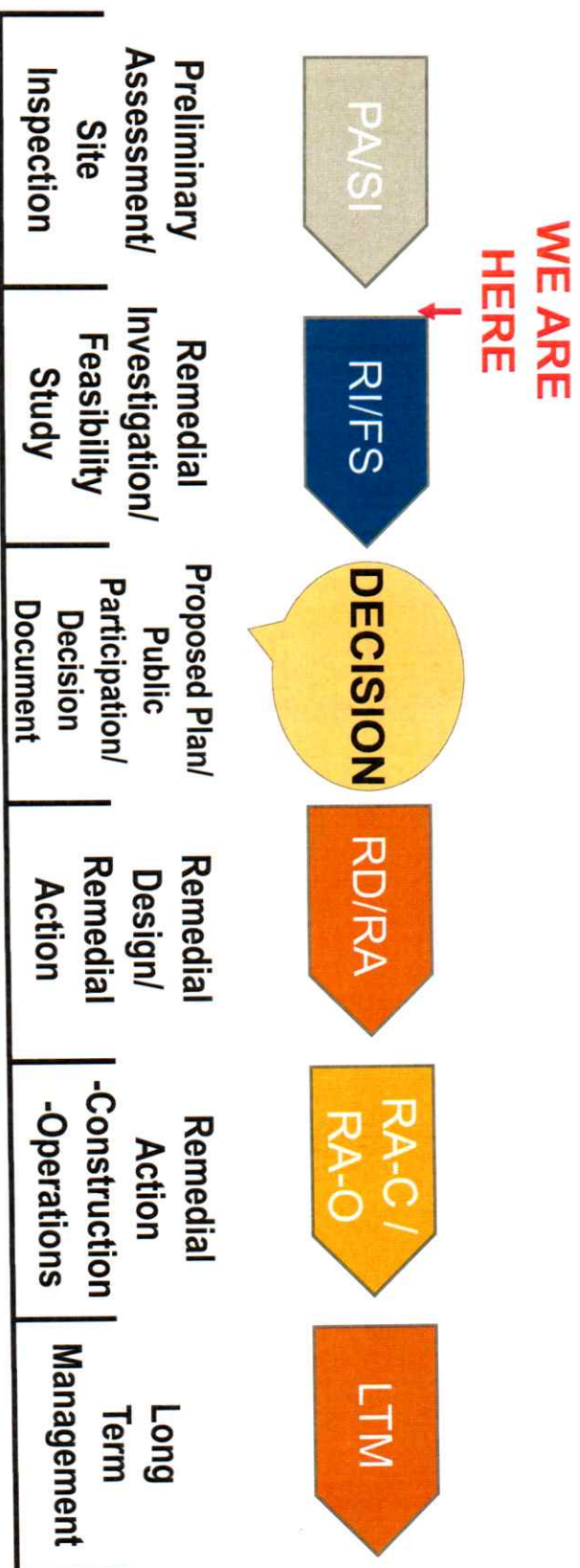


	Preliminary Assessment/ Site Inspection	Remedial Investigation/ Feasibility Study	Proposed Plan/ Public Participation/ Decision Document	Remedial Design/ Remedial Action	Remedial Action -Construction -Operations	Long Term Management
Years (Approx)	1-3	3-6	< 1	2-4	1-30+	1-30+
	Do we have a potential use or release of PFAS?	How big is the release? What should be done?	What we plan to do after considering public input.	How will we do it?	Put the decision in place.	Ongoing measures to ensure protectiveness?



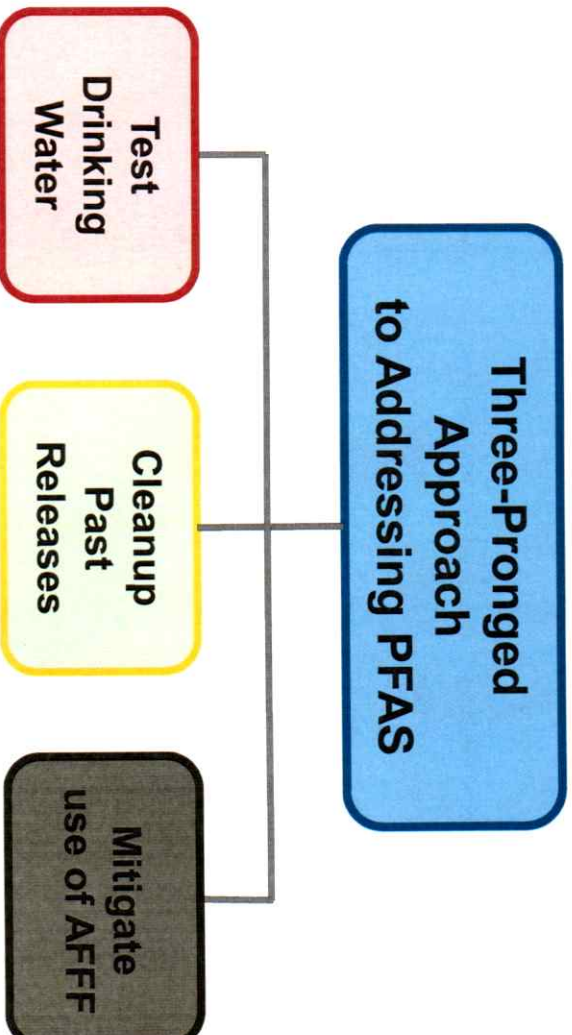


Where We Are



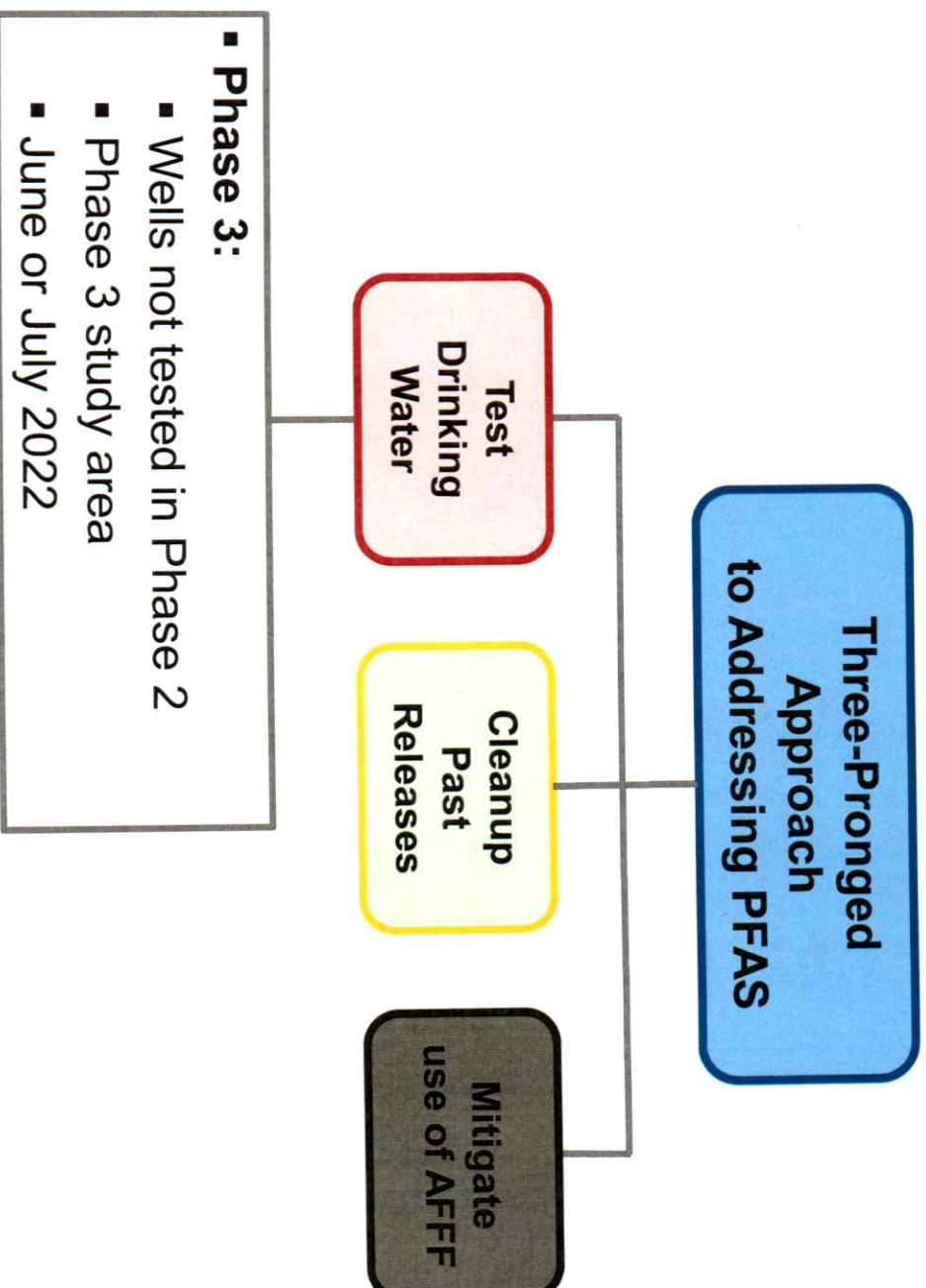


Next Steps



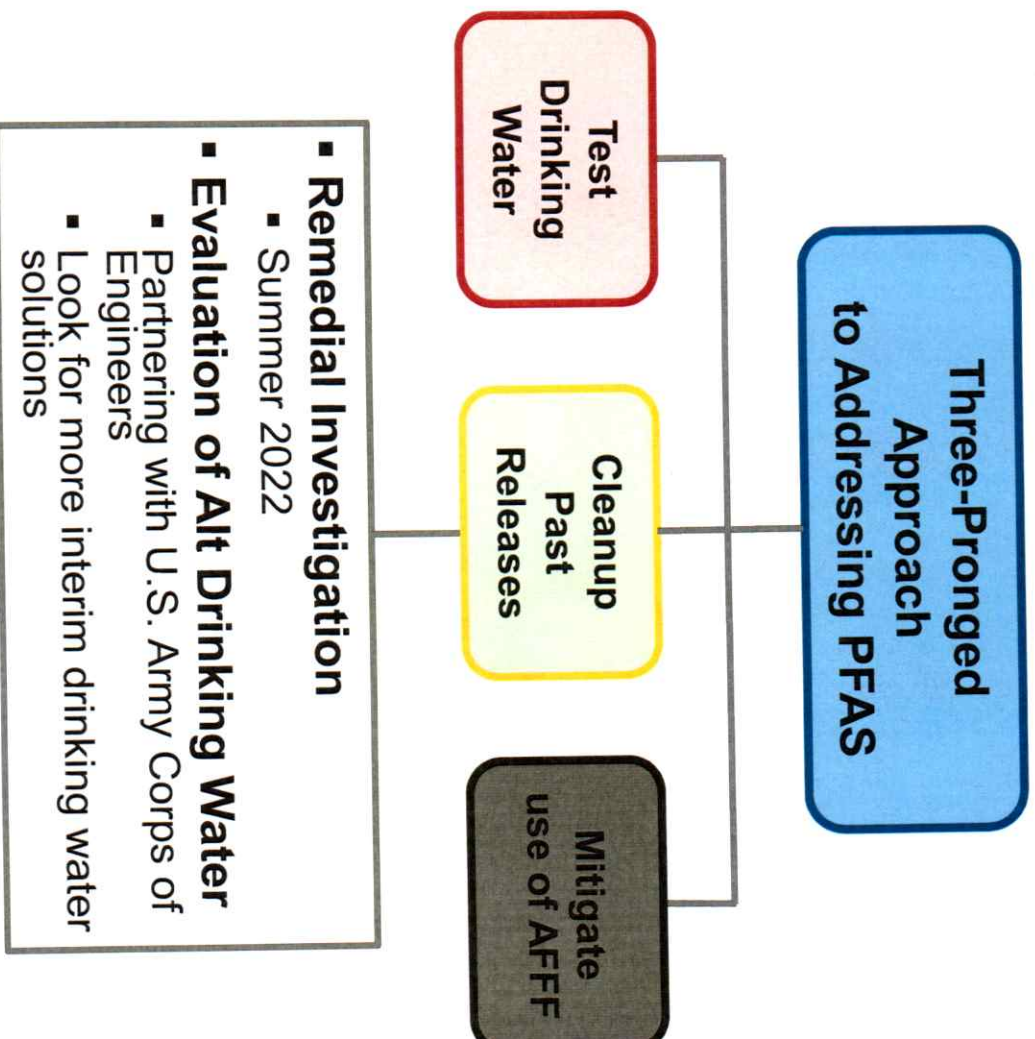


Next Steps



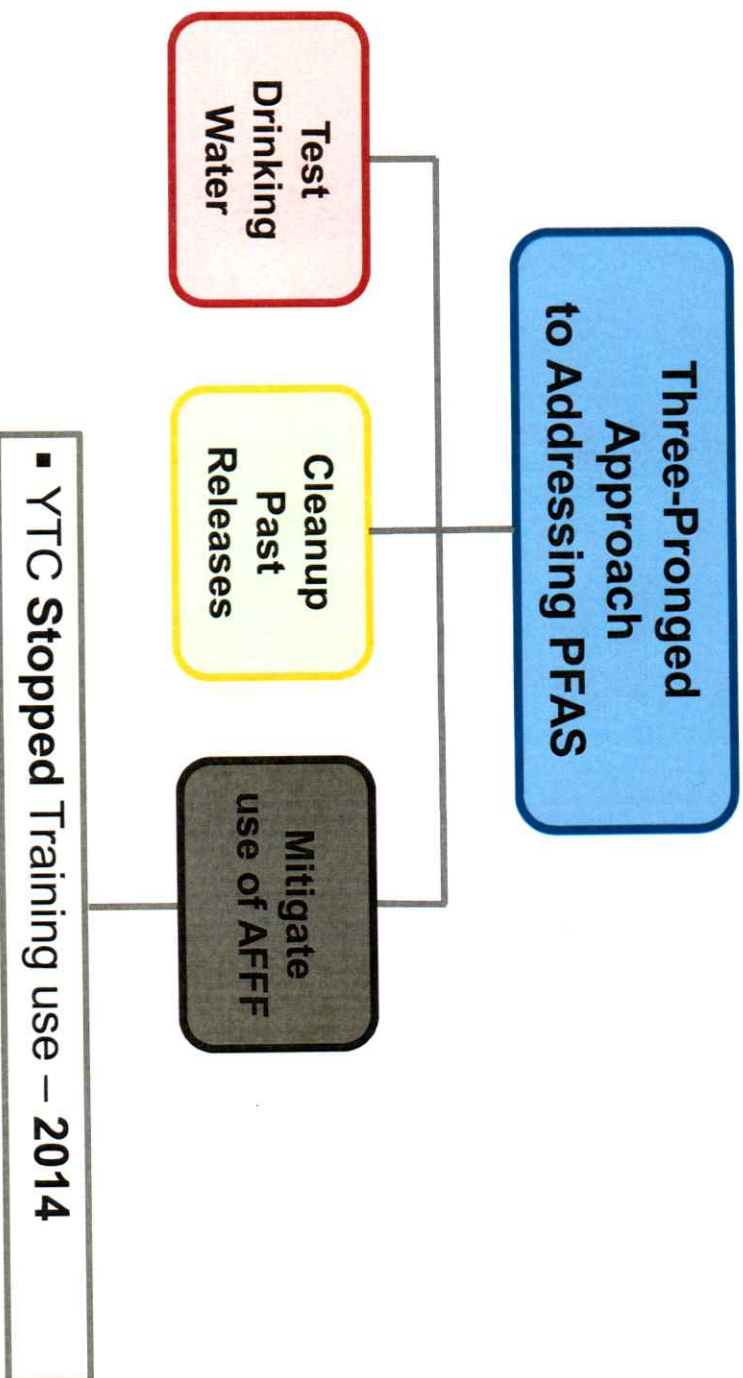


Next Steps





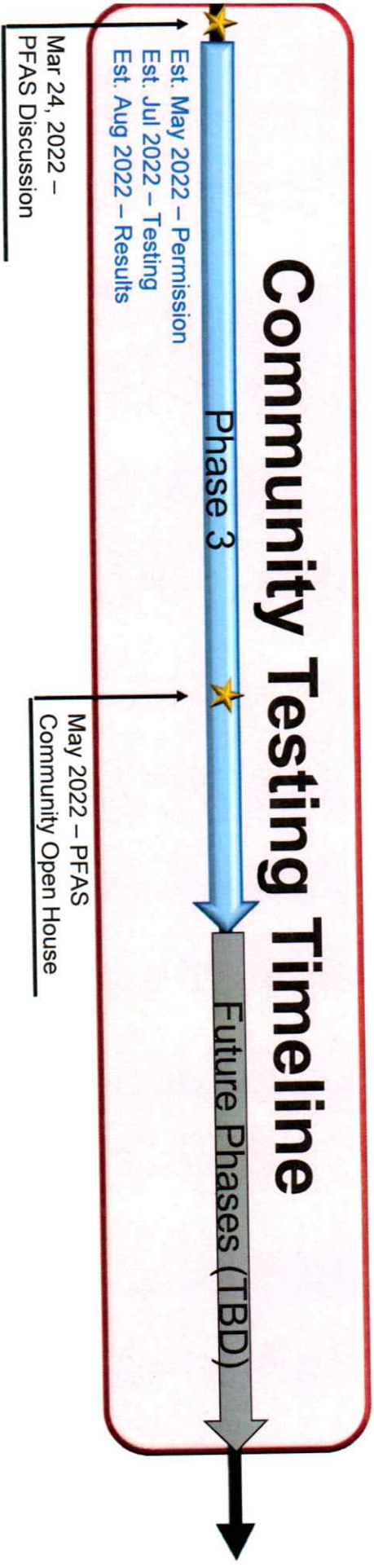
Next Steps



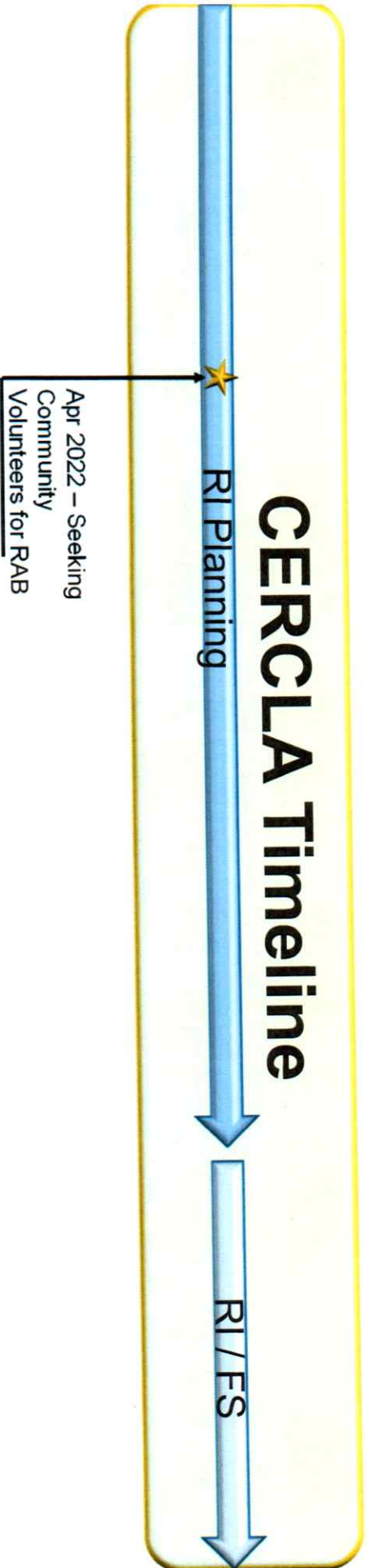


Next Steps

Community Testing Timeline



CERCLA Timeline



Legend of Terms

RAB – Restoration Advisory Board
PFAS – Per- and Polyfluoroalkyl Substances





Army Resources & Points of Contact

- Available Resources:
 - Please visit YTC PFAS website for up to date information
<https://home.army.mil/yakima/index.php/my-fort-1/all-services/directorate-public-works/pfas>
 - Open House Public Meeting in May 2022
 - Restoration Advisory Board (RAB) solicitation in April 2022
- Points of Contact for Questions/Concerns/Issues:
 - Mr. Mark Mettler, YTC IRP Manager, (253)966-8004, mark.a.mettler2.civ@army.mil
 - Mr. Joseph Piek, JBLM Public Affairs, (253)967-0148, joseph.j.piek.civ@army.mil





US Resources & Points of Contact

- US Environmental Protection Agency (EPA):
 - <https://www.epa.gov/pfas>
- US Department of Defense (DOD):
 - <https://www.defense.gov/Spotlights/pfas/>
- Agency for Toxic Substances and Disease Registry (ATSDR):
 - <https://www.atsdr.cdc.gov/pfas/index.html>





WA Resources & Points of Contact

- Washington State Department of Health:
 - Ms. Barbara Morrissey, barbara.morrissey@doh.wa.gov
 - Mr. Mike Means, mike.means@doh.wa.gov
 - <https://doh.wa.gov/community-and-environment/contaminants/pfas>
- Washington State Department of Agriculture:
 - Mr. Hector Castro, hcastro@agr.wa.gov
 - <https://agr.wa.gov/>
- Washington State Department of Ecology:
 - Mr. Greg Caron, grca461@decy.wa.gov
 - <https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Addressing-priority-toxic-chemicals/PFAS>





Questions and Discussion



