



Former Titan 1-A Missile Facility

Restoration Advisory Board Meeting #4

Formerly Used Defense Sites (FUDS) Project

FUDS Project #J09CA1108-01

April 24, 2025



U.S. ARMY



**US Army Corps
of Engineers®**

Restoration Advisory Board (RAB) Meeting Procedures

What is a RAB Meeting?

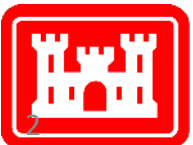
This is a forum to exchange information in an open and interactive dialogue concerning FUDS activities at the former Titan 1-A site in Lincoln, CA, between U.S. Army Corps of Engineers (USACE), representatives from local communities, and other interested agencies. These are open meeting where the public is invited to attend.

Who are represented on the RAB?

USACE, Representatives of surrounding communities, Central Valley Regional Water Quality Control Board (CVRWQCB).

What is the purpose of the RAB?

The RAB is a community resource to help ensure transparency regarding the FUDS program and USACE remedial activities and provides committed representatives who serve on behalf of the community to provide research, review, and advice on USACE actions.



RAB Meeting Procedures

Meeting Procedures:

- RAB meeting will progress through an approved agenda.
- Informational briefs are presented to RAB members.
 - Opportunity to ask questions and provide comments during the presentation portion of the agenda.
- RAB meeting is open to the public.
 - Public comments and questions will be limited to the public feedback portion of the agenda.
- Attendees will have the option to address the board for a total of three minutes.
 - Public may also submit written questions or comments. This is not a Question & Answer period, and questions/comments may not be addressed during tonight's meeting.
- RAB Meeting Agenda, Meeting Minutes, Presentations, and Video Recording will be published to www.CleanUpTitan1A.com for future viewing.



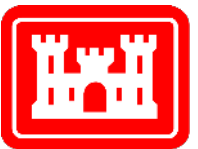
Agenda

- Update on Members / Roll Call
- Action Item: Approval of RAB #3 meeting minutes
- Community Update - Sandi Dolbee, RAB Community Co-Chair
- USACE Update - Matt Marlatt, USACE
- Group Reports
 - Presentation from Matt Marlatt, USACE
 - Presentation from Robert Fagerness, CVRWQCB
 - Presentation from Paul Breckenridge, Placer County
- Public Comment Period
- RAB Closing Comments
- Adjourn Meeting



Board Action Items

- Action Item: Approval of RAB #3 meeting minutes



Community RAB report

Participation

Engagement

Presence

Questions since last RAB meeting – #1 of 6

What work is going on?

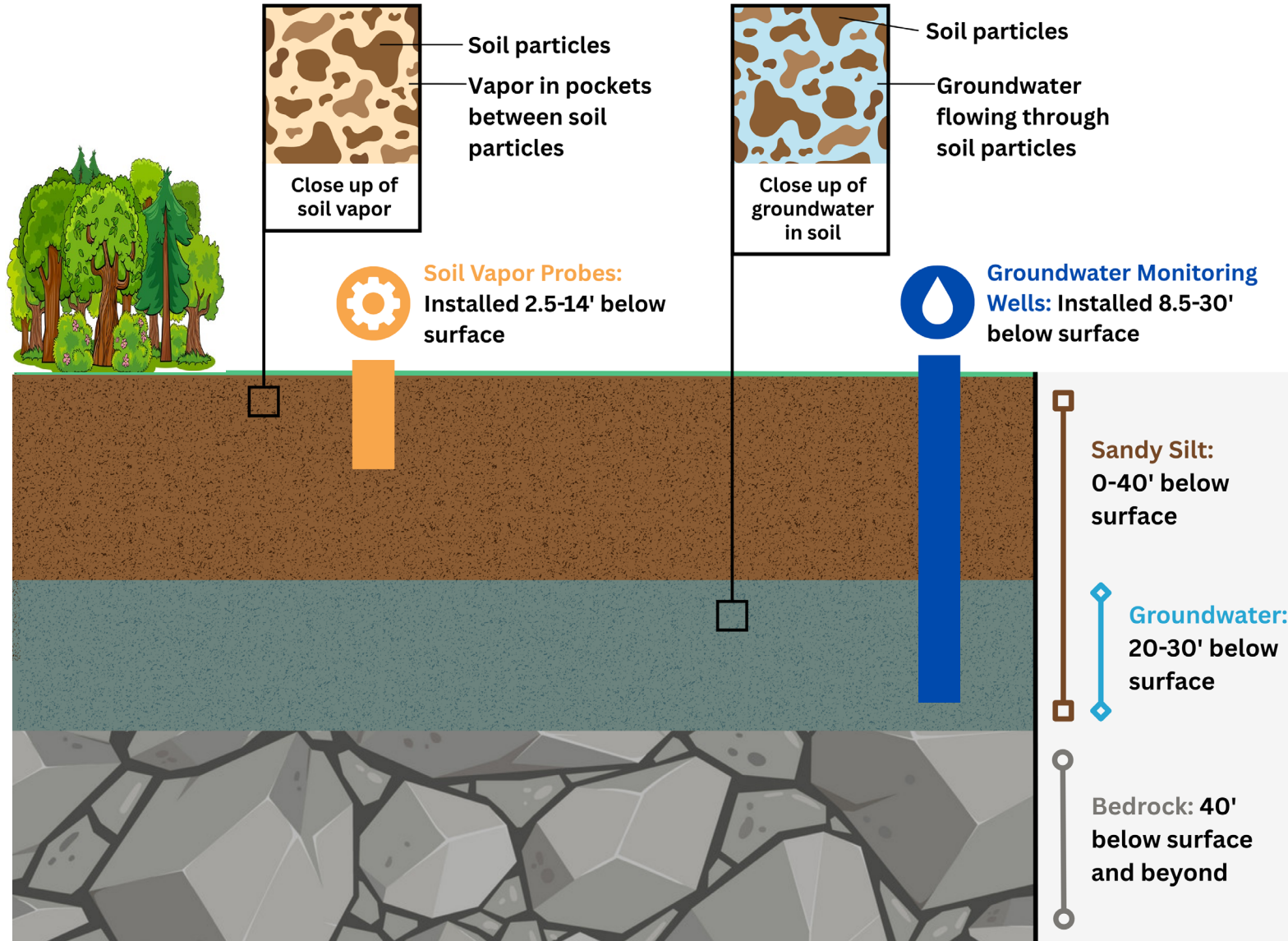
Soil Vapor Sampling



Groundwater Sampling



Cross Section: A View Underground of Site



Not to scale

Questions since last RAB meeting – #2 of 6

Q: What is the government doing about the benzene found at the site?

- Benzene is one of the chemicals the government looks for when testing soil, water, or air in areas with a history of military use.
- USACE discovered benzene during testing. **Current levels of benzene do not require action.**
- USACE will continue monitoring and recently added two more monitoring probes to the area.

Questions since last RAB meeting – #3 of 6

Q: What does USACE know about the water inside the flooded underground areas at Titan 1-A?

- USACE tested the water inside the silo vents for chemicals in 1993 and 2002.
- No TCE above safe drinking water limits were detected.

Questions since last RAB meeting – #4 of 6

Q: Will USACE do more to investigate possible underground storage tanks (USTs) under the closed shooting range?

No further work is planned, and here's why:

- USACE already investigated the area in 2003 and 2005
- A geophysical survey and local reports suggest that any tanks were likely removed
- A remote-operated vehicle was used to search underground, but it couldn't confirm if tanks were there or not
- Groundwater samples from the area didn't show signs of fuel leaks like gasoline or diesel

Questions since last RAB meeting – #5 of 6

Q: Will the government demolish or reinforce the underground missile silos that still remain?

- USACE has not studied the current structural integrity of the missile silos, and we do not have information to provide on the subject.
- **Those structures are not eligible under our FUDS program.**

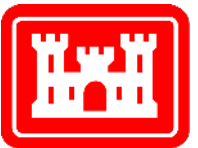
Questions since last RAB meeting – #6 of 6

Q: Is my drinking water coming from near the site?



Remedial Investigation

- Finalized Remedial Investigation Report February 2025
 - We analyzed the groundwater and soil vapor data collected 2019-2023.
 - Identified some data gaps in 2019-2023 data:
 - Couldn't confidently say how far TCE went to the West
 - The potential for TCE to be stuck to the clay/weathered bedrock which could impact groundwater treatment technologies
 - Is groundwater making its way to Ingram Slough?
 - More study required around region we're calling SV-1
 - Identified a potential risk from groundwater:
 - To residents if used for drinking water and showering
 - To commercial/industrial workers if used for drinking and washing
 - To construction workers skin contact and inhalation in a trench
 - We identified some data gaps but nothing that keeps us from moving into the Feasibility Study.



Installed New Monitoring Wells

Data Gap:

Couldn't confidently say how far TCE went to west

Solution:

- May 2024 installed new monitoring wells:
 - MW-61
 - MW-62
 - MW-63
 - MW-64
- New wells confirm TCE is at safe limits along the western boundary.



TCE in Groundwater

Legend

- Extraction well
- ◆ Monitoring Well
- TCE Isoconcentration line ($\mu\text{g/L}$), dashed where inferred
- - - Parcel Boundary
- ▨ Ephemeral/Seasonal Streams and Surface Water Bodies
- ⋯ Ephemeral stream



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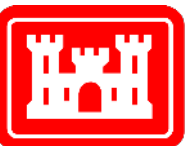
Weathered Bedrock Sampling

Data Gap:

The potential for TCE to be stuck to the clay/weathered bedrock which could impact groundwater treatment technologies

Solution:

In April 2025, USACE collected soil samples from bedrock to inform us on the presence of contaminants in shallow bedrock.



Groundwater and Surface Water Analysis

Data Gap:

- Is groundwater making its way to Ingram Slough?

Solution:

- The potential for groundwater to be entering surface water (Ingram Slough) remains unknown.
- BUT, the highest TCE concentration in groundwater near the slough are significantly below safe levels.



What's Happening Near SV-1

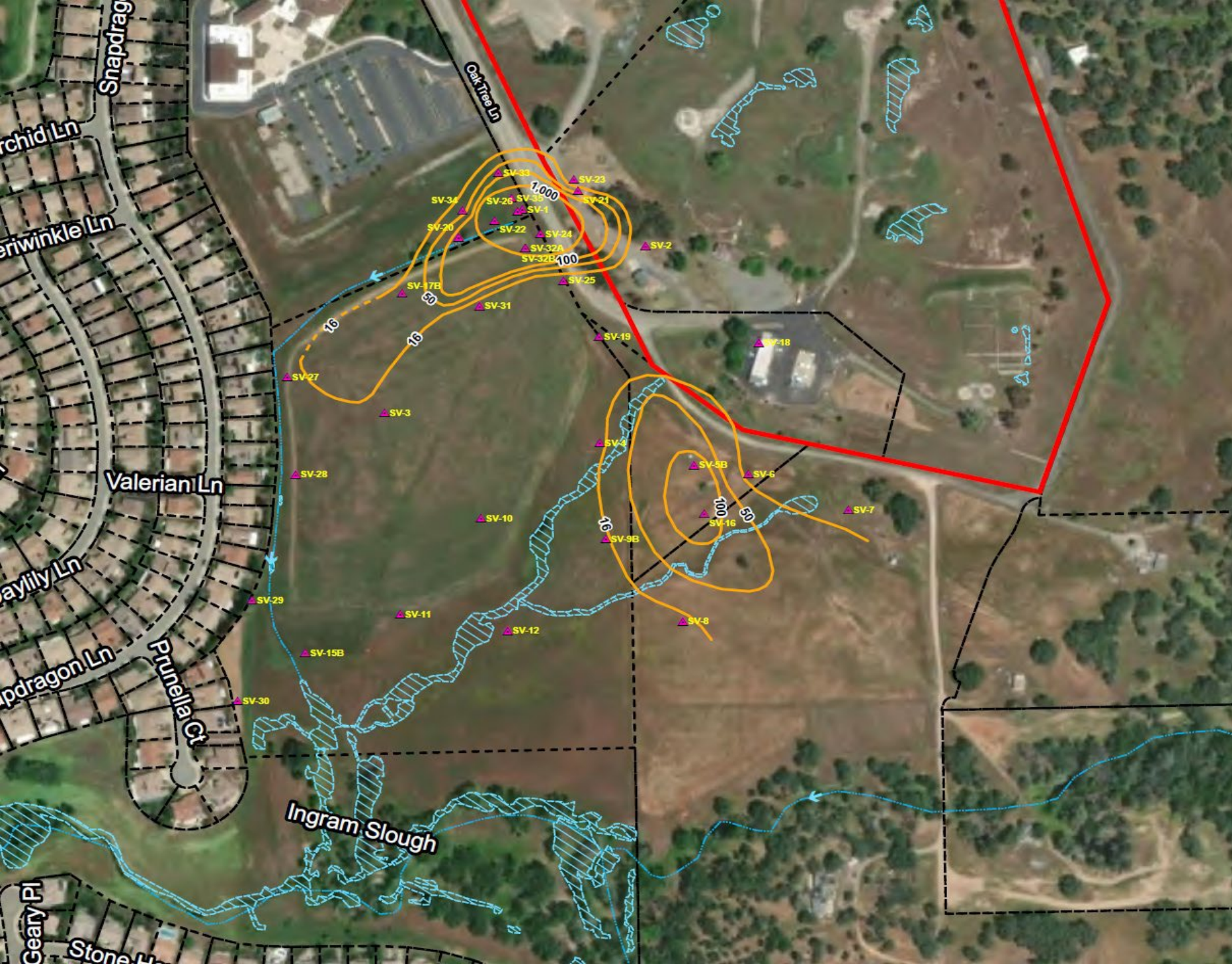
Data Gap: More study required around region we're calling SV-1

Solution:

- May 2024 Installed new Soil Vapor Probes:
 - SV-31, SV-32a, SV-32b, SV-33, SV-34, SV-35
- New probes improved our understanding of TCE in soil vapor
- Probes did not bound the north and west sides of the SV-1 area.



TCE Vapor in Soil



Legend

- Soil Vapor Probe.
- TCE Isoconcentration line ($\mu\text{g}/\text{m}^3$), dashed where inferred
- Parcel Boundary
- Ephemeral/Seasonal Streams and Surface Water Bodies
- Ephemeral stream
- Former Titan 1-A Missile Facility / FUDS Boundary



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Clean-up Testing (Treatability Study)

What we did:

- Installed one groundwater well & one soil boring – collected soil and water samples
- Advanced drill rod into the soil and attempted to inject contamination cleanup product
- Dense compacted soil would not accept product
- Abandoned injection locations and demobilized

Next steps:

- Identify equipment and product options that can be used in dense compacted soil
- Remobilize to conduct follow-on treatability test

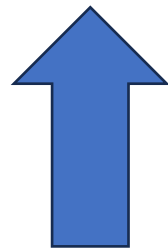
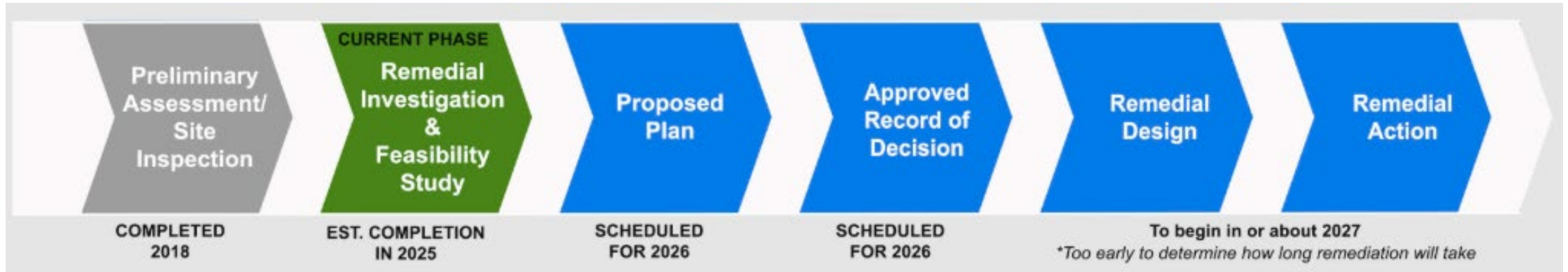


Looking Ahead

- Continue Quarterly Monitoring
- Resume Treatability Study
 - Test potential cleanup method by injecting safe chemicals and helpful microbes into the ground to break down TCE vapors
- Prepare Feasibility Study
 - Outline the options available to remediate, or clean up, the groundwater.
- Continue Semi-annual Sampling



Milestones Status



As of April 24, 2025, we are here
in the federally-mandated process



Public Comment

- Please walk up to microphone and form line
- Announce your name & any pertinent affiliation
- Limit your comment to 3 minutes

You have 3 minutes



Meeting Adjourned

Thank you for attending today's Restoration Advisory Board Meeting.

*For more information on the
U.S. Army Corps of Engineers Titan 1-A FUDS cleanup project
please visit our project web page at*

www.CleanUpTitan1A.com

**Next Meeting:
July 2025**

