

ENVIRONMENTAL RESTORATION SERVICES FORT DETRICK, FREDERICK MD

Progress of the Pilot Study for Three Potential Remedial
Technologies

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Three Pilot Study Technologies in Two Areas

Groundwater Pilot Study Area (source area)

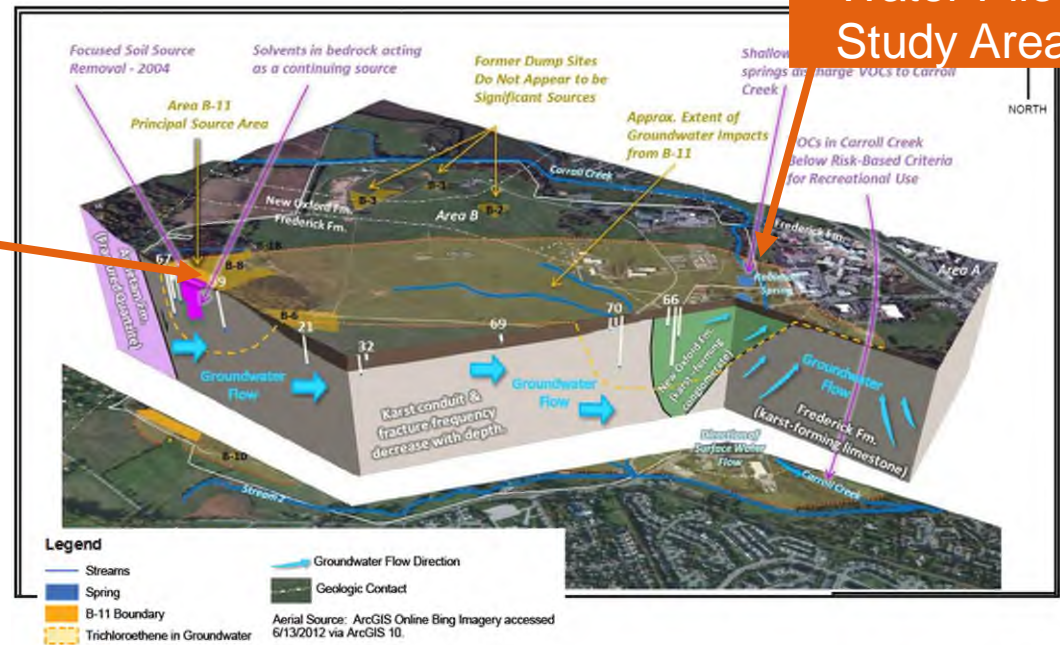
1. Pump and Treat *(Work on-going)*
2. Enhanced Reductive Dechlorination (ERD) *(Future Work)*

Surface Water Pilot Study Area (downgradient)

3. Pond Aeration *(Planned field work complete)*

Groundwater
Pilot Study
Area

Surface
Water Pilot
Study Area



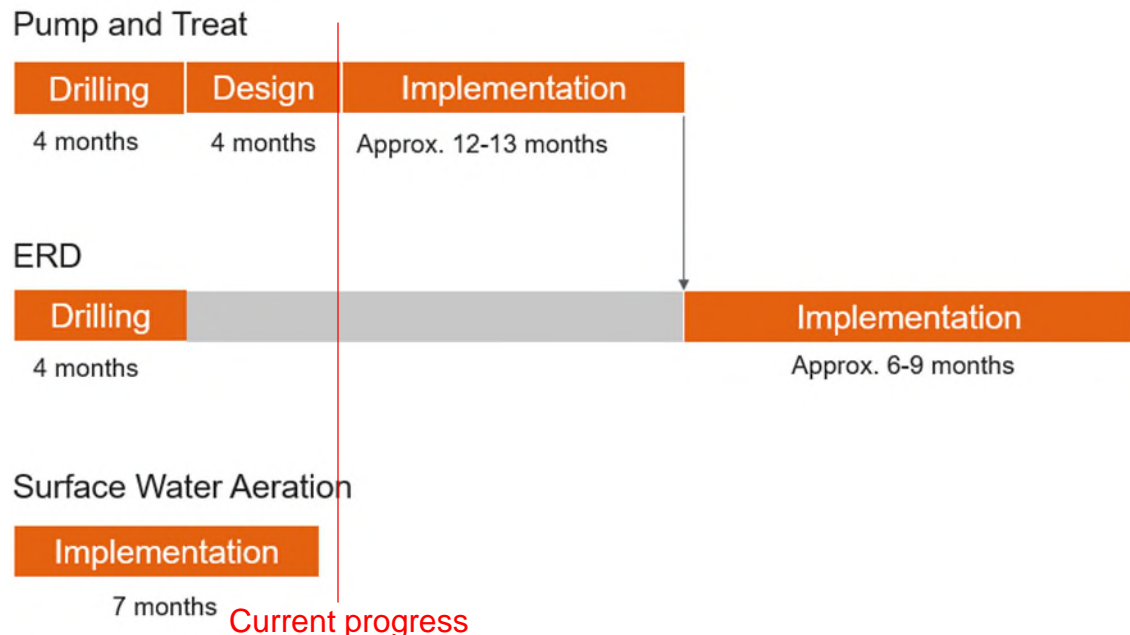
Activities Completed Since the December 2019 RAB Meeting

- ✓ Completed Surface Water Pilot Study
- ✓ Began trenching to bring buried electrical line from off-post to proposed P&T building

General Pilot Study Schedule

- ✓ Drilling work completed September 10, 2019
- ✓ Baseline Sampling conducted September 16-October 10
- ✓ Surface water aeration conducted June 10, 2019 through January 30, 2020.
- Phased build out of P&T system planned through mid-2020

- ERD will be conducted after completion of P&T
- Implementation of all options will take approximately 2.5 years



Pump and Treat Pilot Study (Groundwater)

- ✓ Baseline sampling conducted September 16-October 10, 2019 to determine the final design of the P&T system
 - Validated data from the baseline sampling event will be provided as part of the third quarterly report
- ✓ Step test conducted November 20-22, 2019. This test involved pumping the planned extraction points at various pumping rates to determine the operational parameters for the future pump and treat system.
- Trenching and installation of an electric line to bring electricity from Kemp Lane to the planned P&T system began March 30th and will be completed by late April.
 - Work is being conducted in accordance with social distancing guidelines.



Excavation of line



Back-filled area

Pump and Treat - Next Steps

- Arcadis has completed design of the treatment system. Currently under Army review.
- A new building will be installed in the vicinity of the B-11/Western Disposal Area to house the groundwater treatment system.
- In the future, treated clean water will be discharged to a nearby Area B stream with regular confirmatory testing. MDE and EPA will approve the discharge criteria and system effectiveness before system operation.
- The system will be temporary. The pumping test, water treatment, and sampling study will occur for 8 months.



Pond Aeration Pilot Study (Surface Water)

- Two aerations systems (fountains and diffusers) have been tested at Robinson Pond, each for a period of 2 months.
- Five fountains were operated July 18th to September 17th
- Diffuser test ran from November 22nd through January 30th.
- This phase of the pilot test is now complete.
- Observations and data from the tests are provided in quarterly reports. Final results and recommendations will be provided in a future report at the conclusion of all groundwater and surface water study activities.
- Initial observations indicate detectable reductions of VOC concentrations in surface water during operation of the aeration devices.
- Surface water sampling results for TCE, PCE, chloroform, and cis-1,2-DCE are presented on the attached figure. Concentrations fall within the range of historically reported results in the spring, pond, and creek.

