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Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW

ABL Tier 1 Team FY2018 Successes

The accomplishments of the Allegany Ballistics Laboratory (ABL) Tier I team in FY 2018 highlighted herein recognize financial and milestone successes but most importantly highlight the critical importance the leadership and teamwork between the Navy and their contractors with the regulatory agencies to accomplish unified goals.

The ABL Team includes:

Walter Bell, P.E.	Remedial Project Manager, NAVFAC
Paul Corwell	Facility Environmental Manager, NAVSEA
Elizabeth Keville	Remedial Project Manager, WVDEP
Sarah Kloss	Remedial Project Manager, USEPA
Jamie Butler	Activity Manager, CH2M/Jacobs
Cassandra Brown	Deputy Activity Manager, CH2M/Jacobs
Stavros Patselas	Project Manager, Tetra Tech
Deric Kearns	Project Manager, Tetra Tech
Jeff Gilliam	Project Manager, APTIM
Brett Caron	Groundwater Treatment Plant Operator, AGVIQ

FY18 Goal Status

Site	Fiscal Year (FY) 2018 Goal/Milestone	Planned Date	Current Date	Comments
Facility wide	Site Management Plan FY2018-2022		Dec 2018	Complete (FY19 – due to discussions on milestone adjustments for PRAP/ROD/FYR)
	Final Fifth Five-Year Review	Aug 2018	Aug 2018	Complete
	Community Involvement Plan		Dec 2018	Complete (FY19 – delays in regulatory review to prioritize other milestone documents)
	PFAS Preliminary Assessment Work Plan	Feb 2018	Mar 2018	Complete
	Five Year Review Protectiveness Memo		Mar 2018	Complete
	Vapor Intrusion Human Health Risk Assessment	Feb 2018	Mar 2019	Comment resolution complete in FY18 – overall finalization moved to FY20 due to data gap sampling plans
Site 1	ABG Construction Completion Report (Draft and Final)	May 2018	Dec 2018	Complete (FY19 – Regulatory review delays to accommodate other milestone needs)
	July 2016 Site 1 LTM Report	Nov 2017	Oct 2017	Complete
LTM and O&M	May 2017 Site 1, 5, 10, 11, 12 Progress Report			
	Field Activities for Sites 5, 11, and 12	June 2018	June 2018	Complete
Site 10	Building 8 Sump Pump Investigation	Feb 2018	Feb 2018	Complete

Partnering Principles

The ABL Tier 1 Team continued to collaborate and effectively make decisions, which enabled achievement of many of the FY2018 goals. The Navy currently has three consultant/ contractors providing support to investigations, optimization, emerging contaminate evaluations, construction, and operations and maintenance activities. The dynamic nature of the work on the facility requires leadership from the Navy to facilitate collaboration and coordination amongst the primary contractors and their subcontractors to ensure the work is completed safely and in a timely manner. In addition, the Navy and consultant/contractors work closely with agency technical support such as hydrogeologists, toxicologists, and BTAG representatives during meetings to facilitate confidence in making decisions as part of the partnering process.

The collaborative environment embracing partnering principles was most notably observed during implementation of the approx. \$15M soils remedial action for Site 1 outside active burning ground (OABG) where there was significant overlap in contractor responsibilities between the ongoing investigation activities on the North Branch Potomac River, O&M responsibilities with groundwater extraction system functionality, and excavation of several thousand cubic feet of soil at specified locations along several acres of the riverfront. Each change condition has the potential to impact regulatory compliance or agreements in place (potentially across state lines), treatment plant operational consistency, and/or data usability with ongoing investigations. Continued communication via meetings, site visits, and conference calls both internally between contractors, and when necessary, externally with regulatory agencies has been instrumental in the progress of the Site 1 remedial action.



Site 1 remedial action – cofferdam installation prior to soil removal

During FY2018 the Team successfully transitioned to self-facilitation after having a facilitator participate in partnering for over 8 years.

Community Outreach

The ABL Draft Community Involvement Plan (CIP) was completed during FY2018. The purpose of the CIP is to promote understanding of cleanup actions being performed under the IRP at ABL and to support communication with the community. The ABL CIP document was well received by regulatory agencies. The EPA Legal representative provided the following feedback: *“The ABL CIP should be used as an example for other sites and not just FedFacs. It is concise and clearly written with the community in mind, the photos and graphics make the information easier to understand, and the information is pertinent, accurate and complete.”*

Mission Cleanup

In support of the CIP the Navy gathered information by mailing questionnaires to ABL's neighboring communities and current local public officeholders. Additional mission cleanup messaging has also been incorporated into the final CIP.

Innovative Approaches

Members of the Tier I Team continue to look for opportunities to provide innovative solutions for cleanup activities at ABL. In FY2018 the Team discussed and agreed to conduct a groundwater surface water interface investigation in the Potomac River utilizing the trident probe system along the Site 1 Shoreline to assess groundwater migration pathways. The UFP SAP for this investigation is currently underway and the results of the investigation will be used to help evaluate hydrologic and contaminant processes at the site, the hydraulic connection between the alluvial and bedrock aquifers and the Potomac River, and the presence and nature of sediment on the river bottom adjacent to Site 1.

A plan was put in place to address significant contaminate mass remaining in the saturated zone of one of the areas of concern being addressed by the soil removal action. The Tier 1 Team agreed to conduct a treatability study in this area to accelerate remediation and further minimize the potential for contaminant transport to the river through additional excavation and evaluation of mass flux. The treatability study planning is currently underway and is expected to be implemented in early FY19.

Optimization/Efficiencies and Cost Avoidance:

The pump and treat system for Sites 1 and 10 is over 20 years old, however, with proper routine and non-routine maintenance the system continues to function well and overall capture at both sites during FY2018 was maintained. The Site 10 water header line, which transfers recovered groundwater from Site 10 to the groundwater treatment plant was partially blocked with normal scaling from pumping operations. The clean out port for the Site 10 header line couldn't be located due to being buried during a facility construction project. With the collaboration of NAVSEA and the facility, the Navy was able to use GPS coordinates to successfully locate the clean out ports under a soil stockpile and the facility contractor moved the soil in the immediate area of the clean out port to allow access for the maintenance activity.

The Tier 1 Team evaluated optimization opportunities for the remedies in place at Sites 1, 5, and 10. The goal of the optimization efforts are to evaluate all aspects of the conceptual site model, evaluate the remediation goals, and consider innovative technologies as alternative methods to reduce lifecycle costs or time of remediation while maintaining protectiveness of human health and the environment. A reduction in sample frequency, sample analysis, and/or sample numbers have been recognized through these efforts. In FY 2018 the Tier 1 Team agreed to and planned a groundwater surface water interface investigation along the river Site 1 to characterize pore water and characterize groundwater discharge locations in the river to better understand the CSM to optimize overall site remedy and tailor future LTM sampling. The Team also developed a pilot study to better understand the sites' hydrogeology to reduce time of remediation and reduce the groundwater treatment plant system costs.

During the start of the Site 1 OABG removal action the Navy negotiated with MDE regulators to waive Fish Spawning restrictions on in-water activities related to removal of the cofferdams currently installed within the North Potomac Branch River. The restrictions would have prohibited in-water activities for 3.5 months due to fish spawning season and would have resulted in having to maintain multiple cofferdams within the river for several months following completion of excavation activities. Cost savings from obtaining this waiver is estimated to be approximately \$350,000.

Green and Sustainable Approaches to Cleanup:

The Navy and Tetra Tech are proactive in a green initiative throughout the Site 1 soil removal action activities by recycling or reusing materials when possible. Below are the amount of material recycled or reused during the project duration:

Recycled and Reused Material	Amount
Scrap Metal (excavated debris from site)	84 tons
Plastics	272 kg
Cardboard	82.5 kg
Aluminum	22.5 kg
Wood Chips (from cleared trees to use as organic matter amendment)	748.5 cubic meters
Tree logs (shipped to sawmill to make manufactured lumber)	6,705.6 linear meters

Other Green Solutions implemented at Site 1 as part of the soil removal action include:

- Collaboration between the Navy and EPA, including the US Fish and Wildlife Service, to develop highly sustainable solutions as part of the shoreline restoration plan of the upper reaches for the Potomac River along the Site 1 shoreline through bioengineering approaches using native plantings, natural materials for riverbank stabilization and erosion control, and incorporation of wetlands in the floodplain area.
- Site 1 excavation support material have been reused as backfill rather than removed for offsite disposal through screening and stockpiling the soil for reuse generating significant cost savings for the project as the amount of offsite disposal was greatly reduced as was the amount of imported fill material that needed to be brought onsite. This estimated cost savings from reuse of onsite soil was \$225,000.

Additional green approaches taken in FY2018 by the Navy and APTIM as part of the operations and maintenance of the Site 1 groundwater pump and treat system include the following:

- Partnered with the ABL onsite operator (Northrop Grumman) to recycle used and discarded equipment and materials such as an old air compressor, electric motors, stainless steel piping, cardboard products, old wiring, plastics, fluorescent and common filament light bulbs, and lead-acid batteries as part of their recycling program.
- Energy consumption has decreased overall based on equipment upgrades and changes. Some of those changes include:
 - Replacing damaged heat trace and calibrating all temperature probes to ensure the circuit is energized only when temperatures inside the extraction well vaults drop below 35-degrees.
 - Resetting the new air compressor smart control to a program that “self-learns” to be more efficient by modulating the control of the compressor. It monitors the compressed air demand and changes its own settings to run on an optimized schedule. The air compressor was previously running at about 18% efficiency, running 24/7 without shutting off. With the new setting, it’s current efficiency rating is at 81% and runs on average 8-hours per day.
 - Environmentally friendly insulation made from recycled rubber that is 100% CFC-free with a 2.7 R value was used to re-insulate the extraction well piping after the installation of the new heat trace, which will help hold the heat energy conduction against the plumbing and not wasted to ambient air.

- The thermostats in the main P&T building were lowered by 10 degrees to compensate for an increase in energy usage during winter months due to the onsite operator switching from steam heat to electrical heat in 2016.

Challenges Overcome

Site 1 Removal Action Challenges

- By end of December 2018 for the Site 1 removal action, TtEC will have completed approximately 26,000 hours onsite in 2018 without an OSHA recordable (over 49,000 hours total).
- The Navy and TtEC has adapted to challenging site conditions related to river flooding and heavy rainfall events throughout FY2018. Work focus is shifted, rather than stopped, on various tasks during severe weather events.
- The Navy and TtEC have been in continuous communication with the US Army Corps regarding the construction activity along the river and the Corps has been very helpful in reducing outflow of several dams/reservoirs upriver to facilitate safe work conditions for PortaDam subcontractor during repairs of cofferdams. Repairs would not be possible in many instances without the cooperation of USACE.
- Upon identification of friable asbestos fibers throughout 1500 tons of soil within AOC 7, the Navy and TtEC promptly retained necessary permits and licensed abatement subs and landfills to handle new disposal requirements.

Facility Contractor Representatives

The facilities staff are instrumental in the success of the IRP at ABL and the relationship with facility operations (environmental, security, burning grounds) remains very positive. The facility contractors have worked closely with the environmental consulting and contractor teams to provide security access for all ongoing activities and were very responsive to answering questions for the development of several investigations and documents, i.e. the PFAS Preliminary Assessment Report and Vapor Intrusion investigation.