Oak Ridge Reservation Site Specific Advisory Board Planning Meeting

Fiscal Year 2018

EPA Suggested Planning Topics

August 19, 2017

Constance Jones, FFA Project Manager
Restoration and DOE Coordination Section
Restoration and Site Evaluation Branch
Superfund Division

EPA Fiscal Year 2018 Planning Topics

1. DOE Oak Ridge Groundwater Projects
    a. Evaluating Interim Groundwater Projects: Implementation and Effectiveness
2. DOE Oak Ridge Groundwater Strategy

1. DOE Oak Ridge Groundwater Projects

- Off-site Remedial Site Investigation Report due in mid-2018
- DOE wrap-up of ETTP K-1401 characterization field work with one or more options for pilot-scale Treatability Study; other Oak Ridge Reservation activities:
  - Time
  - Cost
  - Restoration of groundwater

1. DOE Oak Ridge Groundwater Projects (con't)

- DOE proposal to separate ETTP Site-wide Groundwater Project to create "Perimeter Site Project" to complete all work.
- Includes groundwater and surface water in areas known as Zone 1, some of Zone 2 and land in former K-31/K-33 areas; low levels of contamination.
- Project work plan due in 2018 for expedited characterization.

1. DOE Oak Ridge Groundwater Projects (con't)

- EPA identification that "Groundwater Migration Under Control" not achieved at DOE-ORR:

  Ref: 7/12/2010 EPA letter from M. Stanislaus to I. Triay, DOE); Community concern regarding groundwater and other cleanup priorities (Ref: 12/22/2010 letter from Oak Ridge elected officials)

- DOE continues to defer groundwater cleanup to the out-years.

1. DOE Oak Ridge Groundwater Projects (con't)

- 35 plumes identified; approximately 30 yet to be characterized.
- Contaminated plumes continue to expand and may add to increased remediation costs.
- Current DOE ORR cleanup completion by 2047.

2. DOE Oak Ridge Groundwater Strategy

- Groundwater and surface water exchange due to geology on the ORR.
- DOE Groundwater Strategy should be implemented for the protection of groundwater and surface water resources.
- Previously agreed Bethel Valley 7000 Area was replaced by Melton Valley/Bethel Valley (MV/BV) Phase I Work Plan. Supposed to be easy project.
- Implementation date for MV/BV not yet determined; should not be a shelf document/project.

2. DOE Oak Ridge Groundwater Strategy (con't)

- FFA parties resolved the 2016 Appendix E and J Informal Dispute regarding milestones:
  - Identify approved and funded projects for fieldwork.
  - Balance media cleanup with demolition projects.
  - Identify active groundwater remediation projects (work plans, field starts, final RODs, completion reports) in addition to demolition projects in areas.

2. DOE Oak Ridge Groundwater Strategy (con't)

- Limited active remedial action for groundwater anticipated by DOE Monitored Natural Attenuation (MNA).
- Groundwater project(s) must "demonstrate" active remediation cannot be implemented per EPA policy; or combination of active (demonstrated) and MNA.

Groundwater Contamination and Treatment at Department of Energy Sites

August 2008

Compiled by the Office of Engineering & Technology

Introduction

The Department of Energy (DOE) has one of the largest groundwater contamination problems and subsequent cleanup responsibilities in the world, in terms of the sheer volume of affected groundwater, number of plumes, range of hydrogeologic settings, and diversity of contaminant types. Plume maps and assessments have been prepared for DOE sites to summarize the nature and extent of groundwater contamination and to identify approaches being taken to remediate the contaminated groundwater.

The purpose of this document is to provide DOE Program/Project Managers, upper management, and other interested parties with a snapshot in time of the status of major groundwater contamination and remedial approaches across the DOE Complex.

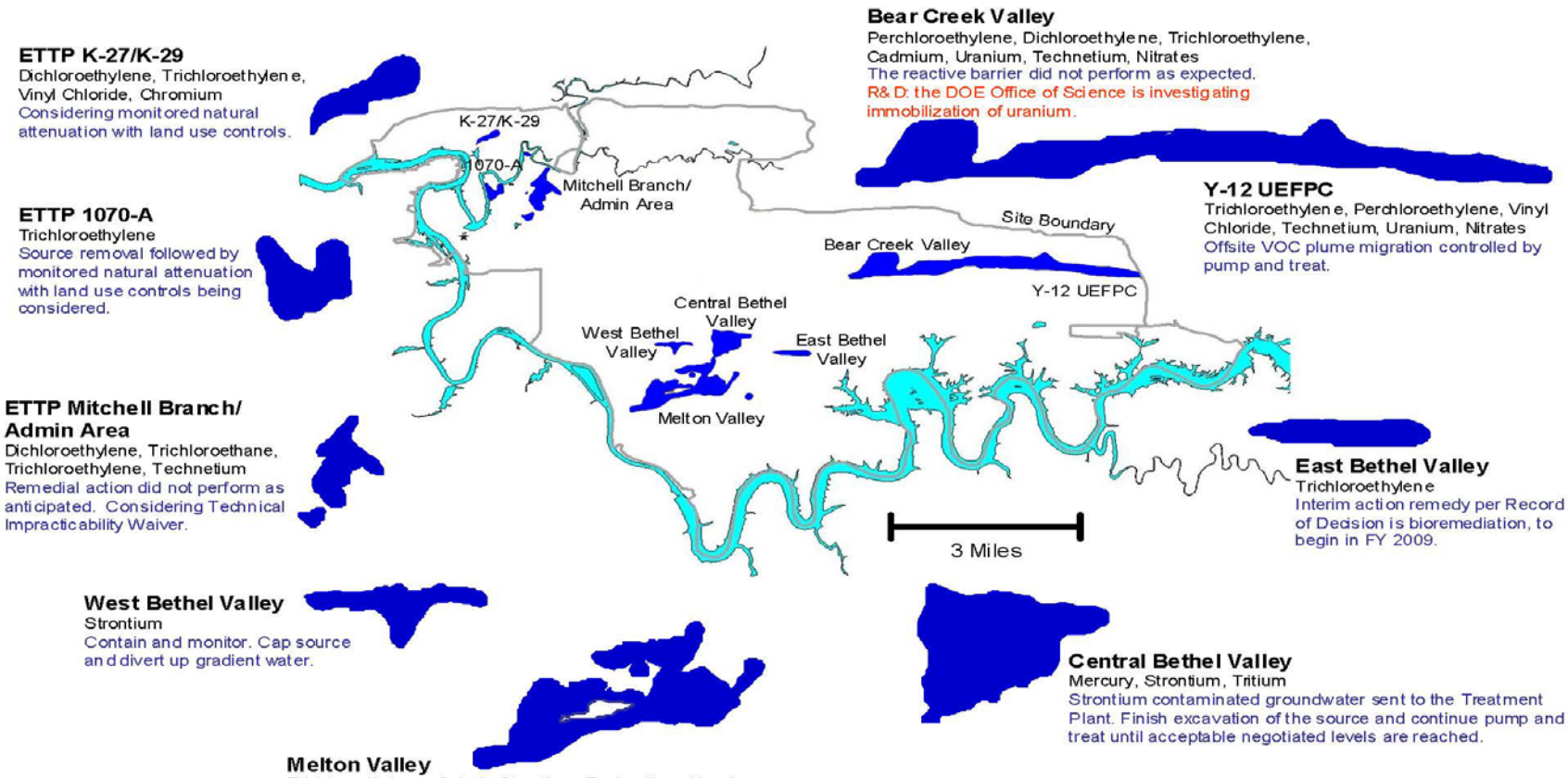
It also provides the Program/Project Managers with a "quick look" tool that sufficiently describes the plumes and helps in the decision making for setting priorities and allocating resources for remediation.

The document gives an assessment of the 74 currently identified plumes at eight DOE sites. In addition, it presents a map and assessment showing the various contaminants and their locations at the Los Alamos site. Characterization of the Los Alamos site is ongoing and, to date, no plumes have been delineated.

The plume maps and assessments for this document will be updated annually.

Oak Ridge Reservation: Plume Map

For additional information: http://www.oakridge.doe.gov/External/Portals/0/InfoCntr/D2%202008%20RER%209-18-08.pdf



(Note: Plume details not to scale.)

Oak Ridge Reservation: Plume Assessments

For additional information: http://www.oakridge.doe.gov/External/Portals/0/InfoCntr/D2%202008%20RER%209-18-08.pdf

Site	Contractor	Plume/Area	PBS#	Major Contaminants	Current Plume Size	Source	Plume Status	Regulatory Status	Treatment Status	Comments
Oak Ridge Reservation	Bechtel Jacobs	Bear Creek Valley	OR-0041	PCE,DCE, TCE, Cd, U, Tc, Nit.	○	◒	Yellow	○	Red	The reactive barrier did not perform as expected. R&D: the DOE Office of Science is investigating iodization of the U.
Oak Ridge Reservation	Bechtel Jacobs	Central Bethel Valley	OR-0042	Hg, Sr, Tritium	◒	◒	Yellow	○	Green	Sr contaminated GW sent to the Central Treatment Plant. Finish excavation of the source and continue P&T until acceptable negotiated levels are reached.
Oak Ridge Reservation	Bechtel Jacobs	East Bethel Valley	OR-0042	TCE	●	●	Yellow	◒	NA	Remedy is bioremediation per ROD for interim actions. Interim actions to begin in FY 2009.
Oak Ridge Reservation	Bechtel Jacobs	ETTP 1070-A	OR-0040	TCE	●	◒	Yellow	○	Green	Source removal. Considering MNA. No risks.
Oak Ridge Reservation	Bechtel Jacobs	ETTP K-27/K-29	OR-0040	DCE, TCE, VC, Cr	●	◒	Yellow	○	NA	Considering MNA. No current or future risks identified.
Oak Ridge Reservation	Bechtel Jacobs	ETTP Mitchell Branch/Admin Area	OR-0040	DCE, TCA, TCE, Tc	◒	○	Yellow	○	Yellow	Remedial action did not perform as anticipated. No actions have been identified that can succeed. Considering TI Waiver for DNAPLs in the fractured bedrock. Conditions did not deteriorate upon cessation of the remedial action.
Oak Ridge Reservation	Bechtel Jacobs	Melton Valley	OR-0042	TCE, Co, Sr, Tc, U	○	◒	Yellow	○	Green	Performance of hydraulic containment and seepage capture and containment exceed ROD requirements. Final decision in 2015.
Oak Ridge Reservation	Bechtel Jacobs	West Bethel Valley	OR-0042	Sr	◒	◒	Yellow	○	NA	Contain and monitor. Cap and divert up gradient water.
Oak Ridge Reservation	Bechtel Jacobs	Y-12 UEFPC	OR-0041	TCE, PCE, VC, Tc, U, Nitrates	○	○	Green	○	Green	Offsite VOC plume migration is controlled by P&T.

Major Contaminants: Contaminants in plume that required, currently require, or may require remediation.

Plume size (Current): ○ = Greater than 320 acres, ◒ = 40 to 320 acres, ● = Less than 40 acres

Source: ○ = Active, ◒ = Controlled, ● = Not Present

Plume Status: Red—Contaminants above MCLs/ACLs are currently offsite or projected to migrate offsite, Yellow—Plume is expanding but is not expected to migrate offsite above MCLs/ACLs, Green—Plume is static or shrinking in size. MCL=maximum concentrations level (levels are promulgated standards). ACL=alternate concentration limit (levels are negotiated).

Regulatory Status: ○ = Assessment ongoing, ◒ = Remedial approach proposed (i.e., Proposed Plan), ● = Decision Document in place. Decision Documents are defined as legally binding agreements (i.e., RCRA or CERCLA Interim or Final Records of Decision, Permits, Closure Plans, Corrective Actions, Interim Actions).

Treatment Status: Red—Remedial approaches are not performing as identified in Decision Documents, Yellow—Remedial approaches are not performing optimally (as identified in Decision Documents). Green—Remedial approaches are performing as identified in Decision Documents.

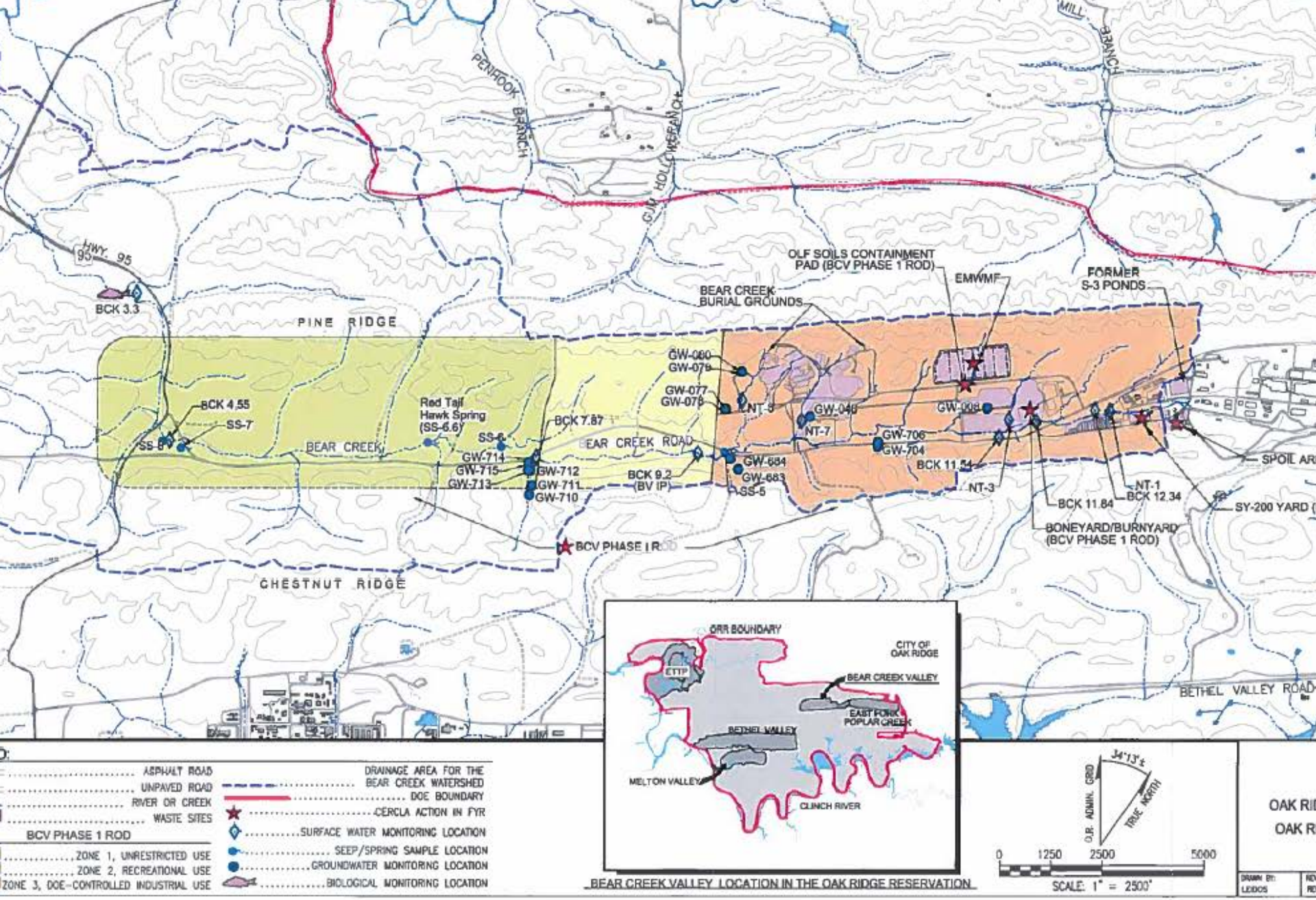


Fig. 8.1. CERCLA actions in the BCV Watershed and FY 2015 performance monitoring locations.


Q
&
A