



Remediation Activities on the Oak Ridge Reservation



U.S. DEPARTMENT OF
ENERGY

OAK RIDGE OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

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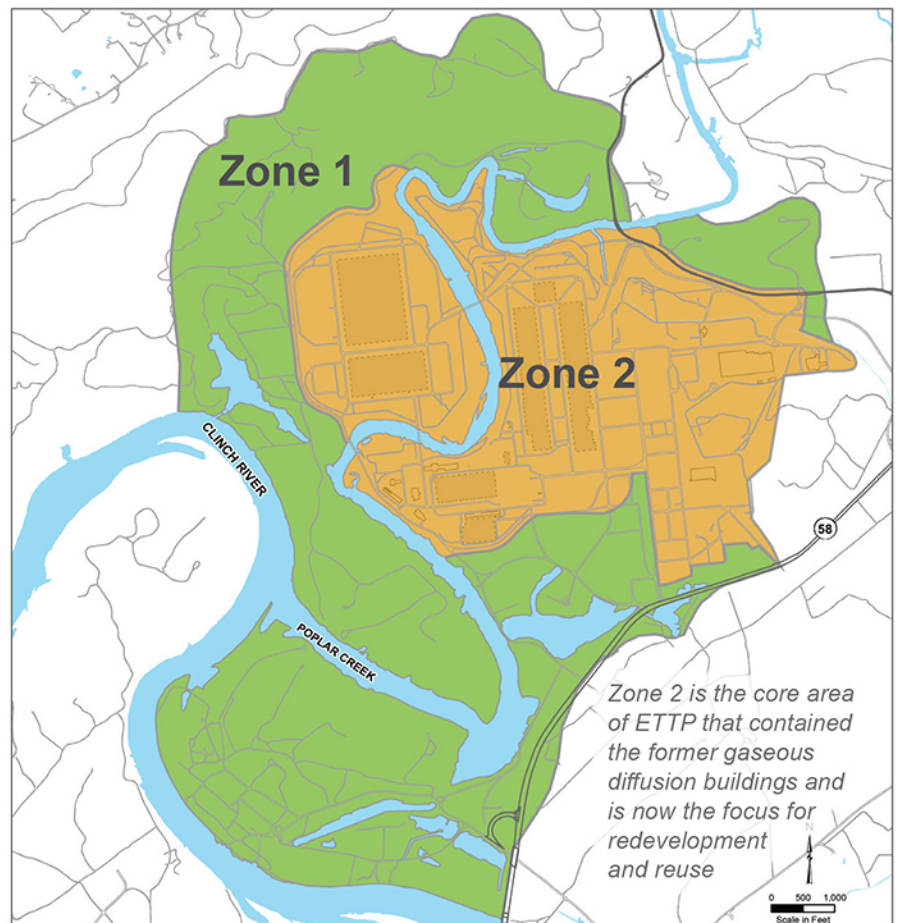
Noteworthy

Samples collected in 2016:

700 groundwater
1,750 surface water
1,200 soil
.....

100 MILLION
gallons of groundwater
treated in FY 2016
.....

>15,000
CUBIC YARDS
soils removed in FY 2016



SOILS

Part of the ongoing remediation of the East Tennessee Technology Park is the cleanup and restoration of contaminated soils that resulted from former missions at the site. Activities include identification of contamination (characterization) and removal of those contaminants (remedial actions).

To effectively manage and execute soil remediation, the cleanup footprint has been subdivided into two zones and further delineated into Exposure Units (EU). (See map above.) Zone 1 encompasses about 1,400 acres bordering the site center. Zone 2 includes 44 EUs over an 800-acre footprint in the center of the site that housed the large process buildings.

PROGRESS

- Zone 1: 93% of total acreage remediated
- Zone 2: 10 of 44 contaminated areas cleaned

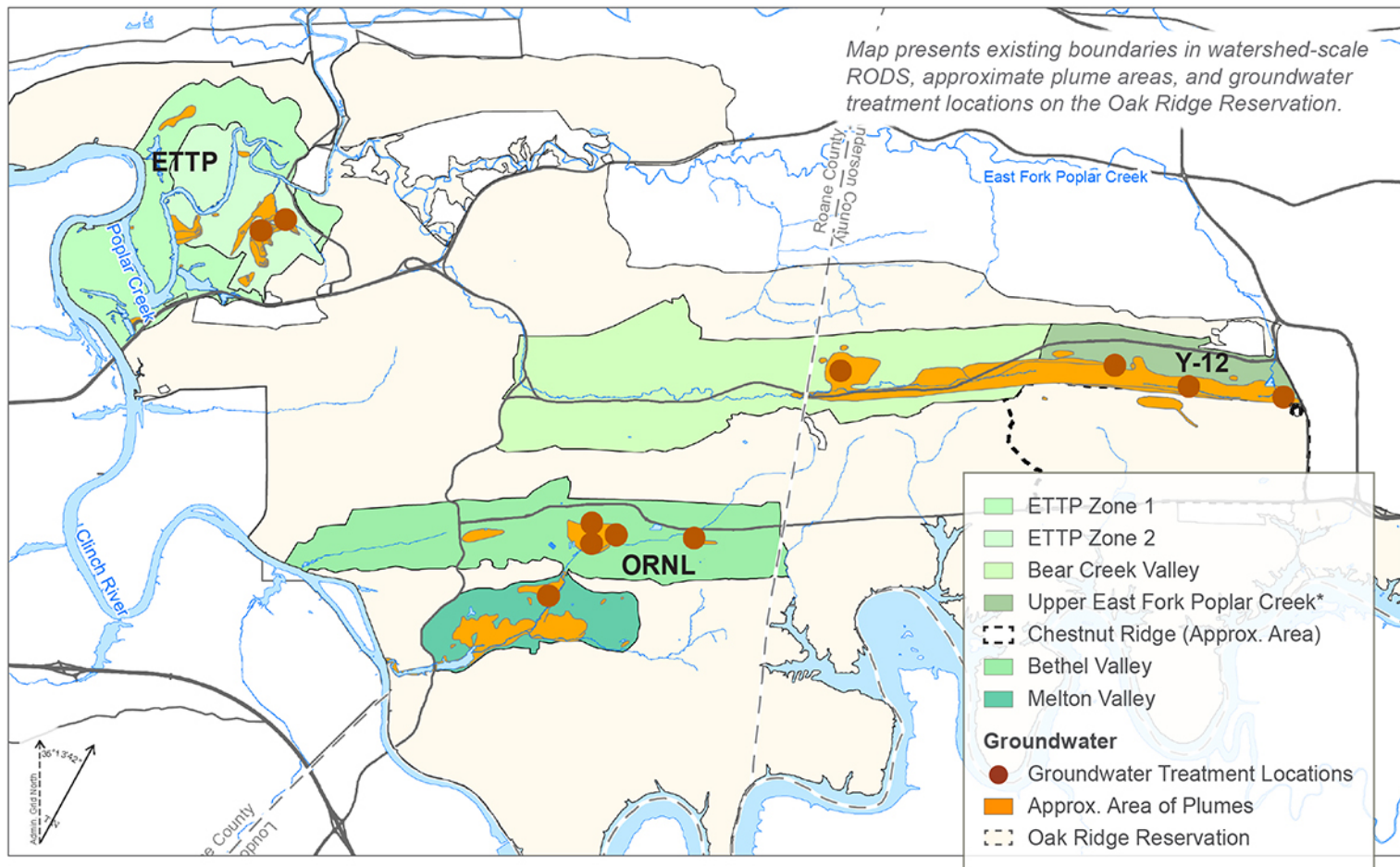
RECENT COMPLETIONS

- Zone 2 EU41 – Removed 264 cubic yards of contaminated soils
- Zone 2 EU28 – Removed 4,700 cubic yards of contaminated soils

ONGOING

- Zone 2 EU29 – Removal of an estimated 12,500 cubic yards of contaminated soils in progress





GROUNDWATER

The groundwater beneath several areas of the Oak Ridge Reservation (ORR) was also contaminated during earlier missions. Extensive measures have been implemented to isolate remaining contaminant sources from groundwater, but additional work is required to understand and respond to legacy groundwater challenges.

Activities include remediation projects such as pump and treat systems, monitoring and associated well maintenance, groundwater investigations that encompass installing new wells to support data gaps, and development of a regional groundwater flow model.

PROGRESS

- 2000+ monitoring wells on the Oak Ridge Reservation
- \$15.2 million in FY 2016 for groundwater remediation and monitoring
- \$330 million in groundwater capital projects
- K-1401 area treatability study underway
- >100 million gallons of groundwater treated annually
- Design and planning on OF200 mercury treatment facility nearing completion



A Path Forward

DOE, in partnership with its regulatory partners—the U.S. Environmental Protection Agency and the Tennessee Department of Environment and Conservation—is implementing soils remediation and working on a path forward for managing legacy groundwater challenges.



SOILS

Path Forward

- Demolition of buildings to assess underlying soils
- Thorough soil characterization followed by excavation, as required

Challenges

- Depth and amount of excavation unknown until final characterization following building demolition
- Current estimated soil excavation at Y-12 is more than 80,000 cubic yards
- Current estimated soil/sediment excavation at ORNL is more than 100,000 cubic yards

Path Forward

- Ongoing treatability study
- Assessing plumes to identify cleanup priorities
- Developing final decisions for protection of groundwater

Challenges

- Complex geology affecting groundwater flow

GROUNDWATER



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