



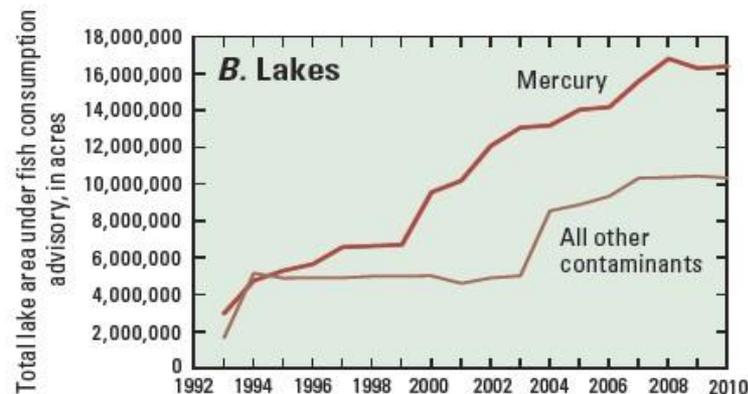
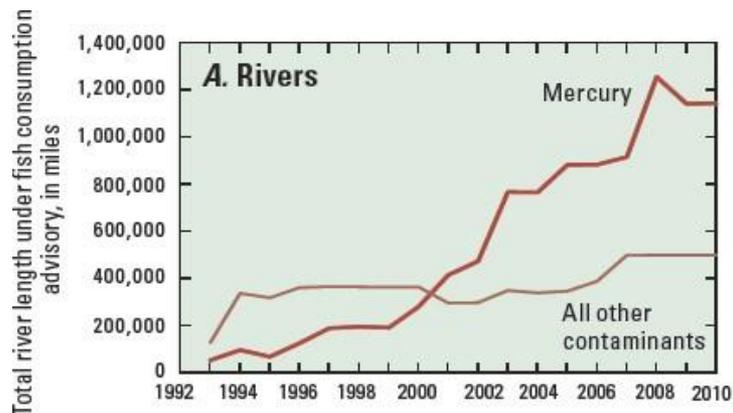
# Outfall 200 Mercury Treatment Facility and Y-12 Excess Facilities Project Update

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Oak Ridge Office of Environmental Management

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# Mercury contamination is widespread

## Primary risks to humans are from eating fish



Areas that have no local industrial inputs can be affected because of **atmospheric deposition**

# OREM is addressing a complex mercury challenge at Y-12



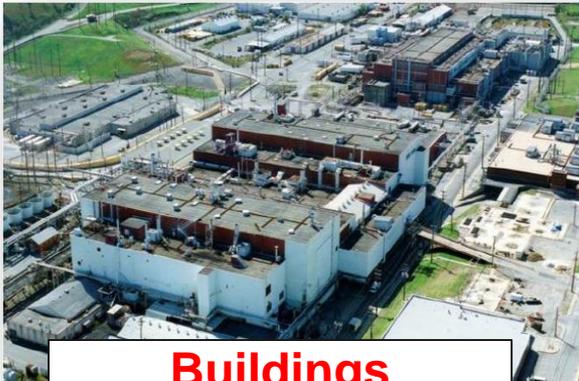
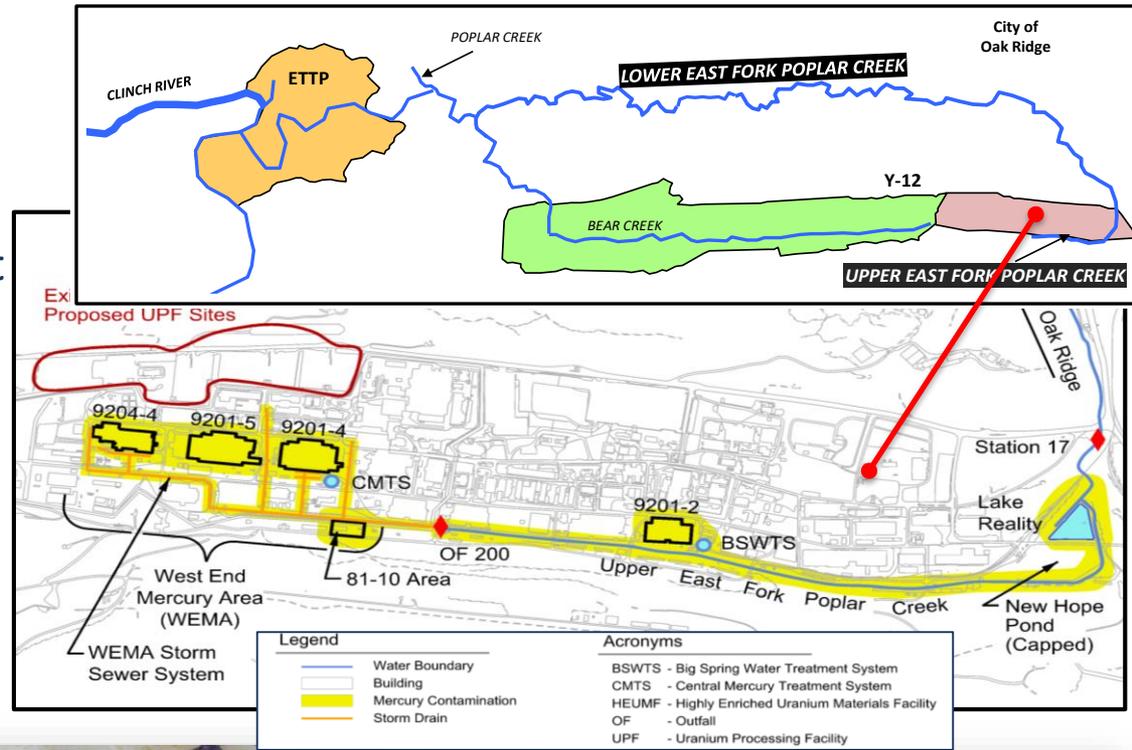
24 million lbs. brought to Y-12

2 million lbs. of mercury either spilled, lost or unaccounted for

~ 700,000 lbs. released to environment

- Air – ~ 51,000 lbs.
- Water – ~ 240,000 lbs.
- Soils / Sediments – Unknown
- Building spills - ~325,000 lbs.
- Process systems - ~60,000 lbs.

~ 1.3 million lbs. unaccounted for



**Buildings**

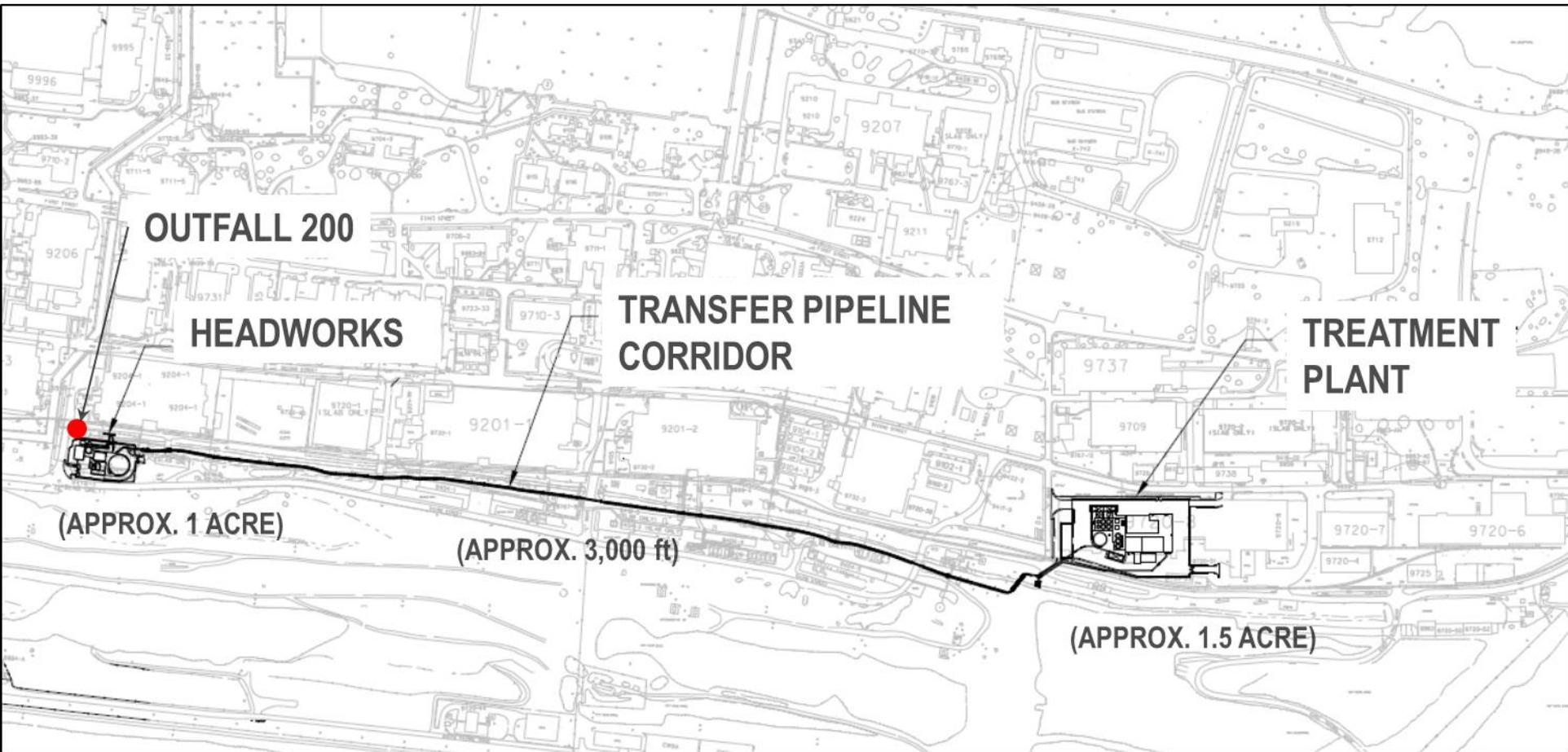


**Soils**



**Surface water:  
UEFPC**

# Outfall 200 MTF Site Layout



# The project includes design/construction of headworks, treatment facility, and interconnecting pipeline

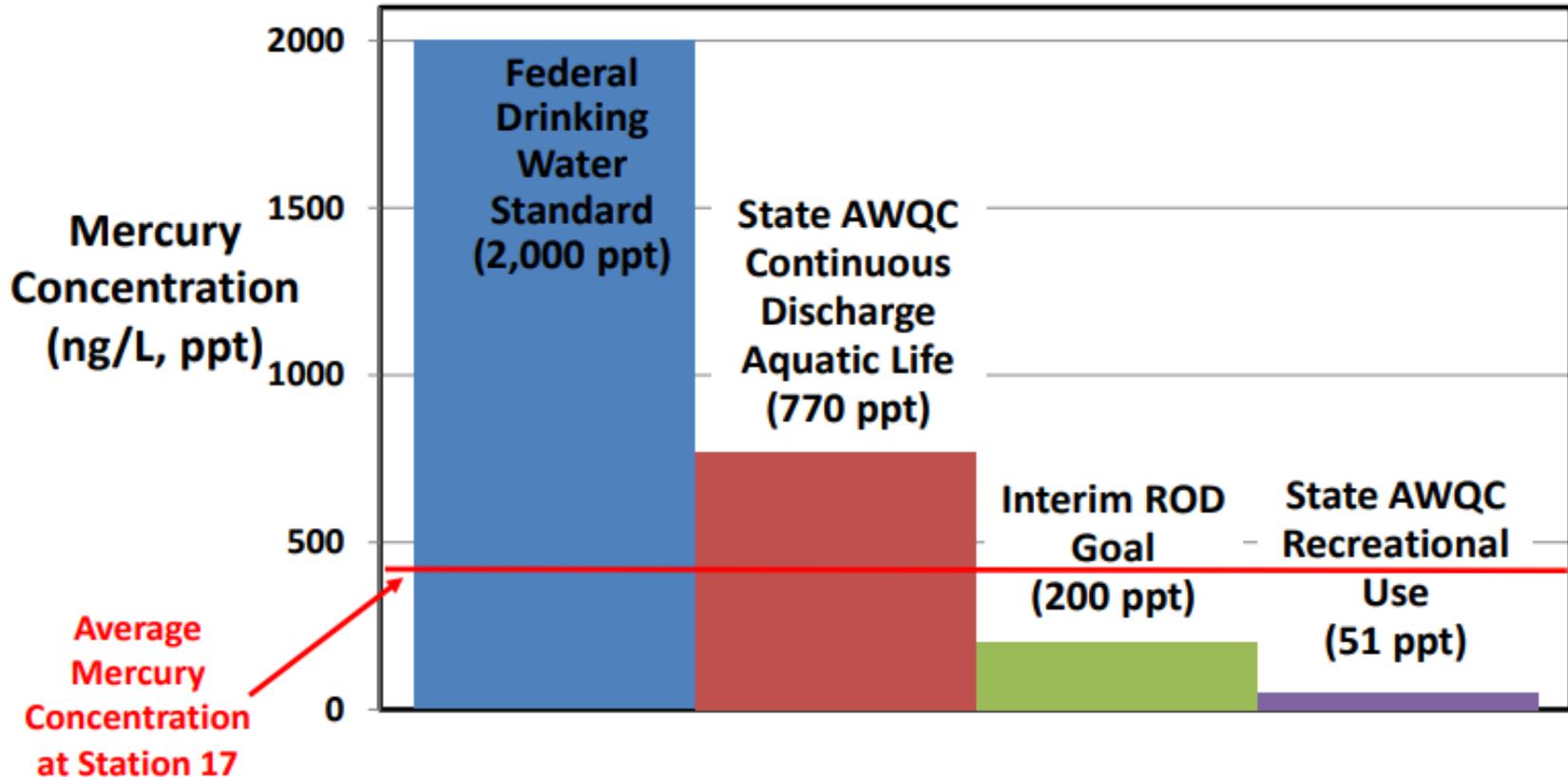
- Headworks area:
  - Collection and transfer components
  - Grit separation equipment
  - Stormwater storage tank
- Treatment facility:
  - Outdoor tanks, piping, and transfer and treatment equipment
  - Metal building (~22,000 ft<sup>2</sup>) to house weather-sensitive equipment and controls
  - Mercury removal unit operations:
    - Flow equalization
    - Chemical flocculation and precipitation
    - Clarification
    - Media filtration
- Utilities, foundations, parking, and fencing
- Total footprint ~74,000 ft<sup>2</sup>



# Outfall 200 Mercury Treatment Facility



# Safe concentrations of mercury depends on use



# OREM delivering Mercury Treatment Facility construction on schedule and within budget

- Early site preparation activities completed
- Contract for Balance of Construction awarded on December 4, 2018
- Excavation underway at both treatment plant site and headworks

OF200 MTF Treatment Plant Site



OF200 MTF Headworks



# Mercury Treatment Facility construction continues through 2022

- Performance Baseline for completion of the project is September 2025
- Construction contract period of performance ends December 2022
- Commissioning and start up activities through mid-2023 (no contingency)

OF200 Headworks  
Rendering

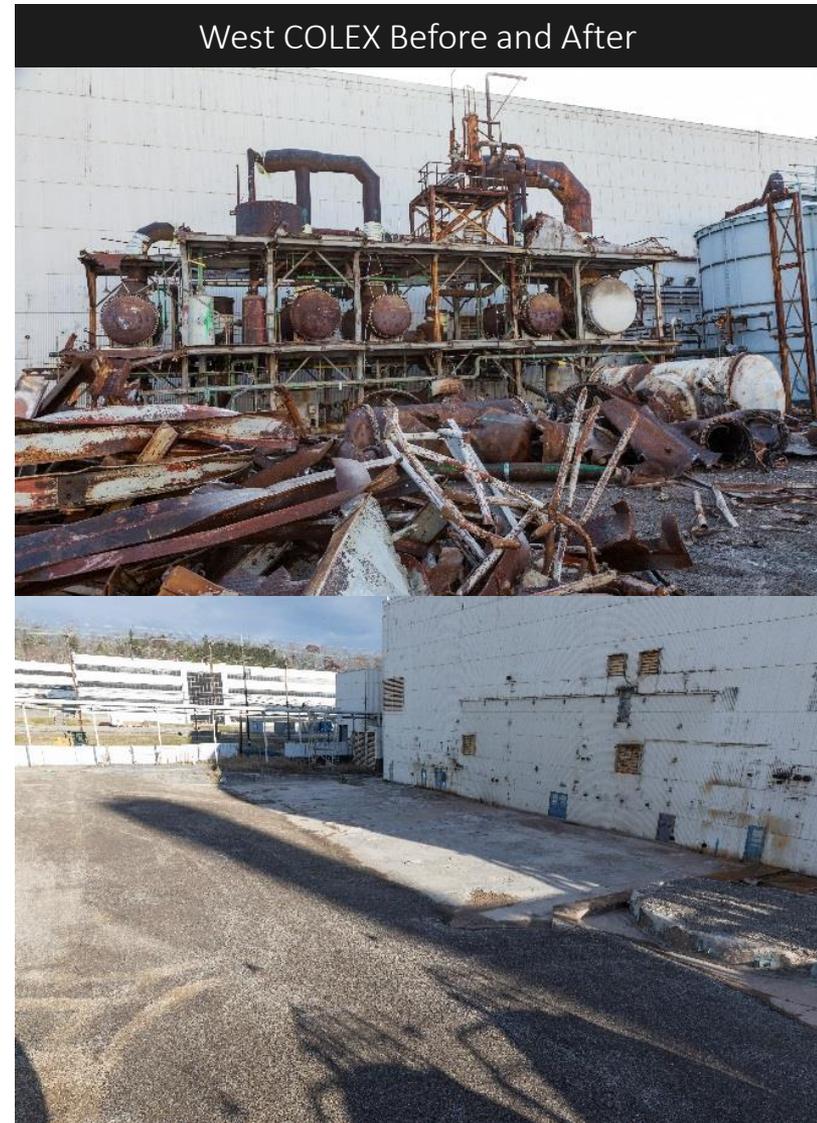


OF200 Treatment  
Facility Rendering



# OREM is reducing risks at Y-12

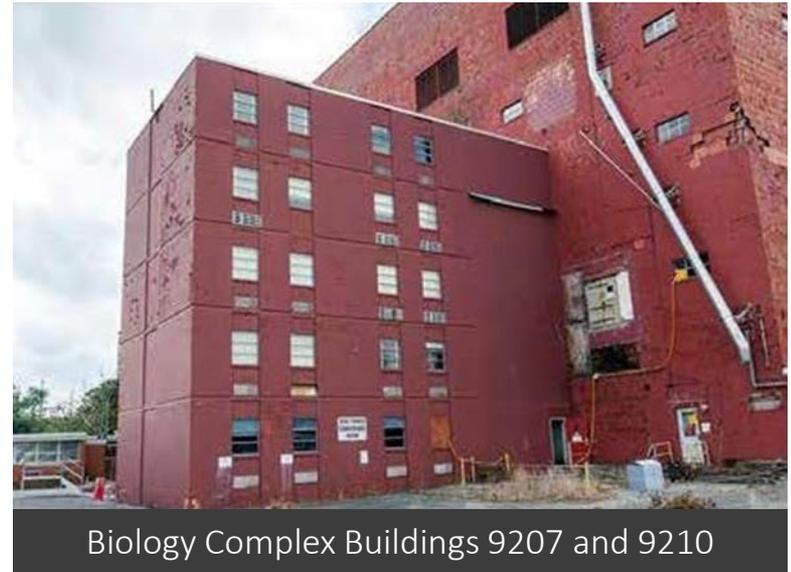
- More than 5 tons of mercury removed during COLEX risk reduction activities
- West COLEX fieldwork is complete
- Completed installation of geomembrane system, including placement of gravel, sloping, and liner installation
- East COLEX/inside Alpha-4 mechanical cleaning demonstrations have been completed



# OREM is reducing risks at Y-12



- Completed removal of waste from the Disposal Area Remedial Action (DARA) Soils Storage Facility
- Working with regulators to re-characterize, segregate, and use existing onsite disposal facility resulted in significant cost avoidance for DARA soils
- Biology Complex deactivation activities underway for remaining Biology Complex facilities



Biology Complex Buildings 9207 and 9210

# Biology Complex cleanup will enable missions at Y-12



9207 Before Universal Waste Cleanup



9207 Post Universal Waste Cleanup



9207 Radiological Surveillance



9207 ACM Glove Bags on Pipes

# Questions?

