An aerial photograph of the Hanford Nuclear Site in Washington. The image shows a large industrial complex with several tall smokestacks and various buildings. In the background, there are rolling hills and mountains under a clear sky. The foreground is a flat, open landscape.

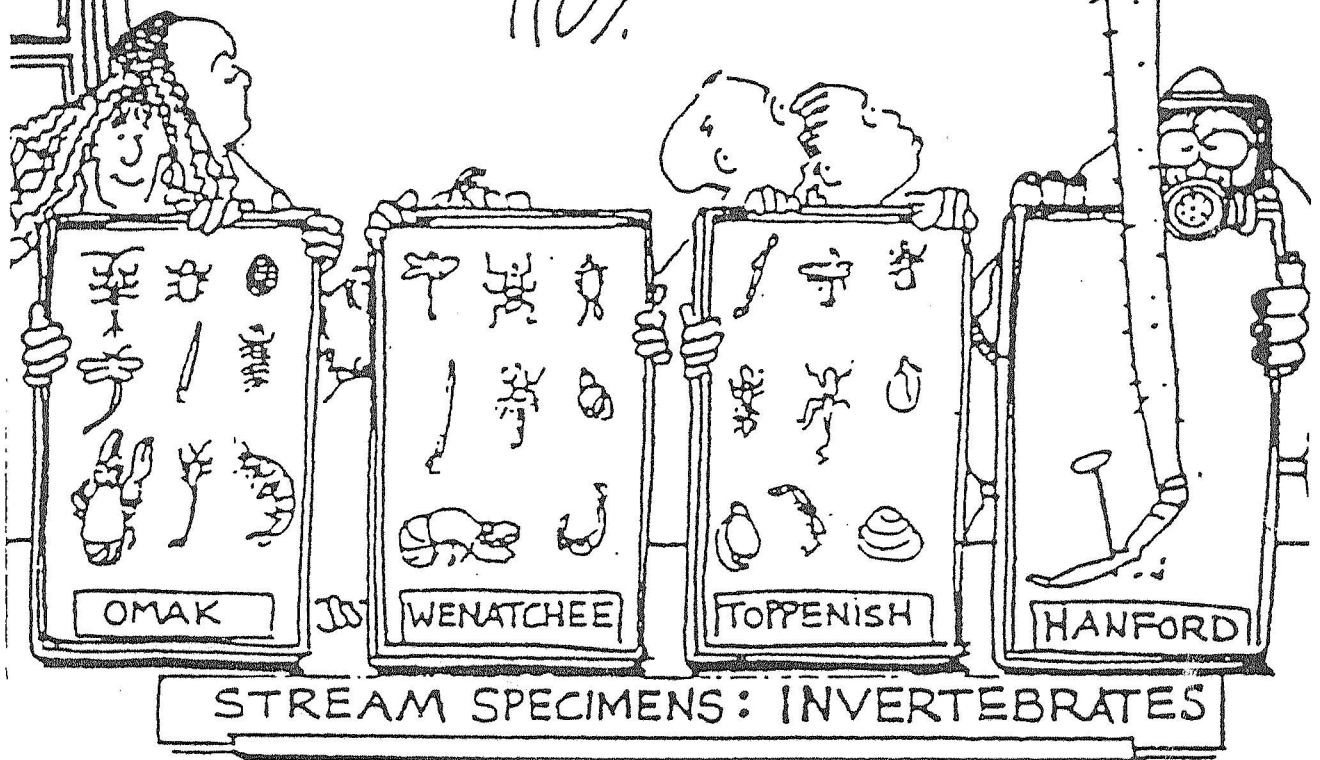
Hanford Nuclear Site

History and Relationship to the Washington Department of Ecology

Suzanne Dahl, Tank Waste Treatment Section Manager
Erika Holmes, Community Outreach & Environmental Education
Nuclear Waste Program

A a B b C c D d E e F f G g

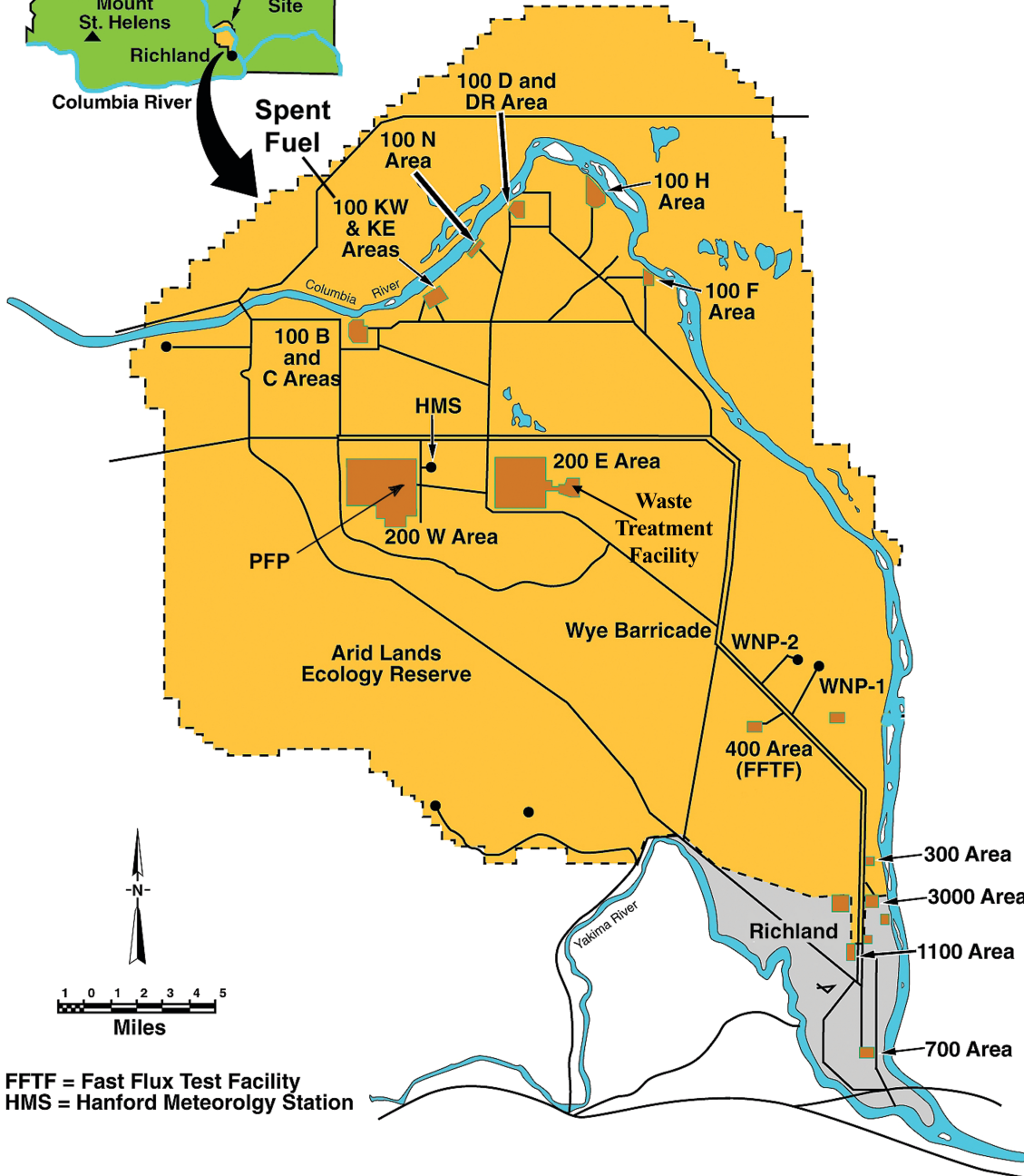
SCIENCE FAIR



W.H. VANDERBILT



HANFORD SITE

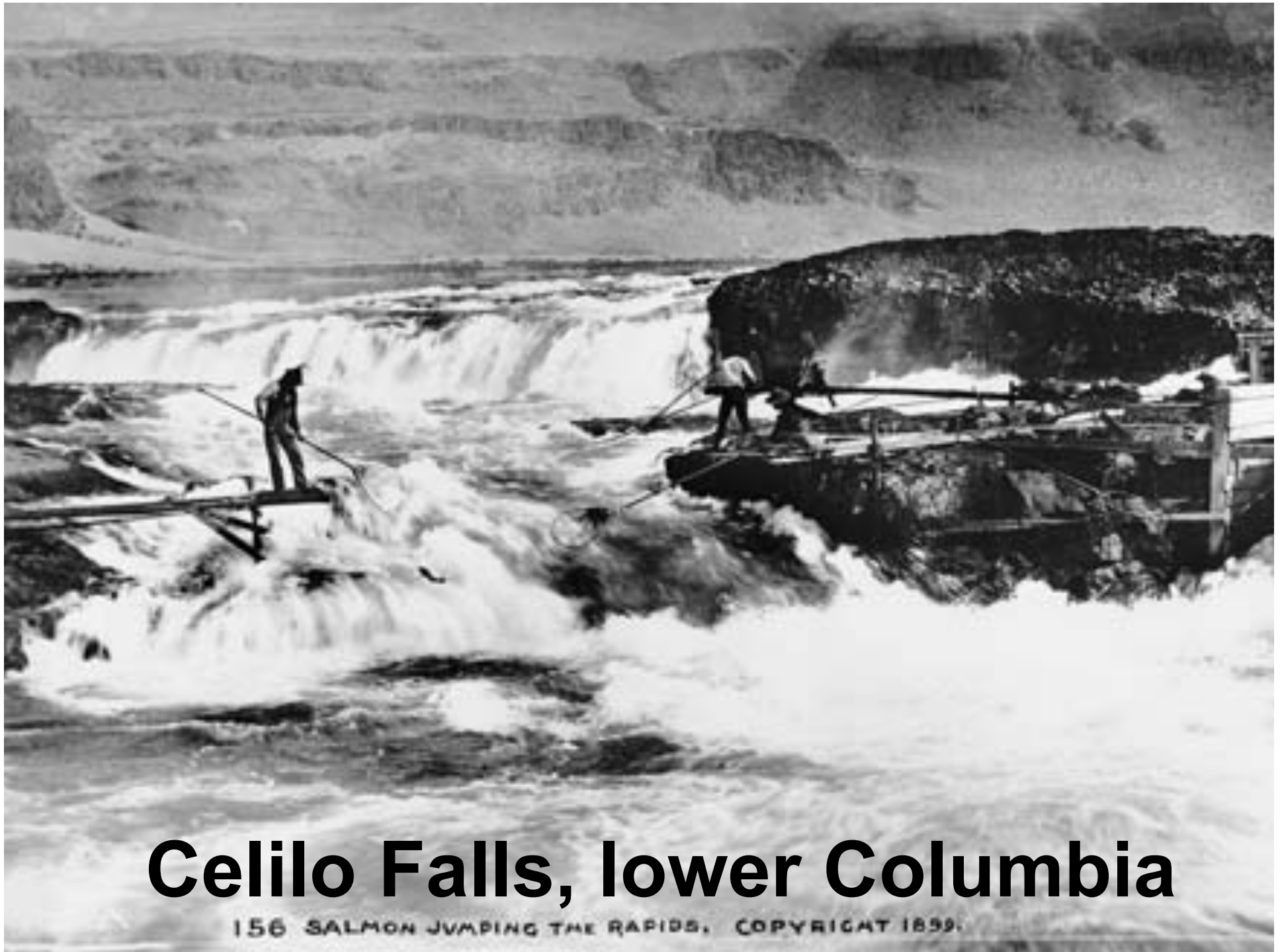


FFTF = Fast Flux Test Facility
HMS = Hanford Meteorology Station

- 586-square-mile site
- 2,400 waste management units/areas of concern
- 72 square miles of groundwater contaminated above drinking water standards
- 177 high-level waste tanks buried underground
- 9 plutonium production nuclear reactors
- 6 “canyon” processing buildings
- 2 sodium-cooled test nuclear reactors
- 72 radioactive landfills
- 43 miles of landfill trenches (remaining)

Hanford Reach National Monument





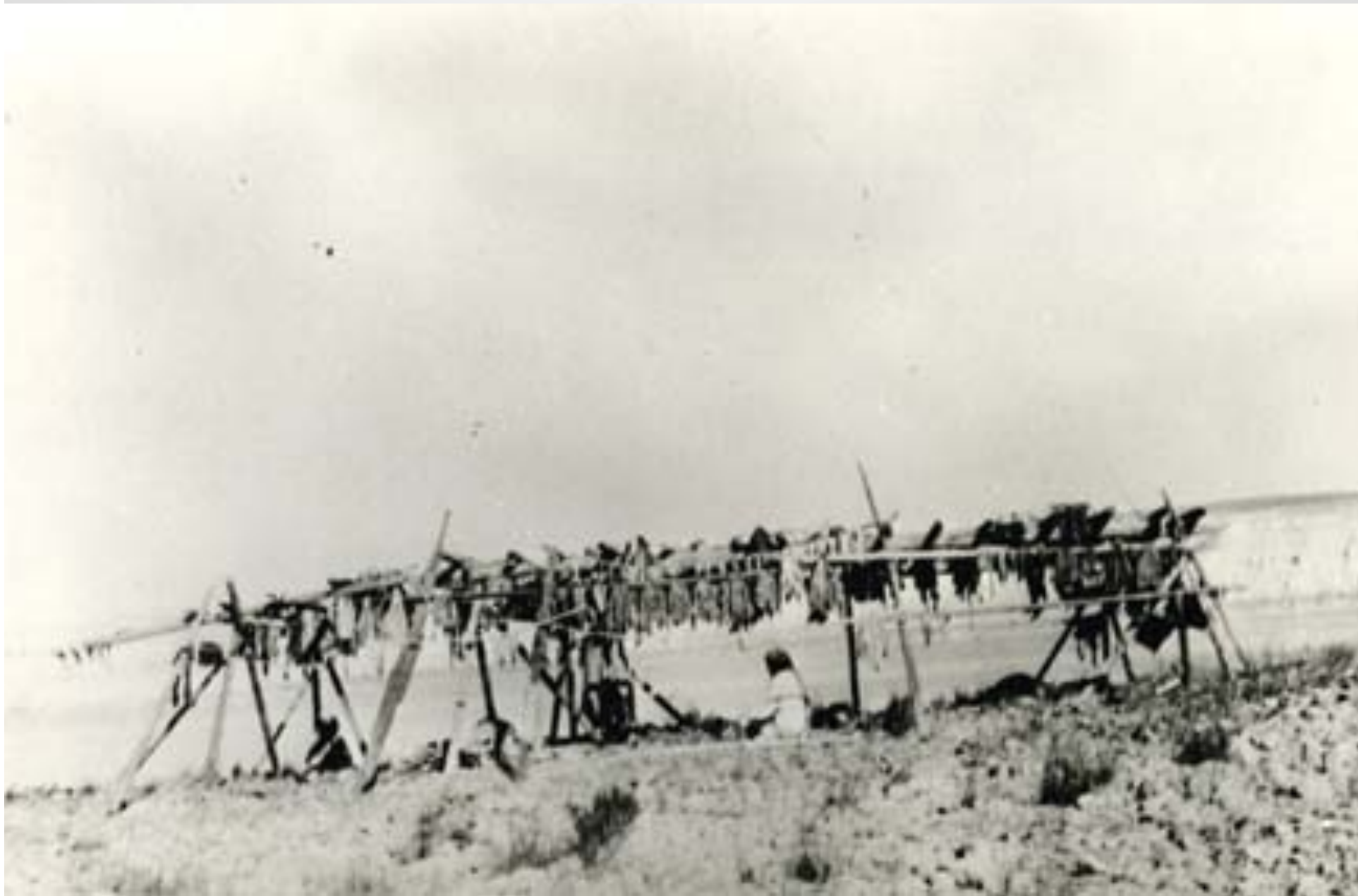
Celilo Falls, lower Columbia

156 SALMON JUMPING THE RAPIDS, COPYRIGHT 1899.

Wanapum Village



Wanapum Fish Drying Rack



Agriculture Pre-1942



Orchard Sprayer, 1932

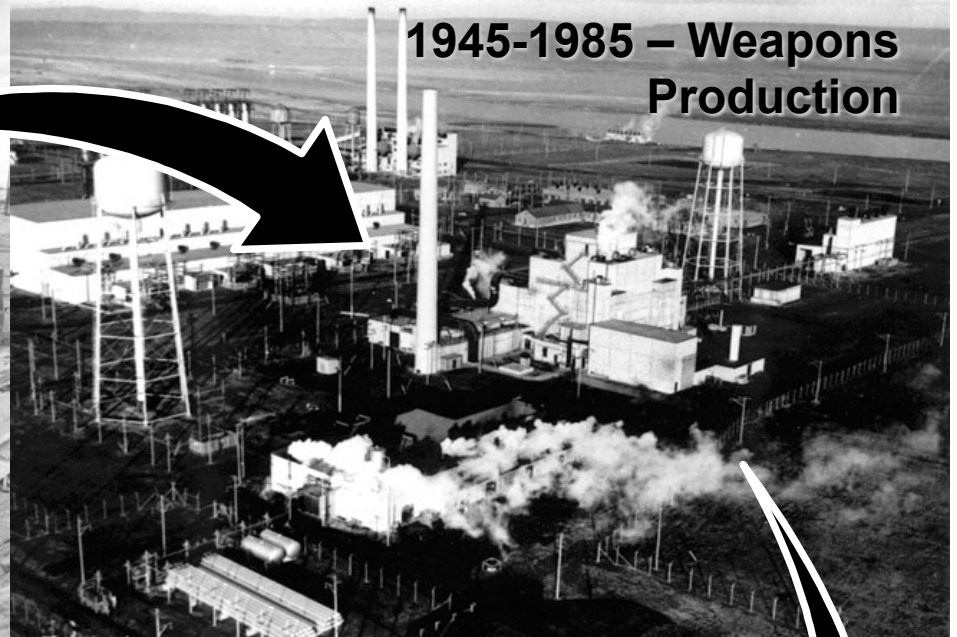


Historical Overview of the Hanford Site

1940s – Building Hanford



1945-1985 – Weapons Production



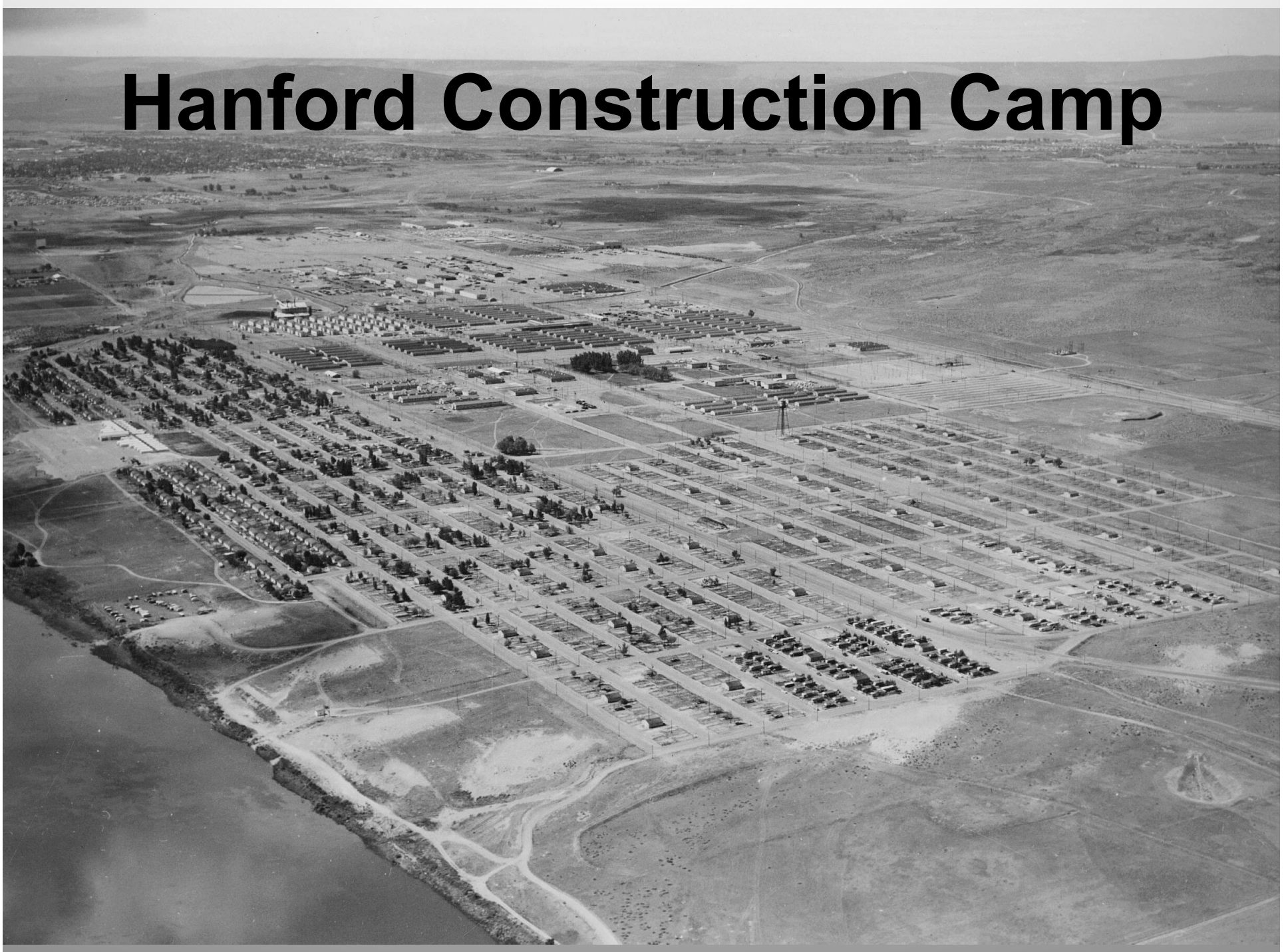
Present – Waste Treatment Plant Construction Site



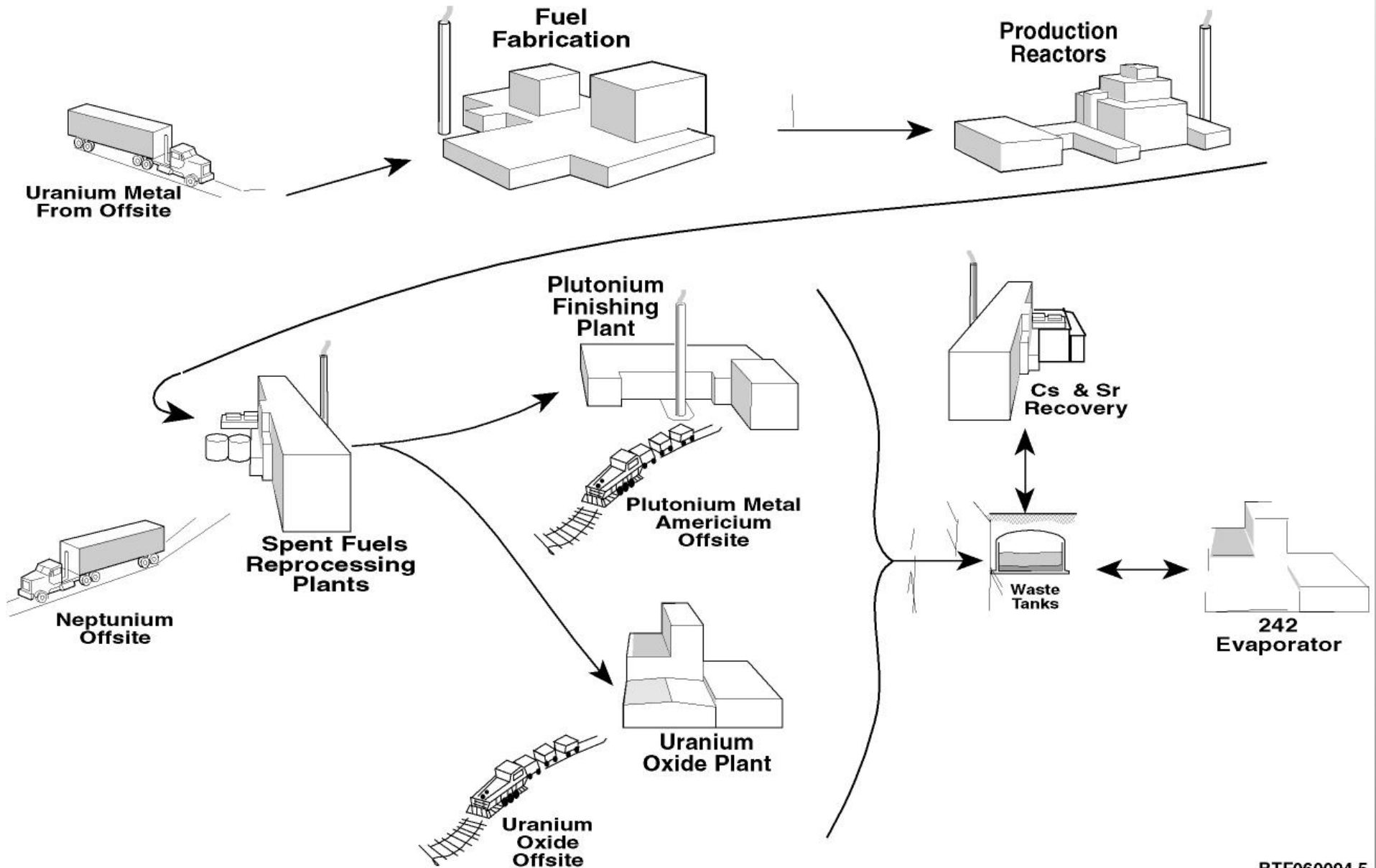
1990s – Decommissioning



Hanford Construction Camp



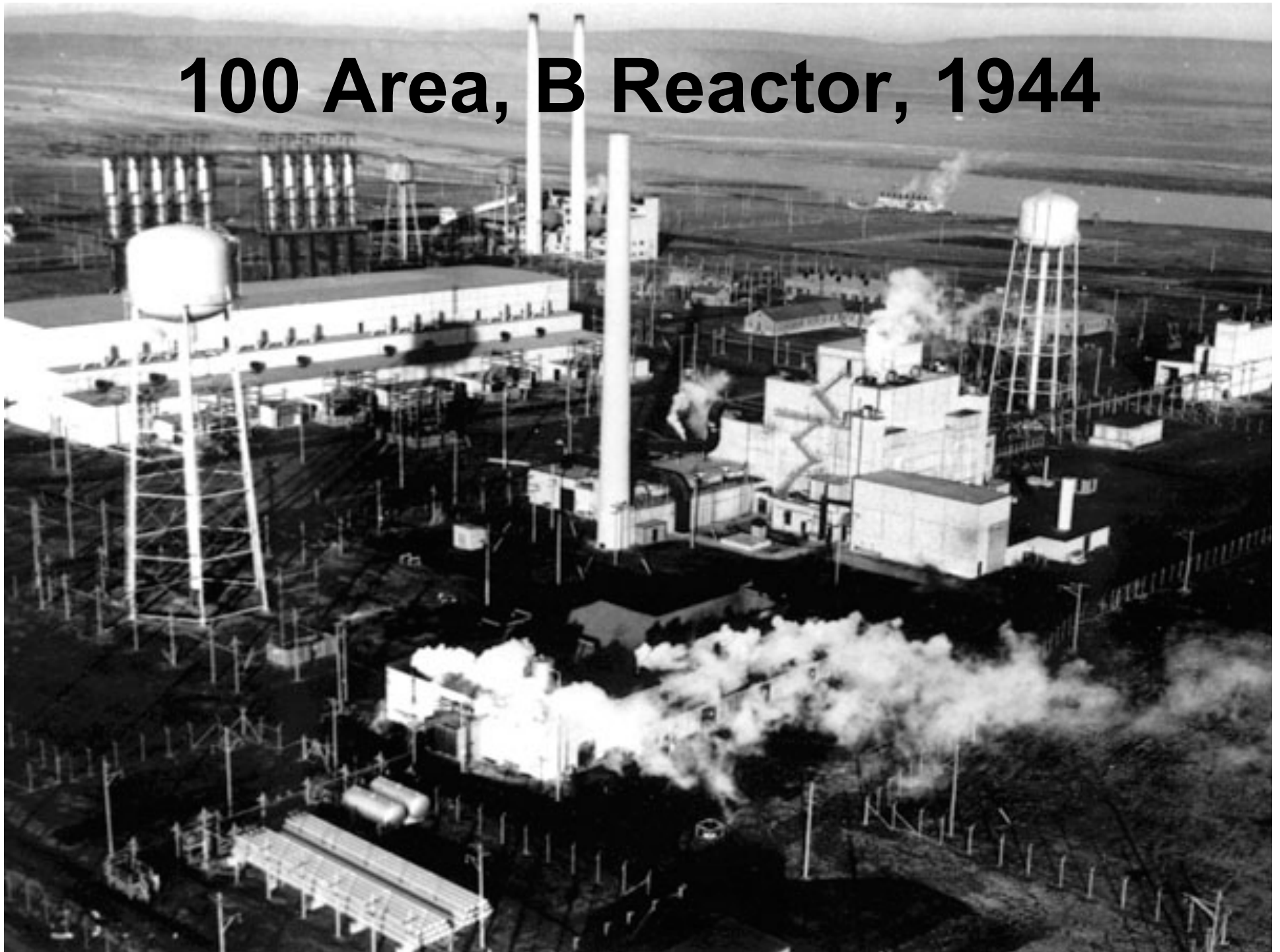
Hanford Defense Production Facilities (1944 - 1990)

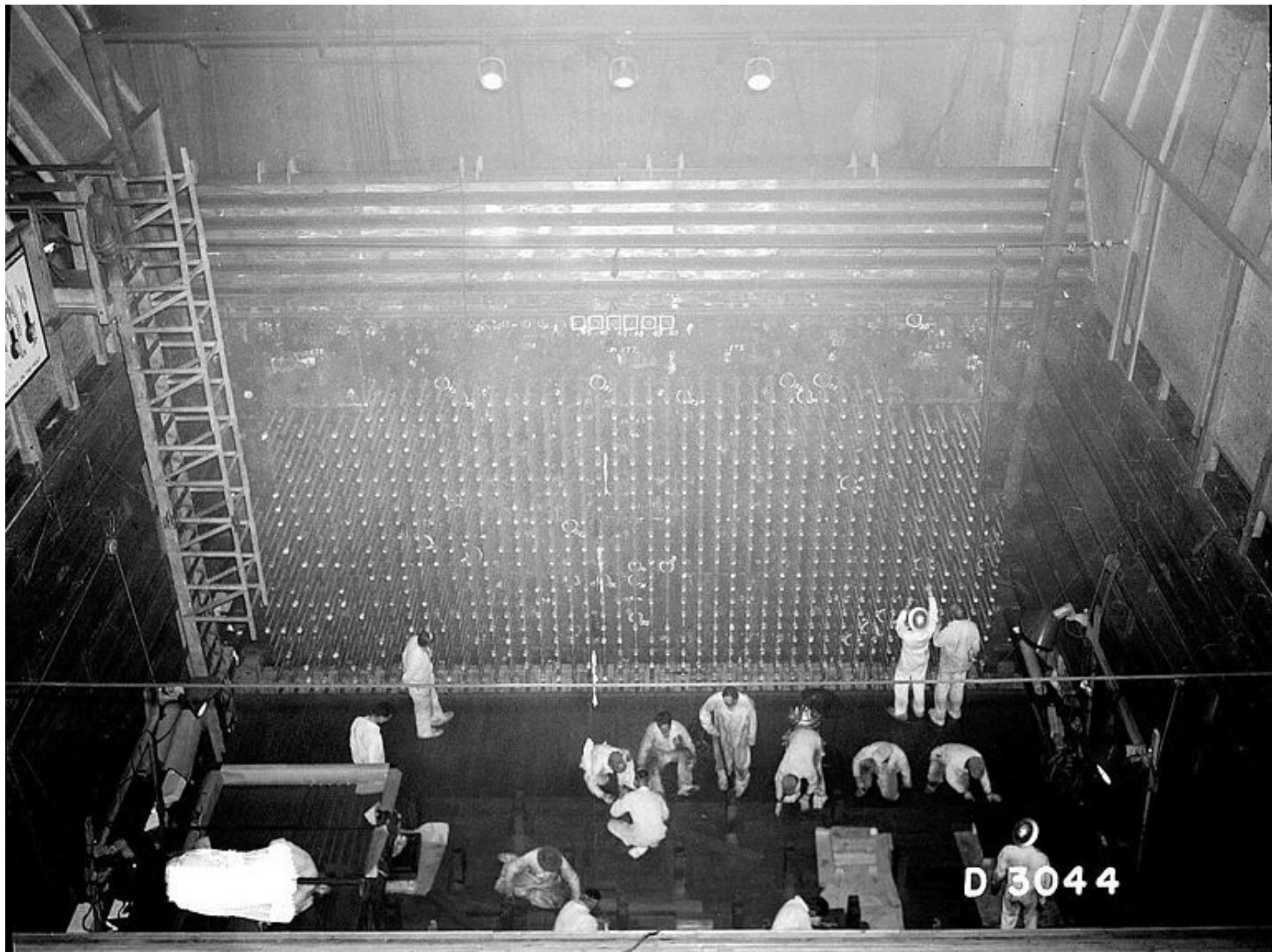


300 Area, Fuel Fabrication



100 Area, B Reactor, 1944





D 3044

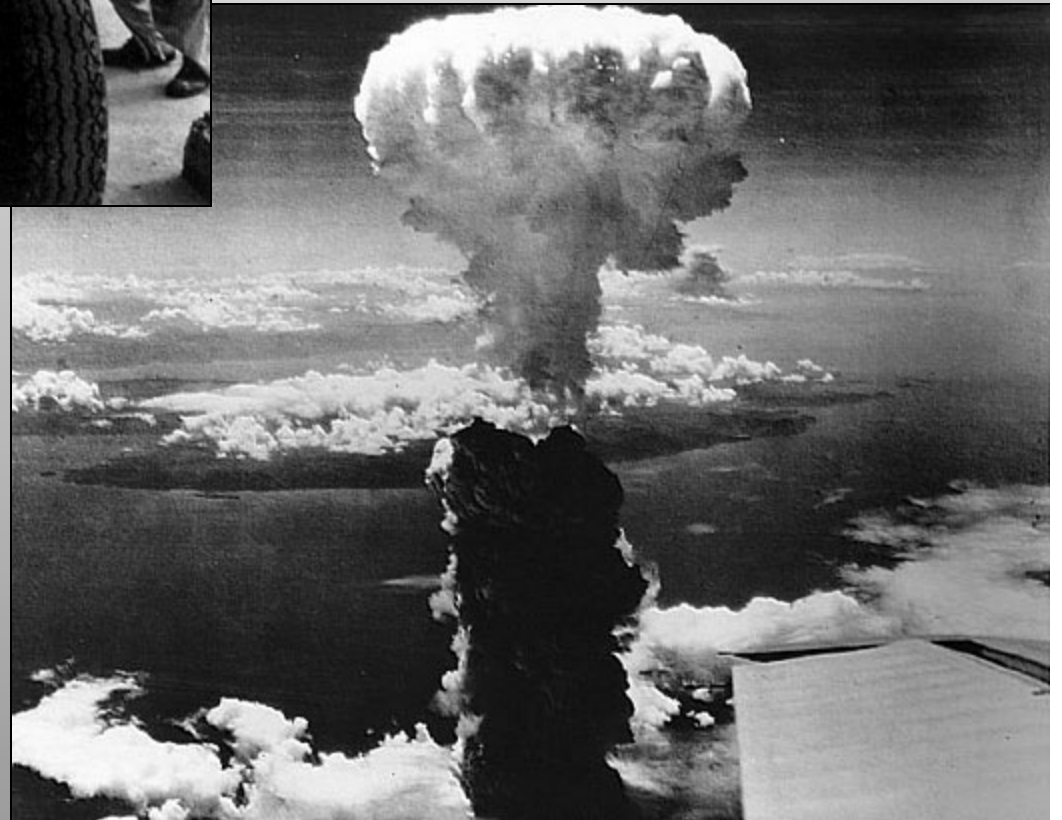
**“Short-lived” radioactivity
could be measured as far
away as Willapa Bay**





Fat Man being loaded on B-29 bomber

Courtesy of Atomic Archive



Mushroom cloud over Nagasaki, Japan

Courtesy of National Archives

D Island Pipelines, 1951



100-N Reactor Area

Only “closed-loop” cooling



The “zig-zag”
trench

N Springs

N Springs Near 100-N Reactor



Hanford Environmental Dose Reconstruction (HEDR) Project





**Trout radiation experiment,
1950s**



**Plutonium was
extracted from
6 massive
“canyon”
buildings**



DEDICATION



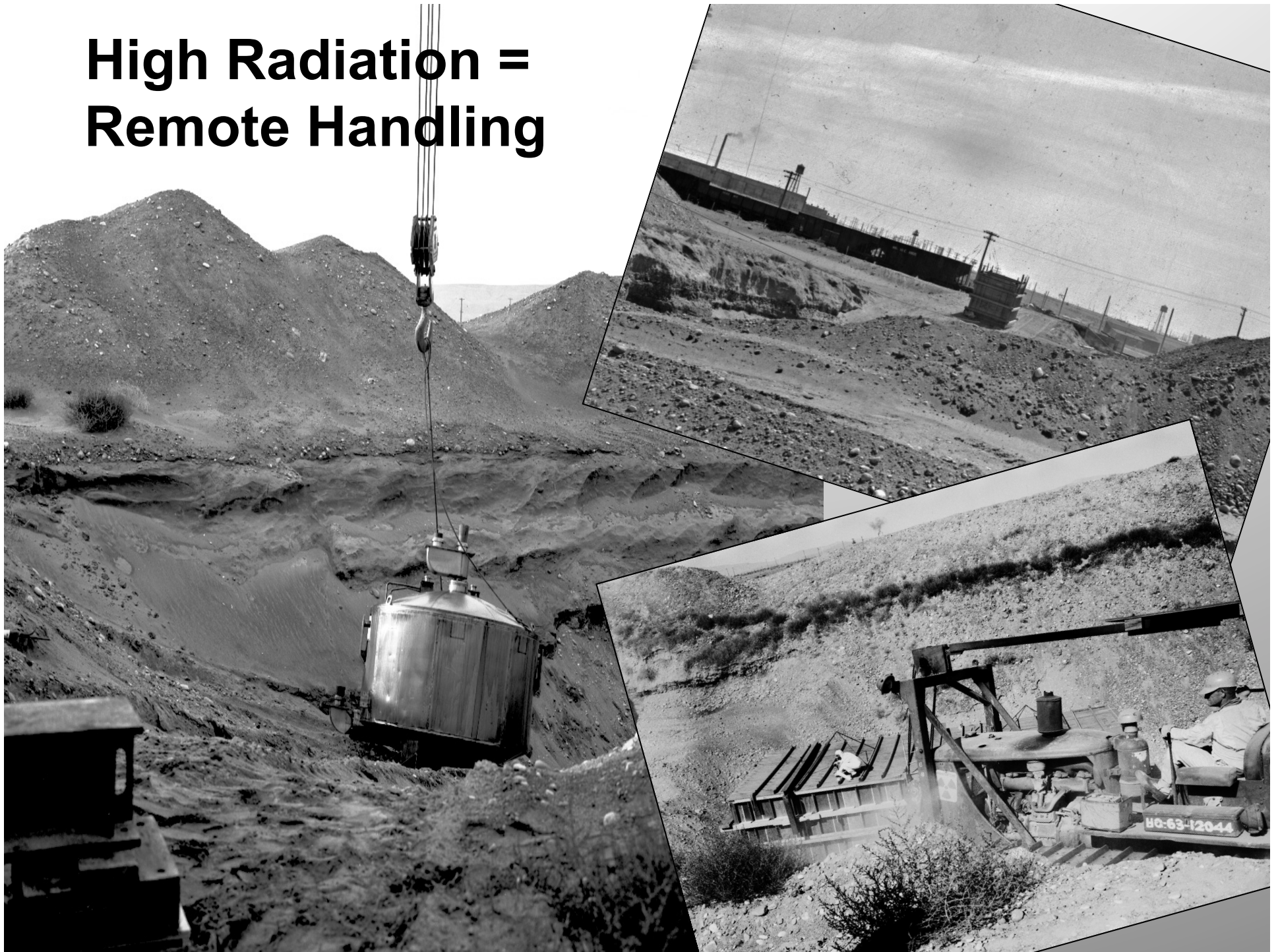
HAROLD R. McCLUSKEY

**The
“Atomic Man”**

Solid wastes included failed equipment



High Radiation = Remote Handling





**Earlier burial practices
“contact-handled” waste**

Trench 94

Nuclear Submarines/Cruisers





218-W-3

218-W-3A

218-W-2A

Dike

216-T-4B Pond

216-T-42 Ditch

218-W-3AE



Low-level radioactive liquid waste disposed to the ground created lakes in the desert

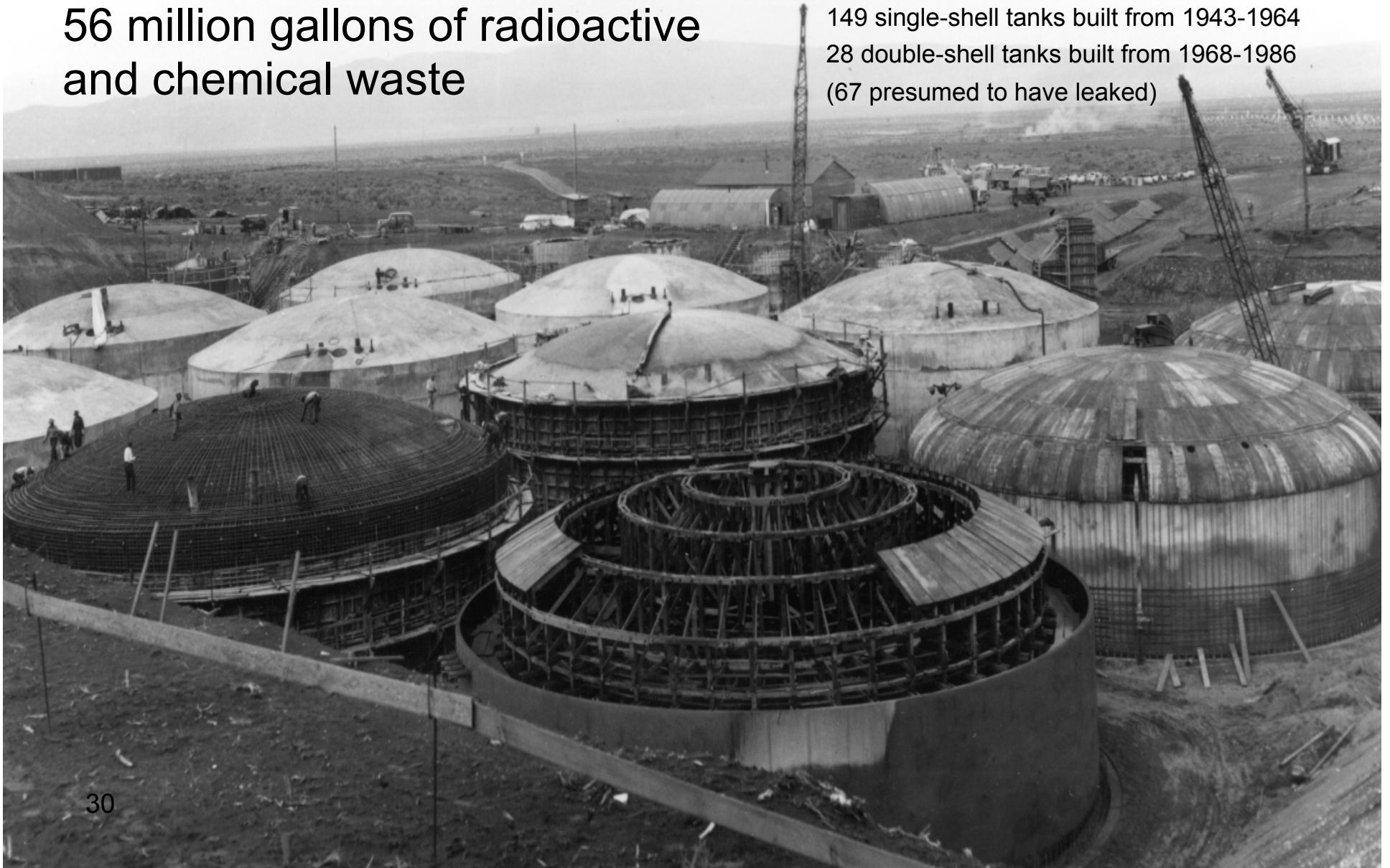


Hanford's Greatest Cleanup Challenge

200 Area: The Tank Farms

56 million gallons of radioactive
and chemical waste

149 single-shell tanks built from 1943-1964
28 double-shell tanks built from 1968-1986
(67 presumed to have leaked)





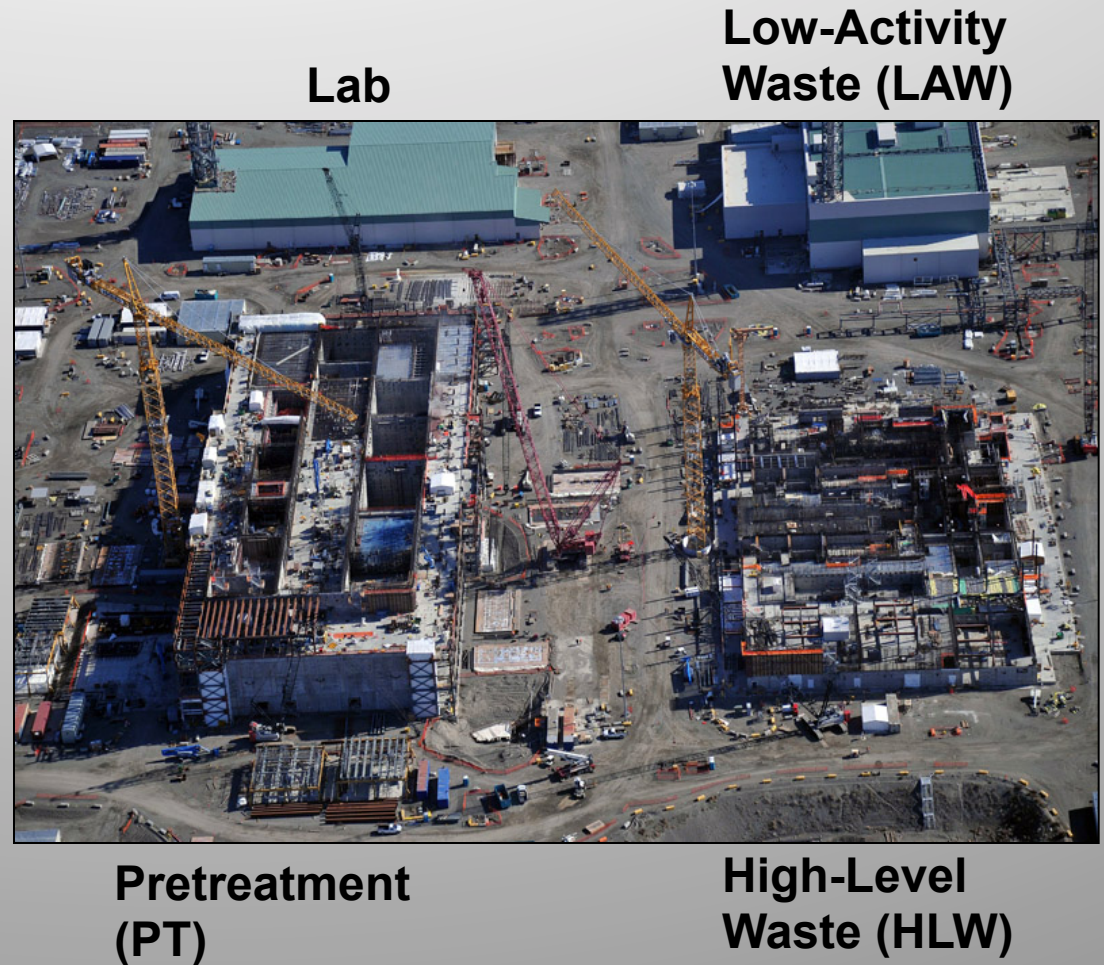
149 single-shell, high-level radioactive waste tanks

Radioactive saltcake in a high-level waste tank

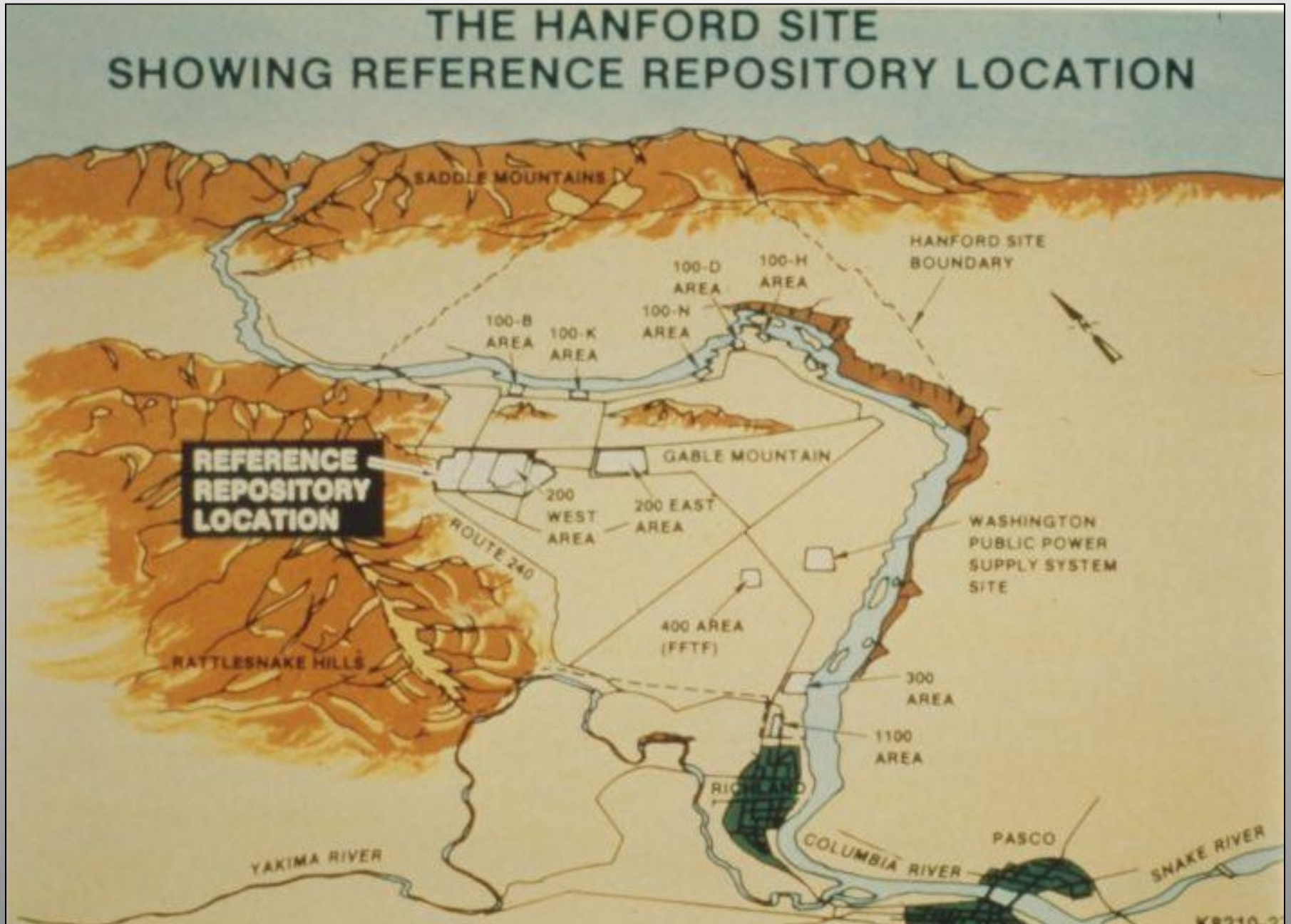


Tank Waste Treatment Plant

- Concrete: 262,000 yards
 - 26,200 trucks
- Structural Steel: 36,500 tons
 - 3 Eiffel Towers
- Piping: 1,017,000 linear feet
- Electrical Cable: 4,762,000 linear feet
- Area: 65 acres
- Capital Cost: \$12.3 billion
- Hot Start: 2019



Basalt Waste Isolation Plant

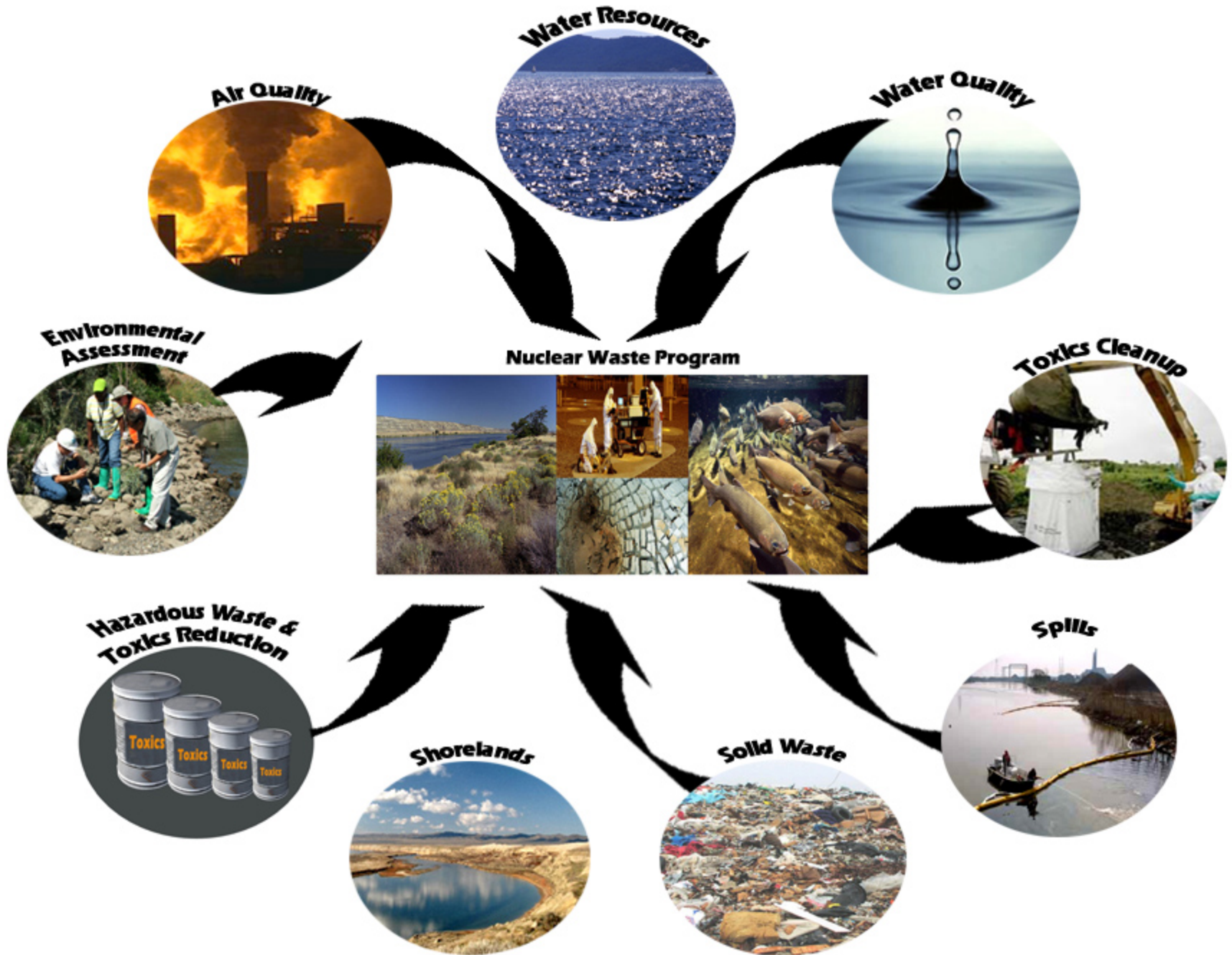


Tri-Party Agreement, 1989



Current Governor
Chris Gregoire signed
the agreement as the
Director of Ecology





An aerial photograph showing a wide river valley. In the foreground, there is a residential neighborhood with many houses and trees. A road runs parallel to the river. Further back, there are several large industrial or institutional buildings. The background shows rolling hills and a clear sky. The labels are placed over the corresponding areas in the image.

300 Area – testing, former fuel fabrication

Pacific NW Nat'l Lab

Ecology office

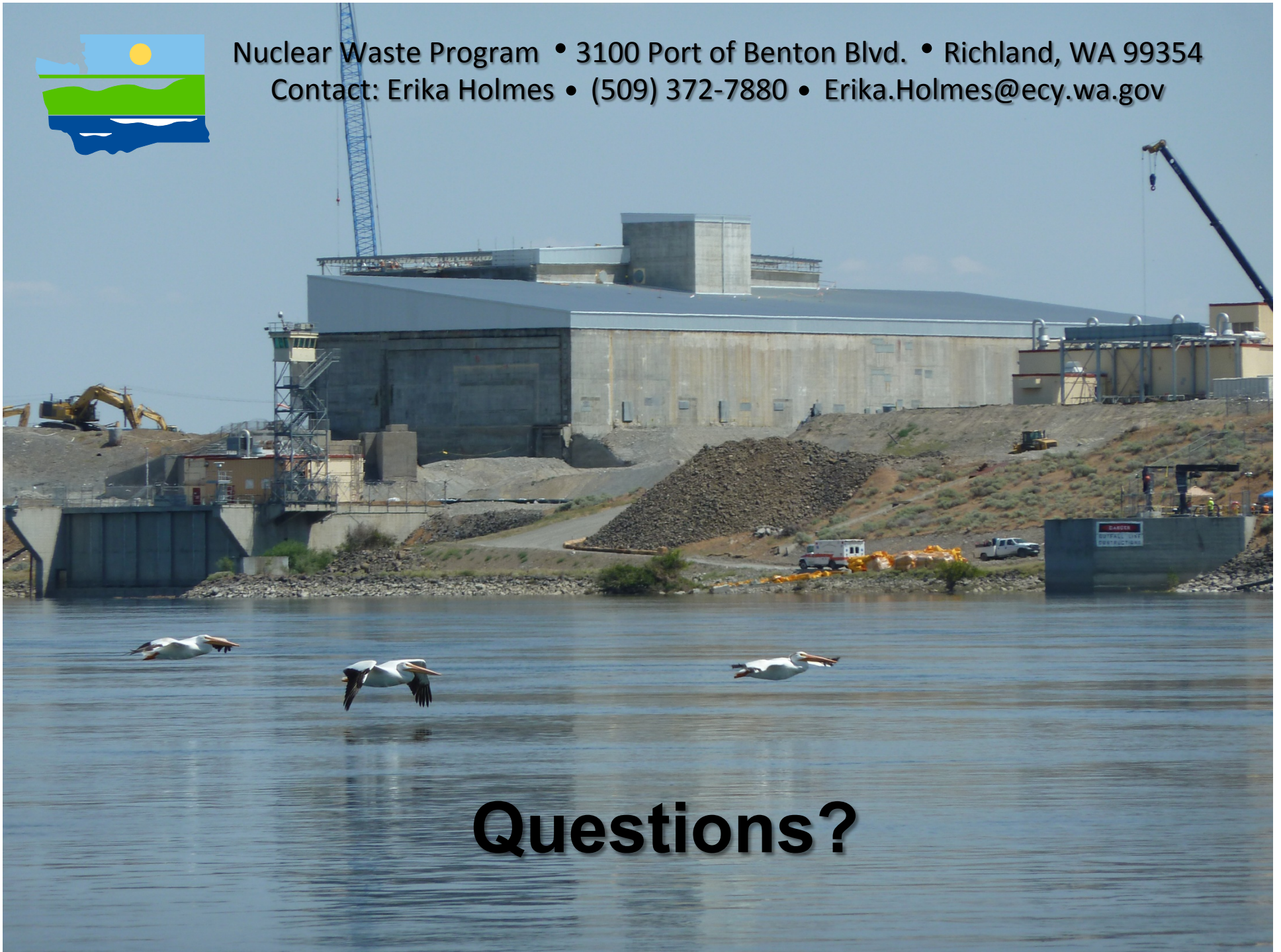
High School

What can *you* do about Hanford?

- Get informed. Visit Ecology's, EPA's & USDOE's Hanford websites.
- Stay informed. Join Ecology's email lists, follow our ECOconnect blog, and "like" us on Facebook.
- Inform others!
- Go to a public meeting. Once a year, the Hanford "State of the Site" visits Seattle.
- Write congress and express your support to fund Hanford cleanup.



Nuclear Waste Program • 3100 Port of Benton Blvd. • Richland, WA 99354
Contact: Erika Holmes • (509) 372-7880 • Erika.Holmes@ecy.wa.gov



Questions?