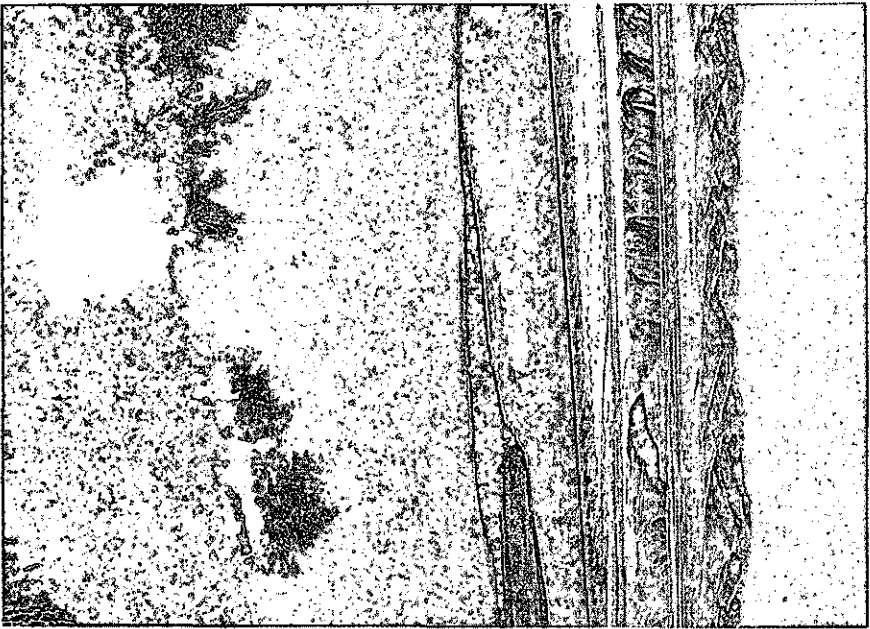




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*RAF Handout #2  
7/11/12*

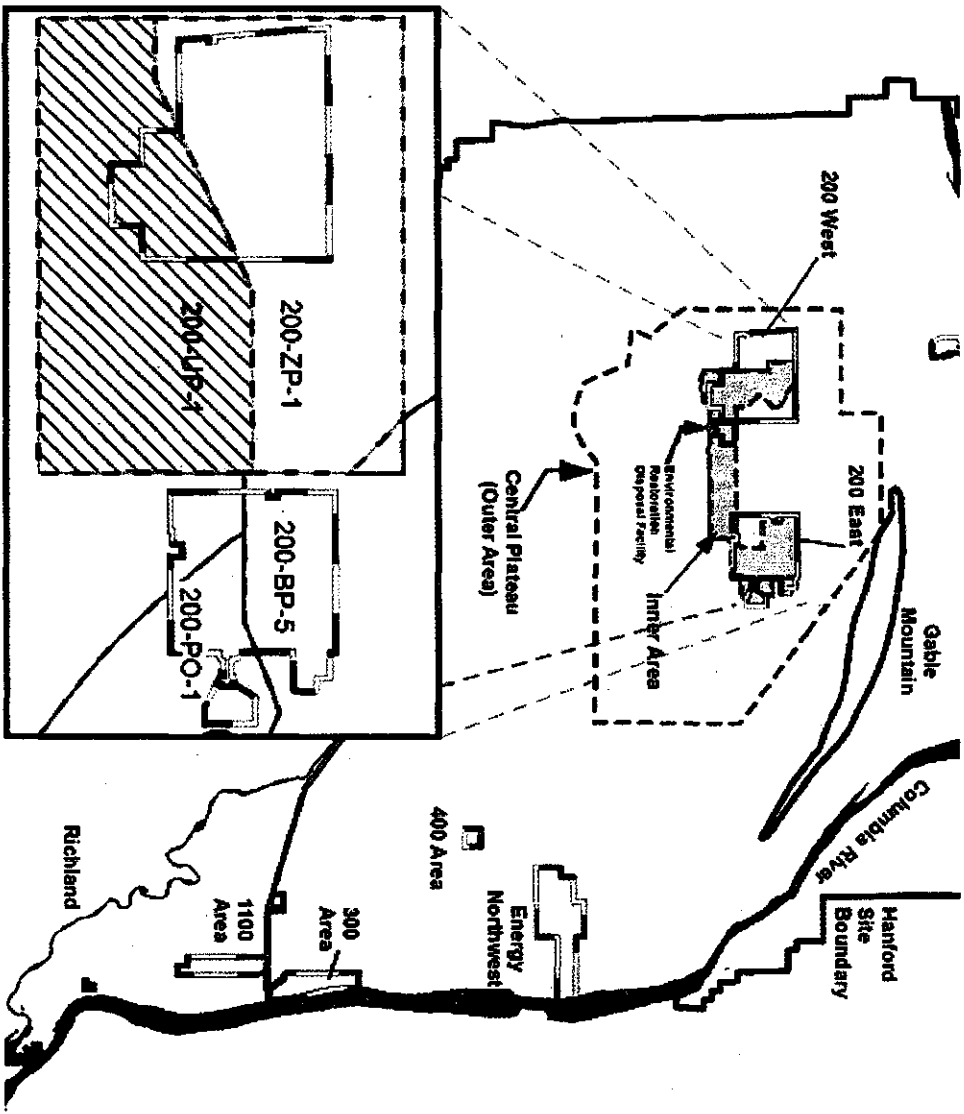
**200-UP-1  
Groundwater Operable Unit  
Proposed Plan**

**Presented to:  
Hanford Advisory Board  
River and Plateau Committee Meeting  
July 11, 2012**

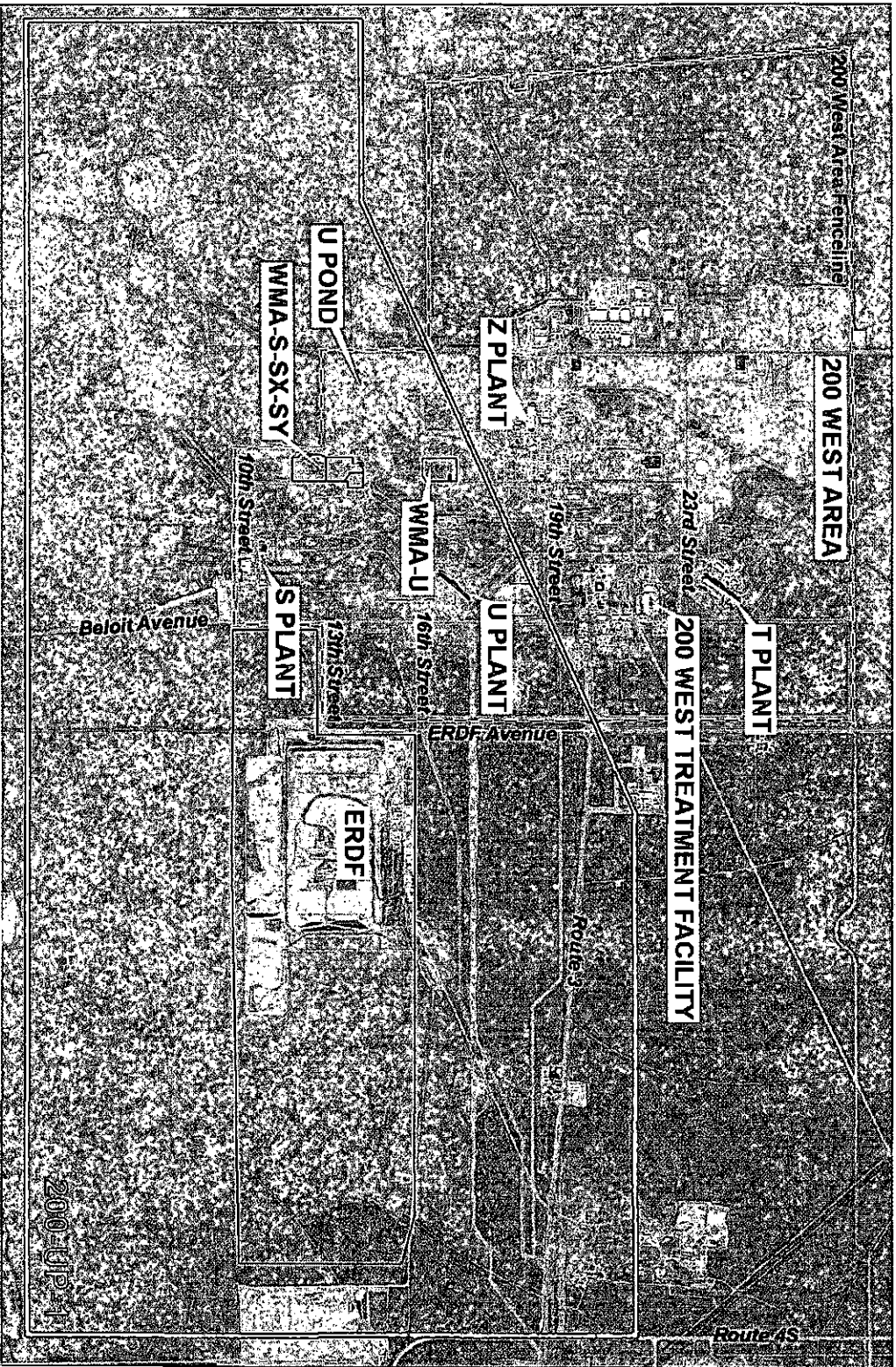
**Presented by:  
John Morse, U.S. Department of Energy  
Naomi Bland, U.S. Department of Energy  
Emerald Laija, Environmental Protection Agency**

*One Culture. One Team.*

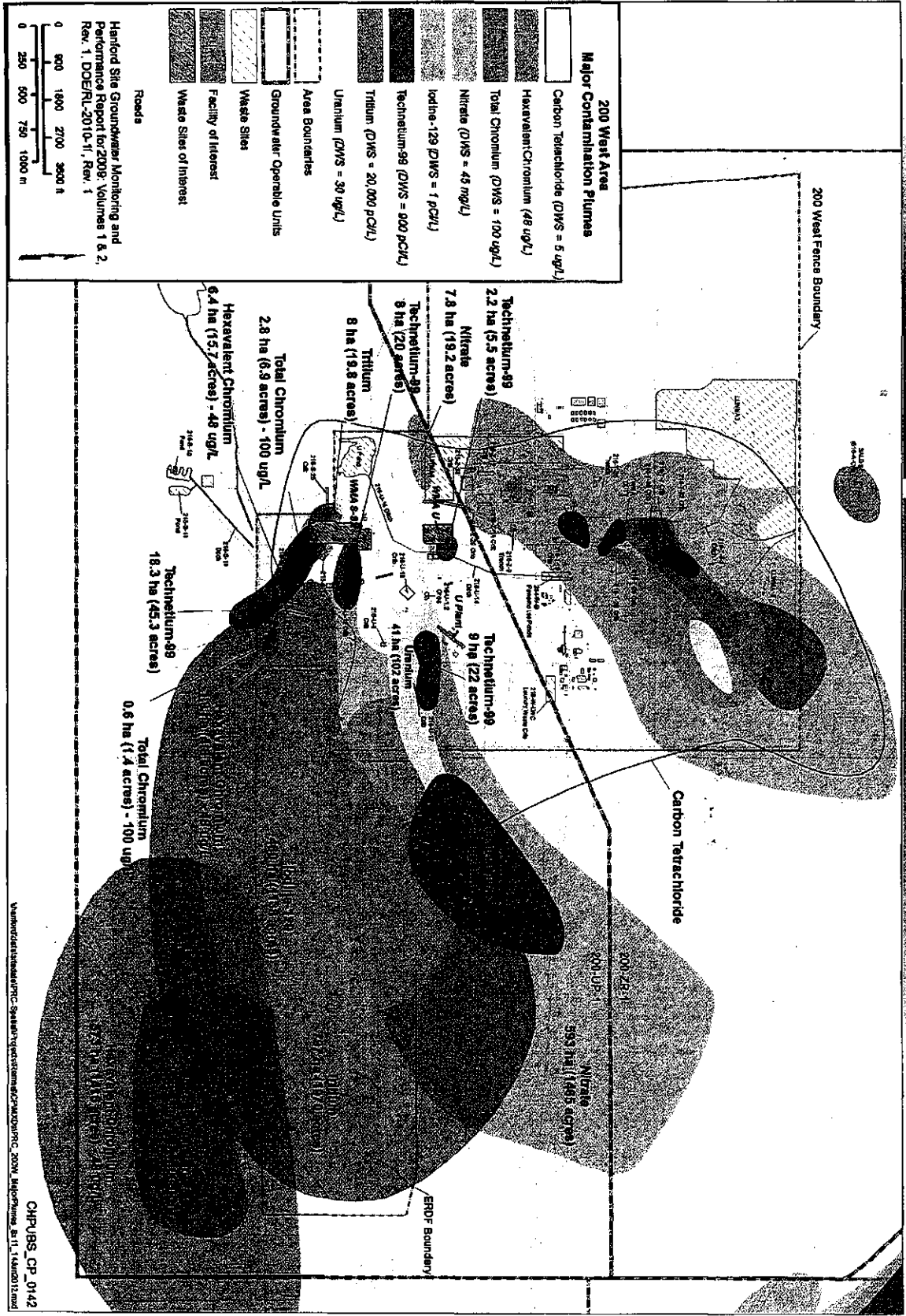
# 200-UP-1 OU Location



# 200-UP-1 Primary Site Features



# 200-UP-1 Groundwater Plumes



# Major Differences from Draft A

- ✓ 200-UP-1 Specific ROD (vs 200-ZP-1 ROD Amendment)
- Interim ROD (vs final) *(for whole scenario, not just iodine 129)*
- Refined Alternatives
  - Time to reach PRGs 25, 35, and 45 years — *(time to operate pump & treat 125 years MVA)*
  - MNA and Limited IC's to 125 years for CCl4 (consistent with 200-ZP-1)
- Selected Preferred Alternative 3
- Iodine-129 Plume
  - Hydraulic containment *(3 injection wells to prevent migration)*



# 200-UP-1 Remedial Alternatives

Remedy Components	No Action	Alternative 2—45 Years Active Remediation, MNA, Hydraulic Containment and ICs	Alternative 3—35 Years Active Remediation, MNA, Hydraulic Containment and ICs	Alternative 4—25 Years Active Remediation, MNA, Hydraulic Containment and ICs
Institutional Controls	The NCP (40 CFR 300.43)	Maintain ICs for all COCs until PRGs are achieved. (up to 125 years for all remedial alternatives)		
Groundwater Pump-and-Treat	0 (e)(6) requires consideration of a No Action Alternative.	Pump-and-treat for carbon tetrachloride, uranium, concentrated nitrate plume areas, chromium (total and hexavalent) and Tc-99. Estimated pumping rate of 330 gpm.	Moderately aggressive pump-and-treat for carbon tetrachloride, uranium, concentrated nitrate plume areas, chromium (total and hexavalent) and Tc-99. Estimated pumping rate of 430 gpm.	Highly aggressive pump-and-treat for carbon tetrachloride, uranium, nitrate plume areas (high and low concentration), chromium (total and hexavalent) and Tc-99. Estimated pumping rate of 530 gpm.
MNA		Tritium, low-concentration parts of nitrate plume, and the remaining parts of the carbon tetrachloride plume.	Tritium, low-concentration parts of nitrate plume, and the remaining parts of the carbon tetrachloride plume.	Tritium and the remaining parts of the carbon tetrachloride plume.
Hydraulic Containment		I-129	I-129	I-129
Total Pump-and-Treat Duration	Not applicable	45 Years	25 Years	25 Years
Cost (NPV)**	Not applicable	\$304 Million	\$319 Million	\$342 Million

\*\*NPV: Net Present Value



# Preferred Alternative

- Alternative 3—35 Years Active Remediation, MNA, Hydraulic Containment, and ICs
  - P&T for 25 years; estimated extraction rate of 430 gpm
    - Utilizes 200 West Groundwater Treatment Facility
    - Tc-99, U, Chromium (total and hexavalent) plumes, high concentration Nitrate plume, and portions of CCL4 plume
  - Hydraulic Containment
    - 150 gpm, estimated injection rate of 150 gpm
    - I-129 plume
    - Technology evaluation *(none in-depth)*
  - Monitored Natural Attenuation (MNA)
    - 125 yrs
    - Tritium, CCL4
  - Institutional Controls (ICs)
    - 125 yrs



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# Comment Period Timeframe

- Public comment period: 07/17/2012 through 08/16/2012.

