



Site-Wide Groundwater Treatment Infrastructure

**Presented to:
Hanford Advisory Board, RAP**

Presented by: Briant Charboneau, RL

200 West Groundwater Treatment Facility

Contaminants	System Size	Cleanup Technologies
<ul style="list-style-type: none">• Carbon Tetrachloride• Hexavalent Chromium• Total Chromium• Nitrate• Trichloroethylene• Iodine-129• Technetium-99• Tritium• Uranium	<ul style="list-style-type: none">• Current Capacity: 1900 gpm• Final Capacity: 2500 gpm• 18 extraction wells• 14 injection Wells	<ul style="list-style-type: none">• Ion exchange• Bioreactors• Air Strippers

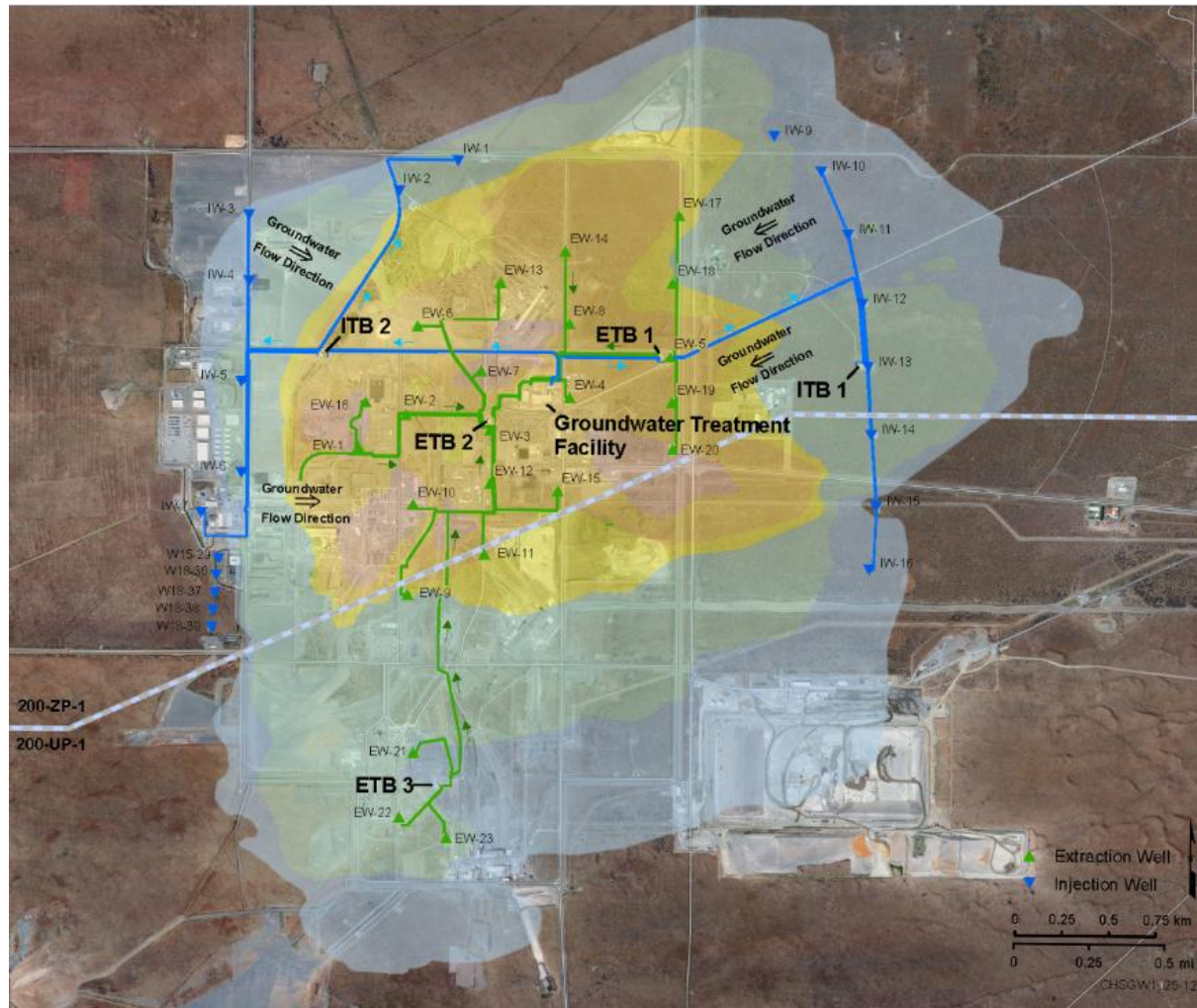


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200 West Pump & Treat System

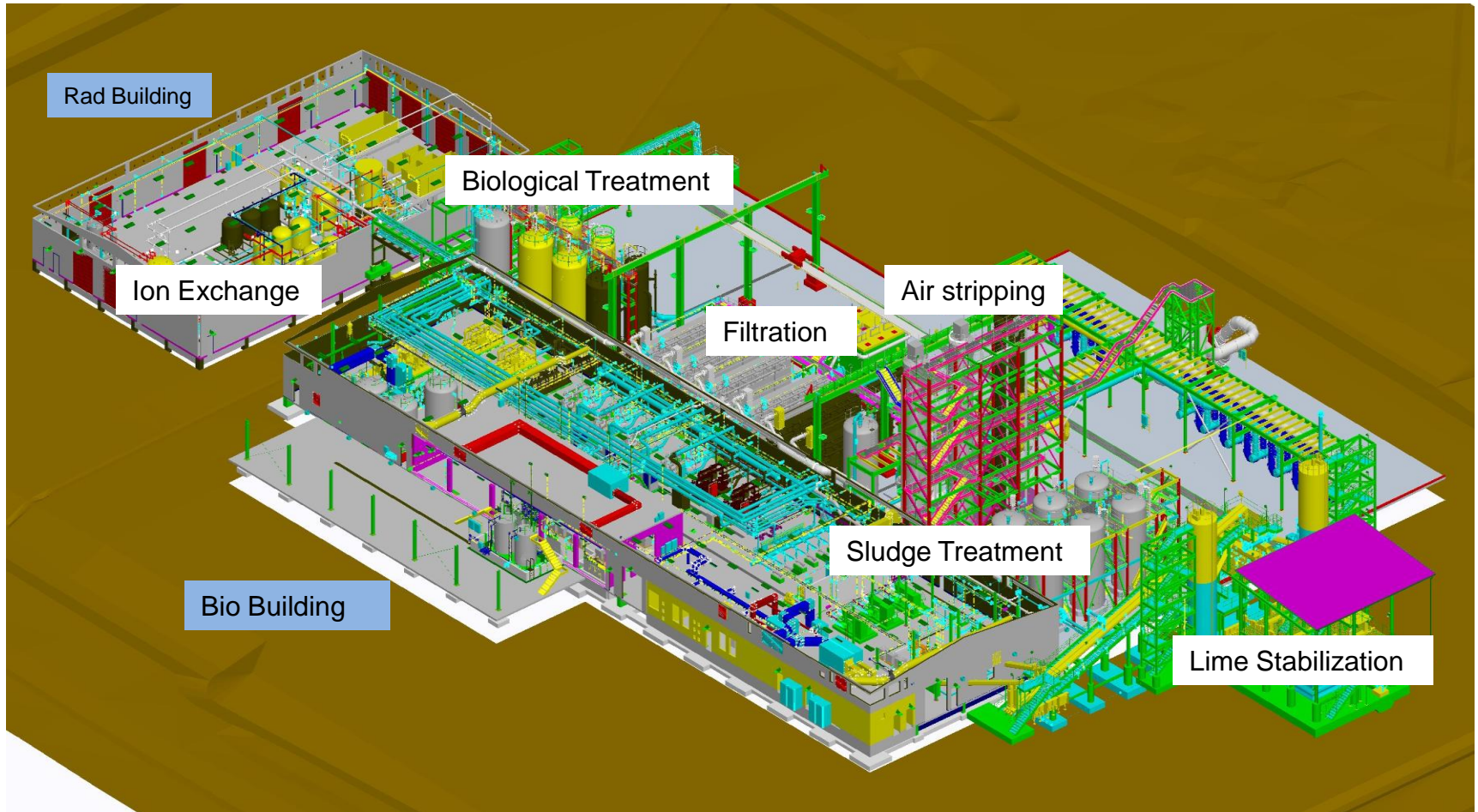


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200 West Groundwater Treatment Facility



200 West Treatment Facility 09/07/12



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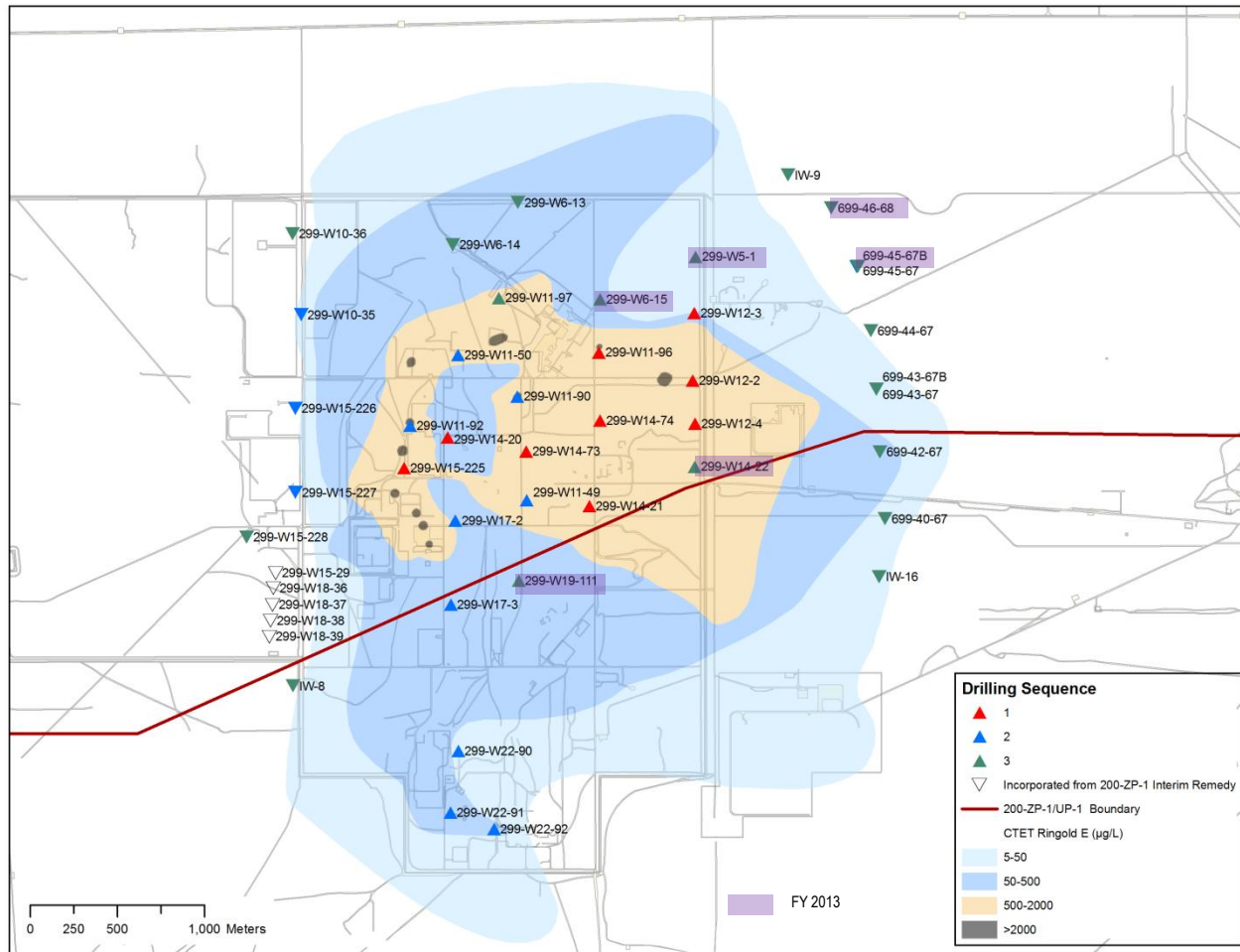


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Sample Results, August 29, 2012

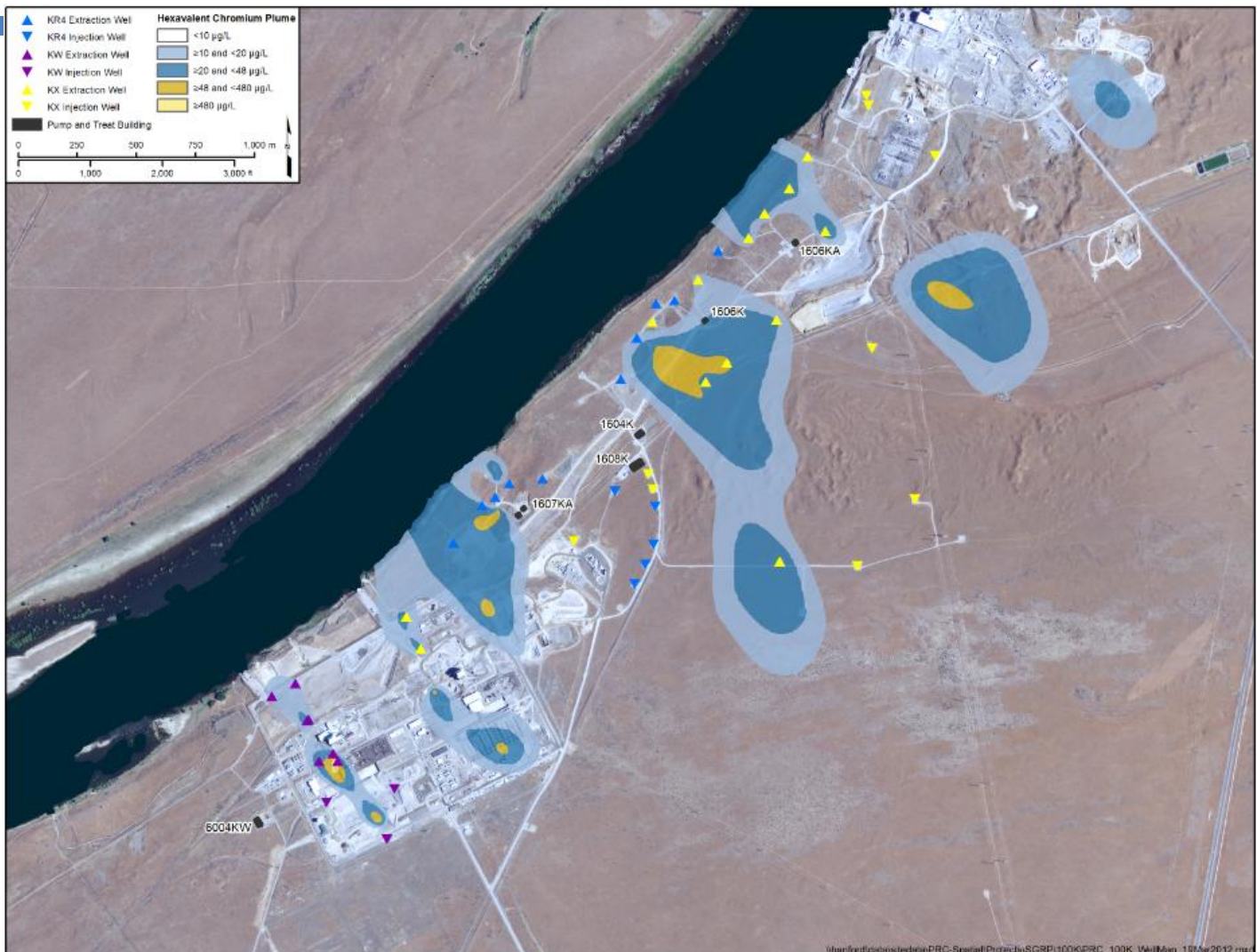
Contaminant	Average Effluent	Groundwater Cleanup Goal
Carbon Tetrachloride (µg/L)	<1	3.4
Nitrate (mg/L)	<0.038	10
Chromium (µg/L)	1.48	100
Hexavalent Chromium (µg/L)	<2	48
Iodine-129 (pCi/L)	<0.221	1
Technetium-99 (pCi/L)	<17	900
Trichloroethene (µg/L)	<1	5
Tritium (pCi/L)	13,000	20,000
Uranium (µg/L)	0.254	30

FY 2013 Well Drilling Campaign

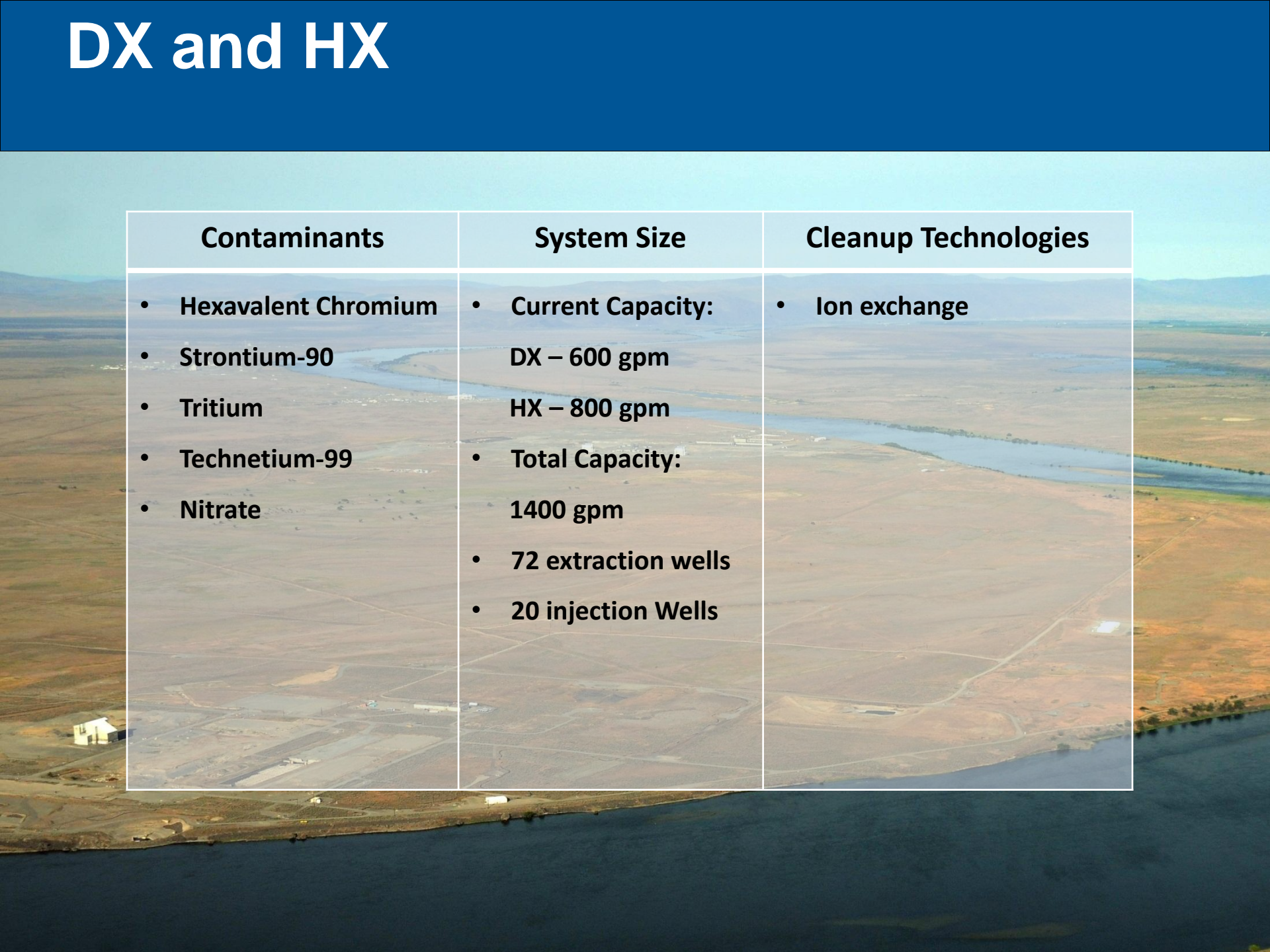


K-West, KR-4, and KX

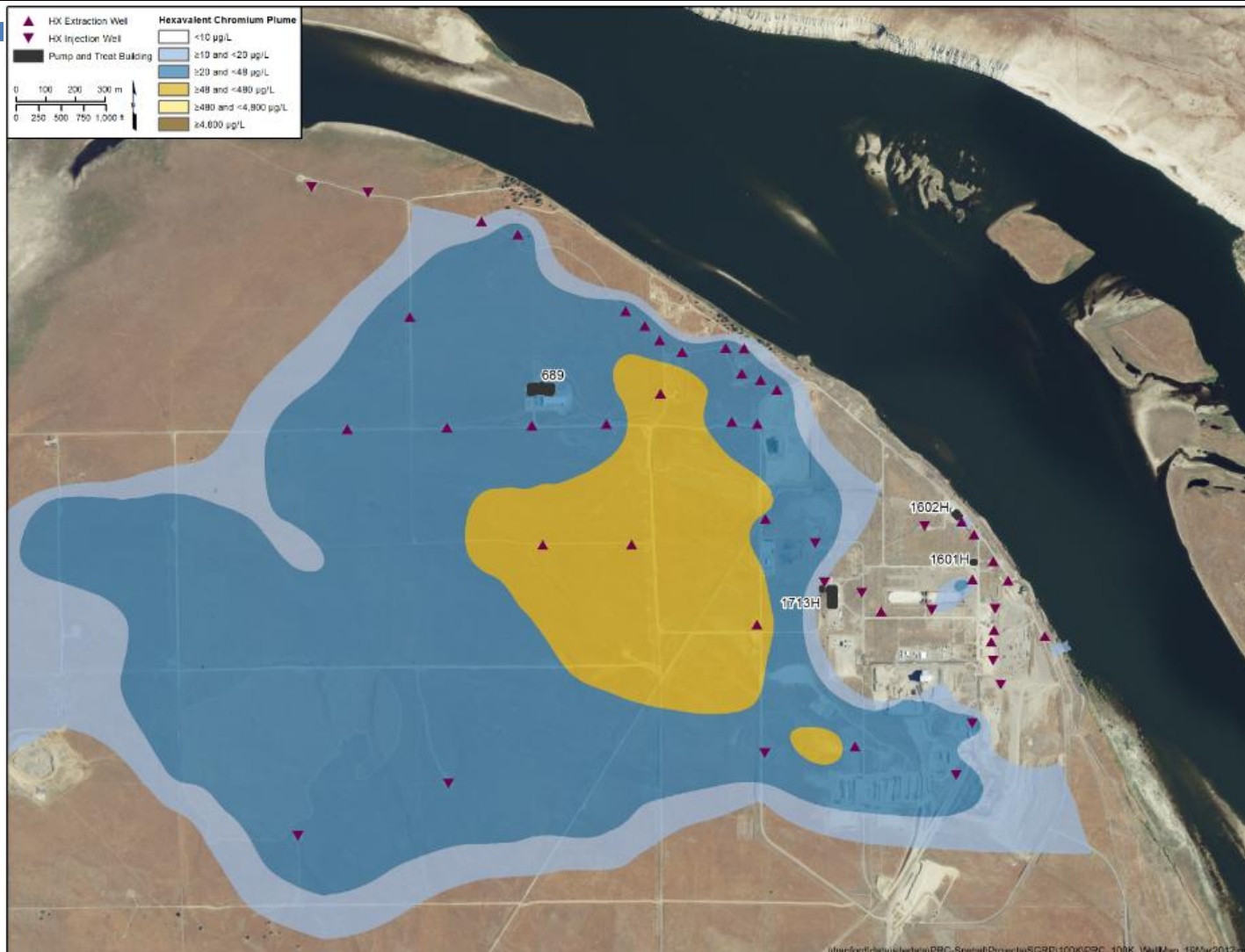
Contaminants	System Size	Cleanup Technologies
<ul style="list-style-type: none">• Hexavalent Chromium• Strontium-90• Tritium• Carbon-14• Nitrate• Trichloroethylene	<ul style="list-style-type: none">• Current Capacity:<ul style="list-style-type: none">KW – 200 gpmKR4 – 300 gpmKX – 600 gpm• Total Capacity:<ul style="list-style-type: none">1100 gpm• 29 extraction wells• 17 injection Wells	<ul style="list-style-type: none">• Ion exchange



DX and HX



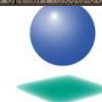
Contaminants	System Size	Cleanup Technologies
<ul style="list-style-type: none">• Hexavalent Chromium• Strontium-90• Tritium• Technetium-99• Nitrate	<ul style="list-style-type: none">• Current Capacity: DX – 600 gpm HX – 800 gpm• Total Capacity: 1400 gpm• 72 extraction wells• 20 injection Wells	<ul style="list-style-type: none">• Ion exchange



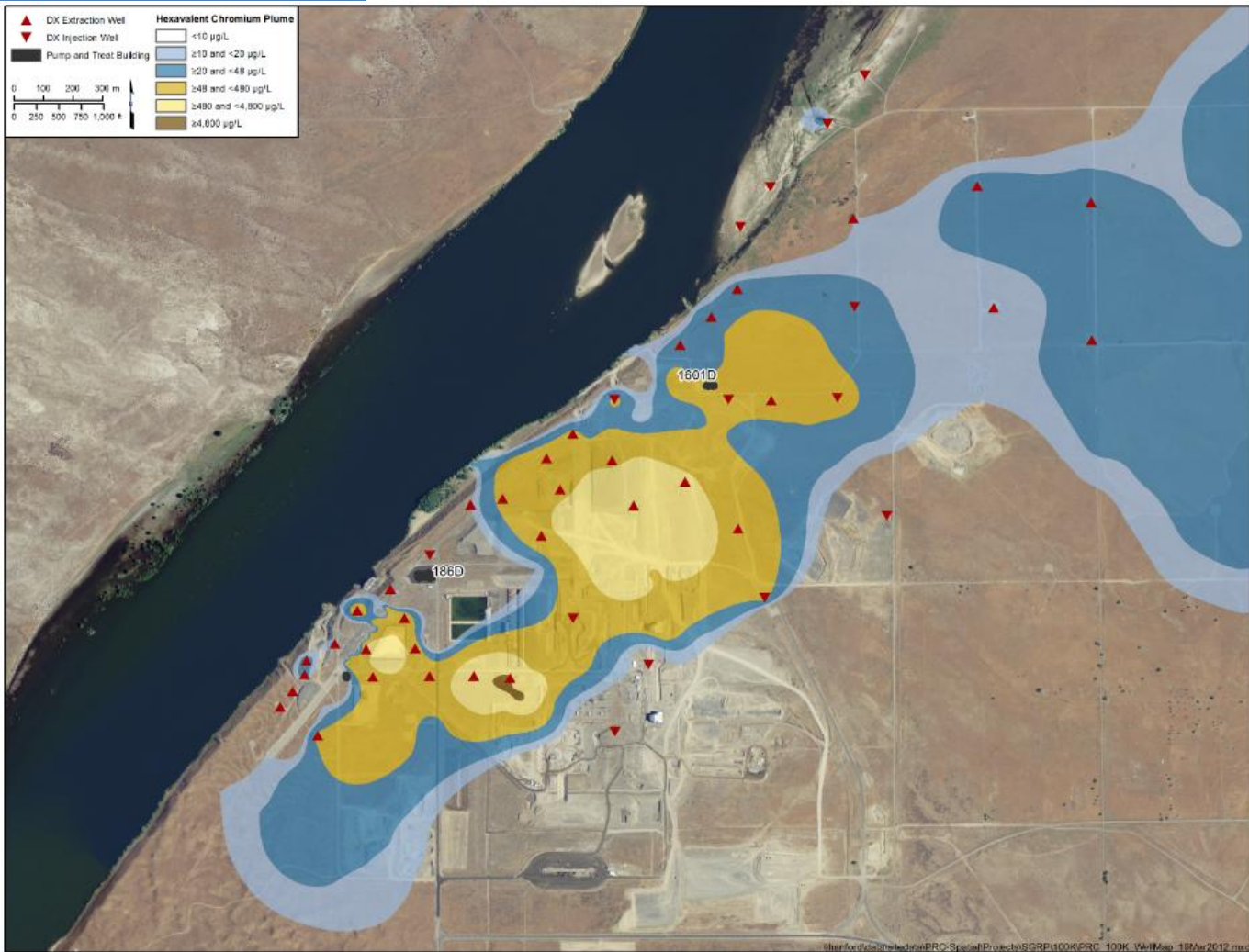
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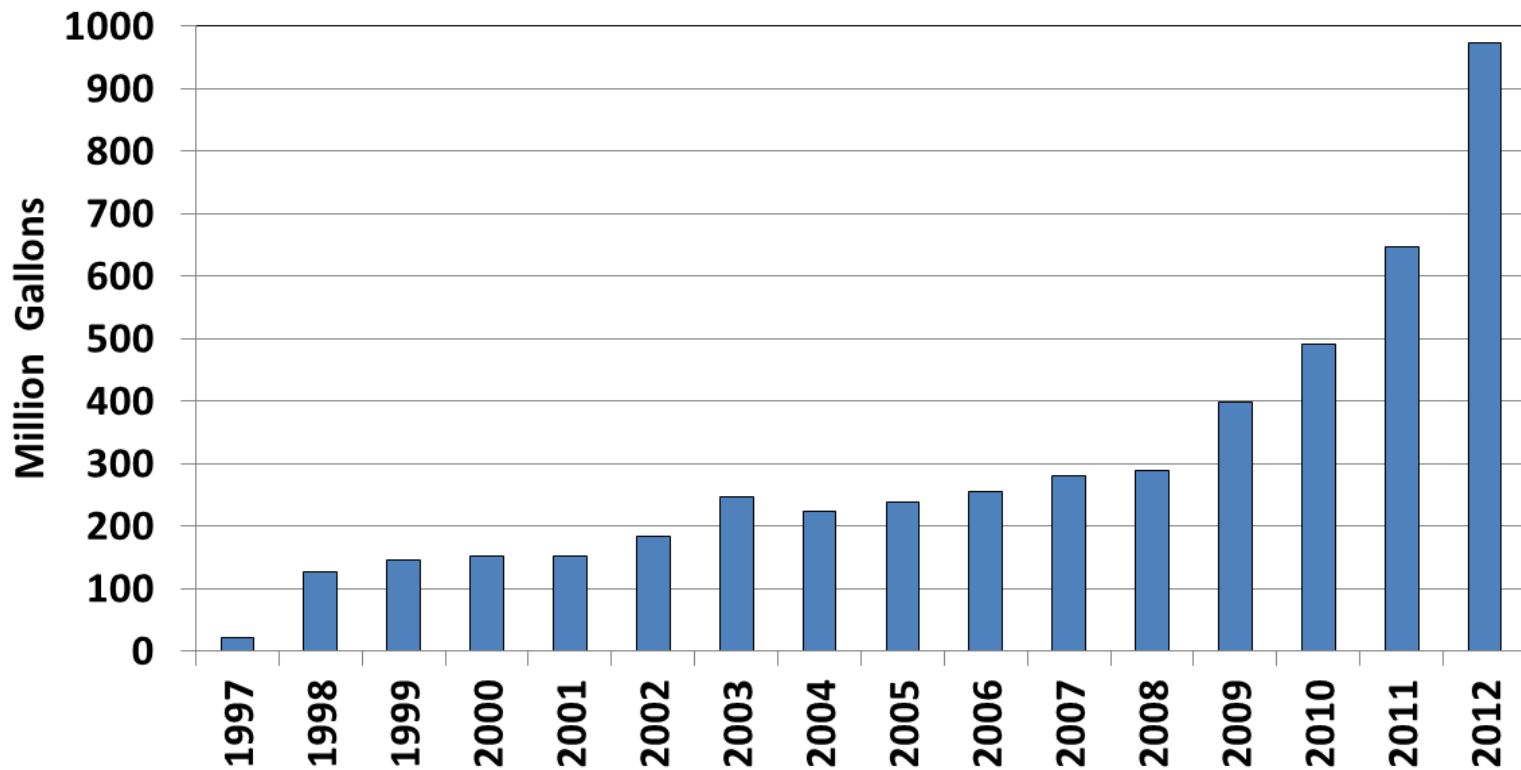


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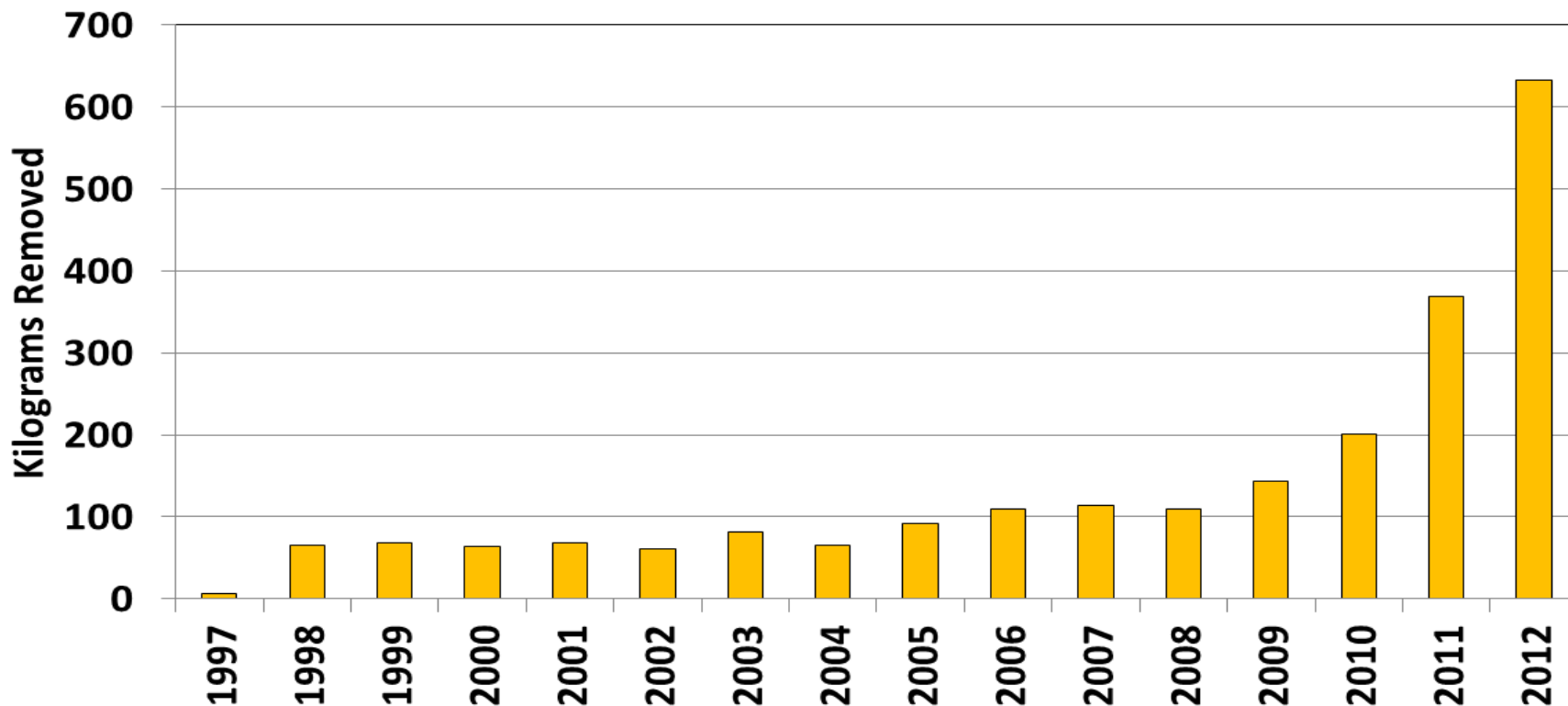
Gallons Treated

River Corridor
Annual Gallons Treated
Data Current to Aug 2012



Chromium Removed

River Corridor
Annual Hexavalent Chromium Removed
Data Current to Aug 2012



Environmental Cleanup

- **5000 gpm capacity - River Corridor, Central Plateau**
- **Preferred remedies in place**
- **Contaminant plume size reduction**
 - **Concentration in wells continues to decrease**
- **Robust well network for Protection of Columbia River**
- **Implementation of new resins**
 - **cost reduction with increased performance**
- **Constant evaluation of data to enhance mass removal**