



Hanford 200 West Pump and Treat 2015 Briefing

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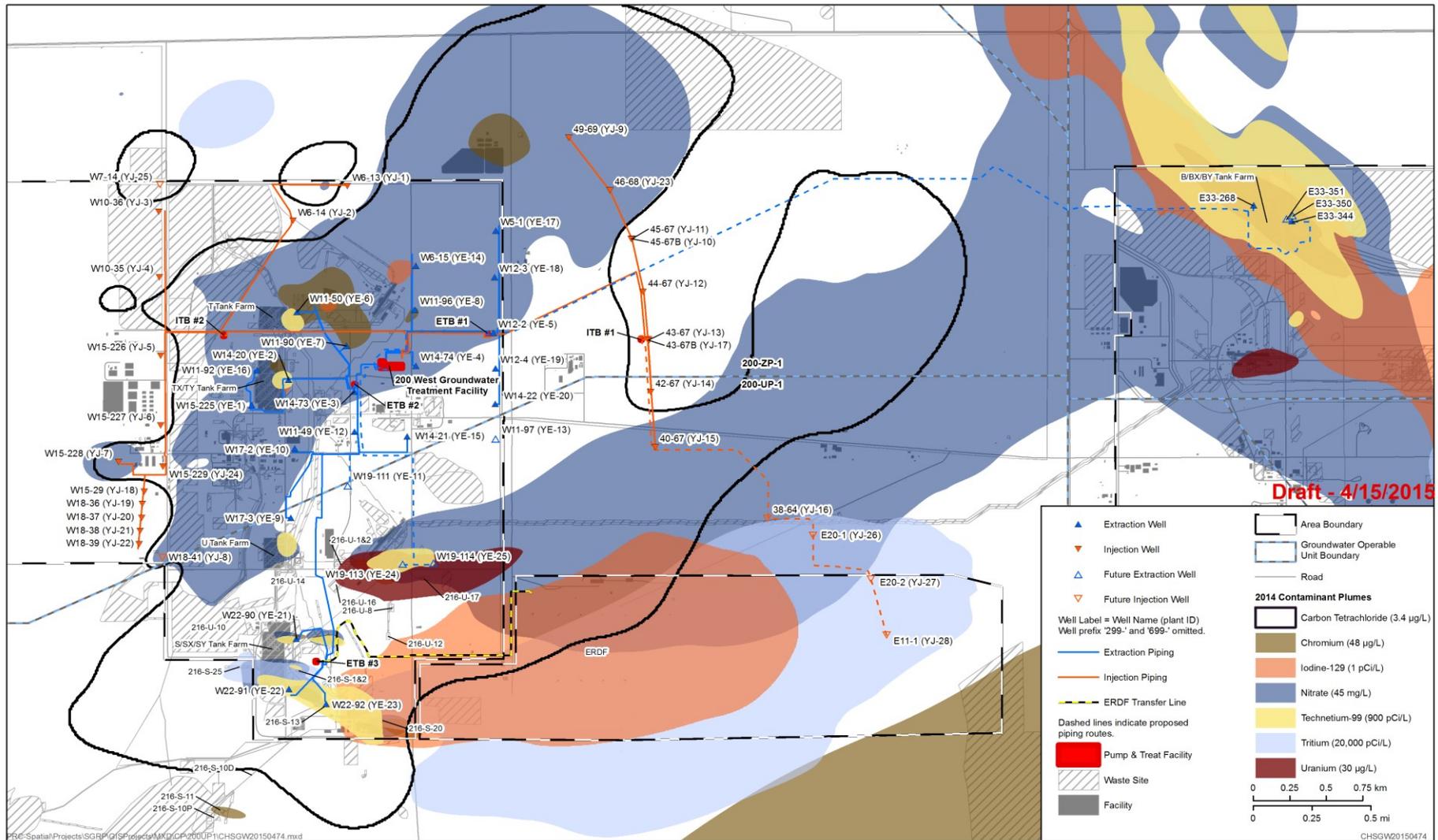
SGW-59098-VA



Contents

- 200 West P&T production - liters/gallons treated
- Contaminants of concern - mass removed
- Issues – past and present
- Successes – past and present

200 West P&T Well Network and 200 West Area



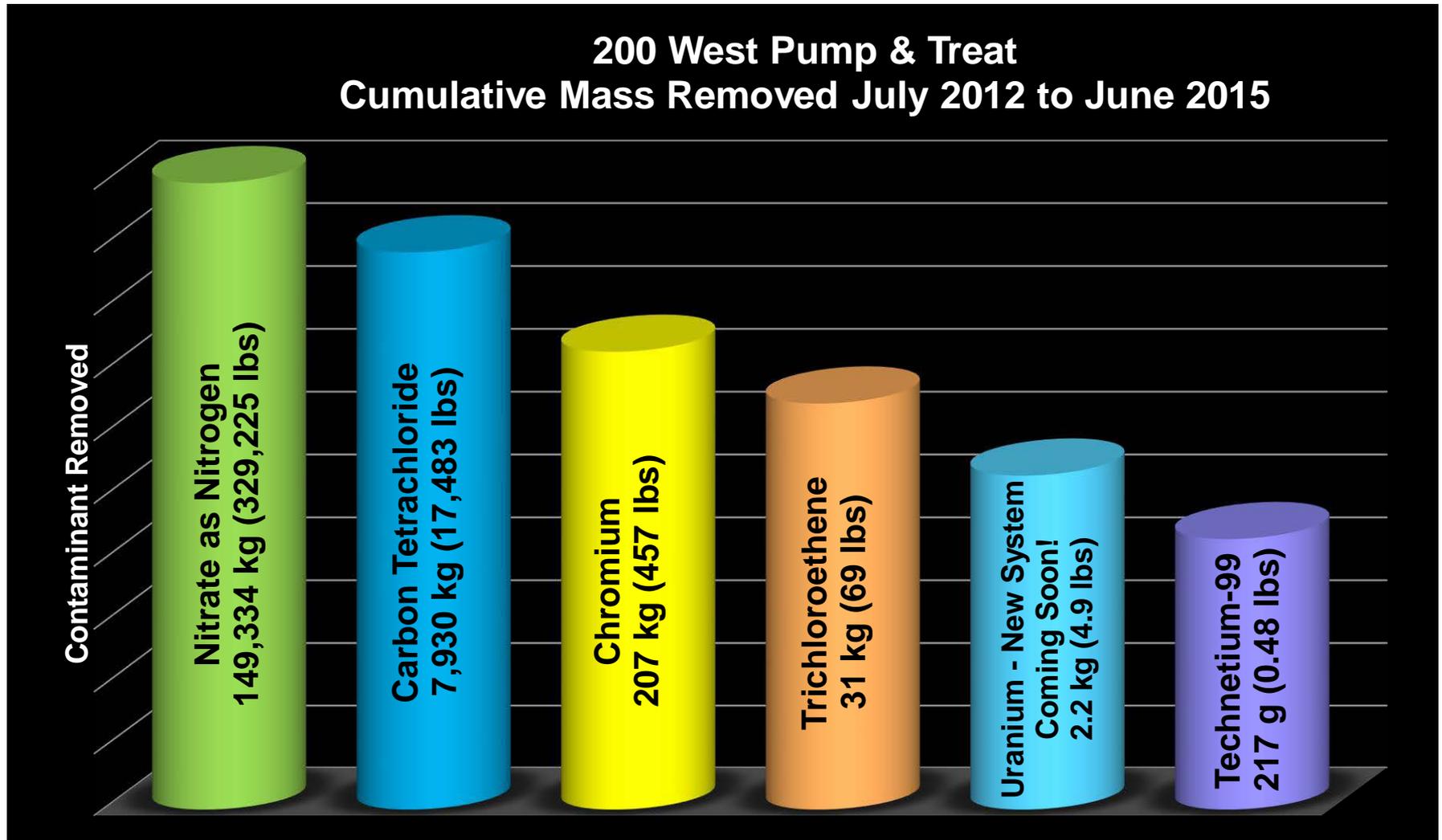




200 West P&T Production

Date	Million Gallons	Million Liters
2012	150.26	568.79
2013	746.55	2825.98
2014	823.80	3118.41
2015 (Through June 30)	496.94	1881.12
1 st Quarter	248.19	939.50
April	81.20	307.38
May	83.73	316.95
June	83.82	317.29
Cumulative to June 30, 2015	2217.55	8394.30

Contaminants of Concern – Mass Removed, continued





Air Monitoring Activities

Air Stack Sampling Summary:

- Treated Off-gas stack was sampled for volatile organic compounds on 01/22/15, 04/21/15, and 07/20/15.
- Results confirm that TOG stack emissions have remained low.
- Carbon tetrachloride reported at 22.1 ppbv, 7.7 ppbv and 35.2 ppbv, respectively.
- Chloroform reported at 0.43 ppbv, 0.21 ppbv and 1.13 ppbv, respectively
- Trichloroethene and vinyl chloride were non-detectable.

Air Monitoring Activities

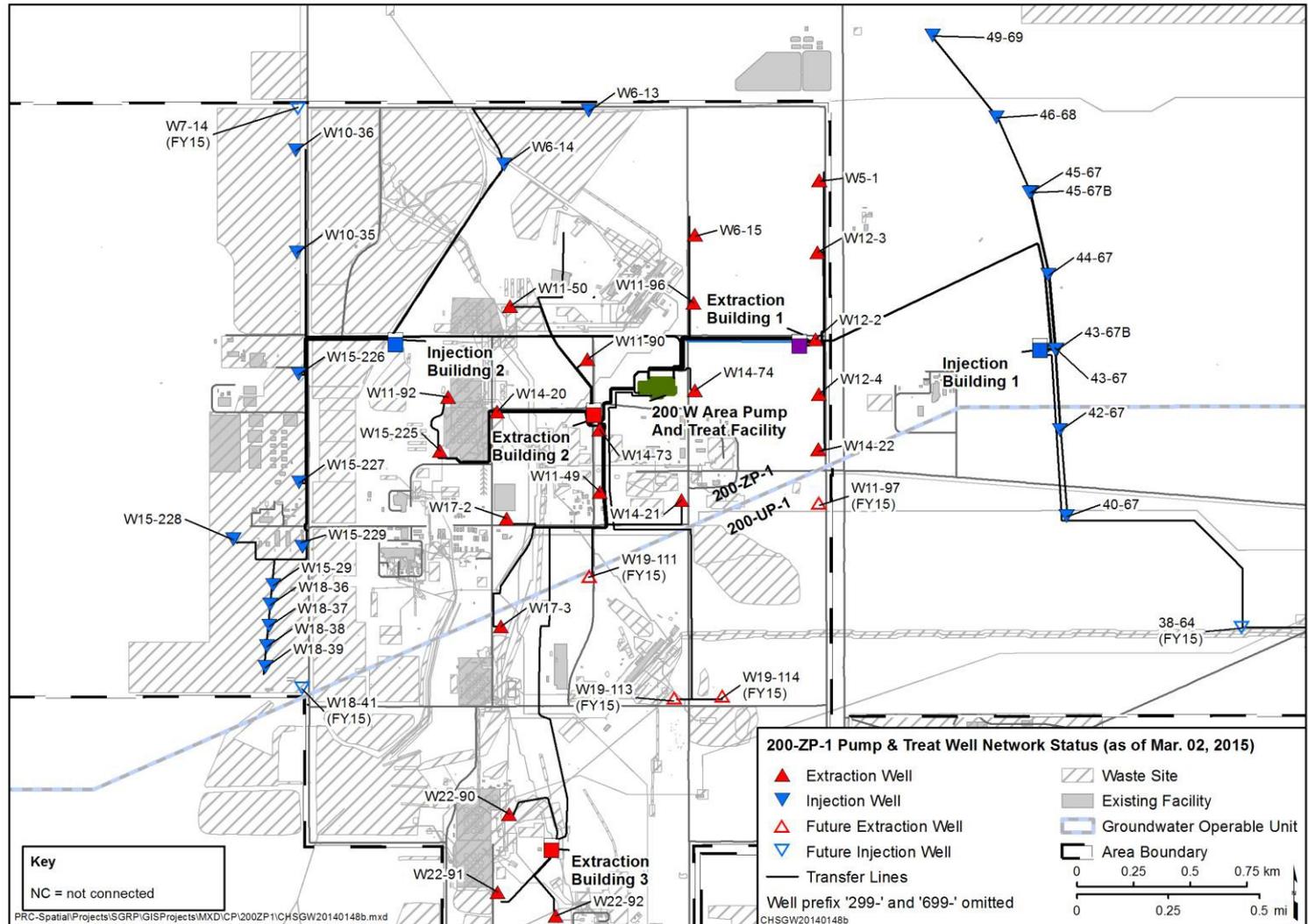
Actions completed to reduce emissions:

- Insulation added to GAC treatment vessels.
- Monthly performance monitoring of individual GAC treatment vessels continued. This consists of sampling influent and effluent streams for each GAC vessel.
- Ductwork heat traced to mitigate freezing in duct drains and build up of condensation on GAC.
- Air stripper and VOG system off gas is temperature controlled.
- Anticipate next GAC change in August – September.

Waste Management Activities

- Biosolids Summary:
 - FY 2012 through March 2015
 - Shipped to Environmental Restoration Disposal Facility
 - 192 Roll-on/roll-off containers (~3 per week in CY 15)
- Granular Activated Carbon (GAC) Summary:
 - FY 2012 through March 2015
 - Changed out 13 GAC containers
 - Shipped 13 GAC containers to Siemens/Evoqua for regeneration

200 West P&T Well Network



200 West P&T Well Network, continued

- 18 extraction wells in 200-ZP-1 operational
- 3 extraction wells at S-SX operational
- 21 injection wells in 200-ZP-1 operational
- 10 wells in FY 2015:
 - YJ-25 (re-drilling on hold)
 - YJ-8 (constructed/connected/operating)
 - YJ-16 (constructed/connected/operating)
 - YE-25 and YE-26 (200-UP-1 uranium wells; drilled and constructed)
 - YE-11, YE-13 (drilling started June 1, 2015)
 - three UP-1 I-129 containment injection wells (drilling started on May 18, 2015)

“Challenges” or “Headwinds”

- Maintenance/recovery cleans of Membrane Bioreactors limits flow through the entire system.
- Injection well rehabilitation efforts restricting flow through the entire system.
- New injection wells are taking some stress off the well field during cleanings, but flow limitations may be encountered as the plant is now operating at 2,000 gpm and higher.

Operations' Successes

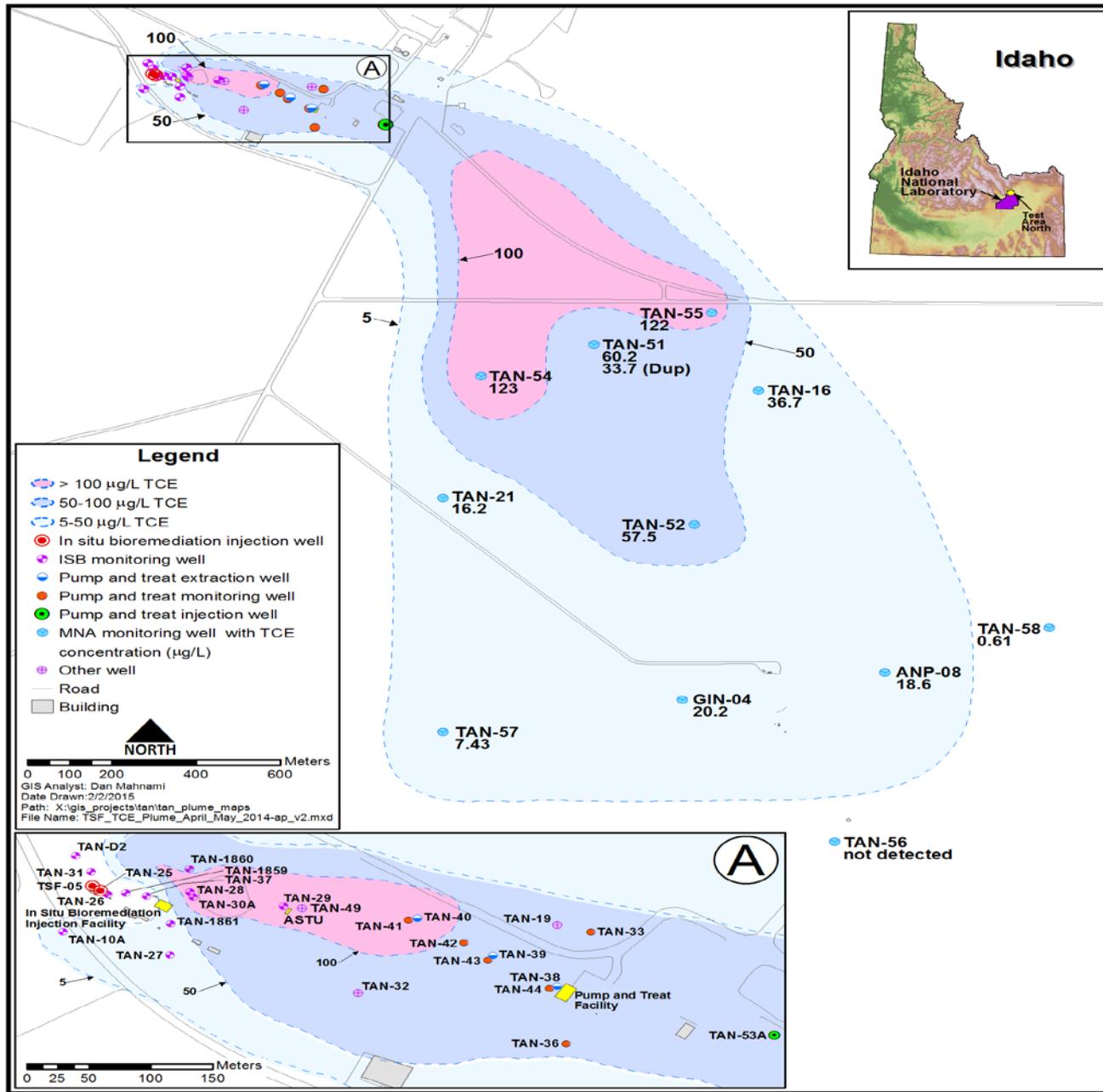
- Continuous operations with greater than 98% uptime
- Throughput averaged 1,887 gpm for 2nd quarter 2015
- Throughput ranged between 970 gpm to 2,176 gpm
- 200 West P&T effluent consistently at or below cleanup levels since startup July 2012
- Groundwater contaminant concentrations declining
- Decreased potential for well fouling by decreasing Chemical Oxygen Demand by over 70 percent, decreasing mineral scaling, and decreasing manganese in effluent

Well Maintenance Successes

- Scrub and surge well first
- Combination of chemicals and methods successfully dissolving metal oxides and killing bacteria that are clogging wells
- Intense surging performed to move chemicals into filter pack and nearby formation
- Intense development to pull dissolved metal oxides out of nearby formation
- Recent well rehabilitations encountered less metal oxides (less of the black viscous material)



INL Test Area North Pump and Treat System



OU 1-07B Record of Decision

The 1995 ROD defined Remedial Action Objectives for OU 1-07B:

1. Reduce the contamination in the groundwater at TAN to ensure offsite population not at risk and ensure future residents would not be at risk from use of TAN groundwater if TAN were converted to public domain.
2. TCE was chosen to define the contaminant plume
3. Pump-and-treat was chosen as the technology to restore the entire plume.
4. Treatability studies were to be conducted concurrently with pump and treat to find a more cost effective, faster way to clean up the Hot Spot.
5. Drinking water standards were to be met throughout the plume by 2095.

Record of Decision Amendment

In September of 2001, a ROD Amendment was written and defined three remedy components for the three zones:

- ISB for hot spot - inject food source (whey/lactate) into hot spot to feed microbes that degrade VOCs in aquifer
- Pump and Treat for medial zone – treats VOC concentrations in medial zone using NPTF
- Monitored Natural Attenuation for distal zone – monitors distal zone TCE concentrations while they decline to meet MCL's by 2005

DOE/ID-10139 AMENDMENT

Revision 0

September 2001



IDAHO DEPARTMENT
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QUALITY

Record of Decision Amendment



Technical Support Facility Injection Well (TSF-05)
and Surrounding Groundwater Contamination
(TSF-23) and Miscellaneous No Action Sites,
Final Remedial Action
Idaho National Engineering and Environmental Laboratory
Idaho Falls, Idaho

New Pump and Treat Facility

- The NPTF was built in 2001 to strip VOCs from the water in the medial zone.
- Water is extracted from any of three wells (TAN 38, 39, 40) at 200 gpm, treated and injected into well TAN-53A
- NPTF Rebound test 2005 – 2007 - TCE concentrations started to increase
- Currently Operating 4 days per week
- TCE influent concentrations @ 100ug/L TCE (down from 680 ug/L)
- Over 600 million gallons treated to date

