



# Permeable Treatment Wall Status Update



Presented to: Citizen Task Force

Charles Biedermann  
CH2M HILL B&W West Valley, LLC.

June 26, 2012

[www.em.doe.gov](http://www.em.doe.gov)



**EM** Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

# PTW System Functional/Design Requirements Summary (Established August 2009)

- Limit expansion of Sr-90 contaminated groundwater
- Demonstrate overall stable or downward trend in the Sr-90 in groundwater passing through the PTW
- Prevent redirection of Sr-90 contamination to less contaminated areas
- Preclude substantial changes in groundwater flow
- Maintain passive mitigation system with minimum maintenance and waste generation
- Maintain PTW groundwater monitoring
- Preclude any limitation on strategies for addressing the plume during site decommissioning
- Expended PTW media (e.g., zeolite) is removable



**EM** *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# PTW Background

- PTW is expected to limit further migration of contaminants outside the boundary
- PTW Installation - Completed November 2010
- Monitoring System includes 66 wells, and 22 existing wells
- Monitoring Activities:
  - Baseline sampling & monitoring – January 2011
  - Monthly visual inspections (erosion, standing water, rutting, excessive vegetation growth)
  - Monthly hydraulic monitoring
  - Quarterly sampling and monitoring – April 2011, July 2011, October 2011 & April 2012
  - Annual sampling and monitoring – January 2012

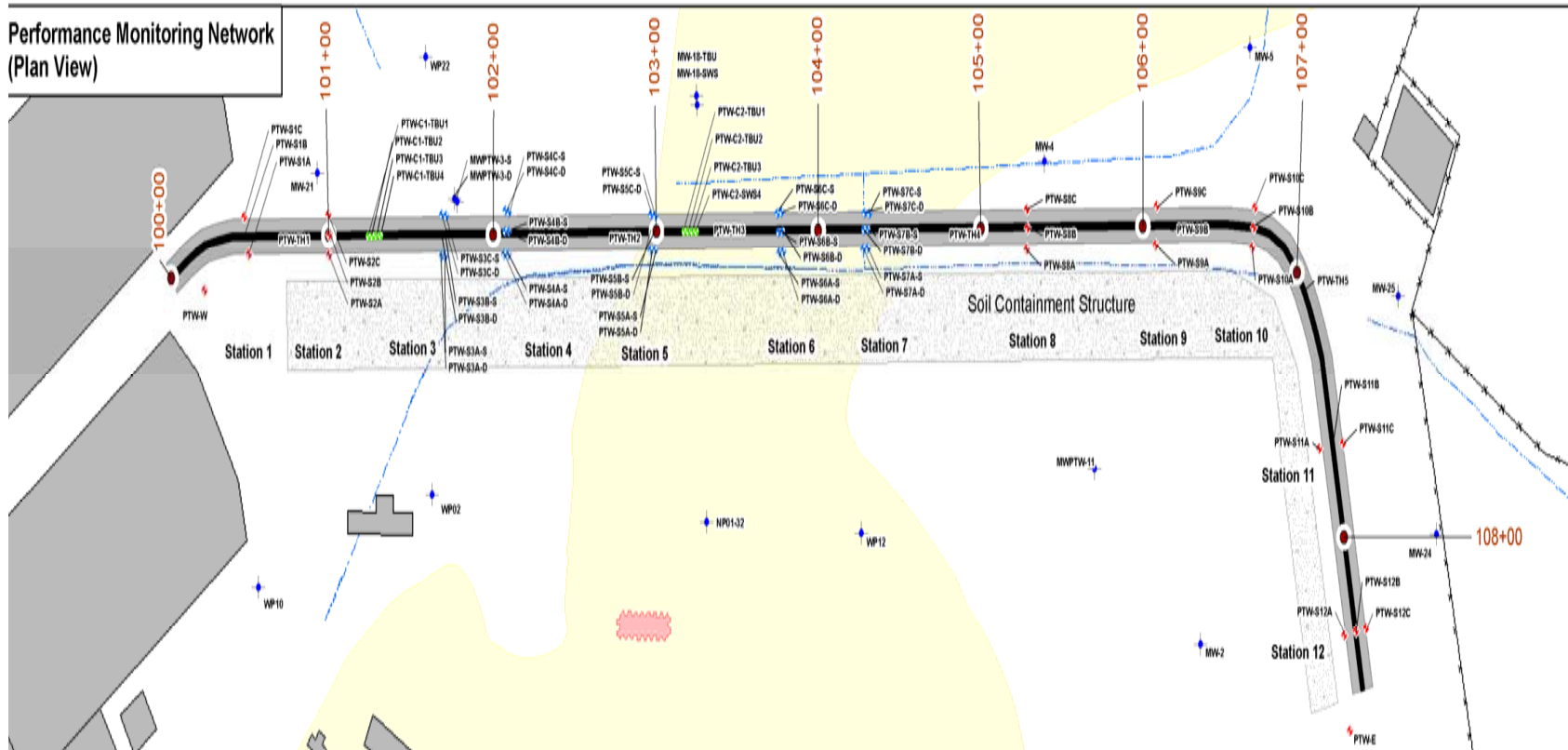


**EM** *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# PTW Performance Monitoring



**EM** Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# Sampling and Monitoring Conclusions

- The PTW is working
- PTW does not substantially alter groundwater flow conditions on the North Plateau
- Sampling continues to indicate removal Sr-90 from groundwater
- Functional Design Requirements continue to be met
- On- and off-site surface water monitoring continues
- Sr-90 at Cattaraugus Creek remains near background levels



*EM Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# PTW Performance Monitoring

Location	Baseline (pCi/L Sr-90)	1st Year Performance
West Lobe		
Up-Gradient	46,070	34,400
Down- Gradient	34,910	12,300
Central Lobe		
TBU - Up-Gradient	15,950	26,200
TBU - Down-Gradient	21,340	6,850
SWS – Up-Gradient	12,645	5,530
SWS – Down-Gradient	2,253	653
East Lobe		
Up-Gradient	2,910	2,470
Down-Gradient	1,087	252



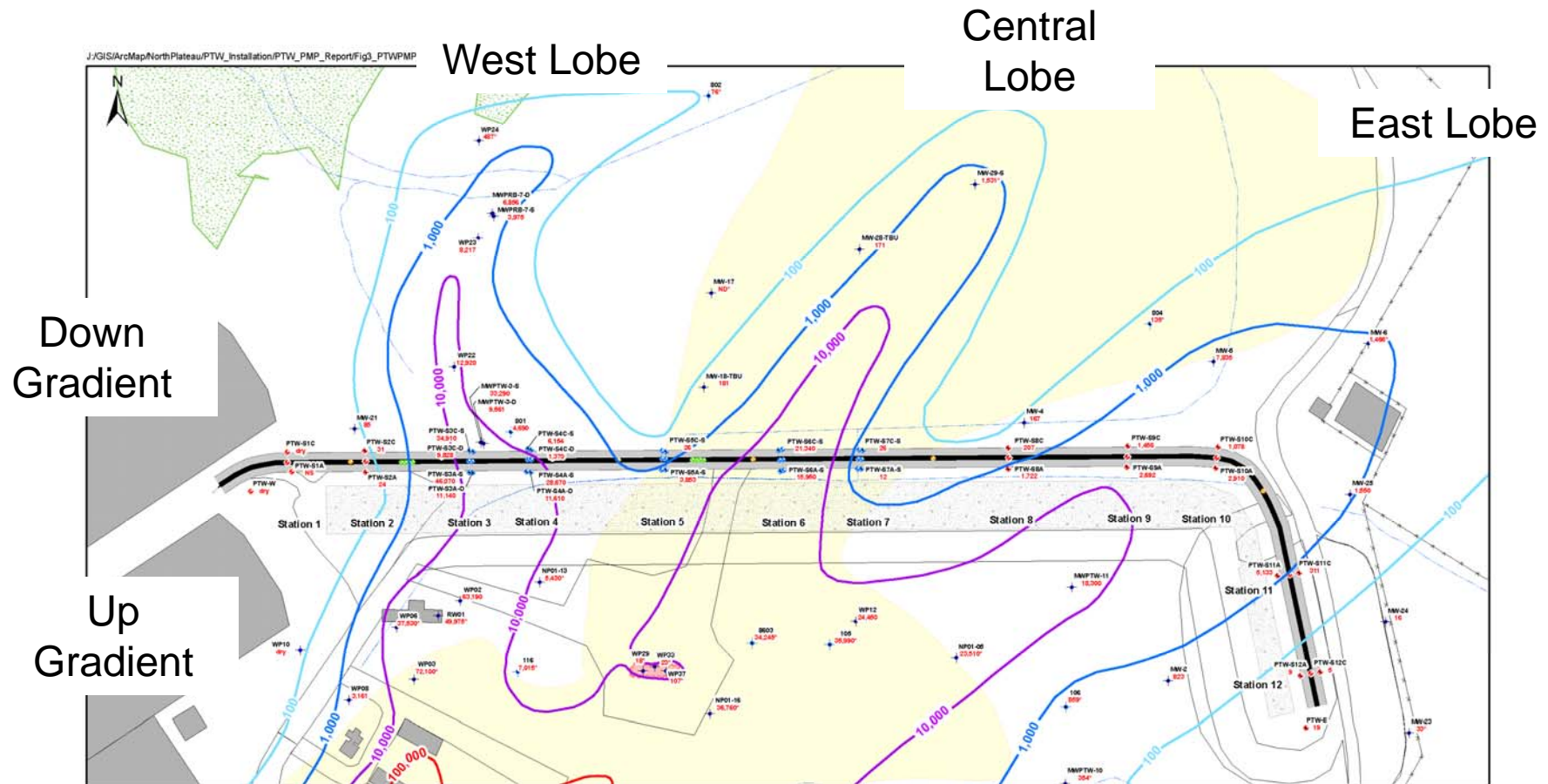
**EM Environmental Management**

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)



# Baseline Sr-90 Plume Delineation Thick Bedded Unit

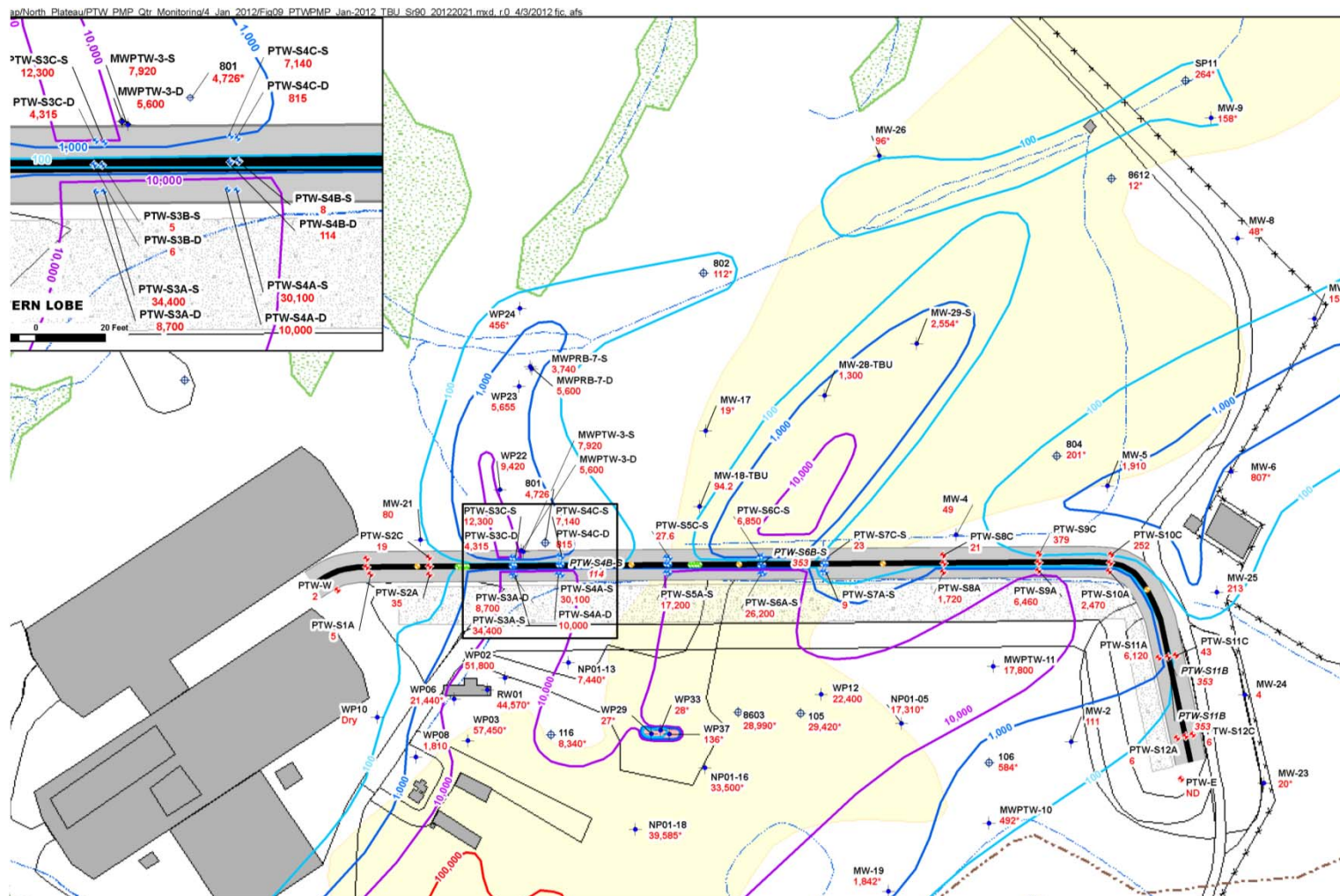


**EM Environmental Management**

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# First Annual Sr-90 Plume Delineation Thick Bedded Unit (DRAFT Data)



**EM Environmental Management**

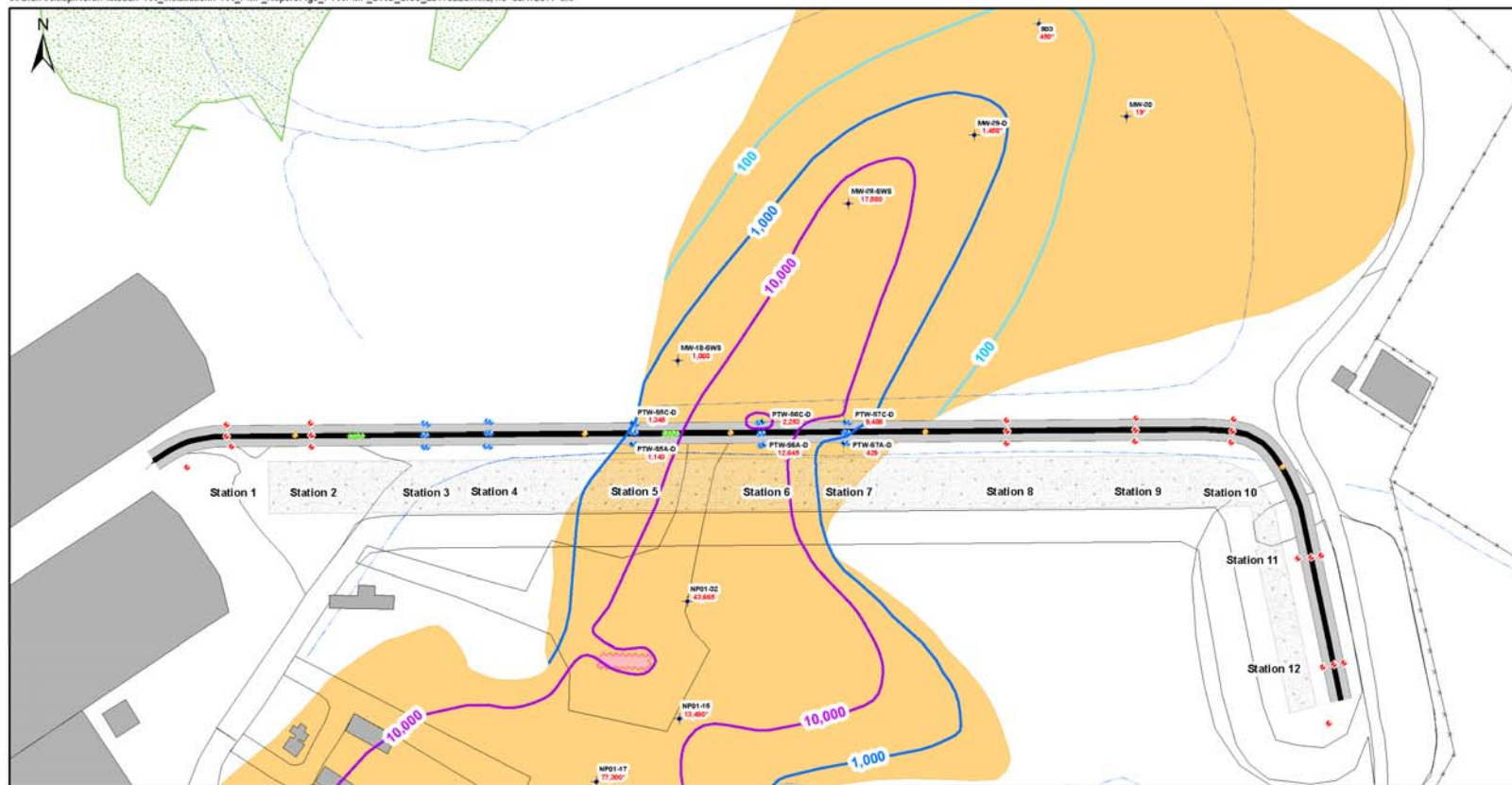
safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)



# Baseline Sr-90 Plume Delineation Slack Water Sequence

J:\GIS\ArcMap\NorthPlateau\PTW\_Installation\PTW\_PMP\_Report\Fig6\_PTWMP\_SWS\_Sr90\_20110228.mxd, r.0 03/7/2011 afs

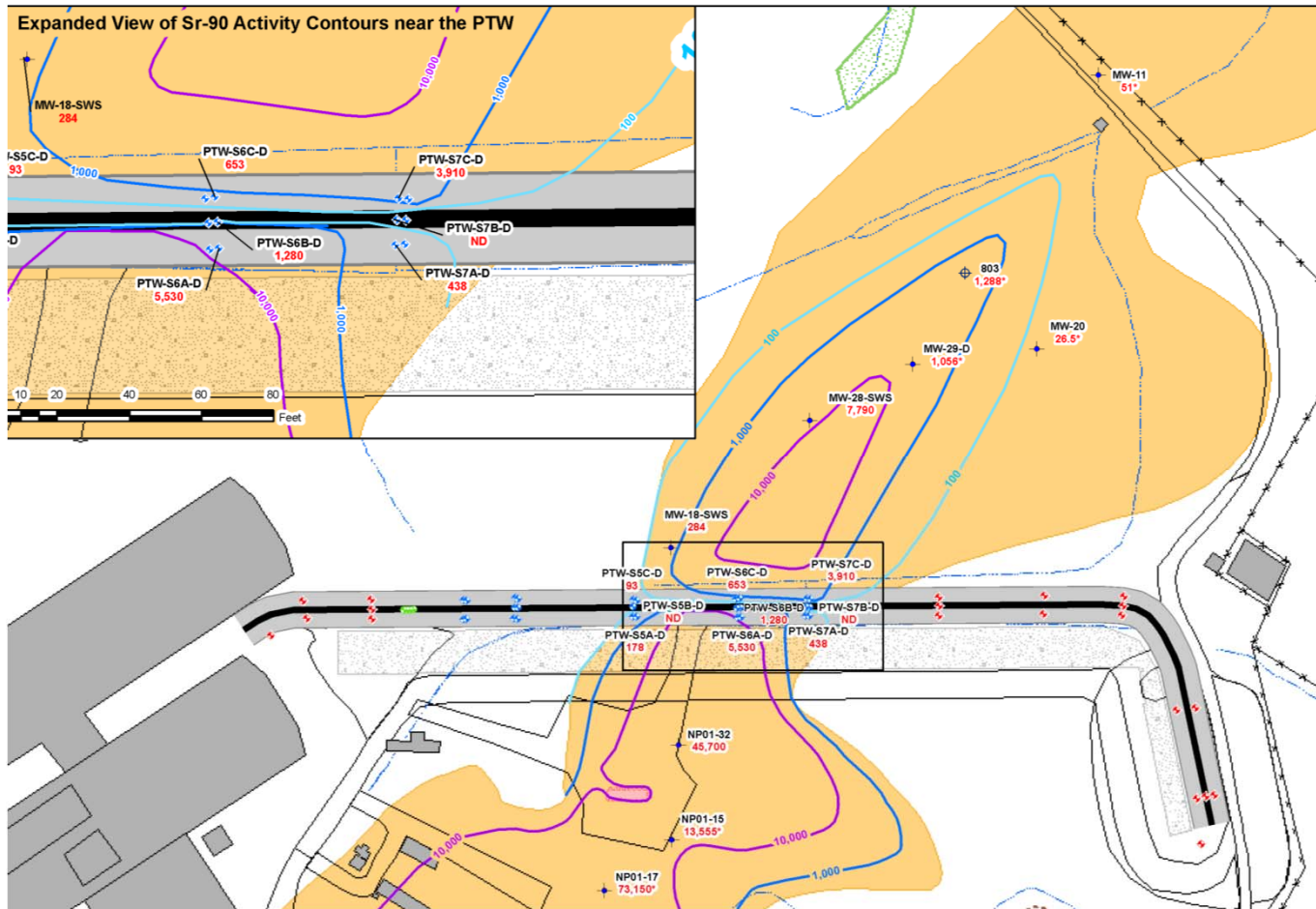


**EM Environmental Management**

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# First Annual Sr-90 Plume Delineation Slack Water Sequence (DRAFT Data)



**EM Environmental Management**

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# Leading Performance Indications

- Near-term monitoring suggests decreasing Sr-90 levels in Swamp Ditch
- Long-term monitoring indicates low Sr-90 level occurred in the past (May 2003)
- PTW successful if levels continue to decline



*EM Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)

# Future Planned Action

## North Plateau Groundwater Recovery System

- Pump and Treat System still operating
  - 3.5 million gallons during 2011
- WVDP investigating options for permanent shutdown of the North Plateau Groundwater Recovery System
- SPDES closure plan for the isolation and removal of the system prepared
  - Potential shutdown and system SPDES closure - Fall 2012



**EM** *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

[www.em.doe.gov](http://www.em.doe.gov)