

# 2009 Containment Evaluation

**Brad Brink – US Army Corps of Engineers**

**Janet Mathews-Flynn – Burns & McDonnell**

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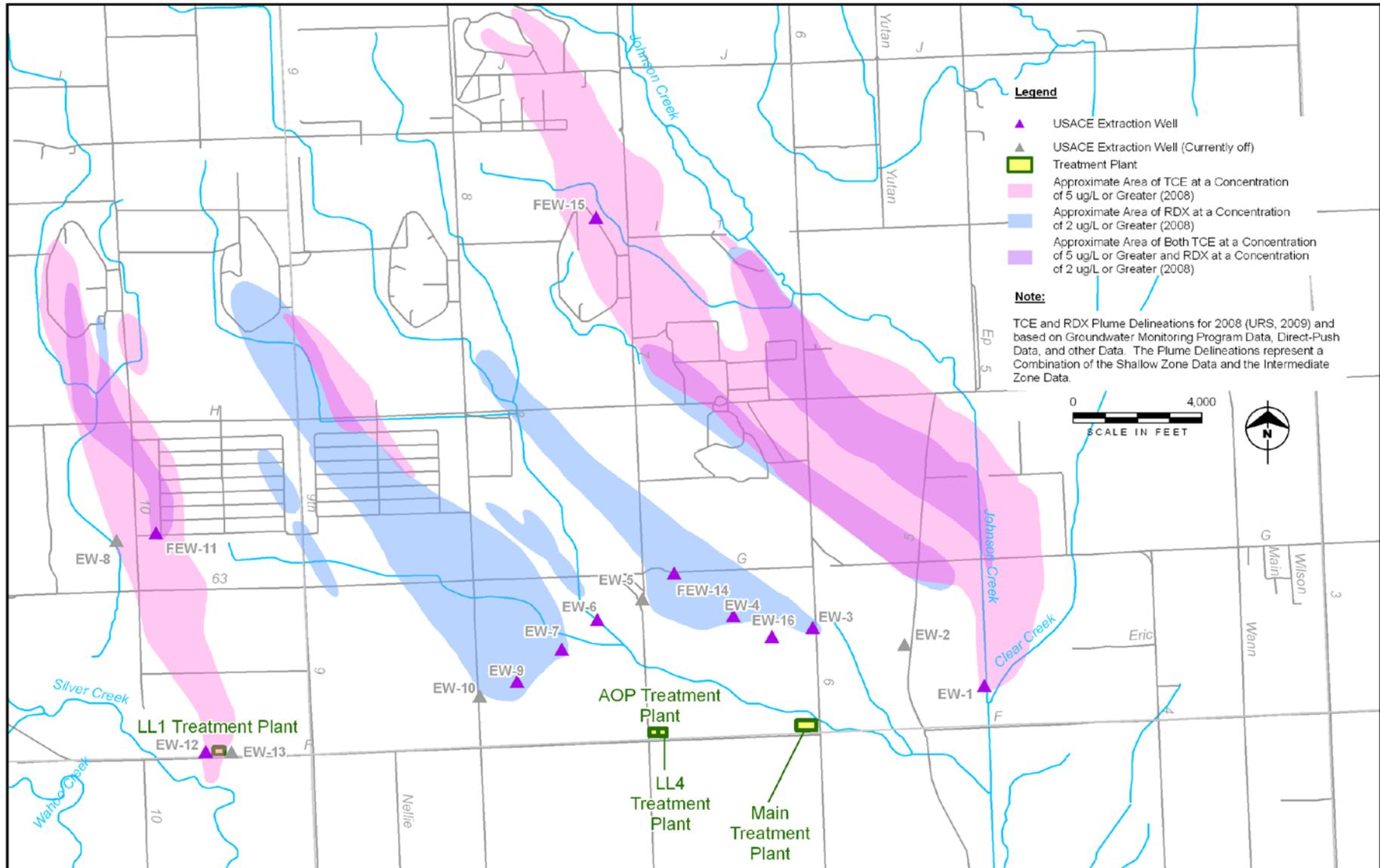


# The Containment Evaluation

- US Army Corps of Engineers evaluates containment annually at the former Nebraska Ordnance Plant site.
- Determines if the hydraulic containment wells are capturing the Operable Unit 2 Record of Decision contaminants of concern in groundwater that are above the clean-up goals.



# Extraction Wells



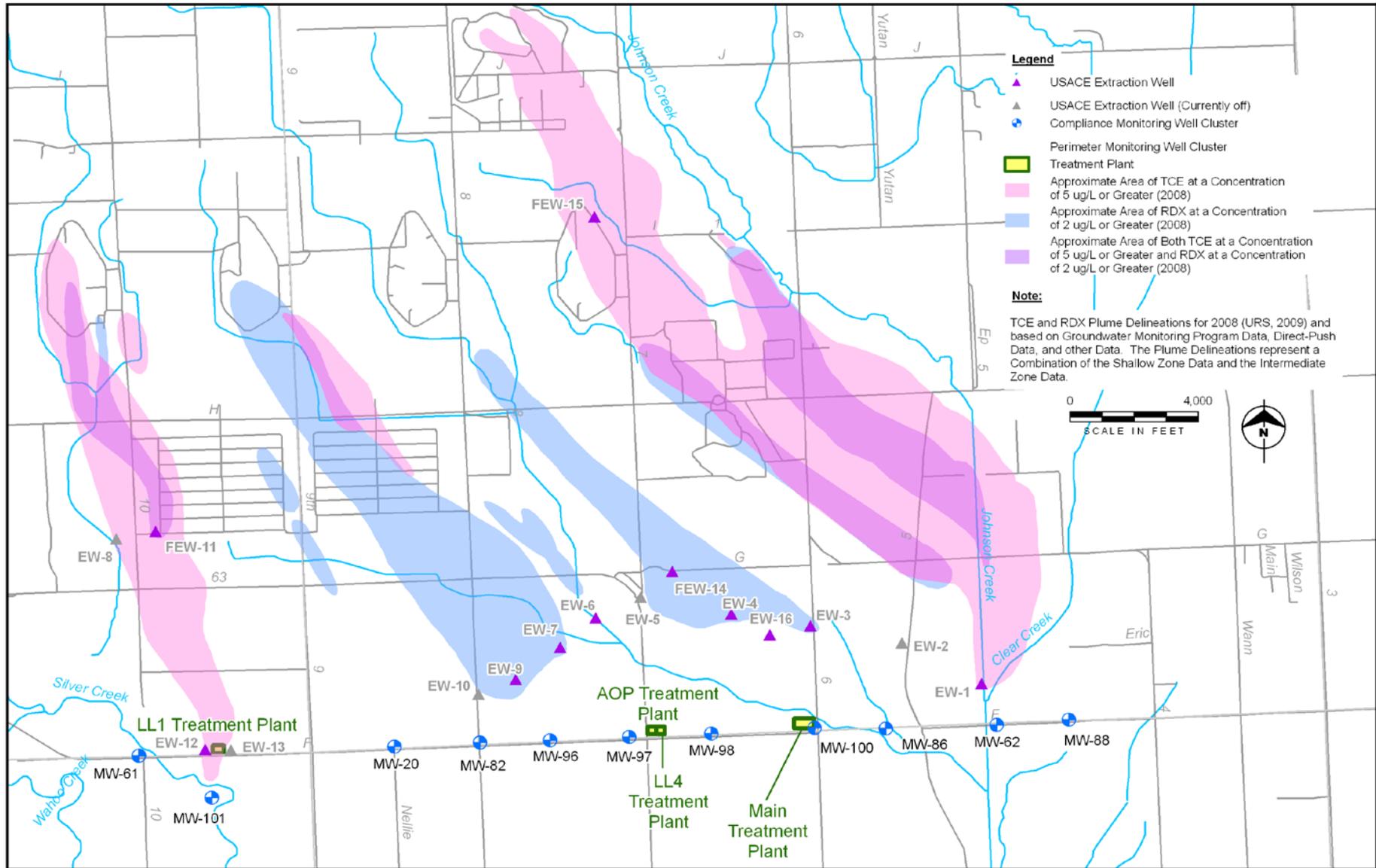
# Evaluating Containment

## Primary

- Containment is determined based on **chemical data** from downgradient compliance monitoring wells.
- If no contaminants of concern are **detected above the clean up goals** in compliance wells, containment is met.



# Compliance Wells

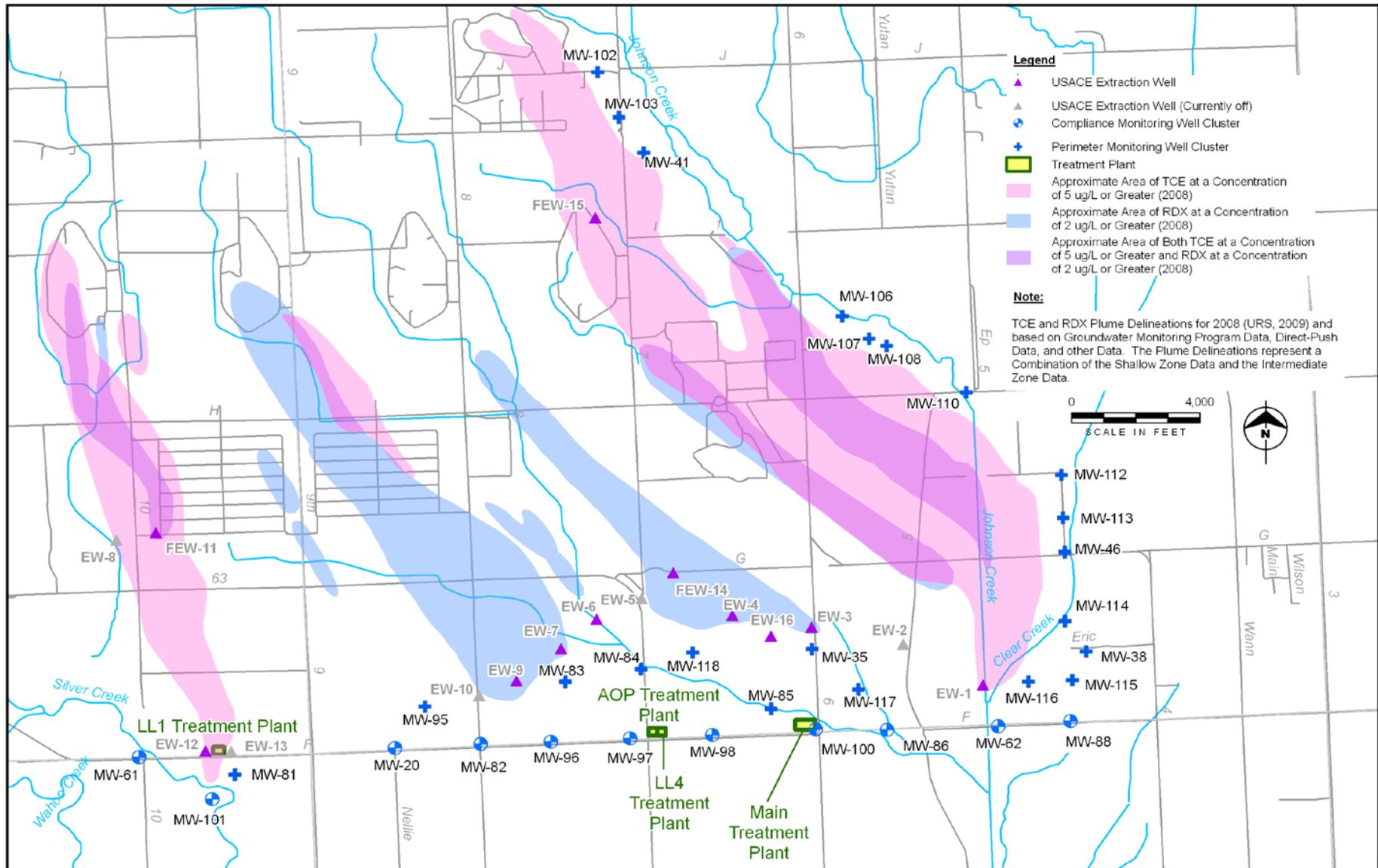


# Evaluating Containment Secondary

- **Perimeter wells** are monitored at the perimeter of the plume semi-annually
- **Groundwater transport modeling** is performed to evaluate general performance or effectiveness of the hydraulic containment system



# Perimeter Wells

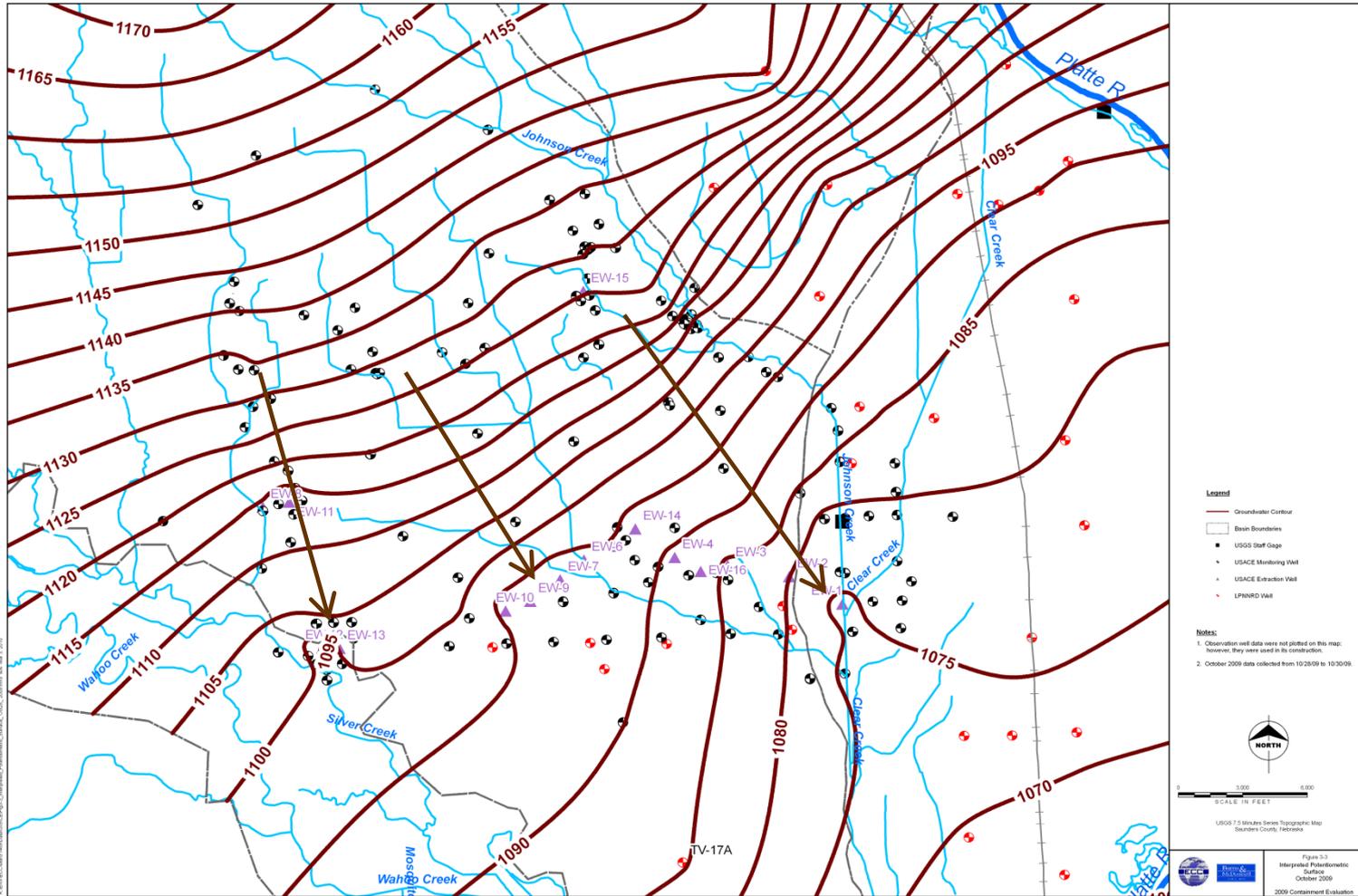


# Evaluating 2009 Containment

- Information collected and evaluated in 2009:
  - ▶ **Water levels** – Approximately 500 wells three times a year
  - ▶ **Groundwater samples** - 192 from Compliance and Perimeter Wells
  - ▶ **Groundwater samples** - 77 from Water Supply wells
  - ▶ **Pumping rates** - Metropolitan Utilities District, Lincoln Water System, the village of Mead and the city of Ashland.



# Groundwater Flow



↓  
Flow  
Direction



# 2009 Containment System Modifications

- EW-2 was deactivated in February 2009
  - ▶ To mitigate the southwesterly shift of the Atlas Missile Area TCE plume
- EW-5 was deactivated in February 2009 and the pumping rate at EW-6 was reduced
  - ▶ To mitigate the southwesterly shift of the Load Line 3 RDX plume
- FEW-14 and EW-16 began operating in June 2009 at the Load Line 3 contaminant plume
  - ▶ Better capture of the Load Line 3 plume and remove contaminated groundwater for treatment



# Annual Monitoring

- Groundwater data will continue to be collected during the annual Groundwater Monitoring Program
  - ▶ Water supply wells
  - ▶ Select monitoring wells
  - ▶ Compliance wells
  - ▶ Perimeter wells





# 2009 Containment Evaluation Conclusion

- Containment has been achieved for 2009
  - ▶ No contaminants of concern were detected in any of the compliance wells above the clean-up goals from the data collected in 2009



# What's Next for 2010?

- **EW-10 turned off in February 2010**
  - ▶ Based on additional characterization data and model simulations
- **Additional Aquifer Characterization performed in 2010**
  - ▶ New Monitoring wells installed in 2010
- **Groundwater model will be updated in 2011**
- **Annual Monitoring**



# Questions

**WE THE PEOPLE**  
insure domestic Tranquillity, provide for the common  
and our Posterity, do ordain  
these

