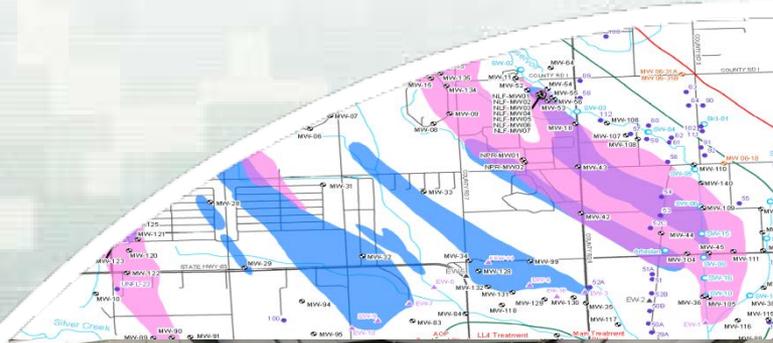


# 2011 Containment Evaluation



October 17, 2012



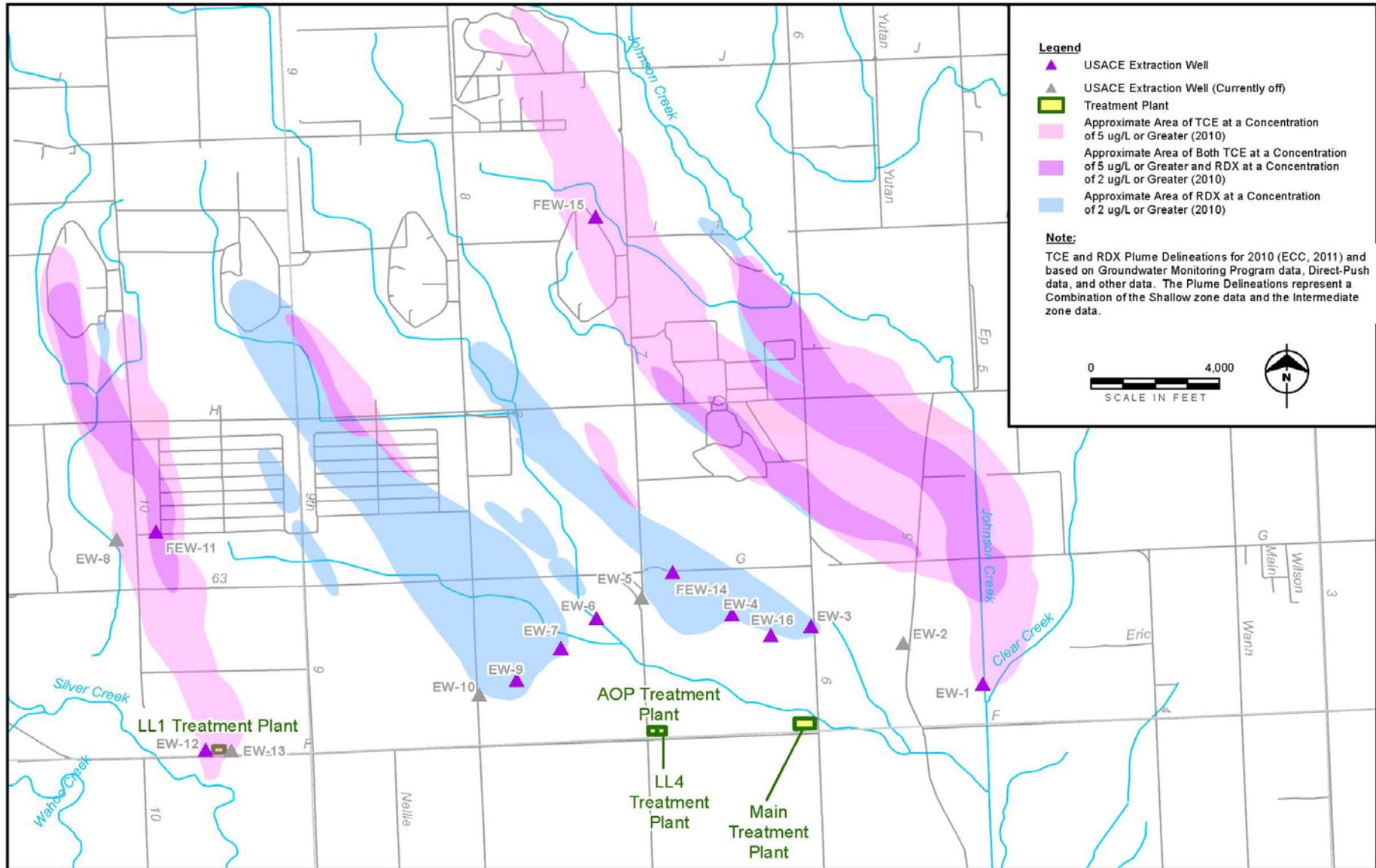
®

# The Containment Evaluation

- U.S. 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 Final Target Groundwater Cleanup Goals.



# Containment System



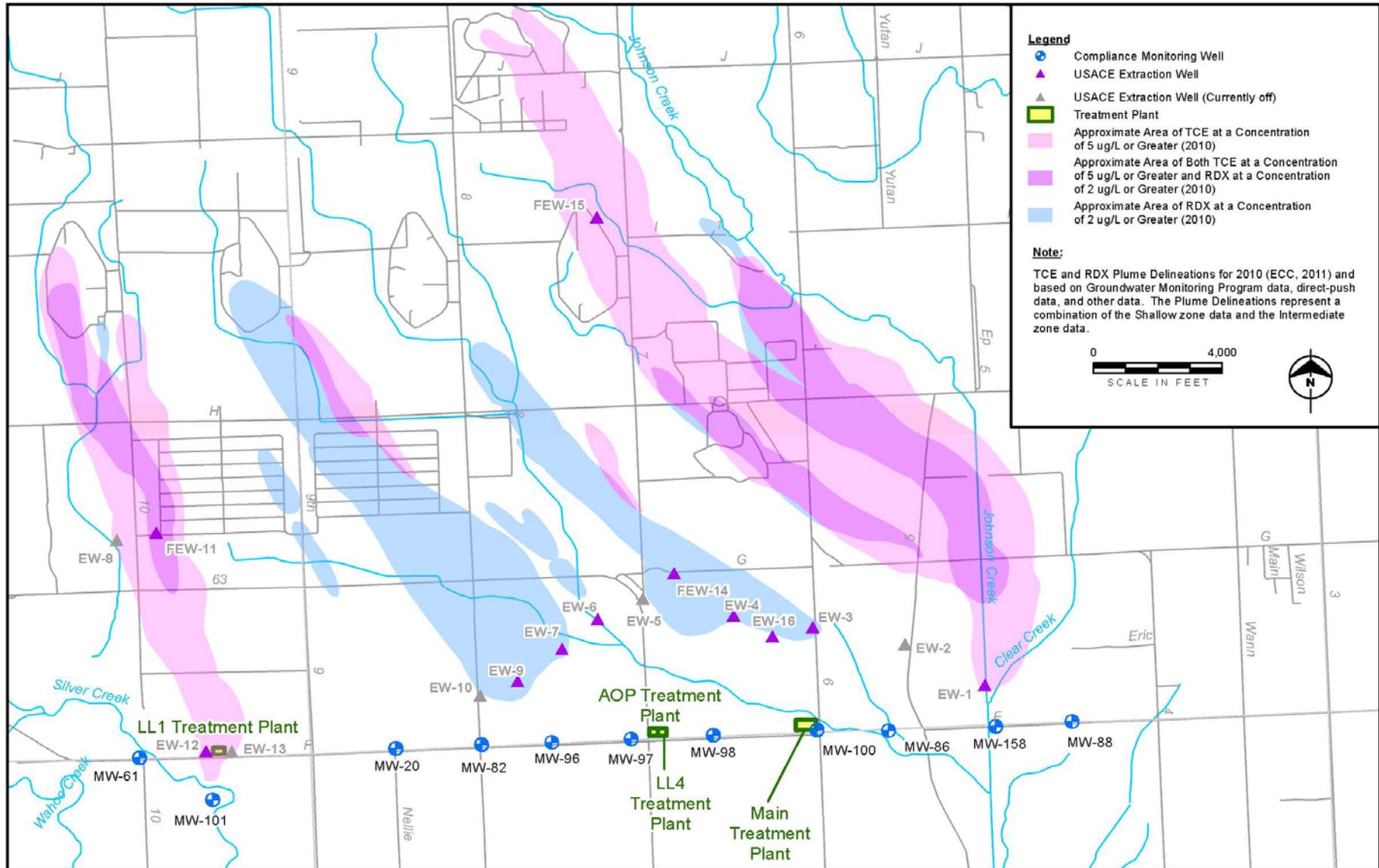
# Evaluating Containment

## Primary

- Containment is determined based on **chemical data** from downgradient compliance monitoring wells.
- If no contaminants of concern are **detected above the Final Target Groundwater Cleanup Goals** in compliance wells, containment is met.



# Compliance Wells



# Evaluating Containment Secondary

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



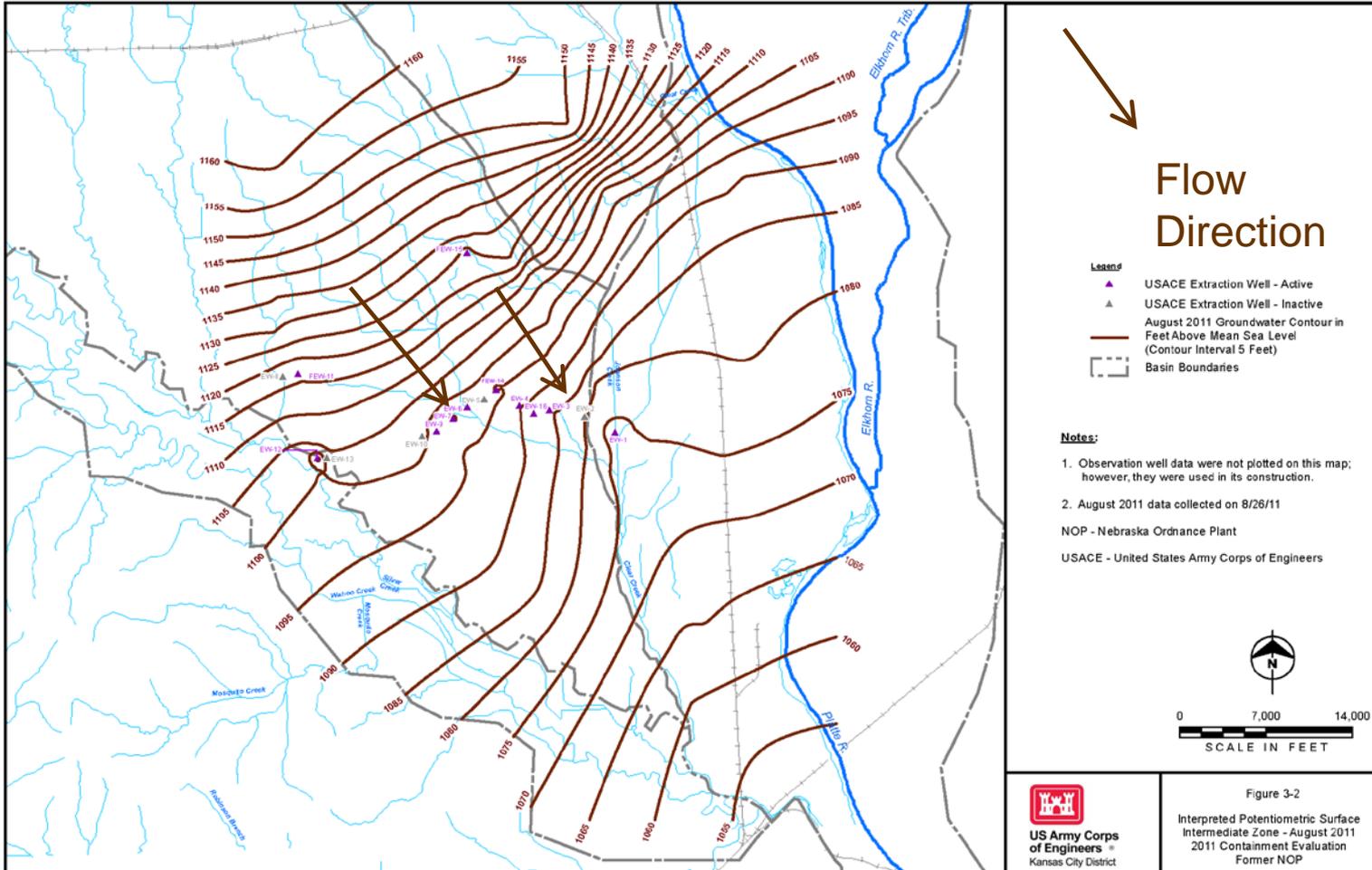


# Evaluating 2011 Containment

- Information collected and evaluated:
  - ▶ **Water levels** –308 wells two times a year
  - ▶ **Groundwater samples** - from 33 Compliance and 68 Perimeter Wells
  - ▶ **Drinking Water samples** - from 75 Water Supply wells
  - ▶ **Pumping rates** - Extraction Wells, Metropolitan Utilities District, Lincoln Water System, the village of Mead and the city of Ashland.



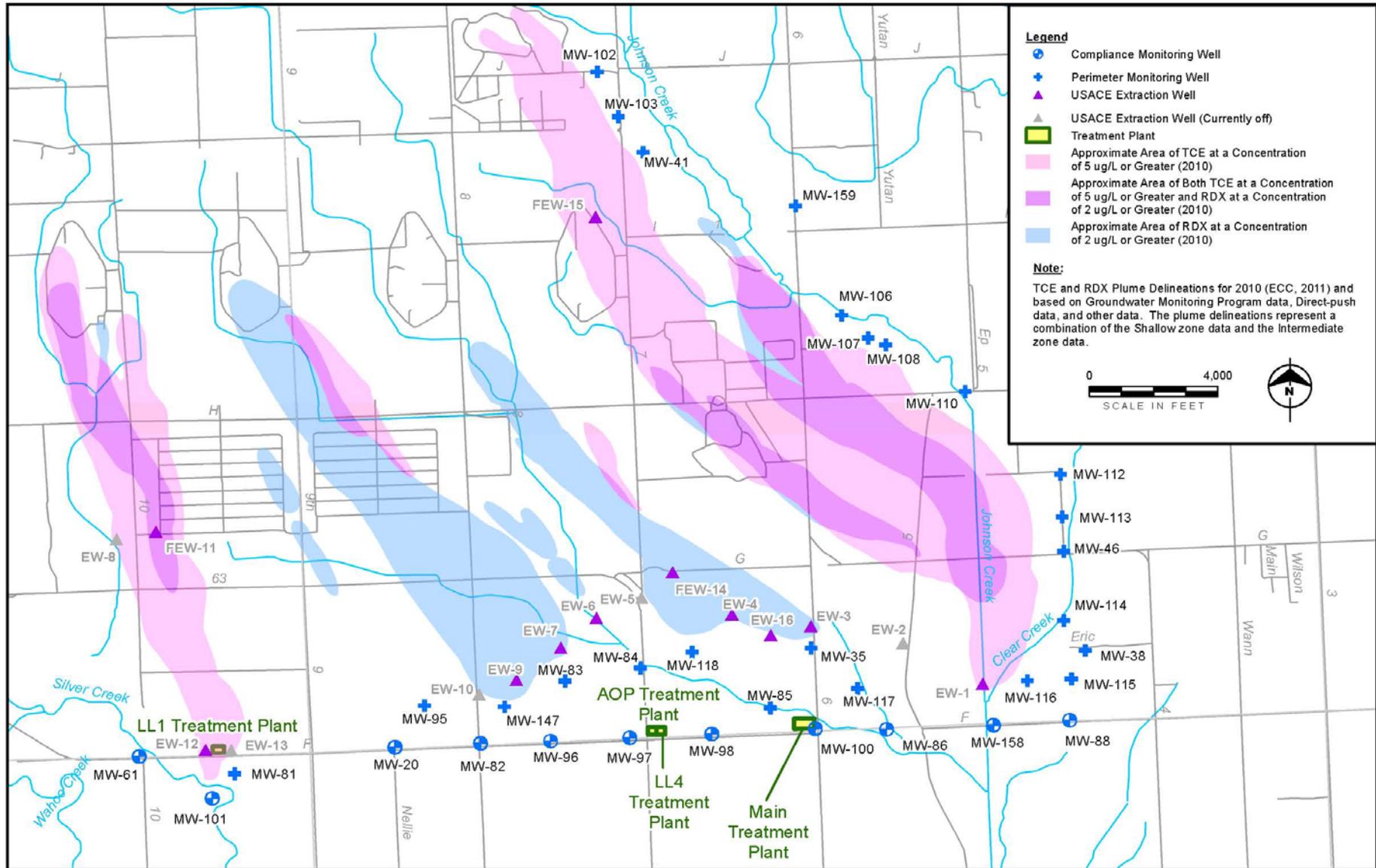
# 2011 Groundwater Flow



K:\NVA\EC\state514\BData\BCE 2011\DC\OperHouse\_Fig3-2\_Interpreted\_Potentiometric\_Surface\_Aug20\_2011.mxd sos jmf July 10, 2012



# Perimeter Well – MW-116



# Perimeter Well TCE Detection

- TCE was detected above Final Target Groundwater Cleanup Goals for three of the four sampling events in MW-116
- Conducted assessment of extraction well EW-1 capture zone
- Groundwater simulations determined EW-1 was in capture zone
- Increased EW-1 to maximum pumping rate
- Take continuous water level measurements in the vicinity of EW-1 and MW-116A
- Groundwater pumping test at EW-1 confirmed capture zone extent
- Continued collection of groundwater samples for laboratory analysis

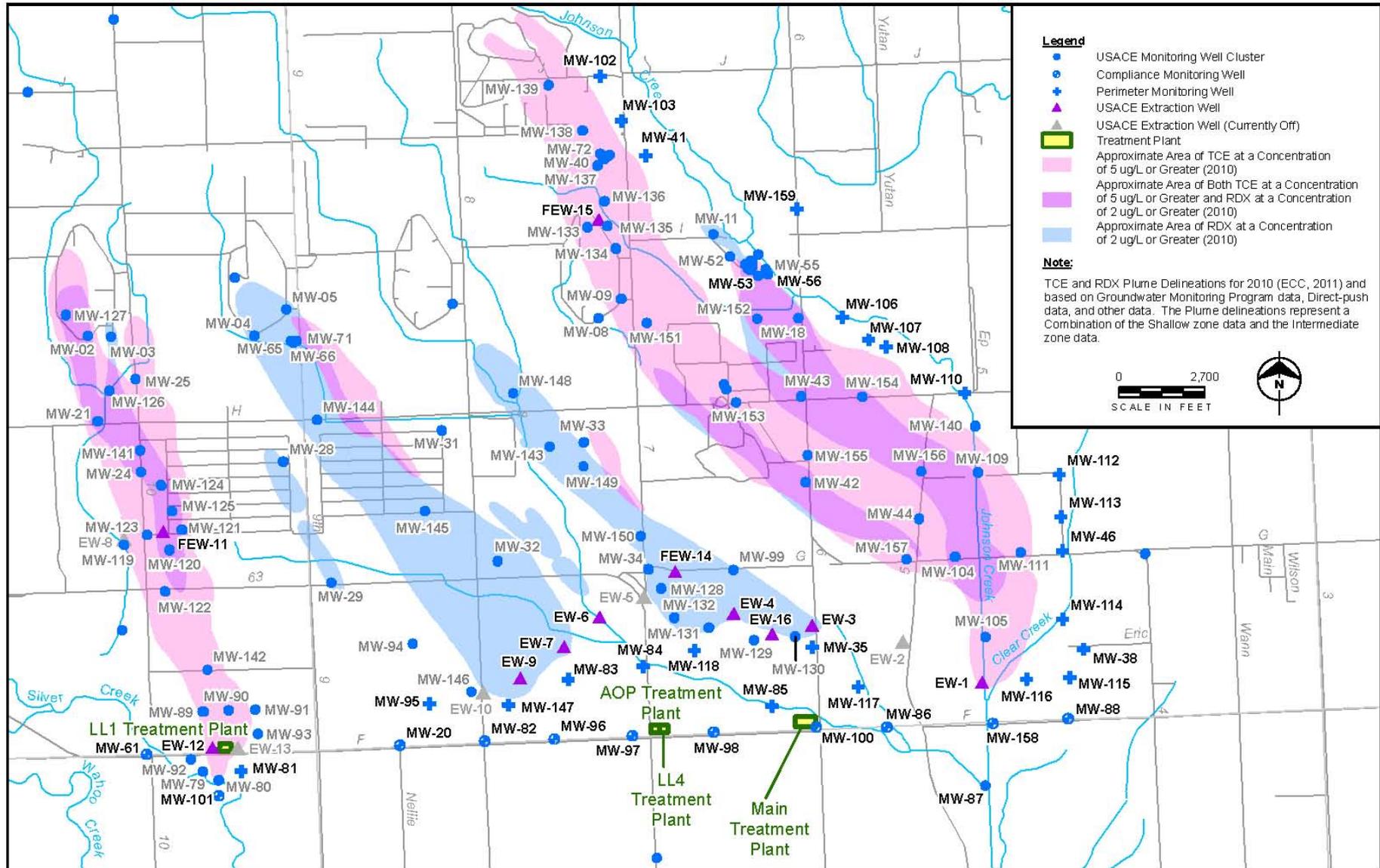


# Annual Monitoring

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



# Monitoring Well Network



# 2011 Containment Evaluation Conclusion

- Containment has been achieved for 2011
  - ▶ No contaminants of concern were detected in any of the compliance wells above the Final Target Groundwater Cleanup Goals from the data collected in 2011



# 2012 Updates

- Additional optimization performed in 2011-2012
  - ▶ Updated Plume Depiction
- New Monitoring wells will be installed late 2012



# Questions

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

