

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



# Five Year Review

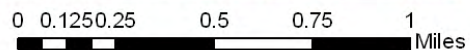
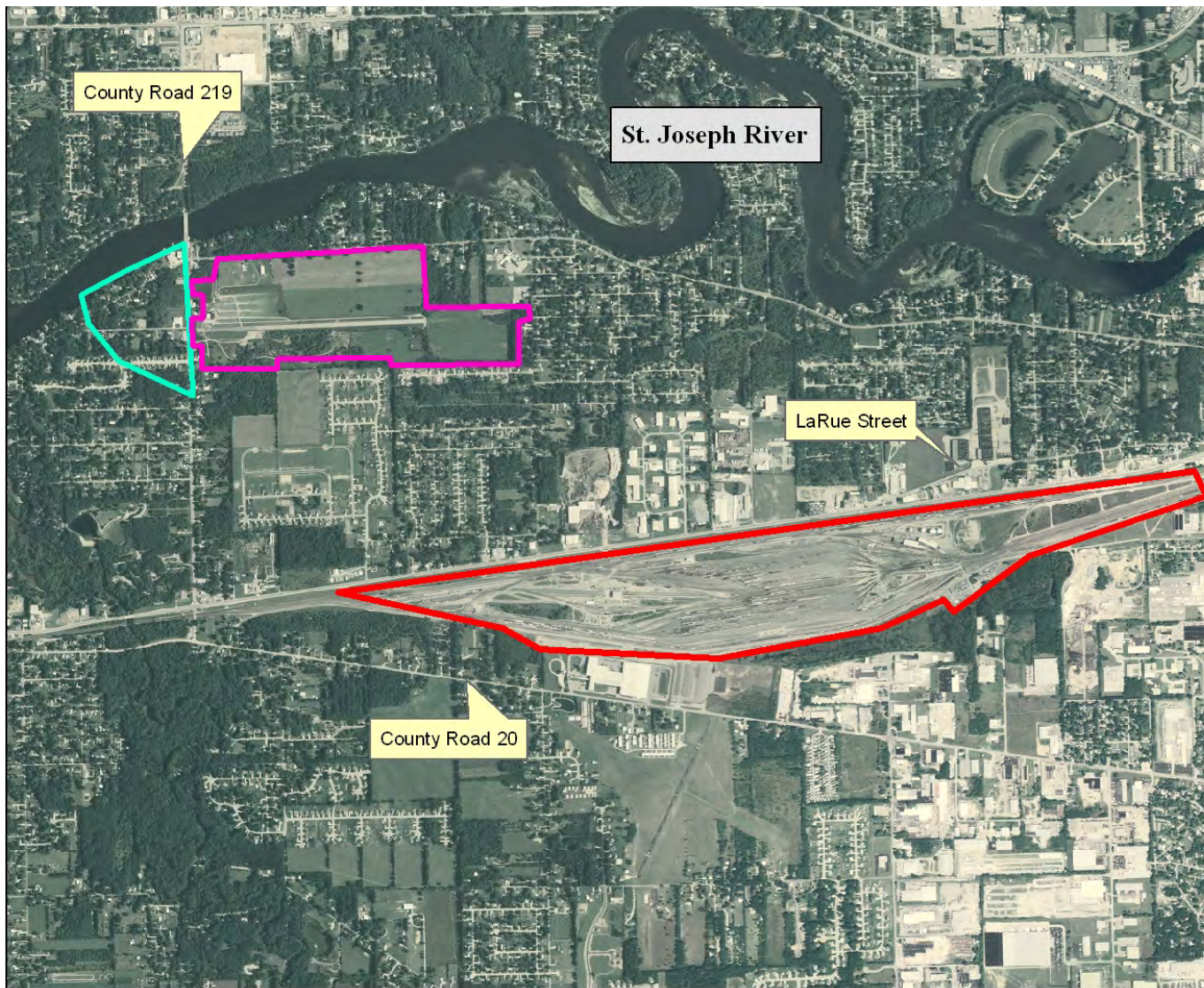
Tim Drexler  
312-353-4367  
[drexler.timothy@epa.gov](mailto:drexler.timothy@epa.gov)

Janet Pope, Community Involvement Coordinator

# Conrail Rail Yard Superfund Site

## City of Elkhart, Indiana

### EPA Five Year Review: June 30, 2009



Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
EPA Five Year Review: June 30, 2009



## Site History

- 1956: Rail yard operations begin
- 1986: EPA documents TCE and CCl<sub>4</sub> in wells
- 1990: Site added to NPL list
- 1991: City water supply and treatment ROD
- 1994: Initial investigations completed
- 1994: ROD for add'l water hook-ups and investigation
- 1995 UAO to PRPs for remedial action
- 1997 Consent Decree with PRPs
- 2000 EPA issues ROD amendment
- 2004 Ground water treatment actions begin

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



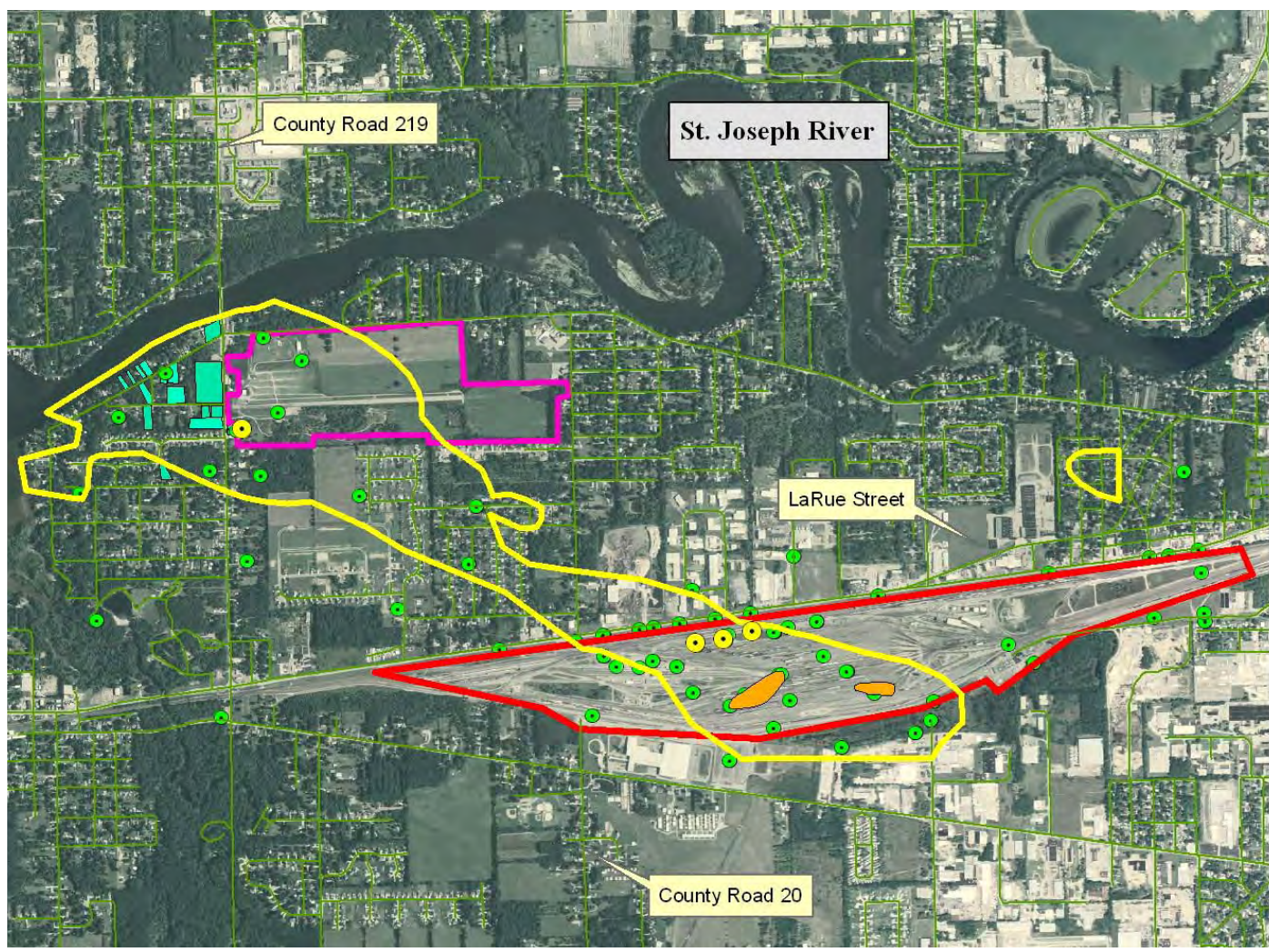
## Site Remedy

- Provide municipal water to residents
- Abandon existing drinking water wells
- Abate/monitor vapors in buildings
- Contain rail yard plume DNAPL
- Clean-up all drag strip area contaminant sources
- Monitor ground water contamination
- Restrict access to limit exposures

# Conrail Rail Yard Superfund Site

## City of Elkhart, Indiana

### EPA Five Year Review: June 30, 2009



**Legend**

- Extraction Wells
- Composite Plume
- Rail Yard Area
- GCW\_Well
- Source Areas
- Monitoring Wells
- Drag Strip
- Residential Vapor Monitoring

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



## Remedy Implementation To-Date

- City water hook-ups completed in June 1997
- Residential soil gas units installed: 2002
- Ecological study of St. Joseph R. completed
- Railyard groundwater containment system
- Drag strip pilot groundwater recirculation system

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



Rail Yard Treatment Plant

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
EPA Five Year Review: June 30, 2009



# Railyard Groundwater Treatment System

- Treatment Plant
  - 600 GPM capacity
  - Air stripper: dissolved phase to vapor phase
    - TCE/CCl<sub>4</sub> vapor removed by GAC adsorption
  - Effluent at or below 5 ppb TCE and CCl<sub>4</sub>
  - Discharge to Crawford Ditch
  - Air emissions captured by GAC
  - Periodic sampling of influent/effluent
  - Sump pumps for drainage water

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
EPA Five Year Review: June 30, 2009



# Railyard Groundwater Treatment System



Air Stripper

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



# Railyard Groundwater Treatment System

- Extraction wells
  - 3 currently operating
  - 8 inch diameter
  - submersible pumps
  - Pumping rates average 90 gpm
  - ~2,600 lbs VOCs removed

# Conrail Rail Yard Superfund Site

City of Elkhart, Indiana

**EPA Five Year Review: June 30, 2009**



## Drag Strip Area Groundwater Treatment System

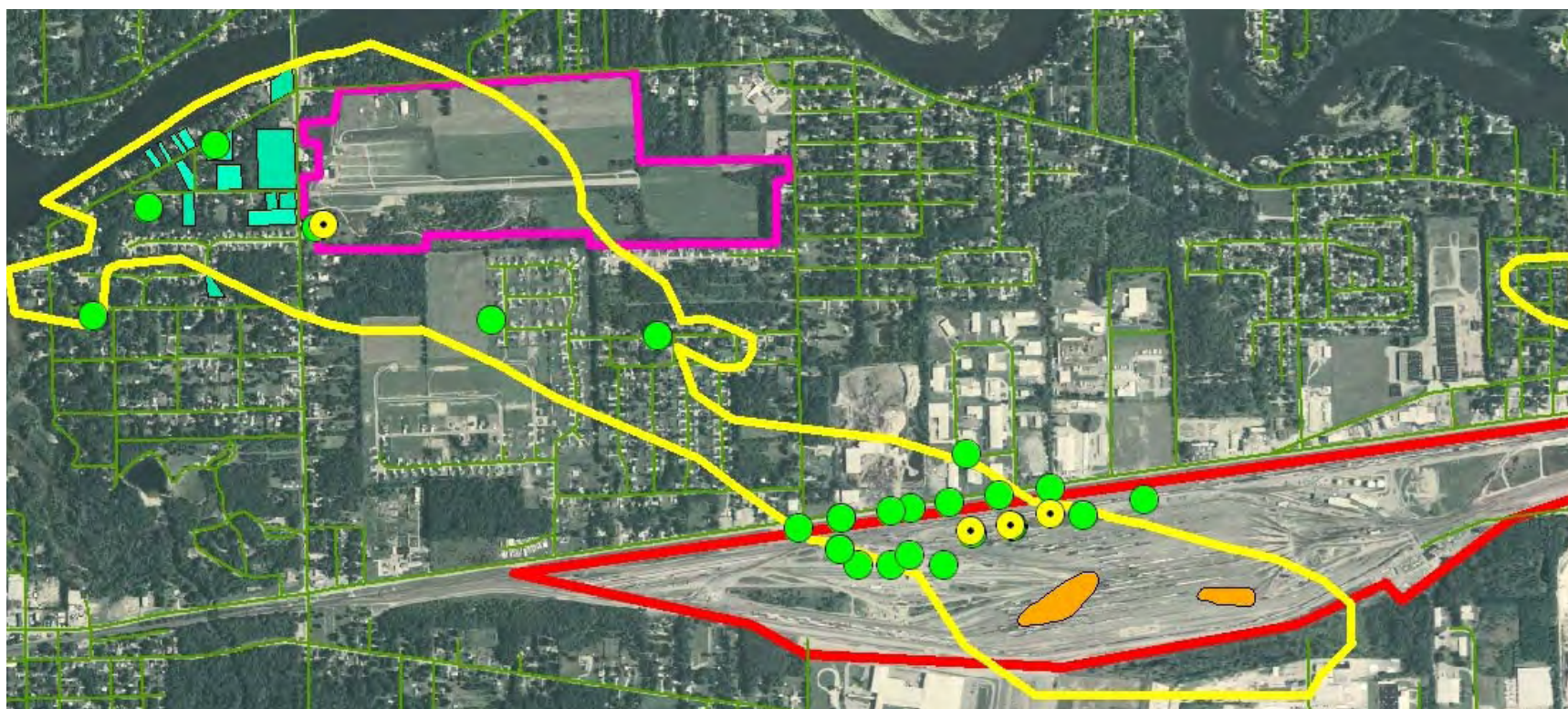
- Groundwater Recirculation Well Pilot
  - 1 GCW operating
  - 3 Screens, middle intake, top-bottom discharge
  - VOC Vapor treated with GAC
  - 1,270 lbs VOC removed

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
EPA Five Year Review: June 30, 2009



Drag Strip Area Groundwater Recirculation Well

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
EPA Five Year Review: June 30, 2009  
Monitoring Well System



Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
EPA Five Year Review: June 30, 2009



## Monitoring Well System

- 9 Rail yard line of containment monitoring wells
  - Near extraction wells
- 5 Capture zone wells
  - NW of containment, but within capture zone
- 11 Downgradient wells
  - Downgradient of capture zone
- 7 Distal wells
  - Along St. Joseph River

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



## Five Year Review Conclusions

- The remedy is protective in the short term
  - Human exposure addressed by city water and soil vapor systems
  - Ecological exposure is addressed by reduction in mass of contaminants

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



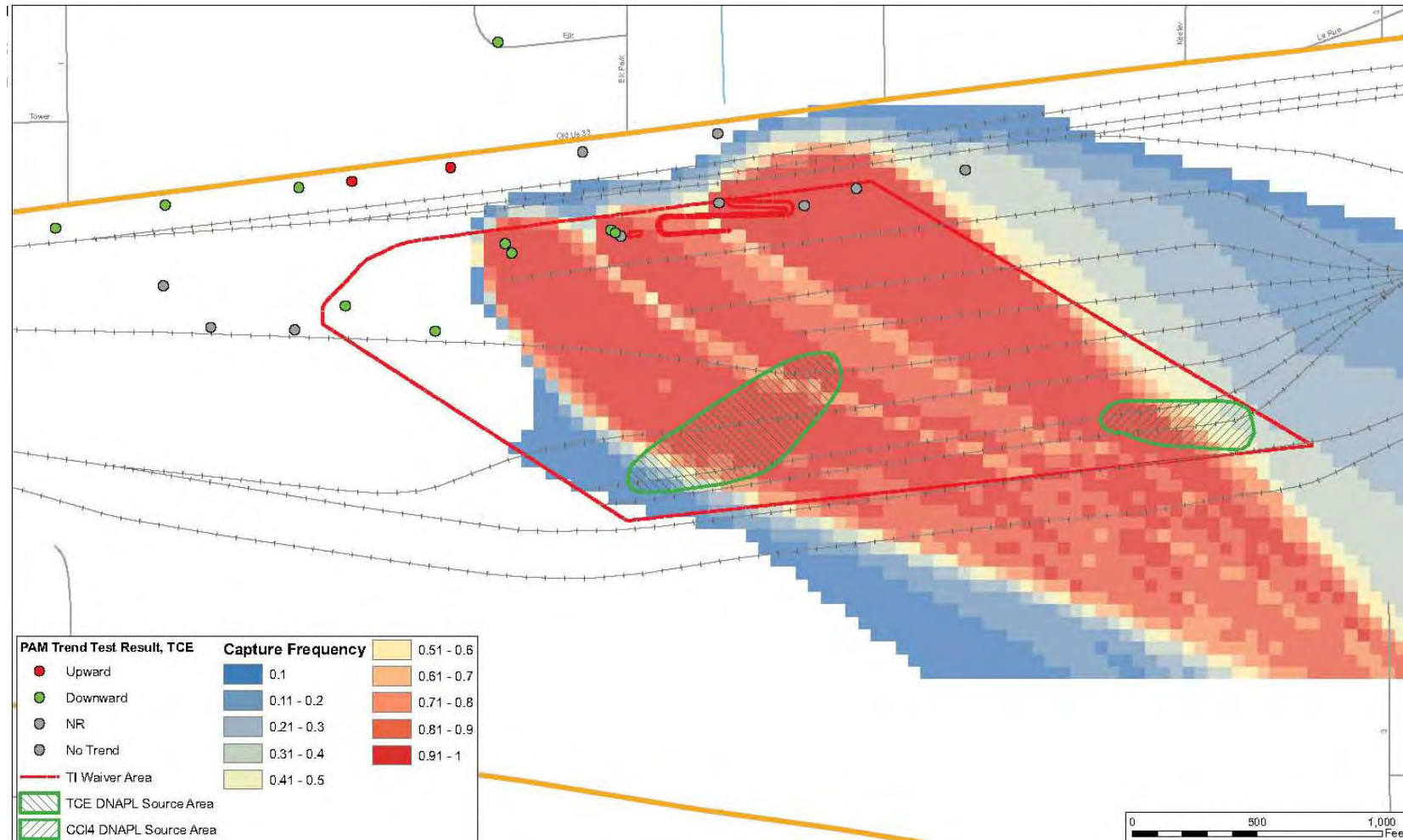
## Five Year Review Conclusions

- The remedy is not protective in the long term
  - Ground water remedy is not operating as intended
  - Some contaminated groundwater is escaping the system
  - Source areas in the drag strip area not completely characterized
  - Restrictions on access are not complete

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
EPA Five Year Review: June 30, 2009



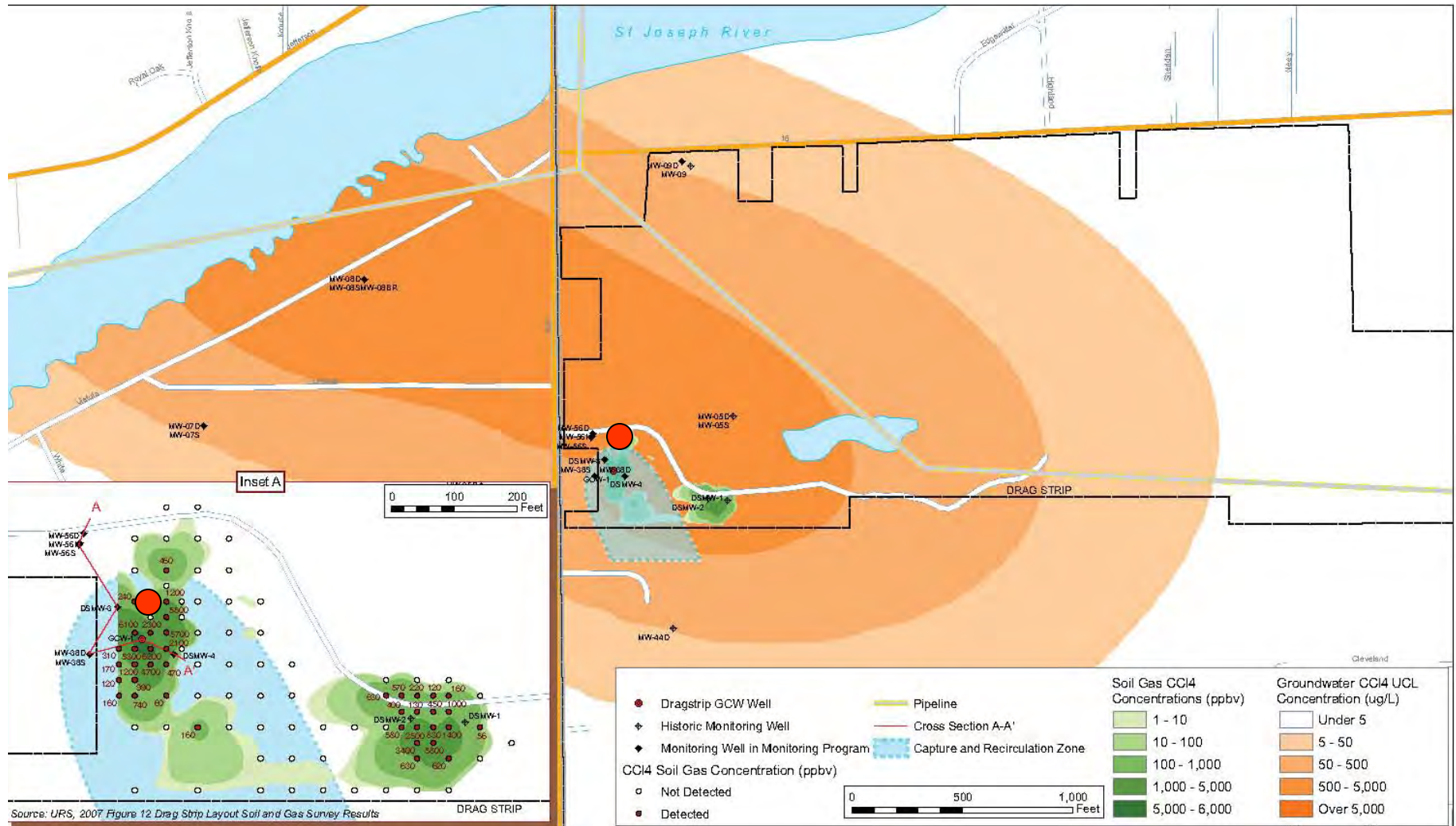
# Rail Yard Area Groundwater Capture



# Conrail Rail Yard Superfund Site City of Elkhart, Indiana EPA Five Year Review: June 30, 2009



## Drag Strip Area Ground Water Capture



Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



## Recommendations and Follow-up Actions

- Modification of Rail Yard system
- Modification/expansion of Drag Strip system
- Additional soil investigation of Drag Strip area
- Improve access controls

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



## Follow-up Actions To-Date

- Initial draft work plan from potentially responsible parties received in May
- EPA/IDEM provided comments in June
- Finalized work plan scheduled summer 2009
- Complete modifications end of 2009
- Evaluate modifications 2010

Conrail Rail Yard Superfund Site  
City of Elkhart, Indiana  
**EPA Five Year Review: June 30, 2009**



## More information:

- [www.epa.gov/region5/sites/conrail](http://www.epa.gov/region5/sites/conrail)