

**Former
Nebraska Solvents Company
1200 East Highway 30,
Grand Island, Nebraska**

**Public Information Meeting
Nebraska Department of
Environmental Quality**

**June 23, 2010
Open House 6 – 7 pm
Public Meeting 7 – 8:30 pm
Lower Level City Hall
Grand Island, Nebraska**



Nebraska Department of Environmental Quality:

- ★ Remediation Section Supervisor: Mike Felix
- ★ Voluntary Cleanup Program Unit Supervisor: Tom Buell
- ★ Project Manager and Groundwater Geologist: Laurie Brunner
- ★ Public Information Officer: Brian McManus
- ★ Government Liaison: Carla Felix



Purpose of Presentation:

- ★ Review site history and investigation to date
- ★ Summarize proposed Remedial Action Plan (RAP) components
- ★ Summarize April 2010 Split Sampling Project results
- ★ Take questions at end of presentation
 - Additional time for questions after Sue Dempsey and Gary Mader until 8:30 pm



Site Location:

1200 East Highway 30, Grand Island



History:

- ★ Nebraska Solvents operated at two locations in Grand Island, both leased from Union Pacific Railroad:
 1. 346 North Lincoln Street in downtown Grand Island from before 1936 to approximately 1972
 2. 1200 East Highway 30 in eastern Grand Island from 1973 to 1988



History:

- ★ Nebraska Solvents collected, stored, and distributed common industrial solvents and hydrocarbons such as mineral spirits, 1,1,1-TCA, PCE, TCE, acetone, ethylbenzene, toluene, and xylenes. Industrial solvents used for metal washing and dry cleaning.
- ★ Above-ground storage tanks (ASTs), drums, and underground storage tanks (USTs) were used to store solvents and gasoline on site.
- ★ Downtown site was discovered in 1988 after sampling of nearby city wells found PCE



History:

- ★ The Safe Drinking Water Act was passed in 1974 and requires testing of public drinking water.
- ★ The Act requires regular testing of public water supplies, but does not require testing of private wells.
- ★ Many groundwater contamination problems were found by testing public wells, including the Parkview and Cleburn Street Sites in Grand Island
- ★ The EPA sets drinking water standards, and shares enforcement authority with State of Nebraska



What are the Drinking Water Standards?

- ★ The drinking water standards established by EPA are called the Maximum Contaminant Levels (MCL).
 - MCLs for PCE and TCE are both 5 ug/l
 - MCL for Vinyl Chloride is 2 ug/l
 - MCL for cis-1,2-DCE is 70 ug/l
 - MCL for 1,1,1-TCA is 200 ug/l
- ★ No MCL for 1,1-DCA: Health-based limit is 2.4 ug/l

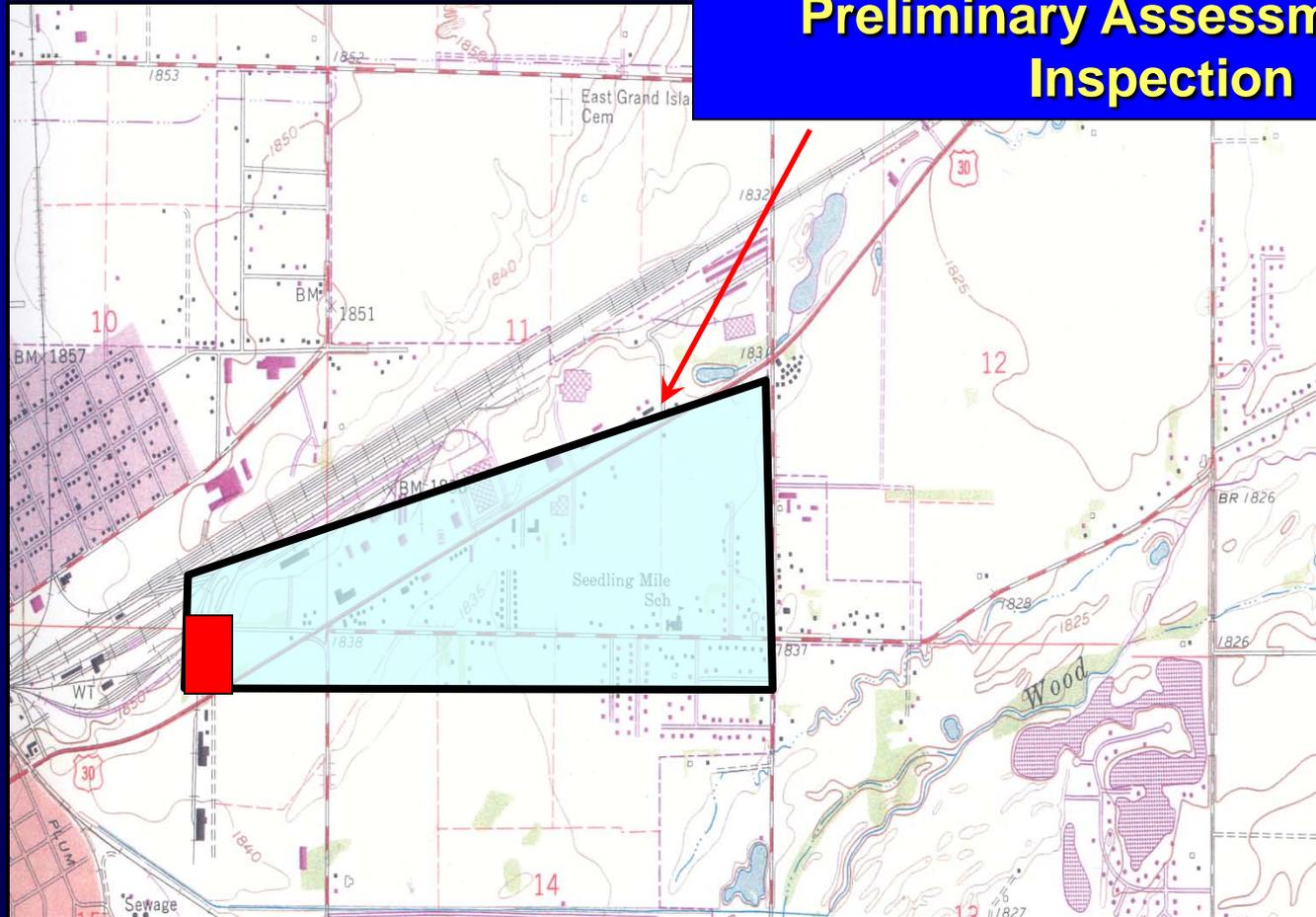


History:

- ★ Because the municipal water system was tested regularly, PCE was found in the system in 1984, and in the Lincoln Street and Cleburn Street wells in 1986.
- ★ The EPA began an investigation and found PCE in soil at the first Nebraska Solvents site in 1988.
- ★ Nebraska Solvents had moved to Highway 30 site in 1973, and the company ended operations in late 1988.
- ★ Although there were no known environmental impacts, NDEQ began an investigation of the Highway 30 site in 2004



General Area of 2004-2005 NDEQ Preliminary Assessment/Site Inspection



NDEQ 2004-2005 Preliminary Assessment/Site Inspection Results :

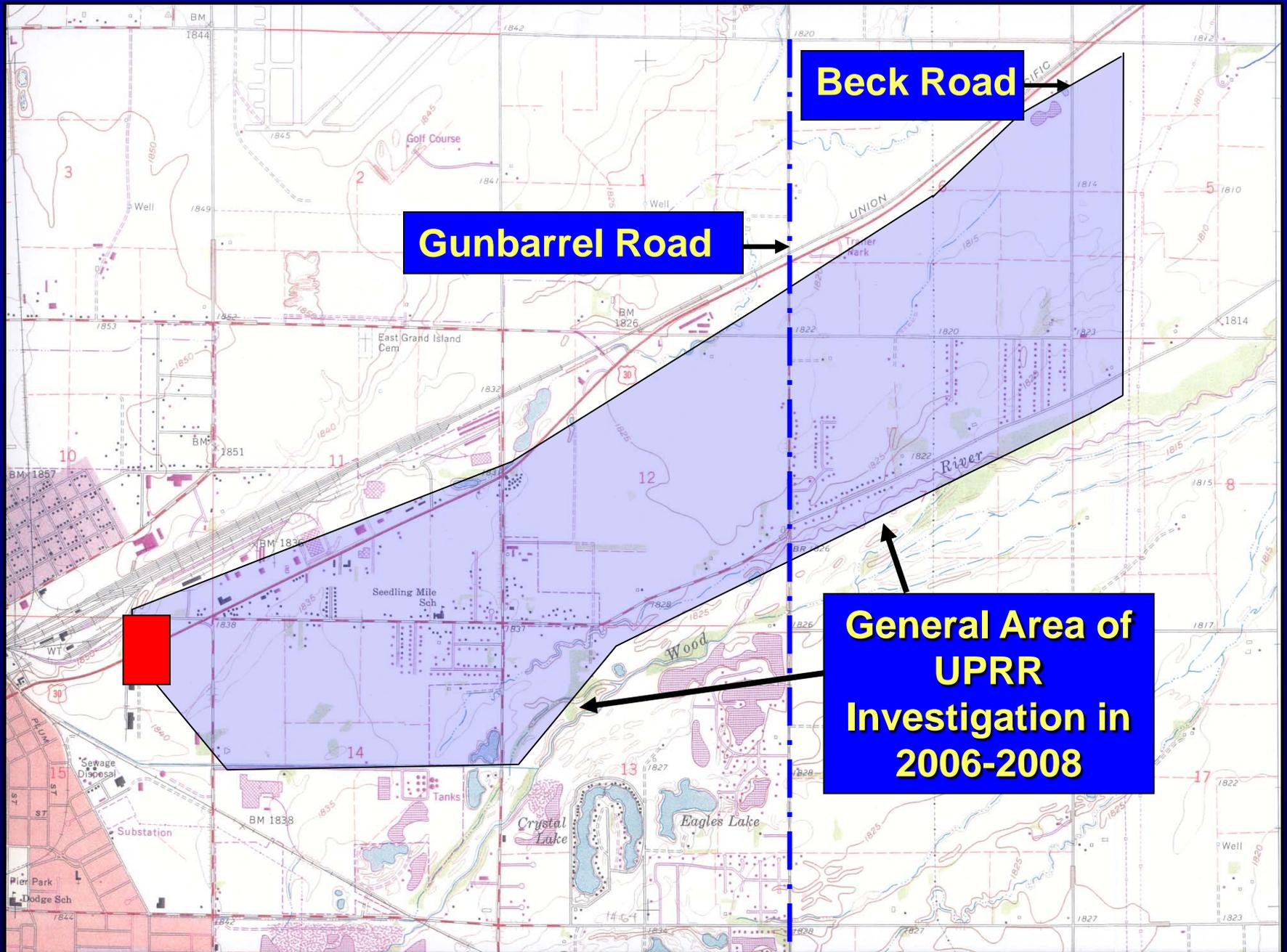
- ★ High levels of BTEX, vinyl chloride, and other solvents found in soil and groundwater at and near the site.
- ★ Soil at the site is the source for contaminants in groundwater
- ★ Plume of cis-1,2-DCE and PCE found in groundwater extending downgradient at least 1 ¼ mile
- ★ Private wells in the area used mostly for yard watering. No drinking water wells appeared to be impacted.



UPRR Site Investigation under VCP:

- ★ 2006: UPRR applied to join VCP Voluntary Cleanup Program (VCP) to finish the investigation and begin site cleanup. UPRR is conducting investigation and cleanup under NDEQ oversight.
- ★ EPA approved site cleanup under VCP rather than Superfund as long as cleanup is to same standards





Beck Road

Gunbarrel Road

**General Area of
UPRR
Investigation in
2006-2008**



UPRR Site Investigation Components:

- ★ 2006 – 2010: UPRR continued the site investigation to determine the full extent of VOC contamination:
 - Bulk soil, soil vapor, and groundwater samples were collected at and near the source area
 - Groundwater samples were collected at 217 locations across the entire study area using DPT
 - Approximately 211 private wells were sampled, including drinking water wells
 - 62 groundwater monitoring wells were installed



UPRR Site Investigation Results:

- ★ In April, 2008, UPRR found that impacted groundwater extended from the Nebraska Solvents site to Beck Road in Merrick County. Primarily PCE, but also cis-1,2-DCE, TCE, and 1,1-DCA.
- ★ 150 private wells in the area are used for drinking water
- ★ 75 wells are impacted with detectable VOCs
- ★ 26 wells have PCE exceeding drinking water standard



What interim actions has UPRR taken?

★ UPRR interim actions:

- Contacted all homes with impacted drinking water wells in April, May, and June 2008 and offered bottled water
- Provided and still maintains whole house granular activated carbon (GAC) treatment systems to 50 homes to replace bottled water
- Provides bottled water to an additional 20 homes



What is the Remedial Action Plan?

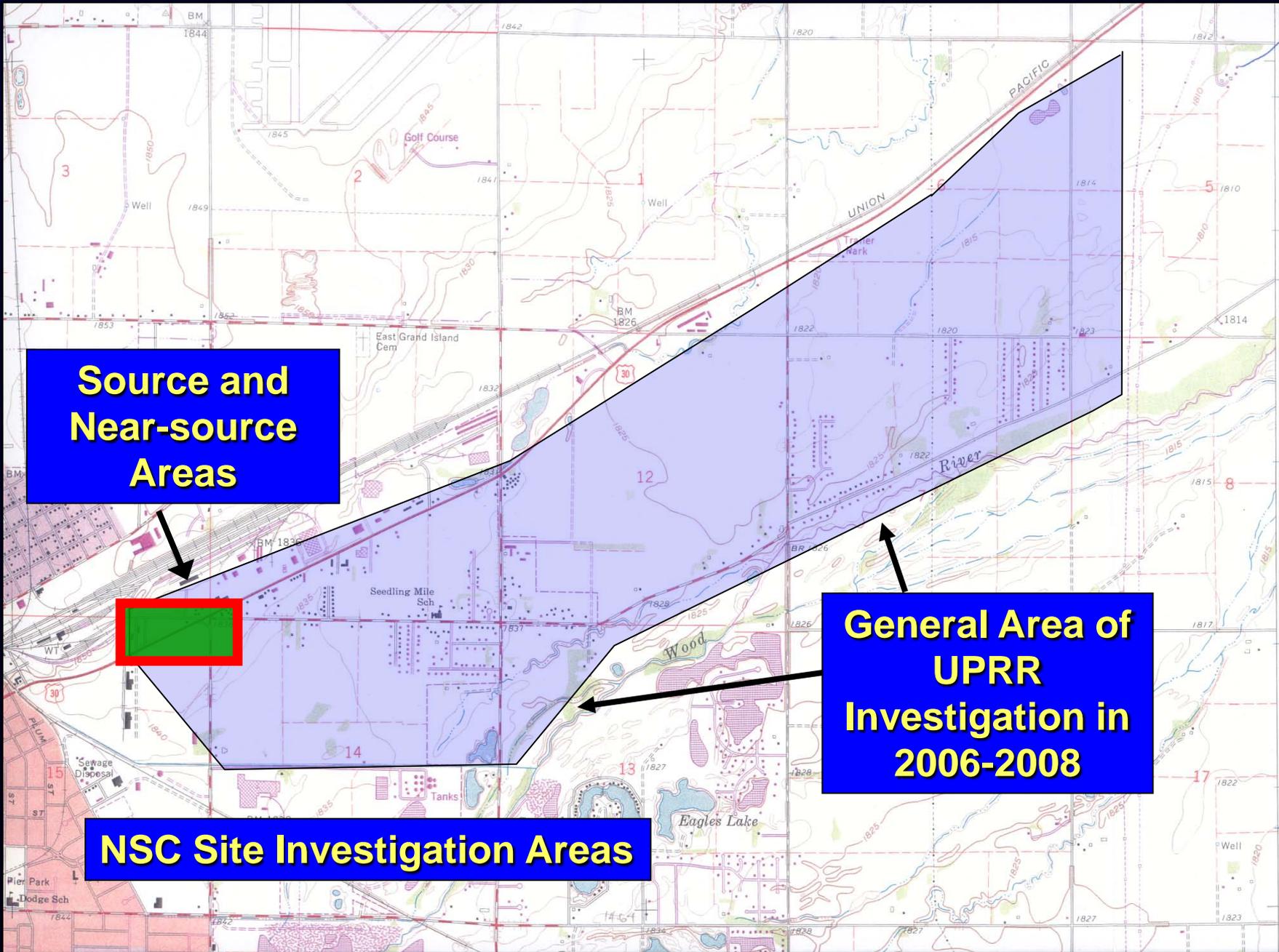
- ★ UPRR and Foth submitted draft Remedial Action Plan to NDEQ February 1, 2010. RAP was reviewed by NDEQ, is under revision.
- ★ The Remedial Action Plan (RAP) contains:
 - Investigation Report, which is the summary of previous and current site investigations
 - Work Plan, which contains the proposed remedies that UPRR will implement to clean up soil and groundwater in impacted areas



Remedial Action Work Plan Components:

- ★ Different remedies have been proposed to be used in different areas, depending on the type and extent of contamination:
 - Excavation of soil and in-situ treatment of groundwater at source area
 - Additional in-situ treatment of groundwater downgradient
 - Provide alternate water supply, including municipal water
 - Monitored Natural Attenuation (MNA)
 - Long Term Monitoring
 - Institutional Controls to restrict GW contact





**Source and
Near-source
Areas**



**General Area of
UPRR
Investigation in
2006-2008**

NSC Site Investigation Areas

Source and near Source Area Conditions:

- ★ High levels of ethylbenzene toluene, xylenes and vinyl chloride in soil and shallow groundwater
- ★ Soil was source for contaminants washing into groundwater, so soil must be treated to reduce any additional contaminant migration into groundwater
- ★ Relatively low levels of PCE
- ★ No deeper groundwater impacts
- ★ No free product was found



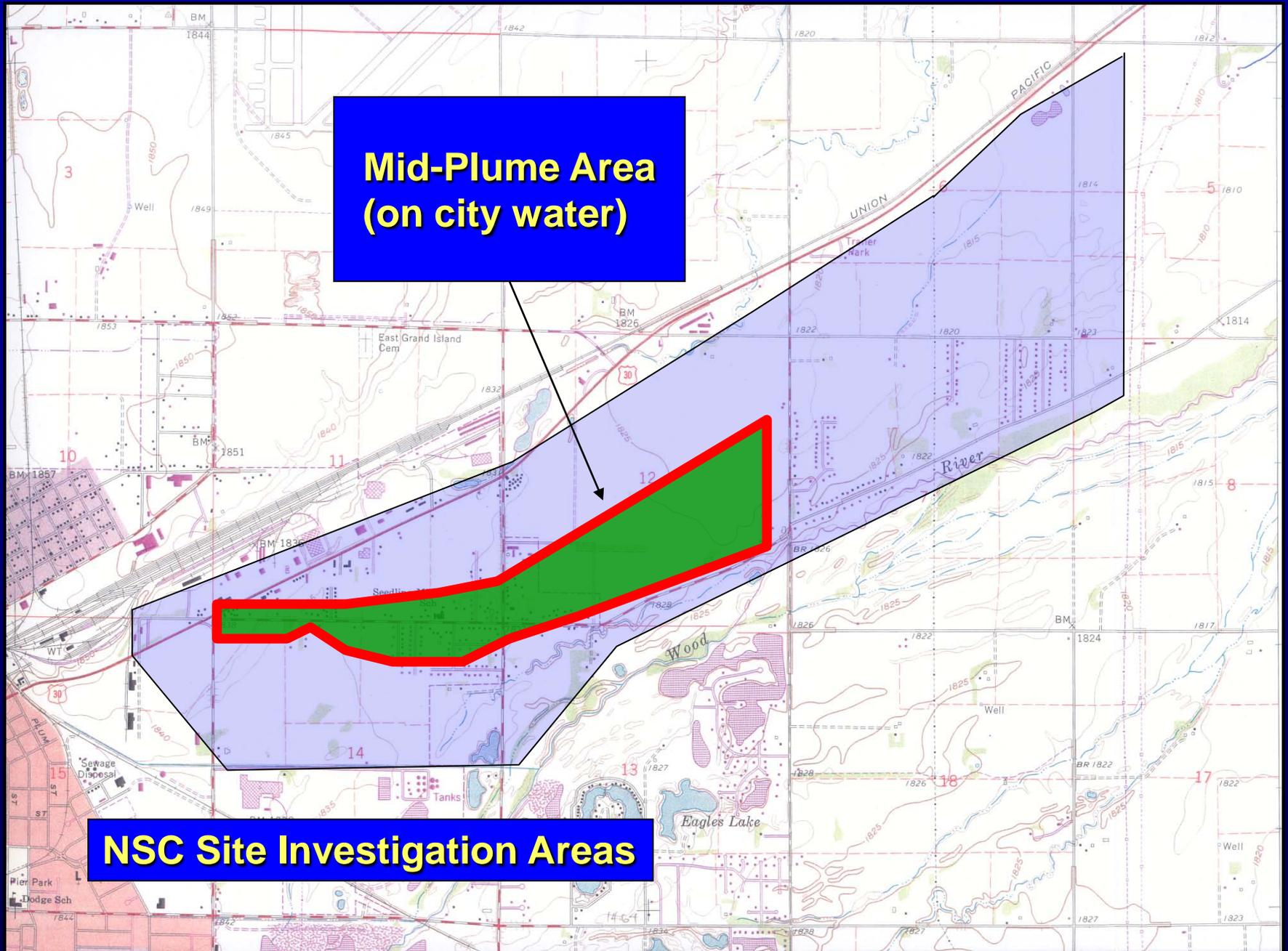
Source and near Source Areas Proposed Remedies:

- ★ Excavation, removal, and proper disposal of contaminated soil to remove source area
- ★ In-situ treatment of groundwater
- ★ Institutional Controls limiting GW use until remedial goals achieved
- ★ Groundwater monitoring until remedial goals achieved
- ★ NDEQ requested additional work in near-source area to determine limits of active cleanup



**Mid-Plume Area
(on city water)**

NSC Site Investigation Areas

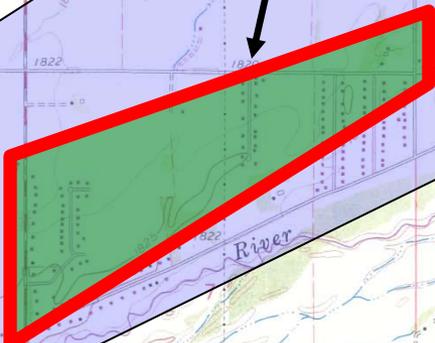


Mid-Plume Area Conditions and Proposed Remedies:

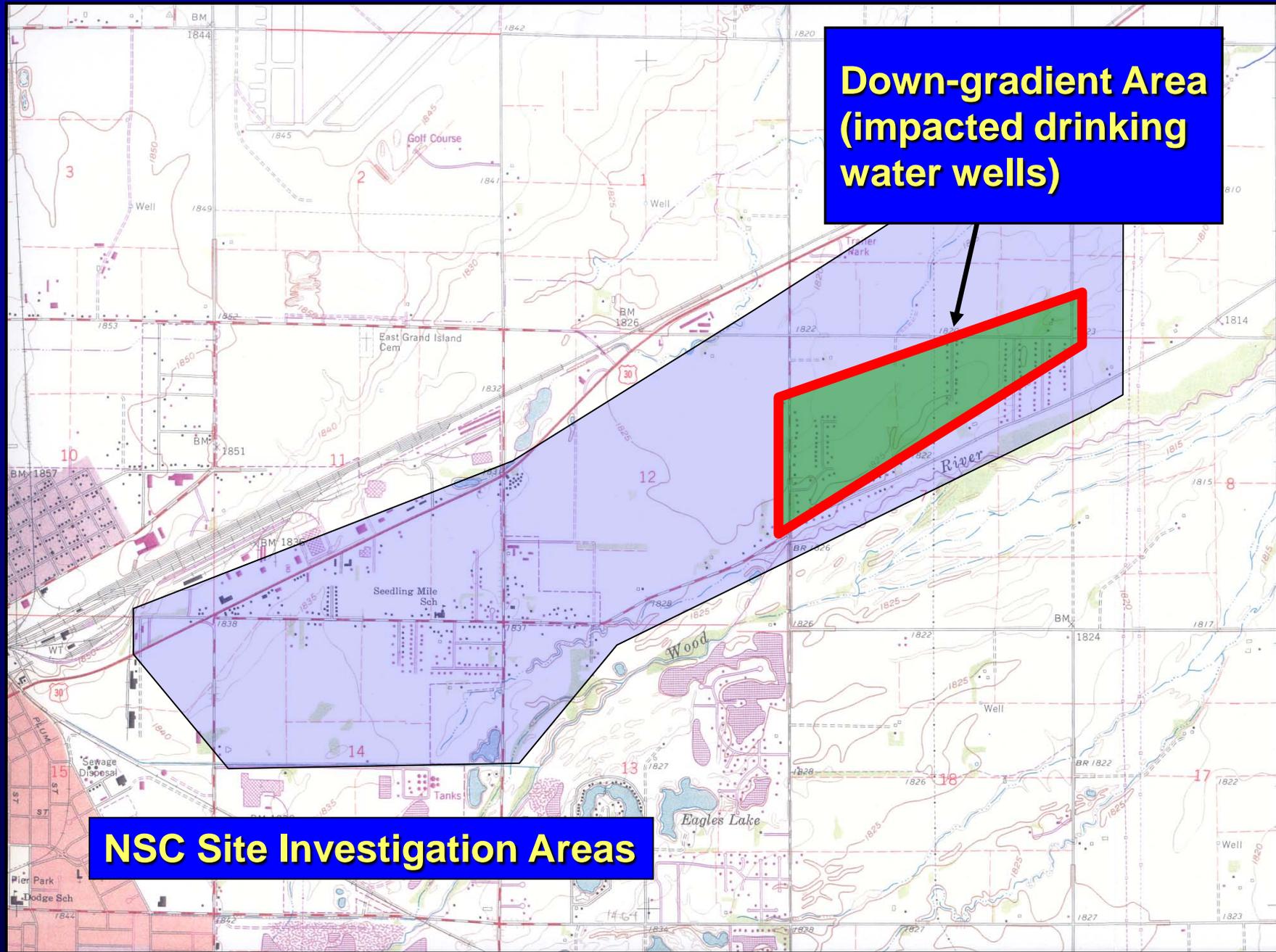
- ★ cis-1,2-DCA and PCE in groundwater exceeding MCLs. Other VOCs include 1,1-DCA, 1,1,1,-TCE. Most homes supplied by municipal water.
- ★ Proposed remedies include Monitored Natural Attenuation (MNA), Long Term Monitoring, and Institutional Controls limiting GW use until remedial goals achieved
- ★ NDEQ requested UPRR conduct a study on MNA to determine whether remedial goals can be achieved within reasonable time limit



**Down-gradient Area
(impacted drinking
water wells)**



NSC Site Investigation Areas



Down-gradient Plume Area Conditions:

- ★ Approximately 150 area homes supplied by private wells, of which about half are impacted by the VOCs in groundwater
- ★ PCE in groundwater exceeds drinking water standard of 5 ug/l in one third of impacted homes.
- ★ Additional VOCs found below MCLs include cis-1,2-DCE, TCE, and 1,1-DCA.
- ★ Plume is deep: between about 40 and 80 feet below ground surface



Down-gradient Plume Area Proposed Remedies:

- ★ Extension of municipal water to impacted area, and hookup of impacted homes
- ★ Monitored Natural Attenuation until remedial goals are achieved
- ★ Institutional Controls until remedial goals are achieved
- ★ Long Term Monitoring, including continued sampling of private wells not hooked up to municipal water until remedial goals are achieved

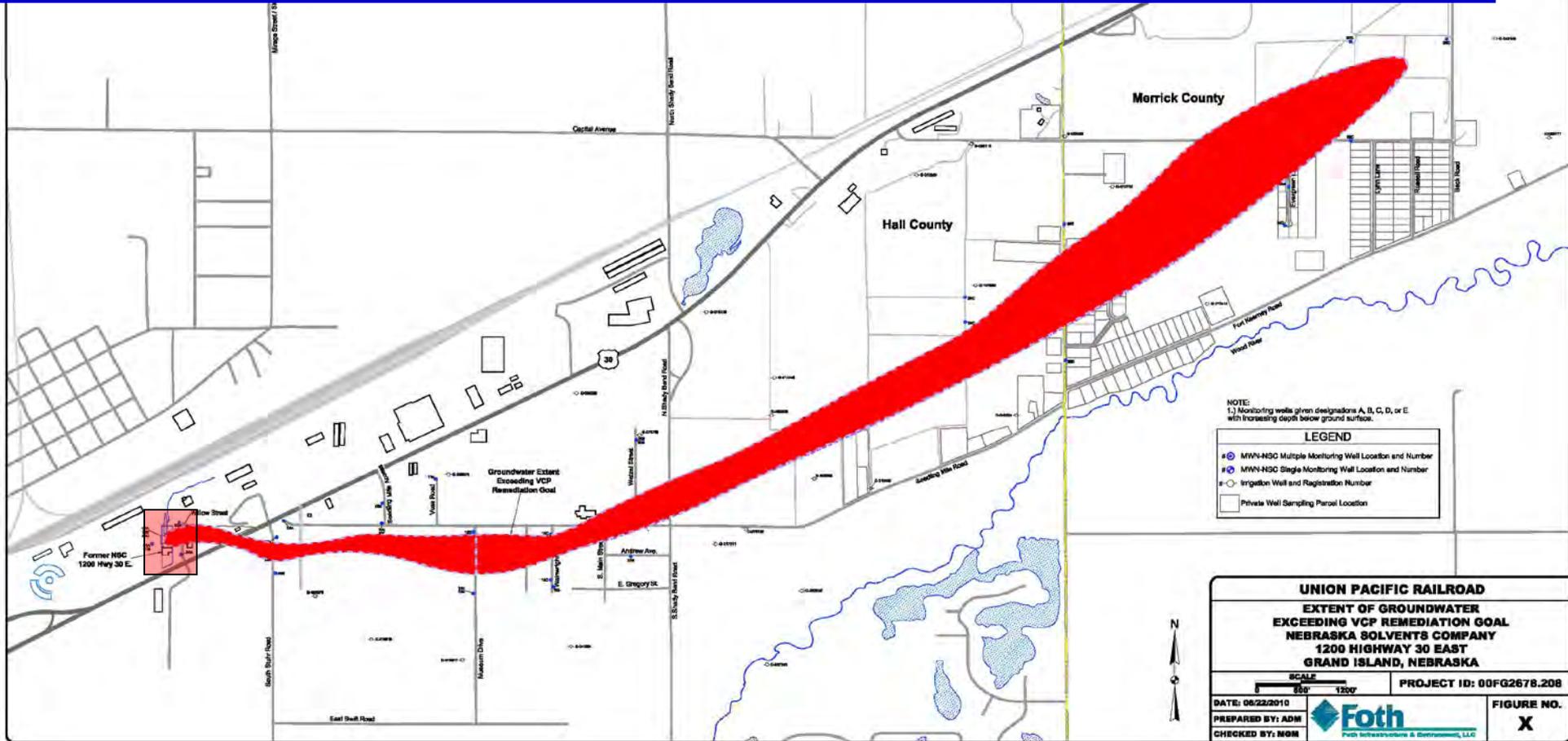


What is next for RAP?

- ★ UPRR is revising the RAP after receiving comments from NDEQ (plume map follows). Our comments included a request for more study to determine how long the remedies will take before remedial goals are achieved
- ★ When NDEQ accepts the revised RAP, it will be available for public review and comment for 30 days
- ★ NDEQ will then hold a formal hearing in Grand Island so the public can make additional comments
- ★ NDEQ will respond to the comments, and if needed, UPRR will revise the RAP



Aggregate Plume (for all contaminants exceeding Remedial Goals) from revised RAP 6/23/2010



When will the cleanup begin, and how long will it take?

★ UPRR is preparing to begin cleanup work as soon as RAP is finalized and approved:

- Soil excavation is scheduled to begin late 2010
- In-situ groundwater treatment scheduled to begin late 2010
- UPRR to work with the city to get water line extended and homes hooked up, scheduled for 2011 and 2012
- Additional data is being collected to allow Monitored Natural Attenuation modeling
- Additional monitoring will continue quarterly until remedial goals are met



Split Sampling Project:

- ★ Residents expressed concern about UPRR sampling
- ★ NDEQ conducted split sampling, along with UPRR's contractor Foth, of a representative sample of impacted homes and two non-impacted homes
- ★ Treated and untreated water was collected at three homes to verify GAC effectiveness



Split Sampling Project Results:

- ★ NDEQ's contractor, EA, conducted the sampling and analyzed the data
- ★ EA's Report indicates UPRR's data is acceptable
- ★ Report also says GAC units are effectively removing PCE and TCE from tapwater
- ★ Copies of report and data sent to sampled homes and posted on website



Who do you call for additional info?

Contact:

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Tom Buell, (402) 471-0803
thomas.buell@nebraska.gov



Questions?

