Cleburn Street Well
Grand Island, NE

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Site Location
Cleburn Street Well
Site Background

• 1986 – PCE discovered in Cleburn Street well
• 1992 – Final on NPL
• 1996 – ROD signed (GET & SVE Remedy)
• 1997 – SSC signed
• 1999 – OU 1 and 2 remedies O&F
• 2000 – OU 2 enters LTRA
• 2001 – OU 2 RSE (Optimization)
Site Background

- 2006 – Source area investigation
- 2008 – Hydrogeologic investigation
- 2009 – Evaluation of the silt layer
- 2009/2010 – ISCO pilot study. GET turned off
- 2010 – 10 year LTRA expiration. There is not an operational system to transfer to the State
- 2011/2012 – Focused FS: Evaluated ISCO & Thermal. SVE successful in vadose zone
GET System Data - Baseline

- PCE Concentrations (µg/L)
  - EW-1 120,000
  - EW-2 6,100
  - EW-3 680
  - Cleburn Municipal Well 1,000
  - MW-2A 170,000 (source area well)

*GET system designed for 120 gpm.
GET System Data – Jan 2007

• PCE Concentrations (µg/L)
  - EW-1 1,000
  - EW-2 560
  - EW-3 NA
  - Cleburn Well ND
  - MW-2A 100,000 (source area well)

*System flow reduced to 60 gpm, EW-3 not operational and EW-2 < 10 gpm.*
Silty/Sand Unit
LTRA and Pilot Study

- NDEQ requested LTRA extension (February 2009) one year before LTRA ended
- EPA ISCO pilot study (July 2009)
- Official EPA letter, “In lieu of State transfer, the site will enter into a pilot study phase.” (November 2009)
Change in Remedy

2012 ROD Amendment

Source Remediation:

• In-Situ Thermal Remediation (ISTR)
• Performance Monitoring (GW and VI) for 2 yrs after thermal treatment meets performance standards
• 90/10 cost share
Change in Remedy

2012 ROD Amendment

Plume Restoration:

• In-situ ISCO or Enhanced biological remediation of the downgradient plume
• RA to begin after EPA performs RD
• RD 100% EPA Cost
• RA 100% State Cost
Thermal Treatment Boundary (2012)
Scoping ITSR in 2016/2017
Thermal Treatment Boundary - 2016
Lessons Learned

• Changes after selection of a Remedial Action are Likely
  – Progress meeting cleanup goals not occurring
  – Emerging contaminants identified
  – Better understanding of site characterization
  – Better technology available

• Be clear in defining source control activities and groundwater restoration activities

• Importance of close coordination and communication even after remedy selection and construction
Questions/Discussion