Applying In-Situ Thermal Remediation in a Complex Setting With Multiple Stakeholders

Kenneth J. Cottrell, CPG, PG
HydroGeoLogic, Inc.
Presentation Overview

• Purpose: Illustrate challenges and lessons learned associated with implementing an ERH remedy in a complex setting
• Introduction
• Video Describing Interim Remedy
• Path to Final Remedy
• Stakeholders
• Communication Challenges
• Administrative Challenges
• Technical Challenges
• Lessons Learned
Interim Remedy
Path to Final Remedy

- Proposed Plan
  - Public Meeting
- Record of Decision
  - Responsiveness Summary
- Design
  - EPA approved within 45 days of ROD signature!
Stakeholders

- HydroGeoLogic, Inc. (Prime contractor) and TRS (thermal remediation partner)
- USACE Omaha: Service Center
- USAF: Lead Agency
- USEPA: Lead Regulatory Agency
- MDE: State Regulatory Agency
- Prince Georges County: Local Regulatory Agency, property owner
- WSSC: Water and sewer utility
- SMECO: Electrical Utility
- CSX Transportation, Inc.: Property owner
- Nearby Private Landowners
Be(a)ware of Stakeholders within Stakeholders

• USAF: Lead Agency
  • Environmental Restoration
  • Legal
  • Real Estate

• USEPA: Lead Regulatory Agency
  • Remedial Project Manager
  • Office of Regional Counsel

• MDE: State Regulatory Agency
  • Federal Facilities
  • Sediment and Erosion Control

• Prince Georges County
  • Health Department
  • Department of Permitting, Inspections and Enforcement

• WSSC: Water and sewer utility
  • Counsel
  • Development services
  • Field oversight

• CSX Transportation, Inc.
  • Environmental
  • Engineering
  • Operations
Communication is Complex!

• The total number of potential communication channels is \( n(n - 1)/2 \), where \( n \) represents the number of stakeholders. For example, a project with 10 stakeholders has \( 10(10 - 1)/2 = 45 \) potential communication channels.

• Estimating one stakeholder per company/agency and, 5 nearby landowners, that is 22 people, equating to 231 potential channels of communication.

• Realistically, if there are 5 decisionmakers at CSX and two members per team, CSX+HGL+TRS+USACE+USAF=13: 78 potential channels of communication.

• SOLUTION: Plan the project’s actual communications to determine and limit who will communicate with whom and who will receive what information.
Final Remedy: Electrical Resistance Heating Design

- 0.95 acre
- ~40 ft deep
- 49,000 yd$^3$
- TCE and 1,4-Dichlorobenzene
Administrative/Communication Challenge Examples

• You’re doing what?!?!?
• That’s equivalent to a lease....
• You need a permit for that!
• There’s no way you’re doing that without doing this....
• We approved this months ago, but we forgot to ask so and so....
Administrative/Coordination Challenges

- Access Agreements
- “Permits”
- Partial Road Closure
- Bisected Site (0.9 mile by road)
- Flag Person
Technical and Logistical Challenges

- Overhead Power
- Cherry Tree Crossing Road
- CSX Rail Lines
- WSSC Sewer and Water Lines
Electrode Installation
Lessons Learned

“The key to everything is patience. You get the chicken by hatching the egg, not by smashing it” – Arnold H. Glasow

• Working with Stakeholders
  • Stakeholders each require different levels of communication and bringing up to speed
  • Parcel numbers represent only a small number of the groups involved in the project
  • Confirm all decision makers are at the table
  • Meet face to face
  • Quickly identify non-negotiable deal killers
  • Use local resources

• “Permits” are not required under CERCLA
  • But may be bureaucratically necessary...