U.S. Environmental Protection Agency

Ravenswood PCE Groundwater Superfund Site

Proposed Plan Public Meeting

Thursday, January 20, 2011

Laura Johnson

Remedial Project Manager

Meeting Agenda

- Brief Description of Site
- Review Cleanup Options
- Discuss EPA's Preferred Cleanup Option
- Public Comments

Ravenswood PCE Site

- The Contaminant of Concern (COC) is tetrachloroethene, also known as perchloroethylene (PCE) or “perc”

- Operable Units
  - OU-1: Groundwater cleanup (focus of tonight’s meeting)
  - OU-2: Vapor Intrusion investigation (Spring 2011) and possible remedy

Ravenswood PCE Site Continued…

- The Site consists of a contaminated groundwater plume that extends for about 1,400 ft. under downtown Ravenswood to the City's water supply well field.
- The City installed a Venturi Air Stripper to its treatment process to remove PCE from the drinking water, eliminating the immediate health threat.
- Cleanup goals are to restore the area's groundwater to its beneficial use and to prevent potential future health threats posed by the contaminated groundwater.

Ravenswood PCE Site Continued…

- Several environmental studies have been done to define the extent of groundwater contamination and possible source area(s). To date, no point-source has been identified.
- Conducted “Treatability Study” to test air sparging effectiveness.
- Cleanup costs are currently being funded by EPA.

Process to Select Cleanup

- 4 possible cleanup options evaluated
- EPA uses 9 criteria to evaluate cleanup options

Nine Criteria

1. Overall Protection of Human Health and the Environment
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)
3. Long-term Effectiveness
4. Reduction of Toxicity, Mobility or Volume through Treatment
5. Short-term Effectiveness
6. Implementability
7. Cost
8. **State Acceptance**
9. **Community Acceptance**

Four Cleanup Alternatives

1. No Further Action

2. Groundwater Extraction and Granular Activated Carbon (GAC) Treatment Using New Extraction Well

3. Venturi Air Stripping Using a New Extraction Well

4. **In-Situ Air Sparging with Soil Vapor Extraction**

1. No-Action

- Required by law to be considered
- Used for comparison purpose
- Estimated Costs: $0
- Estimated Time of Completion: hundreds of years

2. Groundwater Extraction and Granular Activated Carbon (GAC) Treatment Using New Extraction Well

- Installation of a new extraction well
- Pumping contaminated groundwater to the surface for treatment through GAC system
- Discharge treated water to Ohio River or City's water supply
- Institutional Controls to prevent installation of new production wells within contaminated area
- Estimated Cost: $1,600,000
- Estimated Time of Completion: 30 years

3. Venturi Air Stripping Using a New Extraction Well

- Installation of a new extraction well
- Installing a new Venturi Air Stripper to remove PCE from city's water supply
- Institutional Controls to prevent installation of new production wells within contaminated area
- Estimated Cost: $1,200,000
- Estimated Time of Completion: 30 years

4. Continued In-Situ Air Sparging with Soil Vapor Extraction (AS/SVE)

- In-Situ Air Sparging (AS)
  - Air is injected into the groundwater to help remove the PCE by converting it into a vapor gas form
- Soil Vapor Extraction (SVE)
  - Vapors are captured to ensure that contamination does not migrate
  - Vapors are filtered and clean air is discharged outside
- Investigation into appropriate AS/SVE well locations
- Estimated Costs: $978,000
- Estimated Time of Completion: 10 years

4. AS/SVE Continued…

- The current system was part of a successful Treatability Study that would be expanded
- Groundwater Monitoring
- Continued treatment of city well before distribution
- Institutional Controls to prevent new wells in contaminated groundwater areas

Why EPA Prefers Alternative 4

- Protective of human health and the environment
- Compliant with ARARs
- Provides a permanent solution
- Achieves long-term risk reduction through treatment of contaminants

Why EPA Prefers Alternative 4

- Helps ensure that future exposure to contaminated groundwater does not occur
- Reduces risks within a reasonable time frame, more so than the other alternatives
- Reduces risks at a lesser cost than the other alternatives

Current Status
Public Comment Period
Jan. 10 – Feb. 9, 2011

The cleanup remedy ultimately selected by EPA for OU1 may differ from the Preferred Alternative described in this Proposed Plan based on public comments

Next Steps

- Public Comment Period

  January 10, 2011 – February 9, 2011

- Comment consideration

  proposed plan modification, if applicable

- Responsiveness Summary (RS) with submitted comments and responses

- Record of Decision (ROD)

Additional Information

- Online
  - www.epa.gov/reg3hwmd/super/sites/WVSFN0305428/index.htm
  - www.epa.gov/arweb
- Local Information Repository
  - Jackson County Library, Ravenswood Branch
    323 Virginia Street, Ravenswood, WV
- Also available at
  - US EPA Region 3 Office
    1650 Arch Street, Philadelphia, PA
    - Please call Mark Stephens for an appointment at (215) 814-3353

To Submit Comments

- Emailed Comments should be emailed to:

  johnson.laura@epa.gov

- Written Comments should be mailed to:

  U.S. Environmental Protection Agency, R3
  1650 Arch Street
  Philadelphia, PA. 19103
  Attention: Laura Johnson (Mailcode 3HS23)

Postmarked no later than February 9, 2011

U.S. EPA Contacts

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