



Public Involvement Meeting for the Bird Machine Co. Property

Presented by Baker Hughes Inc. and
AMEC Earth & Environmental, Inc.

March 14, 2012



Presenters and Project Personnel



Baker Hughes, Environmental Affairs

- Chris Clodfelter, Project Manager (713.439.8329)
- Dina Kuykendall, Director of Environmental Affairs (713.439.8789)

AMEC

- Kim Henry, Licensed Site Professional #7122 (978.392.5334)
- Marc Grant, Project Manager (978.392.5330)

Purpose of Tonight's 8th PIP Meeting



- We're here to:
 - Provide an accurate picture of environmental status
 - Listen to community concerns and questions
 - Inform you of plans for future site use
- Extensive Voluntary Remediation to date demonstrates our commitment to protect:
 - Community Health and Safety
 - The Environment
- Project Funding is about \$9 Million

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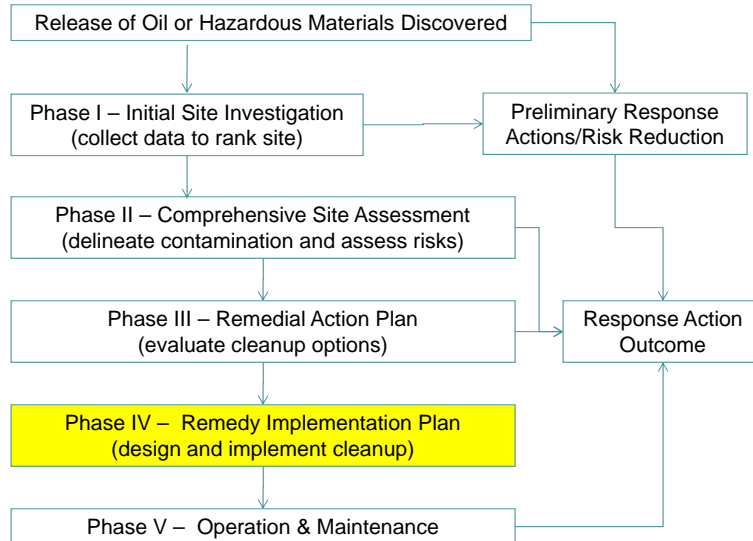
Agenda for Tonight's Meeting



- Review Recent Activities
- Summarize the recent Draft document and receive comments from the Public
 - Phase IV Remedy Implementation Plan
- Discuss Future Activities and Opportunities for Public Involvement

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Status of the Site within the Massachusetts Contingency Plan Process



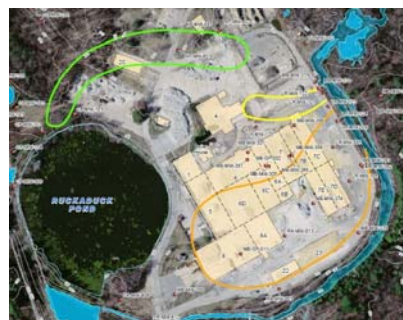
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Recent Activities – December 2011



Phase II Comprehensive Site Assessment reports were completed in December 2011

- Source remediation has achieved a condition of No Significant Risk for soil, sediment, and surface water, assuming an Activity and Use Limitation will be implemented to prevent residential use and soil disturbance
- The potential risk posed by arsenic, chlorinated volatile organic compounds (cVOC) and 1,4-dichlorobenzene (DCB) in groundwater will be addressed



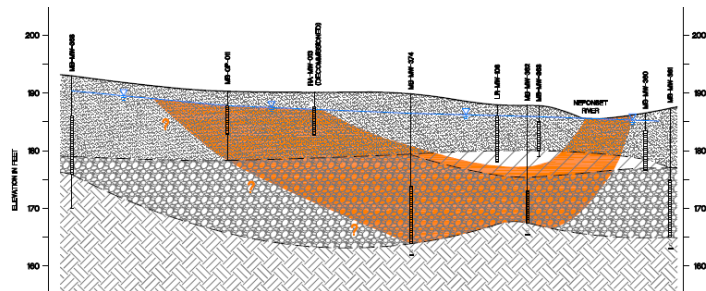
Extent of Contamination Lines
 DCB > MMCL
 Arsenic > MMCL
 cVOCs > MMCL

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Recent Activities – December 2011



- Compounds are migrating toward and discharging to the Neponset River
- Our conceptual site model is that compounds are migrating on top of the relatively impermeable bedrock and discharging upward to the river
- As proposed in the draft Phase IV Remedy Implementation Plan, additional data will be collected to confirm this model.



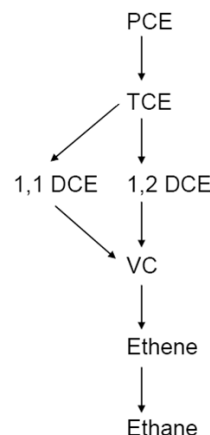
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Recent Activities – December 2011



A Phase III Remedial Action Plan for Site groundwater was completed in December 2011

- Monitored Natural Attenuation (MNA) was selected as a feasible remedy for achieving a "Permanent Solution"
- In MNA, compounds break down via physical, chemical and biological process that occur naturally in the aquifer
- Primary MNA processes are expected to be physical (dilution of arsenic) and biological (breakdown of chlorinated volatile organic compounds).



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Recent Activities – December 2011



Public comments on Phase III Remedial Action Plan

- Town of Walpole concerns with protecting water supplies will be addressed during remedy design and implementation (Phases IV and V).
- To address these concerns, additional monitoring wells will be installed and sampled during the design of the monitoring network, and selected wells will be incorporated into the network.



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Recent Activities – December 2011



- A Class C-2 Response Action Outcome (RAO) was achieved in December 2011 for RTN 4-3024222
 - No Substantial Hazard exists and a "Temporary Solution" has been achieved
 - A "Permanent Solution," which requires that drinking water standards be achieved pursuant to Walpole bylaws, will require remedial action
 - Five other RTNs were closed during 1992 – 2005, and RTN 4-3024222 is the last unclosed RTN at the property
- An Ecological Services Assessment was completed, and opportunities for enhancing these services were identified:
 - Land Protection (e.g., conservation easement)
 - Creation/Enhancement of Wetlands
 - Stream Restoration
 - Riparian (waterfront) Habitat Creation & Restoration
 - Reforestation of Formerly Disturbed Areas

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- Goals for Phase IV under the MCP
 - Design the Selected Remedy and provide construction and operation plans in a Remedy Implementation Plan (RIP)
 - Build the Remedy as designed including documentation of construction methods
 - Begin Implementing the Remedy, including any modifications and adjustments, and summarize in a Final Inspection Report (FIR)

- A two-phase Construction Process is proposed for the Site
 - Each step requires less than a month
 - There is a brief data evaluation period and contracting between the steps, with a total construction duration of about three months
- 1st Phase: Data Collection to refine the positions for monitoring wells
 - A Geoprobe and Mobile Laboratory provide real-time data to optimize further plume delineation
- 2nd Phase: Monitoring Well installations
 - Shallow, Deep, and Bedrock wells are focused along plume centerlines and near discharge areas
 - Additional wells along plume perimeter

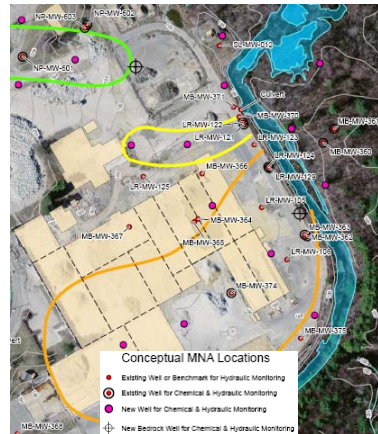
1st Mobilization: April-May, contingent on Conservation Commission approvals

- Temporary Sampling Points along and across the chlorinated volatile organic compound (cVOC) and 1,4-dichlorobenzene (DCB) plumes, and along arsenic plume, as shown by pink lines
- Data collected on Extent, Transport Pathways, and Monitored Natural Attenuation (MNA) processes
- Data evaluated to refine plume positions and well locations



2nd Mobilization: May-June

- Install shallow wells along the arsenic plume
- Install two-level well clusters (at 5-15 and 15-25 foot depths) along and downgradient of the chlorinated volatile organic compound (cVOC) and 1,4-dichlorobenzene (DCB) plumes
- Install a bedrock well near the downgradient edge of the cVOC and DCB plumes



Well locations subject to adjustment based on field data

- Begin Implementing the Remedy (June-July)
 - Collect initial chemistry and hydraulic gradient data
 - Prepare Final Inspection Report & Phase IV Completion Statement
 - Public Meeting and Comment Period during July to discuss the installed system, future operations, and reporting
- Begin Phase V Remedy Operation, Maintenance, and Monitoring (August +)
 - Evaluations of Effectiveness: declining concentrations & plume size, and maintaining Monitored Natural Attenuation (MNA) conditions
 - Semi-annual Reporting including any revisions to the Remedy

- Summary of the Presentation
 - Recent Activities and Current Conditions
 - Phase IV Design, Construction, and Reporting (February – July)
 - Final Inspection Report and Public Meeting in July to discuss the installed system, future operations, and reporting
 - Phase V Operation, Maintenance, Monitoring (August +)
- Next Steps
 - Public Input on this Draft Document and prepare Final version
 - Begin Phase IV Construction in April, contingent on Conservation Commission approval

**Please Provide Comments by
Monday March 19, 2012 to:**

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