EPA Presentation on Industri-plex Superfund Site Operable Unit 2 (OU2) Remedy

January 7, 2010

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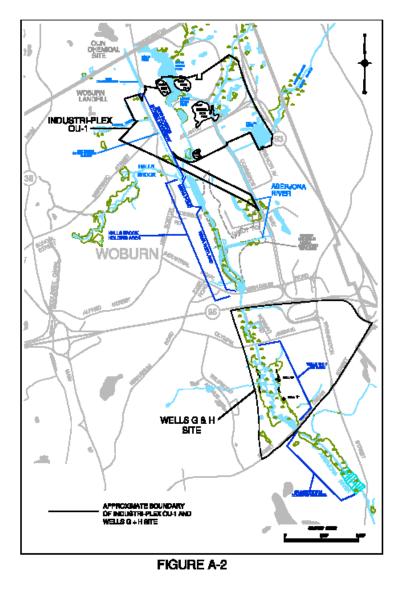
OU2 Remedy Milestones

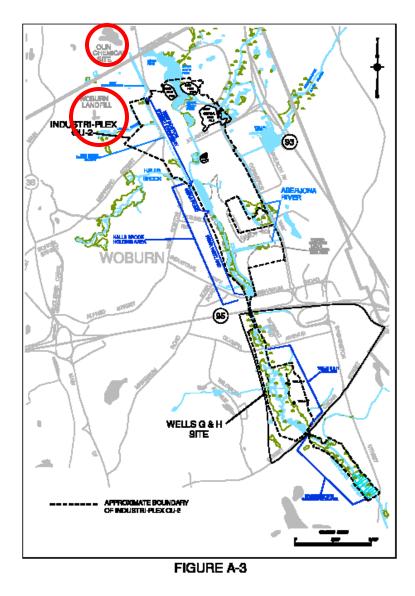
• Selected Remedy outlined in EPA's January 31, 2006 Record of Decision.

 Consent Decree settlement between EPA and the Settling Defendants (Bayer CropScience & Pharmacia Corporation) entered on November 24, 2008.

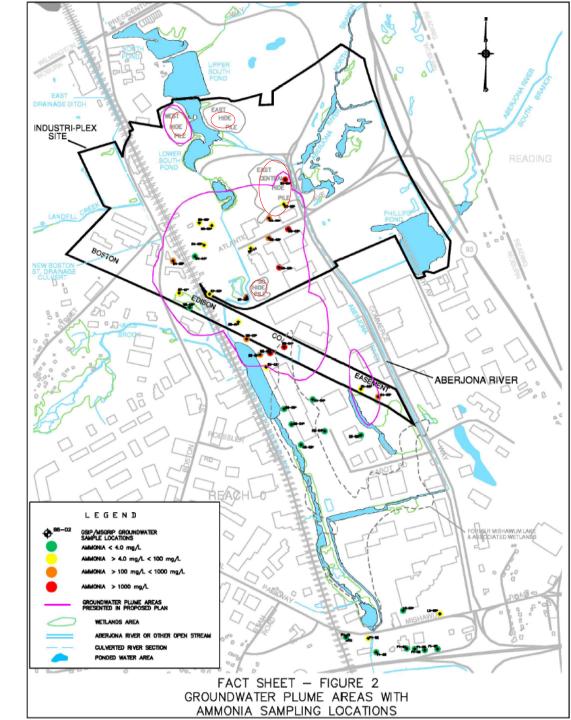


<u>OU2</u> (2008 CD)

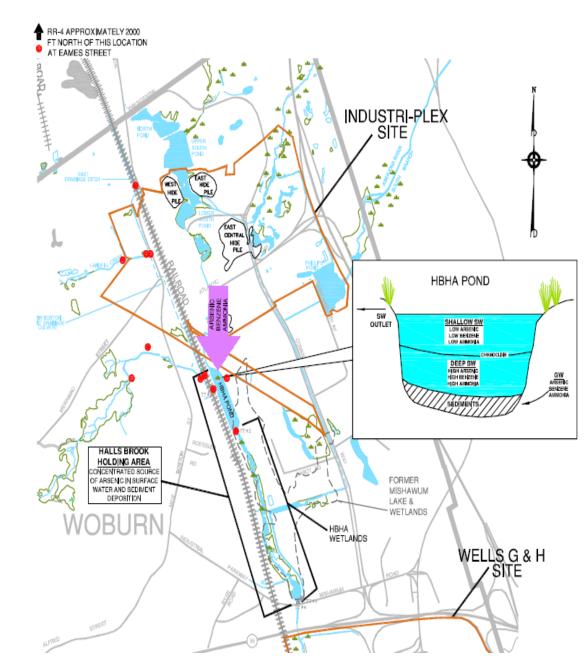


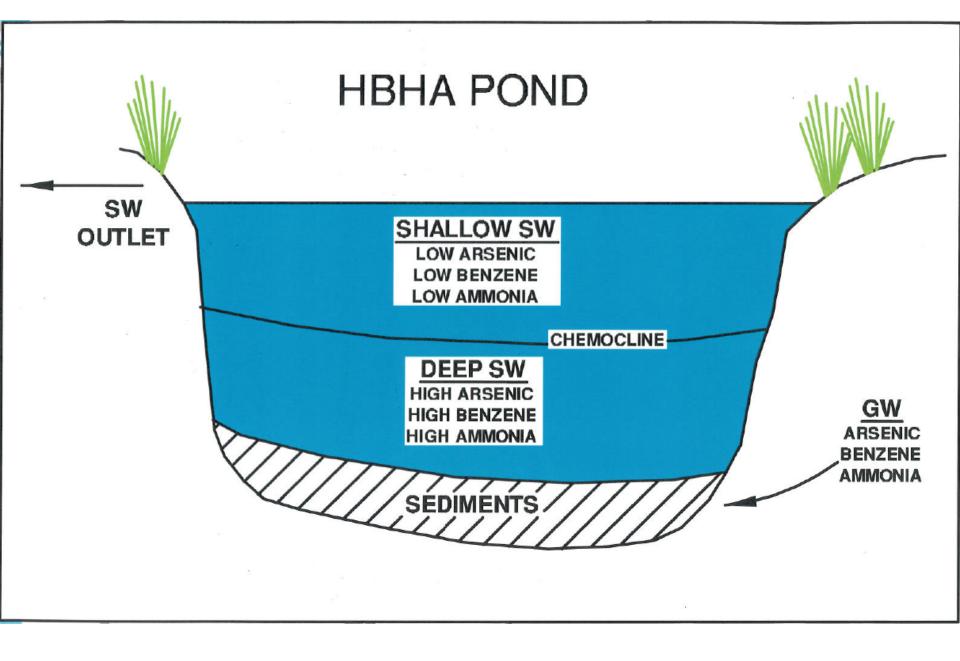


- IP OU1 Groundwater Plumes containing Ammonia, Arsenic, Benzene, other VOCs, low DO and high conductivity migrate downstream and discharge into HBHA Pond.
- Highest Ammonia concentrations were found near buried animal hide waste at Industri-plex.

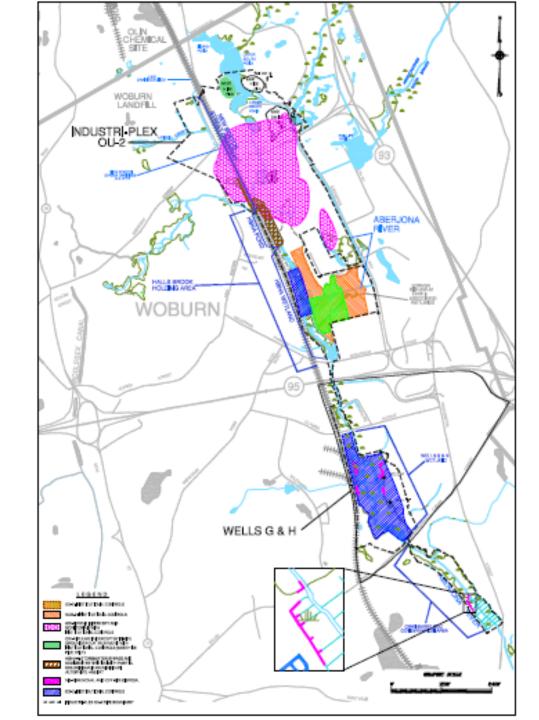


- Groundwater
 Plumes migrate and discharge into the HBHA Pond.
- Deep surface water in the HBHA Pond contains high concentrations of Arsenic, Ammonia, and Benzene.
- Concentrations are less in the shallow surface water of HBHA Pond.





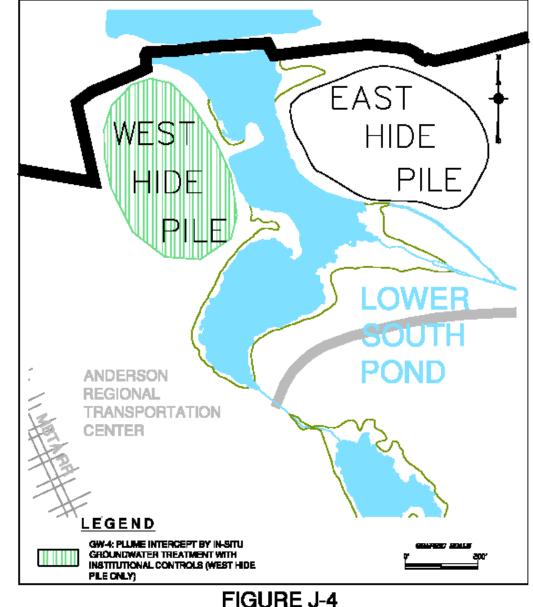
Industri-plex OU-2 (including Wells G&H OU-3) Cleanup Decision, Figure L-1 ROD



GW-4 for West Hide Pile:

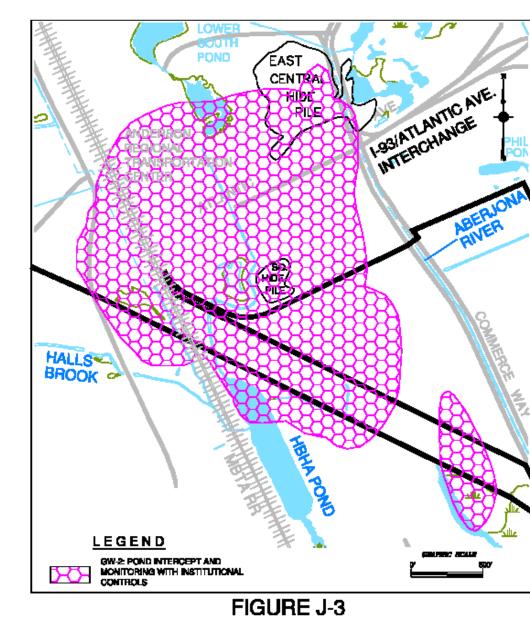
-Enhanced Bioremediation to address benzene at West Hide Pile, as determined necessary by EPA

-Requires further groundwater, surface water and sediment investigations relative to evaluate potential additional human health & ecological risks by WHP, EHP and adjacent wetlands.



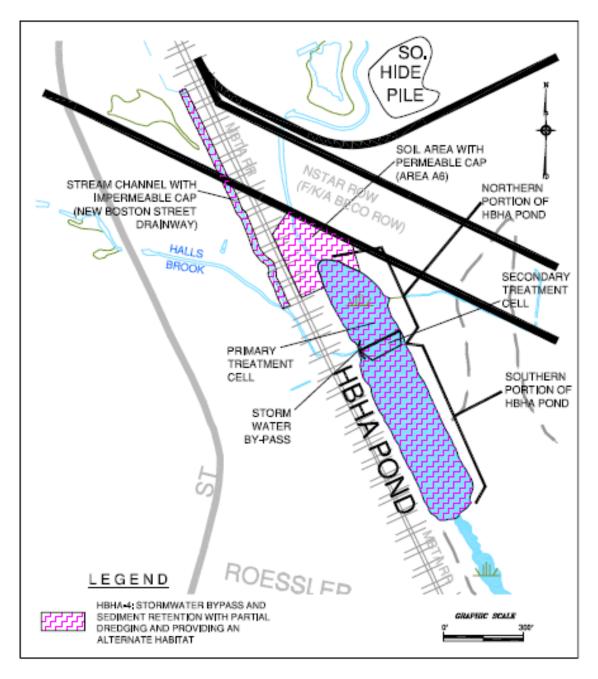
GW-2 (Pond Intercept with Monitoring and Institutional Controls):

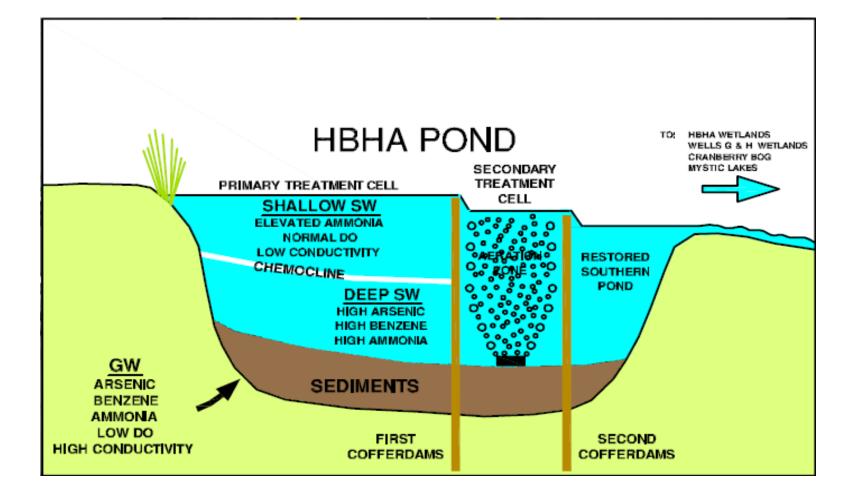
- Institutional controls to prevent exposures to contaminated groundwater and restrict drinking water, industrial process water, or other purposes;
- in conjunction with HBHA-4 remedy component, intercepts and controls downstream migration of the contaminated groundwater;



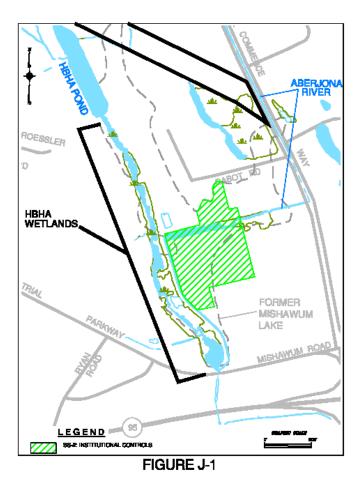
HBHA-4

- Primary and Secondary Treatment Cells in Northern Portion with periodic dredging
- Divert portion of Halls Brook storm water to Southern Portion
- Dredge and Restore Southern
 Portion
- Permeable Cap for Contaminated Soils
- Impermeable Cap to prevent contaminated groundwater discharge in stream channels
- Wetland Compensation for any function and value losses





Institutional Controls for Former Mishawum Lakebed Soils



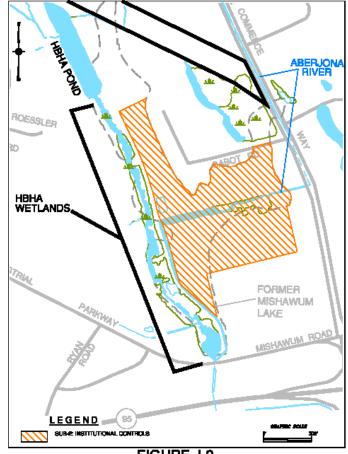


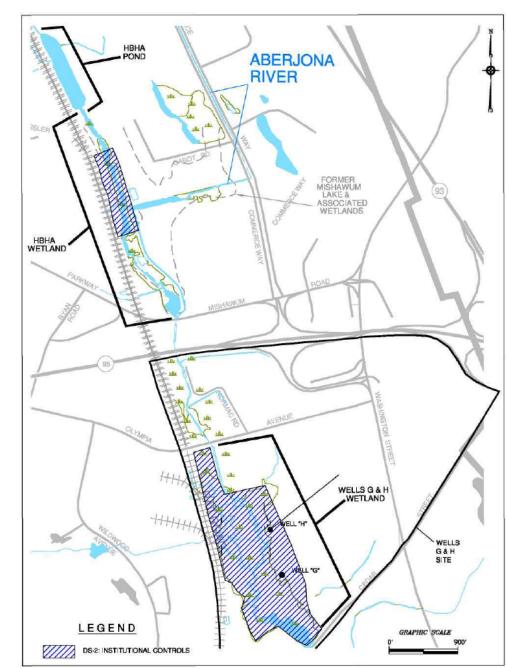
FIGURE J-2

Institutional Controls for Former Mishawum Lakebed Soils

- Institutional controls to restrict excavations without adequate worker health and safety precautions to minimize or prevent direct contact with contaminated soil;
- Restrict potential on-site and off-site spread of contamination; and
- Restrict land use so that child care facilities are not constructed in surface soil areas.

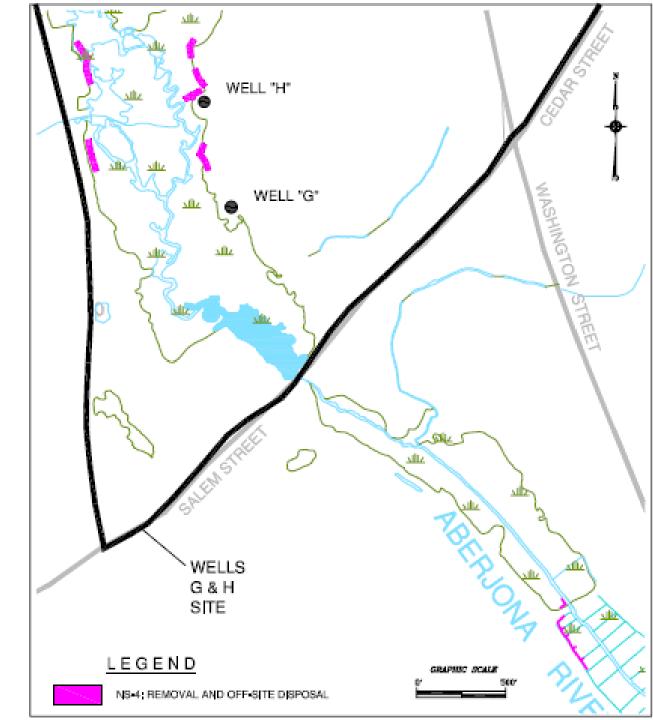
Institutional Controls for Deeper Interior Wetland Sediments

Institutional controls would prohibit dredging unless regulatory oversight and adequate precautions (e.g. engineering controls, PPE, etc.) are taken to minimize or prevent direct contact with contaminated sediment during dredging activities.



Near Shore Sediment Removal

- Wells G&H Wetland
- Cranberry Bog Conservation Area



IP OU2 Schedule

- Surface Water Monitoring Plan approved in 2009.
- Remedial Design Work Plan approval est. 2010.
- 100% Remedial Design completion est. 2012.
- Remedial Action construction completion est. 2014.
- Continuous EPA coordination with community and City of Woburn.

Sample	Ammonia
<u>(2005)</u>	<u>(mg/L)</u>
RRO4	0.3
RR03	10.8
LF02 (trib)	11.0
LF01 (trib)	12.7
RR02	11.3
RR01	10.0
Halls20 (trib)) ND
Halls22 (trib)) ND
Halls01 (trib)) ND
Comb	2.1
Outlet	3.8





Sample	Ammonia
<u>(3-18-09)</u>	<u>(mg/L)</u>
SW-P	20.2
SW-K	13.6
SW-Ka	14.7
SW-I	15.2
LFILL (trib)	90.9
SW-Ja (trib)	5.1
SW-H	11.4
SW-G	9.6
SW-F (trib)	0.1
SW01T	2.8
SW2IP (trib)	0.3
SW3IP (trib)	22.6
SW02	4.6
SW04	4.1



Contact Information

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