J. H. BAXTER SUPERFUND SITE

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EPA Announces Completion of Construction at Site

Introduction

The United States Environmental Protection Agency (U.S. EPA) announces the completion of remedial action construction activities at the J.H. Baxter Superfund Site ("Site") located in Weed, California.

Background

The J.H. Baxter Superfund Site is located in the northeastern portion of the city of Weed in Siskiyou County, California. The Site includes property owned by J. H. Baxter and Roseburg Forest Products. J.H. Baxter operates a wood treatment plant. Roseburg operates a lumber mill and veneer plant. Wood treatment is intended to protect wood from deterioration from insects and fungi and has historically used a variety of chemical compounds including creosote, arsenic, chromium, copper, zinc, and pentachlorophenol.

The Site is bordered on the northwest by residential areas of Weed, to the north by the Angel Valley Subdivision and Lincoln Park, to the east by mixed woodlands, and to the south by irrigated pasture. Beaughton Creek runs through the eastern portion of the Site.

Wood treatment operations and related waste disposal, handling and discharge practices over the past 60 years resulted in soil, surface water, sediment and groundwater contamination. Wastes generated at the Site includ retort drippings, tank and retort sledges, process water, wastewater, drying area drippings, and storage area drippings.

Site History

Wood treatment operations using chemicals to preserve lumber products were initiated at J.H. Baxter in 1937. Some of the preservatives believed to have been used included sodium fluoride, sodium dichromate, arsenic, and dinitrophenol, diammonium phosphate, ammonium sulfate, sodium tetraborate and boric acid.

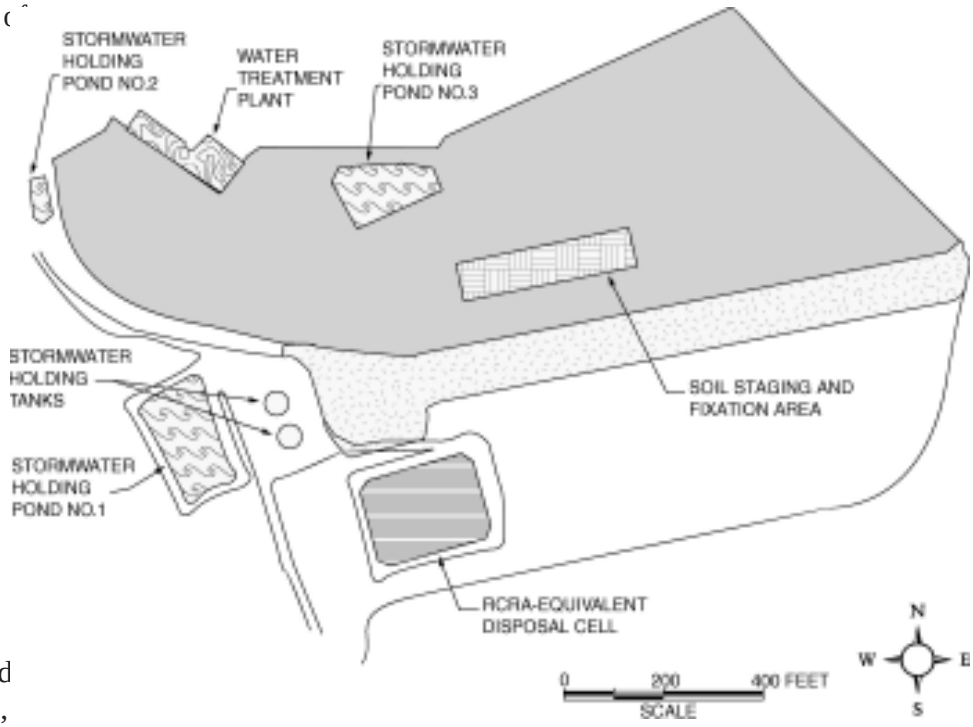

Figure 1: Surface Soils Design Elements

Where the Contamination Occurred:

1. Tank Berm Area Around the 500,000-Gallon (No. 3) Tank. The tank was converted to a process-water surge tank in 1983. Sludges were removed from the bermed area in 1985. However, contaminated soils remained.
2. Retort and Process Area - Several leaks and direct discharges of wood treatment chemicals from the process area onto the western portion of the property were reported from the 1940s through 1970s.
3. Buried Pond Area - Unlined settling ponds and pits containing wood treatment salts, and dip ponds containing creosote were located at the north end of the wood treatment property.
4. Oil Water Separator/Creosote Pit Area - Discharges and oil spills from the unit were reported as well as a leak in the inlet pipe
5. Waste Water Vaults - Two concrete-lined vaults were used to hold wastewater from oil and water-based chemical solutions, condenser water, cooling water, spillage drainage, wash water from retorts, and runoff.
6. The process of transferring wood treatment related chemicals from rail tank cars to facility storage vessels was also reported as a source of spills.

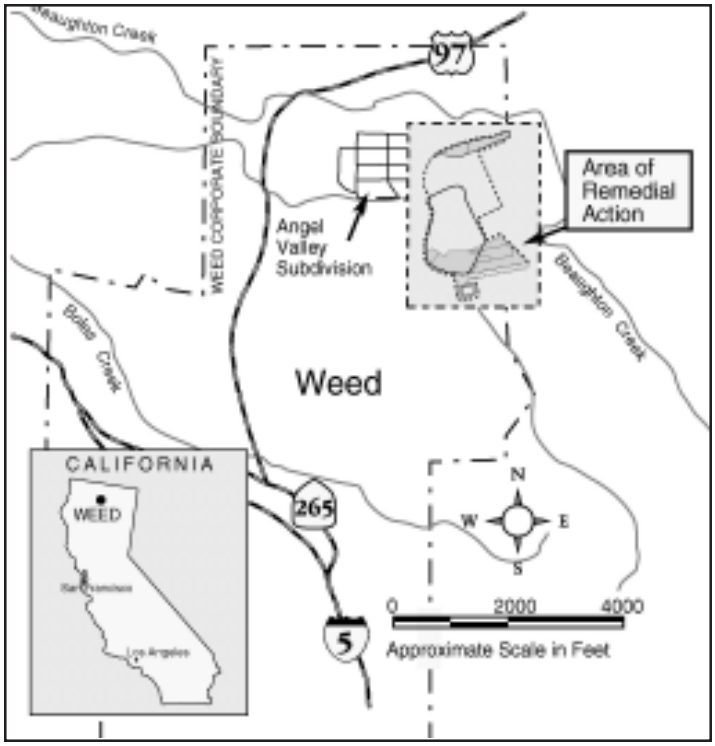

Figure 2: J.H. Baxter site location

What Construction was Completed?

EPA conducted a pre-final inspection in August, 2001 and verified that the potentially responsible parties (PRPs) had constructed the remedial action portion of the remedy in accordance with remedial design (RD) plans and specifications.

The Remedial Construction Activities conducted included:

1. Bioventing of Area B soils. The Area B soils were covered with two feet of clean soil and in-situ biotreating using bioventing is on-going. The bioventing system was constructed between October 1998 and March 1999 and was turned on in March 1999. Oversight of the Area B bioventing system is currently performed by EPA to verify that the system is being operated and maintained in accordance with approved guidelines.

What is bioventing?

The principle of bioventing is to enhance the activity of aerobic microbes in areas of the soil where hydrocarbons are present. The microbes will degrade the hydrocarbons. This process is enhanced by increasing the oxygen concentration of the soil by ventilating the soil with air. The goal of the bioventing system is to treat identified contaminants in the soil so they reach the excavation and treatment standards outlined in the 1996 Record of Decision (ROD) Amendment. The bioventing system is located where soils contaminated with elevated levels of both non-carcinogenic (nc) and potentially carcinogenic polycyclic aromatic hydrocarbons (PAHs) were placed. The contaminated soils were moved during the construction of a building.

2. Construction of a slurry wall to contain DNAPL (dense non-aqueous phase liquid) contaminants in the vadose zone. The vadose zone is the region in the ground between the surface and the water table in which pores are not filled with water. The slurry wall was constructed from 27 to 52 feet deep (depending on location) and over four thousand feet long with bentonite soil backfill. The slurry wall construction took place between March and October 1999.

The slurry wall prevents migration of DNAPL contaminants by containing the source of dissolved DNAPL contaminants, which enhances the restoration of the aquifer outside the slurry wall. The contaminants of concern include arsenic, carcinogenic PAHs, pentachlorophenol, and dioxin. The slurry wall reduces the required total groundwater extraction rate outside the slurry wall, which reduces the treatment plant capacity requirement and the period during which groundwater extraction outside of the slurry wall would be required.

3. Extraction/monitoring wells - Groundwater extraction wells are placed inside the perimeter of the slurry wall to enhance hydraulic containment. Extraction wells are also placed outside the perimeter of the slurry wall to extract contaminated water, which currently is being treated in the water treatment plant. The extraction well system became fully operational in December 1999. It is anticipated that the system within the slurry wall will continue to operate indefinitely and EPA will continue quarterly monitoring of the groundwater slurry wall remediation system.

4. Construction of a Resource Conservation and Recovery Act (RCRA) equivalent disposal cell. The designation of the RCRA-equivalent disposal cell as a Corrective Action Management Unit (CAMU) allowed for the disposal of soils contaminated with ncPAHs into the cell. The CAMU enables the use of treatment technologies to enhance long-term effectiveness of corrective actions by reducing the toxicity, mobility or volume of wastes.

   The RCRA-equivalent disposal cell or CAMU includes: a liner, leachate collection and removal system, a cover system, stormwater runoff controls, and utilities. Construction of the RCRA-equivalent soil cell and related activities took place between February 2000 and August 2001. Activities included construction of the RCRA-equivalent disposal cell, excavation, treatment (fixation and further land farming), installation of the asphalt cap, construction of storm ponds, and abandonment of select wells and piezometers. All elements of the remedy were found to be constructed in accordance with ROD standards and requirements. The leachate collection system is monitored quarterly. Long term operation and maintenance of this portion of the remedy are being carried out in accordance with the ROD.

5. Institutional Controls - Institututional controls are administrative and/or legal controls that minimize the potential for human exposure to contamination and/or protect the integrity of a remedy by limiting land or resource use. Institutional controls that will be implemented at the site include restrictive covenants that will be recorded on the site property to:

   - Limit future land uses to appropriate industrial uses,
   - Restrict access to and use of contaminated groundwater,
   - Prohibit activities that would disturb the integrity of the remedy,
   - Require appropriate handling of excavated materials,
   - Provide for appropriate notice that hazardous wastes remain onsite, and
   - Prohibit other activities that could cause a potential threat to human health or the environment.

Information Repositories

EPA maintains two information repositories in the Weed area that contain project documents, Federal and State regulations, fact sheets, the Community Involvement Plan, and other reference material.

Weed Library
780 South Davis Street
Weed, CA 96094
(530) 938-4769

College of the Siskiyous Library
800 College Avenue
Weed, CA 96094
Contact: Dennis Freeman
(530) 938-5331

U.S. EPA Contacts

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