NEW HAMPSHIRE DEPARTMENT OF Environmental Services

EPA Region 1, New England

# Beede Waste Oil / Cash Energy Site Newsletter

June 1997 Volume 1, No. 2

*The US Environmental Protection Agency (EPA) and the New Hampshire Department of Environmental Services (NH DES) are working together to clean up the Beede Waste Oil / Cash Energy Superfund Site located at 7 Kelley Road in Plaistow, New Hampshire.*

*There are three phases to the cleanup at the Beede site: Time Critical Removal Activities, Non-Time Critical Removal Activities, and the Remedial Investigation. An update on the progress in each area follows.*

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## TIME CRITICAL REMOVAL ACTIVITIES

*Contact Ted Bazenas, EPA On-Scene Coordinator 603-382-8401 or Paul Currier, NH DES Project Manager 603-271-4069*

*Time critical removal actions are actions that stop or substantially reduce a release or threatened release of hazardous substances. At Beede, EPA and NH DES have been removing the contents of the above ground storage tanks and removing the drums from the site which exhibit hazardous characteristics.*

In July, 1996 EPA and NH DES initiated removal activities at the Site. During the winter, EPA removed and disposed of 75,000 gallons of contaminated hazardous waste oil from13 tanks and 200 drums. The tanks and drums contained polychlorinated biphenyls (PCBs) or exhibited other hazardous characteristics such as ignitability or corrosiveness. NH DES removed 95,000 gallons of recyclable oil from 13 tanks.

Spring and summer 1997 removal activities and an update on progress follows:

☐ Remove and dispose of 114,500 gallons of oil: As of June 1, 1997, EPA has removed and disposed of 105,000 gallons of oil. NH DES began removing oil on June 16, 1997 and should complete removing oil by fall.

*continued on page 3*

## REMEDIAL INVESTIGATION

*Contact Paul Currier, NH DES Project Manager 603-271-4069 or Jim DiLorenzo, EPA Project Manager 617-223-5510*

*The purpose of the Remedial Investigation is to: gather the data necessary to determine the sources, nature and extent of all contamination at the Site; identify how the contamination is migrating; and evaluate potential public health and environmental risks. At Beede, this means installing monitoring wells, taking extensive soil, surface water and sediment samples and quantifying potential risks.*

The State's contractor, Sanborn, Head & Associates (SH&A) anticipates submittal of the Draft Remedial Investigation Workplan and associated documents by the end of June.

Installation of additional monitoring wells begin on June 23rd and will take four to six weeks to complete. About sixty wells are planned including around 12 off-site wells. These wells will be used to sample and determine Site hydrogeology and to locate potential unknown sources of contamination (see p. 4 for more information on Site Hydrogeology). Soil characterization will begin in July pending approval of SH&A Workplan.

## NEED MORE INFORMATION

*Cleanup of the Beede Waste Oil / Cash Energy Site is a team effort with environmental and health representatives from state and federal agencies. The following people are available to answer any questions:*

**Ted Bazenas** 603-382-8401
617-573-5723
On-Scene Coordinator - Removal Activities
US Environmental Protection Agency

**Paul Currier** 603-271-4069
Project Manager - Remedial Investigation
NH Department of Environmental Services

**Bob Minicucci** 603-271-2941
Community Relations
NH Department of Environmental Services

**Jim DiLorenzo** 617-223-5510
Project Manager - Remedial Investigation & Non-Time Critical Removal Actions
US Environmental Protection Agency

**Angela Bonarrigo** 617-565-2501
Community Involvement Coordinator
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Health Risk Analyst
NH Department of Health & Human Services

**Eileen Sparling** 603-271-5733
Health Educator
NH Department of Health & Human Services

## NON - TIME CRITICAL REMOVAL ACTIVITIES

*Contact Jim DiLorenzo, EPA Project Manager 617-223-5510*

*Non-time critical removal actions (NTCRA) are actions that stop or substantially reduce a release or threatened release of hazardous substances. Although serious, these releases do not pose an immediate threat to public health or the environment. At Beede, EPA will be removing floating oil product from the groundwater.*

EPA and NH DES have determined that a non-time critical removal action at the Site is necessary for the extraction of floating oil product from groundwater.

EPA's contractor, Brown & Root has completed the conceptual design for recovery of floating oil product. The design includes installation of a recovery trench at the leading edge of the floating oil plume(s) (along Kelley Brook) and recovery wells which will skim oil off the water table in the known source areas.

A pilot study to test the design will be performed this summer and fall. Data gathered from the pilot will be used primarily to measure the depth and breadth of the floating oil product and the degree of groundwater treatment needed. Full scale operation of the oil product recovery system will begin in the spring of 1998 and operate for several years.

## COMMUNITY INVOLVEMENT CORNER

**June 28 - Plaistow Old Homes Day:** NH DES and EPA staff had an information table and were available for questions from 9 am to 4 pm on Saturday, June 28.

**Residential Well Monitoring:**
NH DES plans to conduct the next round of residential well monitoring in August.
Questions: Contact Paul Currier 603-271-4069.

## SITE HISTORY

*The Beede Waste Oil / Cash Energy site is comprised of two parcels of land totaling 39 acres. Parcel 1 totals 22 acres and is the site of former commercial waste oil recycling and fuel oil storage and distribution operations. Parcel 2, a former gravel pit, is 17 acres of primarily undeveloped land.*

1926 - 94 Commercial operations, including recycling of used oil, storage and distribution of virgin fuel oil and cold patch manufacturing.

1991 NH DES verifies that on site soil and floating oil (LNAPL) is a source of contamination to abutting residential wells.

Site Owner conducts some investigations and removes a leaking underground storage tank believed to have been the primary source of LNAPL from the site to Kelley Brook.

1992 State files suit and obtains preliminary injunction order for site owner to control the LNAPL, investigate site and control hazardous waste.

NH DES places sorbent pads in Kelley Brook to contain the floating oil.

1994 Current owner is sentenced in Federal Court to serve 37 months for illegal and improper handling of hazardous waste.

1995 NH DES conducts investigation of site conditions and nature of waste.

1996 NH Fish and Game, NH DES and EPA conduct fish tissue survey to measure potential impacts of contaminants in Kelley Brook.

NH DES and EPA initiate time critical removal actions to address contaminated material left in the tanks and drums. Remedial Actions will begin in late summer and continue through the next few years.

Site is added to the Superfund NPL list, making additional federal funds available for cleanup and remediation.

***Time Critical Removal Activities, continued from p.1***

☐ Remove and dispose of 55,000 gallons of sludge from the above ground storage tanks:

EPA began sludge removal on June 12, 1997 and has shipped 18,000 gallons of sludge off site. NH DES will remove the remaining sludge throughout the summer.

Sludge being removed from tanks.

☐ Remove or treat and discharge 717,000 gallons of water from the tanks:

EPA has shipped 200,000 gallons of water off site and expects to ship an additional 20,000 gallons by the end of summer. NH DES expects to remove 500,000 gallons by fall.

☐ Remove and dispose of 2,300 gallons of anti-freeze:

NH DES wil remove the anti-freeze by fall.

☐ Clean tanks:

EPA has cleaned 18 tanks.

☐ Remove drums and disassemble and remove tanks:

EPA shipped 170 drums off site on June 19, 1997. NH DES will remove all tanks and drums by fall of 1997.

## SITE HYDROGEOLOGY

*Contact: Bob Minicucci: NH DES Community Relations 603-271-2941*

Since 1990, about three dozen test wells have been drilled or driven on the Site. What is known to date about groundwater flow at the Site comes from information obtained during construction and monitoring of these wells.

Generally, groundwater at the Site flows throughout the soil towards Kelley Brook at an estimated rate of 25 to 75 feet per year. The water table's surface literally slopes downward toward the brook, just like the surface of a river sloping downward as it moves toward its outlet into the brook. Therefore, nothing flows in the opposite direction.

Kelley Brook seems to intercept most, if not, all of the groundwater from the Site that reaches it. The Remedial Investigation will complete our understanding of the interactions between groundwater and the brook.

The major contaminants at the Site are in an oily form. As the oily contamination is pulled downward by gravity, some of the contamination adheres to the soil particles, leaving that soil contaminated. At Beede, where there is a large mass of contamination, the oil passes through the soil and accumulates at the water table, since the oil is lighter than water.

This mass is referred to as an LNAPL: Light Non-Aqueous -Phase Liquid. After accumulating on the water table, an LNAPL will flow down the slope of the water table, toward Kelley Brook in Beede's case, however at a much slower rate than the groundwater itself. This is because the oily LNAPL material tends to stick to the soil grains that it's flowing past and because of it's higher viscosity, it moves through the small spaces between the soil particles more reluctantly than water.

The LNAPL is moving on the water table and getting trapped below the water table at times. Contaminants from the LNAPL are slowly dissolving into the groundwater.

Petroleum chemicals and each of the other non-petroleum chemicals mixed or dissolved with the petroleum, such as PCB's and chlorinated solvents, has a specific, usually very small, solubility in water. So, each chemical in the LNAPL dissolves into the groundwater below it at its own rate. The dissolved contamination then moves with the groundwater (faster than the LNAPL itself), forming a dissolved plume.

Once the source of a dissolved plume is identified and removed, the dissolved plume shrinks. In cases where a plume persists, the usual reason is that there's a source of groundwater contamination that hasn't been discovered, measured and removed.

As a result of the Remedial Investigation and studies the U.S. Geological Survey is conducting; we hope to learn how groundwater enters bedrock at the site, what we can expect of contaminant movement through the bedrock, how Kelley Brook and the Site's groundwater interact, and complete the picture as much as possible.

***Newsletter Feedback:***

*If you have suggestions for topics to be covered and questions to be answered in future newsletters. Contact:*

*Bob Minicucci at 603-271-2941 or e-mail: RPM2@DES.STATE.NH.US or*
*Angela Bonarrigo: 617-565-2501or e-mail: BONARRIGO.ANGELA@EPAMAIL.EPA.GOV*

NH DES & EPA are removing and disposing of oil, sludge and water from the above ground storage tanks at the Beede Waste Oil / Cash Energy Site. See inside for an update on activities.

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A. Bonarrigo, US EPA, Region 1, JFK Federal Building (RAA), Boston MA 02203

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