Beede Waste Oil Site Newsletter

Volume III, No. 1 - March 1999

The U.S. Environmental Protection Agency and the N.H. Department of Environmental Services are working together to clean up the Beede Waste Oil Superfund Site located in Plaistow, NH. Below is an update on cleanup activities.

Non-Time Critical Removal Activities

Last fall, EPA and DES decided on a non-time critical removal action for addressing the estimated 40,000 gallons of mobile floating oil at the site. The three light non-aqueous phased liquid (LNAPL) plumes beneath the site, which consist of oil and various contaminants floating on the groundwater table, are a continuing source of groundwater contamination. Last year, EPA installed an interceptor trench which greatly reduced seepage of the oil to Kelley Brook.

EPA contractors have begun to work on the design of the non-time critical removal action which includes extending the existing oil interceptor trench that borders the site and Kelley Brook, installing about 150 extraction wells and operating a vacuum enhanced extraction (VEE) system to remove the mobile floating oil from the groundwater table. The actual work will begin this summer. ▲

Remedial Investigation

DES and EPA continue to go through mountains of data to evaluate the full nature and extent of contamination at the site and to make assessments of the Beede site's human health and ecological risks. The final remedial action chosen will need to address all of these risks. This activity will take the rest of the winter. DES and EPA plan to release a Remedial Investigation Report this summer. A public information meeting will be held at that time to present field study results and explain potential risks.

Potentially Responsible Party (PRP) Search

PRPs include any owner / operator of a site, or generator or transporter of hazardous waste to the site. Under the Superfund law, PRPs are responsible for contributing to contamination of the site and may share the cost of cleanup.

EPA continues to work on identifying the potentially responsible parties for the Beede Site. EPA began its PRP search process soon after including the Site on the National Priorities List in December 1996. To date, EPA has mailed over 6200 information request letters to businesses and other private parties who may have generated or transported wastes to the Site. Receipt of an information request letter does not mean the recipient is a PRP. The determination of who is a PRP will be made at a later date based on information gathered from all available sources. For additional information on the PRP search process, please see the article in our June 1998 Beede Waste Oil Newsletter.

Later this month, EPA will begin mailing information request letters to municipalities, state and federal agencies who are beilieved to have sent waste to the site.

EPA has staffed an information line for recipients of an information request letter to call for answers to any questions they may have. The telephone number is 617-918-1799. The information line may also be accessed through Region 1's toll-free number which is 1-888-372-7341. In addition, EPA staff are available for presentations on the Beede site and the PRP search to trade groups and other interested organizations

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For More Information

US EPA
Jim DiLorenzo
Project Manager
617-918-1247

Angela Bonarrigo
Community Relations
617-918-1034

New Hampshire DES
Wayne Ives
Project Manager
603-271-2890

Bob Minicucci
Community Relations
603-271-2941

New Hampshire DH&HS
Scott Sudweeks
Health Risk Analyst
603-271-4664

Beede Information Line
(617) 918-1799

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who's members have received information requests.

Once all the available information is collected, organized and reviewed, EPA will notify parties who are determined to be PRPs. A PRP list will be developed based on the volume of waste each party transported or generated to the Site. This volumetric ranking assists in determining relative responsibility.

There are a number of EPA policies and initiatives which will be considered to help divide the costs in a fair and equitable manner.

A BRIEF SITE HISTORY

The Beede Waste Oil 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 is 17 acres of primarily undeveloped land.

1926–94

- Commercial operations, including recycling of used oil and cold patch manufacturing.

1991

- 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 which was the primary source of LNAPL from the site to Kelley Brook.

1992

- State orders site owner to control the LNAPL, investigate site and control hazardous waste.
- DES places sorbent pads in Kelley Brook to contain the floating oil.

1995

- DES conducts investigation of site conditions and nature of waste.

1996

- Current site owner is sentenced in Federal Court to serve 37 months for illegal and improper handling of hazardous waste.
- NH Fish and Game, DES and EPA conduct fish tissue survey to measure potential impacts of contaminants in Kelley Brook.
- DES and EPA initiate removal actions to address contaminated material left in the tanks and drums. This action is completed in the summer of 1997.
- The site is added to the Superfund NPL list, making additional federal funds available for investigation and cleanup.

1997

- EPA and DES initiate remedial investigation and an engineering evaluation / cost analysis.

1998

- DES and EPA perform field work for the remedial investigation. The old building is removed to allow soil sampling.
- EPA issues an Action Memorandum selecting vacuum enhanced extraction as the appropriate technology to remove mobile floating oil.

Point of Entry Treatment Systems Provide Safe Water

The NH Department of Environmental Services and US Environmental Protection Agency regularly sample well water from homes near the Beede Waste Oil Superfund Site for volatile organic chemicals (VOCs) analysis. We sometimes also install treatment systems to protect the people living near Beede by treating the contaminated water before it is used.

Exact contaminant types and concentration levels vary in the wells near the site. Some wells show no VOCs or only trace levels, but others have VOCs at levels above what is considered safe for long term consumption and household use. Twenty-one residential drinking water wells are regularly tested. Of these, only two wells are above Ambient Groundwater Quality Standards (AGQS) as of early 1999. AGQSs are State-wide contaminant limits above which consumption of water is not recommended. Because no alternative water supplies are available, Point of Entry treatment systems, or POEs, have been installed to treat the water by removing the VOCs. These POEs can remove virtually all the VOCs to levels below detection in a laboratory.

After reviewing test results, the NH Department of Health & Human Services (DH&HS) makes a determination as to whether a specific water supply should be used without treatment. This determination is passed on to DES and EPA, who then proceed to take the necessary action. DH&HS provides residents with recommendations on water use and on the possible health effects associated with different contaminants.

POEs are installed when the results of water quality sampling show that a contaminant is above Ambient Groundwater Quality Standards (AGQS), and/or when DH&HS recommends that a water supply not be used without treatment. Chemicals below AGQS are generally considered safe for drinking over a lifetime (see the December 1997 Beede Waste Oil Site Newsletter). Where VOCs are present, our regular sampling will show whether the contaminant level is increasing or decreasing with time. If a sample shows contaminants above standards, another sample will be taken right away to make sure the first sample was correct. The two samples above standards and/or an upward trend prompt the installation of a POE.

Two types of POEs are used to remove VOCs. Air strippers remove VOCs by blowing bubbles into the water. As the bubbles pass through the water, volatile contaminants will transfer into the air bubbles from the water. The contaminated air is then vented off while the cleaned water is piped into the system. The other treatment type is Granular Activated Carbon or GAC. GAC is loaded in a cartridge on the water line. Most VOCs have a stronger attraction for the GAC than they do for the water. As the water moves through the canister, the contaminants leave the water and attach themselves to the carbon particles. Eventually, the GAC will capture all the contaminants it can and must be replaced to prevent contaminants from passing through the treatment. Sometimes, both air strippers and GAC are used together in one POE system. These types of treatment are effective for removing VOCs, but do not treat some other hazardous chemicals like heavy metals. Our testing has not found heavy metals above AGQS in drinking water wells near Beede.

POE air strippers to remove volatile organic contaminants cost over $4000 installed. Maintenance is done every six months at a cost of over $100 per call. Equipment and installation for a GAC system are about $2500. A replacement cost of $500 is required each time the spent GAC must be changed. In addition, some water supplies also need pretreatment for mineral problems like iron. The standard installation is a combined air stripper and GAC system that costs $6400 for equipment and installation. Besides equipment, installation and maintenance costs,

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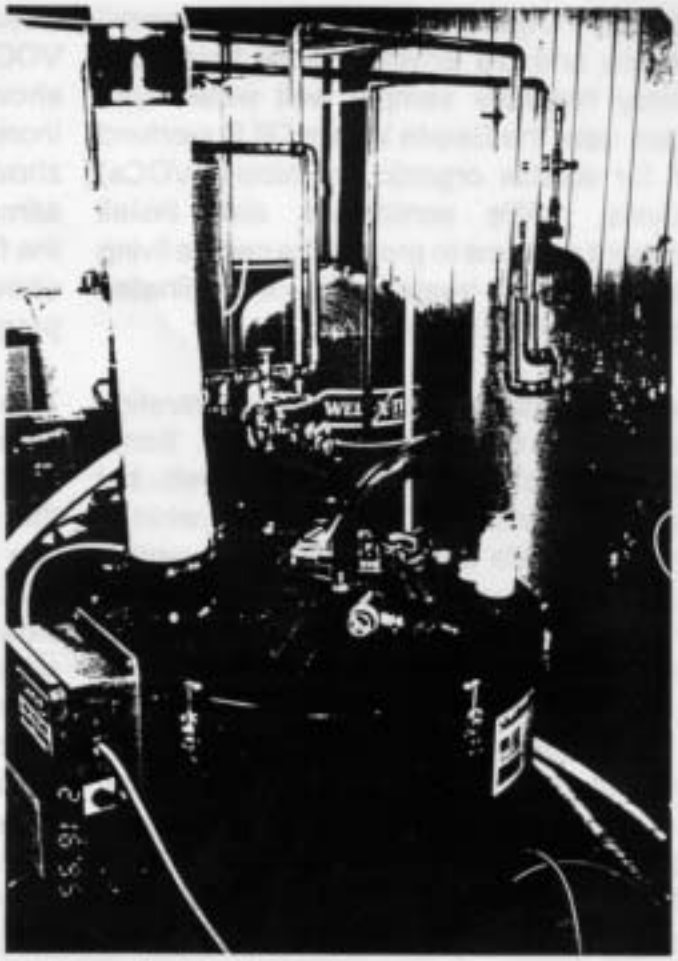
regular sampling is required to ensure the effectiveness of treatment. Samples are collected from a spigot before the POE system to determine the contaminant levels in the untreated water, and also after the treatment system to ensure that the treatment remains effective. Trace amounts of contaminants found after treatment can mean that GAC canisters need replacement, that the POE needs maintenance, or that contaminant levels are approaching levels higher than the POE was designed to treat. Repairs or adjustments are made to the POE system to prevent contaminants from reaching the user at levels above AGQS.

Sometimes, we provide bottled drinking water. This can be done immediately on learning that a problem exists, but before we can arrange full POE installation. In these cases, we continue to provide the bottled water at least until testing shows that the POE is operating properly. Occasionally, based on DH&HS input, provision of bottled water alone is sufficient.

Wells near the Beede Superfund Site with VOC contaminants above AGQS are being treated with POE systems. These systems remove the VOCs that make the water unsafe. The water after treatment is safe for unrestricted use for drinking, showering and other household uses. These POE systems also remove any radon that may be in the water. Systems with metals pretreatment deliver water that is lower in common naturally-occurring metals such as iron and manganese.

DES has maintained contracts for POE installation since 1990. A research project to examine the effectiveness of these systems was completed by UNH in 1993. DES has installed around 60 POE systems around the state. Generally, we use this contract for POE installation in cases where we do not know who is responsible for contamination, in cases where responsible parties are unable or unwilling to take action. ▲



Installation of a Point of Entry Treatment System.

Feasibility Study

Following release of the Remedial Investigation Report, DES and EPA will undertake a Feasibility Study. The purpose of this study will be to evaluate available technologies to address the wastes and potential risks identified in the Remedial Investigation Report. Appropriate technologies will be assembled into remedial alternatives (cleanup options) which will be compared against several performance criteria. Results will be published in a Feasibility Study Report and presented to the public late this year. The public will be able to comment on the cleanup options before a final decision is made. ▲

Beede Mailing List Additions, Deletions & Changes

Check here to:

- ☐ Be added to the mailing list
- ☐ Note a change of address
- ☐ Be deleted from the mailing list

Name: _____

Address: _____

_____

_____

Please send the above information to:

Angela Bonarrigo
US EPA, Region 1
1 Congress Street, Suite 1100
Boston MA 02203

Newsletter Feedback

If you have suggestions for topics to be covered and questions to be answered in future newsletters, please contact:

Bob Minicucci, NH DES
(603) 271 - 2941
rpm2@des.state.nh.us

Angela Bonarrigo, US EPA
(617) 918 -1034
bonarrigo.angela@epamail.epa.gov