

# Caldwell Trucking

## New Jersey

EPA ID#: NJD048798953

### EPA REGION 2

Congressional District(s): 11

Essex

Fairfield Township

#### NPL LISTING HISTORY

Proposed Date: 12/1/1982

Final Date: 9/1/1983

## Site Description

The Caldwell Trucking Site consists of properties and groundwater contaminated by the disposal of residential, commercial, and industrial septic waste. Caldwell Trucking disposed of these wastes in unlined lagoons on its 11-acre property from the early 1950s until 1973. After 1973, Caldwell installed underground storage tanks for the storage of these wastes. By 1984, the tanks were no longer used, and Caldwell operated solely as a transport facility until 1988, when it ceased operations. Other industrial facilities in the area may also have contributed to the groundwater contamination. There are about 500 single family homes located in a populated area within one mile of the site. Since 1981, over 300 private wells in the area have been taken out of service due to contamination. The affected residences have been connected to the municipal drinking water supply system. The contaminated groundwater plume originating from the site flows north towards the Passaic River, which is used for recreational activities and as a source of drinking water.

Site Responsibility: This site is being addressed through Federal and responsible party actions.

## Threat and Contaminants

Groundwater is contaminated with hazardous substances, including trichloroethylene, 1,1,1-trichloroethane, and their degradation products. Metals, volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) were detected in the subsurface soils on the Caldwell Trucking property. Lead and other metals were also detected in surface soils. VOCs were detected in surface waters near the site, in a tributary to Deepavaal Brook, the Brook itself, and the Passaic River. Drinking contaminated groundwater is a potential health threat. Other potential health threats include exposure related to direct contact or accidental ingestion of contaminated surface water or soils as well as vapor intrusion.

## Cleanup Approach

Site cleanup is being addressed in three stages: immediate actions and two long-term remedial phases focusing on the cleanup of contaminated soils and groundwater. The immediate actions and the cleanup of the contaminated soils have been completed.

### Response Action Status

Immediate Actions: Several actions were implemented in 1990 to reduce the potential for exposure to site contaminants. Chain-link gates and fences were installed to restrict site access. The exposed lagoon and the four underground storage tanks were covered and surrounded with snow fencing. To minimize exposure of trespassing dirt bike riders to hazardous substances, portions of an access road were covered with geotextile fabric and stone. Warning signs were posted on the fences and at the entrance to the site.

1986 Record of Decision: In September 1986, the first of two Records of Decision (RODs) was signed. The selected cleanup included: (1) restoring a lost potable water resource by providing treatment, through air-stripping, of Municipal Water Supply Well No. 7; (2) providing an alternate water supply for residents potentially affected by groundwater contamination from the site; and (3) excavating and treating approximately 28,000 cubic yards of contaminated soils and waste materials via low temperature thermal treatment, and disposing of treated soils in a secure landfill to be constructed at the site in accordance with Resource Conservation and Recovery Act (RCRA) requirements.

The Township of Fairfield subsequently decided not to use Municipal Well No. 7, and instead rely on the Passaic Valley

Water Commission as an alternative potable water supply for the entire community. Accordingly, EPA issued an Explanation of Significant Differences (ESD) in May 1991, to delete the provision of well-head treatment for Municipal Well No. 7 as a component of the remedy.

In February 1993, EPA issued an ESD to explain modifications to the soil component of the 1986 ROD. The modified remedy included off-site treatment and disposal of certain waste materials, and stabilization of the lead contaminated soils to meet RCRA disposal regulations. The stabilization process would also reduce the VOCs remaining in the soils prior to disposal in the on-site hazardous waste landfill.

On April 19, 1993, EPA issued a unilateral administrative order (UAO) to 11 potentially responsible parties (PRPs) to implement this modified remedy. In late 1993, the PRPs started initial construction activities, including site clearing and drum consolidation.

On February 3, 1994, the PRPs formally requested permission to prepare a focused feasibility study (FFS) to evaluate an alternative remedy for the remaining soil contamination at the site. The alternate remedy included excavation and off-site disposal of highly contaminated wastes, as described in the existing remedy. In addition, soils with VOC concentrations greater than 100 milligrams per kilogram (mg/kg) would be excavated and disposed of off-site, and the remaining contaminated waste stabilized or solidified in place. The FFS concluded that a hazardous waste landfill would no longer be necessary because the off-site disposal of highly contaminated wastes, together with on-site stabilization/solidification of the remaining contaminated wastes, would be protective of human health and the environment. In February 1995, EPA signed a Record of Decision Amendment, formally changing the 1986 ROD remedy to the alternate remedy.

1989 Record of Decision: In September 1989, the second ROD for the site was signed. The selected remedy required the installation of groundwater recovery wells at various locations throughout the study area to intercept the entire contaminated groundwater plume. The 1989 ROD also provided for a contingency remedy if EPA could not obtain community acceptance regarding access to the properties needed for implementation of the selected remedy.

In 1993, EPA issued an ESD explaining its intent to implement the remedy that includes installation of groundwater recovery wells to intercept the most contaminated portions of groundwater in the lower water table aquifer and the upper bedrock aquifer. An air stripper would be constructed on-site to treat the extracted groundwater, and the treated effluent would be discharged to the Passaic River. The remedy also includes cleanup of a spring that is recharged with contaminated groundwater and flows into a tributary to Deepavaal Brook, and a program for the sealing of all private wells in the contaminated groundwater plume, some of which are still being used for non-potable (non-drinking) purposes, such as irrigation.

On June 29, 1993, EPA issued a UAO to 15 PRPs to conduct studies to evaluate the current hydrologic conditions in the contaminated groundwater aquifers and effects the site may have on the Passaic River. This study was completed in October 1994.

In November 1994, EPA, the New Jersey Department of Environmental Protection and the U.S. Department of Interior signed a consent decree with the PRPs. The PRPs agreed to perform the remedial work necessary to contain the contaminated groundwater plume, in addition to the site work being done according to the UAO's.

## Cleanup Progress

### Operable Unit 1:

In the summer of 1989, EPA connected 55 homes and 9 commercial establishments in the contaminated groundwater plume area to the municipal water system. In May 1994, the PRPs installed a seven-foot high security fence around the entire site. In September 1994, approximately 1650 cubic yards (2640 tons) of contaminated material was excavated and disposed of off-site.

Construction of the soil stabilization phase of the remedial action started in August 1995. In November 1995, the PRPs proposed to construct a soil vapor extraction (SVE) system to reduce the levels of odors and emissions during stabilization activities. EPA approved the PRPs' request, and in June 1996, the PRPs started the SVE system. The PRPs operated the SVE system from June 1996 to March 1997, and removed over 25,000 pounds of VOCs (over 12 tons) from the soil. Stabilization of approximately 40,000 cubic yards (64,000 tons) of contaminated soils was completed in September 1997. In October 1997, EPA was informed by the Site owner of a new area of contamination. In September 1998, the PRPs stabilized an additional 1,000 cubic yards of lead-contaminated soils. In February 2001, the PRPs found additional lead-contaminated soils in the North Lagoon Area of the Site. In August 2001, the PRPs delineated the extent of contamination and submitted plans for the cleanup of the contamination. In July 2003, EPA approved the Remedial Action Work Plan Addendum submitted by the PRPs to excavate and stabilize the remaining lead-contaminated soils and restore the wetlands in the area. Approximately 2,500 cubic yards of soil were excavated and stabilized from this area. The PRPs completed construction in early 2004, and EPA approved completion of the Soils Remedial Action Completion Report in September 2004. During FY2005, the PRPs' contractor completed a number of wetlands restoration tasks

identified after initial wetlands restoration activities were completed. The wetlands mitigation was monitored twice a year for five years. Wetlands Mitigation Project Monitoring Reports were submitted on an annual basis beginning in January 2007. The Final Mitigation Project Monitoring Report, dated February 2011, included information on wetlands activities and data obtained during calendar year 2010. The information collected by Arcadis, the wetlands sub-contractor, during visits to the wetlands during 2010 indicated that the wetlands has continued to develop with increased wetlands diversity and continued planting and seeding work as well as additional spot herbicidal spraying to eliminate remaining invasive species. A November 09, 2010, letter submitted by NJDEP approved completion of the wetlands mitigation project.

#### Operable Unit 2:

In February 1997, EPA modified the groundwater remedial action schedule and allowed the PRPs to test the effectiveness of an innovative technology, an iron reactive wall system, to intercept the contaminated groundwater before it discharges at a surface water seep. In May 1998, the PRPs completed construction of the iron wall. Monitoring results on the effectiveness of the iron wall indicate that the wall has reduced the VOC levels in the seep but not to acceptable levels. In February 2002, the PRPs completed installation of an additional treatment system to reduce the levels of contamination reaching the seep. In October 2000, the PRPs requested permission to pilot test an enhanced biological treatment system in the VOC source area at the Site. From January 2001 to July 2002, the PRPs conducted the pilot test. Results from the pilot test indicate that enhanced biological treatment system appears to be reducing the level of VOCs in the source area at the Site. The PRPs requested permission from EPA to perform a Focused Feasibility Study (FFS) for the purpose of amending the current groundwater extraction and treatment system remedy. EPA approved the PRPs' request to develop the FFS in May 2003. However, EPA and NJDEP could not approve the FFS submitted in January 2004 because the document was deficient for a number of reasons. EPA and NJDEP formally notified the PRPs that the FFS was not approved and that they should begin implementing the original pump and treat remedy. The PRPs responded with a request to initiate informal dispute resolution. In November 2004, EPA and the PRPs agreed to hold the dispute resolution in abeyance while efforts were made to try and work out a compromise. In March 2005, a work plan was approved by EPA and NJDEP and the PRPs initiated field work for recovery well installation. Work was completed on installation of the remediation wells in June 2007, and results from hydraulic testing of the remediation wells were evaluated by EPA and NJDEP. In March 2008, the first step was taken when the PRPs submitted the draft remedial design for the pump and treat containment system. EPA conditionally approved the remedial design contingent upon the submission of responses to comments provided in EPA's April 2008 letter. The responses were submitted by the PRPs and were approved. The next step involved the construction/installation of the remedy which began in early September 2008 and was completed in December 2008. The pump and treat facility, also known as the O'Connor Drive Groundwater Extraction and Treatment System, has been operating since the end of December 2008. Groundwater data is obtained from a number of wells and piezometers, agreed to by both EPA and the PRPs, located in the vicinity of the treatment system. Groundwater data is obtained from approximately 30 wells and piezometers on a semi-annual basis and from 65 wells and piezometers on an annual basis. In addition, data is obtained on a monthly basis from the extraction wells. The first data report indicated that the system is operating as designed. A second report submitted in October 2010, for annual year 2009, is under EPA review.

In addition to the main work on the remediation wells, the PRPs submitted a pre-design investigation work plan in June 2007 involving installation of eight piezometers to evaluate the remaining ground-water contamination entering the unnamed tributary to Deepavaal Brook from the vicinity of the Seep Area. Since that time, the PRPs have conducted additional studies including some additional hydraulic testing and a Focused Pre-Design Investigation. The PRPs prepared a report on their investigative findings which is under EPA review.

Upgrade of the air stripper to treat surface water contamination to meet the Site discharge permit was completed in July 2006. The larger stripper and vapor phase carbon units were installed to provide the added capacity required for the treatment of the present contaminated groundwater emanating from the Seep and to provide the extra capacity to treat the newly located contaminated groundwater that will be extracted from the area near the tributary in the vicinity of the existing Seep. The upgraded system has consistently met the NJPDES discharge requirements more readily than the previous system.

In 2005, the PRPs began preparing work plans for a vapor intrusion study. The PRPs submitted an Expanded Vapor Intrusion Work Plan in October 2006. After EPA and the PRPs came to an agreement on the conduct and extent of the study, the PRPs began sampling residential and commercial properties downgradient of the Caldwell Trucking Site in April 2007. By August 2010, the PRPs have completed initial and follow-up sampling with EPA oversight at nearly 100 residential properties included in the study area. Currently there are 18 properties where mitigation systems have been installed. Sampling of vapor intrusion from commercial/ industrial properties is complete and the data is still being compiled. The EPA review data from the West Essex High School and two day care facilities in the vicinity of the Site indicate no further work is required for these sensitive populations.

Finally, the PRPs have completed the installation and sampling of additional monitoring wells in the vicinity of the North Lagoon Area (NLA) in an effort to define the extent of what appears to be a separate contaminant plume located at the other end of the Site and identify the source of the high TCE contamination apparently emanating from the extreme eastern portion of the Site near MW-C33. In 2010, two shallow bedrock monitoring wells were installed and sampled for

lateral delineation and deeper groundwater samples were collected from MW-C55 for vertical delineation. Elevated TCE concentrations indicate that additional work will be required to determine the possible existence of a DNAPL by installing a deep source well.

#### Environmental Progress

With the excavation and off-site disposal of contaminated material and stabilization of the remaining contaminated soil and waste materials at the Site, all on-site soil contamination has now been removed or rendered harmless. The restored wetlands monitoring is complete after five years. The use of an alternate drinking water supply by affected homes and businesses in the area of the Caldwell Trucking Site has significantly reduced the potential for exposure to contaminated groundwater. However, high levels of groundwater contamination still remain, and the PRPs have completed the construction of a pump and treat containment facility to remediate the contaminated groundwater near the source area using extraction wells in the vicinity of O'Connor Drive. The upgrade of the seep area treatment system has been completed and additional investigations are being conducted. A vapor intrusion study is also nearing completion.

## Site Repositories

Fairfield Town Hall Building, Engineering Department 230 Fairfield Road Fairfield, NJ 07004

EPA Administrative Record File Room 290 Broadway, 18th Floor New York, NY, 10007