

**MISSOURI**



**NATURAL  
RESOURCES**

# BFI Missouri City Landfill

**8501 Stillhouse Road  
Liberty, Mo**

## Site History

Before 1972, the property, which is located approximately one mile north of Missouri City and the Missouri River, was used for agricultural purposes. In August 1972, Lincoln Brothers Land Inc. began operating a sanitary landfill near the southwest corner of the property. In November 1972, Browning-Ferris Industries (BFI) of Kansas City, who later became BFI Waste Systems of North America Inc. (BFINA), leased the property and continued to operate the sanitary landfill. The sanitary landfill accepted municipal wastes and certain industrial wastes, such as petroleum refining sludges, until 1974.

In October 1974, BFINA separated and processed industrial wastes in a chemical processing center, which included a tank farm, storage silo, three surface impoundments and two processing units. Bulk liquid industrial waste was received by tank trucks and temporarily stored in the tanks and surface impoundments before being pumped to processing units. Over the years, BFINA built several additional hazardous waste disposal cells on the property to dispose treated material, including a chemical landfill, two gelation basins and seven bulk sludge disposal trenches. In September 1983, BFINA accepted the last shipment of hazardous wastes and began closing all hazardous waste management units.

Although the currently permitted property consists of about 200 acres, only the southern 90 acres were developed for waste management activities. A total of 31 acres had been permitted for sanitary landfill operations; however, only approximately 15 acres were actually developed. The property is currently owned by BFI and Missouri City Landfill LLC, and maintained by BFI. The facility property is currently inactive except for on-going post-closure and corrective action activities.

## Why Is the Department Involved?

When Congress passed the federal hazardous waste laws, all facilities treating, storing or disposing hazardous waste in a manner that would require a hazardous waste permit were required to notify the U.S. Environmental Protection Agency (EPA) and apply for a permit, unless the facility chose to close those operations. BFINA finished closing the hazardous waste management units in 1987, according to an EPA-approved closure plan. Each unit was closed separately, with waste in place, followed by one multicomponent final cap over the entire facility. Because hazardous waste remained in place after closure, the capped landfill, now known as the BFI Missouri City Landfill, is required to go through a period of long-term monitoring and maintenance.

According to these same laws and regulations, all hazardous waste treatment, storage and disposal facilities are required to investigate and clean up releases of hazardous waste and hazardous constituents to the environment at their facility resulting from present and past hazardous waste handling practices. From 1989 to 2000, BFINA performed post-closure and corrective action activities at the site under an Administrative Order on Consent with EPA.

EPA has since authorized Missouri to implement the federal regulations, which are contained in the Missouri Hazardous Waste Management Law. The Missouri Department of Natural Resources is responsible for enforcing those regulations. In 2000, the department and EPA issued two hazardous waste permits to BFINA and terminated the Corrective Action Order. Oversight of investigation and cleanup activities is performed by the department's Hazardous Waste Program's Permits Section.



## Site Investigation and Corrective Action Activities

Initial investigations in the early 1980's confirmed groundwater contamination was present on- and off-property. The main contaminants released included metals, volatile organic compounds (VOCs), semi-volatile organic compounds, organochlorine pesticides, organophosphorus pesticides, chlorinated herbicides, dioxin/furan compounds, 1,4-dioxane, cyanide, and sulfide.

BFINA completed several interim measures at the facility in order to reduce or prevent unacceptable risks to human health and the environment. During 1981 and 1982, BFINA installed a wastewater treatment pond and storm water retention pond. During the closure process, a leachate and consolidation fluid collection system was installed in the closed landfill. A passive gas collection system was installed in response to discovering a groundwater monitoring well containing significant amounts of combustible gas, mainly methane. Within one month of operation, methane was no longer detected in the gas monitoring probes. The gas collection system, while currently inactive, remains operational in the event it is needed.

In 1989, EPA performed an assessment of the site, to identify and gather information on actual and potential releases of hazardous waste and hazardous constituents to the environment. Three areas of concern were recommended for additional investigation. Under the subsequent EPA Order, BFINA was required to investigate and remediate, if necessary, any releases of hazardous waste.

BFINA conducted several investigations throughout the 1990s. Sampling results showed groundwater and surface water at the property contaminated with VOCs. BFINA installed a groundwater seep collection trench and sump to capture groundwater contamination surfacing downhill from a groundwater interceptor trench. BFINA also identified and evaluated possible remedial alternatives for the contamination.

In 2000, after the required public notice and opportunity for comment, EPA, in coordination with the department, approved a final remedy for the property. The approved final remedy included continued long-term groundwater monitoring, maintenance and operation of the interim measures already installed at the site and executing an Environmental Covenant. The Environmental Covenant for this property, which is listed in the properties chain-of-title, restricts the property to non-residential use and prohibits disturbing the soil and drilling or using shallow groundwater for drinking water.

During several sampling events in 2009, several contaminants were detected above federal drinking water standards at specific monitoring points. These results indicated that any one, or a combination of, the original waste management units may be the source of the site contamination. The department determined the extent of contamination was no longer clearly defined and further site investigation was necessary.

In 2010, BFINA notified the department a release had been discovered in a stream on the permitted property. Several months later, an oily film was also discovered on surface water a few feet north of the facility's property line. The investigation of the surface water releases recommended adding wells to further define the waste source location and identified possible cleanup remedies.

In 2013, BFINA installed a stream bank interceptor trench along the southeastern side of the site to collect contaminated groundwater before it reached the on-property stream. The collected waste is pumped to on-site storage tanks and disposed off-site at a permitted facility.