

LHAAP-17, Burning Ground No. 2/Flashing Area

SELECTED REMEDY: Excavation and Offsite Disposal of Soil, Groundwater Extraction, Monitored Natural Attenuation and Land Use Controls

Site History

LHAAP-17, known as the former Burning Ground No.2/Flashing Area, is located in the southeastern portion of LHAAP and covers approximately 4 acres. Historically, LHAAP-17 was used as a burning ground from 1959 through 1980. Materials burned included trinitrotoluene (TNT), photo flash powder, reject material from Universal Match Corporation and materials removed from the TNT Production Area (LHAAP-29) and the TNT Waste Disposal Area (LHAAP-32). It was also used as a flashing area to decontaminate recoverable metal byproducts. After resolution of a dispute between Army and EPA in March 2016, the 2011 Draft Final ROD was revised and the final ROD was finalized in September with a selected remedy of Excavation and Offsite Disposal of Soil, Groundwater Extraction, Monitored Natural Attenuation (MNA) and implementation of Land Use Controls (LUCs).

Site Characteristics

The surface features include two 184 foot by 305 foot cleared areas separated by a gravel access road. The site is covered with grass, scattered brush, and small trees. The topography is relatively flat. Harrison Bayou is located to the west and north of LHAAP-17 within approximately 1,200 feet of the site. The surface drainage flows to ditches along the boundaries of the site which flow into Harrison Bayou. The bayou discharges to Caddo Lake, a source of drinking water for several neighboring communities in Louisiana. Shallow zone groundwater is approximately 18 to 35 feet below ground surface (bgs), the intermediate zone is approximately 55 feet bgs and the deep zone is approximately 151 feet bgs. The predominant groundwater flow direction in the shallow and intermediate zones varies seasonally, but is generally to the northwest towards Harrison Bayou.

Remedial Action Objectives (RAOs)

- Protection of human health by preventing human exposure to the contaminated groundwater and contaminated soil;
- Protection of human health by preventing further potential degradation of groundwater from contaminated soil;
- Protection of ecological receptors by preventing exposure to the contaminated soil;
- Protection of human health and the environment by preventing contaminated groundwater from migrating into nearby surface water; and
- Return of groundwater to its potential beneficial uses as drinking water, wherever practicable.

Chemicals of Concern

In the soil, chemicals of concern (COCs) are explosives (2,4,6-trinitrotoluene [TNT], 2,4-dinitrotoluene [DNT], 2,6-DNT) and perchlorate (potential soil COC based on groundwater concentrations); and chemicals of potential ecological concern (COPECs) are explosives (2,4,6-TNT, 2,4-DNT, 2,6-DNT); dioxins (2,3,7,8-tetrachlorodibenzo-p-dioxin [TCDD] toxicity equivalence concentration [TEC]); and barium.

In the shallow groundwater zone, the COCs are perchlorate and volatile organic compounds (VOCs) (1,2-dichloroethane [DCA], 1,1-dichloroethene [DCE], cis-1,2-DCE, trichloroethene [TCE], and vinyl chloride [VC]). In the intermediate groundwater zone, the COCs are TCE and its daughter products (DCE and VC).

Description of the Selected Remedy:

Soil Excavation:

The excavation will remove explosives, barium and dioxin contamination for off-site disposal that is a direct risk to the hypothetical future maintenance worker, is a potential source of contaminant migration to groundwater, and poses a risk to ecological receptors.

Groundwater Extraction:

The desired outcome is to reduce perchlorate concentrations in the groundwater to 20,000 ug/L or lower during an operational period of 1.5 years at which point MNA is anticipated to be favorable.

Contingency Remedy for Groundwater Extraction:

If groundwater extraction does not reduce perchlorate levels to 20,000 ug/L in the 1.5 year extraction timeframe, the contingency remedy would implement in situ bioremediation.

MNA:

MNA begins following groundwater extraction activities and the performance objectives of MNA will be evaluated after 2 years.

Contingency Remedy for MNA:

If MNA is found to be ineffective, the contingency remedy would implement in situ bioremediation.

LTM:

If MNA is determined to be effective, monitoring will be conducted to evaluate the remedy performance and determine if the plume conditions remain constant, improve or worsen after the baseline is established.

Implementation of LUCs:

- restrict the use of groundwater to environmental monitoring and testing only and restricting land use to nonresidential will remain in place until the levels of COCs in surface and subsurface soil and groundwater allow for unlimited use and unrestricted exposure.
- maintain the integrity of any current or future remedial or monitoring systems will remain in place until groundwater cleanup levels of COCs are met.
- prohibit groundwater use (except for environmental monitoring and testing) as a potable source will remain in place until the levels of COCs in soil and groundwater allow for unlimited use and unrestricted exposure.

CERCLA Five Year Reviews until the levels of COCs in soil and groundwater allow for unlimited use and unrestricted exposure.

LHAAP-17, Burning Ground No. 2/Flashing Area

SELECTED REMEDY: Excavation and Offsite Disposal of Soil, Groundwater Extraction, Monitored Natural Attenuation and Land Use Controls

