

# LHAAP-04, Former Pilot Wastewater Treatment Plant

## SELECTED REMEDY: In-Situ Bioremediation, Groundwater Long-Term Monitoring, and Land Use Controls

### **Site History**

LHAAP-04, known as Site 04 or the former pilot wastewater treatment plant, is approximately 0.5 acres and is located in the central portion of LHAAP at the northwest corner of 6<sup>th</sup> and 60<sup>th</sup> Streets near the former fire station. LHAAP-04 is surrounded by light duty roads. Wastewater treatment operations began at LHAAP-04 in 1984. The demolition of the former pilot wastewater treatment facility structures, tanks, and piping, and the disposal of the associated wastes were completed in the summer of 1997 as part of the Resource Conservation and Recovery Act (RCRA) closure of the plant. Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program, excavation of soil impacted with mercury and perchlorate at the LHAAP-04 site was completed in 2009 along the southern edge of the slab, which formerly housed storage tanks for the former pilot wastewater treatment facility. The Final ROD was issued in March 2017 with a selected remedy of in-situ bioremediation (ISB), long-term monitoring (LTM) of groundwater, and land use controls (LUCs).

### **Site Characteristics**

Goose Prairie Creek runs approximately 700 feet to the south of LHAAP-04. The site consists of soils with mixed layers of mostly silts and clay with some thin layers of sands. The shallow zone water bearing sand at monitoring well 04WW04 appears to be only one to two feet thick with the surrounding monitoring wells mostly showing clay or silt layers at the same depth. No monitoring wells have been completed in the intermediate or deep saturated zones at LHAAP-04. Based on 2010 groundwater measurements, the groundwater flow direction in the shallow saturated zone below LHAAP-04 flows away from monitoring well 04WW02 in all directions. The regional groundwater flow direction beneath the facility is generally east-northeast towards Caddo Lake.

### **Chemical of Concern (COC)**

The COC is perchlorate in groundwater.

### **Description of the Selected Remedy**

#### **In-Situ Bioremediation (ISB):**

ISB in the groundwater next to monitoring well 04WW04 will be performed. ISB involves the addition of a carbon source into the shallow zone to promote naturally occurring biological processes to reduce perchlorate concentrations to below its cleanup level. In addition, subsurface injections of microorganisms in the shallow zone will also be conducted as needed to reduce the perchlorate levels.

#### **Long-Term Monitoring (LTM):**

LTM will be conducted to confirm that perchlorate concentrations in groundwater are declining through treatment to attain the groundwater cleanup level.

#### **LUCs include:**

- Maintain the integrity of any current or future remedial or monitoring systems until these components of the remedy are no longer needed to achieve the groundwater cleanup levels.
- Prohibit the use of groundwater as a drinking water source until the levels of COCs in the soil and groundwater allow for unlimited use and unrestricted exposure.
- Restrict the land to nonresidential usage until the levels of COCs in surface and subsurface soil and groundwater allow for unlimited use and unrestricted exposure.

#### **CERCLA Five Year Reviews**

Five-Year reviews will be performed to document that the remedy remains protective of human health and the environment.

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