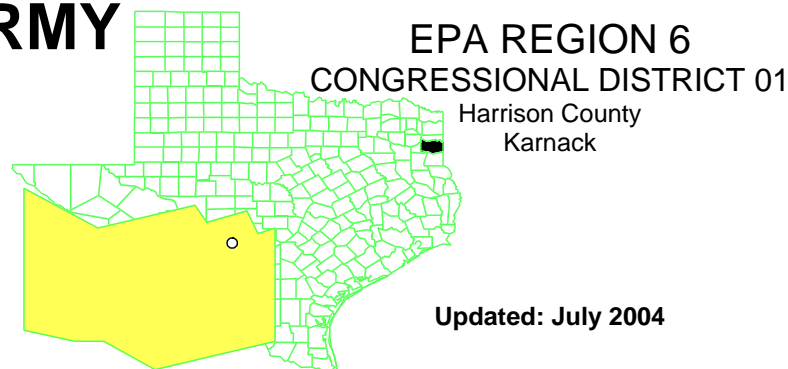


LONGHORN ARMY AMMUNITION PLANT TEXAS

EPA ID# TX6213820529



Site Description

- Location:**
- The site is located between State Highway 43 and Caddo Lake in Karnack, Harrison County, Texas, which is approximately 14 miles northeast of Marshall, Texas, and approximately 40 miles northwest of Shreveport, Louisiana.
- Population:**
- The site is in a rural area with some residences in close proximity.
 - Approximately 1,500 people live within a one-mile radius of the site.
- Setting:**
- The site area is residential, recreational, and industrial.
 - The facility is Government-owned (Federal Facility), and is currently under the jurisdiction of the U.S. Army Armaments, Munitions, & Chemical Command. The site is an 8,493-acre munitions loading and assembly facility that has operated since 1942.
 - Five areas have observable releases to surface and ground water: an active burning ground (includes unlined evaporation pond), old landfill, inert burning grounds, south test area, and former TNT production area.
 - 14 areas have been identified as contaminated or possibly contaminated with potential off-site migration.
- Hydrology:**
- All surface and storm water from the plant drains into Caddo Lake via four natural drainage systems, and the entire site lies within the 100-year floodplain.
- The site lies on the Carrizo Sand and Wilcox Group formations, which are hydraulically interconnected and considered to be one aquifer.
 - 75% of the wells in Harrison County are less than 50 feet deep and are screened in the Carrizo-Wilcox Aquifer.
 - Area public supply wells (Karnack and Caddo Lake water supply systems) are also located in the Carrizo-Wilcox Aquifer and range from 200 to 300 feet in depth
 - The nearest drinking water well is approximately 500 feet from the northern boundary of the plant, and serves as one of the seven Caddo Lake principal water supply wells.
 - No alternate water supply is available for public water supply systems in the area.

The Remediation Process

Site History:

- The facility operated from 1942 to 1997, historically manufacturing TNT and rocket motors.
- Site operations included loading, assembling and packing pyrotechnic and signal ammunition, manufacturing solid propellant rocket motors, and rocket demilitarization pursuant to the INF treaty with the former Soviet Union; the facility is currently identified as being "excess" to the Army mission.
- The Remedial Investigation and Feasibility Study (RI/FS) was initiated in August 1982. Phase I RI activities completed in 1993-1994. Phase II RI activities were initiated and completed in 1995. Phase III RI activities are currently underway.
- All remedial activities are the responsibility of the U.S. Army, under EPA and Texas Natural Resource Conservation Commission oversight.

Health Considerations:

- Public water supply wells are located near site, and no alternate supplies are available in the event these wells become contaminated. Potential human exposure risks may include direct contact with, and ingestion of, contaminated ground water.
- Caddo Lake is the drinking water source for seven public drinking water supply systems downstream from Longhorn in the state of Louisiana. Surface water runoff from the site enters Caddo Lake.

Records of Decision

Interim Remedial Action ROD at BG3 May 12, 1995
Interim Remedial Action ROD at Landfills September 27, 1995
No Further Action ROD, Sites 13 & 14 February 14, 1996
No Further Action ROD, Sites 1, 11, 27, and XX January 23,
1998

- The Interim Remedial Action ROD for Burning Ground No. 3 (BG3) selected interception and treatment of shallow contaminated ground water and excavation and treatment via low temperature thermal desorption of sludges and process waste.
- The Interim Remedial Action ROD for Landfills 12 and 16 selected construction of a multi-layer cap and cover system over the areal extent of the landfill contents.
- The No Further Action ROD for sites 13 (Suspected TNT Burial Site Dump) & 14 (Area 54 Burial Ground) (Collectively known as the Group 3 Sites) was selected after it was found that no chemicals associated with past suspected disposal activities at the sites were detected in either the soils or ground water.
- The No Further Action ROD for sites 1 (Inert Burning Grounds), 11 (Suspected TNT Burial Ground), 27 (South Test Area), and XX (Ground Signal Test Area) (Collectively known as the Group 1 Sites) was selected after it was determined that there are no actual or threatened releases of hazardous substances from the sites that may present an imminent and substantial endangerment to public health, welfare, or the environment.

Community Involvement

- Proposed Plan and Public Meeting for Interim Remedial Action at Burning Ground No. 3: 9/94
- Proposed Plan and Public Meeting for Interim Remedial Action at Landfills: 3/95
- Proposed Plan and Public Meeting for No Action ROD for Group #3 Sites: 7/95
- Public Meeting to discuss formation of Restoration Advisory Board: 4/96
- Proposed Plan and Public Meeting for No Action ROD for Group #1 Sites: 8/97
- Public Meeting/Open House held at Karnack Community Center: 10/02
- Ongoing Quarterly Technical Review Committee meetings with the public are held at Longhorn.
- Site Repository: City of Marshall Public Library and Karnack High School Library

Technical Assistance Grant

- Letter of Intent (LOI):
 - 1) 7/06/00 - Caddo Lake Institute.
- LOI notice: 8/29/00
- Grant Award: No current TAG awarded.
- Current Status: Previous TAG closed.

Contacts

- **Remedial Project Manager (EPA):** Chris Villarreal, 214-665-6758, Mail Code: 6SF-AP
- **EPA Regional Public Liaison:** Arnold Ondarza; 303-312-6777
- **State Contact:** (TNRCC) James Sher, 512/239-2444, Mail Code: 143
- **Attorney (EPA):** George Malone, 214-665-8030, Mail Code: 6SF-RC-S
- **State Coordinator (EPA):** Karen Bond, 214-665-6682, Mail Code: 6SF-AP

Enforcement

- The State of Texas, EPA and Department of Defense-U.S. Army Longhorn Army entered into a Federal Facility Agreement in December 1991 to address the contamination at the facility.

Present Status and Issues

- Longhorn Army Ammunition Plant site currently does not present an immediate threat to the public or the environment.
- On May 5, 2004, the culmination of several years of effort was celebrated in a ceremony in which approximately 5,000 acres of the former U.S. Army Longhorn Army Ammunition Plant was transferred to the U.S. Department of Interior Fish and Wildlife Service (FWS) for the establishment of the Caddo Lake National Wildlife Refuge.

The Caddo Lake National Wildlife Refuge includes one of the highest quality old-growth bottomland hardwood forest in the southeastern United States. The hardwood forest lies along Harrison Bayou, and associated wetlands are located along the shore of Caddo Lake. These

wetlands are listed as a “Wetlands of International Significance” under the Ramsar Convention on Wetlands and is one of only 17 such designated areas in the United States.

The establishment of this refuge ensures the conservation and protection of the migratory and resident waterfowl and neotropical migratory birds associated with these wetlands. Studies have listed up to 224 species of birds, 22 species of amphibians, 46 species of reptiles, and 93 species of fish in this area. A total of 20 animal species of concern are located or potentially located on the LHAAP and adjacent Caddo Lake. They include seven species of fish, six species of reptiles, six species of birds and four species of mammals. Two species are federally listed under the Endangered Species Act (Louisiana black bear and bald eagle).

- As studies are completed and viable cleanup alternatives are determined for the sites, final remedies will be selected, and the cleanup activities will begin.
- Construction activities relating to the Interim Remedial Action ROD for Burning Ground No. 3 have been completed. The ground water treatment plant was completed in 12/96 and soil treatment unit was completed in 2/97. Treatment of contaminated soils from Burning Ground No. 3 was completed December 1997. Ground water interception collection trenches have been constructed in and around Burning Ground No. 3 and extraction and treatment of extracted contaminated shallow ground water began in April 1998.
- Construction activities related to the Interim Remedial Action ROD at landfills 12 and 16 are complete. Final construction inspections for landfills 12 and 16 occurred on October 22, 1998.
- Expedited remedial investigation activities are underway at Site 16. Specifically, the extent of a contaminated ground water plume coming from landfill 16 has been investigated and possible remedial alternatives are being evaluated to address this ground water plume. The contaminated ground water from Landfill 16 is currently being hydraulically contained. The extracted ground water is being pumped and piped to the BG3 water treatment plant. The Site 16 Remedial Investigation Report was submitted in October 2000.
- Phase III remedial investigation field activities for the Group 2 Sites (Site 12 - Active Landfill, Site 16 - Old Landfill, Site 17 - Burning Ground #2, Site 18 - Burning Ground #3, Site 24 - Unlined Evaporation Pond, Site 29 - Former TNT Production Area, and Site 32 - Former TNT Waste Disposal Plant) are completed.
- The Phase III remedial investigation field activities for the Group 4 sites (Wastewater Sumps, Site 50 - Sump Water Storage Tank, and Site 63 - Former Burial Pits) have been completed.
- Numerous activities are underway at Longhorn regarding perchlorate. Perchlorate was used at Longhorn as a major ingredient in rocket fuels. Activities include: 1) a facility wide investigation to determine the extent of perchlorate contamination; 2) a bench scale study focused on removing perchlorate from groundwater, and, 3) a perchlorate ecological investigation being conducted by Texas Tech University. A treatment unit was added to the existing ground water treatment plant to remove perchlorate. The treatment unit (i.e., a fluidized bed reactor) has been fully operational since March 7, 2001.
- On October 21, 2000, a ceremony was held designating Longhorn as the Caddo Lake National Wildlife Refuge. An overlay and subsequent transfer of the Longhorn property to the Department of Interior, Fish and Wildlife Service will take place as areas are designated appropriate for inclusion into the wildlife refuge.

Benefits

- The major production areas of Longhorn are currently being investigated pursuant to the Federal Facilities Agreement.
- Sensitive ecosystems will be protected including Caddo Lake against contamination from the facility. Caddo Lake is a primary source for drinking water for several surrounding communities as well as a location for recreational activities (i.e., fishing).