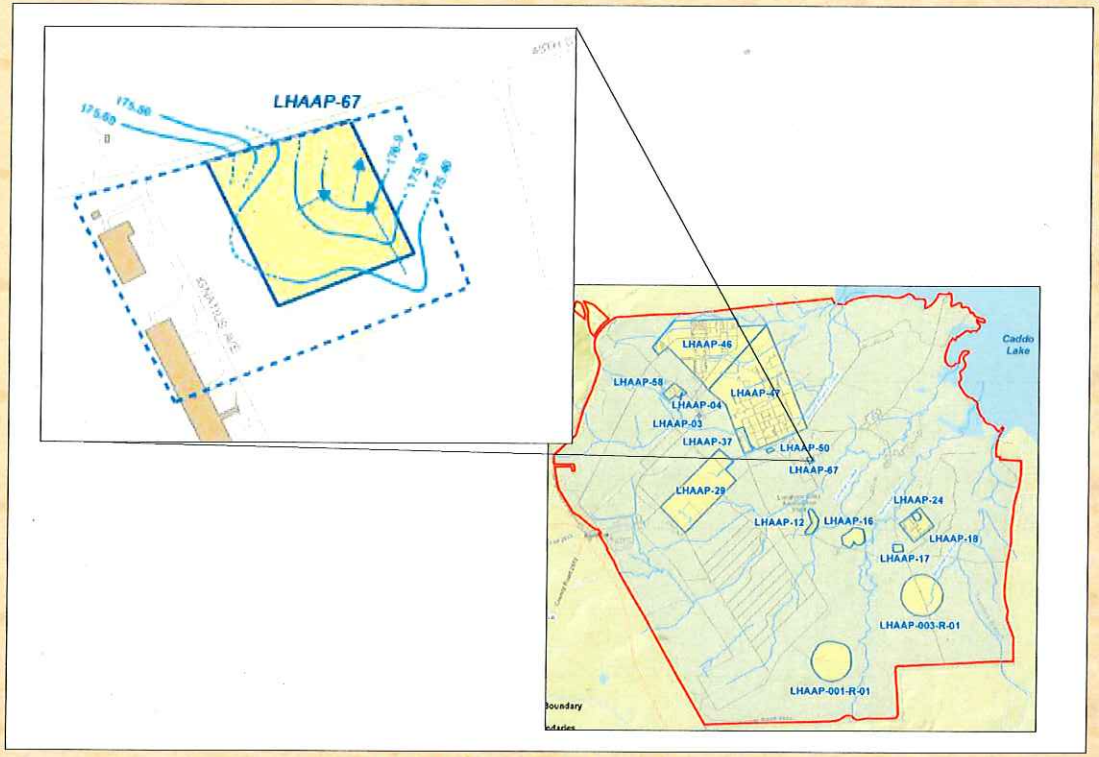
LHAAP-67, Former Aboveground Storage Tank Farm Remedial Action Operations

Site History

When operational, LHAAP-67 consisted of seven aboveground storage tanks of unknown size. The tanks were surrounded with earthen dikes designed to contain potential spills. Site personnel indicated that the tanks were used for solvent storage. The tanks have been removed and the only structure remaining at the site is a railroad bed. Shallow groundwater at LHAAP-67 is contaminated above acceptable levels.

Site Characteristics

LHAAP-67, a former aboveground storage tank farm is located in the central portion of LHAAP and covers approximately 1.91 acres. The site is relatively flat. The nearest significant surface water body is Central Creek located ~870 feet southeast of the site.



LHAAP-67 Site Location

Risk Assessment

A baseline human health risk assessment (BHHRA) and ecological risk assessment were conducted for LHAAP-67 to determine current and future effects of contaminants on human health and the environment. Based on the BHHRA the soil does not pose a cancer risk or non-cancer hazard to the hypothetical future maintenance worker. However, the groundwater at LHAAP-67 pose an unacceptable cancer risk and non-cancer hazard to a hypothetical future maintenance worker under an industrial scenario with the exposure route of drinking the water or using the water for hand washing and showering. The baseline ecological risk assessment (BERA) concluded no action is needed at LHAAP-67 for the protection of ecological receptors.

Chemicals of Concern

Between 1998 and 2006 numerous investigations were conducted in a phased approach to determine the nature and extent of contamination at LHAAP-67. Media investigated included soil and groundwater. Additional data gathered since the risk assessment (2003) did not change its outcome. Chemicals of concern (COCs) for LHAAP-67 identified in the Feasibility Study are 1,1-dichloroethene (DCE), 1,2 dichloroethane (DCA), 1,1,1-trichloroethane (TCA), 1,1,2-TCA and trichloroethene (TCE) in the shallow groundwater zone.

LHAAP-67, Former Aboveground Storage Tank Farm (cont.)
Remedial Action Operations

Remedial Action Objectives

The Remedial Action at the LHAAP-67 site must protect human health and meet applicable or relevant and appropriate requirements (ARARs). There are no ecological risks at the LHAAP-67 site (USACE, 2010). The RAOs for the LHAAP-67 site, consistent with the reasonably anticipated future use as a national wildlife refuge, are:

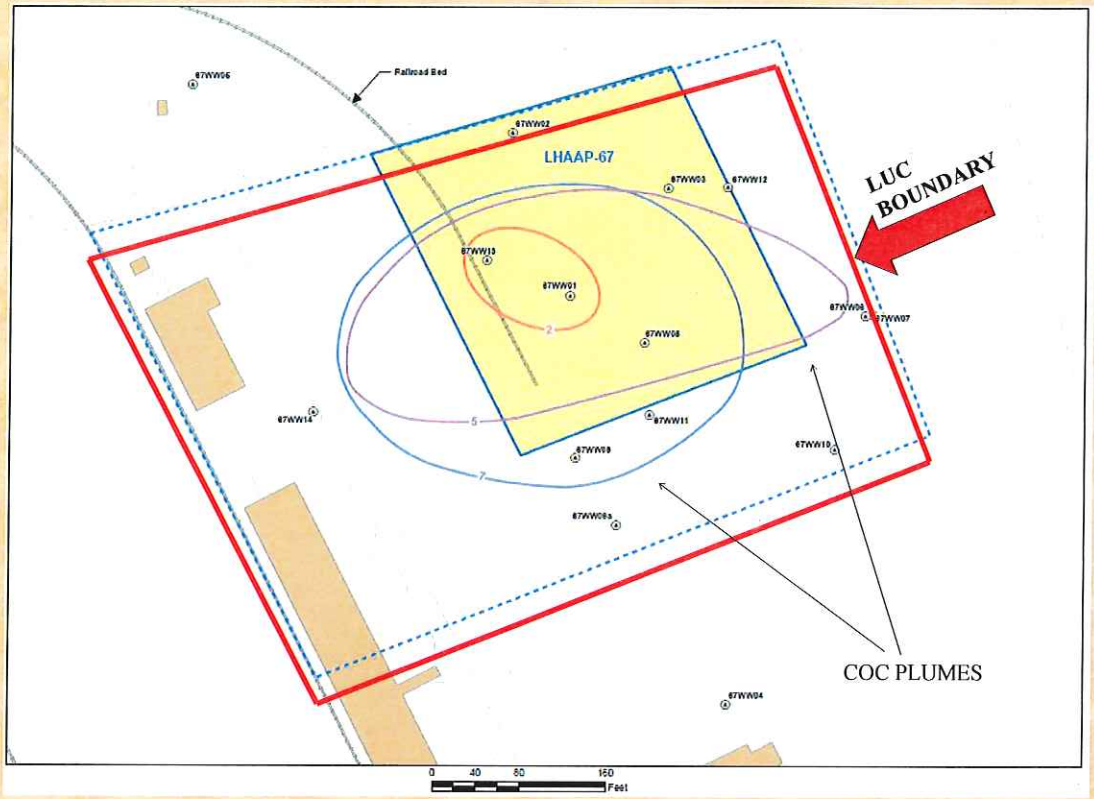
- Ensure protection of human health by preventing exposure to the contaminated groundwater;
- Ensure protection of human health and the environment by preventing contaminated groundwater from migrating into nearby surface water; and,
- Ensure return of groundwater to its potential beneficial use as drinking water, wherever practicable.

Land Use Control Boundary

One element of the remedial action at LHAAP-67 is establishment of a land use control (LUC) area where withdrawal or use of groundwater is restricted to only environmental monitoring and testing. The LUC will remain in effect until the levels of COCs in groundwater and soil at the site allow for unrestricted use and unlimited exposure (UUUE). Army, with TCEQ and EPA concurrence, has established a LUC area to restrict groundwater use at LHAAP-67, completed a civil survey of that boundary and recorded the LUC notification with the Harrison County Courthouse in December 2014.

Monitored Natural Attenuation

MNA at the LHAAP-67 site is implemented to monitor COCs and ensure protection of human health and the environment. Performance monitoring to evaluate remedy effectiveness includes groundwater monitoring, designed to evaluate and monitor natural attenuation of COCs in shallow zone groundwater.



LHAAP-67 Land Use Control Area and Plume Footprints

Quarterly groundwater samples were last collected from LHAAP-67 in May 2015, and will be collected again in November 2015. The site is currently under Remedial Action/Operations (RA(O)). A summary of key COCs at selected monitoring wells from the first four quarters is presented in the ensuing table.

LHAAP-67, Former Aboveground Storage Tank Farm (cont.)
Remedial Action Operations

Summary of Key COCs at Selected Monitoring Wells

Monitoring Well	COC	Units	Cleanup Level	Q1 May-13	Q2 Sep-13	Q3 Jan-14	Q4 May-14
67WW01	*1,1-Dichloroethene*	ug/L	7	139			257
67WW08	**1,1,2-Trichloroethane**	ug/L	5	4.25	5.08J	6.7	5.01J
	1,1-Dichloroethene	ug/L	7	940	1120	1340	1590
67WW09	*1,1-Dichloroethene*	ug/L	7	16.1	17.5	20.8	
67WW11	*1,1-Dichloroethene*	ug/L	7	47.1	46.8	42.8	38.8
67WW13	*1,1-Dichloroethene*	ug/L	7	565J	515	572	240

Blue shading indicates concentration exceeding the cleanup levels

Gray shading indicates well was dry when samples were collected

J - estimated concentration

U - non-detect