PanTEX NEIGHBORHOOD
A PanTeXas Deterrence/National Nuclear Security Administration publication
Environmental Projects News • November 2025

Pantex Cleanup Progress

Active cleanup continues to address contaminants in perched groundwater from legacy operations dating back to World War II and the Cold War Era. The perched groundwater cleanup action includes six in situ bioremediation (ISB) systems, including the new County Road 8 ISB that is currently being installed, and two pump and treat systems. The primary goal for treatment is to prevent movement of contaminated perched groundwater to the deeper drinking water aquifer (Ogallala/High Plains Aquifer).

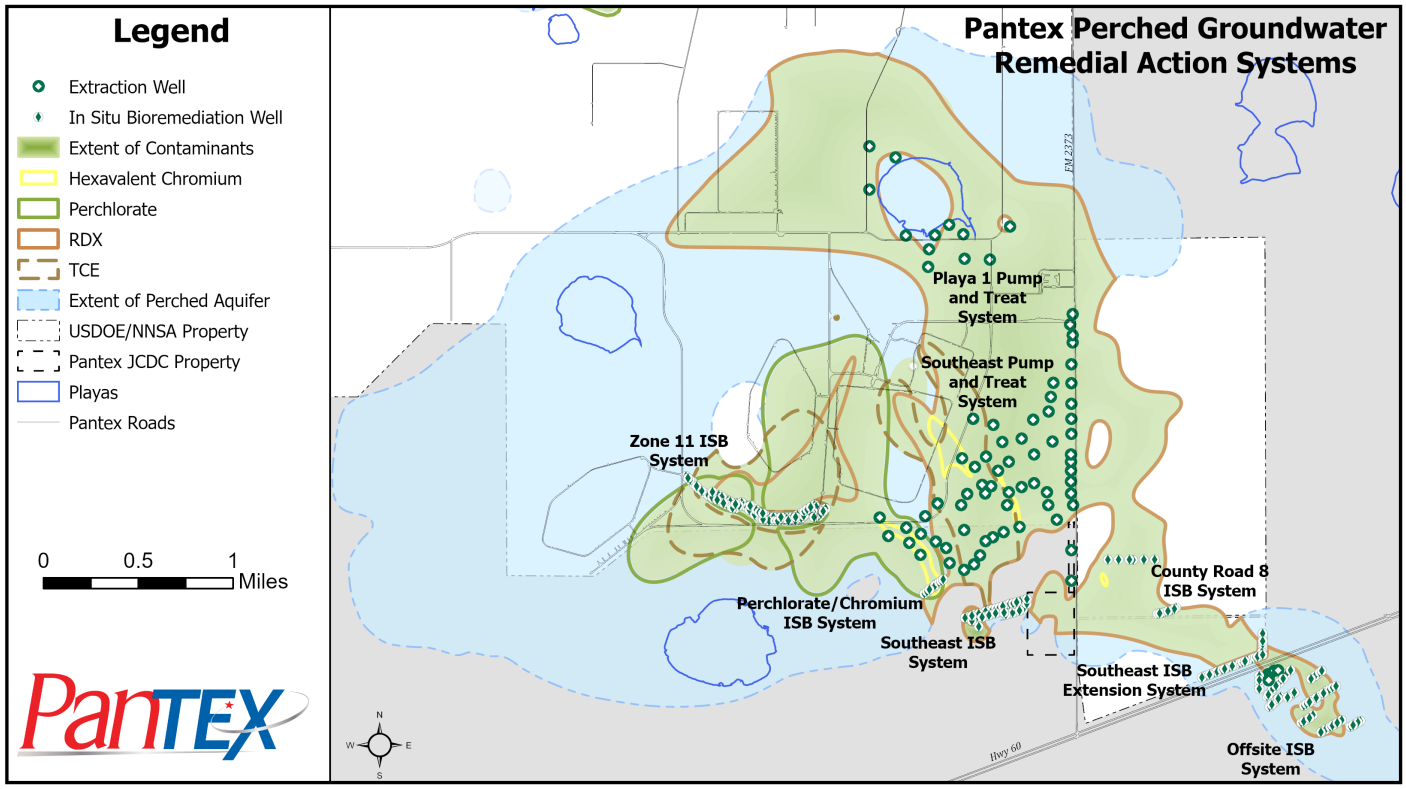
As part of extensive site stewardship activities, Pantex routinely monitors over 100 perched groundwater wells to evaluate the effectiveness of the groundwater cleanup and 29 Ogallala Aquifer wells to evaluate the continued protectiveness of remedial actions for the drinking water aquifer. Monitoring results from Ogallala wells continue to indicate that neighboring water supplies and Pantex production wells are safe and protected. You can find results on the Mission page at pantex.energy.gov.

Highlights of Cleanup Actions

- This past year, Pantex removed 466 lbs of legacy contaminants through remedial actions.

Totals since start of remedial action:

- 3.5 billion gallons of perched groundwater treated with 1.9 billion gallons beneficially used
- 17,594 pounds of contaminants removed from perched groundwater
- Bioremediation systems are reducing legacy contaminants to safe drinking water levels



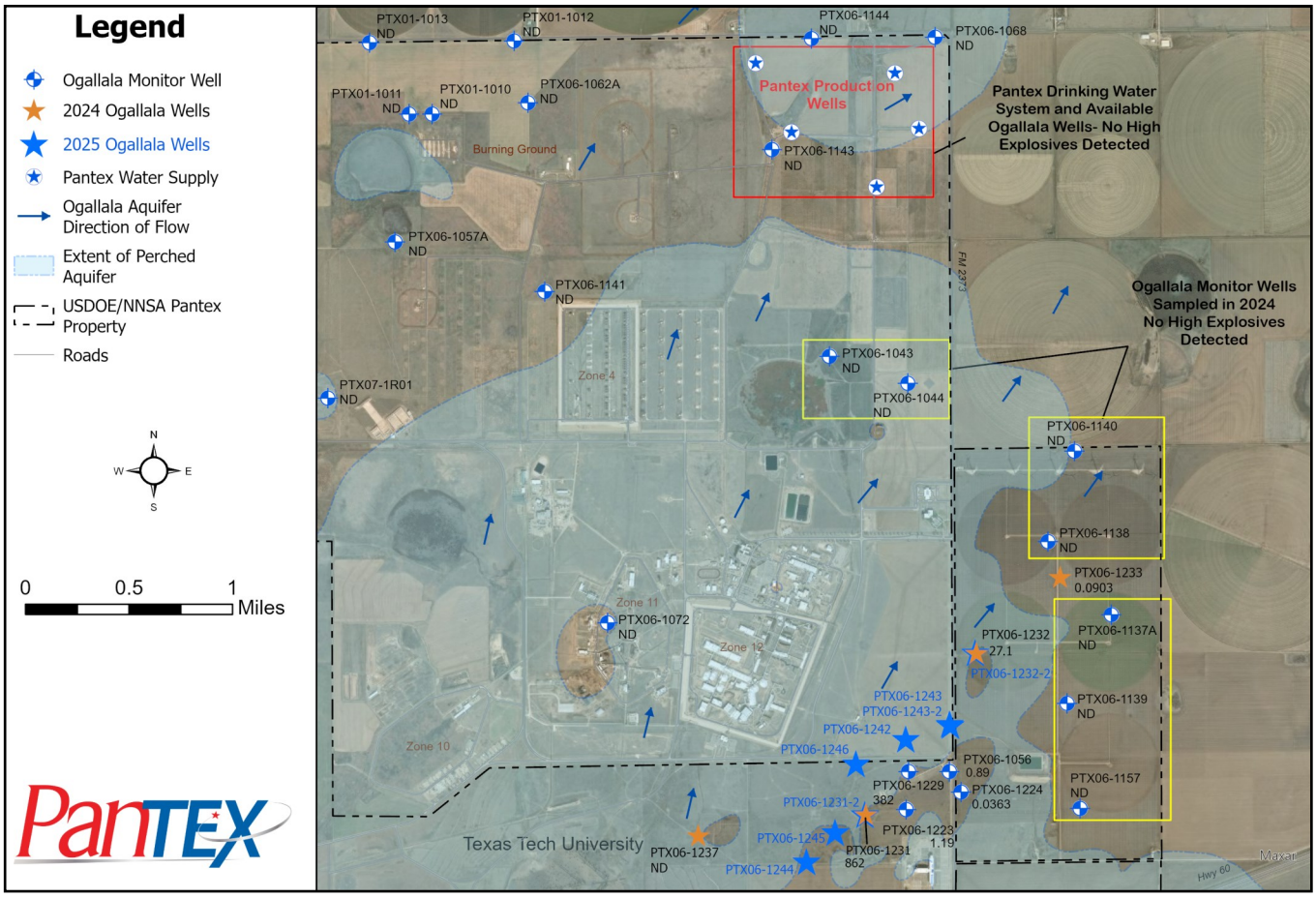
Pantex 2025 Annual Public Meeting

Pantex provides updates of the cleanup progress at an annual Public Meeting. This year's meeting will be held at 4:00 p.m. on Thursday, December 11, 2025, at the Square House Museum, 501 Elsie Avenue, in Panhandle, TX.

Detection of Legacy High Explosives in Ogallala Monitoring Wells

Pantex is conducting an active cleanup that is addressing legacy contamination in the perched groundwater beneath the Pantex Plant that dates back to the Cold War era. During the Cold War, industrial wastewater was released to ditches and playas that then leached into one of Pantex's two groundwater systems - the perched aquifer. The perched groundwater is created by water pooling on a thin zone of "tight" clays and silts called the fine-grained zone. The other deeper water body, called the Ogallala/High Plains Aquifer, is the region's primary drinking and agricultural water source and also provides drinking water for Pantex. Vertical movement of water between the perched groundwater and the Ogallala Aquifer is limited by the presence of the fine-grained zone, but can occur where the fine-grained zone thins.

Pantex maintains an extensive Ogallala well network that monitors for breakthrough of legacy constituents into the Ogallala Aquifer from the overlying perched aquifer. In 2023, Pantex began a preliminary investigation of high explosive (HE) migration to the Ogallala Aquifer and presented initial results at the 2024 public meeting. Based on that preliminary data, Pantex received special funding to begin evaluating extent of the detections by installing three additional Ogallala monitor wells in 2024 (orange stars on map). Fate and transport modeling was utilized in 2024 to plan new drilling locations and to evaluate potential sources for HE detections at PTX06-1229. Pantex installed these new Ogallala monitor wells by January 2025: PTX06-1231, PTX06-1232, and PTX06-1233. Data from the most recent sampling event for the Ogallala wells in the vicinity or downgradient of PTX06-1229 are depicted on the map along with the maximum observed hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) concentration at all other Ogallala wells. An additional 8 Ogallala monitor wells were contracted to be installed during the summer/ fall of 2025 (blue stars on map).



Wells with detections are located south of the Plant property boundary on Texas Tech property and northwest of the John C. Drummond Center. There is no imminent threat to existing drinking, irrigation, or livestock water wells in the Ogallala Aquifer, based on samples collected in 2024 and 2025 from wells located upgradient of onsite and offsite water supplies (see wells in yellow boxes). Pantex obtains water for plant processes, personnel use, and consumption from Ogallala production wells located in the northeast corner of the Plant property. Pantex has tested the Ogallala monitoring wells in that region and has observed no detections of high explosives. These results indicate there is no danger to Pantex or neighboring water supplies. Late 2024/early 2025 data from installed and sampled Ogallala wells will be presented at the upcoming public meeting.