

Pantex INFO

Playa 1 Perched Groundwater Pump and Treat System

The Pantex Groundwater Resource Conservation and Recovery Act Facility Investigation Report identified impacts to perched groundwater that require evaluation for corrective action. The Pantex Site Wide Human Health Risk Assessment found that perched groundwater underneath the Pantex Plant contains high explosives and other constituents that could migrate over time to the Ogallala Aquifer, the main drinking water source for the area. The area of primary concern is in the southeast corner of Pantex and offsite, adjacent to this area. The fine-grained zone prevents vertical migration in most areas, but becomes thinner and more permeable in the southeast, so migration to the Ogallala Aquifer is more probable there.

Through extensive studies of groundwater fate and transport models, Pantex recognized that recharge occurring through Playa 1 created a subsurface mounding condition, which drives high explosives and other chemicals in the perched groundwater to the southeast. During work to complete the Corrective Measure Study/Feasibility Study, Pantex determined that an extraction system for perched groundwater at Playa 1 was needed as part of the remedy. Pump tests conducted in the fall of 2006 determined that dewatering the perched aquifer underneath Playa 1 is possible. Data from the pump tests was used to evaluate alternative remedies for effectiveness and cost before the Playa 1 Pump and Treat System was selected as the removal action to be implemented for perched groundwater underneath Playa 1.

The purpose of the Playa 1 pump and treat system is to alleviate the flow of perched groundwater to the southeast. The proposed Playa 1 Pump and Treat System is an addition to the Plant's existing pump and treat system, which has removed more than 5,000 pounds of high explosives and metals from perched groundwater in the southeast portion of the Plant.

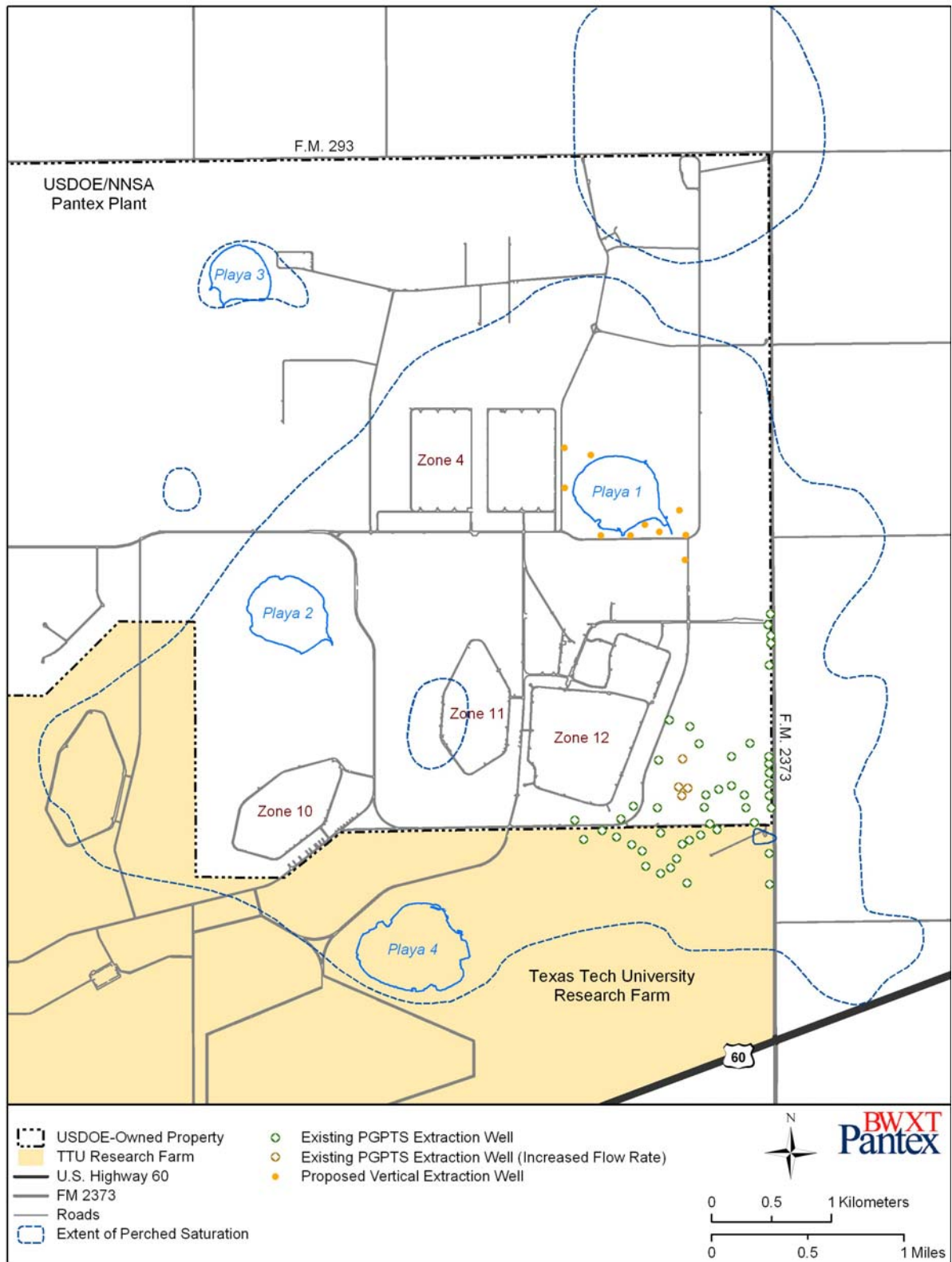
In the fall of 2006, Pantex performed pump testing around Playa 1 to determine if a pump and treat system for this area was feasible. Results indicate that perched groundwater can be effectively extracted from the Playa 1 area to reduce the mounding condition.

This new system is now being designed, and will be completed in 2008. Ten extraction wells will be drilled during the summer of 2007 (see map on page 2), to be added to two existing wells used during the pump test. The treatment system will be installed in the fall of 2007.

This system will be constructed as a removal action under the Comprehensive Environmental Response, Compensation, and Liability Act. Timing of implementation is important because it will take several years of extracting water in this area to change the perched groundwater gradients around Playa 1, thereby reducing movement of high explosives and other chemicals to the southeast. This action is one of several positive steps Pantex is taking to protect the Ogallala Aquifer.

For more information on how the Playa 1 Perched Groundwater Pump and Treat System fits into cleanup options being considered through the Pantex Environmental Restoration Program, refer to the *Environmental Assessment for Proposed Perched Groundwater Corrective Measures*, available at www.pantex.com.

Information about Pantex is also available at the U.S. Department of Energy Pantex Plant Reading Rooms at the Lynn Library/Learning Center, Amarillo College, Washington Street Campus, 2201 S. Washington St., Amarillo, Texas (806) 371-5400 or Carson County Library, 401 Main, Panhandle, Texas (806) 537-3742, and in the Pantex Plant Administrative Record.



Extent of Perched Saturation and approximate area for placement of Playa 1 Perched Groundwater Pump and Treat System (PGPTS) Vertical Extraction wells