

# PanTEX NEIGHBORHOOD

A Consolidated Nuclear Security/National Nuclear Security Administration publication

Pantex Plant News • September 2018

It's hard to believe it's been two years since we announced plans to build our new support complex, but earlier this year the final touches were completed and more than 1,000 people moved in.

The new John C. Drummond Center (JCDC) near the Highway 60 and FM 2373 junction is up and running as the center of activity for Pantex.

As one of our neighbors, we try to keep you informed of various events happening on-site, including new construction.



Pantex Administrative Support Complex March 2018



On August 1st, Emergency response teams from Pantex took part in our annual exercises, ensuring safety for everyone.

We also like to inform you about events like our mandated emergency drills and exercises along with the training that takes place out here. Last month, we held our annual exercise, following a number of drills designed to keep everyone and the environment safe.

Our Emergency Response Team works year-round with drills and exercises to make sure our training is up to date and that everyone on-site is prepared in the unlikely event that an emergency takes place.

When it comes to emergencies outside the fence, we still maintain our memorandum of understanding with area towns and their first responders to lend assistance. Grass fires, car accidents, or any other emergency, Pantex emergency crews are at-the-ready, eager to help our neighboring communities when needed.

And whether it's training, exercises, drills, weather sirens, or general announcements, we try throughout the year to contact you in a timely manner to keep you informed as to what's going on site-wide, via mail service or phone messaging. It's the same practice to let you know when we're conducting non-nuclear, high-explosives testing. Keeping you informed is imperative.

Most importantly, we encourage you to contact us at 806-573-6032 if you have any questions, or if there are subjects you would like to see us address in future newsletters. And don't forget to follow us on Facebook and Twitter for updates, alerts, and news about Pantex.

Consolidated Nuclear Security, LLC operates the Pantex Plant, located in Amarillo, Texas, and the Y-12 National Security Complex, located in Oak Ridge, Tennessee, under a single contract for the U.S. National Nuclear Security Administration. Pantex and Y-12 are key facilities in the U.S. Nuclear Security Enterprise, and CNS performs its work with a focus on performance excellence and the imperatives of safety, security, zero defects and delivery as promised. For more information, visit [pantex.energy.gov](http://pantex.energy.gov) or [www.y12.doe.gov](http://www.y12.doe.gov). Follow Pantex on Facebook, Twitter or LinkedIn.

## *Pantex Clean-up Action Review*

The second five-year review of the remedial action is in the final stage of completion and is expected to be approved and signed by the U.S. Environmental Protection Agency and the Texas Commission on Environmental Quality by the end of September 2018.

The five-year review asks the questions:

- Are the actions performing as designed?
- Are the data used to select the actions still valid?
- Are the actions protective of human health and the environment?

The final report will be provided on the Pantex web site once it is approved. Find it at: [pantex.energy.gov](http://pantex.energy.gov).

Conclusions and recommendations from the report will be provided at the November 2018 public meeting.

That meeting will be held at 4:00 p.m. on Tuesday, November 13th, at the Square House Museum, 501 Elsie Avenue, in Panhandle, TX.

### *Highlights of Clean-up Actions*

- 2.6 billion gallons of perched groundwater treated with 1.7 billion gallons beneficially used
- 14,280 pounds of contaminants removed from perched groundwater
- Perched water levels are continuing to steadily decline
- Bioremediation systems are reducing high explosives, perchlorate, and TCE (trichloroethene) to safe drinking water levels
- 20,110 pounds of solvents removed from soils by the Soil Vapor Extraction System

*\*Totals since start of remedial action.*

## *Pantex Clean-up Action Progress*

Active clean-up continues from legacy operations that released contaminants to the perched groundwater and for solvents that were released to soils in the Burning Ground. The perched groundwater clean-up action includes two in-situ bioremediation systems (ISB) and two pump and treat systems. A soil vapor extraction system operates to remove solvents from the Burning Ground soils. One of the primary goals for treatment is to prevent movement of contaminated perched groundwater and solvents in soils to the deeper drinking water aquifer (Ogallala Aquifer).

Pantex monitors over 100 perched groundwater wells to evaluate the effectiveness of the clean-up and 28 Ogallala Aquifer wells to evaluate the continued protectiveness of the action for the drinking water aquifer. Monitoring results from Ogallala wells continue to indicate that all constituents of concern are below safe drinking water levels. You can find results on the Mission page at [pantex.energy.gov](http://pantex.energy.gov).

## *Natural Attenuation in Pantex Groundwater*

Pantex contracted with a leading researcher to evaluate whether contaminants were naturally breaking down in groundwater, also known as natural attenuation, either through bacterial activity or chemical breakdown. The study concluded that natural attenuation is occurring throughout most of the perched groundwater plume of contamination. Both bacterial activity and chemical reactions combine to reduce the amount of high explosives, particularly RDX in groundwater. This means that natural attenuation is helping cleanup the plumes. Pantex will continue to evaluate whether plume areas that are difficult to treat can be effectively mitigated through natural attenuation or through enhancement of the processes that naturally attenuate the high explosives.

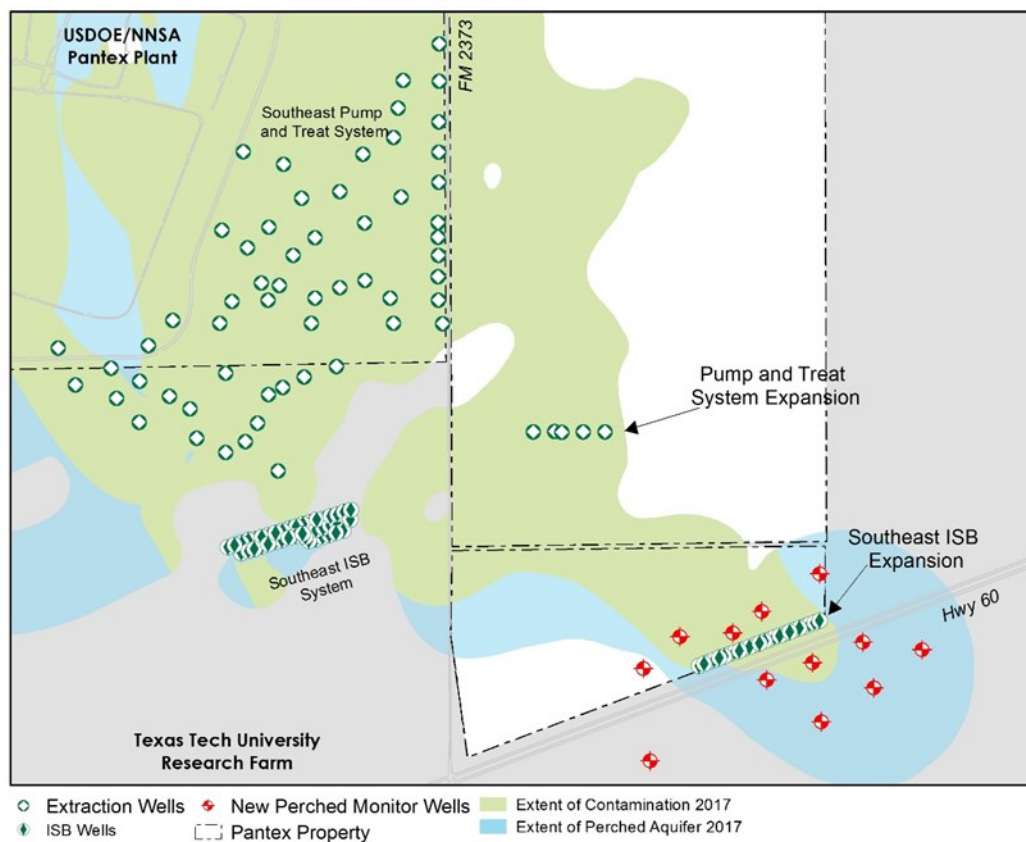
## Expanded Groundwater Cleanup

Through the continued evaluation of the cleanup operations, Pantex determined there were areas of impacted perched groundwater that were not responding to the cleanup systems that are in place. Pantex has completed installation of pump and treat extraction wells to the east of FM 2373 and is currently working on connecting those wells to the system. The wells are expected to be operational by the end of year and will help capture the water that continues to move to the south and east.

Pantex also completed installation of 25 new ISB injection wells along the southeast boundary of Pantex Plant property to prevent further movement of the high explosive contamination offsite. Amendment will be injected into those wells in late 2018. Pantex has also expanded investigation of the perched groundwater onto neighboring properties due to a narrow plume of contamination that appears to be following a buried stream channel.

Pantex will continue the offsite investigation by drilling new wells and using an electromagnetic study that will help identify the stream channel that the high explosive constituents are moving through. Pantex is committed to finding the extent of contamination, protecting neighboring wells, preventing further offsite movement of the contaminated groundwater, and mitigating the offsite contamination. See map below for the new monitor, ISB injection, and extraction well locations

As we mentioned, additional information on this system will be presented at the Pantex Environmental Restoration Public meeting, at 4:00 p.m. on Tuesday, November 13th, at the Square House Museum, 501 Elsie Avenue, in Panhandle, TX.





## *Natural resource management at Pantex still a top priority*

The Pantex Plant takes natural resources management seriously; to the extent that it employs an agronomist, a wildlife biologist and cultural resources specialist. Much of the 18,000 acres that comprise the Pantex Plant remain in grassland and are managed with the health of the prairie, wildlife, and cultural resources in mind.

Cropland and rangeland management plans and practices are captured in the Water Quality Management Plan for Pantex, which is certified and reviewed annually by the Texas State Soil and Water Conservation Board. We also preserve historical resources from WWII and the Cold War. Staff members ensure the buildings and artifacts are preserved for future generations to learn about this important time in history.



CNS Wildlife Biologist Jim Ray and Summer Intern, Kimberly Newton, examine a broad-leaf milkweed plant for monarch butterfly caterpillars, part of the White House/USDOE Pollinator Protection Initiative.



CNS Wildlife Biologist, Jim Ray, West Texas A&M professor, Ray Matlack, and West Texas A&M students Kyle Ganow and Molly Kaweck and a sedated bobcat that they just equipped with ear-tags and a GPS radio-collar.

Additionally, Pantex protects over 60 archeological sites, including two sites potentially eligible for the National Historic Register.

Pantex has been very successful in recent years with a wildlife research program that focuses heavily on collaborations and outreach. Projects have involved local issues like the status and ecology of the state-threatened Texas horned lizard, monitoring associated with the Pantex wind farm, and ecology of an expanding population of bobcats that has taken up residence in the area.

Surrounding landowners were important contributors to this work in that they allowed researchers access to their properties to trap or track some of these animals.

However, the Pantex conservation reach has also expanded far beyond its borders thanks to collaborations and the Pantex Plant's goals of contributing to USDOE's accomplishments under national initiatives that involve migratory birds and pollinators. Pantex and collaborators are studying means of monitoring declining pollinators with the University of Oklahoma, effects of wind energy development on birds of prey with Texas Tech University and year round ecology of declining insect-eating birds with the combined efforts of the University of Manitoba, York University, and Texas Tech University.



CNS Wildlife Biologist, Jim Ray, having a little fun after assisting West Texas A&M students equip this sedated bobcat with ear-tags and a GPS radio collar.