

## Important Historical Sites in Perkins Township

Over its history several very important facilities have operated in Perkins Township. Described below are three of the more important ones.

### — The Plum Brook Ordnance Works —

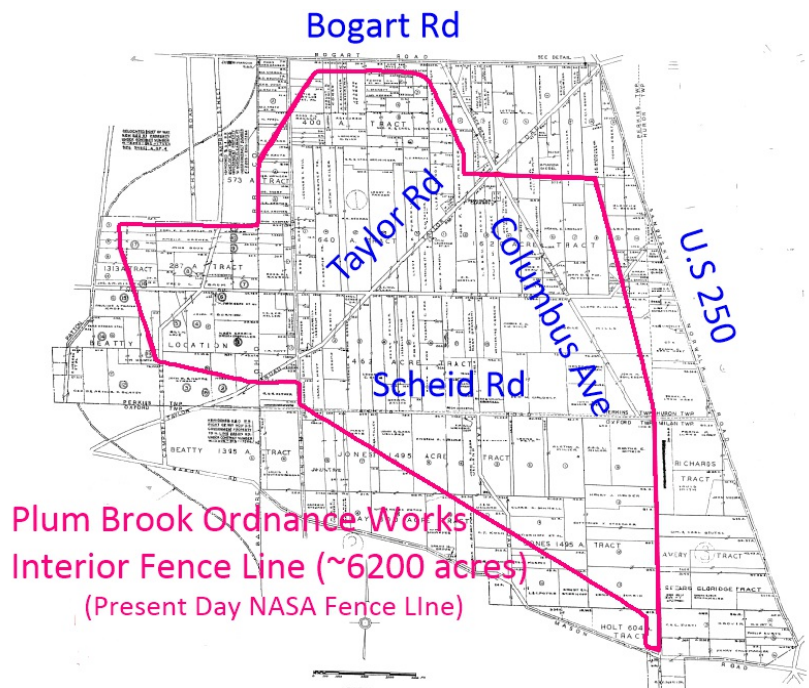
From early in 1941 through all of WWII the federal government operated a major explosives manufacturing facility, most of which was in Perkins Township, south of Sandusky, Ohio. In January 1941, before the U.S. was involved in WWII, the War Department took by eminent domain the entire properties of 159 landowners, which was a total of over 9000 acres (14 sq. miles), most of which was in Perkins Township, to construct the massive Plum Brook Ordnance Works (PBOW).

At that time the U.S. was unprepared to conduct a war. Of particular concern was the inability to produce the explosives a major war would require. Consequently, about a dozen large ordnance works were constructed, where trinitrotoluene (TNT) and other high explosives would be manufactured. Then, at separate other facilities the TNT would be loaded into bombs, artillery shells, grenades, and other devices that would allow the U.S., should they be needed, to successfully defend and operate in what appeared to be an approaching world war.

Understand, when the lands of local residents were taken for the Plum Brook Ordnance Works (PBOW), the U.S. was not yet at war. War was raging in Europe, but after our involvement in WWI most American citizens wished for us to stay out of “distant wars.” Understandably, residents who had their houses and farms taken from them by eminent domain were particularly distressed.

In fact, the confiscated farmlands of Perkins and Groton Townships were among the most agriculturally productive lands in the Midwest and world. The soils of Perkins Township farms are extremely productive. Consequently, dozens of Perkins Township farms were taken by the federal government, and their owners were then unable to purchase new farms to continue what had been a century of family farming traditions.

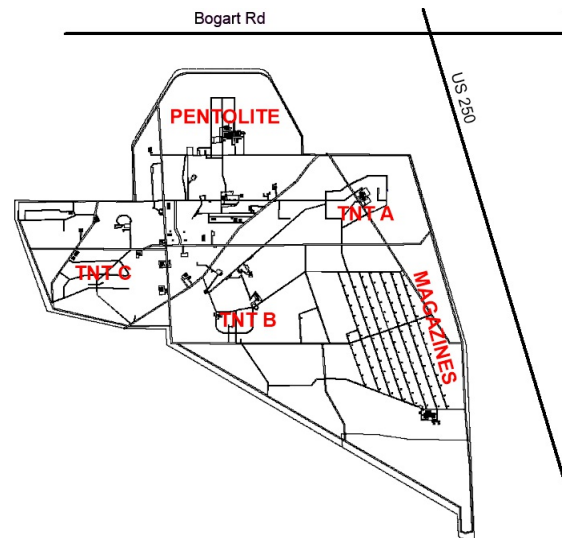
The map shows the original land parcels and the fence line



constructed around the PBOW. At the time, the U.S. government, the "War Department" also owned about 3000 acres outside of the fence, on the south, west, and east sides.

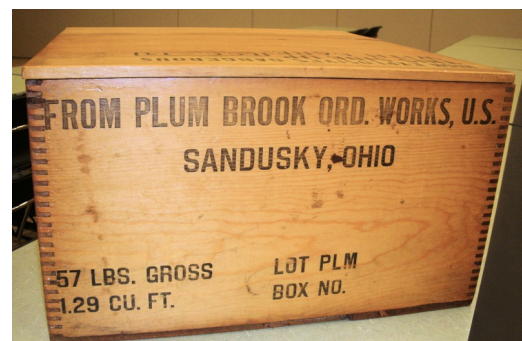
At PBOW there were five major facilities, which were spaced widely apart so that an explosion at one would not damage adjacent facilities. There were three massive facilities where TNT, trinitrotoluene was made: TNT A in the northeast corner, TNT B in the center, and TNT C in the west.

In the northern area, inside the fence, south of Bogart Road, was the Pentolite Facility, where pentolite, an extremely powerful, difficult to make explosive was manufactured. In the last years of WWII the pentolite made at PBOW was on the tips of American bazooka rockets which, because of the explosive they were able to blast off the treads of German panzer tanks, disabling them. The pentolite made at the PBOW played a major part in the success of the D-Day landing, by disabling the arrays of Panzer tanks the Germans brought to that beach-front battle field.



Explosive-manufacturing buildings of TNT-C.

The Magazines Area had 125 concrete bunkers, spaced about 450 ft apart, where the TNT and pentolite manufactured at the site was temporarily stored in thousands of wooden shipping boxes, before they were loaded onto railroad box cars which took the TNT and pentolite to other sites where the explosives were carefully loaded into bombs, artillery shells, grenades and other explosive devices that were then shipped to Allied forces around the world.



TNT Storage/Shipping Box





Earth-covered concrete magazine, used to safely store explosives in wooden boxes before being shipped to munitions manufacturing facilities.



Magazine under construction. Concrete front wall and vault in place, to be covered with several feet of earth, to the top of the vents on the roof.

By the end of WWII over a billion pounds of TNT had been produced at the PBOW. The TNT went not only to American munitions plants but much of it was shipped in the transport boxes to both the United Kingdom and the Soviet Union for use in the wartime munitions made in those Allied countries.

After the Japanese bombed Pearl Harbor and the U.S. entered WWII, getting personnel to operate explosives the manufacturing facilities at the PBOW became difficult. Able-bodied American men either enlisted or were drafted in American armed forces. Consequently, both women and older men were employed at PBOW works. When in full operation, from late 1941 to the war's end in 1945, PBOW had over 3000 full-time employees.

To house these people new homes were constructed in Erie County, especially in the new “MacArthur Park” on the south edge of Sandusky. Each day buses transported PBOW employees between the Ordnance Works and Sandusky. The Plum Brook Ordnance Works was one of America’s first Equal Opportunity employers, welcoming both men and women, of all races and backgrounds as fully-paid employees.

The Plum Brook Ordnance Works had both a full-time fire department and police department. Over 40 miles of paved highway were constructed at the site, along with over 40 miles of interior railway. Powerful diesel switching engines transported materials within PBOW.

Why did the U.S. government choose to locate this massive facility out in Erie County, mostly in purely rural Perkins and Groton Townships? For several crucial reasons.

First, the manufacture of TNT in large tonnages required massive amounts of pure water; used in the chemical processes of turning toluene into TNT by chemically binding nitrates to it. All of the dozen or so U.S. TNT plants were located on large rivers or next to large lakes, to provide the needed water supplies.

The PBOW, in Perkins Township, Erie County, Ohio, was less than five miles from the Lake Erie shore. The facility had virtually unlimited amounts of water available from Lake Erie, transported to the site by two underground pipelines; a shorter one from Sandusky Bay on the east side of Sandusky, and a much larger pipeline constructed from Lake Erie west of Huron, Ohio about seven miles southwest to PBOW.

A powerful pumping station was constructed on the shore of Lake Erie to feed to PBOW over 30 million gallons of water each day. Today, that pumping station still operates, on the lakeshore at today’s Sheldon Marsh State Nature Preserve. Today, the water is pumped from Lake Erie through the original seven-mile below-ground pipeline to today’s Armstrong Test Facility, where both NASA and municipal water systems in Erie County can use the water.

A second reason the PBOW was located in Perkins Township was because it was several hundred miles distant from the East Coast — beyond the range of enemy (German) bombers if the Germans were ever able to land and bring their warfare to the U.S. mainland.

In that regard it was understood that clear blue sky days, for much of the year, are uncommon in the local region. Perkins Township’s many cloudy days would preclude enemy bombing as aircraft of the time, especially heavy-laden bombers, could not easily find targets in overcast weather.

Lastly, Erie County and Perkins Township were selected because a number of large transport railroads, from three directions converged here. From distant points to the south, especially from coal-mining areas where the feedstock chemical toluene was extracted from coal, was the Baltimore and Ohio Railroad. Going both east and west were several other railroads. Railroads were the crucial arteries to and from the Plum Brook Ordnance Works; bringing in many of the

chemical feedstocks needed to make both TNT and pentolite, and then transporting out the created explosives to distant munitions manufacturing plants across the U.S.

One of the most important of those was the Ravenna Army Ammunition Plant, the “Ravenna Arsenal” in the Akron-Canton area, where in WWII up to 14,000 employees produced arms and ammunition for the War Effort.

When WWII ended, in 1945, both the Ravenna Arsenal and the Plum Brook Ordnance Works were essentially de-commissioned. For a number of years the U.S. Army attempted to remove the remnant chemicals and machinery at PBOW. Until 1958, it sat essentially idle. Then, the Russian launched the Sputnik satellite and the Space Race was on. The National Aeronautical and Space Administration (NASA) was formed. NASA acquired rights to conduct large aerospace test operations at the site; it became the next interesting and significant story in Perkins Township’s history, NASA’s Plum Brook Station; which is today’s Neil A. Armstrong Test Facility.