

US Army Corps of Engineers

The PBOW Restoration Team

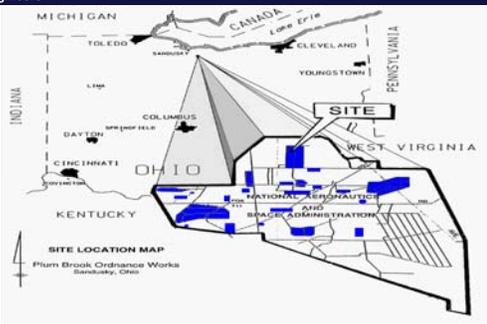



PBOW Restoration Advisory Board

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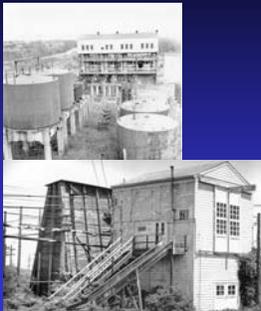
Plum Brook Ordnance Works



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Plum Brook Ordnance Works



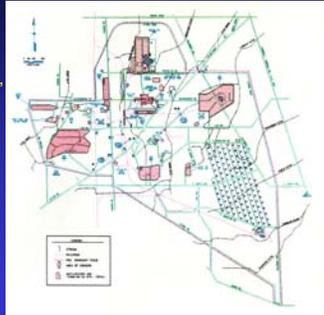
- World War II TNT manufacturing facility
- 6,400 acres
- Located near Sandusky, Ohio and Sandusky Bay, Lake Erie
- Surrounding area is mostly residential and agricultural

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History and AOC Locations

- 1941 thru 1945 – PBOW produced over 1 billion pounds of explosives (i.e., TNT, DNT and Pentolite)
- 1963 – NASA acquired property and currently maintains and utilizes the 6,400 acres for research (most noted for reactor, hypersonic testing facility and space propulsion facility)



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PRRWP Lime Treatment Pilot Study

- Application of hydrated lime to nitroaromatic contaminated soils resulted in reduction of levels
- Worked in conjunction w/ WES to analyze laboratory and field results
- Reduced levels of nitros over 6-week period to below hazardous levels allowing for non-haz landfill disposal, additional time could have possibly gotten levels below RGOs for on-site placement

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US Army Corps of Engineers **PRRWP Lime Treatment Pilot Study**

- Lime added (approximately 250 lbs daily or when pH was low)
- Tilled daily
- Monitored pH (kept between 10-12 for alkaline process to work)
- Study continued over 6-week time period
- 8 test piles from 8' depth excavation of most contaminated area (20' x 20' x 1' size)
- Piles 1 & 7 were control piles (no lime added during pilot study)
- Piles 2 & 8 were "weekly treatment piles"
- Piles 3 through 6 were "daily treatment piles"



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US Army Corps of Engineers **PRRWP Lime Treatment Pilot Study**

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US Army Corps of Engineers **PRRWP Lime Treatment Pilot Study**

- Composite samples analyzed each week
- Greatest reduction in pile 4 where highest levels of nitros were found - from 22,300 ppm to 2340 ppm for 2, 4, 6-trinitrotoluene (TNT)



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US Army Corps of Engineers **Questions?**

- <http://www.lrh.usace.army.mil/projects/fuds/PBOW.htm>
- <http://www.lrh.usace.army.mil/>

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