



TM

FORMER PLUM BROOK ORDNANCE WORKS

Sandusky, Ohio (Currently NASA Plum Brook Station)

Monthly Fact Sheet

May 2012

SITE DESCRIPTION - PBOW is located approximately 4 miles south of Sandusky, Ohio, and 59 miles west of Cleveland. Although located primarily in Perkins and Oxford Townships, the eastern edge of the site extends into Huron and Milan Townships. PBOW is in general bounded on the north by Bogart Road, on the south by Mason Road, on the west by Patten Tract Road, and on the east by U.S. Highway 250. The area surrounding PBOW is mostly agricultural and residential.

SITE HISTORY - The 9,009-acre PBOW facility was built in early 1941 as a manufacturing plant for 2,4,6-trinitrotoluene, 2,4-dinitrotoluene (DNT), and pentolite. Production of explosives at PBOW began in December 1941 and continued until 1945. It is estimated that more than 1 billion pounds of nitroaromatic explosives were manufactured during the 4-year operating period. The three explosive manufacturing areas were designated TNT Area A (TNTA), TNT Area B (TNTB), and TNTC. Twelve process lines were used in the manufacture of TNT, four lines at TNTA, three lines at TNTB, and five lines at TNTC.

The manufacturing sites consisted of widely scattered buildings of wood frame construction with asbestos and sheet metal coverings. They also included a series of buried and/or overhead flumes and pipes used to transport various liquids associated with the manufacturing process. After plant operations ceased, the manufacturing process lines were decontaminated by the Army in late 1945.

During decontamination, all structures, equipment, and debris associated with the manufacture of explosives were either removed and salvaged or removed and burned. After it was certified as decontaminated, 3,230 acres of the property were initially transferred to the Ordnance Department, then to the War Assets Administration in 1946. This transfer did not include the Plum Brook Depot area, which consists of 2,800 acres. The Department of the Army reacquired the 3,230 acres in 1954 and performed cleanup efforts from the mid-1950s until 1963. In 1955, the Army specifically completed further decontamination of the manufacturing sites. This effort included removal of contaminated surface and subsurface soil around the buildings and wooden and ceramic waste disposal lines containing TNT. Thousands of pounds of TNT were discovered in catch basins; this TNT was removed and burned at the burning grounds.

Two property use agreements were entered into by the National Advisory Committee of Aeronautics, the predecessor of the National Aeronautics and Space Administration (NASA), and the Army in 1956

and 1958, respectively. On March 15, 1963, accountability and custody of the entire PBOW property (6,030 acres) were transferred to NASA. NASA performed further decontamination efforts in the TNT Areas during 1964. The NASA decontamination process included removing contaminated surface soil above the drain tiles, flumes, etc.; destruction of all buildings by fire; then removal of all soil, debris, sumps, and above-grade portions of concrete foundations. Portions of the concrete foundations located below grade were left buried, and some that had been previously slightly above grade were likewise buried. All materials, including the soil in those areas, were lashed; the area was then rough-graded. The decontamination process was also to have included the burning of nitroaromatic-filled flumes that were excavated.

NASA has operated and maintained PBOW since 1963, and the facility is currently the NASA Glenn Research Center, Plum Brook Station. NASA operates the former PBOW property as a space research facility in support of their John Glenn Research Center at Lewis Field, Cleveland, Ohio. Most of the aerospace testing facilities built in the 1960s at the site are presently on standby or inactive status. On April 18, 1978, NASA declared approximately 2,152 acres of PBOW as excess. The Perkins Township Board of Education acquired 46 acres of the excess acreage and uses this area as a bus transportation area. The General Services Administration retains ownership of the remaining excess acreage and currently has a use agreement with the Ohio National Guard for 604 acres of this land. NASA presently controls approximately 6,400 acres.

Nitroaromatic compounds (i.e., explosives) are the major soil contaminants at the site. The presence of nitroaromatic contamination is likely due to spills on the surface and leaks from holding areas, flumes, and pipelines associated with former manufacturing operations.

PROJECT ACTIVITIES

Project 1803 – RI/FS Low Scope

Phase Completion

- Remedial Investigation/Feasibility Study (RI/FS) – Completed 30 September 1998
- Project Closeout (PCO) – Completed 30 September 2004

Project 1806 – ASR Complete NOFA OEW MMRP

Phase Completion

- PCO – Completed 26 October 2009

Project 1809 – Site Management

Phase Completion

- Site Investigation (SI) – Completed 30 September 2009
- PCO – Completed 30 September 2009

Project 1810 – Community Relations and Restoration Advisory Board

Phase Completion

- No phase associated – On-going

Monthly Update

- Quarterly Restoration Advisory Board (RAB) meetings

- Most recent RAB Meeting was held Thursday, 31 May 2012 and consisted of the following: site visit of TNT A RA-C Phase 1 excavation efforts, site visit of TNT C RA-C remediation pad efforts and a demonstration of equipment used during well sampling.
- Next scheduled meeting is 13 September 2012

Project 1811 – Additional BGs

Phase Completion

- PCO – Completed 19 September 2009

Project 1812 - Reservoir No. 2 Burning Ground

Phase Completion

- RI/FS – On-going
- Engineering Evaluation/Cost Analysis (EE/CA) – Left report in the draft-final stage (March 2007) per HQ determination of no immediate risk issue. Picked back up in the RI/FS process to complete remediation under RD and RA-C phases.
- Removal Design (RmD) – Completed 11 May 2007

Monthly Update

- Final Risk Assessment was submitted on 26 February 2010. Additional delineation sampling was conducted in October 2010 to support the Feasibility Study which was submitted in May 2011 and finalized October 2011.
- The draft Proposed Plan was submitted for full-team review on 19 April 2012, with Public Meeting Presentation tentatively scheduled for 14 August 2012 (30-day review period would be 14 Aug – 14 Sept 2012).

Project 1813 - TNT Area A (Soils)

Phase Completion

- RI/FS – Completed 29 June 2011
- RD – On-going (Kept open to allow for Phase 1 (exc only) and Phase 2 (exc and remediation) efforts)
- RA-C – On-going

Monthly Update

- The Decision Document was signed 22 June 2011 along with the Ohio EPA concurrence letter
- 18 areas of concern (AOCs) with an estimated 17,157 cubic yards to be excavated
- Currently conducting excavation of AOCs (hot spots) using TMG Services, Inc. 13 of 18 AOCs have been excavated and sampled for confirmation (pits) and disposal (stockpiles). To date, 9 of the 13 AOCs have been deemed “clean”, 2 remain “dirty” and 2 are awaiting lab data for evaluation. Of the stockpiles in place, only 2 have come back as hazardous (approx 1,000 tons). No soil has been taken to remediation pad or landfill.

Project 1814 - TNT Area B (Soils)

Phase Completion

- RI/FS – Completed 23 September 2009
- RmD – Completed 16 June 2006

- Removal Action-Construction (RmA-C) – Completed 5 June 2007
- PCO – Completed 31 March 2010

Project 1815 - TNT Area C (Soils)

Phase Completion

- RI/FS – Completed 15 January 2010
- RD – Completed 22 January 2010
- RA-C – On-going

Monthly Update

- A Remedial Action Construction (RA-C) contract was awarded 24 December 2009 to implement Alternative 5 of the Focused Feasibility Study for Excavation, Stabilization (if necessary), Alkaline Hydrolysis and/or Composting, and On-site / Off-site Disposal
- Ohio EPA concurrence letter was signed on January 15, 2010
- 15 AOCs with an estimated 9,205 CY have been excavated w/ 9 of the 15 deemed “clean” and backfilled. The remaining 6 AOCs are being investigated/remediated under another contract.
- The 6 remaining AOCs were scoped for additional quantity of 2,718 CY, however a modification may be required for additional excavation / remediation. Due to the large volume of concrete in the AOCs, we’ll know if quantity for remediation was exceeded once soil is on remediation pad. All excavated soil assumed to be “treated” and used as backfill. Tentative treatment anticipated to begin mid to late-June 2012.

Project 1816 – TNT Loading Area

Phase Completion

- LSI – Completed 31 July 2000
- PCO – Completed 30 September 2002

Project 1817 - Waste Water Treatment Plants 1 and 3 with Wooden Sewer Lines

Phase Completion

- LSI – Completed 30 September 2000
- RI/FS – On-going – WWTPs 1 and 3 as well as the sewer lines A and B from WWTP 1 have been broken out for scheduling purposes. A contract was awarded in June 2008 to conduct an RI to delineate the traces of these sewer lines and to investigate potential nitroaromatic contamination which may have affected soil and groundwater along these traces. A contract was awarded in December 2011 to complete RI through DD for the WWTP#1 to TNT A sewer line and to the TNT B sewer line

Monthly Update – WWTP #1

- Final SCR submitted in June 2011
- Final SLERA / BHHRA for WWTP#1 submitted December 2011

Monthly Update – WWTP #3

- Final SCR for WWTP#3 submitted August 2011
- Awaiting NASA Action (Exclusion of K Control Building Area) before moving forward w/ SLERA/BHHRA (if necessary)

Monthly Update – WWTP #1 to TNT A Sewer Line

- Final SCR from WWTP#1 to TNT A Sewer Line submitted January 2012
- Draft SLERA/BHHRA from WWTP#1 to TNT A Sewer Line submitted Feb 2012, with final to be submitted by 29 May 2012

Monthly Update – WWTP #1 to TNT B Sewer Line

- Final SCR from WWTP#1 to TNT B Sewer Line submitted Nov 2011
- Final SLERA/BHHRA from WWTP#1 to TNT B Sewer Line submitted December 2011

Project 1818 - Waste Water Treatment Plant #2 with Sewer Lines

Phase Completion

- RI/FS – On-going

Monthly Update

- A contract was awarded in September 2010 for the RI/FS to include the steel sewer line from TNT C to WWTP #2 and the sewer line to TNT Area C
- A contract was awarded in December 2011 to complete the remedial investigation through decision document for the steel sewer line between WWTP 1, 2, 3
- Work Plans for the site characterization were finalized in May 2011 w/ sampling completed 12 April 2012
- Draft Site Characterization Report is scheduled to be submitted 13 September 2012
- The Draft HHRA work plan is being prepared and scheduled to be submitted for review 13 June 2012

Project 1819 – Pentolite Waste Area Lagoons (PAWL)

Phase Completion

- LSI – Completed 30 September 2000
- PCO – Completed 30 September 2002

Project 1820 - Red Water Ponds Area (Soils for PRRWP only)

Phase Completion

- RI/FS – On-going
- RmD – Completed 5 June 2007
- RmA-C – Completed 30 March 2009, however, residual risk issues remain and further remediation will be conducted under the RA-C phase.

Monthly Update

- Site Delineation Report detailing residual risk issues remaining at PRRWP was finalized Sept 2011.
- The Internal Draft Focused Feasibility Study Addendum, which included findings from the Site Delineation Report, is currently undergoing revisions from comments submitted by the internal team review. It's scheduled to be revised after the Value Engineering Study (scheduled for 11-15 June 2012 at LRN) and then resubmitted to CX for their review (with changes, if any, arising from VE Study incorporated).

Project 1821 - Ash Pits 1 and 3

Phase Completion

- LSI – Completed 30 September 2000
- RI/FS – On-going (Ash Pits 1 & 3 have separate schedules/reports for site characterization and risk assessment efforts, however, findings from each area will be addressed / evaluated under one Feasibility Study)

Monthly Update – Ash Pit 1 Coal Yard (RI Portion)

- Shaw is currently completing the Draft Site Characterization Addendum report (due 01 June 2012). Full team review scheduled for 4 June – 3 August 2012.

Monthly Update – Ash Pit 3 (RI Portion)

- Shaw conducted the spring groundwater sampling for inclusion into the Site Characterization (May 2012)
- Shaw is currently working on Draft SCR Addendum (due 26 Nov 12)
- Shaw is currently working on the Draft SLERA Addendum (due 5 Jul 12)

Project 1822 - Powerhouse 2 Ash Pits

Phase Completion

- RI/FS – On-going

Monthly Update

- The final site characterization report was submitted 17 September 2010, however an addendum was prepared / submitted this month (due 29 May 12) that included the coal yards for this area.
- Full team review for SCR Addendum is scheduled for 30 May – 31 Jul 2012.

Project 1823 - Acid Areas 1, 2 & 3

Phase Completion

- LSI – Completed 30 September 1999
- RI/FS – On-going (Acid Areas 1, 2 & 3 have separate schedules, therefore an INPR revision was submitted to LRL mid-May 2012 to break out these areas as separate projects. Once approved, new project numbers will be assigned to Acid Areas 2 & 3, leaving Acid Area 1 as project 1823. The monthly fact sheet will be revised to reflect these changes once they are approved by LRD and new project numbers obtained).

Monthly Update – Acid Area 1

- The final Site Characterization Report (part 1) was completed July 20, 2009
- The final Risk Assessment was completed July 2010
- A contract was awarded in December 2010 to conduct the Feasibility Study which included additional sampling to further delineate the area
- The Draft FS was submitted for internal review with comments due 20 May 2012.
- Currently, Draft FS being revised based on internal review comments.
- A VE study is scheduled for 11-15 June 2012 (in LRN) as well as CX review, therefore, the draft FS will be revised 17 July – 20 August prior to submission for full team review (including regulators).

- Final FS submission scheduled for 22 Jan 2013.

Monthly Update – Acid Area 2

- The draft Focused FS was submitted in April 2012 w/ comments requested by 20 May 2012. To date Ohio EPA and CX have not submitted comments.
- VE Study will be conducted 11-15 June 2012 (in LRN) with all comments and valid VE suggestions incorporated into final FFS (to be submitted by 25 July 2012).

Monthly Update – Acid Area 3

- The draft Focused FS was submitted in April 2012 w/ comments requested by 20 May 2012. To date Ohio EPA and CX have not submitted comments, therefore LRN continues to send out reminders / requests for their comments.
- VE Study will be conducted 11-15 June 2012 (in LRN) with all comments and valid VE suggestions incorporated into final FFS (to be submitted by 25 July 2012).

Project 1824 – Lower Toluene Tanks (LTT)

Phase Completion

- LSI – Completed 26 June 2006
- PCO – Completed 5 October 2006

Project 1825 - Garage Maintenance (Locomotive Bldg, Wash House, Sellite and Unloading Areas)

Phase Completion

- LSI – Completed 30 September 2000
- RI/FS – On-going – Work had already progressed on Locomotive Building and Rail Car Wash area thru Risk Assessment completion (finals submitted June 2011). However, two additional areas were identified (Sellite and Unloading Areas) and added to the overall RI/FS. Therefore, these two additional areas would be completed thru RA and join the original effort in the FS stage.

Monthly Update – Locomotive Building and Wash House AREas

- The Final Site Characterization Report was submitted 29 Sept 2010.
- The Risk Assessments were completed and submitted June 2011. A contract was awarded 31 May 2012 to complete the FS, PP and DD for the project , which will include all aspects of the various areas on this project.
- Currently nothing is being done on this portion of the project.

Monthly Update – Sellite and Unloading Areas

- A contract was awarded in December 2010 to conduct a data gap investigation for the former sellite area and unloading area which will be included in the overall FS for this site
- Workplans for the data gap investigation was completed June 2011.
- Currently the Spring Well Sampling event was conducted in May 2012 and the data is being evaluated thru end of July (30 July 2012).
- The BHHRA and SLERA RA work plans for the data gap portion of the project will be completed 31 July – 29 August 2011.

Project 1826 - Groundwater - TNT A, B and C & Red Water Ponds Areas

Phase Completion

- SI – Completed 30 September 1999
- Remedial Action-Operations (RA-O) – Completed 30 September 2005 (This covered the well maintenance/monitoring portion of the project and LRD told us to include that under the current phase from then on.)
- RI/FS – On-going

Monthly Update

- The Draft PP was submitted 20 December w/ review comments being requested by 20 February 2011.
- Only 1 comment was received (Mark Bohne – RAB member) and is currently being addressed in the draft DD Responsiveness Summary (due 13 May 2012).
- Currently the plan is to conduct limited monitoring (not MNA nor Alt. 5 but rather a variation of it) and the team is preparing a monitoring plan w/ enough detail to not only estimate this alternate variation for inclusion into the DD, but also identify an exit strategy for completion of monitoring efforts. The draft DD completion is scheduled for 11 June 2012 with internal review (including LRH and LRL OC) to begin 12 June – 12 July 2012.
- The Land Use Control Requirement may or may not be included in the selected alternative (variation) of the draft DD and is still being discussed by the team (including Ohio EPA, NASA and OC) because USACE has no control over GSA in mandating it be put in place. We can only recommend it be done based on our findings.

PROJECT TEAM MEETINGS

Team meetings are conducted prior to each RAB meeting to discuss project issues and review presentation material planned for the RAB meeting. A Full Team Meeting includes representatives from USACE, NASA, OEPA, and USACE contractors. Next team meeting scheduled for 13 September 2012 at PBOW Engineering Building.

PBOW WEBSITE

USACE Huntington continues to maintain the website which is dedicated to keeping the public informed about the PBOW activities. This site is updated throughout the year. The PBOW Administrative Record is available at www.lrh.usace.army.mil/projects/current/derp-fuds/pbow. New documents are uploaded as they become available. The Public Repository (for public viewing) is maintained at the Firelands College Library Reference Desk and updated on a quarterly basis.

PBOW TOLL FREE NUMBER

USACE Huntington has a toll-free number in place for your use. If you have any information such as personal knowledge, photographs, maps, newspaper articles of past activities or other information you would be willing to share, or if you have questions about current activities at the site, please feel free to use the toll free number. USACE is interested in hearing from you. You may call toll free (800) 822-8413 to speak with the USACE PBOW Technical Coordinator.

PROJECT CONTACT

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