



TM

FORMER PLUM BROOK ORDNANCE WORKS

Sandusky, Ohio (Currently NASA Plum Brook Station)

Monthly Fact Sheet

January – March 2015

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 former Plum Brook Ordnance Works (PBOW) was established by the War Department as a government-owned, contractor-operated (GOCO) facility for the production of 2,4,6-trinitrotoluene (TNT), 2,4-dinitrotoluene (DNT), and pentolite during World War II. The PBOW site originally consisted of approximately 9,100 acres, approximately 3,500 acres of which was used as a buffer area outside the facility fence line. The property was acquired in the name of the United States of America in 1941. The government contractor, Trojan Powder Company, operated the production facility from December 1941 until 1945. It is estimated that during this period more than 1 billion pounds of nitroaromatic explosives were manufactured.

At the end of production in September 1945, PBOW was placed in standby operation status and the Army conducted decontamination and decommissioning activities. On December 17, 1945 the U.S. Army Ordnance Department (Ordnance Department) obtained physical control of the site. The Ordnance Department continued decontamination efforts until August 1946. In 1946 over 6,200 acres, 3,231 being located within the fenced area, were transferred to the War Assets Administration (WAA), and approximately 2,800 acres were transferred to the Ravenna Arsenal. This 2,800-acre parcel, transferred to Ravenna Arsenal and referred to as the Magazine Area (and also the Plum Brook Depot), was transferred again in July 1947 to the Erie Ordnance Depot, LeCarne, Ohio. The Magazine Area included approximately 2,300 acres inside the fence line and 500 acres of the buffer area, outside of the fence line.

In 1949, the GSA took control of WAA's portion of the PBOW property, which included an indeterminate amount of acreage outside of the fence line due to conveyances by WAA to private landowners during the late 1940s and early 1950s. It is believed that farmers were given the opportunity to buy back land in the buffer area, outside the fence line.

In June 1954, the Army reacquired the 3,231 acres within the PBOW fence line that was previously transferred to the WAA and subsequently to GSA. From August 1954 to sometime in 1958, further

decontamination was performed by the Army. The decontamination included removal of and disposal of contaminated surface and subsurface soil around the buildings and wooden and ceramic waste disposal lines containing TNT. This included thousands of pounds of TNT which were discovered in catch basins that were removed and incinerated at the burning grounds.

Two property use agreements were entered into by the Army and the National Advisory Committee of Aeronautics (NACA), the predecessor of NASA, in March 1956 and January 1958, respectively. The first agreement was for approximately 500 acres on which NACA built a nuclear reactor. The second agreement gave NACA (NASA as of October 1958) use of an additional 2,700 acres within the fenced area but outside the Magazine Area, for a total of 3,231 acres under the two use agreements. At this time, NASA had use of all property inside the PBOW fence except the 2,300 acres in the Magazine Area. The Army declared this 3,231-acre property as excess in October 1958.

In September 1961, the Army declared the Magazine Area as excess, and NASA formally requested custody of the property in October 1961. On March 15, 1963, accountability and custody of the PBOW property (6,031 acres) were transferred from the Department of the Army to NASA.

However, prior to NASA's acceptance of the property in March 1963, Ravenna Arsenal performed additional decontamination and subsequently certified 500 acres of the former PBOW property was decontaminated and suitable for unrestricted future use. This decontamination certification was only for the 500 acres in the former pentolite manufacturing area (area where NASA built the nuclear reactor) under the first use agreement. NASA identified additional DOD-related contamination in 1963, after transfer of the property. NASA performed further decontamination efforts and the removal of structures in 1964.

NASA has operated and maintained the property inside the fence line since 1963, and the facility currently located there is the NASA Glenn Research Center, Plum Brook Station. NASA operates the property as a space research facility in support of its John Glenn Research Center at Lewis Field, Cleveland, Ohio. Most of the aerospace testing facilities built in the 1960s at the site have been demolished, or are currently on standby or inactive status. During 1967 through 1971, NASA purchased approximately 2,000 acres outside of the fence line from local farmers as "buffer." On April 18, 1978, NASA declared approximately 2,152 acres of PBOW as excess. This excess included approximately 1,500 acres of farmland outside the fence, including those acres purchased from farmers beginning in 1967, and was sold as farmland. Also, 46 acres outside of the fence in the northeast corner of the PBOW facility near the guard house was conveyed to The Perkins Township Board of Education and is used as a bus transportation area. In addition, the 2,152 acres of PBOW declared excess included a 604-acre parcel in the western part of the fenced area known as "Parcel 59." This area, although previously declared excess, was not transferred and remains under NASA control. According to a NASA newsletter, NASA presently controls approximately 6,432 acres; this includes approximately 5,500 acres within the fence line and 900 acres outside of the fence which have been leased for agriculture.

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 11 December 2014 and consisted of an update of projects.
- Next scheduled meeting is Thursday, 26 March 2015 and will be an update of projects.
- RAB/LTM contract was awarded and covers efforts from April 2015 through March 2016.

Project 1811 – Additional BGs

Phase Completion

- PCO – Completed 19 September 2009

Project 1812 - Reservoir No. 2 Burning Ground

Phase Completion

- RI/FS – Completed May 2014
- 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
- Remedial Design (RD) – Completed 30 June 2014
- Remedial Action – Construction (RA-C) – on-going

Monthly Update

- RA-C efforts completed this month consisted of excavation of AOC (top 2' as outlined in the Phase I efforts), stockpiling, sampling of stockpiles, disposal of some non-hazardous stockpiles to Erie County Landfill to be used as daily cover and hazardous stockpiles transported to remediation pad for future remediation.

Project 1813 - TNT Area A (Soils)

Phase Completion

- RI/FS – Completed 29 June 2011
- RD – Completed 18 March 2013

- RA-C – Completed 6 March 2015 (Phase I completed 31 March 2013 & Phase 2 completed 6 March 2015).
- PCO – Completed 6 March 2015

Monthly Update

- Completed Project Closeout Packet, submitted packet 31 July 2014 to OEPA requesting their concurrence letter by 31 August 2014. Received OEPA concurrence letter dated 14 January 2015 and obtained completed signed PCO packet from LRL dated 6 March 2015.

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 – Completed 31 January 2013
- PCO – Completed 13 September 2013

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 6 June 2011
- Final SLERA / BHHRA for WWTP#1 submitted 7 December 2011
- Final Remedial Investigation Report for WWTP #1 & #3 was issued 9 May 2013
- Draft Feasibility Study for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) was submitted 10 June 2013 for CX review. Responses to CX comments were submitted to the CX. Responses were accepted by the CX 23 September 2013.

- Draft Feasibility Study for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 19 December 2013 for State and public review.
- Final Feasibility Study for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 7 April 2014.
- Internal Draft Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 9 June 2014.
- CX Draft Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 22 September 2014. Review comments received 27 October 2014. Response to comments submitted 3 December 2014. Approval of response to comments received 29 December 2014.
- Draft Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 7 January 2015 for review. Review comments received from LRN 11 March 2015. Response to comments submitted on 19 March 2015.
- Final Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 23 March 2015.
- Public Meeting for the Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) conducted 26 March 2015.

Monthly Update – WWTP #3

- Final SCR for WWTP#3 submitted 16 August 2011
- Final SLERA / BHHRA for WWTP#3 submitted 10 April 2013
- Final Remedial Investigation Report for WWTP #1 & #3 was issued 9 May 2013
- Draft Feasibility Study for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) was submitted 10 June 2013 for CX review. Responses to CX comments were accepted by the CX 23 September 2013.
- Draft Feasibility Study for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 19 December 2013 for State and public review.
- Final Feasibility Study for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 7 April 2014.
- Internal Draft Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 9 June 2014.
- CX Draft Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 22 September 2014. Review comments received 27 October 2014. Response to comments submitted 3 December 2014. Approval of response to comments received 29 December 2014.
- Draft Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 7 January 2015 for review. Review comments received from LRN 11 March 2015. Response to comments submitted on 19 March 2015.
- Final Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 23 March 2015.
- Public Meeting for the Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) conducted 26 March 2015.

Monthly Update – WWTP #1 to TNT A Sewer Line

- Internal CX draft FS submitted for review 10 June 2013, CX provided comments, responses were provided, and the CX concurred with responses 23 September 2013.
- Final SCR from WWTP#1 to TNT A Sewer Line submitted 6 January 2012
- Draft SLERA/BHHRA from WWTP#1 to TNT A Sewer Line submitted 16 February 2012, with final submitted 19 July 2012
- Final Remedial Investigation Report for WWTP #1 & #3 was issued 9 May 2013
- Draft Feasibility Study for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) was submitted 10 June 2013 for CX review. Responses to CX comments were accepted by the CX 23 September 2013.
- Draft Feasibility Study for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 19 December 2013 for State and public review.
- Final Feasibility Study for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 7 April 2014.
- Internal Draft Proposed Plan for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 9 June 2014.
- CX Draft Proposed Plan for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 22 September 2014. Review comments received 27 October 2014. Response to comments submitted 3 December 2014. Approval of response to comments received 29 December 2014.
- Draft Proposed Plan for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 7 January 2015 for review. Review comments received from LRN 11 March 2015. Response to comments submitted on 19 March 2015.
- Final Proposed Plan for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 23 March 2015.
- Public Meeting for the Proposed Plan for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) conducted 26 March 2015.

Monthly Update – WWTP #1 to TNT B Sewer Line

- Final SCR from WWTP#1 to TNT B Sewer Line submitted 30 November 2011
- Final SLERA/BHHRA from WWTP#1 to TNT B Sewer Line submitted 16 December 2011
- Final Remedial Investigation Report for WWTP #1 & #3 was issued 9 May 2013
- Draft Feasibility Study for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) was submitted 10 June 2013 for CX review. Responses to CX comments were accepted by the CX 23 September 2013.
- Draft Feasibility Study for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 19 December 2013 for State and public review.
- Final Feasibility Study for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 7 April 2014.
- Internal Draft Proposed Plan for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 9 June 2014.
- CX Draft Proposed Plan for the WWTP# 1 and #3 site (including TANTA/TNTB to WWTP1 sewer lines) submitted 22 September 2014. Review comments received 27 October 2014. Response to comments submitted 3 December 2014. Approval of response to comments received 29 December 2014.

- Draft Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 7 January 2015. Review comments received from LRN 11 March 2015. Response to comments submitted on 19 March 2015.
- Final Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) submitted 23 March 2015.
- Public Meeting for the Proposed Plan for the WWTP# 1 and #3 site (including TNTA/TNTB to WWTP1 sewer lines) conducted 26 March 2015.

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

Phase Completion

- RI/FS – On-going

Monthly Update

- Final BHHRA/SLERA Work Plan submitted 25 June 2013.
- A contract was awarded in September 2010 for the RI/FS to include the sewer line from TNT C to WWTP #2
- 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 5 May 2011 w/ sampling completed 12 April 2012
- Internal Draft Remedial Investigation Report (including draft SCR, BHHRA, and SLERA for WWTP #2, TNT C to WWTP #2 sewer lines, and steel sewer lines) submitted 24 July 2013; OC comments were received 1 October 2013. Responses are currently being prepared for OC review.
- Response to review comments approved for Internal Draft Remedial Investigation Report.
- Draft Remedial Investigation Report submitted 22 January 2014 for CX review. Comments received 24 February 2014. Concurrence on response to CX comments received 25 March 2014.
- Draft Remedial Investigation Report delayed due to requirement for the completion of a site Baseline Ecological Risk Assessment.
- Internal Draft Baseline Ecological Risk Assessment Letter Work Plan issued 30 June 2014. Comments received 15 July 2014. Response to comments submitted 17 July 2014, USACE concurrence to responses received 18 July 2014.
- Draft Baseline Ecological Risk Assessment Letter Work Plan issued 24 July 2014. Comments received from CX on 31 July 2014 and resolved on 14 August 2014. Final Baseline Ecological Risk Assessment Letter Work Plan issued 5 September 2014.
- Draft Site-Specific Safety and Health Plan for the Baseline Ecological Risk Assessment issued 21 August 2014. Concurrence received from USACE and NASA on 2 September 2014. Final Site-Specific Safety and Health Plan issued 5 September 2014.
- Fieldwork for the Baseline Ecological Risk Assessment completed in September 2014.
- Internal Draft Baseline Ecological Risk Assessment Report issued 26 January 2015 for review. LRN comments received on 2 March 2015 and 17 March 2015. Response to comments sent on 17 March 2015 and 18 March 2015. Concurrence to responses received 27 March 2015.

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

- Internal Draft Proposed Plan was submitted on 26 June 2013 for LRN and LRH review, with review comments requested by 29 July 2013; LRL-OC comments received 23 August 2013.
- Final Feasibility Study Addendum submitted 14 May 2013.
- Site Delineation Report detailing residual risk issues remaining at PRRWP was finalized 15 September 2011.
- Value Engineering Study was completed for the Internal Draft Focused Feasibility Study Addendum, which included findings from the Site Delineation Report, (11-15 June 2012). The document was then resubmitted to CX for their review; CX comments have been incorporated and the Final FS Addendum was issued 14 May 2013.
- Internal Draft RI Report (compendium of existing final reports) was submitted 9 August 2013. Responses to internal review comments were submitted 14 October 2013. The responses were accepted 29 October 2013.
- Final RI report was submitted on 4 November 2013.
- Internal Draft Proposed Plan was submitted 26 June 2013. Received concurrence on all responses to comments 4 March 2014.
- CX Draft Proposed Plan submitted 18 March 2014. Comments received on 14 April 2014. Concurrence for response to CX comments received 20 May 2014.
- Draft Proposed Plan submitted 16 June 2014 for state review. Letter indicating no comments from the state received on 16 September 2014.
- Draft Final Proposed Plan issued 13 October 2014 for internal review.
- Final Proposed Plan issued 14 November 2014. Public Meeting held 20 November 2014, with 30 day public comment period beginning 20 November 2014 and ending 22 December 2014.

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 completed the Draft Site Characterization Addendum report 11 June 2012. After full team review, final addendum report was issued 18 October 2012
- Shaw issued Draft BHHRA and SLERA for Ash Pit 1 Coal Yard on 7 May 2013 for full team review; comments requested by 8 July 2013; received AIPH comments 11 September 2013 and

provided responses to comments 30 September 2013. Concurrences on all responses were received 22 October 2013.

- Final BHHRA and SLERA for Ash Pit 1 Coal Yard issued on 23 October 2013.
- Internal Draft RI Report for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 24 January 2014. Concurrence on all responses to comments was received 26 March 2014. Final RI Report issued 6 May 2014.
- Internal Draft Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 13 January 2014. LRN comments received 13 February 2014, LRH comments received 19 March 2014, LRL Office of Council comments received 20 May 2014. Response to LRN/LRH comments sent 20 February 2014. Response to LRL Office of Council sent 17 July 2014.
- CX Draft Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 30 September 2014. CX comments received 3 November 2014, approval of response to CX review comments received on 28 November 2014. Draft Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 1 December 2015.
- Final Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 24 February 2015.
- Public Meeting for Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) conducted 26 February 2015.

Monthly Update – Ash Pit 3 (RI Portion)

- Shaw conducted the spring groundwater sampling for inclusion into the Site Characterization (May 2012)
- Shaw completed the Draft Site Characterization Addendum report 31 October 2012. After full team review, final addendum report was issued 20 February 2013
- Shaw submitted the Draft BHHRA and SLERA Addenda including Coal Yard 3 and Ash Pit 3 groundwater sampling on 12 June 2013; comments requested by 12 August 2013; received AIPH comments 17 September 2013 and provided responses to comments 30 September 2013. Concurrences on all responses were received 22 October 2013.
- Final BHHRA and SLERA for Ash Pit 3 Coal Yard issued on 30 October 2013. Internal Draft RI Report for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 24 January 2014. Concurrence on all responses to comments was received 27 March 2014. Final RI Report is in preparation. Final RI Report issued 6 May 2014.
- Internal Draft Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 24 January 2014. LRN comments received 13 February 2014, LRH comments received 19 March 2014, LRL Office of Council comments received 20 May 2014. Response to LRN/LRH comments sent 20 February 2014. Response to LRL Office of Council sent 17 July 2014.
- CX Draft Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 30 September 2014. CX comments received 3 November 2014, approval of response to CX review comments received on 28 November 2014.
- Draft Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 1 December 2015.
- Final Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) issued 24 February 2015.
- Public Meeting for Proposed Plan for Ash Pit 1 and 3 (including Coal Yards 1 and 3) conducted 26 February 2015.

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 8 May 2012 that included the coal yards for this area.
- After full team review the Final SCR Addendum was issued 28 September 2012
- Shaw submitted Final BHHRA and SLERA Addenda for Coal Yard #2 31 July 2013.
- Internal Draft Proposed Plan issued 11 February 2014.
- Internal Draft RI Report submitted on 21 November 2013. Responses to all comments were accepted 18 March 2014. Final RI submitted 1 April 2014.
- CX Draft Proposed Plan issued 8 October 2014. Comments received 3 November 2014, approval to response to comments received 28 November 2014.
- Draft Proposed Plan for Powerhouse No. 2 Ash Pit (including Coal Yard No. 2) issued 2 December 2015.
- Final Proposed Plan for Powerhouse No. 2 Ash Pit (including Coal Yard No. 2) issued 24 February 2015.
- Public Meeting for Powerhouse No. 2 Ash Pit (including Coal Yard No. 2) conducted 26 February 2015.

Project 1823 Acid Area 1

Phase Completion

- LSI – Completed 30 September 1999
- [RI/FS](#) – On-going
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Monthly Update – Acid Area 1 (Project 1823)

- The final Site Characterization Report (part 1) was completed 20 July 2009
- The final Risk Assessment was completed July 2010
- Draft Remedial Investigation (RI) Report was issued for internal review 19 February 2013 and review was completed 17 April 2013
- Final RI Report was issued 10 July 2013
- 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 24 April 2012, followed by a CX Draft on 25 June 2012 and an External Draft on 24 October 2012
- Prior to issuing the CX Draft, a VE study was conducted 11-15 June 2012
- Final FS was issued 18 April 2013
- The Internal Draft Proposed Plan was submitted 17 June 2013 for LRN and LRH review. Review comments were requested to be submitted by 17 July 2013; received LRL-OC comments 12 September 2013. Based on responses to comments, received LRL-OC approval to prepare the CX Draft Proposed Plan which is in preparation. CX draft submitted 29 April 2014. Response to CX comments submitted 16 June 2014. Concurrence on CX draft response to comments received 11 August 2014.
- Draft Proposed Plan delayed waiting for additional TCLP data collected in September 2014.
- Draft Proposed Plan issued 17 November 2014.
- Final Proposed Plan for Acid Area No. 1 issued 24 February 2015.
- Public Meeting for Acid Area No. 1 conducted 26 February 2015.

Project 1828 - Acid Area 2

Phase Completion

- LSI – Completed 30 September 1999
- RI/FS – Completed 18 August 2014
- RD – Completed 16 September 2014
- RA-C – On-going

Monthly Update – Acid Area 2 (Project 1828)

- Final Decision Document signed by Corps of Engineers Headquarters 18 August 2014.
- Final Decision Document submitted to Ohio EPA for concurrence 26 August 2014. Received OEPA Concurrence letter dated 14 January 2015.
- Remedial Action – Construction – RA-C contract awarded mid September 2014. Draft work plans were received and submitted to USACE, NASA and OEPA for review. Comments due 12 January 2015. Comments received and submitted to Contractor end of January. Currently waiting on Final Work Plans (QCP, APP and PoO) showing comments resolved and incorporated. Field efforts will begin once notice-to-proceed is given and as weather permits.

Project 1829 - Acid Area 3

Phase Completion

- LSI – Completed 30 September 1999
- RI/FS – Completed 30 October 2014
- RD – Completed 8 January 2015
- RA-C – On-going

Monthly Update – Acid Area 3 (Project 1829)

- Final Decision Document signed by Corps of Engineers Headquarters 18 August 2014.
- Final Decision Document submitted to Ohio EPA for concurrence 26 August 2014. Received OEPA Concurrence Letter dated 14 January 2015.
- Remedial Design (RD) – Contract was awarded 27 February 2015 (2nd quarter). Currently Contractor is preparing draft work plans and field efforts are anticipated to begin late fall following completion of AA2 field efforts.

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
- Direct-push soil and groundwater sampling was performed May-June 2011
- Well sampling was completed in the dry season (December 2011) and wet season (April-May 2012).
- Draft Site Characterization Report for the Sellite Area was issued for full team review 14 December 2012 and the Final (incorporating review comments) was issued 11 April 2013
- Draft Site Characterization Report for the Unloading Area was issued for full team review 14 January 2013 and the Final (incorporating review comments) was issued 8 May 2013
- The Final BHHRA and SLERA RA work plans for the data gap portion of the project were issued 16 May 2013.
- Draft BHHRA and SLERA for Sellite Area was issued 19 August 2013 with comments requested by 18 October 2013. Notification of no comment received from the CX 19 September 2013. Comments received from OEPA 9 September 2013.
- Draft BHHRA and SLERA for Unloading Area was issued 3 September 2013 with comments requested by 4 November 2013. Notification of no comment received from the CX 26 September 2013.
- Final BHHRA and SLERA for Unloading Area issued 16 January 2014.
- Final BHHRA and SLERA for Sellite Area issued 25 February 2014.

Monthly Update – Garage Maintenance Area (Locomotive Building, Railcar Wash Area, Sellite Area and Unloading Area)

- Internal draft RI report submitted 22 May 2014. LRN comments received 11 July 2014, LRH comments received 17 July 2014. Final RI report issued 3 October 2014.
- The draft Focused FS underwent a VE Study 15-18 July 2014.
- Additional soil samples collected in September 2014 for TCLP and total sulfur. Internal draft Focused FS delayed to incorporate new analytical results.
- Internal Draft Feasibility Study issued 18 December 2014. Review comments received 25 January 2015. Revised Internal Draft Feasibility Study issued 24 March 2015.

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

- Currently the plan is No Further Action based on latest comments from CX OC; response to latest round of comments were returned to the CX on 23 September 2013. A path forward decision was reached during a conference call on 31 October 2013 between USACE, Ohio EPA, NASA and CBI. Decision was made to incorporate language into the NASA Master Plan detailing that the groundwater would not be used while NASA occupies the site and that in the event the land is excessed, NASA would do an Environmental Covenant and/or place Land Use Controls at that time (based on the governing laws and regulations) to prohibit groundwater use of the future owner. This language would be referenced in the DD and thereby satisfy Ohio EPA to allow them to concur w/ the DD once USACE submits it for their review and comment.
- Draft Decision Document for Groundwater including reference to the NASA Master Plan detailing an Environmental Covenant and/or Land Use Control to prohibit sitewide groundwater use issued 23 January 2014. Ohio EPA had no comments. LRL Office of Council comments received 26 March 2014, response to comments issued 22 April 2014. Draft final Decision Document issued on 26 June 2014. Final DD signed 21 July 2014. Received OEPA non-concurrence letter dated 17 February 2015. Non-concurrence due to NASA not having incorporated environmental covenant or land use control language into their Master Plan yet. USACE PM received tentative language from NASA that will be incorporated into NASA Master Plan in October 2015 (their next scheduled update) and PM is coordinating this language with USACE OC and OEPA. However, it's USACE's plan to pursue PCO w/o OEPA concurrence because we have no control over NASA's schedule to update Master Plan. Monitoring well abandonment began in October 2014 and continued through November 2014. Final site restoration anticipated to be completed in Spring 2015. Existing contract will be modified (pending funding availability) to include an additional round of well abandonment to cover the remaining site wells and abandonment efforts are tentatively scheduled to be conducted Fall 2015. One final report will be generated documenting full effort.
- Project Closeout Report (PCO) – began preparation of PCO packet incorporating OEPA non-concurrence language, then submitting to LRL/LRD for approval.

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. The last team meeting was held on Thursday, 11 December 2014. The next team meeting is scheduled for Thursday, 26 March 2015 at the PBOW Engineering Building or project field office.

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 [http://www.lrh.usace.army.mil/Missions/CurrentProjects/DERPFUDS\(WVOW,PBOW,WVMA\)/PlumBrookOrdnanceWorks.aspx](http://www.lrh.usace.army.mil/Missions/CurrentProjects/DERPFUDS(WVOW,PBOW,WVMA)/PlumBrookOrdnanceWorks.aspx) . 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

The PBOW Project Manager may be contacted at (304) 399-5388, fax (304) 399-5715 or via email at PBOW@usace.army.mil.