

<b>RADFORD ARMY AMMUNITION PLANT IRP STATUS REPORT UPDATE</b>
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The following activities were completed in support of the Installation Restoration Program.

- 09/26/2007 RFAAP submits Work Plan Addendum 19: SWMUs 48, 49, 50, 59, 41, Area O, FLFA, SWMU 43, and Area P, Final Document, July 2007.
- 09/20/2007 EPA approves SWMU 31 RCRA Facility Investigation Report, Final Document, July 2007
- 09/12/2007 Progress meeting held among EPA, DEQ, RFAAP. Agenda topics were Pro UCL/Ecological Risk Assessment, SWMU 54 update, RCRA Permit Reapplication, SWMU 13, Decision Documents for SWMUs 46, 68, 69, 75 & 76, WPA 20 SWMUs 35, 37, 38 & AOC Q, WPA 21 SWMU 57, WPA 22 SWMU 45, SWMU 40 Update on Well Installation, WPA 19 fieldwork update, Schedules and upcoming actions. EPA and DEQ approved response to comments for WPAs 20 and 21 so that fieldwork could be scheduled.
- 08/27/2007 RFAAP responds to EPA and DEQ comments on: Work Plan Addendum 20 RCRA Facility Investigation for SWMUs 35, 37, 38 and AOC Q, Draft April 2007 and Work Plan Addendum 21 RCRA Facility Investigation for Solid Waste Management Unit 57, May 2007
- 08/16/2007 DEQ approves RFAAP's Closure Evaluation for HWMU 4-Interim Status to clean close for groundwater.
- 08/09/2007 RFAAP submits DEQ Class 3 Permit Modification for HWMUs 5, 7, 10, 16 and Open Burning Ground/HWMU 13. This modification incorporates previous submittals in re Alternate Source Demonstrations for HWMUs 5 & 7 in order to clean close for groundwater.
- 08/02/2007 RFAAP submits Work Plan Addendum 22 Site Screening Process at SWMU 45, July 2007
- 07/26/2007 EPA/DEQ comment on Work Plan Addendum 21 RCRA Facility Investigation for Solid Waste Management Unit 57, May 2007
- 07/24/2007 RFAAP submits SWMU 31 RCRA Facility Investigation Report, Final Document, July 2007
- 07/06/2007 EPA/DEQ comment on Work Plan Addendum 20 RCRA Facility Investigation for SWMUs 35, 37, 38 and AOC Q, Draft April 2007
- 06/28/2007 RFAAP submits Closure Evaluation for HWMU 4-Interim Status to clean close for groundwater.
- 06/25/2007 Shaw/RFAAP submitted revisions to EPA and DEQ for SWMU 31 RCRA Facility Investigation Report, Final Document, December 2006
- 06/21/2007 RAB meeting.
- 06/20/2007 EPA approves fieldwork start on Work Plan Addendum 19: SWMUs 48, 49, 50, 59, 41, Area O, FLFA, SWMU 43, and Area P, Draft Final Document, February 2007.
- 06/14/2007 DEQ approves Alternate Source Demonstration for HWMU 7.

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- 06/14/2007 DEQ approves Class 1 (Minor) Modification for Reduction in Monitoring Schedule for HWMUs 5, 7, 10 & 16 to reduce groundwater monitoring from quarterly to semi-annual.
- 06/14/2007 DEQ approves Reduction in Monitoring Schedule for Interim Status Units, Hazardous Waste Management Units 4 and 39 Interim Status to reduce groundwater monitoring from quarterly to semi-annual.
- 06/08/2007 EPA approves Building 4343 Interim Measures Completion Report, Final Document, April 2007
- 06/07/2007 EPA approves Site Screening Process Report for Solid Waste Management Units 13, 37, 38, 46, 57, 68, 69, and Areas of Concern A, F, Q Final May 2007
- 06/07/2007 RFAAP responds to EPA and DEQ consolidated comments received on Work Plan Addendum 19: SWMUs 48, 49, 50, 59, 41, Area O, FLFA, SWMU 43, and Area P, Draft Final Document, February 2007.
- 05/29/2007 RFAAP submits Class 1 (Minor) Modification for Reduction in Monitoring Schedule for HWMUs 5, 7, 10 & 16 to reduce groundwater monitoring from quarterly to semi-annual.
- 05/29/2007 RFAAP submits Reduction in Monitoring Schedule for Interim Status Units, Hazardous Waste Management Units 4 and 39 Interim Status to reduce groundwater monitoring from quarterly to semi-annual.
- 05/24/2007 EPA and DEQ consolidated comments received on Work Plan Addendum 19: SWMUs 48, 49, 50, 59, 41, Area O, FLFA, SWMU 43, and Area P, Draft Final Document, February 2007.
- 05/24/2007 EPA and DEQ approved groundwater locations proposed in the SWMU 40 (Nitro Landfill) Geophysical Investigation Report, Draft March 2007 but also had comments on this work plan.
- 05/16/2007 Progress meeting held among EPA, DEQ, RFAAP and USAEC. Agenda topics were Work Plan Addendum 19 SWMUs 54, 31, 40/7, 39 and Military Munitions Response Program (MMRP). DEQ approved fieldwork start for WPA 19.
- 05/14/2007 RFAAP submits Work Plan Addendum 21 RCRA Facility Investigation for Solid Waste Management Unit 57, May 2007
- 05/11/2007 RFAAP submits Site Screening Process Report for Solid Waste Management Units 13, 37, 38, 46, 57, 68, 69, and Areas of Concern A, F, Q Final May 2007
- 05/01/2007 RFAAP responds to 04/20/2007 comments from DEQ on SWMU 31 RCRA Facility Investigation Report, Final Document, December 2006
- 04/27/2007 RFAAP submits Work Plan Addendum 20 RCRA Facility Investigation for SWMUs 35, 37, 38 and AOC Q, Draft April 2007
- 04/24/2007 RFAAP submits Alternate Source Demonstration for HWMU 5

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- 04/20/2007 DEQ comments on SWMU 31 RCRA Facility Investigation Report, Final Document, December 2006
- 04/20/2007 RFAAP responds to 04/11/2007 comments from EPA on SWMU 31 RCRA Facility Investigation Report, Final Document, December 2006
- 04/17/2007 RFAAP submits Building 4343 Interim Measures Completion Report, Final Document, April 2007
- 04/13/2007 DEQ approves the revised Site Screening Process for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft January 2007
- 04/11/2007 EPA comments on SWMU 31 RCRA Facility Investigation Report, Final Document, December 2006 (email receipt, no date on letter)
- 04/04/2007 RFAAP submits SWMU 40 (Nitro Landfill) Geophysical Investigation Report, Draft March 2007.
- 04/03/2007 EPA comments on Building 4343 Interim Measures Completion Report, Draft Final Document, January 2007.
- 03/30/2007 DEQ approves Building 4343 Interim Measures Completion Report, Draft Final Document, January 2007.
- 03/27-28/2007 IAP workshop.
- 03/15/2007 RAB meeting.
- 03/13/2007 Per action item from the 02/15/2007 progress meeting, RFAAP emailed to EPA, DEQ and the rest of the stakeholders a spreadsheet with a brief status of the sites in Attachment A to the RCRA Corrective Action permit. This is to facilitate new personnel coming up to speed on the Radford AAP.
- 02/28/2007 RFAAP submits Work Plan Addendum 19: SWMUs 48, 49, 50, 59, 41, Area O, FLFA, SWMU 43, and Area P, Draft Final Document, February 2007.
- 02/20/2007 USACHPPM approves the Building 4343 Interim Measures Completion Report, Draft Final Document, January 2007.
- 02/15/2007 Progress meeting held among EPA, DEQ, RFAAP and USAEC. Agenda topics were SWMUs 54, 31, AOC Bldg.4343, Work Plan Addendum 19 and EPA project manager change.
- 02/09/2007 RFAAP submits amended closure plans for HWMUs 5 and 7.
- 01/31/2007 RFAAP submits the revised Site Screening Process for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft January 2007.
- 01/24/2007 RFAAP submits the Building 4343 Interim Measures Completion Report, Draft Final Document, January 2007.
- 01/09/2007 RFAAP submits Alternate Source Demonstration for HWMU 7.
- 01/05/2007 RFAAP submits SWMU 31 RCRA Facility Investigation Report, Final Document, December 2006

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- 12/14/2006 RAB meeting.
- 10/20/2006 RFAAP submits the Building 4343 Interim Measures Work Plan, Final Document, October 2006.
- 10/16/2006 EPA approves No Further Action Decision Documents for SWMUs 8 and 36 based on the assessments and evaluations from the Soil Screening Report, Final Document, January 2004
- 10/12/2006 RFAAP submits the Installation Action Plan, May/FY06, Final August 22, 2006.
- 10/04/2006 Progress meeting held among EPA, DEQ, RFAAP and USAEC. Agenda topics were NRU Groundwater Plan, NRU Rail Yard, Building 4343, SWMU 54, SWMU 31, RFAAP RCRA Permit, RFAAP PBC.
- 09/21/2006 RAB meeting held.
- 09/20/2006 EPA approves Building 4343 Interim Measures Work Plan, Final Document, August 2006.
- 09/11/2006 DEQ approves Building 4343 Interim Measures Work Plan, Final Document, August 2006.
- 08/30/2006 RFAAP begins implementing the Interim Measures Work Plan at Bldg. 4343.
- 08/14/2006 RFAAP submits Building 4343 Interim Measures Work Plan, Final Document, August 2006 to EPA and DEQ.
- 08/07/2006 RFAAP sends a letter to EPA in re assessment of SWMU 31 data and to begin the consultation process to resolve regulatory comments.
- 06/30/2006 RFAAP submits a revised ecological approach and response to 06/19/2006 EPA comments on the draft.
- 06/21/2006 Progress meeting held among EPA, DEQ, RFAAP and USAEC. Agenda topics were SWMUs 54, 31, 40/71, 41, AOCs A, F and Bldg 4343, NRU and Horseshoe groundwater, risk assessment overview. EPA and DEQ approve the start of interim measures at Bldg 4343.
- 06/19/2006 RFAAP requests an extension to respond to EPA comments dated 06/19, 05/08 and 04/25/2006 in re SWMU 31.
- 06/19/2006 EPA comments on the SWMU 31 Amphibian Assessment.
- 06/19/2006 EPA comments on ecological approach and additional information for SWMU 54 that was submitted via email on 04/21/2006.
- 06/15/2006 RAB meeting held.
- 05/31/2006 RFAAP provides EPA and DEQ with soil and groundwater data for sites within the Horseshoe Area.
- 05/24-25/2006 RFAAP, USAEC, ATK, EPA and DEQ meet for the Installation Action Plan Workshop.

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- 05/08/2006 EPA comments on the SWMU 31 RCRA Facility Investigation Report, Draft Document, November 2005.
- 04/25/2006 RFAAP submits SWMU 31 Amphibian Assessment via email.
- 04/25/2006 EPA comments on the SWMU 31 RCRA Facility Investigation Report, Draft Document, November 2005.
- 04/21/2006 RFAAP submits (via email) ecological approach and additional information for SWMU 54. Ecological approach is a working document from the 03/29-30/2006 EPA meeting.
- 04/19/2006 RFAAP submits Building 4343 Interim Measures Work Plan, Draft Final Document, April 2006
- 04/03/2006 EPA responds to RFAAP's letter of 03/22/2006 in re SWMU 40/71 RFI/CMS Report, Draft Document, December 2004
- 03/29-30/2006 Progress meeting held among EPA, DEQ, RFAAP and USAEC. Agenda topics were SWMUs 54, 31, 45, 40/71, AOC Bldg 4343, NRU Rail Yard and risk assessment overview.
- 03/22/2006 RFAAP responds to EPA's letter of 12/15/2006 in re SWMU 40/71 RFI/CMS Report, Draft Document, December 2004
- 03/21/2006 DEQ comments on the SWMU 31 RCRA Facility Investigation Report, Draft Document, November 2005.
- 03/16/2006 RAB meeting held.
- 03/10/2006 RFAAP notifies EPA and DEQ that Interim Measures are to be performed at Building 4343 consistent with the approved RFI/CMS.
- 03/06/2006 RFAAP provides SWMU 54 information per EPA request of 02/27/2006.
- 02/27/2006 EPA requests information from SWMU 54 studies.
- 02/22/2006 EPA responds to RFAAP letter of 01/11/2005 NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004. Approves remaining item on RFAAP 01/11/2005 response.
- 02/10/2006 RFAAP requests 60 day extension to respond to EPA letter of 12/15/2005 in re SWMU 40/71 RFI/CMS Report, Draft Document, December 2004.
- 01/27/2006 EPA responds to RFAAP letter of 11/28/2005 in re Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004. Approves proposal to conduct additional work.
- 01/26/2006 EPA responds to RFAAP letter of 01/11/2005 NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004. Approves RFAAP 01/11/2005 response with one exception.
- 01/11/2006 RFAAP responds to EPA letter of 04/25/2005 in re NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004.

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- 12/15/2005 EPA responds to RFAAP letter of 11/22/2005 letter in re SWMU 40/71 RFI/CMS Report, Draft Document, December 2004
- 12/14/2005 RAB meeting held.
- 12/14/2005 RFAAP submits the SWMU 31 RCRA Facility Investigation Report, Draft Document, November 2005.
- 11/29-12/01/2005 EPA and DEQ site visit to Radford AAP in re groundwater strategy.
- 11/28/2005 RFAAP responds to EPA letter of 11/09/2005 in re Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 11/22/2005 RFAAP responds to EPA letter of 11/09/2005 in re SWMU 40/71 RFI/CMS Report, Draft December 2004.
- 11/09/2005 EPA sends formal comments on RFAAP email of 08/25/2005 in re proposed sampling plan to address EPA/DEQ comments on the Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 11/09/2005 EPA sends formal comments on RFAAP email of 08/25/2005 in re proposed sampling plan to address EPA/DEQ comments on the SWMU 40/71 RFI/CMS Report, Draft Document, December 2004.
- 09/22/2005 Meeting at EPA in Philadelphia to discuss groundwater strategy at Radford AAP.
- 09/15/2005 RAB meeting held.
- 08/25/2005 RFAAP submits Current Conditions Report Horseshoe Area, Draft Document, August 2005 as the culmination of the contractor's effort on Work Plan Addendum 9.
- 08/25/2005 RFAAP submits (via email) a sampling plan to address EPA/DEQ comments on the SWMU 40/71 RFI/CMS Report, Draft Document, December 2004.
- 08/25/2005 RFAAP submits (via email) a sampling plan to address EPA/DEQ comments on the Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 07/25/2005 RFAAP submits No Further Action Decision Documents for SWMUs 8 and 36 based on the assessments and evaluations from the Soil Screening Report, Final Document, January 2004.
- 07/13-14/2005 USAEC (and their contractor, CALIBER), EPA, DEQ and Baltimore District met at RFAAP for Performance Based Contracting assessment of the RFAAP Installation Restoration Program.
- 06/24/2005 RFAAP resubmits SWMU 39 RFI/CMS Report, Final Document, June 2005 per EPA correspondence of 06/06/2005.
- 06/16/2005 RAB site tour of Building 4343.

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- 06/16/2005 Conference call to discuss EPA/DEQ comments on the SWMU 39 RFI/CMS, NRU Rail Yard RI and SSP Reports.
- 06/06/2005 EPA approves the SWMU 39 RFI/CMS.
- 06/06/2005 DEQ comments on SWMU 40/71 RFI/CMS Report, Draft Document, December 2004.
- 06/01/2005 RFAAP responds to EPA's 03/07/2005 letter and DEQ's 03/29/2005 letter in re Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 05/12/2005 EPA provides draft comments on SWMU 40/71 RFI/CMS Report, Draft Document, December 2004.
- 05/03/2005 RFAAP requests an extension to respond to EPA's 03/07/2005 letter in re Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 05/03/2005 RFAAP responds to EPA's 04/29/2005 letter in re SWMU 39 RFI/CMS Report, Final Document, October 2004.
- 05/02/2005 EPA replies to RFAAP email of 04/29/2005 to let work move forward without utilizing PROUCL.
- 04/29/2005 RFAAP requests guidance on the use of PROUCL methodology for a list of reports being prepared from previously approved work plans that did not it.
- 04/27 – 28/2005 RFAAP FY06 Installation Action Plan Workshop is held.
- 04/25/2005 EPA responds to 03/15/2005 letter in re NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004. (RFAAP did not receive this letter until 12/14/2005)
- 04/25/2005 EPA responds to 03/15/2005 letter in re SWMU 39 RFI/CMS Report, Final Document, October 2004.
- 03/29/2005 DEQ comments on the Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 03/17/2005 RAB meeting held.
- 03/15/2005 RFAAP responds to 02/09/2005 EPA comments on SWMU 39 RFI/CMS Report, Final Document, October 2004.
- 03/15/2005 RFAAP responds to 12/22/2004 EPA comments and 02/15/2005 DEQ comments on the NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004.
- 03/07/2005 EPA comments on the Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 02/15/2005 DEQ comments on the NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004.

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- 02/11/2005 RFAAP requests an extension to respond to 12/22/2004 EPA comments on the NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004.
- 02/09/2005 EPA comments on SWMU 39 RFI/CMS Report, Final Document, October 2004.
- 01/07/2005 RFAAP submits the SWMU 40/71 RFI/CMS Report, Draft Document, December 2004.
- 12/22/2004 EPA comments on the NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004.
- 12/16/2004 RAB meeting held.
- 12/09/2004 DEQ approves SWMU 39 RFI/CMS Report, Final Document, October 2004.
- 11/10/2004 RFAAP submits the Site Screening Process Report for SWMUs 13, 37, 38, 46, 57, 68, 69 and AOCs A, F, Q Draft, September 2004.
- 10/25/2004 RFAAP resubmits the SWMU 39 RFI/CMS Report, October 2004 as a final document with responses to 09/08/2004 EPA comments and 05/28/2004 DEQ comments.
- 10/25/2004 RFAAP resubmits 2005 Installation Action Plan. In September 2004 USAEC requested it reflect the outcome of the July 1, 2004 RFAAP Program Review Briefing.
- 10/22/2004 RFAAP submits the NRU Investigation Report: Rail Yard Remedial Investigation, Draft Document, October 2004.
- 10/11-15/2004 URS installs additional temporary wells at SWMU 54.
- 09/16/2004 Shaw completes work on NRU Additional Characterization Sampling: Work Instructions.
- 09/10/2004 RFAAP submits SWMU 58 No Further Action to EPA, DEQ, USACHPPM and USAEC.
- 09/08/2004 EPA comments on SWMU 39 RFI/CMS Report, Draft Document, April 2004.
- 08/25/2004 URS completes first phase of work on the SWMU 54 Additional Characterization Sampling: Work Instructions.
- 08/19/2004 RAB meeting held.
- 08/19/2004 RFAAP submits the 2005 Installation Action Plan.
- 08/17/2004 URS mobilizes at RFAAP to begin work on the SWMU 54 Additional Characterization Sampling: Work Instructions.
- 08/16/2004 EPA approves the Bldg. 4343 RFI/CMS report.
- 08/04/2004 RFAAP sent DEQ and EPA a CD of final documents.



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- 07/26/2004 RFAAP resubmits the Bldg. 4343 RFI/CMS Report with response to EPA comments.
- 07/23/2004 Shaw completes first phase of work on NRU Additional Characterization Sampling: Work Instructions.
- 07/16/2004 RFAAP resubmits SWMU 54 Additional Characterization Sampling: Work Instructions with response to EPA comments.
- 07/12/2004 Shaw mobilizes at RFAAP to begin work on NRU Additional Characterization Sampling: Work Instructions.
- 06/25/2004 EPA comments on the Bldg. 4343 RFI/CMS Report.
- 06/10/2004 EPA approves NRU Additional Characterization Sampling: Work Instructions.
- 06/03/2004 DEQ approves NRU Additional Characterization Sampling: Work Instructions.
- 05/28/2004 DEQ comments on SWMU 39 RFI/CMS Report.
- 05/24/2004 EPA comments on SWMU 54 Additional Characterization Sampling: Work Instructions
- 05/24/2004 EPA approves SWMU 58 RFI Report.
- 05/21/2004 RFAAP submits an additional copy of the NRU Additional Characterization Sampling: Work Instructions with response to EPA and DEQ comments.
- 05/10/2004 DEQ approves SWMU 54 Additional Characterization Sampling: Work Instructions.
- 05/07/2004 RFAAP submits SWMU 39 RFI/CMS Report, Draft Document, April 2004..
- 05/06/2004 Restoration Advisory Board meeting held.
- 05/03/2004 EPA approves Soil Screening Report for SWMUs 8 and 36.
- 04/28-29/2004 Radford AAP FY05 Installation Action Plan Workshop held.
- 04/21/2004 EPA comments on NRU Additional Characterization Sampling: Work Instructions.
- 04/15/2004 Fieldwork completed for WPA 17 and 18.
- 03/30/2004 DEQ approves WPA 18.
- 03/29/2004 Fieldwork starts on WPA 17 and 18.
- 03/25/2004 DEQ comments on NRU Additional Characterization Sampling: Work Instructions.

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- 03/19/2004 RFAAP submits SWMU 54 Additional Characterization Sampling: Work Instructions.
- 03/04/2004 RFAAP resubmits revised Bldg 4343 RFI/CMS Report as a final report with response to EPA comments.
- 03/01/2004 EPA approves WPA 17.
- 02/20/2004 RFAAP submits HWMU 5 and 7 closure plan amendments.
- 02/11/04 EPA approves the Master Work Plan and WPA 18.
- 02/06/04 RFAAP resubmits Soil Screening Report, SWMUs 8 and 36, Final with response to EPA comments.
- 02/02/04 EPA comments on WPA 17.
- 01/27/04 RFAAP submits NRU Additional Characterization Sampling: Work Instructions.
- 01/15/2004 RAB meeting held.
- 01/14/2004 EPA comments on the Bldg. 4343 RFI/CMS report.
- 01/07/04 RFAAP resubmits WPA 17 and 18.
- 01/06/04 RFAAP submits SWMU 58 RFI Report certification.
- 12/23/03 RFAAP resubmits SWMU 58 RFI Report.
- 12/11/03 EPA comments on Soil Screening Report, SWMUs 8 and 36.
- 12/08/03 EPA comments on WPA 18.
- 12/01/03 DEQ approves Building 4343 Corrective Measures Study.
- 11/25/03 Prepared Building 4343 Fact Sheet and distributed to the RAB, website and information repository.
- 11/05/2003 RFAAP requests an extension until 01/09/2004 to revise and submit SWMU 58 RFI Report.
- 10/30/2003 RFAAP submits Building 4343 RFI/CMS report to EPA and DEQ.
- 10/14/2003 RFAAP submits 2004 Installation Action Plan.
- 10/07/2003 DEQ approves WPA 18
- 09/25/2003 RAB meeting held.
- 09/18/2003 EPA comments on SWMU 58 RFI Report.
- 09/25/2003 RAB meeting held.
- 09/08/2003 EPA approves WPA 16.

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- 09/05/2003 RFAAP submits Work Plan Addendum 18 RCRA Facility Investigation at SWMU 41
- 09/04/2003 RFAAP submits Draft Soil Screening Report, SWMUs 8 and 36, August 2003 and resubmits Final Master Work Plan, August 2003.
- 08/28/2003 DEQ approves WPA 16 and the Bldg 4343 RFI Report.
- 08/07/2003 RFAAP submits revised WPA 16 with responses to EPA comments.
- 08/05/2003 DEQ approves SWMU 58 RFI Report.
- 08/01/2003 RFAAP provides an updated response to EPA comments on the Building 4343 RFI Report.
- 07/18/2003 RFAAP submits Work Plan Addendum 17, SWMU 51 RCRA Facility Investigation.
- 07/15/2003 Held conference call among RFAAP, DEQ, FWS and Shaw representatives to resolve comments on the Bldg 4343 RFI.
- 07/14/2003 Held conference call among RFAAP, FWS, CENAB, Shaw and URS representatives to attempt to resolve BTAG comments on the Bldg 4343 RFI and the MWP.
- 06/27/2003 RFAAP responds to EPA comments on the Building 4343 RFI Report.
- 06/26/2003 RFAAP responds to DEQ comments on the Building 4343 RFI Report.
- 06/16/2003 EPA sends review comments on WPA 16.
- 06/09/2003 EPA sends review comments on the Building 4343 RFI Report.
- 06/01-30/2003 Completed FY03 third quarter procurement actions. Completed Army Cost -To-Complete database update.
- 05/28/2003 Held conference call to discuss EPA concerns with the draft Building. 4343 RFI report.
- 05/22/2003 Held RAB meeting and site tour of Horseshoe Area.
- 04/30-05/01/2003 Held Radford AAP IAP workshop.
- 04/21/2003 DEQ approves Work Plan Addendum 15.
- 04/14-18/2003 Sampling begins and finishes for Work Plan Addendum 15.
- 04/14/2003 EPA approves Work Plan Addendum 15.
- 04/02/2003 DEQ sends review comments on the Building 4343 RFI Reprot.
- 04/01/2003 Submitted SWMU 58 RFI Report to EPA and DEQ.
- 03/31/2003 Submitted revised Work Plan Addendum 15 with responses to EPA comments dated 03/10/2003.

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- 03/21/2003 RAB meeting held.
- 03/05/2003 Submitted Field Investigation Report and Risk Assessment for HWMUs 5 and 7 to DEQ and EPA.
- 03/05/2003 Submitted Work Plan Addendum 16, Site Screening Process for SWMUs 13, 37, 38, 46, 57, 68, 69, 75, 76 and Areas of Concern A, F, Q to EPA and DEQ
- 02/25/2003 Submitted Building 4343 RFI report to EPA and DEQ.
- 12/20/2002 Submitted Work Plan Addendum 15 to EPA and DEQ for review.
- 12/6/2002 Submitted final Work Plan Addendum 13 report covers.
- 11/13-14/2002 Radford AAP Program Manager and COE Project Manager attend DERP workshop in Baltimore, MD.
- 11/14/2002 EPA approves Work Plan Addendum 12.
- 11/13/2002 EPA approves Work Plan Addendum 9.
- 11/12/2002 Field mobilization in support of Work Plan Addenda 13 and 14 begins.
- 11/5/2002 DEQ approves Work Plan Addenda 13 and 14.
- 11/1/2002 Submitted 2003 Installation Action Plan and final SWMU 6 Decision Document to EPA and DEQ.
- 10/24/2002 DEQ approves SWMU 6 Decision Document.
- 10/10/2002 EPA approves Work Plan Addenda 13 & 14.
- 10/9/2002 Submitted final covers to EPA and DEQ for Master Work Plan, and Work Plan Addenda 9 and 12. EPA approves SWMU 6 Decision Document.
- 9/22/2002 DEQ approves Master Work Plan.
- 9/19/2002 RAB meeting/site tour of Horseshoe Area and demonstration of geophysical techniques.
- 9/11/2002 Revised Work Plan Addenda 13 & 14 and submitted to EPA and DEQ.
- 8/23/2002 Field investigation in support of Work Plan Addenda 9 and 12 completed.
- 8/22/2002 Conference call with the USEPA and DEQ to discuss and resolve comments received for Work Plan Addenda 13 and 14.
- 7/25/2002 Received remaining regulator comments for the Work Plan Addendum 14.
- 7/22/2002 Received remaining regulator comments for the Work Plan Addendum 13.
- 7/18/2002 RAB meeting/site tour of New River Unit areas and demonstration of soil sampling techniques.

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- 7/10/2002 Revised Master Work Plan (w/ Regulator comments incorporated) submitted to EPA and DEQ. Provided response to comments for Work Plan Addenda 9 and 12.
- 6/10/2002 Field investigation in support of Work Plan Addenda 9 and 12 begins.
- 5/22/2002 EPA approves initiation of field work to implement Work Plan Addenda 9 and 12
- 5/16/2002 RAB meeting held.
- 5/6/2002 RFAAP submitted SWMU 6 Decision Document.
- 4/12/2002 RFAAP submitted Work Plan Addenda 13 and 14.
- 03/21/2002 RAB meeting held.
- 2/15/2002 RFAAP submitted Work Plan Addenda 9 and 12.
- 2/14/2002 EPA approves the Facility-Wide Background Study Report.
- 2/11/2002 EPA approves the Site Screening Process.
- 2/8/2002 RFAAP submitted revised Master Work Plan to update the 1997 version.
- 1/29/2002 DEQ approves the Facility-Wide Background Study Report and Work Plan Addendum 9.
- 1/24/2002 RAB meeting held.
- 12/20/01 RFAAP submitted Final Background Study report to EPA and DEQ.
- 11/29/2001 RAB meeting held.
- 11/14 & 11/15/01 Held teleconference with EPA and DEQ to resolve remaining WPA 12 comments. EPA BTAG teleconference is scheduled for 12/3/01.
- 11/7/01 Received response from DEQ to Army Response to Comments submitted on 10/18/01.
- 10/31/01 Received comments from DEQ on WPA 9. Army is working on responses.
- 10/18/01 Submitted Response to Comments to DEQ on WPA 12.
- 9/20 & 9/21/01 Held teleconference with EPA and DEQ to resolve comments on Work Plan Addendum 12. Final resolution of comments is pending a EPA BTAG meeting to be scheduled ASAP.
- 9/10/01 DEQ issued comments/response on Background Study report which incorporated the information from the 7/17/2001 meeting minutes. EPA concurred with these comments. Army is working on final report.
- 9/10/01 DEQ issued comments on Work Plan Addendum 12. Army received them 9/19/2001.

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- 8/14/01 Submitted Response to Comments to EPA on WPA 9.
- 7/23/01 Received final EPA comments on WPA 9.
- 7/19/2001 RAB meeting held.
- 7/17/01 Meeting held at DEQ to resolve comments on Background Study report.
- 7/13/01 RFAAP submits final draft of the Site Screening Process document.
- 6/21/01 Received draft EPA comments on WPA 9.
- 6/12/01 Received approval of final SWMU 6 Sampling Report
- 5/17/2001 RAB meeting held.
- 5/16-5/17/01 Held RFAAP IAP workshop.
- 5/11/01 Submitted final SWMU6 Sampling Report to EPA.
- 5/11/01 Delivered draft Current Conditions Report to EPA and DEQ.
- 5/11/01 Delivered draft Work Plan Addendum 012 Site Characterization Work Plan EPA and DEQ.
- 5/4/01 Responded to EPA and DEQ comments on the draft Facility-Wide Background Study Report.
- 5/01 Continued preparation of updated Master Work Plans, Work Plan Addendum 013 (SWMU 54), and Work Plan Addendum 014 (SWMU 40/71).
- 4/30-5/5/01 Performed background geophysical and topographic survey fieldwork tasks at SWMU 40/71 and SWMU 54.
- 4/10/01 Delivered draft Work Plan Addendum 009 SWMU 31 and Horseshoe Area Groundwater Study to EPA and DEQ.
- 4/5/01 Kickoff meeting for RFI/CMS efforts at SWMUs 40/71 and SWMU 54 with representatives from RFAAP, USACE, URS, and URS's subcontractors.
- 4/2/01 DEQ Background Study Report comments received by RFAAP.
- 3/20/01 Held conference call with DEQ and USEPA relative to DEQ comments on the Background Study Report.
- 3/15/2001 RAB meeting held.
- 2/28/01 Received DEQ Comments on SWMU 6 Sampling Report
- 2/23/01 Informed EPA and DEQ that a new area of concern has been identified in the area of HWMU 5.
- 2/9/01 RFAAP submitted Background Study Report to EPA for review and approval.

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- 1/26/01 RFAAP submitted SWMU 6 Sampling Report to EPA for review and approval.
- 1/18/2001 RAB meeting held.
- 12/15/00 Commenced development of the SWMU 6 Sampling Report.
- 12/8/00 Coordinated transport and disposal of SWMU 6 IDM as non-hazardous waste.
- 12/1/00 Commenced development of the facility-wide background study report to assess the native concentrations of metals in the Main Manufacturing Area and New River Unit.
- 11/27 – 12/1/00 Received SWMU 6 TCLP data from analytical laboratory. Reviewed data packages for completeness and accuracy. Waiting on reactivity analyses to complete waste characterization. Available data indicates that wastes will be characterized as non-hazardous.
- 11/17-11/20/00 Conducted a supplementary spring survey in conjunction with the Regional Groundwater Study to locate springs when the river was lowered an additional five feet. Measured bedrock strike and dip, fracture orientation, and faulting to complete site geologic information. Results of this effort will be incorporated into the current conditions and augment the understanding of groundwater hydrogeology within the Horseshoe Area.
- 11/13 – 11/17/00 Published Final Work Plan Addendum No. 11 incorporating EPA Region III and DEQ comments based on 10/26/00 meeting. Implemented SWMU 6 field investigation program. Field activities accomplished – completion of 12 Geoprobe borings to depths of 20 to 28 feet, collecting composite TCLP samples for waste characterization and discrete samples for RBC screening analyses, and obtaining GPS horizontal coordinates for borings. Field and analytical data will be incorporated into SWMU 6 Sampling Report.
- 11/16/00 RAB meeting held.
- 10/23-10/27/00 Selected potential upstream and downstream locations for placement of river gauges in conjunction with regional groundwater study. Conducted a site reconnaissance to evaluate existing springs and seeps during low river flow.
- 10/26/00 Met with EPA Region III and DEQ to discuss SWMU 6 sampling plan details. Sampling effort scheduled to start 11/13/00.
- 9/29/00 Completed background study field activities associated with the sampling and collection of surface and subsurface soil samples in the Main Manufacturing Area and the New River Unit.
- 8/28/00 Mobilized field activities in support of the background study. Commenced investigative activities at the New River Unit.
- 8/10/00 Presented background study strategy to EPA Region III for review and comment. Received EPA approval to initiate background study field activities.

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- 7/24/00-8/04/00 Continued groundwater data evaluation in support of the groundwater study. Refined background study presentation to ensure statistical data issues were adequately resolved.
- 7/20/00 Met with RAB to introduce Virginia Department of Environmental Quality participants, discuss RAB community co-chair, Installation Action Plan workshop, project status update, RAB membership, and the next meeting schedule.
- 7/7/00-7/21/00 Developed draft background study presentation to identify sample locations, location rationale, and the number of samples proposed for collection at the Main Manufacturing Area and the New River Unit.
- 6/27/00-6/29/00 Proposed background soil sampling locations to the Army and ACE. Ground-truthed the proposed locations to ensure they would be representative of areas that either reflect native conditions or conditions that have been minimally impacted by previous facility operations.
- 6/13/00-6/15/00 Continued the fracture trace photolineament and river profile studies in support of the regional groundwater study survey.
- 6/1/00 Commenced activities on background study services procured by the Army. Evaluated project information to identify preliminary background sample locations.
- 5/24/00 Commenced evaluation of Horseshoe Area quarterly groundwater data.
- 5/18/00 RAB meeting held.
- 5/18/00 Participated in a site reconnaissance with the EPA RCRA manager and toxicologist to familiarize them with the site and discuss permit reauthorization procedures. Met with the RAB to discuss regional groundwater conditions and permitting activities.
- 5/8/00-5/11/00 Continue fracture trace verification. Commenced river profile work. Transects were established to measure bottom profiles and flow rate during normal river levels. Completed spring survey.
- 4/17/00-4/20/00 Completed initial water elevation survey in the Horseshoe Area. Commenced fracture trace survey. Continued spring survey.
- 4/00 Developing draft hydrogeologic setting based on the current data. The hydrogeologic setting will be refined as data interpretation activities progress.
- 3/27/00-3/29/00 Began a survey to identify springs and seeps. Verified thermal flyover signatures associated with groundwater discharge points.
- 3/16/00 RAB meeting held.
- 3/16/00 Met with Army, USACE, and USEPA to discuss the regional groundwater study and WPA9. Conducted a site reconnaissance to orient the USEPA hydrogeologist with the site.
- 2/00 Finished SWMU 54 data inventory assessment and retrieved missing data from contract laboratory.



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- 1/00 Finalized background study design elements and presented to USEPA. Coordinated SWMU 54 data inventory assessment activities with the Army and USACE.
- 1/17/00-1/19/00 Obtained GPS map coordinates for samples previously collected at the Northern Burning Ground, Western Burning Ground, and Building 4343.
- 12/14/99 Performed thermal flyover at the Installation to identify underground springs and seeps to assist in the characterization of groundwater flow within the Horseshoe Area.
- 12/07/99 Met with the Army, USEPA, and USACE to discuss a background study approach that would be scientifically defensible. Came to consensus on the study design and the minimum number of samples required to achieve a specified precision and confidence level.
- 12/01/99 Received response to comments from USEPA on the statistical inorganic background study outline.
- 12/99 Submitted WPA Addendum 9 to the Army, USEPA, and Commonwealth of Virginia for review and approval. Submitted acronym list to Katie Phillips for review. Submitted photographs taken during field activities to be included on the web page, as appropriate.
- 11/30/99 Received response to comments from USEPA on the Draft Screening Ecological Risk Assessment.
- 11/06/99 Provided third-party audit oversight for the completeness inventory of SWMU 54 Level 4 data. Coordinated project activities with the Army and USACE to ensure data integrity and completeness.
- 11/04/99 RAB meeting held.
- 11/99 Assisted the Army in designing a statistical inorganic background strategy to address facility-wide inorganic concentrations. A copy of the outline was provided to USEPA for review and approval.
- 10/04/99-10/08/99 Completed additional borings at Building 4343 and Western Burning Grounds.
- 09/27/99 Met with Army and USEPA to discuss updated screening procedures for sites that may not require any further action. USEPA proposed the use of a screening document being developed at another installation. Upon receipt of the approved document, the Army will determine which portions will be adopted to address RFAAP site-specific activities.
- 09/16/99 RAB meeting held.
- 09/13/99-09/17/99 Site restoration activities at the Western Burning Ground.
- 09/06/99-09/10/99 Reevaluated investigation strategy at Building 4343. Begin revisions to Work Plan Addendum 9.
- 09/01/99-09/03/99 Reviewed Northern Burning Ground pre-characterization data.

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- 09/99 Commenced development of Work Plan Addendum 9 for additional characterization at SWMUs 31, 48, and 49 and the regional groundwater study evaluation within the Horseshoe Area. Submitted Draft Screening Ecological Risk Assessment document to Army, USEPA, and the Commonwealth of Virginia for review and approval.
- 08/06/99-08/20/99 Collected additional pre-characterization samples at the Northern Burning Ground to focus delineation of hot spots. Collected remaining wipe samples at Building 4343. Backfilled the Western Burning Ground.
- 08/09/99-08/13/99 Geoprobe borings at Building 4343 to delineate extent of contamination. Geoprobe borings in Western Burning Ground berms.
- 08/03/99-08/06/99 Commenced data validation activities.
- 07/22/99 RAB meeting held.
- 07/19/99-07/30/99 Soil load out at the Western Burning Ground.
- 06/28/99-07/01/99 Continued investigative work at the Western Burning Ground. Coordinated the removal of investigative-derived waste with the installation.
- 06/21/99-06/25/99 Commenced subsurface characterization at the Western Burning Ground.
- 06/14/99-06/18/99 Cleared and grubbed Western Burning Ground. Performed site reconnaissance activities for regional groundwater evaluation of the Horseshoe Area.
- 06/03/99 Delivery to Army of revised Draft WPA 008.
- 05/24/99-05/27/99 Mobilized field activities. Collected surface water/sediment samples at the Western Burning Ground. Collected interior swipe samples at Building 4343. Collected subsurface soil, ditch, and sump samples at Building 4343. Collected sinkhole and confirmatory soil samples at the Northern Burning Ground. Advanced initial pre-characterization soil borings at the Northern and Western Burning Grounds for waste characterization.
- 05/20/99 RAB meeting held.
- 05/19/99 Submitted to EPA Region III response to comments on WPA 008. Approval from EPA Region III to commence initial field activities.
- 05/17/99 Receipt of comments from EPA Region III on Draft WPA 008.
- 03/18/99 RAB meeting held.
- 03/08/99 Delivery to the Army of Draft WPA 008.
- 03/02/99 Responded to comments and began revision for development of Draft WPA 008.
- 02/26/99 Receipt of comments from Army and ATK on Interim Draft WPA008.
- 02/12/99 Delivery to the Army of Interim Draft Work Plan Addendum 008 (WPA 008) for site-specific activities at the Northern and Western Burning Grounds and Building 4343.

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- 01/21/99                      RAB meeting held.
- 11/12/98                      RAB meeting held.
- 08/12/98                      RAB meeting held.
- 06/16/98                      RAB meeting held.