



December 2009

Beltsville Agricultural Research Center: Screening Investigations of Potential Areas of Concern

The Beltsville Agricultural Research Center (BARC) was listed as a "Superfund" site in 1994, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). BARC is a 6,600-acre facility of the U.S. Department of Agriculture's Agricultural Research Service (ARS).

BACKGROUND

As part of the BARC CERCLA Program, ARS conducted a systematic review of the BARC property to determine the location, nature, and any possible hazards posed by potential environmental Areas of Concern (AOCs) found at the facility. Potential AOCs were evaluated through a detailed process that included an aerial photographic analysis, a field reconnaissance, a thorough records search and file review, and extensive employee interviews. The information compiled throughout this process provided the basis for ARS and EPA to determine which AOCs warrant further investigation such as a site screening. Of the 167 potential AOCs identified, 61 were recommended for further investigation.

SITE SCREENING PROCESS

The SSP is a mechanism used to determine whether hazardous substances are contaminating the environment from the potential AOCs. Data from the SSP determines whether an AOC requires a Remedial Investigation (RI) for further investigation, whether some kind of cleanup is necessary, or whether the AOC needs no further action.

The AOCs summarized in the tables below have been investigated under the SSP. Significant progress has been made in completing screening investigations, and completing cleanups where they are needed. Table 1 identifies 34 AOCs that have been designated "no further action" needed. These AOCs have been closed out of the SSP because they have no significant human health or associated ecological risk concerns. Table 2 summarizes the status of 14 AOCs that remain active under the SSP, some of which may be designated for cleanup. Four AOCs are at various stages of an RI, as shown in Table 3. Table 4 lists eight sites where cleanups have been completed or are expected to be completed in the near future.

Potential Areas of Concern (Continued)

Table 1
AOCs Designated “No Further Action” for Ecological Risk and Human Health

| AOC Name/ Number | Summary | Location |
|--|--|--|
| BARC 2 South Farm Dump | Gravel pit used to dispose of municipal waste and small amounts of waste chemicals in the 1950s and 1960s. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | South Farm. On a crest of a hill, adjacent to a PEPCO powerline right-of-way, 150 ft. west of Orchard Loop Road. |
| BARC 3 North Farm Dump | Pit used to dispose of debris and possibly small amounts of chemicals in the 1950s. <i>Field work completed.</i> | North Farm. 400 ft. southwest of the intersection of Cherry Hill Road and Service Road. |
| BARC 5 Herbicide Washdown Area | Open field used for burning trash and disposing of herbicide contaminated rinse water. <i>Field work completed.</i> | North Farm. 700 ft. south of B-041 in a fenced area east of West Drive. |
| BARC 8 Animal Parasitology Unit (APU) Waste Dump | Disposal site for waste from the APU. Utilized in the late 1960s through the 1980s. <i>Initial field work completed, Spring 2000. Follow-on sampling completed Spring 2004.</i> | Central Farm. Southern bank of the Beaver Dam Creek floodplain, 1,200 ft. north of the intersection of Edmonston Road and the APU western entry gate. |
| BARC 9 Dump Off Odell Road | Gravel pit and surrounding area used for general refuse disposal in the late 1950s. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. South of Odell Road and east of the Poultry Area. |
| BARC 10 B-301 Washdown Area | Washdown and storage area for farm equipment used on East Farm. <i>Field work completed.</i> | Central Farm. 400 ft. northeast of the intersection of Beaver Dam and Research Roads. |
| BARC 11 Dump East of B-409 | Ravines used for disposal of general refuse and possible waste chemicals in the 1960s. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. 700 ft. northeast of B-402. |
| BARC 17 B-064 Scrap Area | Wooded site used to store materials and farm equipment. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | South Farm. Along a wooded service lane, approximately 900 ft. southwest of Paint Branch and 300 ft. southeast of B-060. |
| BARC 26 Dump Off Poultry Road | Former trench silo area containing surface debris including bottles. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. On a hillside east of Poultry Farm, approximately 800 to 1,000 ft. east of B-255A. |
| BARC 34 Drum Disposal Area | Surface disposal of empty drums, rubble and pipe. <i>Surface debris removal completed, Fall 1997. Initial field work completed, Summer 2000. Follow-on field work completed Summer 2002.</i> | East Farm. 1,000 ft. east of Soil Conservation Service Road, adjacent to an unnamed service lane. |
| BARC 34A Fill Area Behind B-537 | Surface disposal of 10 empty 55-gallon drums. <i>Surface debris removal completed, Fall 1997. Field work completed, Summer 2000. Follow-on field work completed.</i> | East Farm. 800 ft. east of B-537 and B-538, at the end of an unnamed service lane. |
| BARC 35 Chicken Hill | Burial and surface disposal of poultry manure and small amounts of debris from the 1950s until 1980. <i>Surface debris removal completed, Fall 1997. Field work completed..</i> | East Farm. On the west side of Springfield Road, 800 ft. southeast of the BARC airfield access gate. |

Potential Areas of Concern (Continued)

Table 1 (continued)
AOCs Designated “No Further Action” for Ecological Risk and Human Health

| AOC Name/ Number | Summary | Location |
|--|--|---|
| BARC 41 Underground Storage Tank at B-312 | Area where a former underground storage tank was located. Tank was excavated in 1990. Adjacent building used for chemical storage. <i>Initial field work completed, Winter 1998. Follow-on sampling completed.</i> | Central Farm. North of Powder Mill Road at B-312. |
| BARC 44 Dump in Woods at Airport | Natural depression filled with miscellaneous debris. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | East Farm. 600 ft. west of B-605, in a woodland area along the northern edge of the old BARC airfield. |
| BHNRC Disposal/Fill area behind B-307 | Disposal area containing miscellaneous debris identified during unrelated excavation in Winter 2001. | Central Farm: Open area directly behind B-307. |
| EPIC 9 Open Storage | Historically used for coal storage and a service area. Occasional ground scarring was observed. <i>Field work completed.</i> | North Farm. Southwest of the intersection of North Drive and 5th Street, at the site of B-013 and B-013A. |
| EPIC 11 Open Storage | Utilized as a storage area from the 1960s until 1970s. Currently a service yard. <i>Initial field work completed, Winter 1999. Follow-on sampling completed.</i> | North Farm. Near the intersection of South Drive and 2nd Street, on the west side of B-008. |
| EPIC 21 Open Storage | Manure composting area with adjacent decontamination trough active until 1970. <i>Field work completed.</i> | Central Farm. 500 ft. northwest of B-1002 in the northwestern portion of the APU. |
| EPIC 23 Undetermined | Location of a pipe outfall, possibly for tile drainage system. <i>Field work completed.</i> | Central Farm. 1,000 ft. west of B-1423, within the APU. |
| EPIC 34 Disposal/Fill Area | Disposal area utilized in the 1950s. Various debris located in small pits. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. 600 ft. east of the intersection of Zoology and Center Roads, adjacent to B-314. |
| EPIC 39 Disposal/Fill Area | Area potentially used for agricultural research in the 1970s and later used to store greenhouse materials. <i>Surface debris removal completed Fall 1998. Follow-on field work completed.</i> | Central Farm. 1,000 ft. southeast of B-459 in a wooded area north of Powder Mill Road. |
| FDA 1 Overgrown Clearing on Edge of Woods and Animal Pen | Disposal area containing construction debris and laboratory bottles. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. 700 ft. southeast of B-335D within the former FDA complex. |
| ENTECH M6 B-029 Service Yard | Miscellaneous ground scarring and surficial discoloration at an area utilized for maintenance activities and storage. <i>Field work completed.</i> | North Farm. In the northwestern portion of North Farm, at the intersection of Peach Orchard and Shop Drives. |
| ENTECH M12 Woodland Scarring/Clearing | Ground scarring and clearing was identified in 1937. Laboratory bottles and miscellaneous debris located onsite. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. 700 ft. west of B-191 (a residential unit) and east of Edmonston Road. |
| ENTECH M16 Possible Excavation Site | Excavation area in late 1930s that was later fenced off. <i>Field work completed.</i> | Central Farm. 200 ft. north of Beaver Dam Road and south of the Dairy Research Facility. |

Potential Areas of Concern (Continued)

Table 1 (continued)
AOCs Designated “No Further Action” for Ecological Risk and Human Health

| AOC Name/ Number | Summary | Location |
|---|--|--|
| ENTECH M22 Possible Fill Area | A scar was identified in late 1930s. This area was later used for disposal of miscellaneous debris. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. 200 ft. south of B-425, along a utility corridor. |
| ENTECH M23 Fill Area | Fill area utilized in the 1940s. Additionally, a discharge pipe is located in this area from an undetermined source. <i>Field work completed.</i> | Central Farm. 375 ft. northeast of the intersection of Research and Beaver Dam Roads and adjacent to the Farm Services Complex. |
| ENTECH 3 Public Fueling Station | Site of former public fueling station, possibly containing underground storage tanks. <i>Field work completed.</i> | North Farm. Southwestern corner of the intersection of Baltimore Avenue (Route 1) and Circle Drive. |
| ENTECH 15 UST Removal | Site of underground storage tank removal in 1977 and small mounded piles of debris. <i>Initial field work completed, December 1998. Follow-on sampling completed Spring 2004 and 2007. Field work completed.</i> | Central Farm. At B-309, encompassing areas north, east, and south of the building. |
| ENTECH 20 Runway Destruction Activity | Remnants of excavated runway, composting mounds, and miscellaneous rubble. <i>Field work completed, Summer 1998. Follow-on sampling completed.</i> | East Farm. Encompasses the north/south- and east/west-oriented runways of the old BARC airfield. |
| ENTECH R3 Possible Disposal Area | Area that formerly housed chicken coops and now contains their dilapidated remnants along with other miscellaneous surface debris. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. 100 ft. south of B-240 and west of the former FDA facility. |
| ENTECH R5 Building Remains and Debris | Building remains and debris located in area, may have been used for research prior to 1960s. Potential chemical dumping in area. <i>Field work completed.</i> | Linkage Farm. 600 ft. southeast of the National Agricultural Library and 200 ft. north of the Sunnyside Neighborhood Park. |
| ENTECH R13 Surface Disposal | Area used to store potting soil. Potential pesticide dumping in area. <i>Field work completed, Winter 1998.</i> | Central Farm. 25 ft. north of B-412A, east of Biocontrol Road. |
| ENTECH R15 Surface Dumping Area | Disposal site containing several mounds of debris. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | East Farm. 1,100 ft. west of the ARS shooting range, in woods west of a remote tree farm and mulch storage area. |

Notes:

1. "BARC" – identified during the initial 1991 PA/SI.
"EPIC" -- identified during the 1993 EPA/EPIC aerial photographic analysis.
"ENTECH M#" -- miscellaneous features identified during the 1997 ENTECH aerial photographic analysis.
"ENTECH R#" -- identified during the 1997 ENTECH field reconnaissance and desktop data collection study.
"FDA" – identified during the 1993 EPA/EPIC aerial photographic analysis.

Potential Areas of Concern (Continued)

Table 2
AOCs Under Review and/or Requiring Further Action

| AOC No./ Name ¹ | Summary | Location |
|--|--|--|
| BARC 4 B-033 Washdown Area | Rinse and wash area for West BARC farm equipment where mixing and loading of pesticides also occurred prior to 1993. <i>Initial field work completed, Winter 1999. Supplemental sampling completed Winter 2000, and in 2004. Further investigation planned.</i> | North Farm. South of B-033, 50 feet northwest of the intersection of Shop and West Drives. |
| BARC 14 Airport Mixing Pad | Concrete pad used for mixing and loading pesticides. <i>Initial field work completed, Summer 1998. Follow-on sampling completed Spring 2003, and Spring 2007. Draft Report prepared and under review.</i> | East Farm. In the aircraft hangar area of the BARC airfield, approximately 50 ft. south of B-606. |
| BARC 15 Test Droplet Area | Area adjacent to old airport used to test aircraft-borne pesticide application equipment. <i>Initial field work completed, Summer 1998. Follow-on sampling completed Spring 2003, and Summer 2007. Further investigation planned.</i> | East Farm. Northern end of the old north/south-oriented runway at the old BARC airfield. |
| BARC 18 Low-Level Radiation Burial Site | Area licensed by the Nuclear Regulatory Commission for the disposal of low-level radiation materials prior to 1987. <i>Investigation of disposal pits (test pits) completed summer 2006. Decommissioning Plan being prepared, and further evaluation of groundwater issues needed.</i> | North Farm. South of B-041, approximately 1,200 ft. south of the intersection of Service Road and West Drive. |
| BARC 19 Trenches Behind B-029 | Erosional gully into which junk automobiles and refuse were placed in the 1940s. <i>Initial field work completed, Winter 1999. Supplemental sampling completed Winter 2002, and in late 2004. Further investigation planned.</i> | North Farm. 250 ft. northeast of intersection of Peach Orchard Dr. and Service Rd. |
| BARC 30 Chemical Storage Shed Behind Water Tower | Former location of 2 small sheds containing a small amount of chemicals inside and broken glass outside. <i>Surface debris removal completed, Fall 1997. Field work completed.</i> | Central Farm. East of the intersection of Zoology and Entomology Roads, 500 ft. north of the B-453 water tower. |
| BARC 37 Waste Oil Pit | Natural ravine used for dumping of waste oil in the 1960s and 1970s. <i>Initial field work completed, Summer 1998. Follow-on sampling completed Spring 2003. Further investigation planned.</i> | East Farm. 50 ft. west of B-606, down slope from the hangar apron. |
| EPIC 7 Open Storage | Storage/service area utilized from 1950s until present. Limited ground staining observed. <i>Field work completed. Further evaluation pending on EPA guidance.</i> | North Farm. 100 ft. southwest of North Drive and 5th Street intersection. |
| EPIC 8 Open Storage | Storage area utilized from 1950s until present. Materials stored at various times include coal and construction debris. <i>Field work completed. Further evaluation pending on EPA guidance.</i> | North Farm. 200 ft. west of B-014, at the southern terminus of 5th Street. |
| EPIC 16 Disposal/Fill Area | Wooded area along railroad tracks used for surface disposal. Groundwater contamination identified. <i>Further groundwater investigation planned.</i> | Central Farm. Northeast corner of intersection of Sunnyside Ave. and the CSX right-of-way. |

Potential Areas of Concern (Continued)

| AOC No./ Name ¹ | Summary | Location |
|---|--|--|
| EPIC 47 | Area adjacent to old airport area. Surficial staining by EPA/EPIC in their evaluation of 1970 and 1979 historical aerial photography, possibly from aviation activities used to test aircraft-borne pesticide application equipment. <i>Initial field work completed 1998. Follow-on sampling completed Spring 2003, and Summer 2007. Further investigation planned.</i> | East Farm. Northern end of the old north/south-oriented runway at the old BARC airfield. |
| ENTECH 7 Open Storage Yard (Granary) | Former off-loading area for bulk commodities in the 1940s. Miscellaneous debris and materials stored at this site. <i>Surface debris removal completed, Fall 1997. Initial field work completed, Spring 1999. Follow-on sampling completed Spring 2004. Soil and Groundwater investigation completed in January 2008. Monitoring wells installed and sampled in May 2008. Additional groundwater sampling planned.</i> | Linkage Farm. 150 ft. south of B-085A and just east of the CSX Railroad right-of-way. |
| ENTECH M26 Shooting Range | Shooting range operational from 1987 until present. <i>Initial field work completed, Summer 2000. Results reviewed, and planning for further action to stabilize lead in soils is being developed. Baseline sampling and soil treatment completed, and post-treatment monitoring has been initiated. Currently awaiting data and reporting.</i> | East Farm. Southwest of the intersection of Beaver Dam and SCS Roads, 800 ft. southwest of B-506. |
| ENTECH R2 NASA Laser Test Mast | Location of former NASA radio/laser test station. Surficial debris and potential groundwater monitoring well present. <i>Field work completed. Further evaluation pending on EPA guidance.</i> | Central Farm. 900 ft. southeast of an elevated water tank (B-453), and north of Powder Mill Road. |

Notes:

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- "EPIC" -- identified during the 1993 EPA/EPIC aerial photographic analysis.
- "ENTECH #" -- identified during the 1997 ENTECH aerial photographic analysis.
- "ENTECH M#" -- miscellaneous features identified during the 1997 ENTECH aerial photographic analysis.

Potential Areas of Concern (Continued)

Table 3
AOCs Undergoing a Remedial Investigation

| AOC No./ Name ¹ | Summary | Location |
|---|--|--|
| BARC 6 Biodegradable Site | Landfill used for disposal of refuse and possibly some chemicals. In operation from the 1940s until the 1970s. <i>Large scale removal completed in 1994. RI and FS completed; however, possible remedies still under consideration due other major contamination source</i> | Linkage Farm. 1,400 ft. southeast of the intersection of the WMATA access road and Sunnyside Avenue. |
| BARC 12 Chemical Disposal Pits | Excavation pits used for disposal of chemicals in the 1960s; subsequently backfilled. <i>Surface debris removal completed, Fall 1997. AOC currently undergoing Remedial Investigation to determine the extent of groundwater contamination, and evaluate remedial options. Draft RI report submitted in December, 2008.</i> | Central Farm. North of B-442 Scrap Area (BARC 31), 1,100 ft. northwest of the intersection of Powder Mill Road and the B/W Parkway. |
| BARC 22 College Park Landfill | Landfill utilized by both BARC and College Park from 1950s until 1970s. Mainly residential wastes disposed. Initial SSP fieldwork completed, Winter 1997. Surface debris removal completed, Spring 1998. <i>RI completed February 2008. Pilot Study field monitoring completed June 2008. Pilot Study report will be used in FS for a proposed plan.</i> | Central Farm. 800 ft. east of Edmonston Road, near the intersection of Sunnyside Avenue and Edmonston Road. |
| BARC 27 Beaverdam Road Landfill | Capped rubble landfill operational from 1940s until 1980s. <i>Field work completed, January, 1999. RI completed March 2008. FS completed July 2008. Mulch biowall selected as proposed remedy.</i> | Central Farm. 1,700 ft. east of the intersection of Research and Beaverdam Roads, on the north bank of the Beaverdam Creek stream valley. |

Notes:

1. "BARC" – identified during the initial 1991 PA/SI.

Potential Areas of Concern (Continued)

Table 4
Completed or Planned Cleanups

| AOC No./ Name ¹ | Summary | Location |
|--|---|---|
| BARC 1 Experimental Wood Treatment Area | Area used for application of wood treatment chemicals in the 1940s and 1950s. <i>Surface debris removal completed, Fall 1997. Soil removal and disposal completed in early 2007.</i> | South Farm. 200 ft. southeast of B-060. |
| BARC 31 B-442 Scrap Area | Storage area for scrap metal and surplus equipment utilized since the 1960s. <i>Surface debris removal completed, Fall 1997. Soil removal and disposal completed in early 2007.</i> | Central Farm. 500 ft. north of Powder Mill Road and south of the Chemical Disposal Pits (BARC 12). |
| BARC 32 PCB Storage Area | Area used to store and service transformers containing PCBs prior to the early 1990s. <i>Soil cleanup completed in 2004. Soil sampling and monitoring well installation completed July 2007. Subsequent TCE groundwater investigation completed July 2008. Aquifer testing planned.</i> | Central Farm. 250 ft. northwest of the intersection of Powder Mill Road and the B/W Parkway. |
| ENTECH R1 Structural Ruin | Building foundation with surficial dumping in and around its remains. <i>Surface debris removal completed, Fall 1997. Soil removal and disposal completed in early 2007.</i> | Central Farm. 100 ft. northeast of BARC 30, north of Powder Mill Road. |
| FDA 2 Wooded Area | Disposal area containing organic wastes and miscellaneous refuse. <i>Surface debris removal completed, Fall 1997. Soil removal and disposal completed in early 2007.</i> | Central Farm. In a wooded ravine near the former FDA complex, 600 ft. southeast of B-344. |
| ENTECH R23 Rose Garden Site | Dilapidated building remains with miscellaneous debris and containers in and around the remains. <i>Surface debris removal completed, Fall 1998. Numerous subsequent soil investigations between 2000 and 2007. Engineering Evaluation/Cost Analysis submitted in March 2008 as preparation for soil removal activities to remedy DDT residues in soil.</i> | Central Farm: 210 ft. northwest of B-483 in a wooded area. |
| EPIC 31 Disposal/Fill Area | Area used as a landfill for rubble and other miscellaneous debris in the 1930s. <i>Surface debris removal completed, Fall 1997. Geophysical study completed March 2008. Limited soil removal planned to address residual lead contamination.</i> | Central Farm. 250 ft. east of B-301F and south of the BARC Visitors Center. |
| Building 421 Concrete Surface Storage Area | Concrete pads used to store old transformers. Sampling completed in 2006 identified presence of DDT residues adjacent to the pads. <i>Engineering Evaluation/Cost Analysis submitted in March 2008 as preparation for soil removal activities to remedy DDT residues in soil.</i> | Central Farm. Approximately 500 feet south of Powder Mill Road on Biocontrol Road.. |

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- "ENTECH R#" -- identified during the 1997 ENTECH field reconnaissance and desktop data collection study.
- "FDA" – identified during the 1993 EPA/EPIC aerial photographic analysis.

For More Information...

Contact Kim Kaplan, ARS Information Staff, at 301/504-1637, Kim.Kaplan@ars.usda.gov, or visit the ARS Information Repository located in Room 014, Building 003, 10300 Baltimore Avenue, Beltsville, MD. The Information Repository is open to the public Monday through Friday, 8:30am to 4:30pm. The Information Repository is also available at the Prince George's County Memorial Library at 4319 Sellman Road. The library's hours of operation are Monday through Wednesday, 10 am to 9 pm; Thursday and Friday, 10 am to 6 pm; and Saturday, 10 am to 5 pm.