

Picatinny

New Jersey

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EPA REGION 2 Congressional District(s): 11

Morris
Rockaway Township

NPL LISTING HISTORY
Proposed Date: 7/14/1989
Final Date: 2/21/1990

Site Description

The Picatinny Army Base is located in Morris County approximately 4 miles north of the City of Dover. Picatinny has been in operation for over 100 years and in the past it was a major source of ammunition in wartime. Currently, its mission includes research, development, and pilot-plant production of weapons and constituent explosives and propellants for the Army. At least 156 potentially-hazardous locations exist on the site according to a 1991 U.S. Army Corps of Engineers report. They include areas for testing and manufacturing explosives and propellants, shell-burial areas, surface impoundments, landfills, drum-storage areas, and rocket-engine testing areas. Picatinny's 3,000 employees obtain their drinking water from two on-site wells which have been found to be contaminated with volatile organic compounds (VOCs) and trace amounts of explosive compounds. Drinking water is treated on-site to remove VOCs and explosive compounds are at least an order of magnitude below health-advisory levels. The Army monitors this source of drinking water to ensure that treatment for VOCs has been effective and that explosive-compound levels remain low. The surrounding areas are suburban, as well as summer-vacation areas. Lake Denmark and Picatinny Lake, which are located on base, are used for recreational activities.

Site Responsibility: This site is being addressed through Federal actions.

Threat and Contaminants

Production and testing activities at Picatinny have led to wide-spread contamination of groundwater, surface water, soil, and sediment. These media have been impacted by a wide variety of contaminants such as VOCs, metals, pesticides, PAHs, PCBs, explosives, and radiologicals. Exposure to these contaminated media could pose a health hazard. Contaminated groundwater has apparently migrated off-site at the southern boundary where low levels of explosive compounds have been found in private wells. In order to protect the health of the affected residents, the Army extended a municipal water line to the area. In addition, a fishing advisory has been issued for pickerel and large-mouthed bass due to the level of mercury found in fish tissue from Picatinny Lake and G-2 Pond located on-site.

Cleanup Approach

The cleanup of Picatinny is being addressed in a phased approach. The 156 areas of concern (AOCs) have been divided into 3 phases to be studied in succession. Phase I generally encompasses the highest priority sites which are located in the southern portion of the Arsenal. 61 sites have undergone Resource Conservation and Recovery Act (RCRA) closure at Picatinny (corrective actions are split between RCRA and CERCLA). At these sites, the general approach is to cleanup soils under RCRA and cleanup groundwater under CERCLA.

Response Action Status

Area D Groundwater: An interim Record of Decision (ROD) was signed September 28, 1989. Area D Groundwater consists of a large VOC groundwater plume thought to have originated from de-greasing activities at Building 24. The interim remedy consists of a pump and treat system designed to prevent VOC-contaminated groundwater from discharging into Green Pond Brook. The pump and treat system began operation in October 1992 and has been operating satisfactorily since that time. The final ROD for Area D Groundwater was signed September 22, 2004. The remedy selected is a passive treatment barrier (PTB) consisting of zero-valent iron to intercept and treat the VOC plume before it discharges to surface water. The remedy also includes monitored natural attenuation and land use controls. Installation of this PTB took place in Spring 2007 and the pump and treat system has been shut down. Cleanup of soils associated with the Building 24 lagoon has been addressed under RCRA.

Site 20/24, Pyrotechnic Testing Range/Sanitary Landfill: A ROD was signed June 4, 2002. Land filling and staging activities occurred at the Pyrotechnic Testing Range/Sanitary Landfill, also known as Site 20/24, which resulted in surface soil being contaminated with polychlorinated biphenyls (PCBs). The selected remedy consists of a vegetated-soil cover, wetlands mitigation, and land use controls. The soil cover was completed in 2003 and wetlands mitigation was completed in 2004. Groundwater in the area has been contaminated with VOCs and is being addressed as a separate operable unit referred to as Area B Groundwater. A public meeting was held on the Proposed Plan for Area B Groundwater on October 6, 2005. The preferred remedy is to treat contaminated groundwater in-situ with Hydrogen Release Compound.

Site 23, Post Farm Landfill: A ROD was signed December 20, 2004. From the 1940s to 1970s, the Post Farm Landfill received industrial wastes generated at Picatinny. Drummed wastes included caustic-paint stripper, used hydraulic oils, wastewater from oil reservoirs and tank-cleaning wastes. Also disposed at the site was fly ash from coal-burning operations and solid waste. A removal action was conducted in 1993 that removed drums and contaminated soil. A soil cover 6 - 18 inches in thickness was placed over the excavated area and seeded. The Army subsequently investigated this area to determine the nature and extent of contamination in soil, groundwater, surface water, and sediment. The selected remedy for the Post Farm Landfill is maintenance of the existing soil cover, groundwater monitoring and land use controls. Remedial design has been completed and the remedy was implemented in January 2008.

Burning Ground Area: A ROD was signed September 8, 2005. Explosively-contaminated sludge and sediment from manufacturing processes are sent to the Burning Grounds to be incinerated in metal pans (formerly on the ground surface). Investigation of this area has determined that soil, and to a lesser extent groundwater and sediment, have been impacted by a wide variety of contaminants. The selected remedy for the Burning Ground is to cap contaminated soils with a proprietary asphalt pavement, monitor groundwater and land use controls. A new incinerator to replace the Burning Ground operation has been constructed elsewhere on Picatinny and is expected to come on line in 2008. Once the incinerator is activated, the Burning Grounds will be closed and the remedy will be implemented.

Green Pond and Bear Swamp Brooks: A ROD was signed July 18, 2005. Green Pond Brook and Bear Swamp Brook are the primary surface-transport bodies within Picatinny. The Army investigated these water bodies and found that each has been impacted by facility activities. These activities have led to the contamination of sediments, and to a lesser extent, surface water. The selected remedy for Green Pond Brook and Bear Swamp Brook is excavation of an oil/water separator located on Bear Swamp Brook, chemical and biological monitoring at various locations along the brooks, and land use controls. The remedial design has been completed and the remedy is expected to be implemented in 2008. A removal action previously took place at a sedimentation basin located on Bear Swamp Brook. The removal action consisted of excavation of contaminated sediment and restoration of the sedimentation basin.

Area E Groundwater and Building 95 Impoundments: A ROD was signed September 28, 2007. Two unlined sand-filter lagoons received treated wastewater from a metal-plating and etching operation in Building 95, also known as Site 22. Removal of contaminated soils and piping associated with the lagoons was completed under RCRA. Groundwater in Area E has also been contaminated with VOCs associated with Building 95 operations. The selected remedy for Area E Groundwater is monitored natural attenuation and land use controls and the remedy for the Building 95 Impoundments is land use controls. The remedy was implemented in July 2008.

Site 25/26, Sanitary Landfill and Dredge Disposal Pile: A ROD was signed July 3, 2007. Site 25, sanitary landfill, operated from the 1940s to the 1970s and received industrial waste, shells, rubbish, and sewage-treatment plant sludge. Site 26, the dredge pile, is located within Site 25 and consists of dredge spoils from adjacent Green Pond Brook. The selected remedy for this operable unit is capping a small area of soil contaminated with polycyclic aromatic hydrocarbons (PAHs) with a soil cover and land use controls. The remedy was implemented May 2008.

Site 180, Waste Burial Area: A ROD was signed September 28, 2007. Site 180 was used as an unregulated landfill in the 1960s and 1970s. Items that may have been deposited in the landfill include miscellaneous drums, debris, possible unexploded ordnance, railroad ties, telephone poles, concrete rubble, crushed steel drums, and building materials. The selected remedy for Site 180 is land use controls. The remedy was implemented January 2008.

Land Use Control Remedy for Soils at Sites 19, 28, 44, 49, 86, 106, 124, 135, 141, 143, 163, 182, and 183: A ROD was signed on September 30, 2008. Thirteen Phase I sites are grouped together because the remedy is the same for each: Land Use Controls (LUCs). The LUCs are necessary because the soil at each of these sites has been impacted by low-level contamination. The level of contamination allows for commercial/industrial use, but would not be suitable for residential use. Therefore LUCs are required to restrict residential use of these sites. The Army has submitted a draft ROD for these operable units which documents the LUC remedy.

Picatinny Lake and G-2 Pond: The results of the Phase II Remedial Investigation (RI) for Picatinny Lake and G-2 Pond revealed high levels of mercury in fish tissue. As a result, a fishing advisory has been issued for pickerel and large-mouthed bass in these two water bodies. The final remedy for Picatinny Lake and G-2 Pond will be analyzed in a Feasibility Study.

Remaining Areas: Ongoing investigations and studies are being conducted at the remaining areas of Picatinny to

determine the nature and extent of contamination and necessary response actions. The Phase I, Phase II, and Phase III RIs have been completed and sites are proceeding to Feasibility Study, Proposed Plan and ROD.

Site Facts: Picatinny is participating in the Installation Restoration Program; a specially-funded program established by the Department of Defense (DoD) in 1978 to identify, investigate, and control the migration of hazardous contaminants at military and other DoD facilities. An Interagency Agreement was signed by the Army and the EPA in May 1991.

Cleanup Progress

As discussed above, contaminated soils have been removed and capped and a groundwater remedy has been implemented which has limited the potential for exposure to hazardous wastes. Ongoing remedial designs and investigations are being conducted at the remaining areas of concern at Picatinny. The third Five-Year Review (2006) stated that all remedies at Pictinny are protective of human health and the environment.

Site Repositories

The Administrative Record is available for public review at the following location: Picatinny Arsenal Installation Restoration Program Office Building 319 Picatinny Arsenal, New Jersey 07806