



Rt. 7 Dump/New Jersey Fireworks Site

What You Need to Know

The 59.71-acres Rt. 7 Dump/New Jersey Fireworks (NJF) Site is comprised of three parcels located at 1726 E Old Philadelphia Rd approximately 2.4 miles west of Elkton in Cecil County. The Rt. 7 Dump was a former clay quarry that received by-products of munitions and fireworks production, scrap rubber and road construction debris until 1986. NJF operated from 1956 until 1999 and now is operated by a stump and brush recycling facility.

Site Location

The New Jersey Fireworks (NJF) site is located approximately 2.4 miles west of Elkton and 2.5 miles east of the town of North East in Cecil County, Maryland. The relatively flat site consists of approximately 59.71 acres over three parcels located at 1726 E. Old Philadelphia Road in a rural area just north of the Elk Neck State Forest. The Rt. 7 Dump parcel is identified on Cecil County tax map 0032 as parcel 0482 and the NJF site is identified as parcels 0020, 0165.

Site History

In the early 1900s, parcel 0482 (westernmost portion) was utilized as a clay quarry that supplied clay to a brick manufacturer. During World War II, by-products of munitions production, as well as scrap rubber from the Bayshore Rubber Plant, were disposed of at that site.

In 1956, the NJF Company purchased the above 3 parcels and used the 2 eastern parcels for the manufacture of Class C fireworks and the far western parcel (Rt. 7 Dump) for waste disposal from the production of the fireworks. The dump site was never permitted.

Between 1983 and 1986, the State Highway Administration used the Rt. 7 Dump to dispose of fill dirt from road construction. Most of the fill dirt consisted of clays.

On June 30, 1999, parcels 0020 and 0165 that comprise the NJF site were transferred to Sun and Star, LLC. Later that same year, extensive cleanup of the property was initiated. The dilapidated buildings, trailers and hazardous materials were removed from the site and a new office building and an approximate 28,000 square foot warehouse were erected. From 1993 through sometime in 2005, operations on site consisted of importing, repackaging and distribution of "Class C" fireworks. On March 25, 2005, both parcels that comprise the NJF site were transferred to the BPLLC Company.

Environmental Investigations

On November 17, 1971, a Maryland Water Resources Administration (WRA) official discovered that NJF was discharging wastewater from its sparkler mixing area into an unnamed tributary of Mill Creek. On December 22, 1971, the WRA issued an order for New Jersey Fireworks to stop discharging to the creek.

In 1978 NJF was cited by WRA for unpermitted disposal of their fireworks waste into the Rt. 7 Dump.



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The State of Maryland conducted a Preliminary Assessment and Ecology & Environment conducted sampling of the Rt. 7 Dump in 1980 that indicated contamination of the on-site ponded area. In November 1980, the Department of Health and Mental Hygiene issued an Administrative Order that required NJF to close out the Rt. 7 Dump.

In December 1983, NUS Halliburton conducted a Site Inspection (SI) of the Rt. 7 Dump for the U.S. Environmental Protection Agency (EPA). Barium was detected in the on-site pond aqueous sample at 19,300 ppb, but no barium was detected off-site.

In September 1992, the Maryland Department of the Environment (the "Department") submitted to EPA a revised Level I SI Prioritization on the Rt. 7 Dump, which recommended a No Further Remedial Action Planned (NFRAP) status for the site, based on existing analytical data.

In 1999, the NJF site was inspected by the Federal Bureau of Alcohol, Tobacco, and Firearms (ATF) and the Department. The inspection revealed that large amounts of fireworks were being stored in an unsafe manner. The types of fireworks previously manufactured include sparklers and black powder explosives. At the time of the ATF/Department inspection, the property was being used to repackage imported fireworks. The inspection also revealed several buildings in poor condition on site that contained old fireworks. Several pit-like depressions were located in a wooded area and were previously used for burning and disposal of old fireworks. Rusted 30-gallon and 50-gallon drums littered the site. Some of the drums still displayed legible labels indicating that they contained potassium perchlorate. Lastly, a waste disposal area was observed on the south side of the property, which consisted of wooden pallets, drums, aerosol cans, oil containers, auto parts, cinders and other scattered debris, some of which looked like asbestos containing material.

The Department conducted a SI focused on the NJF portion of the property in April 2000 that identified metals at concentrations above benchmark levels in groundwater and sediment, and significantly elevated in soil.

In December 2001, the Department collected soil samples in the burn pit area and areas near the many dilapidated buildings and trailers that potentially contained hazardous wastes. Results identified elevated levels of antimony at the entrance of two of the buildings. Additional field screening samples collected on March 1, 2002 near the former sparkler manufacturing building identified elevated levels of barium at 35,400 parts per million (ppm) and 39,300 ppm.

In August 2004, the Department conducted an Expanded Site Inspection (ESI) of the former Rt. 7 Dump and NJF site in response to the recent discovery of perchlorate contamination in nearby wells. Results of the investigation identified low level perchlorate contamination in the surface soil near the former Rt. 7 Dump area and elevated levels of perchlorate contamination in the NJF production well, the soil and groundwater near the sparkler building and in a monitoring well approximately 1,000 feet east of the sparkler building area. Perchlorate



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contamination was also identified in the surface water and sediment samples collected in an unnamed tributary of Mill Creek near the sparkler building area. Additionally, the soil sampling identified elevated levels of metals (arsenic, barium, lead, and mercury) above Department and/or EPA standards, especially near the sparkler building where barium was detected at 47,600 ppm.

On May 25, 2005, the Department issued a letter to the property owner requiring that a Remedial Investigation/Feasibility be conducted to fully delineate the contamination identified in the 2004 ESI.

On October 11, 2006, 24 base fuses for armor piercing tracer rounds were discovered on the property's septic field. The Maryland State Fire Marshall's Office personnel conducted an emergency detonation of ten of the fuses on site that same day. The remaining fuses were detonated on site October 13, 2006.

In February 2007 the Department conducted an ESI in response to the alleged Munitions of Explosive Concern (MEC) discovered on site in October 2006. Results of that limited investigation identified burned fuses for M38 practice bombs and 90-millimeter spotting rounds, grenade spoons, pins and caps.

On March 29, 2007 EPA and its contractor, Tetra Tech, collected 21 samples of various materials on site. The hazard categorization of the 21 samples identified 9 substances that were oxidizers, 5 shock sensitive/reactives, 4 flammables, 2 combustibles and 2 that gave off colored smoke. On June 8, 2007, EPA and its contractors removed four drums of hazardous waste from the site.

From December 2007 through January 2008, samples were collected and analyzed for metals, perchlorate, and target compound list organics. Arsenic, mercury, and lead were found to be elevated in soil, as was perchlorate in surface water and groundwater.

The Department oversaw additional groundwater sampling events that were performed within the Mill Creek watershed in 2008 and 2009, including the NJF site, in order to delineate and better understand the persistent perchlorate contamination in groundwater within the watershed. These investigations proved inconclusive in identifying a defined source area of the perchlorate contamination.

From October 24-28, 2011, Weston Solutions conducted a magnetometer survey for a Removal Site Evaluation Report (RSER) for EPA. One expended grenade fuse and one empty 40-mm base fuse were identified; all other anomalies were determined to be cultural debris.



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Current Status

The nature of the perchlorate contamination at the site suggests that remediation of the perchlorate is not a logistically practical option. The Department is providing public potable water service to the affected areas.

The NJF site remains on the Department's list of active sites, since the elevated levels of metals contamination in the soils identified in each of the subsequent investigations needs to be fully delineated.