

## Recognizing the Potential for PFAS at OB/OD Munitions Disposal Sites

*Some regulators and military officials are starting to recognize the potential for PFAS at Open Burning/Open Detonation (OB/OD) munitions disposal sites. Here are a few examples but there are still hundreds of current and former OB/OD sites that have not been tested for PFAS.*



Source: U.S. Army | GAO-15-538

### ● Naval Weapons Station Yorktown, Virginia

The U.S. Navy Pentagon has identified the former Explosive Ordnance Burning and Disposal area (SWMU 2) and Burn Pad (Site 22) at the Naval Weapons Station in Yorktown as potential source of per- and polyfluoroalkyl substances (PFAS) contamination.<sup>1</sup>

The Burn Pad site at the Yorktown is a 9-acre area that once contained a circular array of steel burning pads that were used for burning waste explosives and spent solvents generated from loading operations. Contamination of groundwater is likely due to releases of chemicals that occurred during these waste handling and burning activities on the ground surface. The Burn Pad area was operational from the early 1940s until 1995.<sup>2</sup>

The remedy at the Yorktown Burn Pad Area has not yet been implemented. A pre-design investigation identified the need to delineate solvent plumes and to define the extent of 1,4-dioxane at the site. The investigation also determined that sampling for PFAS and perchlorate in groundwater is needed.<sup>3</sup> As the potential use of Aqueous Film Forming Foam (AFFF) in controlling the individual burn pads could not be ruled out, the Navy will be conducting analysis for PFAS.

### ● Seal Beach Naval Weapons Station, California

The Explosives Burning Ground, which operated from 1945-1971<sup>4</sup> at Seal Beach Naval Weapons Station has been identified by the military as a potential source of PFAS contamination. The Explosives Burning Ground was an open area of approximately 15 acres that was used for open burning of ordnance-contaminated wastes. Burned wastes included Explosive-D, Explosive-D sludge from the primary settling basin, waste black powder, waste smokeless powder, black powder, smoke pots containing fog oil, and miscellaneous wastes. Limited burning of the following were also reported through 1972: waste Otto Fuel contaminated with Agitene and solids, damaged smoke signals, underwater explosives demolition charges, and firefighting exercise materials (waste lumber and a few tires, Aqueous Fire Fighting Foam or protein-based foam additive mixed with extinguishing water).<sup>5</sup>

### ● Letterkenny Army Depot, Pennsylvania

At the request of Pennsylvania Department of Environmental Protection, the U.S. Army will conduct groundwater sampling at Letterkenny's Open Burning/Open Detonation (OB/OD) Areas for PFAS.<sup>6</sup> The open burning areas consist of burning cages, burn pans, and rocket static firing tubes used for demilitarization of propellants and rocket motors. The detonation areas consist of open areas where munitions are demilitarized via detonation. Pending groundwater analysis will include 12 PFAS compounds using U.S. EPA SW-846 Method 537.

<sup>1</sup> U.S. Department of Navy, Office of the Assistant Secretary (Energy, Installations and Environment), Navy Pentagon, Memorandum Subject: Perfluorinated Compounds/Perfluoroalkyl Substances (PFC/PFAS) – Identification of Potential Areas of Concern and ENCLOSURE 2 – DERP Sites with Potential PFC/PFAS Contamination and Potential PFC/PFAS AOCs, June 20, 2016.

<sup>2</sup> U.S. Department of Navy, Final Fourth Five-Year Review Report for the Naval Weapons Station Yorktown, Section 10.2 Site Background, March 2018.

<sup>3</sup> U.S. Department of Navy, Final Fourth Five-Year Review Report for the Naval Weapons Station Yorktown, Section 10.3.4, Status of Implementation, March 2018.

<sup>4</sup> U.S. Department of Navy, Naval Weapons Station Seal Beach, Newsletter of the Environmental Investigation and Cleanup Program, October 2007.

<sup>5</sup> California Department of Health Services, Federal Facility Site Remediation Agreement for Seal Beach Naval Weapons Station, page 71, 24 September 1991.

<sup>6</sup> U.S. Department of Army, RCRA Subpart X Part B Permit Application for Open Burning/Open Detonation (OB/OD) Areas, Ammonium Perchlorate Rocket Motor Destruction Facility, and Flashing Furnace, Letterkenny Army Depot, April 2018.