



## Maryland Sand, Gravel, and Stone (NPL Site)

### What You Need to Know

#### Site Location

The Maryland Sand, Gravel, and Stone (MSGs) site comprises about 150 acres of land west of Elkton, Cecil County, Maryland. The site is situated southwest of the intersection of Marley Road and Nottingham Road and north of W. Pulaski Highway (Route 40).

#### Site History

Quarrying operations were conducted in two areas known as the Eastern Excavation Area and the Western Excavation Area. Industrial waste disposal took place in the Eastern Excavation Area from the 1960s until the mid-1970s. The area was used for the disposal of still bottoms, sludges, and drums containing waste. In addition, three pits were used to dispose of an estimated 700,000 gallons of wastewater.

Following a fire on the site in 1974, 200,000 gallons of liquid waste were removed from the site by the owner/operators and disposed of at Kin Buc Landfill, Edison, New Jersey. The drums and sludge that remained following the removal of the liquid waste were reported to be buried on-site in excavated pits.

#### Environmental Investigations and Actions

Chemicals of concern include chlorinated volatile organic compounds (CVOCs), VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyl compounds (PCBs), 1,4-dioxane, and metals. Soil, sediment, and groundwater were contaminated by waste disposal activities.

The U.S. Environmental Protection Agency (EPA) performed an initial site assessment in 1979. EPA re-evaluated and sampled the site in 1982. The site was placed on the National Priorities List (NPL) in September 1983. The EPA divided the site into three phases or operable units. Operable Unit 1 (OU1) addressed groundwater contamination and source control in the Eastern Excavation Area. Operable Unit 2 (OU2) addressed contamination in deeper groundwater and a possible waste source in the Western Excavated Area. Operable Unit 3 (OU3) addressed contaminated waste, sediment, and soil in the Eastern Excavation Area; OU3 also includes the ongoing groundwater extraction and treatment system at the site.

The cleanup activities were conducted progressively using the Operable Unit strategy established by EPA.

#### *Operable Unit 1 (OU1)*

The Remedial Investigation and Feasibility Study (RI/FS) for OU1 began in 1984 and were completed in 1985. CVOCs, SVOCs and metals were found on-site in ponds, seeps, sediment, subsurface soil, and shallow groundwater (Upper Sand Aquifer). EPA issued a Record of Decision (ROD) for OU1 in September 1985, which specified the remedy in the Eastern Excavation Area. It required the excavation of buried materials (drums, etc.) with off-site disposal at an approved disposal facility; installation of three shallow groundwater interceptor/capture trenches; treatment of extracted groundwater in an on-site plant; and access restrictions (perimeter fencing).

The perimeter fence around the Eastern Excavation Area was completed in 1989. The excavation and disposal of buried waste (including about 1,200 drums) was completed in 1991. Three groundwater interceptor trenches were constructed, and three extraction wells were installed by Spring 1996. Treated effluent from the plant is discharged to a rock-lined channel, then into an on-site pond. The water from the pond flows to a tributary of Mill Creek. The groundwater treatment system has been operational since the Spring of 1996. In addition to the enhancements described below, the groundwater capture system was augmented in 2001 with the installation of two additional extraction wells in between two of the collection trenches.

### *Operable Unit 2 (OU2)*

The OU2 RI/FS began in 1985 and was finalized in 1990. On-site CVOC and VOC contamination was found primarily in the Upper Sand Aquifer, with only trace amounts found in deeper groundwater. The RI revealed no evidence of waste disposal in the Western Excavation Area, and samples of soil and sediment in the Western Excavation Area identified no unacceptable risk for current or future use. This risk evaluation included potential future residential exposure to soil and sediment in the Western Excavated Area, and the risks were determined to be within EPA's acceptable risk range. Therefore, the soil and sediment in the Western Excavation Area did not require further response action.

The September 1990 OU2 ROD addressed the lower aquifers, known as the Middle Sand Aquifer, Lower Sand Aquifer and Bedrock Aquifer, in the Eastern and Western Excavation Areas. The remedy included the installation of additional monitoring wells for on-site and off-site groundwater monitoring, and sampling of selected residential wells. The ROD also included the provision for point-of-use treatment of off-site wells, if required. To date, this has not been implemented. One residential well was found to contain site-related contaminants, and it was replaced with a deeper well, which had no contaminants of concern. Groundwater monitoring of off-site wells continues. Remedial Actions associated with OU2 included the installation of three additional groundwater extraction wells (placed in 2013) and an additional groundwater interception trench (installed in 2017).

### *Operable Unit 3 (OU3)*

The 2002 OU3 ROD addressed contaminated waste, sediment, soil, and shallow groundwater in the Eastern Excavation Area. The remedy included the excavation and treatment of contaminated soil in the Eastern Excavation Area using low-temperature thermal desorption technology (LTTD). A total of 57,523 tons of soil was excavated and treated on-site using LTTD. The treated soil was backfilled on-site. Material that could not be adequately treated by LTTD was excavated and disposed of off-site (about 10,000 tons). This material was primarily soil containing PCBs and pesticides (particularly aldrin).

In 2011, enhanced biodegradation treatment was applied to saturated soil and groundwater where contaminants in groundwater exceeded cleanup levels.

Institutional Controls (ICs) were implemented in the form of Environmental Covenants and Informational ICs, which will remain in place until the groundwater cleanup levels are achieved. Additionally, within the site boundary there are two residential properties each with an extraction well. Access agreements are in place with these property owners specifying interim land use restrictions to prevent any activity that could interfere with the groundwater extraction and treatment system.

### Current Status

Operation of the groundwater capture and treatment system will continue until the chemicals of concern have been addressed. Residential development is restricted on this property until the site no longer poses a potential risk to human health.

Planned or Potential Future Action

Long-term monitoring and operation & maintenance activities will continue. EPA is conducting a Five-Year Review (FYR) of the remedy at the site. The FYR report is expected to be completed by September 2026.