

## Frog Mortar Creek Swimming Advisory

Lockheed Martin has conducted surface water monitoring at Frog Mortar Creek by Martin State Airport six times each year since 2012. This includes the summer season of June, July, August, and September. In the 2021 summer season, 146 water samples were collected near the western Frog Mortar Creek shoreline; four samples were collected from the eastern shore near Edwards Lane in June 2021. Due to the improved water quality, surface water

2021 marks the fourth summer season during which the groundwater treatment system at Martin State Airport captures and treats contaminated groundwater before it reaches Frog Mortar Creek. Chemical concentrations of chlorinated volatile organic compounds (CVOCs) in the monitoring area were significantly lower than in previous summer seasons, before the start of groundwater treatment.

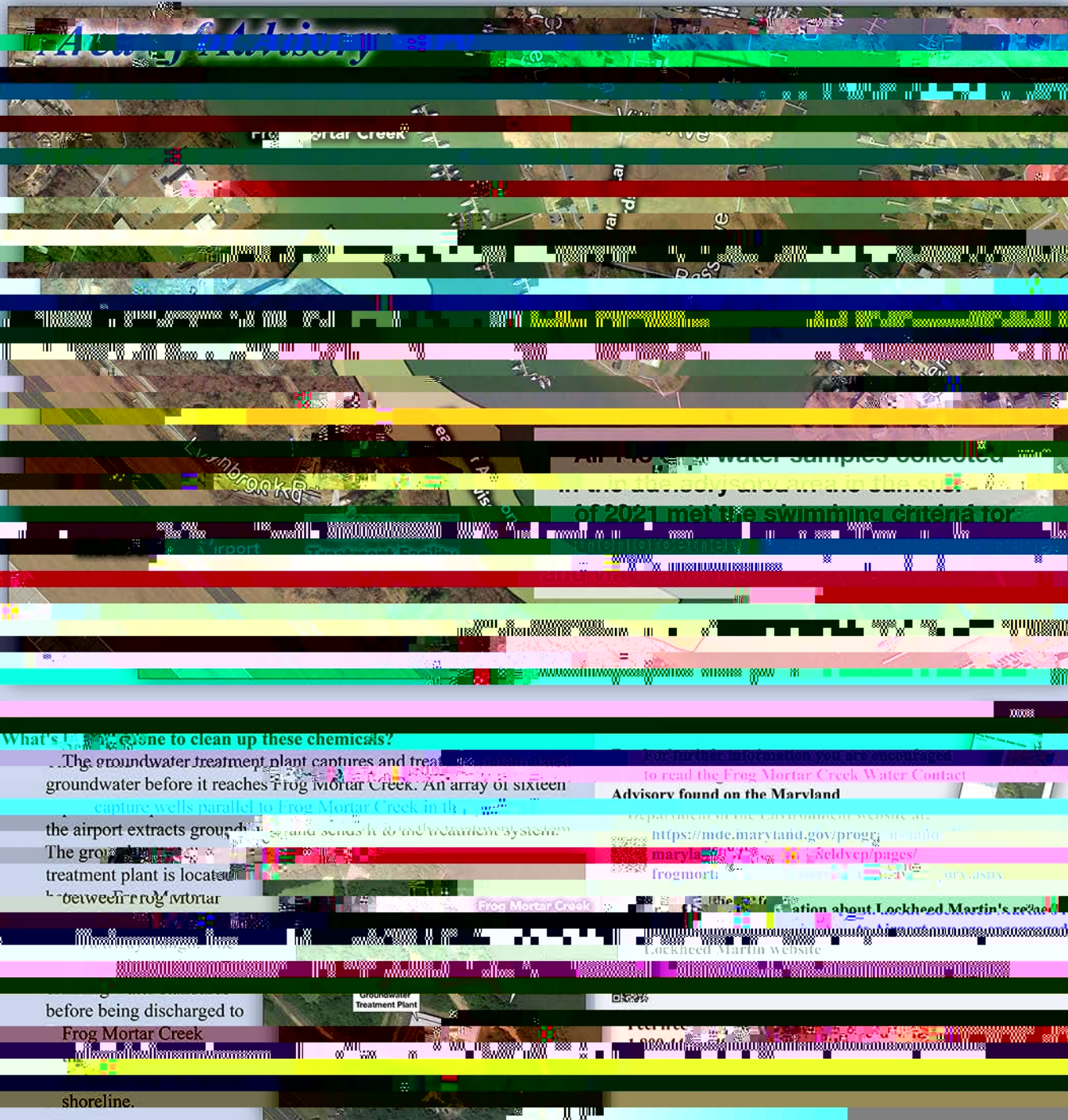
In the 2019 summer season, CVOCs were detected in 100% of samples collected in June, July, August, and September. In the 2020 summer season, CVOCs were detected in 67% of samples, at very low concentrations, and only in August. No CVOCs were detected in any sample collected during the 2021 summer season.

The current levels of CVOCs do not warrant prohibiting swimming in Frog Mortar Creek. However, the Maryland Department of the Environment (MDE), in the 2012 swimming advisory, available on its website, has suggested that swimming in these waters be for no more than four hours a day, five days a week. The advisory was issued by the airport providing advice to limit swimming in the advisory area marked on the accompanying graph. At the time MDE established this advisory, it was considered a conservative approach to lowering potential health risks. With the significant reduction of CVOC concentration in the water, the groundwater treatment system at Lockheed Martin will continue to work with MDE towards removing the swimming advisory in the next few years. Long-term improvement has been demonstrated.

**What are the primary contaminants?**  
Trichloroethene (TCE) was a common solvent used for degreasing. It can break down over time into cis-1,2-dichloroethene and vinyl chloride.

**Where did the contaminants come from?**  
Solvents and degreasers were used in factories and other Lockheed Martin heritage companies located in Middle River. These chemicals have been found in the Dump Road Area on Martin State Airport, in Frog Mortar Creek, and in an underground plume of contaminated groundwater being cleaned by the groundwater treatment system at the airport. Martin State Airport originally belonged to a local Lockheed Martin company, a Lockheed Martin heritage company. Lockheed Martin has been investigating and cleaning up the contaminated groundwater in the area since 2017 and since then has been intercepting and treating the groundwater before it reaches the creek.

**Is there a health risk in this area?**  
No. According to the Maryland Department of the Environment, the contaminants in this area are at levels that are not expected to cause health problems.



### What's being done to clean up these chemicals?

The groundwater treatment plant captures and treats contaminated groundwater before it reaches Frog Mortar Creek. An array of sixteen capture wells parallel to Frog Mortar Creek in the western area of the airport extracts groundwater and sends it to the treatment system. The groundwater treatment plant is located between Frog Mortar

to read the Frog Mortar Creek Water Contact Advisory found on the Maryland Department of the Environment website at <https://mde.maryland.gov/programs/water/contaminants/contaminants/frogmortar/>

Lockheed Martin website

information about Lockheed Martin's remediation efforts at the Martin State Airport. Visit the Lockheed Martin website at [www.lockheedmartin.com](http://www.lockheedmartin.com)