

Environmental Summary for the Antares Mishap—Oct. 28

Sampling continues in the marsh and areas surrounding Wallops Island; at this time, no hazardous substances have been detected in the surrounding areas. We take environmental stewardship very seriously and are committed to remediating environmental impacts at the site. We have been working with the Virginia Department of Environmental Quality since the failure and will continue working closely with them as we move forward. Sampling in and around Wallops Island continues. Sampling, testing, and cleanup actions completed to date and in progress are detailed below:

- Air sampling began within one hour of the incident beginning at the causeway near NOAA and proceeding to points in the middle and around the south end of Chincoteague Island—10 sampling locations total. The last sample was taken at 10 p.m. No hazardous substances were detected at the sampled locations
- Antares debris was largely contained in the pre-established hazard area. Debris reported and recovered off NASA property is small in nature—the smallest is about 1 inch in diameter and the largest reported is very similar to that of a sheet of notebook paper. The vast majority of the debris found is light-weight, black carbon fiber composite material
- The Coast Guard and Virginia Marine Resources Commission reported no observed signs of water pollution, such as oil sheens, following patrols of the area after the mishap
- The environmental team conducted surface water sampling in the impact crater and in the area surrounding the pad Oct. 31. The main contaminant detected is perchlorate, which is indicative of the second stage solid rocket fuel. Perchlorate levels in the impact crater measured about 9,000 parts per billion. In the area around the crater, such as the deluge basin, the perchlorate levels were significantly lower, ranging from 8 to 30 parts per billion. (For reference, the EPA's perchlorate advisory level is 15 parts per billion in drinking water.) In summary, the data shows the environmental impacts were largely contained to the impact crater adjacent to Pad 0A.
- The Orbital, MARS, and NASA environmental team is vigorously working to mitigate the environmental impacts, having pumped and containerized all the water in the deluge basin. Furthermore, the team has pumped out and containerized the water in the impact crater three times with another pumping scheduled this week. We are awaiting results from follow-on tests.
- There's a clay layer about 15 feet beneath the pad area that ranges from 15 to 40 feet in thickness, which should keep any contamination from migrating deeper.
- The environmental team conducted soil sampling in the impact crater and in the area surrounding the pad Nov. 5-6. Test results show the main contaminant is a diesel range organic (DRO), indicative of RP-1 or highly-refined kerosene, which, along with liquid oxygen, is the propellant for the first stage. Testing showed the DRO was contained in the area immediately around the crater. Perchlorate was also detected in the soil sampling immediately around the crater but at levels 10 times lower than the EPA's advisory level for soil.
- RP-1 is highly-refined kerosene, similar to home heating oil or diesel fuel
- The combustion products of the RP-1 would be similar to those from a diesel fuel fire. The presence of liquid oxygen, as is the case with the Antares rocket, would favor more complete combustion. This further supports findings that the environmental impacts are largely contained to the impact crater
- Monitoring by the WFF Fire Department found no detectable hydrazine or dinitrogen tetroxide at any location