

ISS Potable Water Sampling and Chemical Analysis Results for 2016

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ABSTRACT

This paper continues the annual tradition of summarizing at this conference the results of chemical analyses performed on archival potable water samples returned from the International Space Station (ISS). 2016 represented a banner year for life on board the ISS, including the successful conclusion for two crew members of a record one-year mission. Water reclaimed from urine and/or humidity condensate remained the primary source of potable water for the crew members of ISS Expeditions 46-50. The year 2016 was also marked by the end of a long-standing tradition of U.S. sampling and monitoring of Russian Segment potable water sources. Two water samples taken during Expedition 46 in February 2016 and returned on Soyuz 44, represented the final Russian Segment samples to be collected and analyzed by the U.S. side. Although anticipated for 2016, a rise in the total organic carbon (TOC) concentration of the product water from the U.S. water processor assembly due to breakthrough of organic contaminants from the system did not materialize, as evidenced by the onboard TOC analyzer and archive sample results.

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