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The Canadian Space Agency Sample Curation Facility prepares to receive the Canadian portion of asteroid Bennu Sample

CAROLINE-EMMANUELLE MORISSET, PATRICK HILL, TIMOTHY HALTIGIN, ÉTIENNE PELLETIER, JEAN-MICHEL REID, NICOLE M.B. WILLIAMSON AND SYLVAIN MONDOR

Canadian Space Agency

Canada is about to receive its portion of the asteroid Bennu sample that will be delivered in exchange for the contribution of the CSA's OLA (OSIRIS-REx Laser Altimeter) instrument that was provided to NASA's OSIRIS-REx Mission. After years of efforts to develop the first extraterrestrial sample curation facility in Canada, the Sample Curation Facility is in its final phase of construction. After certification and first months of inorganic and organic monitoring, the sample will be delivered to the facility. Several challenges were overcome throughout the development in a design-build mode of the facility as building a clean room that limits not only terrestrial contamination coming from metallic sources but also from organic components is not trivial in the modern construction industry. We have placed an emphasis on using materials that the sample has already been exposed to, such as anodized aluminum, stainless steel, glass, Viton, and Teflon. While some exceptions were necessary, major efforts by committed project stakeholders were made to minimize them. A record of the exceptions is kept with spare parts that could be used for future analyses. Very difficult decisions were required to develop viable custom options at the expense of completing certain tasks within the original timeline. From the onset of the project, establishing a guiding philosophy whereby respecting the requirements would prevail over respecting the timeline has been helpful throughout.

The Canadian portion of the sample was selected after sample touchdown on Earth, with the intent to select a sample representative of the whole collection in terms of the different identified lithologies and grain size distributions. The sample has been collected in modified off-the-self containers that include a sapphire window permitting spectroscopic measurements while the containers remain sealed. A catalogue containing a description of the sample, pictures, and grain sizes will be made available after the arrival of the sample in Canada. This will be the main tool used by the scientific community to make sample requests. Sample requests will be open to all once a year, and at least six months after sample arrival at this unique curation facility in Canada.