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NASA's Astromaterials Curation and Data Management

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Johnson Space Center's Astromaterials Acquisition and Curation Office provides curatorial expertise of all extraterrestrial samples held by NASA [1]. JSC has a well-established history of maintaining rigorous curatorial documentation for all its astromaterials collections, including solar and cometary particles, and lunar, meteorite, and asteroid samples, and continues to expand its capabilities as additional collections are returned. Being able to track all work that the samples undergo is essential to making them available for scientific research and education. Using customized databases, both internal and external, sample processing can be clearly tracked and information such as sample naming, characterization, types, and quantities can be recorded and made available for public access. Every action taken on the samples, including initial characterization, allocation, and return, is recorded in the internal database so that the status of every sample is tracked. Information is made available through the online public catalog so that Principal Investigators (PIs) can see what samples are available for request. This careful documentation makes it possible for researchers to not only assess sample availability, but also to have confidence that the data available for those samples is accurate and timely. In addition to the sample information tracking, official records are used to ensure proper accountability is assigned as samples are delivered to PIs or returned to NASA. Loan agreements are required prior to the allocation of samples and assignment forms and return receipts provide records of individual allocations and returns [2]. The curation team at JSC collate data from published scientific findings to generate bibliographies and compendia for reference (e.g., [3]). Due diligence by NASA Curation and PIs who conduct research allows for the successful distribution of samples and the continued increase of knowledge and understanding of the origins of our solar system.

References: [1] Astromaterials Acquisition & Curation Office. National Aeronautics and Space Administration, 2026. https://curator.jsc.nasa.gov/ [2] NASA, 2023, NASA Procedural Requirements (NPR) 7100.5, Curation of Institutional Scientific Collections. https://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPR&c=7100&s=5 [3] The Lunar Sample Compendium, 2026. https://curator.jsc.nasa.gov/lunar/lsc/