National Aeronautics and
Space Administration

LUNAR ENVIRONMENT TEST FACILITY

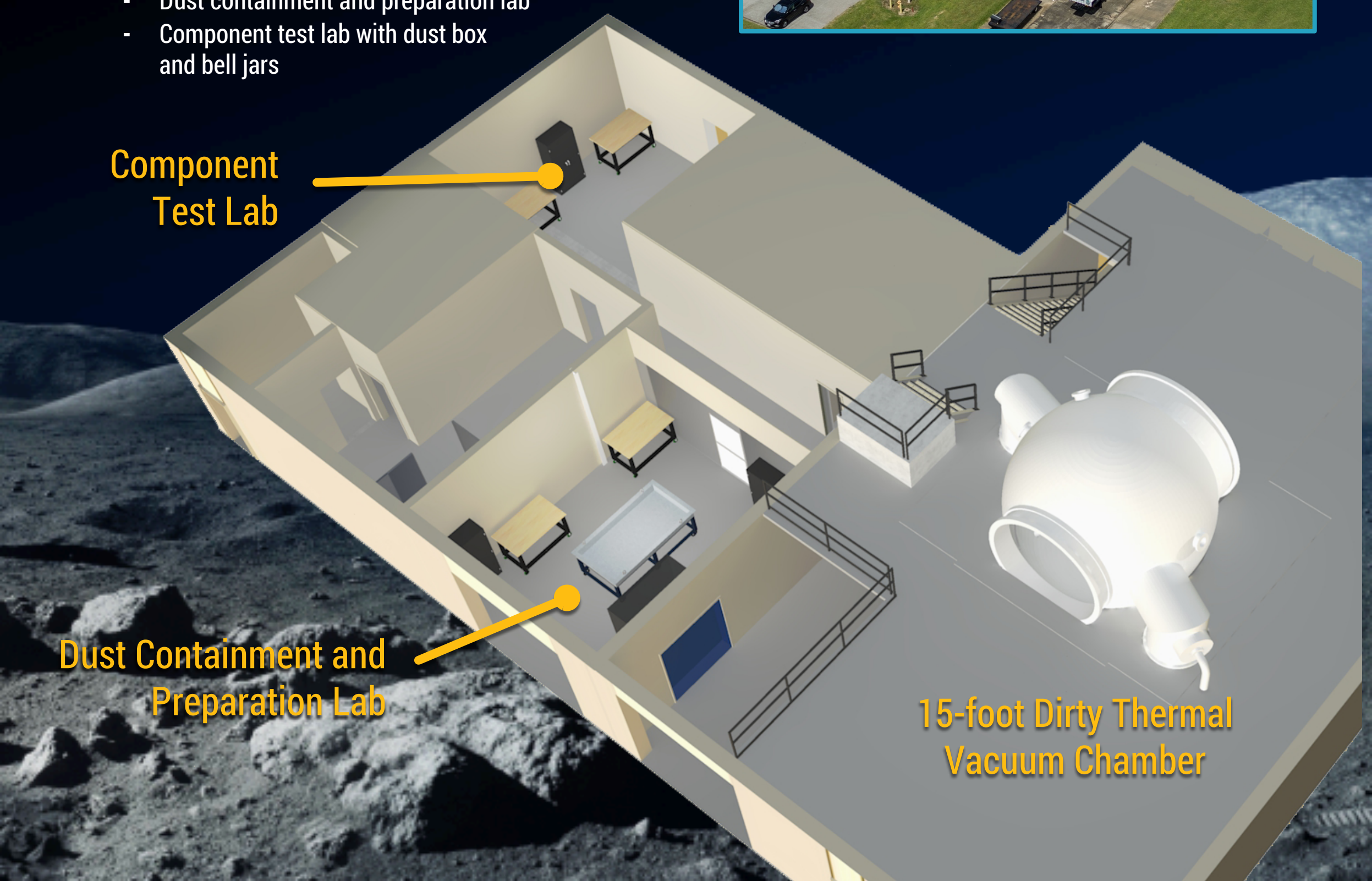
NASA-JSC BLDG. 351

NASA-JSC-EP offers lunar environmental test capabilities for subsystem and system hardware and assemblies at JSC Building 351. This capability complements existing Agency resources for both ambient dust testing and dirty thermal vacuum capability.

Testing Versatility

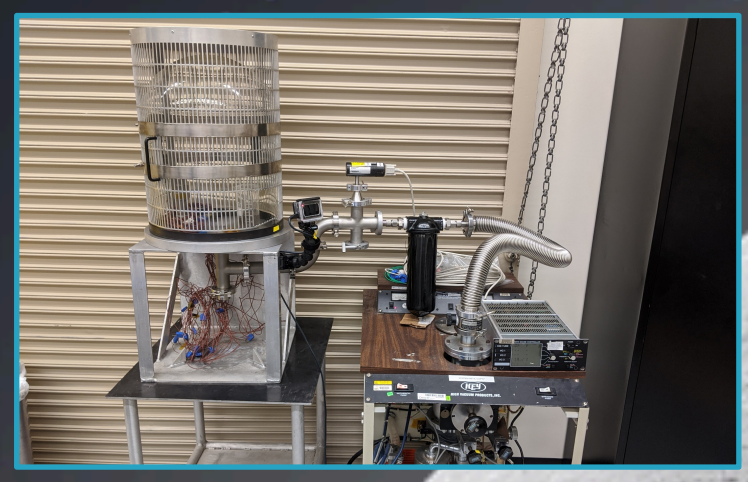
The facility enables a range of lunar environmental testing and research needs. The facility encompasses:

- 15-foot dirty thermal vacuum chamber
- Dust containment and preparation lab
- Component test lab with dust box and bell jars



Testing Options and Expertise

The various assets resident in the facility provide a wide range of test options. Engineers and technicians at the facility provide expertise in testing with regolith simulant and other unique requirements.



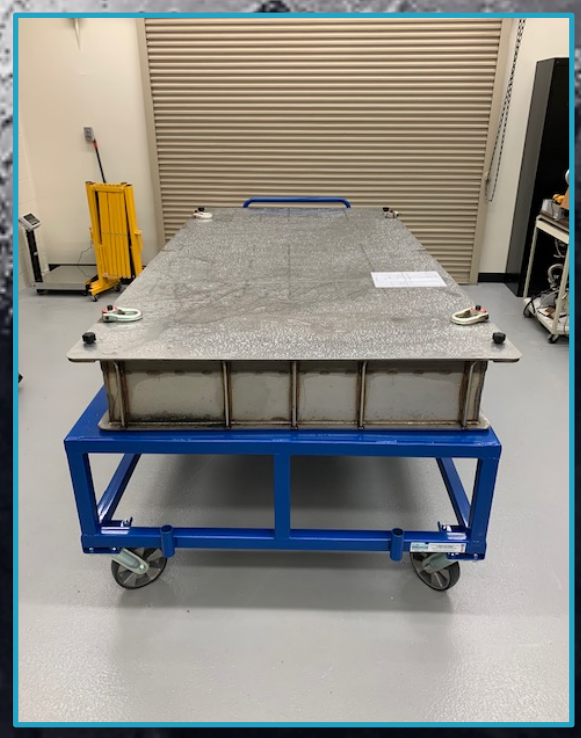
Component Test Lab Features

- Multiple 1'-2' vacuum bell jars suitable for testing with simulant
- Ambient 2' x 2' x 3' dust box for quick and easy functional testing with fan-blown simulant
- On-site expertise available for successful vacuum operations with prepared simulant samples and test articles

Dust Containment & Preparation Lab

Regolith Simulant Test Bin Features

- 48" x 96" surface area for larger test articles or mobility testing
- 8" maximum fill depth
- Interior baffles for partial filling at full depth and efficient use of simulant
- Filled and prepared in dust containment and prep lab to keep other equipment clean



15-foot Chamber Features

- 15-ft. Φ Spherical with ~78-in. Φ clear entry for easy access
- Vacuum: ~10^{-6} torr, Thermal: -196°C to +120°C
- Air, GN_2 pressurization
- Feed-throughs for high-power electrical connections and high-channel count data
- Control automation enabling low-cost operations
- Ambient dust containment room for regolith control and testing
- Hardware exposure testing to dust/regolith
- Regolith bin for design and test of excavation, processing, or construction technology

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