**Traversing the basin wall**

The traverse route (in gold) from the peak ring to the southern basin wall. This is shown on a Wide Angle Camera mosaic of the Schrödinger basin overlain with a geological map from [4]. A total of 10 kg of samples will be collected for return to Earth from each of the three areas between landing sites (the first route being a loop back to landing site 1), totaling 30 kg overall.

**References**

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**HERACLES Mission Concept**

This traverse study has been planned alongside the ESA-led HERACLES 3-year mission concept. Three landing sites have been chosen for a reusable lander/ascent vehicle to transport material collected by the rover from the lunar surface to an evolving Deep Space Habitat. The habitat will be orbiting the Earth-Moon L2 Lagrange point, where NASA’s Orion crew vehicle will dock, collect the samples, and return them to Earth. The first landing site will deploy the rover, and the ascent vehicle will await the return of the rover and transfer of samples prior to launch.

Integrating the HERACLES mission concept with a traverse to Schrödinger’s basin wall will allow for at least 21 of the top priority science goals identified by the lunar science community [13] to be targeted (orange), including at least 6 of the most important goals (underlined). (Cross-hatch orange denotes goals that may be targeted along this traverse route).