Figure 2. from Samantha Gwizd et al 2024 Planet, Sci. J. 5 doi:10.3847/PSJ/ad55f4 https://dx.doi.org/10.3847/PSJ/ad55f4

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Sampling objectives Collect samples that represent the science objectives of habitability, eolian processes, and volcanology Collect samples from the (1) older lava flow; (2) modern eolian sand sheet; and (3) younger Holuhraun flow-field. Implement a standard suite Metrics of mission success of remote sensing and contact science activities associated with sampling ("sampling sol path") Carry out a 14 sol mission, translating to no more than 10 days Plan a depot sol to drop off in the field samples for future retrieval Reach the younger Science objectives flow margin Eolian Use each instrument capability at least 1x Constrain atmospheric conditions associated with active eolian transport. Assess the geochemistry and mineralogy of eolian sediments to determine provenance and sorting. Collect at least 3 samples that address Volcanology mission, science, and sampling objectives Assess the geochemistry and mineralogy of the lava flows to determine processes at the surface and in the interior. • Evaluate the volcanic history of the region, including: relative timeline of eruptions, depositional periods between eruptions, and hydrothermal activity. · Constrain lava emplacement conditions. Habitability · Assess the connection between hydrology and lava

- · Select and sample rocks and sediments near or on lava flows that may record evidence for life.