The History of Water at Lyot Crater, Mars: Possible Surface Manifestations of Ancient Groundwater and/or Recent Climate Change

Thesis

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**Map Sheet 1: Geomorphological Map of Lyot Crater, Mars**

### Stratigraphy

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### Surface units

- **Ancillar surface material**: Dark material located in topographic lows in the crater fill and closer to the crater floor.
- **Ejecta deposits**: A dark material surrounding the crater, representing the deepest part of the impact depression.
- **Fan deposits**: A dark material associated with the crater rim, possibly representing debris flow or pyroclastic deposits.
- **Viscous flow features**: Dark material filling channels, possibly representing lava flows.
- **Stratigraphic units**: Depositional units identified within the crater, possibly representing different periods of activity.

### Mantle units

- **Smooth mantle unit**: Material with a smooth topography, possibly representing a young mantle material.
- **Textured mantle unit**: Material with a textured topography, possibly representing an older mantle material.

### Pitted units

- **Dark pitted unit with inverted polygons**: Material with a dark pitted topography and inverted polygons, possibly representing a young pitted unit.
- **Dark pitted unit with depressed polygons**: Material with a dark pitted topography and depressed polygons, possibly representing an older pitted unit.

### Pitted floor unit

Material with a dark pitted topography and a pitted floor, possibly representing a young pitted floor unit.

### Crater units

- **Outer crater unit**: Material with a high albedo, possibly representing the outer rim of the crater.
- **Rugged floor unit**: Material with a rugged topography, possibly representing the inner rim of the crater.
- **Inner crater unit**: Material with a high albedo, possibly representing the inner floor of the crater.
- **Central Crater unit**: Material with a high albedo, possibly representing the central part of the crater.

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*Laura Brooker 2018*