Jet Propulsion Laboratory
California Institute of Technology

Mars 2020 Project

Landing Site Engineering Assessment Preview

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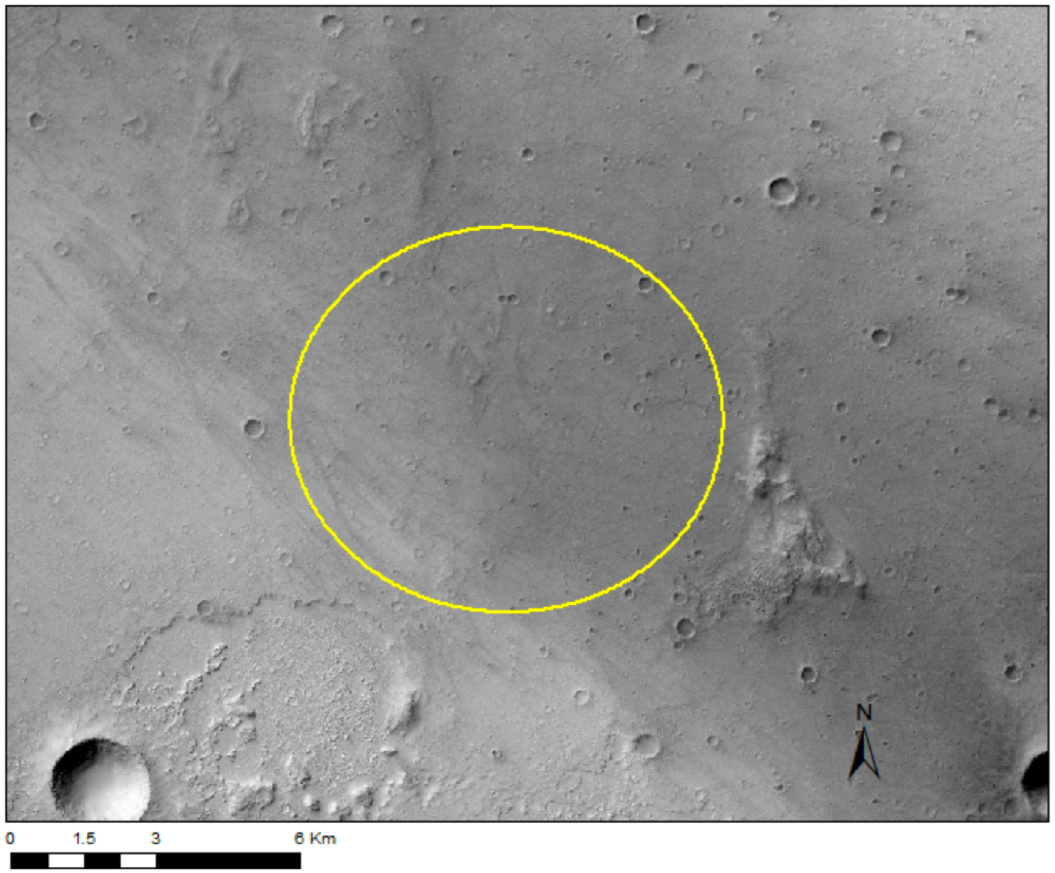
Columbia Hills

Location	Lat (degN)	Long (degE)	Approx MOLA Elevation (km)	Approx Buffered Ellipse Axes (km)
Columbia Hills	-14.5711	175.4374	-1.9	9 x 8

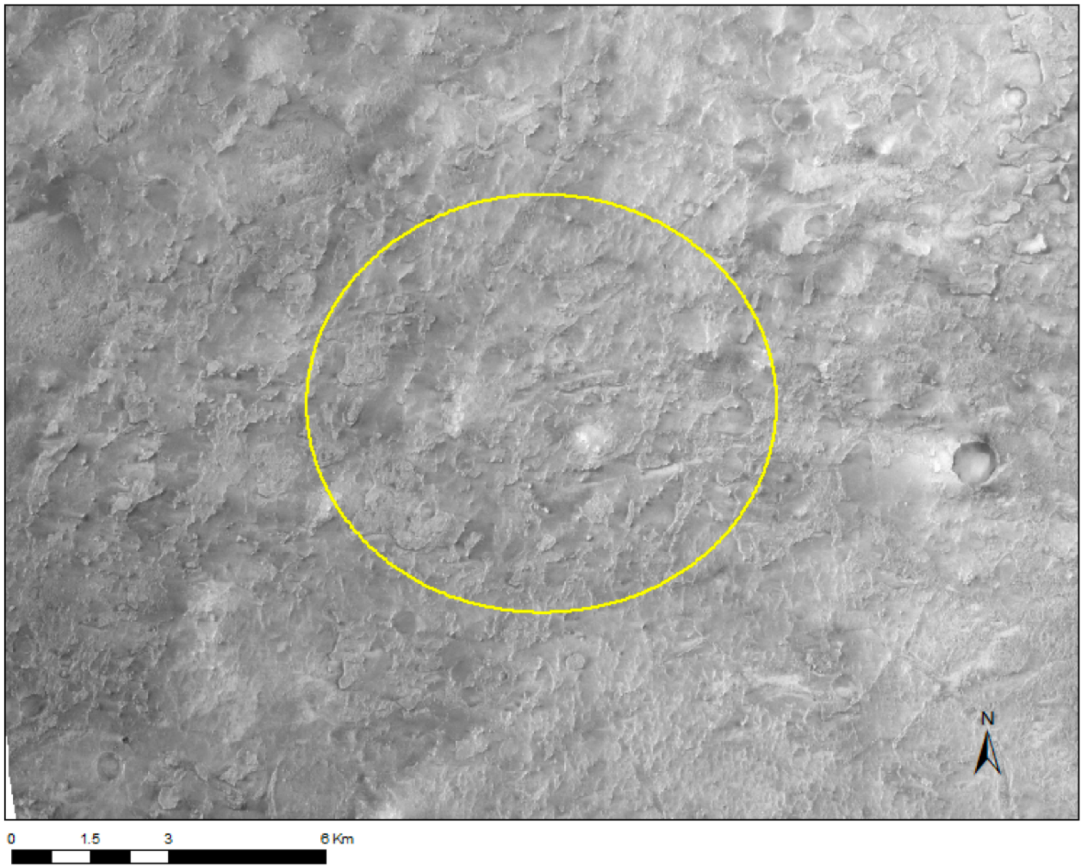


- Numerous small craters filled with inescapable sand ripples; easy to avoid with TRN
- Very flat terrain with easy traversal
- Ellipse moved immediately following LSW3 to western side of Hills as it has fewer craters; movement didn't affect traversal story

No concerns with safely landing and traversing to primary mission targets

NE Syrtis

Location	Lat (degN)	Long (degE)	Approx MOLA Elevation (km)	Approx Buffered Ellipse Axes (km)
NE Syrtis	17.8899	77.1599	-2.0	9 x 8

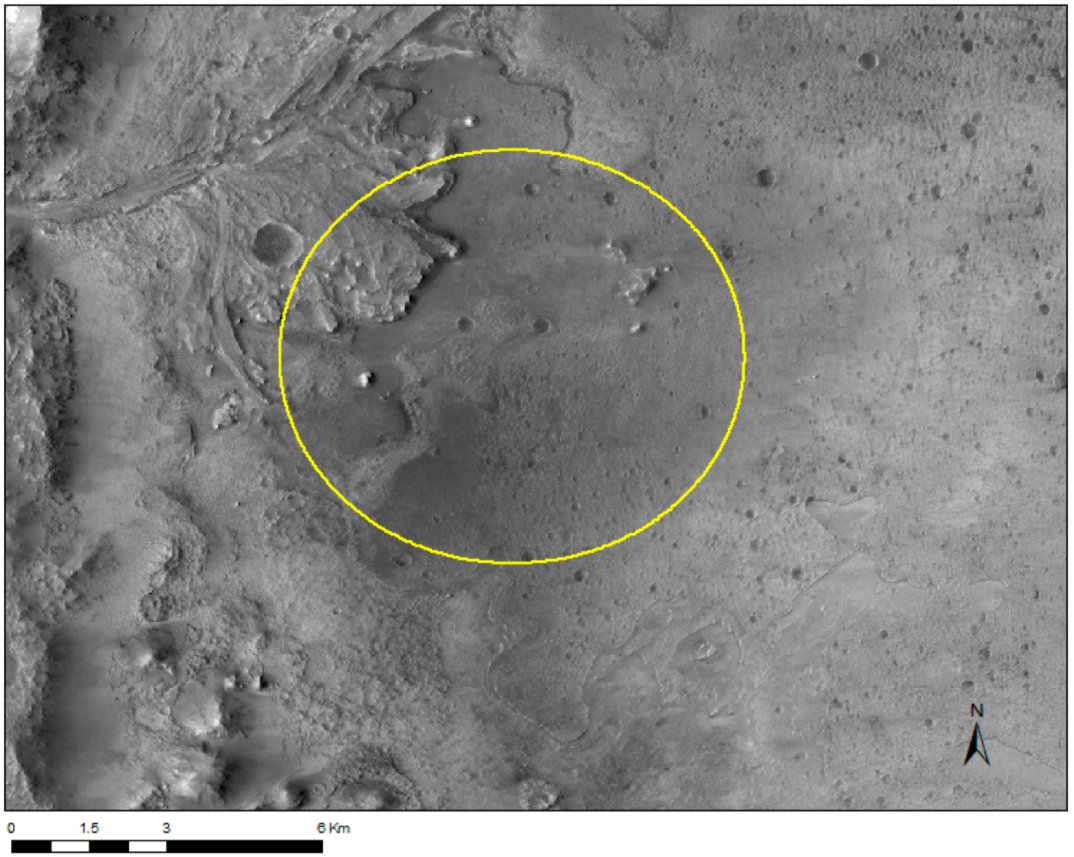


- Very few ripple hazards
- Many safe areas between the mesas that are flat and free of rocks; TRN effective in avoiding hazards
- Easy to traverse

No concerns with safely landing and traversing to primary mission targets

Jezero Crater

Location	Lat (degN)	Long (degE)	Approx MOLA Elevation (km)	Approx Buffered Ellipse Axes (km)
Jezero	18.4463	77.4565	-2.6	9 x 8



- Abundant rocks to the east; depressions filled with inescapable ripples
- Ellipse moved west recently to better avoid large rock fields to the east; also improved the traversal story
- Multiple traverse paths found on and off of the delta; many safe areas on and near delta
- TRN effective in avoiding hazards in ellipse

No concerns with safely landing and traversing to primary mission targets

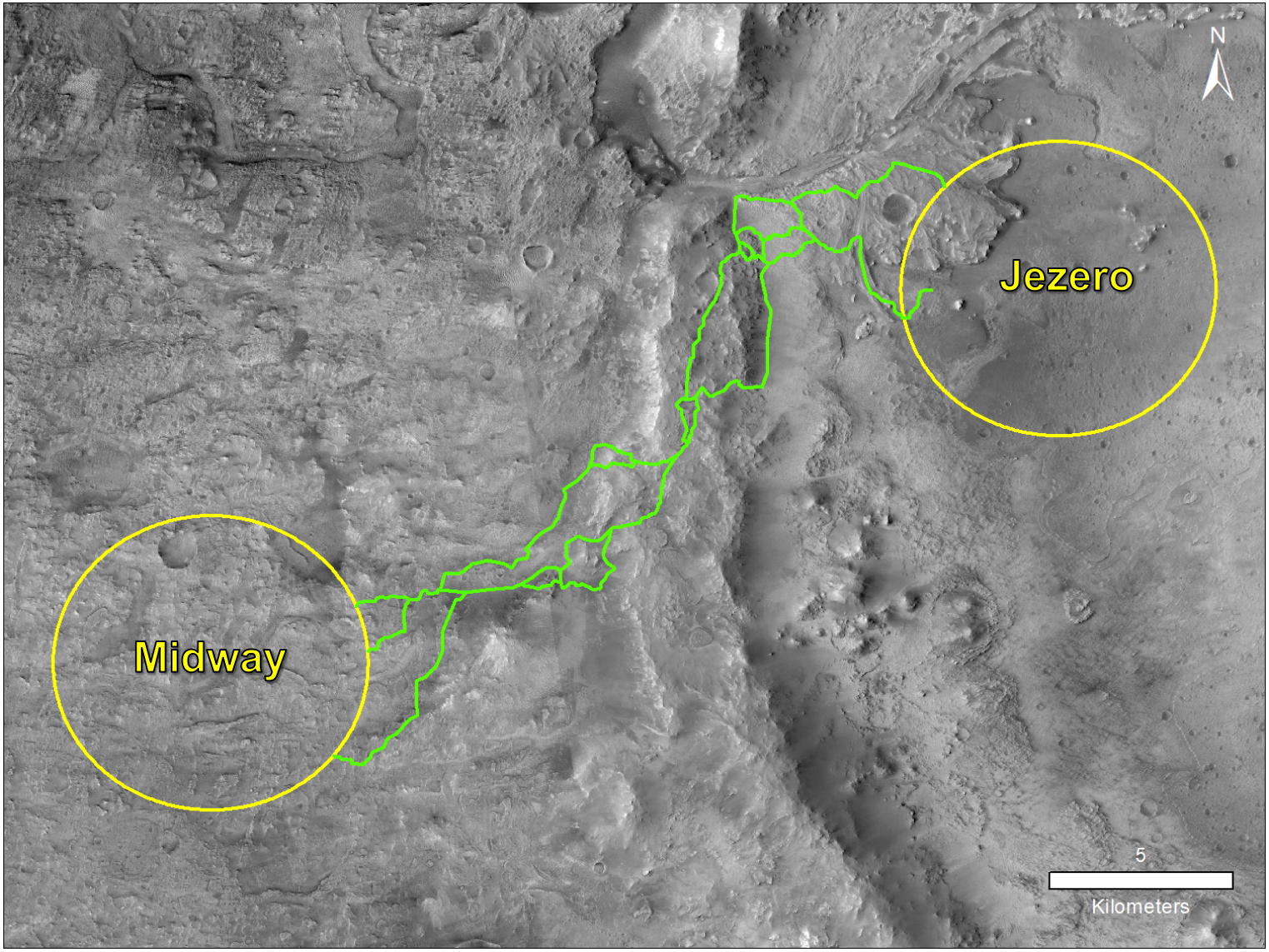
Midway

Location	Lat (degN)	Long (degE)	Approx MOLA Elevation (km)	Approx Buffered Ellipse Axes (km)
Midway	18.2747	77.0480	-2.0	9 x 8

- Although added late, have sufficient data to characterize this site for LSW4
- Several rock and ripple hazards that can be mitigated during landing by TRN
- Multiple traversal paths available around terrain hazards
- Ellipse placement constrained by high relief to the east and rock hazards to the southwest

Assessment is sufficiently mature to support site selection; no concerns with safely landing and traversing to primary mission targets

Likely Safe Traverse Routes between Jezero & Midway ellipses



Acceptable traverse routes exist between Jezero and Midway (in either direction)