Landing Site Engineering Assessment Preview

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Columbia Hills

<table>
<thead>
<tr>
<th>Location</th>
<th>Lat (degN)</th>
<th>Long (degE)</th>
<th>Approx MOLA Elevation (km)</th>
<th>Approx Buffered Ellipse Axes (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia Hills</td>
<td>-14.5711</td>
<td>175.4374</td>
<td>-1.9</td>
<td>9 x 8</td>
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</tbody>
</table>

- 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

- 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
• 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

- 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)