Structural and compositional mapping of shear zones in northern Valles Marineris

Joanna GURGUREWICZ¹
Daniel MÈGE¹
Frédéric SCHMIDT²

¹Space Research Centre, Polish Academy of Sciences, Wrocław, Poland
²Géosciences Paris-Sud, UMR CNRS-UPS 8148, Orsay, France

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BRITTLE-PLASTIC SHEAR ZONES IN VALLES MARINERIS
EASTERN OPHIR CHASMA
ORIENTATION OF THE DYKES AND SHEAR ZONES

Exposed brittle-plastic shear zone

DYKES

Sinistral
Dextral

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COMPOSITIONAL MAPPING

CRISM data: frt00018b55_07_if1651_trr3, bands: R: 233, G: 78, B: 13
Light-toned rocks and a likelihood of their occurrence as shear zone host rock

<table>
<thead>
<tr>
<th>Unlikely</th>
<th>Possible</th>
<th>Further investigations needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anhydrite</td>
<td>Basalt altered in acidic conditions</td>
<td>Gneiss</td>
</tr>
<tr>
<td>Dolomite</td>
<td></td>
<td>Pegmatite</td>
</tr>
<tr>
<td>Marble</td>
<td>Gabbroic rocks (incl. anorthosite)</td>
<td>Quartzite</td>
</tr>
<tr>
<td>Serpentinite</td>
<td></td>
<td>Pseudotachylite</td>
</tr>
</tbody>
</table>
Thank you