

A B S T R A C T

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MICROCHEMICAL, MICROPHYSICAL AND ADHESIVE PROPERTIES OF
LUNAR MATERIAL

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Polished planer surfaces intersecting the exterior surface of Lunar Rock 12052,43 are being studied using optical microscopy, scanning electron microscopy, electron microprobe X-ray analysis and defect etching. These results will be compared with Apollo 11 samples. A summary of cosmic ray damage, growth dislocations, deformation and exsolution banding, shock, and fracture structures found will be presented. All Apollo 11 and 12 UHV fractured Lunar rocks, exhibit localized electrostatic charging (<1 mm scale), and only one (from Apollo 11) exhibited long range electrostatic attraction similar to that found with single crystal terrestrial samples. A high vacuum Apollo 12 Lunar sample is expected to be received from the LRL in November. Exposure of high vacuum samples to gases will be compared to Apollo 11 samples stored in nitrogen.