GEOCHEMISTRY OF DIAGENETIC FLUIDS AND SEDIMENTARY PROTOLITH OF GALE CRATER.

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Introduction: The geochemical composition of the sediments of Gale crater can be modeled using two component mixing between a weathered basalt and a sulfate rich endmember. This suggests that the amount of in-situ weathering occurring after deposition was minimal, and most of the variation in weathering indices can be explained simply through addition of Ca-sulfate minerals during diagenesis. Evidence for burial of Gale sediments can be explained through the presence of large ice/dust deposits.