CHARACTERIZATION OF A MID-LATITUDE ICE-RICH LANDING SITE ON MARS TO ENABLE IN SITU HABITABILITY STUDIES. J. HELDMANN[1]**,** L. R. SCHURMEIER[1,2], M. WILHELM[1], C. STOKER[1], C. MCKAY[1], A. DAVILA[1,3], M. MARINOVA[1,4], J. KARCZ[1], H. SMITH[1], [1]NASA Ames Research Center, Moffett Field, CA, [2]Education Associates, Moffett Field, CA, [3]SETI Institute, Carl Sagan Center, Mountain View, CA, [4]Bay Area Environmental Research Institute, Sonoma, CA

We suggest an ice-rich landing site at 188.5E 46.16N within Amazonis Planitia as a candidate location to support a Mars lander mission equipped to study past habitability and regions capable of preserving the physical and chemical signs of life and organic matter. Studies of the ice-rich subsurface on Mars are critical for several reasons. The subsurface environment provides protection from radiation to shield organic and biologic compounds from destruction. The ice-rich substrate is also ideal for preserving organic and biologic molecules and provides a source of H2O for biologic activity. Examination of martian ground ice can test several hypotheses such as: 1) whether ground ice supports habitable conditions, 2) that ground ice can preserve and accumulate organic compounds, and 3) that ice contains biomolecules evident of past or present biological activity on Mars. This Amazonis site, located near the successful Viking Lander 2, shows indirect evidence of subsurface ice (ubiquitous defined polygonal ground, gamma ray spectrometer hydrogen signature, and numerical modeling of ice stability) and direct evidence of exposed subsurface ice [Byrne et al. 2009]. This site also provides surface conditions favorable to a safe landing including no boulders, low rock density, minimal rough topography, and few craters.