UV/VIS/NIR OBSERVATIONS CONDUCTED AS PART OF THE FIRST SSERVI TREX AUTONOMOUS ROVER FIELD EXPEDITION. F. Vilas[1], A. Hendrix[1], G. Holsclaw[2], R.N. Clark[1], N. Pearson[1], and the TREX Team. [1]Planetary Science Institute (1700 East Fort Lowell, Tucson, AZ, fvilas@psi.edu), [2]Laboratory for Atmospheric and Space Physics (U. Colorado, Boulder, CO).

Introduction: As part of the autonomous science rover project of the NASA Solar System Exploration Virtual Institute (SSERVI) Toolbox for Research and Exploration (TREX) node, an ultraviolet/visible/near infrared (UV/VIS/NIR) spectrometer was procured and used in conjunction with the first TREX rover field expedition in Nov 2021 [1,2,3]. The UV/VIS/NIR spectrometer was operated independently of, but concurrently with, the Carnegie Mellon rover, Zoë, and Tetracorder instrument suite [1]. The instrumentation suite, data acquisition and reduction procedure are extensively described in [3]. We anticipate incorporating the spectrometer into the Tetracorder instrumentation for the second TREX field expedition. We present here a preliminary sample of some of the data acquired during the two-day exercise.

The UV/VIS Spectrometer: An in-depth description of the equipment is presented in the accompanying abstract in this volume [3]. The spectral data covered a wavelength range of 180 – 960 nm; some uncertainties exist concerning the data acquired between 180 – 210 nm [3]. Two sites were visited as part of the expedition [1,2] sampling different terranes. The inclusion of the UV spectral component was the significant objective of incorporating this spectrograph; we hope to be able to probe diagnostic spectral information in the UV spectral range and tie it to the VIS/NIR/MIR data also acquired within the instrument package. The spectra below (Fig. 1) are examples of the obtained spectra presented here to demonstrate the versatility of the data obtained using the spectrograph. These are absolute reflectance spectra tied to the geological material in the images adjacent to each spectral image. Analysis of these data is underway.

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References: [1] Noe Dobrea et al. (2022) *LPS 1674.* [2] Clark R. N. et al. (2022) *LPS 2323.* [3] Holsclaw G. et al. (2022) *LPS 2719.*

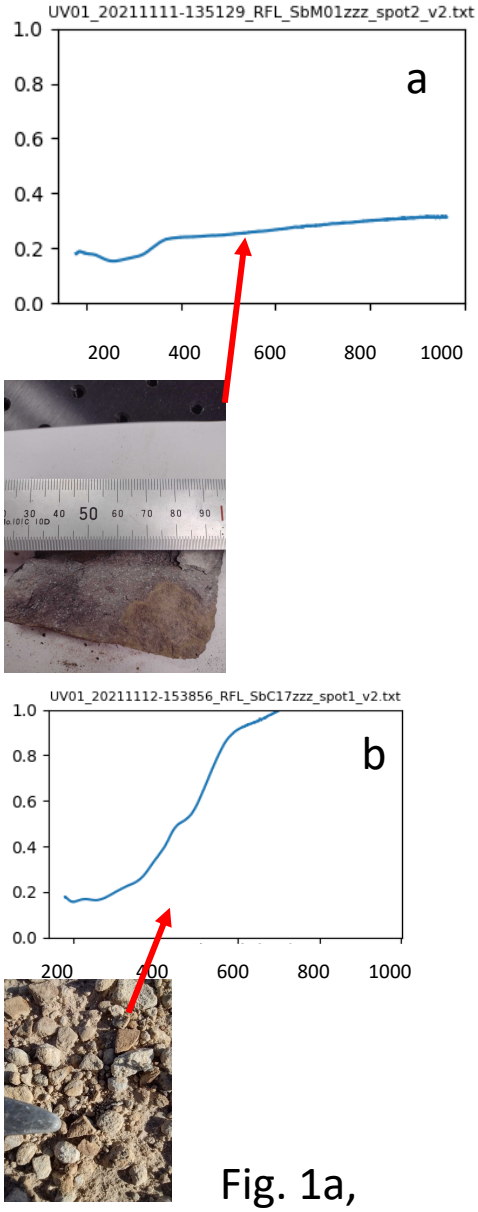

Fig. 1a,

Fig. 1. Sample UV/VIS/NIR spectra coupled with images of the terrane measured spectrally. Red arrows connect spectrum to sample.