

LEAG Annual Meeting

15-18 November, 2009
LPI, Houston, Texas

Executive Summary

Date Prepared: **10/12/09**

Presenter's Name: **Larry Taylor**

Title: **Lunar Sample Requirements Versus Simulants for Engineering and Applied Sciences**

Presenter's Organization/Company: **University of Tennessee, Planetary
Geosciences Institute Knoxville, TN**

Presentation Title

: **Lunar Sample Requirements Versus Simulants for Engineering and Applied Sciences**

Key Ideas

The real engineering needs for lunar samples is quite small, IF the proper lunar regolith simulants were to be produced. However, such simulant production has not always been made with the input of knowledgeable lunar soil experts. This is exemplified by the bastardized uses of JSC-1 and JSC-1A.

A review of the required properties of lunar samples for studies in engineering and applied sciences (exclusive of biology) will be addressed. This naturally leads to an evaluation of the requirements for simulants. If not possible to synthesize, it may be necessary to use the soils from the Apollo lunar sample collection.

Supporting Information

Many of the properties of lunar regolith are not easy to duplicate. For example, with the increased interest in nanophase metallic Fe, one would naturally ask, "What properties of this unique lunar feature are being duplicated?" This is where the discussion should be centered, NOT on "Let's make some because an SBIR and/or NASA has an AO out for some nanophase-bearing simulant!"

The needs for the Apollo samples versus the possibility of producing simulants is the resounding theme of this discussion.