

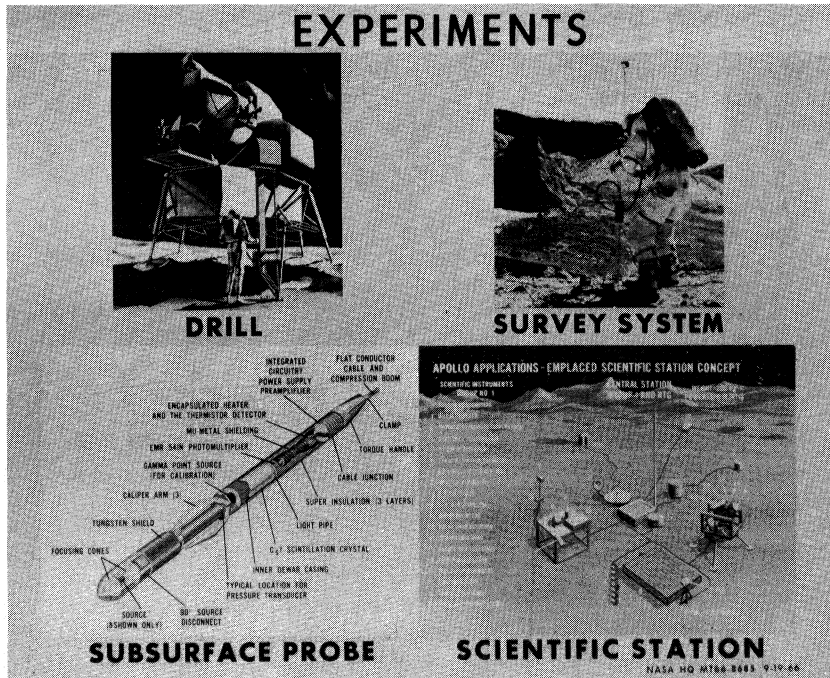


FIGURE 23

rather wide area to measure the deep characteristics of the moon itself, through seismic observations, and also to measure the environment on the surface through careful and extended observations (MT 66-10142, fig. 24).

Mr. RUMSFELD. May I interrupt there? What you are describing, to some extent, is very similar to the types of activities that will be undertaken in the portion of the budget that is being funded under the Apollo program, the samples and checking the surface and this type of thing. Is this correct?

Dr. MUELLER. Well, in the Apollo program itself, we are limited rather markedly in the payload that we can deliver to the lunar surface so really we are only collecting surface samples in the case of the Apollo missions. That is the only capability that we have. This represents not just small extensions, but significantly greater extensions.

Mr. RUMSFELD. Isn't it difficult to know exactly what you want to do in this Apollo Application without taking a look at some of the samples from the first Apollo missions?

Dr. MUELLER. I think that our present knowledge of the lunar surface is such that we know that it represents a "garden" surface, a surface that has been worked over by meteorites over a long period of time.

We have been led to those conclusions from the photographs. That describes a clear need for some method of drilling. There is no question about the need for a drill.