

Dr. MUELLER. We use one of the Saturn V launches to land a lunar module descent stage without any ascent propulsion on board and that provides us with several tons of capacity.

Mr. FUQUA. Will it be possible to leave certain equipment on the Moon and set up some type of outpost or station there?

Dr. MUELLER. One of the things that we are looking at is the possibility of going back to a site, for example, where we have a drill emplacement. We haven't determined whether that is the best way to utilize an expensive set of apparatus. The scientists are divided, whether they want to go to a single site and explore it in depth or go to different spots. That will have to wait until we get some experience.

As we go further downstream, we see two types of payloads which have been developed in concept and on which the principal experiments have been identified, one is a meteorology payload package (ML 66-9876, fig. 25), and in this particular case, we are carrying out a set of experimental observations of the earth's atmosphere, but using equipment that we would hope eventually to understand well enough to determine whether or not it should be flown in an unmanned mode or a manned mode. Particularly, one of the objectives is to find that kind of equipment and to develop that kind of equipment using a man, that could be used most economically for extended meteorological observations. That is one of the principal objectives of this total package. The other is an Earth resources package (ML 66-9873, fig. 26). It is used for observing the Earth's surface and the manned mode is desired so that we can develop the range and the scale of the instruments to be used for future missions. These are both initial

METEOROLOGY PAYLOAD PACKAGE (APP-A)

OBJECTIVES

- FLIGHT TEST EXPERIMENTAL METEOROLOGICAL INSTRUMENTATION.
- USE MAN'S ABILITY TO DIRECT SENSORS TO METEOROLOGICAL EVENTS OF MOMENT.
- COMBINE NUMEROUS SENSORS FOR SIMULTANEOUS OBSERVATION AND CORRELATION OF DATA.
- CONFIRM SPECTRAL SIGNATURES OF EARTH RESOURCES.
- FLIGHT TEST SOME INSTRUMENTS WHICH MAY CONTRIBUTE TO THE DETECTION OF AIR POLLUTION.
- IMPROVE KNOWLEDGE OF ATMOSPHERIC COMPOSITION AND STRUCTURE.
- TAKE ADVANTAGE OF INCREASED PAYLOAD CAPACITY AND VOLUME PROVIDED BY AAP MISSIONS.

PRINCIPAL

EXPERIMENTS

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| ● DAY-NIGHT CAMERA SYSTEM | ● VISIBLE RADIATION POLARIZATION MEASUREMENTS |
| ● DIELECTRIC TAPE CAMERA SYSTEM | ● STELLAR REFRACTION DENSITY MEASUREMENTS |
| ● MILLIMETER WAVE PROPAGATION | ● UHF SPHERICS DETECTION |
| ● MULTI-SPECTRAL PHOTOGRAPHY | ● IR INTERFEROMETER SPECTROMETER |
| ● IR TEMPERATURE SOUNDING | ● 15 MICRON GRATING SPECTROMETER |
| ● O ₂ & H ₂ O MICROWAVE RADIOMETER | ● MULTI-CHANNEL RADIOMETER |
| ● IR FILTER WEDGE SPECTROMETER | ● SELECTIVE CHOPPER RADIOMETER |

EXPECTED FLIGHT READINESS DATE: MID 1969

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FIGURE 25