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SCIENTIFIC MISSION SUPPORT FOR EXTENDED LUNAR EXPLORATION

Final Report
Volume 4
Appendix A
Experiment Sequences—Computer Printouts

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FOREWORD

This document contains the Experiment Sequences-Computer Printouts concerning the study of Scientific Mission Support for Extended Lunar Exploration. The study was performed by the Space and Information Systems Division of North American Aviation, Incorporated for the George C. Marshall Space Flight Center of the National Aeronautics and Space Administration under Contract No. NAS8-20258.

The study was performed under the technical direction of Dr. N. C. Costes of the Research Projects Laboratory of NASA-MSFC, during a 7-1/2 month time period beginning 13 December 1965. The general guidelines of the study were stipulated in DCN 1-5-21-00019 (1F).

The complete results of the study are presented in the following volumes

Volume 1 - Condensed Summary Report

Volume 2 - Task Summary Report

Volume 3 - Detailed Technical Report

Volume 4 - Appendix A, Experiment Sequences - Computer Printouts

Volume 5 - Appendix B, Master Data Report - Computer Printouts

Volume 6 - Appendix C, Computer Program

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GLOSSARY OF TERMS

AAP	Apollo Applications Program (formerly AES, Apollo Extension Systems) — A concept for continuing the exploration of the moon and near earth space through maximum utilization of the existing Apollo hardware.
ALSEP	Apollo Lunar Surface Experiment Package — A package of geophysical instruments to be carried on early Apollo manned lunar flights which will be emplaced by the astronauts on the lunar surface and left there to record and transmit to Earth lunar geophysical data for periods of up to 1 year.
Apollo	The total system for accomplishing the initial manned lunar landing.
Bev	1 billion electron-volts.
COBOL	A computer language or technique commonly used to encode business computer programs usually related to financial data.
Experiment	A series of measurements or observations intended to yield specific information required to accomplish part of an investigation. An experiment may have one or more replications. Example: (1) measurement of material density; (2) observation of petrologic character; e.g., crystalline, amorphous, sedimentary, igneous, metamorphic, etc.
ESS	Emplaced Scientific Station — A geophysical observatory containing a complex of instruments similar to the ALSEP but of larger size.
GSFC	NASA Goddard Space Flight Center
Investigation	An exercise involving a group of closely related experiments performed concurrently and/or sequentially with the intent of acquiring a specified amount of a particular kind of information within a technical area. Example:

	(1) determination of the number and relative amounts of different minerals in a given area; (2) photographic survey of the lunar equatorial region with a specified degree of optical resolution. An investigation can consist of one experiment only. In this case, the terms "experiment" and "investigation" are synonymous.
LEM	Lunar Excursion Module of the Apollo
LEM-SHELTER	A LEM modified to permit lunar landing and up to a three-month quiescent lunar surface storage, followed by a two-week manned occupancy as a lunar base and laboratory.
LEM-TAXI	A LEM modified to permit up to a two-week unmanned storage on the lunar surface after landing by crew adjacent to the LEM-SHELTER and prior to return to Earth.
LEM-TRUCK	A LEM descent stage modified to operate as an unmanned payload carrier. Reaction control systems must be added to permit this flight profile. Such a logistics carrier could deliver as much as 10,000 pounds of payload to the lunar surface using the basic Apollo mission profile.
LSSM	Local Scientific Survey Module — A short-range (action radius 8 to 10 kilometers, maximum range of single traverse 25 kilometers), open-cabin, surface vehicle carrying one or two astronauts and containing neither environmental control nor life support systems. Portable back-packs are the sole provision for life support with this mobility.
Mev	1 million electron-volts.
MIMOSA	Mission Modes and System Analysis for Lunar Exploration-MSFC study contract NAS8-20262 with Lockheed Missiles and Space Co.
MHz	Megahertz (1 million cycles per second)
MOLAB	A concept for a long-range mobile laboratory. The concept was initially associated with the Apollo Logistics Support System concept.

MSC	NASA Manned Spacecraft Center, Houston, Texas.
MSFC	NASA Marshall Space Flight Center, Huntsville, Alabama.
NAA	North American Aviation, Inc.
NAS	National Academy of Sciences.
OART	NASA Office of Advance Research and Technology.
OCE	Office of the Chief of Engineers, Department of the Army.
OMSF	NASA Office of Manned Space Flight.
OSSA	NASA Office of Space Sciences and Applications.
RTG	Radioisotope Thermoelectric Generator - energy sources connected with the ALSEP and ESS.
S&ID	Space and Information Systems Division of North American Aviation, Inc.
SMS-ELE	A study of Scientific Mission Support for Extended Lunar Exploration (this study)
USGS	United States Geological Survey

1.0 INTRODUCTION

The purpose of this appendix is to present the Type-1 card computer printouts of experiment sequences which were formulated for the NASA study - "Scientific Mission Support for Extended Lunar Exploration" (NAS8-20258). The study was performed for the George C. Marshall Space Flight Center, NASA.

The printouts presented are: The DISCIPLINE SEQUENCES which order the experiments of each discipline area according to the desires of the scientific community to ensure a logical progression of scientific knowledge and accomplishment; the MISSION SUPPORT SEQUENCES which order the experiments within each discipline and across disciplines by ascending order of magnitude of the mission-support parameters of mass, energy, and man-hours; the EXPLORATION PHASE SEQUENCES which order the experiments by discipline into logical operational areas or phases of lunar exploration; the COMPOSITE SEQUENCES which order the experiments of each exploration phase into interdisciplinary groupings according to key functional items or operations.

The sequence printouts of Sections 2.0 to 5.0 show the information on the Type-1 (summary) cards. This card is machined-produced by extracting information from the other data cards for presentation in summary form. See Table 5, Page 27.

Four correllative-type experiments, Experiments 81021503, 81021104, 83064105, and 82053902 are not included because they do not have lunar surface activities (such as man-hours, power, etc), therefore they do not have Type-1 (Summary) cards. See Table 8 of the Detailed Technical Report (Volume 3).

The mission-support requirements summarized in the "Exploration Phase" and "Composite" Sequences (such as mass, mobility, exploration, phase, etc.) depict the initial inputs for each experiment prior to the phasing analysis.

Figure 1 shows the activity flow which was used for development of the printouts presented in these sections. The Discipline Sequence preparation was initiated by taking the Type-1 cards (Summary) produced by the Computer Program U-615-01 (see Volume 6) for each experiment and manually arranging them in order so that the Type-1 cards were in the same order as the desired discipline sequence of the experiments. The cards

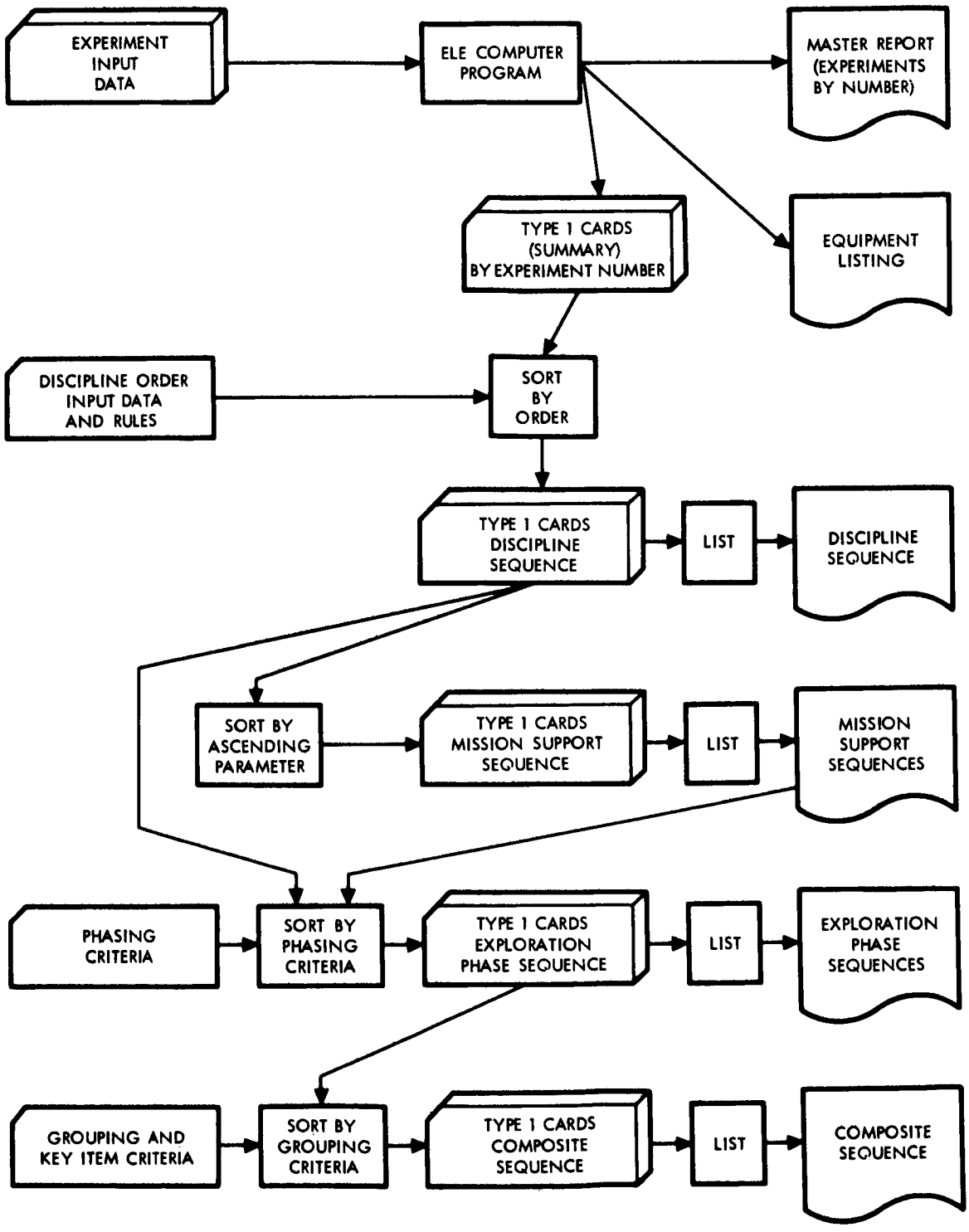

Figure 1. Printout Development Summary

were then listed on computer printouts using Computer Program U-615-02 (see Volume 6) with the control card. The U-615-02 program produces slightly modified field captions.

The modified Type-1 card listing field captions are the same as those shown for the regular Type-1 card of Program U-615-01 shown in Figure 2, Section 2.0 of this volume, except that captions CD TY (Card Type) and CD NO (Card Number) have been changed to EXLPH (Exploration Phase) and DISPL SEQNC (Discipline Sequence). This was done for ease of reference. The card field information applicable to these captions must be added manually at a later time when it is available from the results of the applicable sequencing efforts. This may be accomplished by reproducing the original Type-1 cards with the applicable fields blank and then repunching the desired information in the fields.

Three special control cards may be inserted manually into the data deck to obtain various arrangements of the listings. A special control card with a "period" in the first column causes page and columnar headings to be printed without ejecting to a new page. The "period" control card also changes the spacing control to single spacing for an eleven-inch vertical form and the "period" will be printed. A special control card with a "dash" in the first column advances printing to a new page and also prints any information that may be contained in the control card (i.e., "ORBIT," "SOLAR," etc.) at the top of the page. However, with this scheme alone, page headings and columnar headings are not printed and the new page will contain only as many print lines as the difference between 46 and the number of lines printed on the preceding page. A third special control card utilizing either a "dollar sign" or an "asterisk" in the first column will print information on the card on the next line without expansion.

The special control cards are standard IBM 80-column cards with the indicator (period, dash, dollar sign, or asterisk) in the first column. They are manually inserted into the deck according to where an operation is desired to take place in the Type-1 card listing.

To produce the Mission Support Sequences, the Type-1 card input deck was sorted by support parameter on a conventional IBM card sorter. The resultant deck was then listed and printed out in a similar manner to the Discipline Sequences.

The Exploration Phase Sequences were produced by manually sorting the Type-1 card input deck according to phasing criteria in the order desired for the experiment sequence for each exploration phase. The resultant deck was listed in a similar manner to the previous sequences.

The Composite Sequence was produced by manual sorting of the input decks according to the selected criteria and listing similar to that previously described.

Certain experiments in the sequences have been footnoted because a support requirement (total power for example) exceeded the recommended level for the particular exploration phase in which the experiment has been sequenced. These experiments are candidates for certain packages or emplaced stations which were considered to be available for that particular phase as indicated in the following discussion and do not exceed the support capabilities presently envisioned for that particular package.

1. The ALSEP energy source was considered available in Phase A. For estimating purposes, this source was considered to be an RTG unit with a power output ranging between 56 and 65 watts supplied for a period of one year. Accordingly, on the basis of one year, the ALSEP energy source was estimated to provide a total energy ranging between 490 and 570 kilowatt hours.

2. The ESS energy source was considered available in Phase B and later. This source is presently envisioned as consisting of a 100-watt central station RTG and three 10-watt satellite station RTG units, all operative for a period of at least one year. Accordingly, on the basis of one year, the total energy supplied by the ESS source was estimated to range between 1100 and 1200 kilowatt hours.

3. The Astronaut Survey Staff was considered available during Phase A. A battery power source is indicated for this instrument. The batteries would be recharged at the lunar base or batteries replaced, as applicable, to provide the estimated total power expenditure for this unit. Total mass listed for this experiment includes the mass of the television monitor, which is also used for other purposes.

4. An independent emplaced package for monitoring gas emissions from suspected sources was assumed available for Phase B. This package could be emplaced from a lunar orbiting satellite or from a traverse vehicle. The power source could be similar to that of the ALSEP.

2.0 DATA ENCODING PROCEDURES

This section contains the codes and definitions necessary to interpret the Type-1 (summary) cards.

2.1 EXPERIMENT IDENTIFICATION

As illustrated in Figure 2, an 11-digit number has been adopted to facilitate normal sorting of the data and identification of the experiments. The first three digits, which normally indicate the type of card and card number, as shown in Figure 2, have been manually modified for use in this volume to designate Exploration Phase and Discipline Sequence (see Section 2.5).

The last eight digits represent the basic experiment number by which all data cards can be correlated. As shown in Figure 2, all experiments have been organized into eight discipline areas of fundamental investigations and two areas of applied investigations. In addition, scientific objectives and major specialities have been defined for each area. The last four digits are used to designate major investigations and the experiments that comprise the investigations. Sufficient flexibility has been provided to accommodate anticipated future growth. The investigation number is provided for correlating groups of related experiments which have a common scientific objective, related equipment support requirements, or other mutually dependent features. The experiment number is assigned in sequence within a given investigation at the time the data is compiled and may not necessarily reflect priority.

2.1.1 Hierarchy of Digits

One of the flexible features of the data storage system is the use of standard punched cards. This facilitates manual or machine-aided sorting of data cards in a wide variety of sequences for listing on conventional Electronic Accounting Machines (EAM). To simplify the use of an EAM or conventional card sorter, it is desirable to establish the hierarchy of digits in the experiment identification number. To sort the master deck of data cards by the following major categories,

Discipline area
Experiment number
Description (Type 0 cards)
Data (Type 1 - 6 cards)

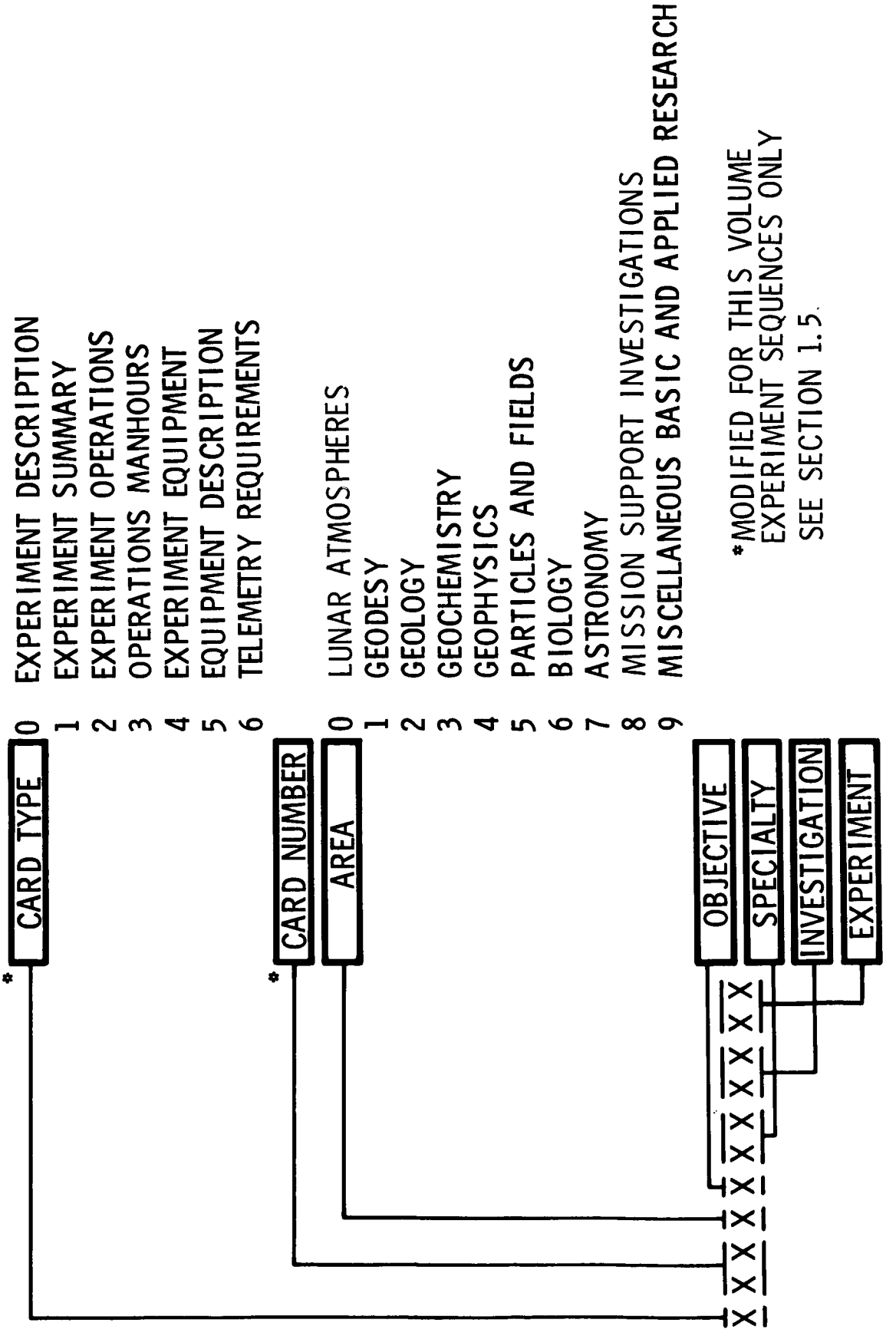

Figure 2. Experiment Identification and Data Organization

the sorting sequence must proceed from the minor classification first, and then to the major classification from right to left as shown below:

IDENTIFICATION NO.	1	2	3	4	5	6	7	8	9	10	11
SORTING SEQUENCE	3	2	1	11	10	9	8	7	6	5	4
	MINOR			MAJOR							

2.2 DISCIPLINE AREAS/SCIENTIFIC OBJECTIVES

A listing of the identification of the discipline areas is shown in Table 1. A listing of the scientific objectives is given in Table 2. It will be noted that objectives are related to discipline areas; therefore, two digits are used to identify the objectives in the Table 2 listing.

2.3 SPECIALTY CODES

Specialty codes, Digits 3 and 4 of the 8-digit experiment number, are related to both the discipline area and the major scientific objectives. Thus in Table 3, the four-digit identification number of specialty areas represents the first four digits of the experiment number, and the full meaning of the specialty designation is dependent on the discipline areas and objectives (the first two digits) as identified in Tables 1 and 2. The same specialty title may, however, be applicable to more than one of the major objective definitions, but this will be evident in interpretation of the experiment number. The last two digits will show the appropriate specialty where the specific combination of four-digit numbers may not be available in Table 3. An X for the second digit denotes an independence between the specialty and objective code. The specialty designation will be helpful in determining the scientific training requirements of the personnel conducting the experiment.

2.4 INVESTIGATION NUMBER

The last four digits of the experiment number are reserved for the investigation and experiment designations. Thus, the number format will allow up to 99 detailed experiments to be identified under a given investigation area and up to 99 investigations under a major scientific objective

Table 1. Discipline Area Codes

0	Lunar Atmospheres
1	Geodesy
2	Geology
3	Geochemistry
4	Geophysics
5	Particles and Fields
6	Biology
7	Astronomy
8	Mission Support Investigations
9	Miscellaneous Basic and Applied Research

area. The investigations are listed in Table 4. It should be noted that for the Geoscience areas, the investigations are dependent on the discipline area numerical designation but are independent of the objective and specialty because of the interrelationships of these items across the Geoscience discipline areas. For discipline areas 5 through 7, the investigation numbers are dependent on all four preceding numerical digits designating area, objective, and specialty.

2.5 TYPE-1 CARD, EXPERIMENT SUMMARY

This card is machine-produced by extracting information from other data cards for presentation in summary form (see Table 5). Because of data storage limitations, the data printout of this card (in Volume 5, Appendix B, Master Data Report—Computer Printouts) occur last after the Type-5 or Type-6 card. For purposes of correlation and ease of reference, the first three input locations, normally used to denote card type and card number (see Table 5, Page 27) have been manually changed to designate Exploration Phase and Discipline Sequence respectively. This change was made in the Type-1 card formats as they are presented in the Discipline Sequence of Volume 4, Section 3.0 only.

Table 2. Scientific Objective Codes

Area/Objective Number	Description
LUNAR ATMOSPHERES	
01	Determine the composition and concentration of neutral species in the lunar atmosphere
02	Determine the mass and concentration of ionized species in the lunar atmosphere.
GEODESY	
11	Establish an accurate coordinate system and perform detail mapping of the Moon.
12	Determine the size, shape, and motion of the lunar body.
13	Determine the gravitational field of the Moon.
GEOLOGY	
21	Determine the characteristics and structure of the lunar surface and subsurface
22	Determine the characteristics and distribution of tectonic activity and geologic structure
23	Determine the principal processes responsible for lunar surface features, and the modes of erosion, transport, and deposition of lunar material.
24	Determine the age of stratigraphic units and establish the presence of the oldest exposed material or primordial surface
GEOCHEMISTRY	
31	Determine the geochemical, mineralogical, and petrological nature of lunar materials

Table 2. Scientific Objective Codes (Cont)

Area/Objective Number	Description
	GEOCHEMISTRY (CONT)
32	Determine the extent of differentiation and segregation of lunar materials
33	Determine the characteristics of the sources of radioactive heat and the extent of segregation of radioactive elements
34	Determine the nature, extent, and relative importance of external and internal processes in shaping the present lunar topography
35	Determine the age of the Moon and its geomorphic features
	GEOPHYSICS
40	Determine the characteristics and physical properties of the lunar surface and subsurface
41	Determine the nature of the internal lunar structure and its mechanics
42	Determine the extent and location of lunar seismic activity
43	Determine the lunar moment of inertia, librations, and orbital perturbations
44	Determine the thermal state and thermal history of the lunar body
45	Determine the magnitude, time variations, and anomolies of the lunar gravity field
46	Determine the extent, time, and spatial variations of the lunar magnetic field

Table 2. Scientific Objective Codes (Cont)

Area/Objective Number	Description
GEOPHYSICS (CONT)	
47	Conduct observations of selected terrestrial meteorological phenomena
48	Conduct observations of selected planetary meteorological phenomena
49	Perform synoptic studies of Earth-ocean characteristics
PARTICLES AND FIELDS	
51	Determine the cosmic solar particle radiation history at the Moon
52	Determine the cosmic solar particle radiation environment at the Moon
53	Determine the lunar interaction with the geomagnetosphere and solar wind
54	Conduct studies of the basic physics of high-energy particles in the natural vacuum of the Moon
55	Determine the composition and characteristics of active solar phenomena
BIOLOGY	
61	Determine whether life on the Moon exists, did exist in the past, or could develop in the future
62	Determine the extent of Earth-originated contamination of the Moon
ASTRONOMY	
71	Determine the suitability of the lunar surface as the site for an astronomical observatory
72	Investigate celestial objects utilizing optical telescopes in the UV, visual, and IR range

Table 2. Scientific Objective Codes (Cont)

Area/Objective Number	Description
ASTRONOMY (CONT)	
73	Investigate celestial objects in the X-ray and gamma-ray domain
74	Make astronomical observations to test basic scientific hypotheses
75	Study solar, planetary, galactic, and extra-galactic emissions
76	Study lunar surface and subsurface electro-magnetic properties
77	Study the local lunar magnetoionic medium
78	Study the cislunar medium and Earth-Moon-Sun-dynamics
79	Develop criteria for a lunar far-side radio astronomy observatory
MISSION SUPPORT INVESTIGATIONS	
81	Contribute to the effectiveness of the fundamental scientific program
82	Support implementation of lunar exploration by advancement of subsystems and operations technology in the lunar environment
83	Assess and demonstrate the feasibility of lunar resources utilization
MISCELLANEOUS BASIC AND APPLIED RESEARCH	
90	Utilize unique properties and environment of the Moon to advance scientific and technical knowledge

Table 3. Specialty Codes

Specialty No.	Description
LUNAR ATMOSPHERES	
0X01	Mass Spectrometry
0X02	Analytical Chemistry
0X03	Atmospheric Physics
GEODESY	
1X01	Cartography
1X02	Geodetic Surveying
1X03	Topography
GEOLOGY	
2X01	Surface Geology
2X02	Subsurface Geology
2X03	Geomorphology
2X04	Photogeology
GEOCHEMISTRY	
3X01	Analytical Chemistry
3X02	Petrology-Mineralogy
3X03	Isotopic Analysis
GEOPHYSICS	
4X01	Active Seismology
4X02	Passive Seismology
4X03	Gravity

Table 3. Specialty Codes (Cont)

Specialty No.	Description
GEOPHYSICS (CONT)	
4X04	Magnetic Fields
4X05	Magnetic Properties
4X06	Electrical Surveying
4X07	Geothermal
4X08	Meteoritics
4X09	Soil Mechanics
4X10	Atmospheric Physics (Lunar)
4X11	Nuclear Physics
4X12	Gamma-Ray Spectroscopy
4X13	Nuclear Geophysics
4X31	Earth Atmospheric Physics
4X32	Planetary Atmospheric Physics
4X33	Radiometry
4X34	Photogrammetry
PARTICLES AND FIELDS	
5X01	Solar Wind Particles
5X02	Solar Energetic Particles
5X03	Galactic Particles
5X04	Geomagnetically Trapped Particles
5X05	Interplanetary Magnetic Fields
5X06	Geomagnetic Field

Table 3. Specialty Codes (Cont)

Specialty No.	Description
PARTICLES AND FIELDS (CONT)	
5X07	Electric Fields
5X08	Particle Physics
5X09	Neutrinos
5X21	Solar Magnetic Field
5X22	Solar Velocity Fields
5X23	Solar Chemical Composition
BIOLOGY	
6X01	Plant Biology
6X02	Animal Biology
6X03	Microbiology
6X04	Biochemistry
ASTRONOMY	
7X01	Optical, UV, and IR Radiation
7X02	X-Ray Radiation
7X03	Gamma-Ray Radiation
7X04	Long Wavelength Radio Waves
7X05	Short Wavelength Radio Waves
7X06	Submillimeter Radio Waves
7X07	Cislunar Radio Wave Propagation

Table 3. Specialty Codes (Cont)

Specialty No.	Description
MISSION SUPPORT INVESTIGATIONS	
8X01*	Augmentation of lunar data to support engineering model
8X02*	Direct support to fundamental investigations
8X03*	Applied life sciences investigations
8X04*	Basic subsystems support investigations
8X05*	Mobility and deployment support investigations
8X06*	Lunar resources utilization feasibility
MISCELLANEOUS BASIC AND APPLIED RESEARCH	
9X01*	Electromagnetics
9X02*	Electro-Optics
9X03*	Thermodynamics
9X04*	Chemistry
9X05*	Physics

*Functional Specialty Grouping

Table 4. Investigation Description Codes

Investigation No.	Description
LUNAR ATMOSPHERES	
0XXX0100	Lunar atmosphere experiments for determining total atmospheric pressure
0XXX0200	Lunar atmosphere experiments for determining composition and atmospheric dust
0XXX0300	Lunar atmosphere experiments to determine electric fields near surface
0XXX0400	Lunar atmosphere experiments for determining extent and composition of neutral gases emanating from the lunar surface
GEODESY	
1XXX0100	Astronomical observations used to determine selenodetic parameters
1XXX0200	Selenodetic surface surveying observations to establish ground control for lunar orbital mapping
1XXX0300	Lunar surface gravity observations to aid in the determination of an accurate selenodetic coordinate system
1XXX0400	Active seismic measurements to determine internal density distributions to supplement surface gravity observations
1XXX0500	Earth-Moon distance observations to aid in establishment of accurate selenocentric coordinate systems and facilitate transformation between geocentric and selenocentric coordinate systems
1XXX0600	Selenodetic mapping observations to provide data for detailed topographic maps of the Moon
1XXX0700	Gravity observations performed from lunar orbit to supplement surface gravity and seismic data

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
GEOLOGY	
2XXX0100	Production of lunar geologic maps from lunar orbit data
2XXX0200	Construction of detailed geologic maps of selected lunar areas
2XXX0300	Lunar sample collection for geological analysis to determine element composition and minerology of rocks and textural aspects and mineral distribution in the rocks; also age dating of lunar rocks and formations
2XXX0400	Determination of subsurface structure of the lunar body
GEOCHEMISTRY	
3XXX0100	Analytical chemical analysis to determine the geochemical, petrological, and mineralogical nature of lunar materials
3XXX0200	Gamma-ray spectrometry experiments on surface traverses and from lunar orbit to provide direct information
3XXX0300	Differential thermal analysis investigation in which volatiles from lunar materials are distilled and collected for further analysis of composition
3XXX0400	Chemical analyses of lunar gases by use of mass spectrometers
GEOPHYSICS	
4XXX0100	Seismic studies of lunar materials
4XXX0200	Lunar seismic events and tectonic measurements
4XXX0300	Surveys of meteorites in the lunar environment

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
GEOPHYSICS (CONT)	
4XXX0400	Lunar surface and material hardness
4XXX0500	Electromagnetic properties of the lunar material
4XXX0600	Electric and magnetic field surveys
4XXX0700	Studies of lunar materials with nuclear physics techniques
4XXX0800	Lunar surface and subsurface temperatures and heat flows, spectral studies of physical properties of lunar surface materials
4XXX0900	Variations in lunar gravity
4XXX1100	Studies of earth atmosphere heat balance from lunar landing site
4XXX1200	Studies of Earth reflectivity and albedo from lunar landing site
4XXX1300	Studies of Earth auroral and air glow emissions
4XXX1400	Studies of ultraviolet scattering in Earth atmosphere
4XXX1500	Studies of Earth atmosphere by passive infrared scanning
4XXX1600	Studies of Earth upper atmosphere density variations by stellar refraction techniques

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
GEOPHYSICS (CONT)	
4XXX1700	Studies of Earth atmosphere during terrestial eclipse of the Sun
4XXX1800	Studies of Earth atmosphere by use of radio telescope techniques
4XXX2100	Studies of nonterrestrial planetary atmosphere circulations
4XXX2200	Studies of temperatures and composition of planetary atmospheres
4XXX2300	Determination of planetary albedoes and spectral reflectivities
4XXX3100	Studies of the Earth-ocean heat balance from the lunar base
4XXX3200	Studies of Earth cloud cover, sea surface glitter, water color, ice formation, and other gross dynamic patterns by use of sequential multiband photography
4XXX3300	Studies of feasibility of earth-sea-surface height measurements from the lunar base by use of laser ranging devices or other techniques
PARTICLES AND FIELDS	
52020100	Studies of solar-charged particle environment at the lunar surface, 0.01-to-0.5 Mev energy range
52020200	Studies of solar-charged particle environment at the lunar surface in the 0.04-to-1000 Mev energy range

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
PARTICLES AND FIELDS (CONT)	
52020300	Studies of anisotropy versus charge and energy of solar and galactic particles
52020400	Studies of solar and galactic radiation environment at lunar surface. Includes solar energetic electrons associated with solar flares
52030100	Studies of galactic nuclei environment at the lunar surface, 100 Mev to 100+ Bev energy range
52030200	Studies of galactic electron environment at the lunar surface, 100 to 1000 Mev energies
52090100	Studies of solar and galactic neutrino sources
53010100	Studies of solar wind interactions with Moon and geomagnetosphere, including the magnetohydrodynamics of the solar wind flow past the Earth and Moon
53010200	Studies of solar wind particles at the lunar surface and near the Moon
53040100	Studies of electrons escaping the Earth auroral zones during geomagnetic storms
53050100	Studies of the interplanetary magnetic field and the distant geomagnetic field
53050200	Studies of the magnetic field strength and time variations at the lunar surface and near the Moon
53070100	Studies of the electrostatic field at and near the lunar surface
54080100	Studies of galactic particle scattering and reactions
55220100	Studies of the outer solar corona structure

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
PARTICLES AND FIELDS (CONT)	
55220200	Studies of solar flare UV spectra
55220300	Studies of solar granulation structure and granulation velocity field
55220400	Studies of sunspot formation and development
55220500	Studies of solar prominence fine structure
55220600	Studies of solar flare ejection of material
55230100	Moderate dispersion UV scans over the solar disk
55230200	Studies of UV spectrum of solar flares
	BIOLOGY
61040100	Studies of prebiotic chemistry and evidence of existing life in lunar materials
61010200	Studies of the behavior and rhythms of plants for several generations in the lunar environment
61020200	Studies of the behavior and rhythms of animals for several generations in the lunar environment
61010300	Genetic effects of lunar conditions and Earth-Moon trips on plants
61030300	Genetic effects of lunar conditions and Earth-Moon trips on microorganisms
62030400	Establish a lunar soil bank at an early period of lunar exploration for use in later experiments

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
	ASTRONOMY
71010100	Optical astronomy experiments based on use of a small medium-resolution reflecting telescope. Experiments include testing of the lunar environment for development of an astronomical observatory
72010100	Optical astronomy experiments based on use of a small medium-resolution reflecting telescope for medium-resolution photos of planets and stars, photoelectric studies, and medium dispersion spectroscopic studies
72010200	Optical astronomy experiments based on the use of a small wide-field reflecting telescope with a five-degree field of view. Experiments include photographic sky surveys at a variety of wavelengths, studies of extended surface phenomena such as zodiacal light, gegenschein, lunar libration clouds, and scanning photometer studies
72010300	Optical astronomy experiments based on use of a medium-sized reflecting telescope. Studies include photographs of faint and bright galaxies, nebulae, etc. at a variety of wavelengths, photoelectric photometry at wavelengths inaccessible from Earth's surface, and spectroscopic studies at low, medium, and high dispersion
72010400	Optical astronomy experiments based on the use of a large diffraction-limited telescope, with major operations in the wavelength interval of 1000 to 3000 angstroms. Experiments include very-high-resolution photography, high-dispersion spectroscopy, systematic studies of outer envelopes of stars, surveys to detect planet-like companions of stars, and systematic studies of high-energy phenomena in stars and quasars.

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
ASTRONOMY (CONT)	
72010500	Special optical astronomy studies, such as the Lyman-Alpha survey of the sky or Einstein eclipse problem
73020600	X-ray astronomic observations of the X-ray radiation from the Sun, stars, galaxies, or other X-ray sources
73030700	Gamma-ray astronomic observations
75040100	Nondirectional radio astronomy
75050100	Directional radio astronomy
75060100	Submillimeter radio astronomy
76070100	Studies of radio wave propagation between stations on the lunar surface
77070100	Studies of variations of the lunar ambient vector magnetic field
78070100	Studies of radio wave propagation between the Earth and Moon, at various frequencies, polarizations, etc.
79070100	Measurements of radio astronomy interest performed from lunar orbit, such as electric field measurements, magnetic field measurements, and particle flux measurements
MISSION SUPPORT INVESTIGATIONS	
82010100	Augmentation of lunar surface engineering properties data
82010200	Augmentation of lunar environmental data
81021000	Technology for geodesy
81021100	Technology for geodesy

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
MISSION SUPPORT INVESTIGATIONS (CONT)	
81021200	Technology for geophysics
81021300	Technology for bioscience
81021400	Technology for geochemistry
81021500	Technology for particles and fields
81021600	Technology for meteorology/oceanography
81021700	Technology for radio astronomy
81021800	Technology for optical astronomy
81021900	Technology for X-ray and gamma-ray astromony
82032000	Applied biomedicine and human factors
82033000	Applied life support research
82043100	Environmental control applied research
82043200	Lunar communications applied research
82043300	Power systems applied research
82043400	Materials technology support
82043500	Lunar structures research
82045000	Fluid mechanics research
82053600	Land locomotion research
82053700	Land navigation research
82053800	Lunar flight research
82053900	Surface modification technology

Table 4. Investigation Description Codes (Cont)

Investigation No.	Description
MISSION SUPPORT INVESTIGATIONS (CONT)	
82054000	Lunar construction technology
83064100	Lunar resources - prospecting
83064200	Mining and materials handling
83064300	Materials extraction and processing
83064400	Manufacturing techniques
83064500	Resource application techniques
MISCELLANEOUS BASIC AND APPLIED RESEARCH	
90050201	Corner reflectors for laser beams
90030301	Heat convection and flow of gases in enclosed spaces
90010101	Generation of high-intensity electron beams
90030201	Solar furnace with controllable focal energy flux
90010201	High-intensity arc generation in lunar environment
90030101	Radiation cryostat
90020101	Field emission optics
90050101	Lorentzian plasma environmental physics
90040101	Lifetimes of atomic species

Table 5. Type-1 Card, Experiment Summary

Card	Item	Input Location (Column)	Definition
1	Card type (Exploration phase)*	1	Use numeral 1 to denote Type 1 card (Use alphabetical exploration phase designation (A, B, C, D, or E)
1	Card No. (Discipline sequence)*	2-3	Not applicable (use 0) (Numerical discipline sequence)
1	Experiment No.	4-11	
1	Experiment title	12-31	Abbreviated title of experiment
1	Experiment location	32-34	Experiment Location - Three-Digit Code
1		32	First Digit - Lunar Geographic Location 0 No constraint 1 ±10 deg latitude zone 2 +10 to +60 deg latitude zone 3 -10 to -60 deg latitude zone 4 +60 to +90 deg latitude zone (polar) 5 -60 to -90 deg latitude zone (polar) 6 Lunar limb region 7 Back side of Moon 9 Other (note Card 0 in description)
1		33	Second Digit - Lunar Surface Features 0 No constraint 1 Maria 2 Highland 3 Rille 4 Crater 5 Ray 6 Dome 7 Pingo 9 Other (note Card 0 in description)
1		34	Third Digit - Experiment Domain 1 From lunar orbit 2 At landing point (10 meter radius) 3 At landing site (1 km radius) 4 Geological area (< 5 km radius) 5 On traverse (> 5 km radius) 6 At emplaced points (remote) 9 Other (note Card 0 in description)
ITEM - MOBILITY MODE: ONE-DIGIT CODE			
1	Mobility required	35	Mobility required - Specified capability (by scientists) to perform experiment

Code	Vehicle	Distance	Payload	Duration	Crew Support
0	None				
1	Spacesuit	1 km	25 kg	3 hr	1 man
2	LSSM	15 km	250 kg	6 hr	2 men
3	Small rover	100 km	150 kg	14 day	2 men

*Input locations (Columns 1 through 3) manually modified to identify Exploration Phase and Discipline Sequence for Volume 4, Experiment Sequences only.

Table 5. Type-1 Card, Experiment Summary (Cont)

MOBILITY MODE (Cont)					
Code	Vehicle	Distance	Payload	Duration	Crew Support
4	Medium rover	300 km	250 kg	14-42 day	2-4 men
5	Large rover	1000 km	700 kg	42-84 day	4-6 men
6	Flying vehicle	1-300 km	150 kg	3 hr	1-2 men
7	Combinations of vehicles				
9	See Type-0 Card Description				

ITEM - EXPLORATION PHASE: ONE-DIGIT CODE			
Card	Item	Input Location (Column)	Definition
1	Phase	36	Exploration Phase - Earliest phase for scientific achievement and support systems availability.

Code	Phase	Time Period	Programs
1	Past	1958-65	Earth satellites and lunar probes
2	Present	1966-68	Surveyor and lunar orbiter
3	Initial landing	1968-72	Apollo (LEM)
4	Orbital studies	>1968	Manned lunar orbiting missions
5	Early exploration	1972-75	AAP-lander (shelter and LSSM)
6	Extended exploration	>1974	Temporary base
7	Extended exploration	1976-80	Semipermanent base
8	Extended exploration	>1978	Permanent base
9	Other (Note Card 0 in Description)		

Card	Item	Input Location (Column)	Definition
1	Chronological time	37-39	Chronological Time: Three-Digit Code
		37, 38	Last two digits of earliest calendar year for which experiment is recommended.
		39	Number of years following earliest year to denote latest period during which data of value can be obtained.
1	Importance	40	Importance (Scientific): One-Digit Code 1. Major importance to accomplish scientific goals 2. Important to accomplishment of scientific goals 3. Secondary to accomplishment of scientific goals 4 Major independent scientific value

Table 5. Type-1 Card, Experiment Summary (Cont)

Card	Item	Input Location (Column)	Definition
	Importance (Cont)		5. Moderate independent scientific value 6. Major technology advancement 7. Moderate technology advancement
1	Urgency	41	Urgency: One-Digit Code 1. Required to establish feasibility of subsequent investigations and operations 2. Required to establish validity of related experiment data 3. Required for other experiments in same exploration phase 4. Required for experiments in following exploration phase 5. Required for technology critical to subsequent scientific investigations and operations. 6. Not required for other investigations or operations 7. Technology important to subsequent operation support.
1	No. Men	42	Number of Men - Minimum number of crew personnel required to perform the critical operations related to an experiment.
1	Crew skill	43-44	Crew Technical/Operational Skill - A two-digit code to define the technical and operational skills expected to be required to perform a particular experiment. It is assumed that all crew members must complete some minimum level of astronaut training to qualify for space missions. First Digit - Scientific 1. Geology 2. Geochemistry 3. Geophysics 4. Physics (applied) 5. Physics (particles and fields) 6. Biomedicine 7. Biology 8. Meteorology/Oceanography 9. Astronomy

Table 5. Type-1 Card, Experiment Summary (Cont)

Card	Item	Input Location (Column)	Definition
	Crew Skill (Cont)		Second Digit - Engineering and Technical Support 1. Electrical engineering 2. Chemical engineering 3. Mechanical engineering 4. Civil/structural engineering 5. Nuclear engineering 6. Electronics 7. Electro-optics 8. Histology, phyta-pathology, clinical pathology
1	Eqpt Mass (kg)	45-48	Equipment Mass - Kilograms. Total earth mass not including packaging, storage or transportation factors. The four-digit code uses the first two digits for the significant figures, and the last two digits for the exponent to the base 10. For negative exponents add 50 to the absolute value. Example: $2001 = 2.0 \times 10^{1} = 20$ kg $2051 = 2.0 \times 10^{-1} = 0.2$ kg
1	Eqpt Vol (Cu. M.)	49-52	Equipment Volume - Cubic Meters. Total volume of outside envelope of equipment package, not including special container requirements. Use four-digit code as previously described.
1	Totl Eqpt Engy (whr)	53-56	Total Equipment Energy - Watt-Hours. The product of average power demand and total operating time. Use four-digit code as previously described.
1	Peak Powr (watt)	57-60	Peak Power - Watts. Maximum power demand when performing special functions
1	Totl Man-hrs	61-64	Total Manhours. A summary of all manhours on traverse or at base to perform all operations to complete the experiment. Use four-digit code as previously described.
1	Trvrs Man-hrs	65-68	Traverse Manhours. A summary of all manhours expended on traverse (LSSM or Rover) operations. Use four-digit code as previously described.
1	Dev Stat	69	Development Status One-Digit Code 1. Fully operational from previous flight 2. Operational - needs modification 3. Under development for space flight 4. Laboratory instrument only 5. New concept/under study 6. Other

Table 5. Type-1 Card, Experiment Summary (Cont)

Card	Item	Input Location (Column)	Definition
1	Dev time	70	Development Time. A one-digit code for the number of years to develop the operational piece of equipment which is pacing for the experiment.
1	Year Avail	71-72	Year of Earliest Availability. Last two digits of calendar year pacing equipment could be available, including past if already available.
1	Nrec Cost	73-74	Nonrecurring Cost (Dollars). A two-digit code for cost to develop item(s) suitable for space use. First digit is significant figure, second digit is for exponent.
1	First Cost	75-76	First Item Cost (Dollars). A two-digit code for the estimated cost of the first item intended for operational use. Coding procedure as previously described.
1	Totl Erth Retd Mass (kg)	77-80	Total Earth Returned Mass (Kilograms). Earth weight of all samples, emulsions and other materials including suitable storage containers not integral with the spacecraft. Use four-digit code previously described.

2.6 MAN-HOUR REQUIREMENTS

Man-hour requirements for the experiments are an important consideration in mission planning for extended lunar exploration. This section presents a summary of the approach used in estimating the experiment man-hours and also summarizes experiment operations in Table 6.

The general concept of man-hour estimating for the experiments described in the SMS-ELE data management system was to provide the total requirements of the lunar surface astronaut participation to complete one performance of the experiment as described in the Type-0 card description. The Type-3 card provided a format for segmenting this total participation into several categories and locations of performance. These categories identified in the data encoding descriptions of Volume 5 (See Section 3.0, Table 7), are man-hours for experiment setup, for experiment operation, for experiment analysis, and for experiment teardown (takedown) as required. In addition, the location of performance (traverse, base, or combination) and whether the estimated man-hours are performed in spacesuit or shirtsleeve environment can be indicated. Thus a total of 16 fields for man-hours estimates are provided in the Type-3 card.

The experiment totals for these 16 man-hour classifications are summarized into four categories on the Type-2 card. These are traverse spacesuit man-hours, traverse shirtsleeve man-hours, base spacesuit man-hours, and base shirtsleeve man-hours. These four items, in turn, are summarized (by the computer) into the two categories of total man-hours and traverse man-hours for a given experiment and shown on the Type-1 card summary. Where all of the experiment man-hours are on traverse, the two Type-1 card summaries contain the same values.

The man-hour estimates are for a reasonable minimum of equipment setup and data gathering (or sampling) to provide an acceptable body of information for analysis of the scientific question the specific experiment is designed to answer. It was anticipated the experiment design would provide for (1) a reasonable compromise of automatic data gathering and recording, and (2) the flexibility of the data-gathering system to allow the exercise of scientific judgment by the participating scientist-astronaut in the application of the instrumentation and on-the-spot review of the experiment results. For those experiments where completely automatic experimental measurements and data transmission are deemed practical, the man-hours indicated in the data management system experiment descriptions are only for equipment setup.

Because of the quantity, variety, and complexity of the 340 experiments described in the data management system, it was impractical to provide a detailed task analysis for each of the listed experiments. Where the source document for a given experiment provided estimates of the man-hours it would require in the lunar environment, these values were used. Where man-hour estimates were not available in the source documentation they were provided by the scientist responsible for the particular discipline area.

The estimates for spacesuit man-hours shown in the SMS-ELE study are based on the earth environment. Thus the actual spacesuit man-hours necessary on the lunar surface will require that the listed values be multiplied by a suitable "K" factor for lunar suit usage. (See Volume 3, Section 6.) An average "K" factor of 3 is presently recommended.

A man-hour estimate summary is shown in Table 6 for each of the 340 SMS-ELE experiments. Column 3 of the table shows the total man-hours for each experiment as obtained from the Type-1 card summary. Columns 4, 5 and 6 show a breakdown of the type of man-hour activities into three groups: (a) setup and takedown, (b) data gathering or sampling, and (c) analysis. Columns 7 and 8 show the number of replications of activities in the man-hour totals for: (a) the data-gathering or sampling activity and (b) the setup and takedown activity where this detail was available in the estimating procedures.

The man-hour estimates summarized in Columns 4-6 were obtained from the Type-3 cards of the data management system. The number of replications are those indicated in the Type-2 card and zero card descriptions. It should be noted that the summation of the estimates in the Type-3 card fields and the experiment man-hours totals do not always agree because of "rounding" to two significant figures during the two-step summarizing process from the Type-3 card breakdown (16 fields) to the Type-2 card summary (4 fields) to the Type-1 card total.

Where blank times for setup and takedown are indicated in the summary table (e.g., Experiment 01030159), the nature of the experiment is such that the time involved in instrument preparation is considered trivial in the normal performance of the experiment. Where a blank is shown for the data gathering or sampling operation portion of the experiment (e.g., Experiment 02030263), the nature of the experiment is such that the requirement for the astronaut is only for the setup of the experiment at the appropriate lunar surface location.

Orbital experiments are shown with blanks for all man-hour estimate columns and replication columns since no lunar surface man-hours are involved. Certain other experiments show blanks in all fields. These are related to measurements that can be obtained during the performance of other referenced experiments and involve no additional man-hours (e.g., see Experiment 40130776) provided, of course, that they are planned prior to

Table 6. Experiment Man-Hour Estimate Summary

Experiment Number	Experiment Title	Total Man-Hours for Experiment	Activities Included in Total Man-Hours: Setup and Takedown	Activities Included in Total Man-Hours: Data Gathering or Sampling	Activities Included in Total Man-Hours: Analysis	Replications of Activities in Totals: Data Gathering or Sampling	Replications of Activities in Totals: Setup and Takedown	Remarks
	LUNAR ATMOSPHERES							
01030159	ATMOSPHERIC PRESSURE	0.1	-	0.1	-	1	-	
01030260	ATMOSPHERIC PRESSURE	0.1	0.1	-	-	-	1	
01030464	GAS CHROMATOGRAPH	20.0	-	10.0	10.0	10	-	
02030263	CHARGED DUST	1.0	1.0	-	-	-	1	
02030361	ELECTRIC FIELD	1.0	1.0	-	-	-	1	
02030362	ELECTRIC FIELD	0.1	0.1	-	-	-	1	
	GEODESY							
11010101	SELENODETIC ASTRON	73.0	9.4	39.0	24	12	12	
11010505	EARTH-MOON DISTANCE	73.0	9.4	39.0	24	12	12	
12010202	SELENODETIC SURVEY	55.0	4.6	26.0	24	12	12	
12020606	SELENODETIC MAPPING	-	-	-	-	-	-	Orbital experiment
13030303	SURFACE GRAVITY	17.0	6.0	6.0	4.8	12	12	
13030707	ORBITING GRAVITY	-	-	-	-	-	-	
13040404	SEISMIC OBSERVATIONS	14.0	5.9	6.0	2.4	12	12	
	GEOLOGY							
21010203	FINE STRUCTURE DEF	5.0	-	5.0	-	1	-	
21010204	GEOLOGIC MAPPING	8.0	-	8.0	-	1	-	
21010309	SURFACE SAMPLING	5.0	-	5.0	-	1	-	
23010320	SAMPLE COLLECTION	0.1	-	0.1	-	1	-	
21010230	SUBSURFACE SAMPLING	0.2	-	0.2	-	1	-	
22010412	SUBSURFACE MAPPING	14.0	3.0	6.0	5.0	1	1	
21020307	SHALLOW DRILLING	2.4	0.3	2.1	0.5	5	1	
21020308	DEEP DRILL - 300 M	500	153.0	350.0	50.0	1	1	
21040101	GEOLOGIC BASE MAP	-	-	-	-	-	-	Orbital experiment
21040102	SURFACE MAPPING	-	-	-	-	-	-	Orbital experiment
21040205	SURFACE PHOTOGEOLOGY	3.0	-	3	-	1	-	
21040411	VISUAL LOGGING	10.0	-	10.0	-	1	-	
24030310	AGE DETERMINATION	2.0	-	1.0	1.0	1	-	
24030413	PALEO MAGNETISM	0.2	-	0.2	-	1	-	
	GEOCHEMISTRY							
32010101	CHEM ANAL BY N ACTIV	22.0	2.0	10.0	10.0	98	1	
32010102	CHEM ANAL BY IR	22.0	2.0	10.0	10.0	98	1	
32010103	NMR SPECTROMETRY	21.0	1.0	10.0	10.0	98	1	
32010104	X-RAY FLUOR ANALYSIS	22.0	2.0	10.0	10.0	98	1	
32010105	CHEM ANAL W REAGENTS	200.0	-	200.0	-	98	-	
32010106	DENS BY FLOTATION	20.0	-	20.0	-	40	-	
32010107	MIN BY X-RAY DIFF	81.0	1.0	50.0	30.0	98	1	
31010108	MICR MIN A PET STUDY	100.0	-	100.0	-	98	-	
32010111	CHEM ANAL BY N ACTIV	24.0	2.0	2.0	20.0	98	1	
32010112	X-RAY FLUOR ANALYSIS	22.0	2.0	20.0	-	98	1	
32010113	GAMMA SCATTERING	10.0	-	10.0	-	98	-	
32010114	IN SITU X-RAY DIFF	10.0	-	5.0	5.0	98	-	
32010115	UV-VISIBLE SPECTRA	7.0	-	5.0	2.0	98	-	
32010116	ORBITAL UV-VIS SPEC	-	-	-	-	-	-	Orbital experiment
32010117	ORBITAL IR SPECTRA	-	-	-	-	-	-	Orbital experiment
32010118	IN SITU IR SPECTRA	7.0	-	5.0	2.0	98	-	
32010301	VOLATILE DETN/COLLN	19.0	4.0	10.0	5.0	50	1	
33010101	GAMMA RAY SPECTROM	20.0	-	15.0	5.0	98	-	
33010102	GAMMA RAY SPECTROM	-	-	-	-	-	-	Orbital experiment
34010401	ORB GAS MASS SPEC	-	-	-	-	-	-	Orbital experiment
34010402	SURF M SPEC GAS ANAL	4.5	4.0	-	0.5	-	1	
34010403	M SPEC GAS ANAL	-	-	-	-	-	-	Emplaced from orbit
35010110	SOLIDS M SPEC ANAL	40.0	-	40.0	-	10	-	
	GEOPHYSICS							
40010101	SEISMIC VELOCITY	0.2	0.1	0.1	-	1	1	
40010102	SEISMIC VELOCITY	0.3	0.1	0.2	-	5	1	
40010103	REFLECTION PROFILE	0.3	0.3	-	-	-	1	
40010104	REFRACTION PROFILE	0.6	0.4	0.2	-	1	1	
40050524	MAG. SUSCEPTIBILITY	1.0	0.5	0.5	-	1	1	
40050525	MAG. SUSCEPTIBILITY	2.0	-	2.0	-	1	-	
40050526	MAG. SUSCEPTIBILITY	1.0	0.5	0.5	-	1	1	
40050527	MAG. SUSCEPTIBILITY	2.0	0.5	1.5	-	1	1	
40050536	ELECTRICAL SURVEY	1.0	1.0	-	-	-	1	
40050537	DIELECTRIC CONSTANT	0.1	-	0.1	-	1	-	
40050538	DIELECTRIC CONSTANT	0.1	-	-	0.1	1	-	
40050539	DIELECTRIC CONSTANT	0.1	-	0.1	-	1	-	
40060532	SURFACE RESISTIVITY	0.2	0.1	0.1	-	1	1	
40060533	SURFACE RESISTIVITY	0.1	-	0.1	-	1	-	

Table 6. Experiment Man-Hour Estimate Summary (Cont)

Experiment Number	Experiment Title	Total Man-Hours for Experiment	Activities Included in Total Man-Hours			Replications of Activities in Totals		Remarks
			Setup and Takedown	Data Gathering or Sampling	Analysis	Data Gathering or Sampling	Setup and Takedown	
40060534	SUBSURFACE RESIST	0.2	0.1	0.1	-	1	1	
40060535	RESISTIVITY SUBSUR	1.0	0.5	0.5	-	1	1	
40060565	RADAR MAPPING	-	-		-	-	-	Orbital experiment
40060628	SELF POTENTIAL	2.0	0.5	1.5	-	1	1	
40060629	SELF POTENTIAL	3.0	1.0	2.0	-	1	1	
40060630	ELECTRICAL SURVEYING	1.0	0.5	0.5	-	1	1	
40060631	ELECTRICAL SURVEYING	0.5	0.3	0.2	-	1	1	
40070869	PHOTOGRAPHY	-	-	-	-	-	-	Orbital experiment
40070883	SPECTRAL REFLECTANCE	1.0	1.0	-	-	-	1	
40080352	METEORITE DETECTION	0.4	0.4	-	-	-	1	
40080353	METEOROID DETECTION	0.3	0.3	-	-	-	1	
40080354	METEOROID DETECTION	-	-	-	-	-	-	Automatic data recording, externally mounted on Rover'
40080370	METEORITE DETECTION	-	-	-	-	-	-	Orbital experiment
40090456	SURFACE HARDNESS	-	-	-	-	-	-	Related to drilling experiments
40110777	NEUTRON SPECTRA	0.2	0.2	-	-	-	1	
40120778	GAMMA RAY SPECTRA	0.5	0.5	-	-	-	1	
40120779	GAMMA RAY SPECTRA	1.0	1.0	-	-	-	1	
40120780	GAMMA RAY SPECTRA	-	-	-	-	-	-	Orbital experiment
40130771	ALPHA MASS SPEC	0.1	0.1	-	-	-	1	
40130772	ALPHA MASS SPEC	-	-	-	-	-	-	Automatic data recording, externally mounted on ROVER
40130773	RADIOACTIVITY	1.0	1.0	-	-	-	1	
40130774	RADIOACTIVITY	1.0	0.5	0.5	-	1	1	
40130775	NEUTRON ACTIVATION	2.0	2.0	-	-	-	1	
40130776	NEUT ACTIV TRVRS	-	-	-	-	-	-	Combined with radioactivity probe, Expt 40130774
41010205	SEISMIC REFLECTION	2.1	2.0	0.1	-	1	1	
41010206	SEISMIC PROFILING	-	-	-	-	-	-	Related to Expt 41010205
41020207	SEISMIC, PASSIVE	1.0	1.0	-	-	-	1	
41020208	SEISMIC, PASSIVE	6.0	6.0	-	-	-	1	
41020211	SEISMIC ARRAY	2.0	2.0	-	-	-	1	
41040681	MAGNETO-TELLURIC	3.0	3.0	-	-	-	1	
41050541	E-M PULSE	-	-	-	-	-	-	Automatic data recording mounted on roving vehicle
41050622	MAGNETISM	2.0	-	2.0	-	1	-	
41050623	MAGNETISM	3.0	-	3.0	-	1	-	
41060540	E-M PULSE	-	-	-	-	-	-	Automatic data recording, mounted on ROVER
41090487	SUBSURFACE HARDNESS	0.2	0.2	-	-	-	1	
42020284	REMOTE SEISMIC	-	-	-	-	-	-	Emplaced from orbit
44070842	NEAR SURFACE TEMP	0.1	0.1	-	-	-	1	
44070843	SUBSURFACE TEMP	0.2	-	0.2	-	1	-	
44070844	SUBSURFACE TEMP LOG	0.3	0.1	0.2	-	1	1	
44070845	TEMPERATURE GRADIENT	0.5	0.5	-	-	-	1	
44070846	THERMAL BLANKET	0.2	0.2	-	-	-	1	
44070847	SUR TEMP DIFFUSIVITY	0.3	0.1	0.2	-	1	1	
44070848	SUB SUR DIFFISUVITY	1.0	1.0	-	-	-	1	
44070849	TEMP DIFFUSIVITY	0.2	0.2	-	-	-	1	
44070850	SURFACE EMISSIVITY	0.4	0.2	0.2	-	1	1	
44070851	SURF TEMP PROFILE	-	-	-	-	-	-	Automatic data recording, mounted on ROVER
44070866	MICROWAVE RADIOMETRY	-	-	-	-	-	-	Orbital experiment
44070882	TEMPERATURE GRADIENT	0.5	0.5	-	-	-	1	
44070886	REMOTE TEMPERATURE	-	-	-	-	-	-	Emplaced from orbit
45030912	GRAVITY - ABSOLUTE	0.5	0.5	-	-	-	1	
45030913	GRAVITY - ABSOLUTE	1.2	1.0	0.2	-	1	1	
45030914	GRAVITY SURVEY	2.5	0.5	2.0	-	20	1	
45030915	GRAVITY SURVEY	11.0	0.8	10.2	-	98	1	
45030968	GRAVITY GRADIENT	-	-	-	-	-	-	Orbital experiment
43030985	GRAVITY GRADIENT	-	-	-	-	-	-	Orbital experiment
45100601	PLASMA POTENTIAL	11.0	3.0	4.0	4.0	4	4	
46040616	MAGNETIC FIELD	0.3	0.3	-	-	-	1	
46040617	MAGNETIC FIELD	0.5	0.5	-	-	-	1	
46040618	MAGNETIC FIELD	1.0	1.0	-	-	-	1	
46040619	MAGNETIC FIELD	1.0	1.0	-	-	-	1	
46040620	MAGNETIC SURVEY	2.5	0.5	2.0	-	20	1	
46040621	MAGNETIC SURVEY	11.0	1.0	10.0	-	98	1	
46040667	TOTAL MAGNETIC FIELD	-	-	-	-	-	-	Orbital experiment
47011101	EARTH HEAT BUDGET	27.0	2.2	20.0	5.0	1	1	Observatory program
47021202	EARTH ALBEDO AND REFLEC	25.0	0.6	20.0	4.5	1	1	Observatory program
47031303	AURORAL AIR GLOW PHO	20.0	0.6	20.0	-	1	1	Observatory program
47041404	UV SCATTER EARTH ATMOS	20.0	0.6	20.0	-	1	1	Observatory program
47051505	EARTH ATMOS IR SCAN	20.0	0.5	20.0	-	1	1	Observatory program
47051512	EARTH LRGE SCALE PHN	52.0	2.0	50.0	-	1	1	Observatory program
47061606	ATM DENSITY STAR REFR	120.0	41.2	40.0	40.0	1	1	Observatory program
47071707	UP ATMOS ECLIPS SPECTR	2.3	1.1	0.4	0.8	1	1	
47081808	MICROWAVE SCAN PASSIVE	14.0	4.0	5.0	5.0	1	1	Observatory program

Table 6. Experiment Man-Hour Estimate Summary (Cont)

Experiment Number	Experiment Title	Total Man-Hours for Experiment	Activities Included in Total Man-Hours: Setup and Takedown	Activities Included in Total Man-Hours: Data Gathering or Sampling	Activities Included in Total Man-Hours: Analysis	Replications of Activities in Totals: Data Gathering or Sampling	Replications of Activities in Totals: Setup and Takedown	Remarks
48092109	PLANET ATMOS CIRCULATION	33.0	3.0	20.0	10.0	1	1	Observatory program
48102210	PLANET ATMOS TEMP AND COMP	43.0	3.0	30.0	10.0	1	1	Observatory program
48112311	PLANET ALBEDO - REFLECT	180.0	8.0	120.0	50.0	1	1	Observatory program
49013101	OCEAN HEAT BALANCE	33.0	5.0	28.0	-	14	1	
49013102	OCEAN HEAT BALANCE - PH 2	1,000.0	32.0	800.0	200.0	1	1	Observatory program
49023201	SEQUENT MULTIBAND PHO	31.0	3.0	28.0	-	14	1	
49023202	SEQUENT MULTIBAND PHO	820.0	116.0	500.0	200.0	1	1	Observatory program
49033301	SEA SURF HEIGHT MEAS	940.0	41.0	705.0	180.0	1	1	Observatory program
	PARTICLES AND FIELDS							
52020101	SOLAR CHG PAR, LOW E	100.0	24.0	40.0	40.0	1	1	
52020102	SOLAR CHG PAR, LOW E	150.0	24.0	60.0	60.0	1	1	
52020103	SOLAR CHG PAR, LOW E	270.0	24.0	120.0	120.0	1	1	
52020201	SOLAR CHG PAR, HIGH E	54.0	14.0	10.0	30.0	1	1	
52020202	SOLAR CHG PAR, HIGH E	160.0	15.0	20.0	120.0	1	1	
52020203	SOLAR CHG PAR, HIGH E	310.0	30.0	40.0	240.0	1	1	
52020301	CHARGED PAR ANISOTPY	3.3	0.3	2.0	1.0	2	1	
52020401	NUCL RADIATION ENVRN	39.0	3.5	5.0	30.0	1	1	
52020402	SOLAR HIGH E ELECTRON	91.0	3.5	12.0	75.0	1	1	
52020403	SOLAR HIGH E ELECTRON	91.0	3.5	12.0	75.0	1	1	
52030101	GALACTIC NUCLEI	55.0	16.0	10.0	30.0	1	1	
52030102	GALACTIC NUCLEI	210.0	20.5	30.0	160.0	1	1	
52030103	GALACTIC NUCLEI	400.0	40.5	60.0	300.0	1	1	
52030201	GALACTIC ELECTRONS	21.0	4.5	8.0	8.0	1	1	
52030202	GALACTIC ELECTRONS	77.0	44.5	16.0	16.0	1	1	
52030203	GALACTIC ELECTRONS	77.0	44.5	16.0	16.0	1	1	
52090101	NEUTRINO SOURCE FLUX	520.0	117.0	100.0	300.0	1	1	
53010101	SOLAR WIND SPECTRUM	20.0	9.1	5.0	6.0	3	3	
53010102	SOLAR WIND SPECTRUM	39.0	17.1	10.0	12.0	6	6	
53010103	SOLAR WIND SPECTRUM	61.0	17.3	20.0	24.0	12	12	
53010104	SOLAR WIND MHD FLOW	140.0	28.3	17.6	60.0	16	16	
53010201	SOLAR WIND, SURFACE	0.2	0.2	-	-	-	1	
53010202	SOLAR WIND, SHOCK	-	-	-	-	-	-	Orbital experiment
53040101	AURORAL ELECTRONS	220.0	40.0	80.0	100.0	4	1	
53040102	AURORAL ELECTRONS	420.0	40.0	140.0	240.0	8	1	
53050101	SOLAR GEOMAG FIELD	21.0	4.1	7.0	10.0	4	1	
53050102	SOLAR GEOMAG FIELD	37.0	7.6	18.0	11.0	10	10	
53050103	SOLAR GEOMAG FIELD	65.0	9.7	33.0	22.0	16	16	
53050104	SOLAR GEOMAG FIELD	110.0	12.7	60.0	34.0	24	24	
53050201	MAGNET FIELD MONITOR	2.5	1.5	1.0	-	1	1	
53050202	MAGNET FIELD, SHOCK	-	-	-	-	-	-	Orbital experiment
53050203	MAGNETIC FIELD VS T	0.3	0.3	-	-	-	1	
53070101	ELECTROSTATIC FIELD	3.5	2.0	1.5	-	1	1	
53070102	ELECTRIC FIELD	9.7	0.7	5.0	4.0	2	2	
54080101	GALAC PAR SCAT REAC	59.0	31.0	12.0	16.0	1	1	
54080102	GALAC PAR SCAT REAC	97.0	47.0	24.0	24.0	1	1	
54080103	GALAC PAR SCAT REAC	88.0	44.0	20.0	24.0	1	1	
55220101	OUTER CORONA SPECTRA	12.0	5.5	2.0	4.0	1	1	Observatory program
55220201	FLARE UV SPECTRA - I	7.0	3.0	3.0	1.0	2	2	
55220301	GRANUL FINE STRUCTURE	54.0	47.0	6.0	1.0	1	1	Observatory program
55220302	GRANUL VELOC FIELDS	31.0	11.0	10.0	10.0	1	1	Observatory program
55220401	SUNSPOT FORMATION	16.0	9.0	6.0	1.0	3	3	
55220501	PROMINENCE STRUCTURE	220.0	9.0	204.0	4.0	3	3	
55220601	FLARE EJECTA, ACCEL	17.0	8.0	5.0	4.0	2	2	
55230101	UV LOW DISPERSION	8.0	5.0	2.0	1.0	1	1	
55230102	UV HIGH DISPERSION	11.0	5.0	4.0	2.0	1	1	
55230201	FLARE UV SPECTRA - II	21.0	5.0	10.0	5.0	1	1	
	BIOLOGY							
61010201	BIORHYTHMS, PLANT	800.0	100.0	300.0	400.0	1	1	Laboratory program
61010301	GEN EFFECTS, PLANT	170.0	16.0	100.0	50.0	1	1	Laboratory program
61020202	BIORHYTHMS, ANIMAL	2,400.0	20.0	1,600.0	800.0	1	1	Laboratory program
61030303	GEN EFFECTS, MICRO	20.0	2.0	16.0	2.0	1	1	
61040101	IND PREBIOT CHEM	240.0	20.0	120.0	100.0	1	1	Laboratory program
61040102	EVID EXIST LIFE	270.0	16.0	200.0	50.0	1	1	Laboratory program
62030401	SOIL BANK	-	-	-	-	-	-	Related to geoscience expts
	ASTRONOMY							
71010101	LUN ENVIR TEST	310.0	70.0	120.0	124.0	3	3	
72010102	HIGH RES PHOTG (12)	320.0	28.0	250.0	41.0	1	1	Observatory program
72010103	PHOTOELECT PHOTG (12)	250.0	24.0	202.0	21.0	1	1	Observatory program
72010104	LOW DISP SPEC (12)	310.0	5.0	240.0	61.0	1	1	Observatory program
72010205	SKY SURVEY (12)	920.0	104.0	800.0	21.0	1	1	Observatory program
72010206	VAR BRIGHT OBS (12)	500.0	24.0	400.0	81.0	1	1	Observatory program

Table 6. Experiment Man-Hour Estimate Summary (Cont)

Experiment Number	Experiment Title	Total Man-Hours for Experiment	Activities Included in Total Man-Hours			Replications of Activities in Totals		Remarks
			Setup and Takedown	Data Gathering or Sampling	Analysis	Data Gathering or Sampling	Setup and Takedown	
72010307	SCAN PHOTG (12)	280.0	52.0	210.0	21.0	1	1	Observatory program
72010308	PHOTG OBS (40)	540.0	203.0	320.0	21.0	1	1	Observatory program
72010309	PHOTG PHOTOM (40)	240.0	12.0	220.0	11.0	1	1	Observatory program
72010310	PHOTOEL PHOTG (40)	480.0	41.0	420.0	21.0	1	1	Observatory program
72010311	SPECTROSCOPY (40)	910.0	31.0	820.0	61.0	1	1	Observatory program
72010312	HIGH DISP SPEC (40)	940.0	31.0	820.0	91.0	1	1	Observatory program
72010313	SPECTR SCAN (40)	910.0	71.0	820.0	21.0	1	1	Observatory program
72010414	HIGH RES PHOTG (100)	1,100.0	201.0	920.0	41.0	1	1	Observatory program
72010415	HIGH DISP SPEC (100)	1,100.0	81.0	920.0	91.0	1	1	Observatory program
72010416	HIGH ENERGY (100)	690.0	21.0	620.0	51.0	1	1	Observatory program
72010417	OUTER ENVEL (100)	730.0	21.0	620.0	91.0	1	1	Observatory program
72010418	PLANET LIKE (100)	430.0	21.0	320.0	91.0	1	1	Observatory program
72010419	MAG AND COLOR (100)	1,000.0	111.0	920.0	31.0	1	1	Observatory program
72010521	LYMAN ALP SURVEY	610.0	22.0	510.0	91.0	1	1	Observatory program
73020622	SPECTR CHAC X-RAYS	980.0	42.0	900.0	41.0	1	1	Observatory program
73020623	ANGULAR POS X-RAYS	590.0	42.0	520.0	31.0	1	1	Observatory program
73020624	DIST INTERMED X-RAY	390.0	42.0	320.0	31.0	1	1	Observatory program
73030725	DETECTION GAM RAD	610.0	52.0	520.0	42.0	1	1	Observatory program
74010520	EINSTEIN PROB	62.0	21.0	31.0	11.0	3	3	
75040101	NON DIR RADIO ASTR	6.0	4.0	2.0	-	1	1	
75050102	DIR RADIO ASTRONOMY	23.0	18.0	5.0	-	1	1	
75060101	SUBMILLIMETER RA	1,000.0	168.0	470.0	400.0	1	1	Observatory program
76070102	LUN WAVE PROPAGATION	19.0	12.5	6.5	-	1	1	
77070101	AMB MAG FIELD MEAS	57.0	6.5	50.5		1	1	Observation program
78070101	CISLUNAR MEDIUM EXP	8.0	6.0	2.0	-	1	1	
78070102	RANGING STA CENTRAL	8.0	6.0	2.0	-	1	1	
78070103	RANGING STA REMOTE A	8.0	6.0	2.0	-	1	1	
78070104	RANGING STA REMOTE B	8.0	6.0	2.0	-	1	1	
79070101	ELECTRIC FIELD	-	-	-	-	-	-	Orbital experiment
79070102	MAGNETIC FIELD	-	-	-	-	-	-	Orbital experiment
79070103	PARTICLE FLUX	-	-	-	-	-	-	Orbital experiment
	MISSION SUPPORT INVESTIGATIONS							
81021101	GAS REQTS FOR DRILL	1.0	0.3	0.7	-	1	1	
81021102	LUNAR DRILL BIT TECH	-	-	-	-	-	-	Related to geoscience expts
81021103	CAL RMT SENSNG TECHS	1.0	0.4	0.3	0.3	1	1	
81021104	GEOLOG-CHEM SAMP CAS	4.0	0.8	2.6	0.6	1	1	
81021105	SAMPL SURV TECHS	-	-	-	-	-	-	Related to geoscience expts
81021201	ELECTRODE CPLNG PROP	4.0	2.0	1.3	0.7	1	1	
81021203	EXPLOSV ENERGY COUPL	8.0	6.0	1.0	1.0	1	1	
81021205	STEREO PHOTO GRAMMETRY	8.0	1.5	5.3	1.2	1	1	
81021207	EARTH REF GRAVIMTR	16.0	8.0	6.0	2.0	1	1	
81021301	BIO CONTAM LUNR SOIL	2.2	.7	1.2	.3	1	1	
81021503	LUNAR PLAS PROP SURF	-	-	-	-	-	-	Times are included with expt 82010109
81021701	EARTH RFI/BKGND NOISE	-	-	-	-	-	-	Orbital experiment
81021702	DIELECTRIC PROPERTIES	-	-	-	-	-	-	Orbital experiment
81021703	CRITICAL PLASMA FREQ	5.0	4.0	1.0	-	1	1	
81021801	ASTRONOMY FEASIBILITY	20.0	8.0	8.0	4.0	1	1	
81021802	REMOTE CORONAGRAPH	6.7	3.7	1.5	1.5	1	1	
82010101	TOPGHY AAP-LEM SITE	-	-	-	-	1	1	Orbital experiment
82010102	ENG PROP LUNAR SURFC	2.0	-	2.0	-	1	-	
82010103	SOIL SURF BEAR STREN	1.0	0.4	0.2	0.4	1	1	
82010104	CORROSION TEST	1.0	0.1	0.7	0.2	1	1	
82010105	LUNAR SOIL SHIELDING	13.0	7.5	3.0	2.5	1	1	
82010106	NUCLR REACT EMPL ASSMT	10.0	1.0	6.0	3.0	1	1	
82010107	SEISMIC ENVIRONMENT	1.0	1.0	-	-	-	1	
82010108	SUPT PROP LUN SOILS	5.0	3.0	1.0	1.0	1	1	
82010109	ELEC PARMTR SURF + SUB	14.0	11.5	2.0	0.5	1	1	
82010122	LUNAR STRATA E/M PRO	7.5	4.0	2.5	1.0	1	1	
82010201	DUST ENVRMT/SURFACE	2.0	1.5	0.5	-	1	1	
82010202	LUNAR RF NOISE PT 1	10.0	5.0	3.0	2.0	1	1	
82010203	LUNAR RF NOISE PT 2	6.5	5.0	1.0	0.5	1	1	
82010204	ANTENNA DUST ACCUMLN	2.0	1.4	0.2	0.4	1	1	
82010205	LUN ATM CONTAM-ROCKT	0.8	0.4	0.2	0.2	1	1	
82010206	THRML RAD FLUX + GRAD	2.0	1.1	0.2	0.7	1	1	
82010207	LUNAR IMPACT SPHERICS	2.4	1.9	0.5	-	1	1	
82010208	LEAKAGE MEASUREMENTS	0.8	0.4	0.2	0.2	1	1	
82023202	RF FRWD SCATTER TECH	5.0	2.0	2.0	1.0	1	1	
82023413	ENV EFFECTS/SOL CKTS	0.2	0.2	-	-	-	1	
82032001	CLINICAL MONITORING	14.0	1.0	6.0	7.0	1	1	Laboratory program
82032002	MECH EFF MAN RED GRV	4.0	1.0	2.0	1.0	1	1	
82032003	WORK CAPABILITY	2.0	0.3	1.0	0.7	1	1	
82032004	BIOASSAYS-BODY FLUID	21.0	12.7	8.3	-	1	1	Laboratory program
82032005	VISION STUDIES	0.5	-	0.5	-	1	1	
82032006	PSYCHOLOGICAL STUDY	20.0	3.0	14.0	3.0	1	1	Laboratory program
82032010	CARDIOVASCULAR PHENO	55.0	-	45.0	10.0	1	1	Laboratory program

Table 6. Experiment Man-Hour Estimate Summary (Cont)

Experiment Number	Experiment Title	Total Man-Hours for Experiment	Activities Included in Total Man-Hours			Replications of Activities in Totals		Remarks
			Setup and Takedown	Data Gathering or Sampling	Analysis	Data Gathering or Sampling	Setup and Takedown	
82032011	BONE DEMINERALIZATION	55.0	-	50.0	5.0	1	1	Laboratory program
82033001	EVALUATION ALGAE STR	210.0	8.0	130.0	72.0	1	1	Laboratory program
82033002	SOIL USE/HIGHER PLNT	140.0	20.0	100.0	20.0	1	1	Laboratory program
82033003	EVAL HYDROGENOMONAS	210.0	15.0	120.0	75.0	1	1	Laboratory program
82033004	EFF BREATH MIX GAS	23.0	-	18.0	5.0	1	1	Laboratory program
82033005	BIO MON ECO SYSTEM	10.0	3.0	5.0	2.0	1	1	Laboratory program
82033006	EVAL H-C USING ORGNM	110.0	12.0	83.0	15.0	1	1	Laboratory program
82033007	EFF LUNR COND ON PLT	85.0	18.0	61.0	6.0	1	1	Laboratory program
82033008	PLANT GRTH DEV REPRO	500.0	20.0	330.0	150.0	1	1	Laboratory program
82033009	GENETIC EFF/ANIMALS	100.0	12.0	60.0	28.0	1	1	Laboratory program
82033010	ANIML GRTH DEV REPRO	500.0	20.0	330.0	150.0	1	1	Laboratory program
82043101	SIM PERS SHLD/SOLAR	0.2	-	0.2	-	1	1	
82043201	LUNAR ENV ON ANT SYS	3.0	1.5	1.2	0.3	1	1	
82043203	RF GRD WAVE PRPGTION	8.0	1.9	5.0	1.1	1	1	
82043204	RF SUBSURF PROPGTION	11.0	3.5	4.5	3.0	1	1	
82043205	LASER SCATTER PROP	4.0	2.0	1.5	0.5	1	1	
82043206	RETRODIR OPT SYS TEC	1.0	-	1.0	-	1	1	
82043301	ELEC TRANS LINE TEST	2.0	1.0	0.5	0.5	1	1	
82043302	ELEC TRANS ROUTE	6.0	2.0	2.5	1.5	1	1	
82043310	ELEC SYST GROUNDING	2.0	1.2	0.5	0.3	1	1	
82043401	DUST REMOVAL TECHCQS	1.0	-	1.0	-	1	1	
82043402	DAMAGE LUNAR EQUIPMT	3.0	-	2.5	0.5	1	1	
82043403	STAT XPOS EFF ON MAT	0.5	0.5	-	-	1	1	
82043404	XPOS EFF ON RAD MAT	1.5	0.5	-	1.0	1	1	
82043405	MATER DYN TEST	20.0	6.5	10.5	3.0	1	1	
82043406	DYNAMIC TEST MACHN ELEC	2.0	0.5	0.5	1.0	1	1	
82043407	DYNAMIC TEST THIN FLM	2.0	0.5	0.5	1.0	1	1	
82043408	DYNAMIC TEST ELE CMPT	1.0	0.4	0.3	0.3	1	1	
82043409	LNG STAT XPOS ON MAT	3.0	0.5	0.5	2.0	1	1	
82043414	ELSTME POLYMR DEGRD	2.0	0.5	0.5	1.0	1	1	
82043415	STATIC/DYNAMIC SEALS	1.5	0.4	0.4	0.7	1	1	
82043501	EFCTS LONG BOOM STRU	2.0	0.5	1.0	0.5	1	1	
82043502	REPR TECH MAJR STRUC	3.0	1.0	1.0	1.0	1	1	
82045001	CONV HT TRANS IN LIQ	10.0	1.5	6.0	2.5	1	1	
82045002	HT XFR FILM/DRP COND	10.0	1.5	6.0	2.5	1	1	
82045003	STRATIF CRYOGEN LIQ	-	-	-	-	-	-	Automatic data recording
82053601	SOIL VAL VARI LUNAR	6.2	2.1	2.5	1.6	1	1	
82053602	DANG TERRAIN WARNING	2.0	-	2.0	-	1	-	
82053701	VIS TECH ASTRO VIS	4.3	0.5	2.5	1.3	1	1	
82053702	VIS TECH LAND RECOG	3.3	0.3	2.2	0.8	1	1	
82053901	XPLOS TECH SURF MOD	10.0	4.0	4.5	1.5	1	1	
82053902	DIG AND CUT TOOL ASSESS	-	-	-	-	-	-	Automatic data recording
82054001	METL JOIN LUNA CONST	18.0	9.3	5.5	3.2	1	1	
83064101	H DETECT BY NEUT ACT	5.0	1.0	3.0	1.0	1	1	
83064102	CHEM AND DTA ANALS-O AND CO2	10.0	1.0	8.0	1.0	1	1	
83064103	DTA ANAL CASTABLE MAT	10.0	1.0	8.0	1.0	1	1	
83064104	H WITH PHO 5 COND	4.0	0.6	3.0	0.4	1	1	
83064105	QUANT ANAL OF HYDROG	4.0	0.6	3.0	0.4	1	1	
83064106	H DETECT BY IR SPECT	40.0	6.0	30.0	4.0	1	1	
83064107	H DETECT AND ANALYSIS	-	-	-	-	-	-	Related to experiment 83064101
83064201	CHARAC LUNAR SLF WLDG	4.5	1.2	2.6	0.7	1	1	
83064303	PART ADHESN MECH FRC	24.0	9.0	11.0	4.0	1	1	
83064501	DRY CEMNT-CONCRT APP	51.0	20.0	25.0	6.0	1	1	
	MISCELLANEOUS BASIC AND APPLIED RESEARCH							
90010101	HI INT ELEC BEAM GEN	20.0	8.0	9.0	3.0	1	1	
90010201	HI INT ARC GENERATN	15.0	6.0	7.0	2.0	1	1	
90020101	FIELD EMISSION OPTCS	15.0	4.7	8.0	2.3	1	1	
90030101	RADIATION CRYOSTAT	20.0	10.0	7.0	3.0	1	1	
90030201	SLR FRNC/FCL ENG FLX	15.0	8.0	6.0	1.0	1	1	
90030301	HT XFR/CONVECN GASES	3.0	1.5	1.0	0.5	1	1	
90040101	ATOMIC SPECIES LIFE	70.0	31.0	27.0	12.0	1	1	
90050101	LORENTZ PLSMA MEAS	4.0	1.0	2.0	1.0	1	1	
90050201	CRNR RFLR LASER BEAM	0.4	0.4	-	-	-	1	

the lunar mission. Other experiments in which data gathering and recording or transmission are planned for automatic operation also are indicated (e.g., Experiment 40080354) in the comments column of the table.

The replications columns (7 and 8) of the table indicate that the performance of some experiments will require multiple operations of data gathering or setup and takedown activities for completion of the indicated experiment. The following examples will indicate the meanings attached to these entries.

In Geodesy Experiment 11010101, "Selenodetic Astronomy", 12 replications are indicated for both data gathering and setup columns. In this case, the 12 setups are required because the observations were visualized to be required from 12 widely separated points on the lunar surface. All of the readings are required in order that the experiment can provide geodetic accuracy improvements over that available from other systems.

Experiment 21020307, "Shallow Drilling", shows that normal operation of this experiment would anticipate the selection of 5 samples to be taken at a particular traverse stop.

In Geochemistry Experiment 32010101, 98 data gathering/sampling replications are shown with one setup. This indicates that for a routine laboratory-type geochemical analysis performed at a fixed site, the designed approach would be to set up the required apparatus for processing a relatively large group of samples in one operation. Therefore, the man-hour estimates given are for processing this group of 98 samples.

The remarks column of the table also is used to indicate two special types of experiments in which relatively long-term operations are involved. These are designated as "Observatory Programs" and "Laboratory Programs." Definitions of these terms as utilized in the man-hours summary table are as follows.

Observatory Programs

Covers astronomical observatory type experiments which can involve a large number of repetitions of, for example, photographic and related tasks over an extended time period as particular viewing opportunities related to the experiment become available. The minimum number of scientist viewing hours deemed appropriate for the exploration phase and equipment designated were estimated in order to provide an adequate data base for analysis of the experiment problem. Only one replication for operation and one replication for setup and takedown are shown for this class of experiment.

Laboratory Programs

A laboratory program implies one in which a varied group of scientific observations or measurements are repeated periodically over a period of time, usually spread out over the duration of the mission phase to which the experiment is assigned. The experiment usually applies to living subjects. The setup and data gathering replications are indicated only once each for this type experiment.

3.0 DISCIPLINE SEQUENCES

3.1 DISCIPLINE SEQUENCES BY DISCIPLINES

DISCIPLINE SEQUENCES BY DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLORE / DISCIPLINE SQUENCE / AREA / OBJECT / SPECIFIC / INVESTIGATION / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBILE REQ	PHASE	CHRON TIME	IMPORT	UNGCY	NGEN	SCKRIELL WL	EQPT MASS KG	EQPT VOL CU B	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRESCT	FICRSSTT	TOTL ERTH RETD MASS KG
0 LUNAR ATMOSPHERE																					
*A 01 0 1 03 01 59	ATMOSPHERIC PRESSURE	992	1 3		684	2 3		1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
**B 02 0 1 03 02 60	ATMOSPHERIC PRESSURE	993	2 5		723	2 3		1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
*A 03 0 2 03 02 63	CHARGED DUST	992	1 3		684	2 4		1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
B 04 0 2 03 03 61	ELECTRIC FIELD	993	2 5		723	2 4		1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3 6		769	2 4		1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
C 06 0 1 03 04 64	GAS CHROMATOGRAPH	995	3 6		769	3 6		1	00	6300	1052	1604	3001	2001	2001	3	3	69	26	25	0000
1 GEODESY																					
B 01 1 3 03 07 07	ORBITING GRAVITY	991	0 4		689	1 2		1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
B 02 1 4 02 06 06	SELENODETIC MAPPING	991	0 4		689	1 1		1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
B 03 1 3 03 03 03	SURFACE GRAVITY	999	7 9		729	1 2		1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
B 04 1 1 01 01 01	SELENODETIC ASTRON.	999	7 9		729	1 1		1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
C 05 1 1 01 05 05	EARTH-MOON DISTANCE	999	7 9		729	1 1		1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
B 06 1 2 01 02 02	SELENODETIC SURVEY	999	7 9		729	1 1		1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
C 07 1 3 04 04 04	SEISMIC OBSERVATIONS	999	7 9		729	1 2		1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
2 GEOLOGY																					
B 01 2 1 04 01 02	SURFACE MAPPING	991	0 4		708	1 1		0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
B 02 2 1 04 01 01	GEOLOGIC BASE MAPS	991	0 4		688	1 1		0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
B 03 2 3 01 03 20	SAMPLE COLLECTION	999	9 9		689	1 1		1	10	6000	2551	0000	0000	1051	1051	3	2	68	35	19	1002
B 04 2 1 01 02 03	FINE STRUCTURE DEF	999	7 9		708	1 1		1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	25	1051
B 05 2 1 01 02 04	GEOLOGIC MAPPING	999	7 9		708	1 1		1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
A 06 2 1 01 03 09	SURFACE SAMPLING	999	7 9		708	1 1		1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
B 07 2 1 02 03 07	SHALLOW DRILLING	005	2 9		709	1 3		1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
□ A 08 2 1 04 02 05	SURFACE PHOTOGEOLOGY	999	9 3		708	1 2		1	17	3501	3551	9602	1002	3000	2000	3	3	69	96	85	1001
B 09 2 4 03 04 13	PALEOMAGNETISM	999	9 5		728	2 6		1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source
□ Energy supplied by independent power source (Astronaut Survey Staff), Mass includes 20 KG for a TV monitor located in the LEM.

DISCIPLINE SEQUENCES BY DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY SUMMARY LIST

EXPERIMENT NUMBER (EXPH, DSIEPNLC, ARAEA, OBJT, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOGMEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRECT	FICRESTT	TOTL ERTH RETD MASS KG
GEOLOGY (CONT)																					
B 10 2 4 03 03 10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	56	55	1001
E 11 2 1 02 03 08	DEEP DRILL - 300M	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
A 12 2 1 04 04 11	VISUAL LOGGING	999	9	5	728	2	2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
C 13 2 1 01 03 30	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	55	2002
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
3 GEOCHEMISTRY																					
G 01 3 3 01 01 02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
G 02 3 4 01 04 01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000
A 03 3 2 01 01 11	CHEM ANAL BY N ACTIV	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000
B 04 3 2 01 01 01	CHEM ANAL BY N ACTIV	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
B 05 3 1 01 01 08	MICR MIN A PET STUDY	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
B 06 3 3 01 01 01	GAMMA RAY SPECTROM	005	7	5	746	2	0	1	16	3201	1082	2003	1000	2001	2001	3	2	68	56	25	0000
B 07 3 5 01 01 10	SOLIDS M SPEC ANAL	002	0	5	737	2	2	1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000
B 08 3 2 01 01 02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
B 09 3 2 01 01 04	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
● B 10 3 4 01 04 03	M SPEC GAS ANAL	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
B 11 3 4 01 04 02	SURF M SPEC GAS ANAL	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
A 12 3 2 01 03 01	VOLATILE DETN/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1501	0000	4	2	68	35	24	5000
A 13 3 2 01 01 12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
G 14 3 2 01 01 17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
G 15 3 2 01 01 16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
B 16 3 2 01 01 18	IN SITU IR SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B 17 3 2 01 01 15	UV-VISIBLE SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	26	25	5002
B 18 3 2 01 01 05	CHEM ANAL & REAGENTS	002	0	6	755	3	3	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000
B 19 3 2 01 01 03	NMR SPECTROMETRY	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	54	0000
B 20 3 2 01 01 14	IN SITU X RAY DIFF	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
B 21 3 2 01 01 07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000
B 22 3 2 01 01 13	GAMMA SCATTERING	005	7	6	755	2	6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
A 23 3 2 01 01 06	DENS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	13	0000
4 GEOPHYSICS																					
A 01 4 0 01 01 01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
A 02 4 4 07 08 82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	65	0000
A 03 4 4 07 08 42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	75	0000
A 04 4 0 08 03 53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	6152	1902	5000	3051	0000	3	0	66	55	15	0000
A 05 4 1 02 02 07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
A 06 4 4 07 08 47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000

● Energy supplied by independent power source (emplaced package)

A	07	4	4	07	08	50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
A	08	4	6	04	06	16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
A	09	4	6	04	06	17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
B	10	4	4	07	08	45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	65	0000
B	11	4	0	12	07	78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000
B	12	4	1	02	02	08	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	94	0000
G	13	4	3	03	09	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
G	14	4	6	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
G	15	4	4	07	08	86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
G	16	4	2	02	02	84	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
G	17	4	0	08	03	70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
G	18	4	0	07	08	69	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	66	26	25	5000
G	19	4	0	06	05	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	14	0000
C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
B	21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	22	4	4	07	08	48	SUB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
**B	24	4	6	04	06	19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
B	25	4	4	07	08	43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	65	0000
B	26	4	0	06	06	30	ELECTRICAL SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
B	27	4	0	06	05	32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
C	28	4	4	07	08	66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
G	29	4	5	03	09	68	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
B	30	4	1	02	02	11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
C	32	4	1	06	05	40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
C	33	4	4	07	08	44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	65	0000
C	34	4	4	07	08	49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
**B	35	4	6	04	06	18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
B	37	4	5	10	06	01	PLASMA POTENTIAL	119	1	5	724	2	1	1	41	3000	4653	4000	2000	1101	0000	4	1	68	25	15	0000
B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2901	2000	0000	3	3	69	26	54	0000
C	39	4	0	13	07	76	NEUT ACTIV TRVPS	5	3	6	769	1	4	1	36	6000	5053	1703	2901	0000	0000	2	3	69	26	55	0000
A	40	4	4	07	08	46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
*A	41	4	5	03	09	12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1804	1501	5051	0000	3	2	69	26	25	0000
B	42	4	0	05	05	24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
B	43	4	1	05	06	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
C	44	4	1	05	06	23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	5000
**B	45	4	5	03	09	13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B	46	4	5	03	09	14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

DISCIPLINE SEQUENCES BY DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY SUMMARY LIST

EXPERIMENT NUMBER: EXPL PHASE	DISCIPLINE SQUENCE NUMBER	AREA	OBJECT	SPECIMEN	INVESTIGATION	EXPT	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SOTEAVT	TODIEMVE	AYYEAARL	NCRECT	FICRESTT	TOTL ERTH RETD MASS KG
GEOPHYSICS (CONT)																											
B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
B	49	4	0	06	05	34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
C	50	4	1	01	02	05	SEISMIC REFLECTION	994	5	5	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
B	52	4	0	06	06	28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
C	53	4	6	04	06	21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
C	54	4	5	03	09	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
C	55	4	0	05	05	25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
C	57	4	0	06	05	33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
C	58	4	4	07	08	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000
C	59	4	0	05	05	27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
C	60	4	0	06	06	29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
B	61	4	1	04	06	81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
A	63	4	0	07	08	83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
**B	64	4	0	11	07	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
B	65	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
C	66	4	0	08	03	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	94	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
B	69	4	1	09	04	87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
B	70	4	0	08	03	52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000
B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	94	0000
B	72	4	0	05	05	38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
C	73	4	0	05	05	39	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C	74	4	0	05	05	37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
C	75	4	0	06	05	35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	54	2000
B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2501	0000	5	2	69	45	15	2000
B	78	4	7	03	13	03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B	79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	54	2000
B	80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	54	4000
D	81	4	7	06	16	06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	56	26	4000
D	82	4	8	09	21	09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
E	83	4	8	10	22	10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	5909	4301	0000	5	9	60	16	27	1001
C	84	4	0	09	04	56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000
G	85	4	0	12	07	80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
D	86	4	8	11	23	11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	56	26	6000

**Energy supplied by ESS RTG source

D	87	4	7	07	17	07	UP ATM ECLIPS SPECTR	393	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	56	26	4000
D	88	4	7	08	18	08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	9	60	66	16	0000
D	89	4	7	05	15	12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000
B	91	4	9	02	32	01	SEQUENT MULTIBND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
D	92	4	9	01	31	02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	56	26	0000
E	93	4	9	02	32	02	SEQUENT MULTIBND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001

5 PARTICLES AND FIELDS

**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3901	1401	1	0	65	16	25	1000
C	02	5	2	03	01	01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
C	03	5	2	02	02	01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
**B	04	5	3	05	02	01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
**B	05	5	3	07	01	01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000
B	06	5	5	22	02	01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	3	72	16	25	0000
B	07	5	3	01	01	01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	66	26	75	0000
B	08	5	5	22	01	01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B	10	5	2	02	01	01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
*A	11	5	3	01	02	01	SOLAR WIND, SURFACE	112	1	3	693	2	2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
D	12	5	5	22	03	01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	56	26	0000
D	13	5	5	22	06	01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	56	26	1001
D	14	5	2	02	04	02	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	65	16	45	0000
D	15	5	2	02	02	03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
D	16	5	5	23	01	01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
C	17	5	2	03	02	01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
C	18	5	2	02	02	02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C	19	5	3	01	01	02	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3901	1001	5	2	65	26	45	0000
C	20	5	3	05	01	01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1852	3204	1101	2101	0000	2	1	67	26	45	0000
C	21	5	3	05	01	02	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
G	22	5	2	02	03	01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
G	23	5	3	05	02	02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
C	24	5	2	03	01	02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
C	25	5	2	03	02	02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
D	26	5	5	23	01	02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
D	27	5	5	22	03	02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	56	26	0000
D	28	5	5	23	02	01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
D	29	5	3	01	01	03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	65	26	45	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

DISCIPLINE SEQUENCES BY DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLORM LCSPNE ARATC OBJECT SPECIAL INVESTIGATION EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE QUE	PMAS	CHRON TIME	IMPORT	UNGNC TY	NOMEN	SCRIEL ML	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRECT	FICROSSTT	TOTL ERTH RETD MASS KG
PARTICLES AND FIELDS (CONT)																					
D 30 5 3 05 01 03	SOLAR, GEOMAG FIELD	516	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
B 31 5 4 08 01 01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5501	0000	4	3	71	56	55	0000
B 32 5 3 07 01 02	ELECTRIC FIELD	115	1	5	724	2	1	2	51	6600	6051	3602	1000	5700	0000	2	1	68	55	74	0000
B 33 5 3 01 02 02	SOLAR WIND, SHOCK	551	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
E 34 5 3 01 01 04	SOLAR WIND MHD FLOW	519	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
E 35 5 3 05 01 04	SOLAR, GEOMAG FIELD	519	9	6	764	4	2	2	51	7600	2952	2105	9000	1102	2301	2	2	68	26	85	0000
*A 36 5 3 05 02 03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
D 37 5 2 02 04 03	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
D 38 5 5 22 04 01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
B 39 5 3 04 01 01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
E 40 5 2 09 01 01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
C 41 5 4 08 01 02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
B 42 5 2 02 01 05	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
D 43 5 2 03 01 03	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
D 44 5 2 03 02 03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
D 45 5 4 08 01 03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	9	80	16	27	4000
D 46 5 5 22 05 01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000
C 47 5 3 04 01 02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
6 BIOLOGY																					
A 01 6 2 03 04 01	SOIL BANK	556	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
B 02 6 1 04 01 02	EVID EXIST LIFE	355	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
C 03 6 1 01 03 01	GEN/EFFECTS/PLANT	352	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
A 04 6 1 03 03 03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
B 05 6 1 04 01 01	IND PREBIOT CHEM	352	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
C 06 6 1 01 02 01	BIORHYTHMS/PLANT	352	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
C 07 6 1 02 02 02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	13	1000
7 ASTRONOMY																					
B 01 7 1 01 01 01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
B 02 7 2 01 01 02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
C 03 7 2 01 01 03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
B 04 7 2 01 01 04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
C 05 7 3 02 06 22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
C 06 7 3 02 06 23	ANGULAR RES X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5902	0000	3	2	68	55	15	0000
C 07 7 3 02 06 24	DIST.INT.MEC.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3902	0000	3	2	68	55	15	0000
D 08 7 3 03 07 25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
B 09 7 2 01 02 05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000

*Energy supplied by ALSEP RTG source

D	10	7	2	01	03	08	PHOTG CES. (4C)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
D	11	7	2	01	03	09	PHOTG. PHOTOM. (4C)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
D	12	7	2	01	03	10	PHOTOEL. PHOT. (4C)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001
D	13	7	2	01	03	11	SPECTROSCOPY (4C)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5501
D	14	7	2	01	03	12	HIGH DISP. SPEC(4C)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
D	15	7	2	01	03	13	SPECTR. SCAN (4C)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
E	16	7	2	01	04	14	HIGH RES.PHOTG(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E	17	7	2	01	04	15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
E	18	7	2	01	04	16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6902	0000	5	6	72	18	27	5001
E	19	7	2	01	04	17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E	20	7	2	01	04	18	PLANET LIKE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
E	21	7	2	01	04	19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
C	22	7	2	01	05	21	LYMAN ALP.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
B	23	7	4	01	05	20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	54	2001
B	24	7	2	01	02	06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
C	25	7	2	01	02	07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
D	26	7	5	05	01	02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	69	55	15	0000
C	27	7	5	04	01	01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4652	1504	3000	6000	0000	2	2	68	55	94	0000
B	28	7	8	07	01	01	CISLUNAR PECULR EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B	29	7	7	07	01	01	AMB MAG FIELD MEAS	103	1	5	721	1	2	1	06	3500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
D	30	7	6	07	01	02	LOW WAVE PROPAGATION	195	2	5	721	2	1	2	06	2001	3452	5104	4001	1902	1001	2	1	68	45	84	0000
B	31	7	8	07	01	02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B	32	7	8	07	01	03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	33	7	8	07	01	04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
G	34	7	9	07	01	01	ELECTRIC FIELD	001	0	4	681	2	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
G	35	7	9	07	01	02	MAGNETIC FIELD	001	0	4	681	2	2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
G	36	7	9	07	01	03	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
E	37	7	5	06	01	01	SUBMILLIMETER RA	696	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	9	5	72	18	27	2002

B MISSION SUPPORT

Δ G	01	8	2	01	01	01	TOPOPHY APP-LEP SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	X	XX	XX	XX	1002
G	02	8	2	01	01	03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9501	2502	1000	0000	5	2	66	46	25	0000
A	03	8	2	01	01	02	ENG PROP LUNAR SURFC	005	1	5	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	69	15	24	0000
B	04	8	1	02	13	01	BIO CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
B	05	8	2	03	20	01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
A	06	8	1	02	11	04	GEOLOG-CHEM SAMP CAS	005	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
B	07	8	2	01	02	01	DUST ENVRMT/SURFACE	005	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
A	08	8	2	04	34	01	DUST REMOVAL TECHOGS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
B	09	8	2	04	31	01	SIM PERS SPLC/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	25	3051

Δ "x" indicates classified information

DISCIPLINE SEQUENCES BY DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH, DSIESQPNLC, AREA, OBJT, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCKRELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCT	FICROSSTY	TOTL ERTH RETD MASS KG
Mission Support (Cont)																					
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 11 8 1 02 12 01	ELECTRODE CPLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	69	45	54	0000
B 12 8 1 02 11 03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B 13 8 2 03 20 02	MECH EFF MAN RED GRV	003	0	5	721	6	5	2	66	1801	1551	1001	4000	4000	0000	2	0	67	00	54	0000
B 14 8 2 03 20 03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	34	0000
B 15 8 2 04 35 02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B 16 8 2 03 20 05	VISION STUDIES	003	0	5	721	6	5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
B 17 8 1 02 11 02	LUNAR DRILL BIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
B 18 8 1 02 11 01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	59	00	00	0000
B 19 8 1 02 12 03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	5	1	67	16	15	0000
B 20 8 2 05 39 01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B 21 8 3 06 41 06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	71	25	15	0000
B 22 8 3 06 41 01	H DETECT BY NEUT ACT	009	2	5	728	6	4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
B 23 8 1 02 12 05	STEREOPHOTOGRAMMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
B 24 8 1 02 17 01	EARTH RFI/EKCAD NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
B 25 8 1 02 17 02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
B 26 8 2 04 34 14	ELSTME POLYMR DEGRD	002	1	5	723	6	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B 27 8 2 04 34 03	STAT XPOS EFF ON MAT	003	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B 28 8 2 04 34 04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B 29 8 2 01 01 04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	65	00	00	1000
B 30 8 2 01 02 08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 31 8 2 01 02 05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 32 8 2 04 34 06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B 33 8 2 04 34 07	DYNMIC TEST THIM FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B 34 8 2 04 34 08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B 35 8 2 04 34 15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	66	35	84	2500
B 36 8 2 05 37 01	VIS TECH ASTRO VIS	094	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
B 37 8 2 05 37 02	VIS TECH LANC RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
B 38 8 2 05 36 02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	65	25	0000
B 39 8 2 05 36 01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
B 40 8 3 06 41 05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
B 41 8 3 06 41 04	H WITH PHOS COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
B 42 8 2 01 01 09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
B 43 8 2 04 35 01	EFCTS LONG BOOM STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B 44 8 2 01 02 02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B 45 8 2 01 02 03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
B 46 8 2 01 02 04	ANTENNA DIST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B 47 8 1 02 17 03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	91	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000
B 48 8 2 04 32 03	RF GRD WAVE PROPGTION	004	2	5	733	6	7	2	46	7500	8052	2602	1002	8000	0000	3	3	72	16	25	0000
B 49 8 1 02 18 01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	56	36	5000

B	50	8	2	02	34	13	ENV EFFECTS/SCL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
B	51	8	2	02	32	02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
B	52	8	2	01	01	05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B	53	8	2	01	01	08	SUPT PROP LUN SOILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
B	54	8	2	04	33	01	ELEC TRANS LINE TEST	003	1	5	732	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B	55	8	2	04	34	02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
B	56	8	2	01	02	06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B	57	8	2	04	32	01	LUNAR ENV ON ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
B	58	8	2	04	32	06	RETRODIR OPT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B	59	8	2	01	01	22	LUNAR STRATA E/M PRO	004	2	5	744	7	7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
B	60	8	2	04	50	03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
C	61	8	2	05	40	01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000
C	62	8	2	04	34	05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
B	63	8	2	04	32	04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
C	64	8	2	04	32	05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
C	65	8	2	03	20	11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
C	66	8	2	03	30	04	EFF BREATH MIX GASES	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
C	67	8	2	03	30	02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
C	68	8	1	02	12	07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	69	26	25	5000
C	69	8	2	03	20	06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	13	0000
C	70	8	2	03	20	04	BIOASSAYS-BODY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	55	0000
C	71	8	2	03	20	10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
C	72	8	2	04	50	01	CONV HT TRANS IN LIQ	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
C	73	8	2	04	50	02	HT XFR FILM/DRP COND	002	0	6	743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
C	74	8	3	06	42	01	CHARAC LUNAR SLFWLDG	004	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C	75	8	3	06	43	03	PART ADHESN MECH PRO	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
C	76	8	3	06	45	01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
C	77	8	3	06	41	02	CHEM+DTA ANALS-O+CO2	002	0	6	746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
C	78	8	3	06	41	03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
C	79	8	2	04	34	09	LNG STAT XFRS ON MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
C	80	8	2	01	02	07	LUNAR IMPACT SFERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
C	81	8	1	02	18	02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
D	82	8	2	01	01	07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
D	83	8	2	03	30	01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D	84	8	2	03	30	03	EVAL HYDROGENOMONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
D	85	8	2	03	30	06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
D	86	8	2	03	30	05	BIO MON ECO SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
D	87	8	2	01	01	06	NUC REAC EPPL ASSESS	003	2	6	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	68	59	95	0000
D	88	8	2	04	33	02	EL TRANS LINE ROUTE	003	2	6	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
D	89	8	2	03	30	07	EFF LUNR COND ON PLT	002	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D	90	8	2	03	30	08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D	91	8	2	03	30	09	GENETIC EFF/ANIMALS	002	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D	92	8	2	03	30	10*	ANIML GRTH DEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801

9 MISC. BASIC AND APPLIED RESEARCH

B	01	9	0	05	02	01	CRNR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000
B	02	9	0	03	03	01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
D	03	9	0	01	01	01	HI INT ELEC BEAM GEN	003	1	6	743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
D	04	9	0	03	02	01	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
D	05	9	0	01	02	01	HI INT ARC GENERATN	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
D	06	9	0	03	01	01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D	07	9	0	02	01	01	FIELD EMISSION CPTCS	003	1	6	743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	65	25	5051
D	08	9	0	05	01	01	LORENTZ PLSMA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
E	09	9	0	04	01	01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000

*Four Mission Support experiments are correlative and do not have discreet support requirements. Therefore, they do not have Type-1 card description.

4.0 MISSION SUPPORT SEQUENCES

4.1 MISSION SUPPORT SEQUENCES WITHIN DISCIPLINES BY INCREASING MASS REQUIREMENTS

MISSION SUPPORT - MASS SEQUENCE WITHIN DISCIPLINE

8-25-66
0615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPH DSIEPNLC ARCAEA CBJT SPEC INVS EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRES GE	PHASE	CHRON TIME	IMPORT	URGENCY	NOMEN	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	STDTEAVT	TDIEMVE	AVEAIRL	NCRECST	FICRESTT	TOTL ERTH RETD MASS KG
0 LUNAR ATMOSPHERE																					
*A 01 0 1 03 01 55	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
**B 02 0 1 03 02 60	ATMOSPHERIC PRESSURE	993	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
B 04 0 2 03 03 61	ELECTRIC FIELD	993	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3	6	769	2	4	1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
C 06 0 1 03 04 64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
*A 03 0 2 03 02 63	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
1 GEODESY																					
B 03 1 3 03 03 03	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
C 07 1 3 04 04 04	SEISMIC OBSERVATIONS	999	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
B 01 1 3 03 07 07	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
B 06 1 2 01 02 02	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
B 04 1 1 01 01 01	SELENODETIC ASTRON.	999	7	9	729	1	1	1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
C 05 1 1 01 05 05	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
B 02 1 2 02 06 06	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
2 GEOLOGY																					
B 09 2 4 03 04 13	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
A 12 2 1 04 04 11	VISUAL LOGGING	999	9	5	728	2	2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
A 06 2 1 01 03 09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
B 03 2 3 01 03 20	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	68	35	13	1002
C 13 2 1 01 03 30	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	53	2002
B 05 2 1 01 02 04	GEOLOGIC MAPPING	999	7	9	708	1	1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
B 10 2 4 03 03 10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	56	55	1001
☐ A 08 2 1 04 02 05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	56	85	1001
B 04 2 1 01 02 03	FINE STRUCTURE DEF	999	7	9	708	1	1	1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	85	1051

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source
☐ Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.

MISSION SUPPORT - MASS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPM LOC ARE OBJ SPE INV EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE QUE	MPAS E	CHRON TIME	IMPORT	UNGCY	NOMEN	SCRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICROSSTT	TOTL ERTH RETD MASS KG
GEOLOGY (CONT)																					
B 07 2 1 02 03 07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
B 01 2 1 04 01 02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
B 02 2 1 04 01 01	GEOLOGIC BASE MAPS	991	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
E 11 2 1 02 03 08	DEEP DRILL - 300M	999	9	6	753	2	3	2	14	7005	1101	4506	5502	1203	0000	2	1	74	57	56	2003
3 GEOCHEMISTRY																					
A 23 3 2 01 01 06	DENS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	13	0000
B 22 3 2 01 01 13	GAMMA SCATTERING	005	7	6	755	2	6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
B 09 3 2 01 01 04	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
A 12 3 2 01 03 01	VOLATILE DETN/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1901	0000	4	2	68	35	24	5000
A 13 3 2 01 01 12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
B 05 3 1 01 01 06	MICR MIN & PET STUDY	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
B 20 3 2 01 01 14	IN SITU X RAY DIFF	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
B 21 3 2 01 01 07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000
0 14 3 2 01 01 17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
0 15 3 2 01 01 16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
B 16 3 2 01 01 18	IN SITU IR SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B 17 3 2 01 01 15	UV-VISIBLE SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	26	25	5002
A 05 3 2 01 01 11	CHEM ANAL BY N ACTIV	002	0	5	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000
B 04 3 2 01 01 01	CHEM ANAL BY N ACTIV	005	7	5	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
B 08 3 2 01 01 02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
0 02 3 4 01 04 01	ORE GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000
● B 10 3 4 01 04 03	M SPEC GAS ANAL	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
B 11 3 4 01 04 02	SURF M SPEC GAS ANAL	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
B 19 3 2 01 01 03	NMR SPECTROMETRY	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000
B 18 3 2 01 01 05	CHEM ANAL W REAGENTS	002	0	6	755	3	5	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000
B 07 3 5 01 01 10	SOLIDS M SPEC ANAL	002	0	5	737	2	2	1	26	2501	1552	6002	3001	4001	0000	3	3	69	56	45	0000
0 01 3 3 01 01 02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
B 06 3 3 01 01 01	GAMMA RAY SPECTROM	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
4 GEOPHYSICS																					
A 03 4 4 07 08 42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	75	0000
B 10 4 4 07 08 45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	63	0000
B 25 4 4 07 08 43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	63	0000
C 33 4 4 07 08 44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	63	0000
B 62 4 0 05 05 36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000

● Energy supplied by independent power source (emplaced package)

MISSION SUPPORT - MASS SEQUENCE WITHIN DISCIPLINE

A	07	4	4	07	C8	50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
B	18	4	0	07	C8	65	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
C	58	4	4	07	C8	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000
B	65	4	0	13	C7	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	84	0000
B	42	4	0	05	C5	24	MAG. SUSCEPTIBILITY	995	2	3	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
B	43	4	1	05	C6	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
C	44	4	1	05	06	23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	3000
B	49	4	0	06	C5	34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
B	51	4	0	05	C5	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
C	55	4	0	05	C5	25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C	59	4	0	05	C5	27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
C	75	4	0	06	C5	35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
C	84	4	0	09	04	56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000
A	40	4	4	07	C8	46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
B	52	4	0	06	C6	28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
C	60	4	0	06	C6	29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
B	22	4	4	07	C8	48	SUB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	6000	5	2	68	45	24	0000
B	16	4	2	02	C2	84	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
B	37	4	5	10	06	01	PLASMA POTENTIAL	119	1	5	724	2	1	1	41	3000	4653	4000	2000	1101	0000	4	1	68	25	15	0000
A	04	4	0	08	C3	53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	6152	1902	5000	3051	0000	3	0	66	95	15	0000
B	70	4	0	08	C3	52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000
C	66	4	0	08	C3	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
C	17	4	0	08	C3	70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
B	27	4	0	06	05	32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
B	72	4	0	05	05	38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
C	73	4	0	05	05	35	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C	74	4	0	05	05	37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
B	26	4	0	06	06	30	ELECTRICA SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
A	02	4	4	07	C8	82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	65	0000
B	61	4	1	04	C6	81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
C	57	4	0	06	C5	33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
**B	64	4	0	11	C7	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
A	08	4	6	04	06	16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
B	11	4	0	12	C7	78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000
C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
**B	24	4	6	04	06	19	MAGNETIC FIELD	996	1	3	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
C	32	4	1	06	C5	40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000

**Energy supplied by ESS RTG source

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPH)	(DSIESQPNLC)	(ARAT)	(OBJE)	(SPCT)	(INVS)	(EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHAS E	CHRON TIME	IMPORT	UNGCY	NOMEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCT	FICRSSTT	TOTL ERTH RETD MASS KG
GEOPHYSICS (CONT)																											
**B	35	4	6	04	06	16	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
C	39	4	0	13	07	76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2901	0000	0000	3	3	69	26	55	0000
B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
C	53	4	6	04	06	21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
A	06	4	4	07	08	47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000
A	09	4	6	04	06	17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2901	2000	0000	3	5	69	26	55	0000
B	69	4	1	09	04	87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
A	05	4	1	02	02	07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
B	21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
C	34	4	4	07	08	49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
C	50	4	1	01	02	05	SEISMIC REFLECTION	994	5	5	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
A	63	4	0	07	08	83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	54	0000
B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	54	0000
A	01	4	0	01	01	01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
B	12	4	1	02	02	08	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	54	0000
*A	41	4	5	03	09	12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1804	1501	5051	0000	3	2	69	26	25	0000
**B	45	4	5	03	09	13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B	46	4	5	03	09	14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
C	54	4	5	03	09	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
G	14	4	6	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
G	15	4	4	07	08	86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
G	85	4	0	12	07	80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
G	13	4	3	03	09	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
G	28	4	4	07	08	66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
G	29	4	5	03	09	68	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000
B	91	4	9	02	32	01	SEQUENT MULTIBAND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
B	78	4	7	05	13	03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	3	2	69	45	94	2000
B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2501	0000	5	2	69	45	15	2000
B	79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	94	2000
B	80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	94	4000
G	19	4	0	06	05	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
B	30	4	1	02	02	11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
D	88	4	7	08	18	08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	9	80	66	16	0000
D	82	4	6	09	21	05	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

D	86	4	8	11	23	11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	96	26	6000
D	87	4	7	07	17	07	UP ATM ECLIPS SPECTR	393	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	96	26	4000
D	89	4	7	05	15	12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
D	81	4	7	06	16	06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	96	26	4000
D	92	4	9	01	31	02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	96	26	0000
D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001
E	93	4	9	02	32	02	SEQUENT MULTIBAND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
E	83	4	8	10	22	10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	80	18	27	1001

5 PARTICLES AND FIELDS

**B	04	5	3	05	02	01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
*A	11	5	3	01	02	01	SOLAR WIND, SURFACE	112	1	3	693	2	2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
0	33	5	3	01	02	02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
**B	05	5	3	07	01	01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000
0	23	5	3	05	02	02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
*A	36	5	3	05	02	03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
C	21	5	3	05	01	02	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
D	30	5	3	05	01	03	SOLAR, GEOMAG FIELD	916	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
B	39	5	3	04	01	01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
C	47	5	3	04	01	02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B	10	5	2	02	01	01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
B	42	5	2	02	01	03	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3501	1401	1	0	65	16	25	1000
C	20	5	3	05	01	01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1852	3204	1101	2101	0000	2	1	67	26	45	0000
B	32	5	3	07	01	02	ELECTRIC FIELD	119	1	5	724	2	1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
B	31	5	4	08	01	01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5501	0000	4	3	71	56	55	0000
B	07	5	3	01	01	01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
E	35	5	3	05	01	04	SOLAR, GEOMAG FIELD	919	9	6	764	4	2	2	51	7600	2952	2105	9000	1102	2301	2	2	68	26	85	0000
0	22	5	2	02	03	01	CHARGED PAR ANISOTPY	951	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
D	14	5	2	02	04	02	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D	37	5	2	02	04	03	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
C	03	5	2	02	02	01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
C	18	5	2	02	02	02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C	19	5	3	01	01	02	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3501	1001	5	2	69	26	45	0000
D	29	5	3	01	01	03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
E	34	5	3	01	01	04	SOLAR WIND MHD FLOW	919	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
D	15	5	2	02	02	03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
C	41	5	4	06	01	02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

MISSION SUPPORT - MASS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLORE / DOSE / SQUARE / PNEAT / LOCAT / OBJECT / SPECT / INVES / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MORE	PHASE	CHRON TIME	IMPORT	UNCERT	NOGO	SKRIEL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCT	FICRESTT	TOTL ERTH RETD MASS KG
PARTICLES AND FIELDS (CONT)																					
D 45 5 4 08 01 03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	9	80	18	27	4000
C 02 5 2 03 01 01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
B 08 5 5 22 01 01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
C 17 5 2 03 02 01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
C 24 5 2 03 01 02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
C 25 5 2 03 02 02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
D 44 5 2 03 02 03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
B 06 5 5 22 02 01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	3	72	16	25	0000
D 43 5 2 03 01 03	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
E 40 5 2 09 01 01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	5	80	37	56	0000
D 13 5 5 22 06 01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
D 46 5 5 22 05 01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000
D 12 5 5 22 03 01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	96	26	0000
D 38 5 5 22 04 01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
D 16 5 5 23 01 01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
D 26 5 5 23 01 02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
D 27 5 5 22 03 02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	96	26	0000
D 28 5 5 23 02 01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
6 BIOLOGY																					
A 01 6 2 03 04 01	SOIL BANK	596	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
A 04 6 1 03 03 03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
C 07 6 1 02 02 02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	13	1000
C 06 6 1 01 02 01	BIORHYTHMS/PLANT	392	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
B 05 6 1 04 01 01	INC PREBIOT CHEM	392	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
B 02 6 1 04 01 02	EVID EXIST LIFE	395	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
C 03 6 1 01 03 01	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
7 ASTRONOMY																					
B 34 7 9 07 01 01	ELECTRIC FIELD	001	1	4	681	2	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
B 36 7 9 07 01 03	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
B 35 7 9 07 01 02	MAGNETIC FIELD	001	0	4	681	2	2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
B 29 7 7 07 01 01	AMB MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
C 27 7 5 04 01 01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4652	1504	3000	6000	0000	2	2	68	55	54	0000
C 05 7 3 02 06 22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
B 23 7 4 01 05 20	EINSTEIN FREE.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
B 28 7 8 07 01 01	CISLUNAR MEDIUM EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	66	35	54	0000
D 30 7 6 07 01 02	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1501	1001	2	1	68	45	84	0000

B	31	7	8	07	01	02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
C	06	7	3	02	06	23	ANGULAR FCS X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5902	0000	3	2	68	55	15	0000
C	07	7	3	02	06	24	DIST.INT.MEC.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3902	0000	3	2	68	55	15	0000
D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
C	22	7	2	01	05	21	LYMAN ALF.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
B	01	7	1	01	01	01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
B	24	7	2	01	02	06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
B	32	7	8	07	01	03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	33	7	8	07	01	04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	09	7	2	01	02	05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	5202	0000	4	2	68	25	64	5000
B	02	7	2	01	01	02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
B	04	7	2	01	01	04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
C	25	7	2	01	02	07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
C	03	7	2	01	01	03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
D	26	7	5	05	01	02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	69	55	15	0000
D	10	7	2	01	03	08	PHOTG OBS. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
D	11	7	2	01	03	09	PHOTG. PHOTOM. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
D	12	7	2	01	03	10	PHOTOEL. PHOT. (40)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001
D	13	7	2	01	03	11	SPECTROSCOPY (40)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5001
D	15	7	2	01	03	13	SPECTR. SCAN (40)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
D	14	7	2	01	03	12	HIGH DISP. SPEC(40)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
E	37	7	5	06	01	01	SUBMILLIMETER RA	096	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	5	5	72	18	27	2002
E	16	7	2	01	04	14	HIGH RES.PHOTG(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E	18	7	2	01	04	16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6502	0000	5	6	72	18	27	5001
E	19	7	2	01	04	17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E	20	7	2	01	04	18	PLANET LIKE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
E	21	7	2	01	04	19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
E	17	7	2	01	04	15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002

8 MISSION SUPPORT

B	12	8	2	01	11	03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B	55	8	2	04	34	02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
D	88	8	2	04	33	02	EL TRANS LINE ROUTE	003	2	6	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
B	18	8	1	02	11	01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	99	00	00	0000
B	09	8	2	04	31	01	SIM PERS SPEC/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	25	3051
B	17	8	1	02	11	02	LUNAR DRILL BIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
B	29	8	2	01	01	04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	00	00	00	1000
B	37	8	2	05	37	02	VIS TECH LAND RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
B	60	8	2	04	50	03	STRATIF CRYOGEN LIG	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000

MISSION SUPPORT - MASS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXLPH / DSIESQPNLC / AREA / OBJ / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	URGNC	NOM	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICRGSTT	TOTL ERTH RETD MASS KG
MISSION SUPPORT (CONT)																					
A 03 8 2 01 01 02	ENG PROP LUNAR SURFC	CC5	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	65	15	24	0000
B 07 8 2 01 02 01	DUST ENVRNT/SURFACE	CC5	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B 11 8 1 02 12 01	ELECTRODE CFLNG PROP	CC4	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	65	45	54	0000
B 27 8 2 04 34 03	STAT XPOS EFF ON MAT	CC3	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B 46 8 2 01 02 04	ANTENNA DUST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B 54 8 2 04 33 01	ELEC TRANS LINE TEST	003	1	5	732	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B 16 8 2 03 20 05	VISION STUDIES	CC3	0	5	721	6	5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
B 26 8 2 04 34 14	ELSTME POLYMR DEGRD	002	1	5	723	6	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B 10 8 2 04 33 10	ELEC SYST GROUNDING	CC3	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 58 8 2 04 32 06	RETRODIR OPT SYS TEC	CC4	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B 59 8 2 01 01 22	LUNAR STRATA E/M PRO	004	2	5	744	7	7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
C 73 8 2 04 50 02	HT XFR FILM/GRF COND	002	0	6	743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	65	25	54	0000
C 70 8 2 03 20 04	BIOASSAYS-ECCY FLUID	CC3	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	55	0000
B 36 8 2 05 37 01	VIS TECH ASTRO VIS	C94	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
B 50 8 2 02 34 13	ENV EFFECTS/SOL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	65	75	15	2000
B 30 8 2 01 02 08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 31 8 2 01 02 05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 28 8 2 04 34 04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B 34 8 2 04 34 08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B 35 8 2 04 34 15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
C 68 8 1 02 12 07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1001	0000	3	2	65	26	25	5000
C 74 8 3 06 42 01	CHARAC LUNAR SLFWLDG	C04	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C 78 8 3 06 41 03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
C 79 8 2 04 34 09	LNG STAT XPOS ON MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
B 45 8 2 01 02 03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	65	26	35	0000
B 53 8 2 01 01 08	SUPT PROP LUN SOILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
B 57 8 2 04 32 01	LUNAR ENV ON ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
C 69 8 2 03 20 06	PSYCHOLOGICAL STUDY	CC3	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	13	0000
C 72 8 2 04 50 01	CONV HT TRANS IN LIQ	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	65	25	44	0000
C 71 8 2 03 20 10	CARDIOVASCULAR PHENO	CC3	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
B 48 8 2 04 32 03	RF GRD WAVE PROPGTION	CC4	2	5	733	6	7	2	46	7500	8052	2602	1002	8000	6000	3	3	72	16	25	0000
B 43 8 2 04 35 01	EFCTS LONG BOOM STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	65	35	54	0000
A 08 8 2 04 34 01	DUST REMOVAL TECHQES	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
B 15 8 2 04 35 02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B 19 8 1 02 12 03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
B 33 8 2 04 34 07	DYNMIC TEST THIN FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B 41 8 3 06 41 04	H WITH PRES GRAD	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
B 51 8 2 02 32 02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
B 52 8 2 01 01 05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B 56 8 2 01 02 06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	65	25	54	0000
D 82 8 2 01 01 07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	1	70	25	44	0000
D 86 8 2 03 30 05	610 MON ECS SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
B 47 8 1 02 17 03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	91	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000

B	05	8	2	03	20	01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
B	04	8	1	02	13	01	BIO CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
G	24	8	1	02	17	01	EARTH RFI/BKGND NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	66	16	15	0000
B	39	8	2	05	36	01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
C	77	8	3	06	41	02	CHEM+DTA ANALS-O+CO2	002	0	6	746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
B	21	8	3	06	41	06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	71	25	15	0000
B	22	8	3	06	41	01	H DETECT BY NEUT ACT	009	2	5	728	6	4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
D	87	8	2	01	01	06	NUC REAC EMFL ASSESS	003	2	6	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	68	55	55	0000
Δ G	01	8	2	01	01	01	TOPGPHY AAP-LEM SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
B	13	8	2	03	20	02	MECH EFF MAN RED GRV	003	0	5	721	6	5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
B	14	8	2	03	20	03	WORK CAPABILITY	003	0	5	721	0	5	2	60	1601	1051	2100	1001	2000	0000	4	2	68	25	34	0000
A	06	8	1	02	11	04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
B	32	8	2	04	34	06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B	38	8	2	05	36	02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	85	25	0000
B	40	8	3	06	41	05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
C	61	8	2	05	40	01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1601	0000	5	3	74	35	84	0000
B	63	8	2	04	32	04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
C	80	8	2	01	02	07	LUNAR IMPACT SFERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
C	81	8	1	02	18	02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
G	25	8	1	02	17	02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	66	16	15	0000
C	66	8	2	03	30	04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
B	42	8	2	01	01	09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
G	02	8	2	01	01	03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	66	46	25	0000
C	65	8	2	03	20	11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
B	44	8	2	01	02	02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
C	62	8	2	04	34	05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
C	64	8	2	04	32	05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
B	20	8	2	05	39	01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
C	76	8	3	06	45	01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
B	49	8	1	02	18	01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	56	36	5000
C	67	8	2	03	30	02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
D	83	8	2	03	30	01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D	84	8	2	03	30	03	EVAL HYDROGENOMONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
D	85	8	2	03	30	06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
C	75	8	3	06	43	03	PART ADHESN MECH PRC	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
D	89	8	2	03	30	07	EFF LUNR CONE ON PLT	002	0	6	744	3	5	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D	90	8	2	03	30	08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D	91	8	2	03	30	09	GENETIC EFF/ANIMALS	002	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D	92	8	2	03	30	10	ANIML GRTH DEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801
G	23	8	1	02	12	05	STEREOPHOTOGRAMMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802

9 MISC. BASIC AND APPLIED RESEARCH

D	07	9	0	02	01	01	FIELD EMISSION OPTCS	003	1	6	743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051
D	06	9	0	03	01	01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D	08	9	0	05	01	01	LORENTZ FLSPA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
D	03	9	0	01	01	01	HI INT ELEC BEAM GEN	003	1	6	743	5	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
B	02	9	0	03	03	01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
D	05	9	0	01	02	01	HI INT ARC GENERATN	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
B	01	9	0	05	02	01	CRNR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000
D	04	9	0	03	02	01	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
E	09	9	0	04	01	01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000

Δ "x" indicates classified information.

4.2 MISSION SUPPORT SEQUENCES ACROSS DISCIPLINES BY INCREASING MASS REQUIREMENTS

MISSION SUPPORT - MASS SEQUENCE ACROSS DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER							EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AVEAAL RL	ACRCES CT	FICRSSTT	TOTL ERTH RETD MASS KG
EXPH	DSIESQPNLC	AREA	OBJT	SPEC	INVS	EXPT																					
A	01	6	2	03	04	01	SOIL BANK	996	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
A	04	6	1	03	03	03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
B	12	8	1	02	11	03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B	55	8	2	04	34	02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
D	88	8	2	04	33	02	EL TRANS LINE ROUTE	003	2	0	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
B	18	8	1	02	11	01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	99	00	00	0000
B	09	8	2	04	31	01	SIM PERS SHLD/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	23	3051
A	23	3	2	01	01	06	DENS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	13	0000
B	17	8	1	02	11	02	LUNAR DRILL BIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
A	03	4	4	07	08	42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	73	0000
B	10	4	4	07	08	45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	63	0000
B	25	4	4	07	08	43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	63	0000
C	33	4	4	07	08	44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	63	0000
B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
A	07	4	4	07	08	50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	8152	5000	5000	4051	0000	2	2	68	35	14	0000
*A	01	0	1	03	01	59	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
**B	02	0	1	03	02	60	ATMOSPHERIC PRESSURE	993	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
B	09	2	4	03	04	13	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
B	18	4	0	07	08	65	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
C	58	4	4	07	08	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000
C	07	6	1	02	02	02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	13	1000
B	29	8	2	01	01	04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B	37	8	2	05	37	02	VIS TECH LAND RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
B	60	8	2	04	50	03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
A	12	2	1	04	04	11	VISUAL LOGGING	999	9	5	728	2	2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
B	65	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	64	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
A	05	8	2	01	01	02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1600	6053	0000	0000	2000	1500	6	3	69	15	24	0000
B	04	0	2	03	03	61	ELECTRIC FIELD	993	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER	EXPERIMENT TITLE	EXPT LOCA	NOBRQ	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TKVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRECTI	FICROSSTT	TOTL ERTH RETD MASS KG
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3 6	769	2 4	1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
B 22 3 2 01 01 13	GAMMA SCATTERING	005	7 6	755	2 6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
B 42 4 0 05 05 24	MAG. SUSCEPTIBILITY	995	2 5	722	2 2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
B 43 4 1 05 06 22	MAGNETISM	994	2 5	721	2 2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
C 44 4 1 05 06 23	MAGNETISM	996	5 6	742	2 2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	5000
B 49 4 0 06 05 34	SUBSURFACE RESIST.	994	2 5	723	2 2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
B 51 4 0 05 05 26	MAG. SUSCEPTIBILITY	993	1 5	732	2 2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
C 55 4 0 05 05 25	MAG. SUSCEPTIBILITY	995	5 6	755	2 2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C 59 4 0 05 05 27	MAG. SUSCEPTIBILITY	994	3 6	763	2 2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
C 75 4 0 06 05 35	RESISTIVITY SUBSUR	995	5 6	755	3 6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
C 84 4 0 09 04 56	SURFACE HARDNESS	995	5 6	755	5 5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000
**B 04 5 3 05 02 01	MAGNET FIELD MONITOR	112	1 3	693	4 1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
0 34 7 9 07 01 01	ELECTRIC FIELD	001	0 4	681	2 2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
B 07 8 2 01 02 01	DUST ENVRMT/SURFACE	005	1 5	742	6 5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B 11 8 1 02 12 01	ELECTRODE CHLNG PROP	004	2 5	724	6 1	1	31	2000	1552	2052	5000	4000	3000	5	3	69	45	54	0000
B 27 8 2 04 34 03	STAT XPOS EFF ON MAT	003	1 5	721	9 5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B 46 8 2 01 02 04	ANTENNA DUST ACCUMLN	103	1 5	721	1 2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B 54 8 2 04 33 01	ELEC TRANS LINE TEST	003	1 5	732	7 7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
*A 11 5 3 01 02 01	SOLAR WIND, SURFACE	112	1 3	693	2 2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
0 33 5 3 01 02 02	SOLAR WIND, SHOCK	991	0 4	693	2 2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
0 36 7 9 07 01 03	PARTICLE FLUX	001	0 4	681	2 2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
B 16 8 2 03 20 05	VISION STUDIES	003	0 5	721	6 5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
A 40 4 4 07 08 46	THERMAL BLANKET	993	1 3	681	2 1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
B 52 4 0 06 06 28	SELF POTENTIAL	995	2 5	732	2 2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
C 60 4 0 06 06 29	SELF POTENTIAL	995	5 6	773	2 2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
B 26 8 2 04 34 14	ELSTME POLYMR DEGRD	002	1 5	723	6 5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B 22 4 4 07 08 48	SUB SUR DIFFUSIVITY	992	1 3	681	1 2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
0 16 4 2 02 02 84	REMOTE SEISMIC	996	0 4	723	2 2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
B 37 4 5 10 06 01	PLASMA POTENTIAL	115	1 5	724	2 1	1	41	3000	4653	4000	2000	1101	0000	4	1	66	25	15	0000
**B 05 5 3 07 01 01	ELECTROSTATIC FIELD	112	1 3	693	2 1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	65	15	0000
0 23 5 3 05 02 02	MAGNET FIELD, SHOCK	991	0 4	693	2 2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
*A 36 5 3 05 02 03	MAGNETIC FIELD VS. T	112	1 3	693	2 2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2 5	721	6 5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 58 8 2 04 32 06	RETRODIR CPT SYS TEC	004	2 5	734	7 7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B 59 8 2 01 01 22	LUNAR STRATA E/M PRC	004	2 5	744	7 7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
C 73 8 2 04 50 02	HT XFR FILM/DRP COND	002	0 6	743	7 7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
D 07 9 0 02 01 01	FIELD EMISSION OPTCS	003	1 6	743	6 7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	65	25	5051
A 04 4 0 08 03 53	METEOROID DETECTION	992	1 3	681	1 1	1	36	3300	6152	1902	5000	3051	0000	3	0	66	95	15	0000
B 70 4 0 08 03 52	METEORITE DETECTION	993	2 5	724	2 6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000
0 35 7 9 07 01 02	MAGNETIC FIELD	001	0 4	681	2 2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000

*Energy supplied by ALSEP RTG source
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C	66	4	0	08	03	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
C	70	8	2	03	20	04	BIOASSAYS-BODY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	53	0000
C	17	4	0	08	C3	7C	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
B	27	4	0	06	05	32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
B	72	4	0	05	05	38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
C	73	4	0	05	05	39	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C	74	4	0	05	05	37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
B	36	8	2	05	37	01	VIS TECH ASTRO VIS	094	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
B	50	8	2	02	34	13	ENV EFFECTS/SOL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	65	75	15	2000
A	06	2	1	01	03	09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
C	21	5	3	05	01	02	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
D	30	5	3	05	01	03	SOLAR, GEOMAG FIELD	916	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
B	26	4	0	06	06	30	ELECTRICAL SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
A	02	4	4	07	08	82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	63	0000
B	39	5	3	04	C1	01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
C	47	5	3	04	01	02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
B	61	4	1	04	06	61	MAGNETIC-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B	10	5	2	02	01	01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
B	42	5	2	02	01	03	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
B	30	8	2	01	02	08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B	31	8	2	01	02	05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3501	1401	1	0	65	16	25	1000
C	57	4	0	06	05	33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
C	20	5	3	05	01	01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1852	3204	1101	2101	0000	2	1	67	26	45	0000
B	28	8	2	04	34	04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B	34	8	2	04	34	08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B	35	8	2	04	34	15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
C	68	8	1	02	12	07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	69	26	25	5000
C	74	8	3	06	42	01	CHARAC LUNAR SLFWLDG	004	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C	78	8	3	06	41	03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	66	00	00	1000
C	79	8	2	04	34	09	LNG STAT XPOS ON MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
**B	64	4	0	11	C7	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
B	29	7	7	07	C1	C1	AMB MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
B	03	2	3	01	03	20	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	66	35	15	1002
A	08	4	6	04	06	16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
B	11	4	0	12	C7	78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPLORM	EXPERIMENT NUMBER DISCIPLINE	SQUADRON	PNEAJBT	SPECIAL	INVESTIGATOR	EXPERIMENT	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCT	FICROSTT	TOTL ERTH RETD MASS KG
C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
**B	24	4	6	04	06	19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
C	32	4	1	06	05	40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
**B	35	4	6	04	06	18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
C	39	4	0	13	07	76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2501	0000	0000	3	3	69	26	55	0000
B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
C	53	4	6	04	06	21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
B	45	8	2	01	02	03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
C	06	0	1	03	04	64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
B	53	8	2	01	01	08	SUPT PROP LUN SOILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
B	32	5	3	07	01	02	ELECTRIC FIELD	119	1	5	724	2	1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
A	06	4	4	07	08	47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000
B	31	5	4	08	01	01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5501	0000	4	3	71	56	55	0000
B	09	3	2	01	01	04	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
A	12	3	2	01	03	01	VOLATILE DETR/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1501	0000	4	2	68	35	24	5000
A	13	3	2	01	01	12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
B	07	5	3	01	01	01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
C	27	7	5	04	01	01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4052	1504	3000	6000	0000	2	2	68	55	54	0000
B	57	8	2	04	32	01	LUNAR ENV ON ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
C	69	8	2	03	20	06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	13	0000
C	72	8	2	04	50	01	CONV HT TRANS IN LIQ	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
B	05	3	1	01	01	08	MICR MIN A PET STUDY	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
C	71	8	2	03	20	10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
A	09	4	6	04	06	17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
B	48	8	2	04	32	03	RF GRD WAVE PROPGTION	004	2	5	733	6	7	2	46	7500	8052	2602	1002	8000	6000	3	3	72	16	25	0000
E	35	5	3	05	01	04	SOLAR, GEOMAG FIELD	919	9	6	764	4	2	2	51	7600	2952	2105	5000	1102	2301	2	2	68	26	85	0000
B	43	8	2	04	35	01	EFCTS LONG ECOM STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
*A	03	0	2	03	02	63	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
B	20	3	2	01	01	14	IN SITU X RAY DIFF	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
B	21	3	2	01	01	07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000
B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2501	2000	0000	3	3	69	26	55	0000
B	69	4	1	09	04	87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
C	05	7	3	02	06	24	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
A	08	8	2	04	34	01	DUST REMOVAL TECHGOS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
B	15	8	2	04	35	02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B	19	8	1	02	12	03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
B	33	8	2	04	34	07	DYNAMIC TEST THIN FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B	41	8	3	06	41	04	H WITH PHOS COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
B	51	8	2	02	32	02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
B	52	8	2	01	01	05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B	56	8	2	01	02	06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
D	82	8	2	01	01	07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

D	86	8	2	03	30	05	BIO MON ECC SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
D	06	9	0	03	01	01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D	08	9	0	05	01	01	LORENTZ PLSMA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
A	05	4	1	02	02	07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
B	21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
C	34	4	4	07	08	49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
G	22	5	2	02	03	01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
C	50	4	1	01	02	05	SEISMIC REFLECTION	994	5	9	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
A	63	4	0	07	08	83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	94	0000
B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	94	0000
G	47	8	1	02	17	03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	91	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000
A	01	4	0	01	01	01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
C	13	2	1	01	03	30	SUBSURFACE SAMPLING	995	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	53	2002
B	12	4	1	02	02	06	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	94	0000
B	05	8	2	03	20	01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
G	14	3	2	01	01	17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
G	15	3	2	01	01	16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
B	16	3	2	01	01	18	IN SITU IR SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	66	16	15	5002
B	17	3	2	01	01	15	UV-VISIBLE SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	26	25	5002
*A	41	4	5	03	09	12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1804	1501	5051	0000	3	2	69	26	25	0000
**B	45	4	5	03	09	13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B	46	4	5	03	09	14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
C	54	4	5	03	09	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
B	04	8	1	02	13	01	BIO CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
G	24	8	1	02	17	01	EARTH RFI/BKGND NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
B	39	8	2	05	36	01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
C	77	8	3	06	41	02	CHEM+DTA ANALS-O+CO2	002	0	6	746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
D	03	9	0	01	01	01	HI INT ELEC BEAM GEN	003	1	6	743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
A	03	3	2	01	01	11	CHEM ANAL BY N ACTIV	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000
B	04	3	2	01	01	01	CHEM ANAL BY N ACTIV	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
B	08	3	2	01	01	02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
B	21	8	3	06	41	06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	2001	4001	0000	3	5	71	25	15	0000
B	22	8	3	06	41	01	H DETECT BY NEUT ACT	009	2	5	728	6	4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
D	87	8	2	01	01	06	NUC REAC EMPL ASSESS	003	2	6	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	68	99	99	0000
D	14	5	2	02	04	02	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D	37	5	2	02	04	03	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

	EXPERIMENT NUMBER EXPH	DSIE SQPN LC	AREA	OBJT	SPEC	INVS	EXPT	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRCESCI	FICRCSSTT	TOTL ERTH RETD MASS KG
Δ	0	01	8	2	01	01	01	TOPGPHY ARP-LEP SITE	101	0	4	695	1	1	1	17	1801	3552	5000	1001	0000	0000	4	x	xx	xx	xx	1002
	B	13	8	2	03	20	02	MECH EFF MAN RED GRV	003	0	5	721	6	5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
	B	14	8	2	03	20	03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	34	0000
	0	02	3	4	01	04	01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000
•	B	10	3	4	01	04	03	M SPEC GAS ANAL	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
	B	11	3	4	01	04	02	SURF M SPEC GAS ANAL	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
	B	19	3	2	01	01	03	NMR SPECTROMETRY	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000
	0	14	4	6	04	06	07	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
	0	15	4	4	07	08	06	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
	C	03	5	2	02	02	01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4552	2004	4000	5401	0000	3	2	70	16	35	4000
	B	23	7	4	01	05	20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
	B	26	7	8	07	01	01	CISLUNAR MEDIUM EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
	D	30	7	6	07	01	02	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1501	1001	2	1	68	45	84	0000
	B	31	7	8	07	01	02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
	A	06	8	1	02	11	04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
	B	32	8	2	04	34	06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
	B	38	8	2	05	36	02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	65	25	0000
	B	40	8	3	06	41	05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
	C	61	8	2	05	40	01	METL JOIN LUNA COAST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000
	B	63	8	2	04	32	04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
	C	80	8	2	01	02	07	LUNAR IMPACT SFERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
	C	81	8	1	02	18	02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
	B	02	9	0	03	03	01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
	B	16	3	2	01	01	05	CHEM ANAL W REAGENTS	002	0	6	755	3	3	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000
	B	07	3	5	01	01	10	SOLIDS P SPEC ANAL	002	0	5	737	2	2	1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000
	C	18	5	2	02	02	02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
	C	06	7	3	02	06	23	ANGULAR POS X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5902	0000	3	2	68	55	15	0000
	C	07	7	3	02	06	24	DIST.INT.MED.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3502	0000	3	2	68	55	15	0000
	D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
	C	22	7	2	01	05	21	LYMAN ALF.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
	D	05	9	0	01	02	01	HI INT ARC GENERATN	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
	C	06	6	1	01	02	01	BIORHYTHMS/PLANT	592	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
	B	03	1	3	03	03	03	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
	B	05	2	1	01	02	04	GEOLOGIC MAPPING	999	7	9	708	1	1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
	B	10	2	4	03	03	10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	96	95	1001
	0	85	4	0	12	07	80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
	0	25	8	1	02	17	02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
	C	66	8	2	03	30	04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
	B	01	9	0	05	02	01	CRNR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000

Δ "x" indicates classified information

• Energy supplied by independent power source (emplaced package)

C	01	3	3	01	01	02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
B	06	3	3	01	01	01	GAMMA RAY SPECTROM	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
A	08	2	1	04	02	05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	56	25	1001
C	19	5	3	01	01	02	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3501	1001	5	2	69	26	45	0000
D	29	5	3	01	01	03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
E	34	5	3	01	01	04	SOLAR WIND PHO FLOW	919	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
B	42	8	2	01	01	09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
B	04	2	1	01	02	03	FINE STRUCTURE DEF	999	7	9	708	1	1	1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	65	1051
D	15	5	2	02	02	03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
B	07	2	1	02	03	07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
B	05	6	1	04	01	01	IND PREDICT CHEM	352	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
G	02	8	2	01	01	03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	66	46	25	0000
G	13	4	3	03	09	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
G	28	4	4	07	08	66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
G	29	4	5	03	09	66	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
B	01	7	1	01	01	01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
B	24	7	2	01	02	06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
B	32	7	6	07	01	03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	33	7	6	07	01	04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	09	7	2	01	02	05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000
B	02	7	2	01	01	02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
B	04	7	2	01	01	04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
C	25	7	2	01	02	07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
B	02	6	1	04	01	02	EVID EXIST LIFE	395	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
C	03	7	2	01	01	03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
C	07	1	3	04	04	04	SEISMIC OBSERVATIONS	995	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
C	65	8	2	03	20	11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1000	5501	0000	6	0	67	00	54	1000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000
C	41	5	4	08	01	02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
B	44	8	2	01	02	02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B	91	4	9	02	32	01	SECLENT MULTIBND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
B	78	4	7	03	13	03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
G	01	2	1	04	01	02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	94	2000
B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2501	0000	5	2	69	45	15	2000
B	79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	94	2000
B	80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	94	4000
C	62	8	2	04	34	05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
C	64	8	2	04	32	05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
G	19	4	0	06	05	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
D	45	5	4	06	01	03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	9	80	16	27	4000

□ Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.

MISSION SUPPORT - MASS SEQUENCE ACROSS DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH / OSIEPNLC / AREA / OBJT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRECST	FICRCSTT	TOTL ERTH RETD MASS KG
B 20 8 2 05 39 01	XPLOS TECH SLRF MED	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
D 04 9 0 03 02 01	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
E 09 9 0 04 01 01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	65	27	16	1001
B 30 4 1 02 02 11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
C 02 5 2 03 01 01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
B 08 5 5 22 01 01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
C 17 5 2 03 02 01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
C 24 5 2 03 01 02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
C 25 5 2 03 02 02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
D 44 5 2 03 02 03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
C 76 8 3 06 45 01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
B 49 8 1 02 18 01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	96	36	5000
B 06 5 5 22 02 01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	3	72	16	25	0000
D 43 5 2 03 01 03	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
G 01 1 3 03 07 07	ORBITING GRAVITY	591	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
B 06 1 2 01 02 02	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652.	3403	2501	5501	3701	5	5	71	26	25	6001
B 04 1 1 01 01 01	SELENODETIC ASTRON.	999	7	9	729	1	1	1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
G 02 2 1 04 01 01	GEOLOGIC BASE MAPS	591	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
C 03 6 1 01 03 01	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
C 05 1 1 01 05 05	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
C 67 8 2 03 30 02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
D 83 8 2 03 30 01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D 84 8 2 03 30 03	EVAL HYDROGENOMONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
D 85 8 2 03 30 06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
C 75 8 3 06 43 03	PART ADHESN MECH PRC	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
E 40 5 2 09 01 01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
D 89 8 2 03 30 07	EFF LUNR COND ON PLT	002	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D 90 8 2 03 30 08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D 91 8 2 03 30 09	GENETIC EFF/ANIMALS	002	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D 92 8 2 03 30 10	ANIML GRTH DEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	3801
D 26 7 5 05 01 02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	65	55	15	0000
G 02 1 2 02 06 06	SELENODETIC MAPPING	591	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
G 23 8 1 02 12 05	STEREOPHOTOGRAMMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	65	26	35	1802
D 88 4 7 08 18 06	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	9	80	66	16	0000
D 13 5 5 22 06 01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
D 46 5 5 22 05 01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000
D 12 5 5 22 03 01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	96	26	0000
D 38 5 5 22 04 01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
D 16 5 5 23 01 01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000

D	26	5	5	23	C1	C2	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
D	27	5	5	22	C3	C2	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	96	26	0000
D	28	5	5	23	C2	D1	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
D	82	4	8	09	21	09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
D	86	4	8	11	23	11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	96	26	6000
D	87	4	7	07	17	07	UP ATM ECLIPS SPECTR	395	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	96	26	4000
D	89	4	7	05	15	12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
D	10	7	2	01	03	08	PHOTG OBS. (4C)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
D	11	7	2	01	03	09	PHOTG. PHOTOM. (4C)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
D	12	7	2	01	03	10	PHOTOEL. PHOT. (4C)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001
D	13	7	2	01	03	11	SPECTROSCOPY (4C)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5001
D	15	7	2	01	03	13	SPECTR. SCAN (4C)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
D	81	4	7	06	16	06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	96	26	4000
D	92	4	9	01	31	02	OCEAN HEAT BALAN-PHO	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	96	26	0000
D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001
D	14	7	2	01	03	12	HIGH DISP. SPEC(4C)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
E	57	7	5	06	C1	C1	SUBMILLIMETER RA	696	5	6	755	[illegible]	[illegible]	3	99	5003	1501	2007	1003	1003	1002	9	5	72	18	27	2002
E	11	2	1	02	03	08	DEEP DRILL - 300M	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
E	16	7	2	01	04	14	HIGH RES.PHOTG(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E	18	7	2	01	04	16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6502	0000	5	6	72	18	27	5001
E	19	7	2	01	04	17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E	20	7	2	01	04	18	PLANET LIKE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
E	21	7	2	01	04	19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
E	17	7	2	01	04	15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
E	93	4	9	02	32	02	SECUENT MULTIBAND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
E	83	4	8	10	22	10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	80	18	27	1001

4.3 MISSION SUPPORT SEQUENCES WITHIN DISCIPLINES BY INCREASING ENERGY REQUIREMENTS

MISSION SUPPORT - ENERGY SEQUENCE WITHIN DISCIPLINE

8-25-66
0615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPERIMENT CODE)	EXPERIMENT TITLE	EXPT LOCA	MOBER GES	PHASE CL	CHRON TIME	IMPORTANCE	UNGRONTY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN- HRS	TRVRS MAN- HOURS	SCIEAVT	TDIEMVC	AVYEARL	NCRESCT	FICRSSTT	TOTL ERTH RETD MASS KG
C LUNAR ATMOSPHERE																					
B 04 C 2 03 03 61	ELECTRIC FIELD	999	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3	6	769	2	4	1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
*A 03 0 2 03 02 63	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
*A 01 0 1 03 01 59	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
C 06 0 1 03 04 64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
**B 02 0 1 03 02 60	ATMOSPHERIC PRESSURE	992	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
1 GEODESY																					
C 07 1 3 04 04 64	SEISMIC OBSERVATIONS	999	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
B 03 1 3 03 03 63	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	6352	2103	1001	1701	1301	5	5	71	16	15	0000
B 01 1 3 03 07 67	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	15	0000
B 06 1 2 01 02 62	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
B 02 1 2 02 06 66	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
B 04 1 1 01 01 01	SELENODETIC ASTRON.	999	7	9	729	1	1	1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
C 05 1 1 01 05 65	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
2 GEOLOGY																					
B 03 2 3 01 03 20	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	68	35	15	1002
A 06 2 1 01 03 09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
C 13 2 1 01 03 30	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	53	2002
B 09 2 4 03 04 13	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
B 10 2 4 03 03 10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2601	2051	4001	2501	2000	2000	3	3	69	56	95	1001
A 12 2 1 04 04 11	VISUAL LOGGING	999	9	5	728	2	2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
B 05 2 1 01 02 04	GEOLOGIC MAPPING	999	7	9	708	1	1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
B 04 2 1 01 02 03	FINE STRUCTURE DEF	999	7	9	708	1	1	1	16	3601	2451	1702	1002	5000	5000	3	3	69	17	65	1051
B 01 2 1 04 01 02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

MISSION SUPPORT - ENERGY SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLORATION SEQUENCE)	EXPERIMENT TITLE	EXPT LOCA	MOBIL REQ	PHASE	CHRON TIME	IMPORT	UNCERTAINTY	NOMEN	SCIENTIFIC WEIGHT	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SOFTWARE	TEAM	AVYEARL	NCRESCI	FICRESSTT	TOTL ERTH RETD MASS KG
GEOLOGY (CONT)																					
□ A 08 2 1 04 02 05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	56	85	1001
B 07 2 1 02 03 07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
G 02 2 1 04 01 01	GEOLOGIC BASE MAPS	991	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
E 11 2 1 02 03 08	DEEP DRILL - 3000M	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
3 GEOCHEMISTRY																					
A 23 3 2 01 01 06	DENS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	13	0000
B 09 3 2 01 01 04	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
A 13 3 2 01 01 12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
B 08 3 2 01 01 02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
A 12 3 2 01 03 01	VOLATILE DETN/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1501	0000	4	2	66	35	24	5000
B 20 3 2 01 01 14	IN SITU X RAY DIFF	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
B 21 3 2 01 01 07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000
B 22 3 2 01 01 13	GAMMA SCATTERING	005	7	6	755	2	6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
B 04 3 2 01 01 01	CHEM ANAL BY N ACTIV	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
B 07 3 5 01 01 10	SOLIDS M SPEC ANAL	002	0	5	737	2	2	1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000
A 03 3 2 01 01 11	CHEM ANAL BY N ACTIV	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000
G 01 3 3 01 01 02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
B 06 3 3 01 01 01	GAMMA RAY SPECTROM	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
B 18 3 2 01 01 05	CHEM ANAL W REAGENTS	002	0	6	755	3	3	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000
B 19 3 2 01 01 03	NMR SPECTROMETRY	002	0	6	755	2	5	1	24	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000
B 05 3 1 01 01 08	MICR MIN A PET STUDY	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
B 16 3 2 01 01 18	IN SITU IR SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B 17 3 2 01 01 15	UV-VISIBLE SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	25	26	5002
B 11 3 4 01 04 02	SURF M SPEC GAS ANAL	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
G 02 3 4 01 04 01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000
● B 10 3 4 01 04 03	M SPEC GAS ANAL	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
G 14 3 2 01 01 17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
G 15 3 2 01 01 16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
4 GEOPHYSICS																					
A 03 4 4 07 08 42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	75	0000
B 10 4 4 07 08 45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	65	0000
G 18 4 0 07 08 69	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
B 25 4 4 07 08 43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	65	0000
C 32 4 1 06 05 40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
C 33 4 4 07 08 44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	65	0000

□ Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.
● Energy supplied by independent power source (emplaced package)

B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
A	40	4	4	07	08	46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	65	16	15	0000
B	43	4	1	05	06	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
C	44	4	1	05	06	23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	5000
C	58	4	4	07	08	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000
B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
C	84	4	0	09	04	56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000
B	27	4	0	06	05	32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
B	49	4	0	06	05	34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
C	57	4	0	06	05	33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
C	75	4	0	06	05	35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
B	72	4	0	05	05	38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
C	73	4	0	05	05	39	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C	74	4	0	05	05	37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
C	34	4	4	07	08	49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	94	0000
A	01	4	0	01	01	01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
B	69	4	1	09	04	67	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	94	0000
B	37	4	5	10	06	01	PLASMA POTENTIAL	119	1	5	724	2	1	1	41	2000	4653	4000	2000	1101	0000	4	1	68	25	15	0000
C	50	4	1	01	02	05	SEISMIC REFLECTION	994	5	9	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
B	11	4	0	12	07	78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000
B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
B	21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
A	07	4	4	07	08	50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
D	82	4	8	09	21	09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
A	06	4	4	07	08	47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000
B	16	4	2	02	02	84	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
D	87	4	7	07	17	07	UP ATM ECLIPS SPECTR	393	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	96	26	4000
B	52	4	0	06	06	28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
C	60	4	0	06	06	29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	65	15	0000
B	26	4	0	06	06	30	ELECTRICA SURVEYING	994	2	5	724	1	2	1	36	4300	9455	3301	5002	1000	1000	3	2	66	16	44	0000
B	12	4	1	02	02	08	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	94	0000
C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
D	81	4	7	06	16	06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	96	26	4000

MISSION SUPPORT - ENERGY SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER EXPLPH	DISCIPLINE	AREA	OBJECT	SPECIFIC	INVS	EXPT	EXPERIMENT TITLE	EXPT LOCA	MOBRE QE	PHASE	CHRON TIME	IMPORT	UGNCY	NOME	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCI	FICROSSTT	TOTL ERTH RETD MASS KG
GEOPHYSICS (CONT)																											
B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2001	0000	5	2	69	45	15	2000
B	78	4	7	03	13	03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B	79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	54	2000
B	80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	54	4000
B	30	4	1	02	02	11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
C	53	4	6	04	06	21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
G	17	4	0	08	03	70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
D	89	4	7	05	15	12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
G	15	4	4	07	08	86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
B	61	4	1	04	06	81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
A	09	4	6	04	06	17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
A	04	4	0	08	03	53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	6152	1502	5000	3051	0000	3	0	66	95	15	0000
B	70	4	0	08	03	52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1502	5000	4051	0000	2	1	67	16	15	0000
A	02	4	4	07	08	82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	63	0000
A	05	4	1	02	02	07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
G	14	4	6	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
G	28	4	4	07	08	66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
D	86	4	8	11	23	11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	96	26	6000
A	63	4	0	07	08	85	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
A	08	4	6	04	06	16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
C	55	4	0	05	05	25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C	59	4	0	05	05	27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	54	2000
C	66	4	0	08	03	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
G	85	4	0	12	07	80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
B	46	4	5	03	09	14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
B	22	4	4	07	08	46	SUB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
C	54	4	5	03	09	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
E	93	4	9	02	32	02	SEQUENT MULTIBAND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
B	65	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2501	2000	0000	3	3	69	26	55	0000
C	39	4	0	13	07	76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2501	0000	0000	3	3	69	26	55	0000
B	42	4	0	05	05	24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
G	19	4	0	06	05	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
D	88	4	7	08	16	08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	9	80	66	16	0000
G	13	4	3	03	09	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
G	29	4	5	03	09	66	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
B	91	4	9	02	32	01	SEQUENT MULTIBAND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000
D	92	4	9	01	31	02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	0	75	96	26	0000

E	83	4	8	10	22	10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	80	18	27	1001
D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001
**B	24	4	6	04	06	15	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
**B	35	4	6	04	06	16	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
*A	41	4	5	03	09	12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1604	1501	5051	0000	3	2	69	26	25	0000
**B	45	4	5	03	09	13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
**B	64	4	0	11	07	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000

5 PARTICLES AND FIELDS

B	08	5	5	22	01	01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
D	13	5	5	22	06	01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
D	16	5	5	23	01	01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
B	31	5	4	08	01	01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5901	0000	4	3	71	56	55	0000
D	26	5	5	23	01	02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
B	32	5	3	07	01	02	ELECTRIC FIELD	115	1	5	724	2	1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
D	12	5	5	22	03	01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	96	26	0000
D	27	5	5	22	03	02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	96	26	0000
D	28	5	5	23	02	01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
B	10	5	2	02	01	01	SOLAR CHG PAR, LOW E	193	1	5	742	4	5	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
D	46	5	5	22	05	01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B	07	5	3	01	01	01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
D	38	5	5	22	04	01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
B	06	5	5	22	02	01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	5	72	16	25	0000
B	42	5	2	02	01	03	SOLAR CHG PAR, LOW E	193	1	6	783	5	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
O	22	5	2	02	03	01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
B	39	5	3	04	01	01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
C	47	5	3	04	01	02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
*A	11	5	3	01	02	01	SOLAR WIND, SURFACE	112	1	3	693	2	2	1	51	2500	8353	1304	3000	2051	0000	1	0	62	00	25	0000
O	35	5	3	01	02	02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2500	8353	1304	3000	0000	0000	1	0	62	00	25	0000
**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3901	1401	1	0	65	16	25	1000
**B	04	5	3	05	02	01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7055	1804	2000	2500	0000	1	0	61	00	15	0000
C	03	5	2	02	02	01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
C	41	5	4	08	01	02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
O	23	5	3	05	02	02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
*A	36	5	3	05	02	03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
C	02	5	2	03	01	01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
C	17	5	2	03	02	01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

MISSION SUPPORT - ENERGY SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLOR PHASE, DISCIPLINE, AREA, OBJECT, SPECIFIC, INVSTG, EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOGMEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRCESCT	FICRESTT	TOTL ERTH RETD MASS KG
PARTICLES AND FIELDS (CONT)																					
**8 05 5 3 07 01 01	ELECTROSTATIC FIELD	112	1 3		693	2 1		1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000
C 20 5 3 05 01 01	SOLAR, GEOMAG FIELD	113	1 5		724	4 1		2	51	5000	1852	3204	1101	2101	0000	2	1	67	26	45	0000
C 19 5 3 01 01 02	SOLAR WIND SPECTRUM	115	5 6		764	2 1		3	51	3301	2152	3404	4000	3901	1001	5	2	69	26	45	0000
C 18 5 2 02 02 02	SOLAR CHG PAR,HIGH E	193	1 6		762	2 2		1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C 21 5 3 05 01 02	SOLAR, GEOMAG FIELD	915	5 6		764	4 1		2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
C 24 5 2 03 01 02	GALACTIC NUCLEI	193	1 6		762	4 4		1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
C 25 5 2 03 02 02	GALACTIC ELECTRONS	193	1 6		762	4 4		1	56	1102	1251	4804	4000	7701	0000	2	1	66	26	45	1001
D 29 5 3 01 01 03	SOLAR WIND SPECTRUM	916	5 6		764	2 1		4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
D 15 5 2 02 02 03	SOLAR CHG PAR,HIGH E	193	1 6		783	2 2		1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
D 30 5 3 05 01 03	SOLAR, GEOMAG FIELD	916	5 6		764	4 1		2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
D 43 5 2 03 01 03	GALACTIC NUCLEI	193	1 6		783	4 6		1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
D 44 5 2 03 02 03	GALACTIC ELECTRONS	193	1 6		783	4 4		1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
D 14 5 2 02 04 02	SOLAR HIGH E ELECTRN	696	5 6		792	2 2		2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D 37 5 2 02 04 03	SOLAR HIGH E ELECTRN	696	5 6		792	2 2		2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
E 34 5 3 01 01 04	SOLAR WIND MHD FLDW	919	9 6		793	1 2		4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
D 45 5 4 08 01 03	GALAC PAR SCAT, REAC	113	1 6		754	4 6		2	57	1002	1451	2005	1503	8801	0000	5	9	80	18	27	4000
E 35 5 3 05 01 04	SOLAR, GEOMAG FIELD	919	9 6		764	4 2		2	51	7600	2952	2105	5000	1102	2301	2	2	68	26	85	0000
E 40 5 2 09 01 01	NEUTRINO SOURCE FLUX	113	4 6		744	4 6		3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
6 BIOLOGY																					
A 01 6 2 03 04 01	SOIL BANK	996	9 9		687	1 1		2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
C 03 6 1 01 03 01	GEN/EFFECTS/PLANT	392	0 5		722	2 1		1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
A 04 6 1 03 03 03	GEN/EFFECTS/MICRO	302	0 5		722	2 1		1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
C 07 6 1 02 02 02	BIORHYTHMS/ANIMAL	302	0 6		771	4 4		1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	13	1000
C 06 6 1 01 02 01	BIORHYTHMS/PLANT	392	0 6		771	4 4		1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
B 05 6 1 04 01 01	INC PREBIOT CHEM	392	0 5		742	4 3		1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
B 02 6 1 04 01 02	EVID EXIST LIFE	395	2 5		723	1 2		2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
7 ASTRONOMY																					
0 34 7 9 07 01 01	ELECTRIC FIELD	001	0 4		681	2 2		1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
B 23 7 4 01 05 20	EINSTEIN PROB.	153	1 5		723	5 6		1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
B 01 7 1 01 01 01	LUN.ENVIR.TEST	113	1 5		721	2 1		1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
D 10 7 2 01 03 08	PHOTG OBS. (40)	113	1 6		753	4 6		2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
D 11 7 2 01 03 09	PHOTG. PHOTOM. (40)	113	1 6		753	4 6		2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
B 02 7 2 01 01 02	HIGH RES PHOTG (12)	113	1 5		732	4 1		1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
0 35 7 9 07 01 02	MAGNETIC FIELD	001	0 4		681	2 2		1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
C 06 7 3 02 06 23	ANGULAR PCS X-RAYS	113	1 5		722	4 6		1	97	2501	2000	1003	2002	5902	0000	3	2	68	55	15	0000
C 07 7 3 02 06 24	DIST.INT.MED.X-RAY	113	1 5		722	4 6		1	97	2501	2000	1003	2002	3902	0000	3	2	68	55	15	0000

**Energy supplied by ESS RTG source

B	28	7	8	07	C1	01	CISLUNAR MEDIUM EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B	09	7	2	01	02	C5	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000
B	24	7	2	01	02	C6	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
B	04	7	2	01	01	C4	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
B	29	7	7	07	01	C1	AME MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3055	5003	5000	5701	0000	2	1	67	15	24	0000
B	31	7	8	07	01	02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B	32	7	8	07	01	03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	33	7	8	07	01	C4	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
D	13	7	2	01	03	11	SPECTROSCOPY (4C)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5001
C	05	7	3	02	06	22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	66	55	25	0000
C	22	7	2	01	05	21	LYMAN ALF.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
D	14	7	2	01	03	12	HIGH DISP. SPEC(40)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
C	27	7	5	04	01	01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4652	1504	3000	6000	0000	2	1	68	55	94	0000
E	16	7	2	01	04	14	HIGH RES.PHOTO(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E	18	7	2	01	04	16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6902	0000	5	6	72	18	27	5001
E	19	7	2	01	04	17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E	20	7	2	01	04	18	PLANET LIKE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
C	36	7	9	07	01	03	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
C	03	7	2	01	01	03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
D	12	7	2	01	03	10	PHOTOEL. PHOT. (4C)	113	1	6	753	4	6	2	97	3003	1101	3004	2002	4802	0000	3	4	70	96	26	5001
D	26	7	5	05	01	02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	69	55	15	0000
C	25	7	2	01	02	07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
E	21	7	2	01	04	19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
D	15	7	2	01	03	13	SPECTR. SCAN (4C)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
D	30	7	6	07	01	02	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1501	1001	2	1	68	45	64	0000
E	17	7	2	01	04	15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	26	0000
E	37	7	5	06	01	01	SUBMILLIMETER RA	696	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	9	5	72	18	27	2002

B MISSION SUPPORT

A	03	8	2	01	01	02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	69	15	24	0000
A	06	8	1	02	11	04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
B	07	8	2	01	02	01	DUST ENVRMT/SURFACE	009	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B	09	8	2	04	31	01	SIM PERS SHLD/SOLAR	002	0	5	722	7	5	1	43	5051	1054	0000	0000	2051	0000	1	0	60	00	23	3051
B	12	8	1	02	11	03	CAL AMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	04	0000
B	17	8	1	02	11	02	LUNAR DRILL BIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	00	00	04	0000
B	18	8	1	02	11	01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	99	00	00	0000
B	20	8	2	05	39	01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B	26	8	2	04	34	14	ELSTME POLYMR DEGRD	002	1	5	723	6	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH / DISQPNLC / AREA / GBJT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRECSCT	FICRESSTT	TOTL ERTH RETD MASS KG
MISSION SUPPORT (CONT)																					
6 27 8 2 04 34 03	STAT XPCS EFF ON MAT	003	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B 29 8 2 01 01 04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B 35 8 2 04 34 15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	45	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
B 36 8 2 05 37 01	VIS TECH ASTRO VIS	094	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	3	1	70	25	44	0000
B 37 8 2 05 37 02	VIS TECH LAND RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	3	3	69	25	54	0000
B 39 8 2 05 36 01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
B 43 8 2 04 35 01	EFCTS LONG EQUP STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B 54 8 2 04 33 01	ELEC TRANS LINE TEST	003	1	5	722	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B 55 8 2 04 34 02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
C 66 8 2 03 30 04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	5001	8452	0000	0000	2301	0000	6	2	68	33	54	0000
C 69 8 2 03 20 06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	15	0000
C 70 8 2 03 20 04	BIOASSAYS-BODY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	55	0000
C 74 8 3 06 42 01	CHARAC LUNAR SURFLOG	004	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C 81 8 1 02 18 02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
D 91 8 2 03 30 09	GENETIC EFF/ANIMALS	002	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D 92 8 2 03 30 10	ANIML GRTH LEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801
B 30 8 2 01 02 08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 31 8 2 01 02 05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 60 8 2 04 50 03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
B 11 8 2 01 12 01	ELECTRODE CPLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	69	45	54	0000
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 53 8 2 01 01 05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
D 87 8 2 01 01 06	NUC REAC EMPL ASSESS	003	2	5	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	68	55	95	0000
B 53 8 2 01 01 08	SOFT PROP LUN SOILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
C 73 8 2 04 50 02	HT XFR FILM/CRF COND	002	0	6	743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
B 14 8 2 03 20 03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	54	0000
B 19 8 1 02 12 03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
Δ 0 01 8 2 01 01 01	TOPOGPHY AAP-LEM SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
A 08 8 2 04 34 01	DUST REMOVAL TECHGCS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
C 72 8 2 04 50 01	CONV HT TRANS IN LIQ	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
C 78 8 3 06 41 03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
B 15 8 2 03 20 02	MECH EFF MAN RED GRV	003	0	5	721	6	5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
B 16 8 2 03 20 05	VISION STUDIES	003	0	5	721	6	5	1	60	2500	2053	2001	4001	5051	0000	2	1	68	15	24	1051
B 40 8 3 06 41 05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
B 41 8 3 06 41 04	H WITH PHOS COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
C 79 8 2 04 34 09	LNG STAT XPCS ON MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
B 58 8 2 04 32 06	RETRODIR OPT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B 05 8 2 03 20 01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
B 02 8 2 01 01 03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	66	46	25	0000
B 28 8 2 04 34 04	XPCS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000

Δ"x" indicates classified information

B	56	8	2	01	02	06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B	57	8	2	04	32	01	LUNAR ENV ON ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
C	64	8	2	04	32	05	LASER SCATTER PROP	005	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
B	51	8	2	02	32	02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	25	0000
B	42	8	2	01	01	09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
B	40	8	2	01	02	04	ANTENNA DLST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B	22	8	3	06	41	01	H DETECT BY NELT ACT	009	2	5	728	6	4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
B	59	8	2	01	01	22	LUNAR STRATA E/M PRC	004	2	5	744	7	7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
B	48	8	2	04	32	03	RF GRD WAVE PROPGTION	004	2	5	733	6	7	2	46	7500	6052	2602	1002	6000	6000	3	3	72	16	25	0000
O	47	8	1	02	17	03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	51	1201	0050	3002	2501	5000	5000	6	1	67	26	25	0000
C	77	8	3	06	41	02	CHEM+DTA ANALS-O+CO2	002	0	6	746	7	5	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
B	63	8	2	04	32	04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
D	89	8	2	03	30	07	EFF LUNR COND ON FLT	002	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1051
B	04	8	1	02	13	01	BIO CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1600
B	21	8	3	06	41	06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	71	25	15	0000
C	71	8	2	03	20	10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
B	15	8	2	04	35	02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B	34	8	2	04	34	08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B	49	8	1	02	18	01	ASTRONOMY FEASIBILI.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	96	36	0000
B	50	8	2	02	34	13	ENV EFFECTS/SOL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
C	80	8	2	01	02	07	LUNAR IMPACT SERIES	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
D	86	8	2	04	33	02	EL TRANS LINE ROUTE	003	2	6	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
O	23	8	1	02	12	05	STEREOPHOTOGRAMMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
B	33	8	2	04	34	07	DYNMIC TEST THIM FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1800
B	38	8	2	05	36	02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	65	25	0000
B	45	8	2	01	02	03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
D	84	8	2	03	30	03	EVAL HYDROGENOMONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
B	44	8	2	01	02	02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B	32	8	2	04	34	06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1003
D	90	8	2	03	30	08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
C	76	8	3	06	45	01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
C	68	8	1	02	12	07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1001	0000	3	2	69	26	25	5000
C	01	8	2	05	40	01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0553	1004	1004	1801	0000	5	3	74	35	84	0000
C	65	8	2	03	20	11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
C	75	8	3	06	43	03	PART ADHESN MECH PRC	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
D	86	8	2	03	30	05	BIO MON ECO SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	3	3	70	25	54	1052
D	83	8	2	03	30	01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D	85	8	2	03	30	06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
C	62	8	2	04	34	05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
D	82	8	2	01	01	07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
C	67	8	2	03	30	02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000

MISSION SUPPORT - ENERGY SEQUENCE WITHIN DISCIPLINE

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPH, DSIESQPNLC, ARE, ABJT, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRES (MOBRES)	PHASE (PHASE)	CHRON TIME	IMPORT (IMPORT)	URGNCY (URGNCY)	NOME (NOME)	SCRIEL (SCRIEL)	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICRSSTT	TOTL ERTH RETD MASS KG
MISSION SUPPORT (CONT)																					
0 24 8 1 02 17 01	EARTH RFI/EXGAC NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
0 25 8 1 02 17 02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
9 MISC. BASIC AND APPLIED RESEARCH																					
B 01 9 0 05 C2 01	CRAR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000
D 08 9 0 05 C1 01	LORENTZ PLSMA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
B 02 9 0 03 03 C1	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
D 06 9 0 03 01 01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D 04 9 0 03 02 C1	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
D 07 9 0 02 01 01	FIELD EMISSION OPTCS	003	1	6	743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051
E 09 9 0 04 01 01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000
D 05 9 0 01 C2 01	HI INT ARC GENERATN	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
D 03 9 0 01 C1 01	HI INT ELEC BEAM GEN	003	1	6	743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000

4.4 ACROSS DISCIPLINES BY INCREASING ENERGY

MISSION SUPPORT - ENERGY SEQUENCE ACROSS DISCIPLINES

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER EXPH	DISCIPLINE SQ PN LC	AREA	OBJECT	SPACE	INVS	EXPT	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	UNGNCY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SOLAR VT	TOTAL VL	AVYEAI FL	NOPESCT	FICKSTT	TOTL ERTH RETD MASS KG
B	03	2	3	01	C3	2C	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	68	25	15	1002
A	06	2	1	01	03	09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6255	0000	0000	5000	5000	3	1	67	55	44	2002
C	13	2	1	01	C3	3C	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	55	2002
A	23	3	2	01	01	06	DENS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	15	0000
A	03	4	4	07	08	42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	75	0000
B	10	4	4	07	C8	45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	65	0000
B	18	4	0	07	C8	69	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
B	25	4	4	07	08	43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	65	0000
C	32	4	1	06	C5	4C	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
C	33	4	4	07	08	44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	65	0000
B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
A	40	4	4	07	08	46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
B	43	4	1	05	C6	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
C	44	4	1	05	06	23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	5000
C	58	4	4	07	08	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000
B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	23	2000
C	84	4	0	09	04	56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000
A	01	6	2	03	C4	01	SOIL BANK	996	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
C	05	6	1	01	03	01	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
A	04	6	1	03	C3	03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
C	07	6	1	02	02	02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	15	1000
A	03	8	2	01	01	02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	5	65	15	24	0000
A	06	8	1	02	11	04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
B	07	8	2	01	02	01	DUST ENVRMT/SURFACE	009	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B	09	8	2	04	31	01	SIM PERS SHLD/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	23	3051
B	12	8	1	02	11	03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B	17	8	1	02	11	02	LUNAR DRILL BIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
B	18	8	1	02	11	01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	55	00	00	0000
B	20	8	2	05	39	01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B	26	8	2	04	34	14	ELSTME POLYMR DEGRD	002	1	5	723	6	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000

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EXTENDED LUNAR EXPLORATION STUDY
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EXPERIMENT NUMBER (EXPH, DSIESQPNLC, AREA, OBJT, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOMEN	SCKRIELML	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRCESCT	FICRSSTT	TOTL ERTH RETD MASS KG
B 27 8 2 04 34 03	STAT XPOS EFF ON MAT	003	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B 29 8 2 01 01 04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B 35 8 2 04 34 15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
B 36 8 2 05 37 01	VIS TECH ASTRO VIS	094	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
B 37 8 2 05 37 02	VIS TECH LAND RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
B 39 8 2 05 36 01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	5200	5000	6	2	70	65	15	0000
B 43 8 2 04 35 01	EFCTS LONG EXCM STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B 54 8 2 04 33 01	ELEC TRANS LINE TEST	003	1	5	732	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B 55 8 2 04 34 02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	2000	6	2	71	00	00	0000
C 66 8 2 03 30 04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	6452	0000	0000	2301	0000	6	1	68	35	54	0000
C 69 8 2 03 20 06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	13	0000
C 70 8 2 03 20 04	BIOASSAYS-BODY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	53	0000
C 74 8 3 06 42 01	CHARAC LUNAR SURFLEG	004	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C 81 8 1 02 18 02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
D 91 8 2 03 30 09	GENETIC EFF/ANIMALS	002	0	0	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D 92 8 2 03 30 10	ANIML GRTH DEV REPRO	002	0	0	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801
B 01 9 0 05 02 01	CHAR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000
B 27 4 0 06 05 32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
B 49 4 0 06 05 34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
C 57 4 0 06 05 33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
C 75 4 0 06 05 35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
B 30 8 2 01 02 07	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 31 8 2 01 02 05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 60 8 2 04 50 03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	65	25	54	0000
B 04 0 2 03 03 61	ELECTRIC FIELD	993	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	65	16	54	0000
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3	6	759	2	4	1	00	2000	9054	1652	4051	1051	1051	3	3	65	16	54	0000
B 72 4 0 05 05 36	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
C 73 4 0 05 05 35	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C 74 4 0 05 05 37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
B 11 8 1 02 12 01	ELECTRODE CPLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	65	45	54	0000
C 34 4 4 07 06 49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
B 31 4 1 01 02 06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 52 8 2 01 01 05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1201	0000	3	2	70	16	35	0000
D 87 8 2 01 01 06	NUC REAC EMPL ASSESS	003	2	6	753	0	1	2	15	1601	4551	4751	4951	1001	0000	6	2	68	55	55	0000
B 09 2 4 03 04 13	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
B 71 4 0 13 07 71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	54	0000
A 01 4 0 01 01 01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
B 69 4 1 09 04 87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
B 34 7 9 07 01 01	ELECTRIC FIELD	001	0	4	681	2	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000

	B	53	8	2	01	01	08	SUPT PROP LLN SCILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
	C	75	8	2	04	50	02	HT XFR FILM/LRP COND	002	0	6	743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
	B	14	8	2	03	20	03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	34	0000
	B	19	8	1	02	12	03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
	C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	94	0000
	B	37	4	5	10	06	01	PLASMA POTENTIAL	119	1	5	724	2	1	1	41	3000	4653	4000	2000	1101	0000	4	1	69	25	15	0000
	C	50	4	1	01	02	05	SEISMIC REFLECTION	994	5	9	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
	B	11	4	0	12	07	78	GAMMA RAY SPECTRA	993	1	5	725	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000
	B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
	B	21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
	B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
	A	07	4	4	07	08	50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
	D	82	4	8	09	21	09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
Δ	0	01	8	2	01	01	01	TOPGPHY APF-LEM SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
	A	08	8	2	04	34	01	DUST REMOVAL TECHGCS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
	C	72	8	2	04	50	01	CONV HT TRANS IN LIG	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
	C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
	A	06	4	4	07	08	47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000
	C	16	4	2	02	02	84	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
	C	78	8	3	06	41	03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
	D	87	4	7	07	17	07	UP ATM ECLIPS SPECTR	393	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	56	20	4000
	B	13	8	2	03	20	02	MECH EFF MAN RED GRV	003	0	5	721	6	5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
	B	52	4	0	06	06	28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
	C	60	4	0	06	06	29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
	B	16	8	2	03	20	05	VISION STUDIES	003	0	5	721	6	5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
	B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
	B	08	5	5	22	01	01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
	C	06	6	1	01	02	01	BIORHYTHMS/PLANT	392	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
	B	26	4	0	06	06	30	ELECTRICA SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
	B	12	4	1	02	02	08	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	94	0000
	C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
	B	10	2	4	03	03	10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	96	95	1001
	D	81	4	7	06	16	06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	90	26	4000
	B	23	7	4	01	05	20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
	B	40	8	3	06	41	05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
	B	41	8	3	06	41	04	H WITH PHCS COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
	C	79	8	2	04	34	09	LNG STAT XFCS CN MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
	D	08	9	0	05	01	01	LORENTZ PLSMA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
	B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7601	1351	4401	2000	2501	0000	5	2	69	45	15	2000

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U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPM LCSQPNLC EAREAT CBSPEC SINVS EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCRIEL ML	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK PWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRCESCI	FICRESTT	TOTL ERTH RETD MASS KG
B 78 4 7 03 13 03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B 79 4 7 04 14 04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	94	2000
B 80 4 7 05 15 05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	94	4000
A 12 2 1 04 04 11	VISUAL LOGGING	999	9	5	728	2	2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
B 30 4 1 02 02 11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
C 53 4 6 04 06 21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
B 58 8 2 04 32 06	RETRODIR OPT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
C 17 4 0 08 03 70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
D 89 4 7 05 15 12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
B 05 8 2 03 20 01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
D 13 5 5 22 06 01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	56	26	1001
C 02 8 2 01 01 03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	66	46	25	0000
B 09 3 2 01 01 04	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
A 13 3 2 01 01 12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
D 16 5 5 23 01 01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
B 31 5 4 06 01 01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5901	0000	4	3	71	56	55	0000
B 28 8 2 04 34 04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B 56 8 2 01 02 06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B 57 8 2 04 32 01	LUNAR ENV ON ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
C 64 8 2 04 32 05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
B 02 9 0 03 03 01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
D 06 9 0 03 01 01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
B 15 4 4 07 08 86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
B 61 4 1 04 06 81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
B 08 3 2 01 01 02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
A 12 3 2 01 03 01	VOLATILE DETN/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1901	0000	4	2	68	35	24	5000
B 51 8 2 02 32 02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
B 05 2 1 01 02 04	GEOLOGIC MAPPING	999	7	9	708	1	1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
A 09 4 6 04 06 17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
B 04 2 1 01 02 03	FINE STRUCTURE DEF	999	7	9	708	1	1	1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	85	1051
A 04 4 0 08 03 53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	6152	1902	5000	3051	0000	3	0	66	95	15	0000
B 70 4 0 08 03 52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000
A 05 4 1 02 02 07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
A 02 4 4 07 08 82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	63	0000
B 20 3 2 01 01 14	IN SITU X RAY DIFF	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
D 26 5 5 23 01 02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
B 42 8 2 01 01 09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
B 46 8 2 01 02 04	ANTENNA DUST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
C 14 4 6 04 06 67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
C 28 4 4 07 08 66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
D 86 4 8 11 23 11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	56	26	6000
B 21 3 2 01 01 07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000

B	22	3	2	01	C1	13	GAMMA SCATTERING	C05	7	6	755	2	6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
A	63	4	0	07	08	83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	26	35	0000
B	22	8	3	06	41	01	H DETECT BY NEUT ACT	009	2	5	728	6	4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
B	59	8	2	01	01	22	LUNAR STRATA E/M PRO	004	2	5	744	7	7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
A	08	4	6	04	C6	16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
B	48	8	2	04	32	03	RF GRD WAVE PROPGTION	004	2	5	733	6	7	2	46	7500	8052	2602	1002	8000	6000	3	3	72	16	25	0000
B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1052	3002	1501	1000	0000	5	2	69	16	25	0000
C	55	4	0	C5	C5	25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C	59	4	0	05	C5	27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
B	01	7	1	01	C1	01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	95	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
D	10	7	2	01	C3	CE	PHOTG CES. (4C)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	56	26	5001
D	11	7	2	01	03	C9	PHOTG. PHOTOM. (4C)	113	1	6	753	4	6	2	97	2003	1001	3002	2001	2402	0000	3	4	70	56	26	5001
G	47	8	1	02	17	03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	91	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000
B	76	4	7	01	11	01	EARTH HEAT BLDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	54	2000
B	02	7	2	01	01	C2	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	66	25	54	2101
C	77	8	3	06	41	02	CHEM+DTA ANALS-C+CO2	002	0	6	746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	66	00	00	1000
B	63	8	2	04	32	04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
C	66	4	0	08	C3	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
B	32	5	3	07	01	02	ELECTRIC FIELD	119	1	5	724	2	1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
G	01	2	1	04	01	02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
G	85	4	0	12	C7	80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
D	12	5	5	22	C3	01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	96	26	0000
D	27	5	5	22	C3	02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	96	26	0000
A	03	3	2	01	01	11	CHEM ANAL BY N ACTIV	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000
D	28	5	5	23	02	01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2505	4500	5002	3001	2101	0000	4	5	74	17	26	0000
D	89	8	2	03	30	07	EFF LUNR COND ON FLT	002	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
B	07	3	5	01	01	10	SOLIDS M SPEC ANAL	002	0	5	737	2	2	1	26	2501	1552	6002	3001	4001	0000	3	3	69	56	45	0000
B	46	4	5	03	09	14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
B	04	8	1	02	13	01	BIO CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
B	21	8	3	06	41	06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	72	25	15	0000
B	04	3	2	01	01	01	CHEM ANAL BY N ACTIV	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
G	35	7	9	07	01	02	MAGNETIC FIELD	001	0	4	681	2	2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
B	22	4	4	07	08	46	SUB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
C	54	4	5	03	09	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
C	71	8	2	03	20	10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
A	08	2	1	04	02	05	SURFACE PHOTOGEOLOGY	995	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	56	85	1001
C	06	7	3	02	06	23	ANGULAR PES X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5502	0000	3	2	66	55	15	0000
C	07	7	3	02	06	24	DIST.INT.MED.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3502	0000	3	2	66	55	15	0000
B	15	8	2	04	35	02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B	34	8	2	04	34	08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B	49	8	1	02	18	01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	56	30	5000
B	50	8	2	02	34	13	ENV EFFECTS/SOL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
C	80	8	2	01	02	07	LUNAR IMPACT SPERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000

☐ Energy supplied by independent power source (Astornaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER							EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHAS E	CHRON TIME	IMPORT	UNGCY	NOMEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCI	FICRSSTT	TOTL ERTH RETD MASS KG
EXPH	OSIESQPNLC	AREA	OBJT	SPEC	INVS	EXPT																					
D	88	8	2	04	33	02	EL TRANS LINE ROUTE	003	2	6	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
D	04	9	0	03	02	01	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
D	07	9	0	02	01	01	FIELD EMISSION OPTCS	003	1	6	743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051
E	93	4	9	02	32	02	SEQUENT MULTIBND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
B	10	5	2	02	01	01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
D	46	5	5	22	05	01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000
B	55	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
B	05	6	1	04	01	01	IND PREDICT CHEM	392	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
B	28	7	8	07	01	01	CISLUNAR MELIUM EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B	09	7	2	01	02	05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000
B	24	7	2	01	02	06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
C	07	1	3	04	04	04	SEISMIC OBSERVATIONS	999	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2501	2000	0000	3	3	69	26	55	0000
C	39	4	0	13	07	76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2501	0000	0000	3	3	69	26	55	0000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B	04	7	2	01	01	04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
B	07	5	3	01	01	01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
*A	05	0	2	03	02	03	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
B	07	2	1	02	03	07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	5851	2003	1203	2400	2400	3	3	70	56	15	4201
G	01	3	3	01	01	02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
B	06	3	3	01	01	01	GAMMA RAY SPECTROM	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
G	23	8	1	02	12	05	STEREOPHOTOGRAPHMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
B	33	8	2	04	34	07	DYNMIC TEST THIN FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B	56	8	2	05	36	02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	0000	3	2	71	85	25	0000
B	45	8	2	01	02	03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
D	84	8	2	03	30	03	EVAL HYDROGEN/MONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2104	0000	3	2	72	26	35	1501
E	09	9	0	04	01	01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000
B	03	1	3	03	03	03	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
G	01	1	3	03	07	07	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
D	38	5	5	22	04	01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
B	42	4	0	05	05	24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
G	19	4	0	06	05	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
D	68	4	7	08	18	08	MICROWAVESCANPASSIVE	395	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	9	80	66	16	0000
B	18	3	2	01	01	05	CHEM ANAL & REAGENTS	002	0	6	755	3	3	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000
G	13	4	3	03	09	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
G	29	4	5	03	09	68	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
B	91	4	9	02	32	01	SEQUENT MULTIBND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
B	06	5	5	22	02	01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	3	72	16	25	0000
D	05	9	0	01	02	01	HI INT ARC GENERATR	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	185	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000

*Energy supplied by ALSEP RTG source

B	06	1	2	01	02	02	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
B	42	5	2	02	01	03	SOLAR CHC PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
B	19	3	2	01	01	03	NMR SPECTROMETRY	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000
B	44	8	1	02	02	02	LUNAR RF NOISE PT 2	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B	22	5	2	02	03	01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
B	02	2	1	04	01	01	GEOLOGIC BASE MAPS	991	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
B	29	7	7	07	01	01	AMB MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
B	32	8	2	04	34	06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B	02	1	2	02	06	06	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
B	39	5	3	04	01	01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
B	05	3	1	01	01	03	MICR MIN A PET STUDY	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
D	90	8	2	03	30	08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
B	04	1	1	01	01	01	SELENODETIC ASTRON.	999	7	9	729	1	1	1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
C	76	8	3	06	45	01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
B	31	7	8	07	01	02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B	32	7	8	07	01	03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	33	7	8	07	01	04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	16	3	2	01	01	18	IN SITU IR SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B	17	3	2	01	01	15	UV-VISIBLE SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	25	26	5002
B	11	3	4	01	04	02	SURF M SPEC GAS ANAL	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
B	02	6	1	04	01	02	EVID EXIST LIFE	395	2	3	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
D	13	7	2	01	03	11	SPECTROSCOPY (40)	113	1	6	753	4	6	2	97	3003	1101	7603	2001	9102	0000	3	4	70	56	26	5501
*A	01	0	1	03	01	59	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
C	05	1	1	01	05	05	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
C	68	8	1	02	12	07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	69	26	25	5000
D	92	4	9	01	31	02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	56	26	0000
E	83	4	8	10	22	10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	60	16	27	1001
C	05	7	3	02	06	22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
C	22	7	2	01	05	21	LYMAN ALP.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
C	61	8	2	05	40	01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000
C	65	8	2	03	20	11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
C	75	8	3	06	43	03	PART ADHESN MECH PRC	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
D	03	9	0	01	01	01	HI INT ELEC BEAM GEN	003	1	6	743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
C	47	5	3	04	01	02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
D	86	8	2	03	30	05	BIO MON ECO SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	5	70	25	54	1052
D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	6	75	17	26	1001
*A	11	5	3	01	02	01	SOLAR WIND, SURFACE	112	1	5	693	2	2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
D	33	5	3	01	02	02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3901	1401	1	0	65	16	25	1000
D	83	8	2	03	30	01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D	85	8	2	03	30	06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
D	14	7	2	01	03	12	HIGH DISP. SPEC(40)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
C	27	7	5	04	01	01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4052	1504	3000	6000	0000	2	2	68	55	94	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

MISSION SUPPORT - ENERGY SEQUENCE ACROSS DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY SUMMARY LIST

EXPERIMENT NUMBER (EXLPH / OSIESQPNLC / AREA / OBJT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOGMEN	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRECT	FICROSSTT	TOTL ERTH RETD MASS KG
C 06 0 1 03 04 64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
**B 24 4 6 04 06 19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
**B 35 4 6 04 06 18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
*A 41 4 5 03 09 12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1804	1501	5051	0000	3	2	65	26	25	0000
**B 45 4 5 03 09 13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
**B 04 5 3 05 02 01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
C 03 5 2 02 02 01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
C 41 5 4 08 01 02	GALAC PAR SCAT, HEAD	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
E 16 7 2 01 04 14	HIGH RES.PHOTO(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E 18 7 2 01 04 16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6502	0000	5	6	72	18	27	5001
E 19 7 2 01 04 17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E 20 7 2 01 04 18	PLANET LINE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
C 62 8 2 04 34 05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
D 82 8 2 01 01 07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
G 36 7 9 07 01 03	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
G 23 5 3 05 02 02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
*A 36 5 3 05 02 03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
C 02 5 2 03 01 01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
C 17 5 2 03 02 01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
**B 05 5 3 07 01 01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2004	2000	3500	0000	2	1	68	85	15	0000
**B 64 4 0 11 07 77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
C 03 7 2 01 01 03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
D 12 7 2 01 03 10	PHOTOEL. EFECT. (40)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001
D 26 7 5 05 01 02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	69	55	15	0000
C 20 5 3 05 01 01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1652	3204	1101	2101	0000	2	1	67	26	45	0000
C 25 7 2 01 02 07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	3000
C 19 5 3 01 01 02	SOLAR WIND SPECTROM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3901	1001	5	2	69	26	45	0000
C 67 8 2 03 30 02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
C 18 5 2 02 02 02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
**B 02 0 1 03 02 60	ATMOSPHERIC PRESSURE	993	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
E 21 7 2 01 04 19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
G 24 8 1 02 17 01	EARTH RFI/EXGAC NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
G 25 8 1 02 17 02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
D 15 7 2 01 03 13	SPECTR. SCAN (40)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	5102	0000	3	4	70	56	26	5001

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

C	21	5	3	05	01	02	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
C	24	5	2	03	01	02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
C	25	5	2	03	02	02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
D	30	7	6	07	01	02	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1901	1001	2	1	68	45	84	0000
E	17	7	2	01	04	15	HIGH DISP.SPEC(1000)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
D	29	5	3	01	01	03	SOLAR WIND SPECTRUM	916	5	6	764	2	2	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
D	15	5	2	02	02	03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7604	4000	3102	0000	2	3	72	16	45	1001
D	30	5	3	05	01	03	SOLAR, GEOMAG FIELD	916	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
D	43	5	2	03	01	03	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
D	44	5	2	03	02	03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
D	14	5	2	02	04	02	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D	37	5	2	02	04	03	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
E	34	5	3	01	01	04	SOLAR WIND MHD FLOW	919	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
G	02	3	4	01	04	01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000
• B	10	3	4	01	04	03	M SPEC GAS ANAL	000	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
G	14	3	2	01	01	17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
G	15	3	2	01	01	16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
D	45	5	4	08	01	03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	9	80	18	27	4000
E	35	5	3	05	01	04	SOLAR, GEOMAG FIELD	919	9	6	764	4	2	2	51	7600	2552	2105	9000	1102	2301	2	2	68	26	85	0000
E	40	5	2	09	01	01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
E	11	2	1	02	03	06	DEEP DRILL - 300M	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
E	37	7	5	06	01	01	SUBMILLIMETER RA	696	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	5	5	72	18	27	2002

• Energy supplied by independent power source (emplaced package)

4.5 MISSION SUPPORT SEQUENCES WITHIN DISCIPLINES BY INCREASING MAN-HOUR REQUIREMENTS

MISSION SUPPORT - MANHOURS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER							EXPERIMENT TITLE	EXPT LOCA	MOBRE CE	PHASE	CHRON TIME	IMPORT	UROGN CY	NOMEN	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCT	FICRESTT	TOTL ERTH RETD MASS KG
EXPH	DSIESQPNLC	ARTEA	CBJT	SPEC	INVS	EXPT																					
0 LUNAR ATMOSPHERE																											
*A	01	0	1	03	01	59	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	66	16	15	0000
**B	02	0	1	03	02	60	ATMOSPHERIC PRESSURE	993	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	66	16	15	0000
C	05	0	2	03	03	62	ELECTRIC FIELD	995	3	6	769	2	4	1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
B	04	0	2	03	03	61	ELECTRIC FIELD	993	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
*A	03	0	2	03	02	63	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
C	06	0	1	03	04	64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
1 GEODESY																											
B	01	1	3	03	07	07	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
B	02	1	2	02	06	06	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
C	07	1	3	04	04	04	SEISMIC OBSERVATIONS	999	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
B	03	1	3	03	03	03	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
B	06	1	2	01	02	02	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
B	04	1	1	01	01	01	SELENODETIC ASTRON.	999	7	9	729	1	1	1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
C	05	1	1	01	05	05	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
2 GEOLOGY																											
B	01	2	1	04	01	02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
B	02	2	1	04	01	01	GEOLOGIC BASE MAPS	991	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
B	03	2	3	01	03	20	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	66	35	15	1002
B	09	2	4	03	04	13	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
C	13	2	1	01	03	30	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	55	2002
B	10	2	4	03	03	10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	56	55	1001
B	07	2	1	02	03	07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
☐ A	08	2	1	04	02	05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	96	85	1001
A	06	2	1	01	03	09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source
☐ Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.

MISSION SUPPORT - MANHOURS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLORATION SQUENCE / ACTIVITY)	EXPT LOCA	MOBER EQUIP	MOBER ASTE	CHRON TIME	IMPORT	UNGRCY	NOMEN	SCKRIEL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRECT	FICROSSTT	TOTL ERTH RETD MASS KG	EXPERIMENT TITLE
GEOLOGY (CONT)																					
B 04 2 1 01 02 03	999	7	9	708	1	1	1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	85	1051	FINE STRUCTURE DEF
B 05 2 1 01 02 04	999	7	9	708	1	1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051	GEOLOGIC MAPPING
A 12 2 1 04 04 11	999	9	5	726	2	2	1	17	1700	6053	4501	1002	1001	1001	2	2	68	16	64	0000	VISUAL LOGGING
C 14 2 2 01 04 12	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001	SUBSURFACE MAPPING
E 11 2 1 02 03 08	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003	DEEP DRILL - 300M
3 GEOCHEMISTRY																					
G 14 3 2 01 01 17	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000	ORBITAL IR SPECTRA
G 15 3 2 01 01 16	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000	ORBITAL UV-VIS SPEC
G 02 3 4 01 04 01	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000	ORB GAS MASS SPEC
• B 10 3 4 01 04 03	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000	M SPEC GAS ANAL
G 01 3 3 01 01 02	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000	GAMMA RAY SPECTROM
B 11 3 4 01 04 02	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000	SURF M SPEC GAS ANAL
B 16 3 2 01 01 18	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002	IN SITU IR SPECTRA
B 17 3 2 01 01 15	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	25	26	5002	UV-VISIBLE SPECTRA
B 22 3 2 01 01 13	005	7	6	755	2	6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000	GAMMA SCATTERING
B 20 3 2 01 01 14	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000	IN SITU X RAY DIFF
A 12 3 2 01 03 01	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1501	0000	4	2	68	35	24	5000	VOLATILE DETN/COLLN
A 23 3 2 01 01 06	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	13	0000	DENS BY FLOTATION
B 06 3 3 01 01 01	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000	GAMMA RAY SPECTROM
B 19 3 2 01 01 03	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000	NMR SPECTROMETRY
B 09 3 2 01 01 04	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000	X RAY FLUOR ANALYSIS
A 13 3 2 01 01 12	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000	X RAY FLUOR ANALYSIS
B 04 3 2 01 01 01	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000	CHEM ANAL BY N ACTIV
B 08 3 2 01 01 02	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000	CHEM ANAL BY IR
A 03 3 2 01 01 11	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000	CHEM ANAL BY N ACTIV
B 07 3 5 01 01 10	002	0	5	737	2	2	1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000	SOLIDS M SPEC ANAL
B 21 3 2 01 01 07	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000	MIN BY X RAY DIFF
B 05 3 1 01 01 08	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000	MICR MIN A PET STUDY
B 18 3 2 01 01 05	002	0	6	755	3	3	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000	CHEM ANAL W REAGENTS
4 GEOPHYSICS																					
G 18 4 0 07 08 09	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000	PHOTOGRAPHY
C 58 4 4 07 08 51	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000	SURFACE TEMP PROFILE
C 84 4 0 09 04 56	995	5	6	755	5	5	0	03	2000	6053	0000	5000	0000	0000	2	1	67	55	54	0000	SURFACE HARDNESS
G 16 4 2 02 02 84	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000	REMOTE SEISMIC
C 66 4 0 08 03 54	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000	METEOROID DETECTION
G 17 4 0 08 03 70	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000	METEORITE DETECTION

• Energy supplied by independent power source (emplaced package)

B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
C	32	4	1	06	05	40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
C	39	4	0	13	07	76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2901	0000	0000	3	3	69	26	55	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	54	0000
G	14	4	6	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
G	15	4	4	07	08	86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
G	85	4	0	12	07	80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
G	13	4	3	03	09	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
G	28	4	4	07	08	66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
G	29	4	5	03	09	68	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
G	19	4	0	06	05	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
A	03	4	4	07	08	42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	73	0000
B	72	4	0	05	05	38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
C	73	4	0	05	05	39	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C	74	4	0	05	05	37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
C	57	4	0	06	05	33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	54	0000
B	25	4	4	07	08	43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	63	0000
B	49	4	0	06	05	34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
A	40	4	4	07	08	46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
B	27	4	0	06	05	32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
**B	64	4	0	11	07	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
B	69	4	1	09	04	87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
A	01	4	0	01	01	01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
C	34	4	4	07	08	49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2053	3152	1001	2051	2051	2	3	70	55	24	0000
C	33	4	4	07	08	44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	63	0000
A	04	4	0	08	03	53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	6152	1902	5000	3051	0000	3	0	66	95	15	0000
A	08	4	6	04	06	16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
A	06	4	4	07	08	47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000
B	21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
A	07	4	4	07	08	50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
B	70	4	0	08	03	52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000
A	02	4	4	07	08	82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	63	0000
B	10	4	4	07	08	45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	63	0000
C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
A	09	4	6	04	06	17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
B	11	4	0	12	07	78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000
*A	41	4	5	03	09	12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1804	1501	5051	0000	3	2	69	26	25	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

MISSION SUPPORT - MANHOURS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER							EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRCES CT	FICROSSTT	TOTL ERTH RETD MASS KG
EXPM	OSIESQLC	PNLC	AREA	OBJT	SPEC	INVS	EXPT																				
GEOPHYSICS (CONT)																											
B	48	4	0	01	C1	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
B	65	4	C	13	C7	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
B	42	4	0	05	05	24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
C	75	4	0	06	05	35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
B	22	4	4	07	08	48	SUB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
B	26	4	0	06	C6	30	ELECTRICA SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
**B	24	4	6	04	06	19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
**B	35	4	6	04	06	18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
A	05	4	1	02	02	07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
A	63	4	0	07	08	83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
**B	45	4	5	03	C9	13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B	43	4	1	05	06	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
C	55	4	0	05	05	25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C	59	4	0	05	05	27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
B	52	4	0	06	06	28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2901	2000	0000	3	3	69	26	55	0000
B	30	4	1	02	02	11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
C	50	4	1	01	02	05	SEISMIC REFLECTION	994	5	9	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
D	87	4	7	07	17	07	UP ATM ECLIPS SPECTR	993	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	56	26	4000
B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
B	46	4	5	03	09	14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
C	44	4	1	05	06	23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	5000
C	60	4	0	06	06	29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
B	61	4	1	04	06	81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	54	0000
B	12	4	1	02	02	08	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	54	0000
B	37	4	5	10	06	01	PLASMA POTENTIAL	119	1	5	724	2	1	1	41	3000	4653	4000	2000	1101	0000	4	1	68	25	15	0000
C	53	4	6	04	06	21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
C	54	4	5	03	09	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
D	88	4	7	08	18	08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	5	80	66	10	0000
B	80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	54	4000
B	78	4	7	03	13	03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B	79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	54	2000
B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2501	0000	5	2	69	45	15	2000
B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3402	1501	2701	0000	5	2	69	45	54	2000
B	91	4	9	02	32	01	SEQUENT MULTIBAD PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000

**Energy supplied by ESS RTG source

D	82	4	8	09	21	09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
E	83	4	8	10	22	10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	60	18	27	1001
D	89	4	7	05	15	12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
D	81	4	7	06	16	06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	96	26	4000
D	86	4	8	11	23	11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	96	26	6000
E	93	4	9	02	32	02	SEQUENT MULTIBAND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001
D	92	4	9	01	31	02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8102	2001	1003	0000	5	6	75	96	26	0000

5 PARTICLES AND FIELDS

G	33	5	3	01	02	02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
G	23	5	3	05	02	02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
*A	11	5	3	01	02	01	SOLAR WIND, SURFACE	112	1	3	693	2	2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
*A	36	5	3	05	02	03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
**B	04	5	3	05	02	01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
G	22	5	2	02	03	01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
**B	05	5	3	07	01	01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000
B	06	5	5	22	02	01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2351	3003	1001	7000	0000	4	3	72	16	25	0000
D	16	5	5	23	01	01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
B	32	5	3	07	01	02	ELECTRIC FIELD	119	1	5	724	2	1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
D	26	5	5	23	01	02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
B	08	5	5	22	01	01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
D	38	5	5	22	04	01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
D	13	5	5	22	06	01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
B	07	5	3	01	01	01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
C	20	5	3	05	01	01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1652	3204	1101	2101	0000	2	1	67	26	45	0000
C	17	5	2	03	02	01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
D	28	5	5	23	02	01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
D	27	5	5	22	03	02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	96	26	0000
C	21	5	3	05	01	02	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3901	1401	1	0	65	16	25	1000
C	19	5	3	01	01	02	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3901	1001	5	2	69	26	45	0000
C	03	5	2	02	02	01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
D	12	5	5	22	03	01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	96	26	0000
C	02	5	2	03	01	01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
B	31	5	4	08	01	01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5901	0000	4	3	71	56	55	0000
D	29	5	3	01	01	03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
D	30	5	3	05	01	03	SOLAR, GEOMAG FIELD	916	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
C	25	5	2	03	02	02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

MISSION SUPPORT—MANHOURS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH / OSIEPNLC / AREA / OBJT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	UNGRCY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRCESCI	FICROSSTT	TOTL ERTH RETD MASS KG
PARTICLES AND FIELDS (CONT)																					
D 44 5 2 03 02 03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	74	26	45	1001
D 45 5 4 08 01 03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	9	60	18	27	4000
D 14 5 2 02 C4 02	SOLAR HIGH E ELECTRA	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D 37 5 2 02 04 03	SOLAR HIGH E ELECTRA	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
C 41 5 4 08 01 02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
B 10 5 2 02 01 01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
E 35 5 3 05 01 04	SOLAR, GEOMAG FIELD	919	9	6	764	4	2	2	51	7600	2952	2105	9000	1102	2301	2	2	68	26	85	0000
E 34 5 3 01 01 04	SOLAR WIND PHD FLOW	919	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
B 09 5 2 02 01 02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
C 18 5 2 02 02 02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C 24 5 2 03 C1 02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
B 39 5 3 04 01 C1	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
D 46 5 5 22 C5 01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000
B 42 5 2 02 01 03	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
D 15 5 2 02 02 03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
D 43 5 2 03 C1 C3	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
C 47 5 3 04 01 02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
E 40 5 2 09 C1 01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
6 BIOLOGY																					
A 01 6 2 03 C4 C1	SOIL BANK	996	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
A 04 6 1 03 03 03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
C 03 6 1 01 C3 C1	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
B 05 6 1 04 01 01	INC PREDICT CHEM	392	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
B 02 6 1 04 01 02	EVID EXIST LIFE	395	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
C 06 6 1 01 02 01	BIORHYTHMS/PLANT	392	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
C 07 6 1 02 C2 02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	15	1000
7 ASTRONOMY																					
C 34 7 9 07 01 01	ELECTRIC FIELD	001	0	4	681	2	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
C 36 7 9 07 C1 C3	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
C 35 7 9 07 C1 02	MAGNETIC FIELD	001	0	4	681	2	2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
C 27 7 5 04 01 01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4652	1504	3000	6000	0000	2	2	68	55	94	0000
B 28 7 8 07 C1 01	CISLUNAR PERIOD EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B 31 7 8 07 01 02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B 32 7 8 07 01 03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B 33 7 8 07 C1 04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
D 30 7 6 07 01 02	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1501	1001	2	1	68	45	84	0000

D	26	7	5	05	01	02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	69	55	15	0000
B	29	7	7	07	01	01	AME MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
B	23	7	4	01	05	20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
D	11	7	2	01	03	09	PHOTG. PHOTOM. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
C	03	7	2	01	01	03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
C	25	7	2	01	02	07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
B	01	7	1	01	01	01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
B	04	7	2	01	01	04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
B	02	7	2	01	01	02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
C	07	7	3	02	06	24	DIST.INT.MED.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3902	0000	3	2	68	55	15	0000
E	20	7	2	01	04	18	PLANET LIKE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
D	12	7	2	01	03	10	PHOTOEL. PHOT. (40)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001
B	24	7	2	01	02	06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
D	10	7	2	01	03	08	PHOTG OBS. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
C	06	7	3	02	06	23	ANGULAR FOS X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5902	0000	3	2	68	55	15	0000
D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
C	22	7	2	01	05	21	LYMAN ALF.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
E	18	7	2	01	04	16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6902	0000	5	6	72	18	27	5001
E	19	7	2	01	04	17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
D	13	7	2	01	03	11	SPECTROSCOPY (40)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5501
D	15	7	2	01	03	13	SPECTR. SCAN (40)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
B	09	7	2	01	02	05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000
D	14	7	2	01	03	12	HIGH DISP. SPEC(40)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
C	05	7	3	02	06	22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
E	37	7	5	06	01	01	SUBMILLIMETER RA	696	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	5	5	72	18	27	2002
E	21	7	2	01	04	19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
E	16	7	2	01	04	14	HIGH RES.PHOTG(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E	17	7	2	01	04	15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002

8 MISSION SUPPORT

B	17	8	1	02	11	02	LUNAR DRILL BIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
B	60	8	2	04	50	03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
0	24	8	1	02	17	01	EARTH RFI/BKGND NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
Δ 0	01	8	2	01	01	01	TOPOGPHY AAF-LEP SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
0	25	8	1	02	17	02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
B	09	8	2	04	31	01	SIM PERS SHLD/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	23	3051
B	50	8	2	02	34	13	ENV EFFECTS/SOL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
B	27	8	2	04	34	03	STAT XPOS EFF ON MAT	003	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B	16	8	2	03	20	05	VISION STUDIES	003	0	5	721	6	5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051

Δ "x" indicates classified information

MISSION SUPPORT—MANHOURS SEQUENCE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPL DISC AREA OBJT SPEC INVS EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBRE Q	PHASE	CHRON TIME	IMPORT	UNGCY	NOGEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRCESCT	FICRCSSTT	TOTL ERTH RETD MASS KG
MISSION SUPPORT (CONT)																					
B 30 8 2 01 02 08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 31 8 2 01 02 05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 18 8 1 02 11 01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	00	00	00	0000
B 12 8 1 02 11 03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B 29 8 2 01 01 04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B 36 8 2 04 32 06	RETRODIR OPT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B 34 8 2 04 34 08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
A 08 8 2 04 34 01	DUST REMOVAL TECHQCS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
D 82 8 2 01 01 07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
O 02 8 2 01 01 03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	60	46	25	0000
B 28 8 2 04 34 04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B 35 8 2 04 34 15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
A 03 8 2 01 01 02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	69	15	24	0000
B 07 8 2 01 02 01	DUST ENVRMT/SURFACE	009	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B 46 8 2 01 02 04	ANTENNA DUST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B 54 8 2 04 33 01	ELEC TRANS LINE TEST	003	1	5	732	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B 26 8 2 04 34 14	ELSTME POLYMR DEGRD	002	1	5	723	6	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 43 8 2 04 35 10	EFCTS LONG BOOM STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B 33 8 2 04 34 07	DYNMIC TEST THIN FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B 56 8 2 01 02 06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B 14 8 2 03 20 03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	34	0000
B 32 8 2 04 34 06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B 38 8 2 05 36 02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	85	25	0000
B 04 8 1 02 13 01	BIG CONTAM LUNAR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
C 80 8 2 01 02 07	LUNAR IMPACT SFERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
B 55 8 2 04 34 02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
C 79 8 2 04 34 09	LNG STAT XPOS ON MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
B 57 8 2 04 32 01	LUNAR ENV ON ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
B 15 8 2 04 35 02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B 37 8 2 05 37 02	VIS TECH LAND RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
B 11 8 1 02 12 01	ELECTRODE CHLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	69	45	54	0000
B 41 8 3 06 41 04	H WITH PHOS COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
B 13 8 2 03 20 02	MECH EFF MAN RED GRV	003	0	5	721	6	5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
A 06 8 1 02 11 04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
B 40 8 3 06 41 05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
C 64 8 2 04 32 05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
B 36 8 2 05 37 01	VIS TECH ASTRO VIS	094	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
C 74 8 3 06 42 01	CHARAC LUNAR SLFWLDG	004	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
B 53 8 2 01 01 08	SUPT PROP LLN SOILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000

B	51	8	2	02	32	02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
C	47	8	1	02	17	03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	91	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000
B	22	8	3	06	41	01	H DETECT BY NEUT ACT	009	2	5	728	6	4	1	26	1601	1252	2502	2501	5000	5000	3	3	65	00	00	2000
D	88	8	2	04	33	02	EL TRANS LINE ROUTE	003	2	6	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
B	39	8	2	05	36	01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
B	45	8	2	01	02	03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
C	81	8	1	02	18	02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
B	59	8	2	01	01	22	LUNAR STRATA E/M PRO	004	2	5	744	7	7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
B	48	8	2	04	32	03	RF GRD WAVE PROPGTION	004	2	5	733	6	7	2	46	7500	8052	2602	1002	8000	6000	3	3	72	16	25	0000
B	19	8	1	02	12	03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
B	23	8	1	02	12	05	STEREOPHOTOGRAMMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
C	75	8	2	04	50	02	HT XFR FILM/ERF COND	002	0	6	743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
C	78	8	3	06	41	03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
C	72	8	2	04	50	01	CONV HT TRANS IN LIQ	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
D	86	8	2	03	30	05	BIO MON ECO SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
C	77	8	3	06	41	02	CHEM+DTA ANALS-O+CO2	002	0	6	746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
D	87	8	2	01	01	06	NUC REAC EMFL ASSESS	003	2	6	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	66	99	99	0000
B	44	8	2	01	02	02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B	20	8	2	05	39	01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B	63	8	2	04	32	04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
B	52	8	2	01	01	05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B	05	8	2	03	20	01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
B	42	8	2	01	01	09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
C	68	8	1	02	12	07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	69	26	25	5000
C	61	8	2	05	40	01	METL JOIN LUNA CONST	003	1	0	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000
C	69	8	2	03	20	06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	15	0000
C	62	8	2	04	34	05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
B	49	8	1	02	18	01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	96	36	5000
C	70	8	2	03	20	04	BIOASSAYS-BODY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	55	0000
C	66	8	2	03	30	04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
C	75	8	3	06	43	03	PART ADHESN MECH PRO	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
B	21	8	3	06	41	06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	71	25	15	0000
C	76	8	3	06	45	01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
C	71	8	2	03	20	10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
C	65	8	2	03	20	11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
D	89	8	2	03	30	07	EFF LUNR COND ON PLT	002	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D	91	8	2	03	30	09	GENETIC EFF/ANIMALS	002	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D	85	8	2	03	30	06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
C	67	8	2	03	30	02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
D	83	8	2	03	30	01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D	84	8	2	03	30	03	EVAL HYDROGEN MONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
D	90	8	2	03	30	08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D	92	8	2	03	30	10	ANIML GRTH DEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801

9 MISC. BASIC AND APPLIED RESEARCH

B	01	9	0	05	02	01	CRNR REFLR LASER EEAP	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000
B	02	9	0	03	05	01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
D	08	9	0	05	01	01	LORENTZ PLSMA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
D	07	9	0	02	01	01	FIELD EMISSION OPTICS	003	1	6	743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051
D	05	9	0	01	02	01	HI INT ARC GENERATN	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	65	16	35	0000
D	04	9	0	03	02	01	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
D	06	9	0	03	01	01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D	03	9	0	01	01	01	HI INT ELEC BEAM GEN	003	1	6	743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
E	09	9	0	04	01	01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000

4.6 MISSION SUPPORT SEQUENCES ACROSS DISCIPLINES BY INCREASING MAN-HOUR REQUIREMENTS

MISSION SUPPORT - MANHOURS SEQUENCE ACROSS DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLH)	(DSIESQPNLC)	(ARAEA)	(GBJT)	(SPEC)	(INVS)	(EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHAS E	CHRON TIME	IMPCT	UNGCY	NOMEN	SCRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AVYEARL	NCRECT	FICRSTT	TOTL ERTH RETD MASS KG
B	17	8	1	02	11	02	LUNAR DRILL BIT TECH	CC9	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
A	01	6	2	03	04	01	SOIL BANK	996	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
B	18	4	0	07	08	65	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
C	58	4	4	07	08	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	65	64	0000
B	60	8	2	04	50	03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
C	84	4	0	09	04	56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000
B	34	7	9	07	01	01	ELECTRIC FIELD	001	0	4	681	2	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
B	35	5	3	01	02	02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
B	36	7	9	07	01	03	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
B	16	4	2	02	02	64	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
B	23	5	3	05	02	02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
B	35	7	9	07	01	02	MAGNETIC FIELD	001	0	4	681	2	2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
C	66	4	0	08	03	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
B	17	4	0	08	03	70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
C	32	4	1	06	05	40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
C	39	4	0	13	07	76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2901	0000	0000	3	5	69	26	55	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	54	0000
B	14	3	2	01	01	17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
B	15	3	2	01	01	16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
B	24	8	2	01	17	01	EARTH RFI/ENGAD NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	66	16	15	0000
△B	01	8	2	01	01	01	TOPOPHY AAP-LEM SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
B	02	3	4	01	04	01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000
●B	10	3	4	01	04	03	M SPEC GAS ANAL	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
B	14	4	6	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
B	15	4	4	07	08	86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
B	85	4	0	12	07	80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
B	25	8	0	17	02	01	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
B	01	3	3	01	01	02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	5	70	17	18	0000

△ "x" indicates classified information

● Energy supplied by independent power source (emplaced package)

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH, DSIESQPNLC, AREA, OBJT, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	MBRE Q	PHAS E	CHRON TIME	IMPOR T	UNGNC Y	NOMEN	SCKRIELML	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICRSSTT	TOTL ERTH RETD MASS KG
0 13 + 3 03 09 85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
0 28 4 4 07 08 66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
0 29 4 5 03 09 66	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
0 01 2 1 04 01 02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
0 19 4 0 06 05 65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
0 01 1 3 03 07 07	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
0 02 2 1 04 01 01	GEOLOGIC BASE MAPS	991	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
0 02 1 2 02 06 06	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
A 03 4 4 07 08 42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	75	0000
*A 01 0 1 03 01 55	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
**B 02 0 1 03 02 60	ATMOSPHERIC PRESSURE	993	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3	6	769	2	4	1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
B 72 4 0 05 05 38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
C 73 4 0 05 05 39	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C 74 4 0 05 05 37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
C 57 4 0 06 05 33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
B 03 2 3 01 03 20	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	68	35	13	1002
B 71 4 0 13 07 71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	94	0000
B 09 8 2 04 31 01	SIM PERS SHLD/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	25	3051
B 25 4 4 07 08 43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	63	0000
B 09 2 4 03 04 13	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
B 49 4 0 06 05 34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
*A 11 5 3 01 02 01	SOLAR WIND, SURFACE	112	1	3	693	2	2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
A 40 4 4 07 08 46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
B 27 4 0 06 05 32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
B 50 8 2 02 34 13	ENV EFFECTS/SOL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
**B 64 4 0 11 07 77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
B 69 4 1 09 04 87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
A 01 4 0 01 01 01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
C 34 4 4 07 08 45	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
C 13 2 1 01 03 30	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	53	2002
C 33 4 4 07 08 44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	63	0000
*A 36 5 3 05 02 03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
A 04 4 0 08 03 53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	6152	1902	5000	3051	0000	3	0	66	55	15	0000
A 08 4 6 04 06 16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
A 06 4 4 07 08 47	SLR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000
B 21 4 0 01 01 02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B 23 4 0 01 01 03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
A 07 4 4 07 08 50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
B 70 4 0 08 03 52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000

*Energy supplied by ALSEP RTG source

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B	01	9	0	05	02	01	CRNR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000
A	02	4	4	07	08	82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	65	0000
B	10	4	4	07	08	45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	65	0000
B	27	8	2	04	34	03	STAT XPOS EFF ON MAT	003	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B	16	8	2	03	20	05	VISION STUDIES	003	0	5	721	6	5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
A	09	4	6	04	06	17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
B	11	4	0	12	07	78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000
*A	41	4	5	03	09	12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1804	1501	5051	0000	3	2	69	26	25	0000
B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
B	30	8	2	01	02	08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0000	0000	4	1	67	55	15	0000
B	31	8	2	01	02	05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0000	0000	4	1	67	55	15	0000
B	18	8	1	02	11	01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	99	00	00	0000
B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
B	12	8	1	02	11	03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B	29	8	2	01	01	04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B	65	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
B	04	0	2	03	03	61	ELECTRIC FIELD	993	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
B	42	4	0	05	05	24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
C	75	4	0	06	05	35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
B	22	4	4	07	08	48	SLB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
B	58	8	2	04	32	06	RETRODIR OPT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B	26	4	0	06	06	30	ELECTRICA SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
B	34	8	2	04	34	08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
**B	24	4	6	04	06	19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
**B	35	4	6	04	06	18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
*A	03	0	2	03	02	63	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
A	08	8	2	04	34	01	DUST REMOVAL TECHGOS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
D	82	8	2	01	01	07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
A	05	4	1	02	02	07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
A	63	4	0	07	08	83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
C	02	8	2	01	01	03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	66	46	25	0000
**B	45	4	5	03	09	13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B	28	8	2	04	34	04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B	35	8	2	04	34	15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
A	03	8	2	01	01	02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	69	15	24	0000
B	43	4	1	05	06	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000

*Energy supplied by ALSEP RTG source

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8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXLPH / DSIESQPNLC / AREA / OBJT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOGMEN	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRCESCI	FICROSSTT	TOTL ERTH RETD MASS KG
C 55 4 0 05 05 25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C 59 4 0 05 05 27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
B 07 8 2 01 02 01	DUST ENVRMT/SURFACE	005	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B 46 8 2 01 02 04	ANTENNA DUST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B 54 8 2 04 33 01	ELEC TRANS LINE TEST	003	1	5	732	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B 52 4 0 06 06 28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
B 26 8 2 04 34 14	ELSTME POLYMR DEGRD	002	1	5	723	6	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 43 8 2 04 35 01	EFCTS LONG BOOM STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B 38 4 0 13 07 75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2501	2000	0000	3	3	69	26	55	0000
B 33 8 2 04 34 07	DYNMIC TEST THIN FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B 56 8 2 01 02 06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B 14 8 2 03 20 03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	34	0000
B 32 8 2 04 34 06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B 38 8 2 05 36 02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	85	25	0000
B 10 2 4 03 03 10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	96	95	1001
B 30 4 1 02 02 11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
C 50 4 1 01 02 05	SEISMIC REFLECTION	994	5	5	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
B 04 8 1 02 13 01	BIG CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
D 87 4 7 07 17 07	UP ATM ECLIPS SPECTR	993	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	96	26	4000
C 80 8 2 01 02 07	LUNAR IMPACT SFERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
B 07 2 1 02 03 07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
**B 04 5 3 05 02 01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
B 47 4 6 04 06 20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
B 46 4 5 03 05 14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
B 55 8 2 04 34 02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
C 44 4 1 05 06 23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	5000
C 60 4 0 06 06 29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
B 61 4 1 04 06 81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
C 79 8 2 04 34 09	LNG STAT XPCS CR MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
B 57 8 2 04 32 01	LUNAR ENV CR ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
B 15 8 2 04 35 02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B 02 9 0 03 03 01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
□A 08 2 1 04 02 05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	96	85	1001
B 37 8 2 05 37 02	VIS TECH LANC RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
G 22 5 2 02 03 01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
**B 05 5 3 07 01 01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000
B 11 8 1 02 12 01	ELECTRODE CPLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	69	45	54	0000
B 41 8 3 06 41 04	M WITH PHES COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
D 08 9 0 05 01 01	LORENTZ PLSMA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000

□ Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.

**Energy supplied by ESS RTG source

NORTH AMERICAN AVIATION, INC.
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B	13	8 2	03	20	02	MECH EFF MAN RED GRV	003	0 5	721	6 5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
A	06	8 1	02	11	04	GEOLOG-CHEM SAMP CAS	005	1 3	702	1 2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
B	40	8 3	06	41	05	QUANT ANAL OF HYDROG	002	0 5	737	6 4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
C	64	8 2	04	32	05	LASER SCATTER PROP	095	3 6	743	7 7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
B	36	8 2	05	37	01	VIS TECH ASTRO VIS	094	2 5	712	7 5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
C	74	8 3	06	42	01	CHARAC LUNAR SLFWLDG	004	2 6	744	7 7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
B	11	3 4	01	04	02	SURF M SPEC GAS ANAL	005	7 5	706	1 2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
A	06	2 1	01	03	09	SURFACE SAMPLING	999	7 9	708	1 1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
B	53	8 2	01	01	08	SUPT PROP LUN SOILS	004	2 5	723	5 6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
B	51	8 2	02	32	02	RF FRWD SCATTER TECH	004	2 5	733	7 7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
B	47	8 1	02	17	03	CRITICAL PLASMA FREQ	101	0 4	722	2 3	1	91	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000
B	22	8 3	06	41	01	H DETECT BY NEUT ACT	009	2 5	728	6 4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
B	04	2 1	01	02	03	FINE STRUCTURE DEF	995	7 9	708	1 1	1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	85	1051
D	88	8 2	04	33	02	EL TRANS LINE ROUTE	003	2 6	742	7 7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
C	27	7 5	04	01	01	NON DIR RADIO ASTR	103	1 5	741	1 1	1	06	7000	4652	1504	3000	6000	0000	2	2	68	55	94	0000
B	12	4 1	02	C2	08	SEISMIC, PASSIVE	993	2 5	723	1 1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	94	0000
B	39	8 2	05	36	01	SOIL VAL VARI LUNAR	094	2 5	713	6 5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
B	45	8 2	01	02	03	LUNAR RF NOISE-2	003	2 5	724	1 1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
C	81	8 1	02	18	02	REMOTE CORONAGRAPH	044	2 6	754	2 5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
B	16	3 2	01	C1	18	IN SITU IR SPECTRA	005	7 5	755	2 2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B	17	3 2	01	C1	15	UV-VISIBLE SPECTRA	005	7 5	755	2 2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	25	26	5002
B	06	5 5	22	C2	01	FLARE UV SPECTRA - I	002	1 5	725	4 4	1	97	1302	2551	3003	1001	7000	0000	4	3	72	16	25	0000
B	59	8 2	01	01	22	LUNAR STRATA E/M PRO	004	2 5	744	7 7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
B	48	3 2	04	32	03	RF GRD WAVE PROPGTION	004	2 5	733	6 7	2	46	7500	8052	2602	1002	8000	6000	3	3	72	16	25	0000
B	19	8 1	02	12	03	EXPLOSV ENERGY COUPL	994	2 5	721	6 2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
B	28	7 8	07	C1	01	CISLUNAR MEDIUM EXP	103	1 5	721	1 1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B	31	7 8	07	C1	02	RANGING STA CENTRAL	109	1 6	755	4 6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B	05	2 1	01	02	C4	GEOLOGIC MAPPING	995	7 9	706	1 1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
B	32	7 8	07	C1	03	RANGING STA REMOTE A	106	6 6	755	4 6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	33	7 8	07	C1	04	RANGING STA REMOTE B	206	6 6	755	4 6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	23	8 1	02	12	05	STEREOPHOTOGRAMMETRY	001	0 4	714	2 2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
D	16	5 5	23	C1	01	UV LOW DISPERSION	002	1 6	745	4 3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
B	32	5 3	07	C1	02	ELECTRIC FIELD	119	1 5	724	2 1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
A	12	2 1	04	04	11	VISUAL LOGGING	999	9 5	728	2 2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
B	22	3 2	01	C1	13	GAMMA SCATTERING	005	7 6	755	2 6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
C	73	8 2	04	50	02	HT XFR FILM/CRP COND	002	0 6	743	7 7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
C	78	8 3	06	41	03	DTA ANAL CASTABL MAT	002	0 6	746	7 3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
C	72	8 2	04	50	01	CONV HT TRANS IN LIQ	002	0 6	743	7 7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
B	20	3 2	01	C1	14	IN SITU X RAY DIFF	005	7 6	755	2 3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
D	86	8 2	03	30	05	BIO MON ECC SYSTEM	003	0 6	743	7 7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
C	77	8 3	06	41	02	CHEM+DTA ANALS-O+CO2	002	0 6	746	7 3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000

MISSION SUPPORT - MANHOURS SEQUENCE ACROSS DISCIPLINES

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY SUMMARY LIST

EXPERIMENT NUMBER (EXLPH / OSIESQ / PNLC / AREA / OBJT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NOMEN	SCKRIEL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRCESCT	FICRCSSTT	TOTL ERTH RETD MASS KG
D 87 8 2 01 01 06	NUC REAC EMFL ASSESS	003	2	6	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	68	99	99	0000
B 44 8 2 01 02 02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B 20 8 2 05 39 01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B 37 4 5 10 06 01	PLASMA POTENTIAL	115	1	5	724	2	1	1	41	3000	4653	4000	2000	1101	0000	4	1	68	25	15	0000
C 53 4 6 04 06 21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
C 54 4 5 03 09 15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
B 63 8 2 04 32 04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
D 26 5 5 23 01 02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
B 08 5 5 22 01 01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
B 52 8 2 01 01 05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B 05 8 2 03 20 01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
B 42 8 2 01 01 09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
C 07 1 3 04 04 04	SEISMIC OBSERVATIONS	999	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
D 88 4 7 08 18 08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	5	80	66	16	0000
D 07 9 0 02 01 01	FIELD EMISSION OPTCS	003	1	6	743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051
D 05 9 0 01 02 01	HI INT ARC GENERATN	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
D 04 9 0 03 02 01	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
C 68 8 1 02 12 07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	65	26	25	5000
D 38 5 5 22 04 01	SUNSPOT PROPATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
B 03 1 3 03 03 03	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
D 13 5 5 22 06 01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
C 61 8 2 05 40 01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000
A 12 3 2 01 03 01	VOLATILE DETN/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1501	0000	4	2	68	35	24	5000
D 30 7 6 07 01 02	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1901	1001	2	1	68	45	84	0000
A 04 6 1 03 03 03	GEN/EFFECTS/MICRO	303	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
A 23 3 2 01 01 06	DEWS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	15	0000
B 07 5 3 01 01 01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
C 06 0 1 03 04 64	GAS CHROMATOGRAPH	955	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
C 69 8 2 03 20 06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	13	0000
D 06 9 0 03 01 01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D 03 9 0 01 01 01	HI INT ELEC BEAM GEN	003	1	6	743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
B 80 4 7 05 15 05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	65	45	94	4000
B 06 3 3 01 01 01	GAMMA RAY SPECTROM	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
B 78 4 7 03 13 03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B 79 4 7 04 14 04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	94	2000
C 62 8 2 04 34 05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
B 49 8 1 02 18 01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	56	36	5000
C 70 8 2 03 20 04	BIOASSAYS-BODY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	55	0000
C 20 5 3 05 01 01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1852	3204	1101	2101	0000	2	1	67	26	45	0000
B 19 3 2 01 01 03	NMR SPECTROMETRY	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000

C	17	5	2	03	C2	01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
D	28	5	5	23	C2	C1	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	3	74	17	26	0000
B	09	3	2	01	C1	C4	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
A	13	3	2	01	01	12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
B	04	3	2	01	01	01	CHEM ANAL BY N ACTIV	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	5	69	56	85	0000
B	08	3	2	01	01	02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
C	66	8	2	03	30	04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
D	26	7	5	05	01	02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2651	3004	3000	2301	1001	2	1	69	55	15	0000
C	75	8	3	06	43	03	PART ADHESN MECH PRC	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
A	03	3	2	01	C1	11	CHEM ANAL BY N ACTIV	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	5	69	56	55	0000
B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2501	0000	5	2	69	45	15	2000
B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	54	2000
B	91	4	9	02	32	01	SEQUENT MULTIBAD PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
D	27	5	5	22	C3	02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	56	26	0000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	5	70	76	75	0000
D	82	4	8	09	21	09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
C	21	5	3	05	01	C2	SOLAR, GEOMAG FIELD	915	5	6	724	4	1	2	51	4100	1452	4604	7000	3701	8100	2	2	68	26	45	0000
**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3501	1401	1	0	65	16	25	1000
C	19	5	3	01	01	02	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3501	1001	5	2	69	26	45	0000
B	21	8	3	06	41	06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	72	25	15	0000
B	07	3	5	01	C1	10	SOLIDS M SPEC ANAL	002	0	5	737	2	2	1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000
E	83	4	8	10	22	10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	80	18	27	1001
C	76	8	3	06	45	01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
D	89	4	7	05	15	12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
C	03	5	2	02	02	01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
D	12	5	5	22	C3	01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	56	26	0000
C	71	8	2	03	20	10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
C	65	8	2	03	20	11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
C	02	5	2	03	01	01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
B	06	1	2	01	02	02	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
B	29	7	7	07	01	01	AMB MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
B	31	5	4	08	C1	01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5501	0000	4	3	71	56	55	0000
D	29	5	3	01	01	03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
B	23	7	4	01	05	20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
D	30	5	3	05	C1	C3	SOLAR, GEOMAG FIELD	916	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
E	09	9	0	04	01	01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000
B	04	1	1	01	01	C1	SELENODETIC ASTRON.	999	7	9	729	1	1	1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
C	05	1	1	01	05	05	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
C	25	5	2	03	02	02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
D	44	5	2	03	02	C3	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
B	21	5	2	01	C1	07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000

*ENERGY SUPPLIED BY ESS RTG SOURCE

MISSION SUPPORT - MANHOURS SEQUENCE ACROSS DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH)	DISCIPLINE (SQPNLC)	AREA	OBJECT	SPEC	INVS	EXPT	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHAS E	CHRON TIME	IMPORT	UNGRY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICRESTT	TOTL ERTH RETD MASS KG
D	89	8	2	03	30	07	EFF LUNR COND ON PLT	CC2	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D	45	5	4	08	C1	03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	5	80	18	27	4000
D	14	5	2	02	C4	C2	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	65	16	45	0000
D	37	5	2	02	04	03	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	65	00	55	0000
C	41	5	4	08	01	02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
B	10	5	2	02	01	01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
B	05	3	3	01	01	C6	MICR MIN A PET STUDY	CC2	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
D	91	8	2	03	30	09	GENETIC EFF/ANIMALS	CC2	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
E	35	5	3	05	C1	04	SOLAR, GEOMAG FIELD	919	9	6	764	4	2	2	51	7600	2952	2105	9000	1102	2301	2	2	68	26	85	0000
D	85	8	2	03	30	06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
D	81	4	7	06	16	06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	56	26	4000
E	34	5	3	01	01	04	SOLAR WIND MHD FLOW	919	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	65	26	45	0000
C	67	8	2	03	30	02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
C	18	5	2	02	02	02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C	03	6	1	01	03	01	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
D	86	4	8	11	23	11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	56	26	6000
B	18	3	2	01	C1	05	CHEM ANAL & REAGENTS	002	0	6	755	3	3	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000
C	24	5	2	03	01	02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
D	83	8	2	03	30	01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D	84	8	2	03	30	03	EVAL HYDROGENOMONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
B	39	5	3	04	01	01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
D	46	5	5	22	C5	C1	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	56	26	1000
B	05	6	1	04	C1	01	INC PREDICT CHEM	392	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
D	11	7	2	01	C3	05	PHOTG. PHOTOM. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	56	26	5001
C	03	7	2	01	01	03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
B	42	5	2	02	01	C3	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
B	02	6	1	04	C1	02	EVID EXIST LIFE	395	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	5000
C	25	7	2	01	02	07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
D	15	5	2	02	02	03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
B	01	7	1	01	C1	01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	5[illegible]	1000
B	04	7	2	01	C1	04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
B	02	7	2	01	01	02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
C	07	7	3	02	06	24	DIST.INT.REC.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3902	0000	3	2	68	55	15	0000
D	43	5	2	03	C1	03	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
C	47	5	3	04	01	02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
E	20	7	2	01	04	18	PLANET LINE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	16	27	5001
D	12	7	2	01	03	10	PHOTOEL. PHOT. (40)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	56	26	5001
B	24	7	2	01	02	C6	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000

D	90	8	2	03	30	08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D	92	8	2	03	30	10	ANIML GRTH DEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801
E	40	5	2	09	01	01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
D	10	7	2	01	03	08	PHOTG OBS. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
C	06	7	3	02	06	23	ANGULAR FOS X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5502	0000	3	2	68	55	15	0000
D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
C	22	7	2	01	05	21	LYMAN ALP.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
E	18	7	2	01	04	16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6902	0000	5	6	72	18	27	5001
E	19	7	2	01	04	17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
C	06	6	1	01	02	01	BIORHYTHMS/PLANT	352	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
E	93	4	9	02	32	02	SEQUENT MULTIBAND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
D	13	7	2	01	03	11	SPECTROSCOPY (40)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5501
D	15	7	2	01	03	13	SPECTR. SCAN (40)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
B	09	7	2	01	02	05	SKY SURVEY (12)	113	1	5	752	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000
D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001
D	14	7	2	01	03	12	HIGH DISP. SPEC(40)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
C	05	7	3	02	06	22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
D	92	4	9	01	31	02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	96	26	0000
E	37	7	5	06	01	01	SUBMILLIMETER RA	696	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	9	5	72	18	27	2002
E	21	7	2	01	04	19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
E	16	7	2	01	04	14	HIGH RES.PHOTG(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E	17	7	2	01	04	15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
E	11	2	1	02	03	08	DEEP DRILL - 3000	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
C	07	6	1	02	02	02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	13	1000

5.0 EXPLORATION PHASE SEQUENCES

5.1 EXPLORATION PHASE SEQUENCES WITHIN DISCIPLINES

EXPLORATION PHASE SEQUENCE BY PHASE WITHIN DISCIPLINE

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EXPERIMENT NUMBER (EXPLORATION SQUENCE)	EXPERIMENT TITLE	EXPT LOCA	MOBRES CE	PHASE	CHRON TIME	IMPORT	UNGRNCY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYVEAIRL	NCROESCT	FICRCSSTT	TOTL ERTH RETD MASS KG
0 LUNAR ATMOSPHERE																					
PHASE A																					
*A 01 0 1 03 01 59	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	66	16	15	0000
*A 03 0 2 03 02 63	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
PHASE B																					
**B 02 0 1 03 02 60	ATMOSPHERIC PRESSURE	993	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
B 04 0 2 03 03 61	ELECTRIC FIELD	993	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
PHASE C																					
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3	6	769	2	4	1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
C 06 0 1 03 04 64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
1 GEODESY																					
ORBITAL																					
O 01 1 3 03 07 07	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
O 02 1 2 02 06 06	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
PHASE B																					
B 03 1 3 03 03 03	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
B 04 1 1 01 01 01	SELENODETIC ASTRON.	999	7	9	729	1	1	1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
B 06 1 2 01 02 02	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

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EXPERIMENT NUMBER (EXPH LC / DSIE SQ PN / A R E A / O B J T / S P E C / I N V S / E X P T)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PHASE	CHRON TIME	IMPORT	URGNCY	NEEN	SCKRIELL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRECST	FICROSSTT	TOTL ERTH RETD MASS KG
GEODESY (CONT)																					
Phase C																					
C 05 1 1 01 05 05	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	8001
C 07 1 3 04 04 04	SEISMIC OBSERVATIONS	999	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
2 GEOLOGY																					
ORBITAL																					
O 01 2 1 04 01 02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
O 02 2 1 04 01 01	GEOLOGIC BASE MAPS	991	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
PHASE A																					
A 06 2 1 01 03 09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
□A 08 2 1 04 02 05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	96	85	1001
A 12 2 1 04 04 11	VISUAL LOOKING	999	9	5	728	2	2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
PHASE B																					
B 03 2 3 01 03 20	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	68	35	15	1002
B 04 2 1 01 02 03	FINE STRUCTURE DEF	999	7	9	708	1	1	1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	85	1051
B 05 2 1 01 02 04	GEOLOGIC MAPPING	999	7	9	708	1	1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
B 07 2 1 02 03 07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
B 09 2 4 03 04 15	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
B 10 2 4 03 03 10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	56	95	1001
PHASE C																					
C 13 2 1 01 03 30	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	55	2002
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
PHASE E																					
E 11 2 1 02 03 08	DEEP DRILL - 300M	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
3 GEOCHEMISTRY																					
ORBITAL																					
O 01 3 3 01 01 02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
O 02 3 4 01 04 01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000

□ Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.

0	14	3	2	01	C1	17	ORBITAL IR SPECTRA	C01	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
0	15	3	2	01	01	16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
PHASE A																											
A	03	3	2	01	C1	11	CHEM ANAL BY N ACTIV	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000
A	12	3	2	01	C3	01	VOLATILE DETN/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1501	0000	4	2	68	35	24	5000
A	13	3	2	01	C1	12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
A	23	3	2	01	C1	C6	DENS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	15	0000
PHASE B																											
B	04	3	2	01	C1	01	CHEM ANAL BY N ACTIV	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
B	05	3	2	01	01	C8	MICR MIN A PET STUDY	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
B	06	3	2	01	01	01	GAMMA RAY SPECTROM	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
B	07	3	2	01	C1	10	SOLIDS N SPEC ANAL	002	0	5	737	2	2	1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000
B	08	3	2	01	C1	02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
B	09	3	2	01	C1	C4	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
●B	10	3	4	01	C4	03	M SPEC GAS ANAL	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
B	11	3	4	01	C4	02	SURF M SPEC GAS ANAL	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
B	16	3	2	01	C1	18	IN SITU IR SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B	17	3	2	01	C1	15	UV-VISIBLE SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	26	25	5002
B	18	3	2	01	C1	C5	CHEM ANAL W REAGENTS	002	0	6	755	3	3	1	20	2101	5352	3003	1002	2002	0000	4	1	67	25	14	0000
B	19	3	2	01	C1	C3	NMR SPECTROMETRY	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000
B	20	3	2	01	01	14	IN SITU X RAY DIFF	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
B	21	3	2	01	C1	07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000
B	22	3	2	01	C1	13	GAMMA SCATTERING	005	7	6	755	2	6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
4 GEOPHYSICS																											
ORBITAL																											
0	13	4	3	03	C9	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
0	14	4	0	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
0	15	4	4	07	C8	86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
0	16	4	2	02	02	84	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
0	17	4	0	08	C3	70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
0	18	4	0	07	C8	69	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
0	19	4	0	06	C5	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
0	28	4	4	07	C8	66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000

● Energy supplied by independent power source (emplaced package)

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EXPERIMENT NUMBER (EXPH, DSIE, SQPN, ARLC, AOEA, BTCS, PNCI, EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PHASE	CHRON TIME	IMPORT	UNCRTY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCI	FICROSSTT	TOTL ERTH RETD MASS KG
RECONNAISSANCE (CONT)																					
ORBITAL																					
0 29 4 5 03 C9 66	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
0 65 4 0 12 C7 6C	GAMMA RAY SPECTRA	991	0	4	769	5	5	1	46	2601	3352	4002	2000	0000	0000	2	1	67	16	15	0000
PHASE A																					
A 01 4 0 01 01 01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
A 02 4 4 07 C8 82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	65	0000
A 03 4 4 07 C8 42	NEAR SURFACE TEMP.	992	1	3	681	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	75	0000
A 04 4 0 C8 03 53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	2152	1902	5000	3051	0000	3	0	65	55	15	0000
A 05 4 1 02 C2 07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	00	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
A 06 4 4 07 C8 47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6600	3152	1201	1003	3051	0000	2	1	68	65	54	0000
A 07 4 4 07 C8 50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	5551	1152	5000	2000	4051	0000	2	2	68	35	14	0000
A 08 4 6 04 C6 16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	68	85	15	0000
*A C9 4 6 04 C6 17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
A 4C 4 4 07 C8 46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
*A 41 4 5 03 C9 12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1604	1501	3051	0000	3	2	69	26	25	0000
A 63 4 0 07 C8 63	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
PHASE B																					
B 10 4 4 C7 C8 45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	65	0000
B 11 4 0 12 C7 78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4501	1000	5051	0000	2	1	67	16	15	0000
B 12 4 1 C2 C2 CE	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	54	0000
B 21 4 0 01 01 02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4000	2001	3051	0000	2	1	67	85	15	0000
B 22 4 4 C7 C8 48	SUR SUR DIFFUSIVITY	994	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
B 23 4 0 01 C1 03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
**B 24 4 6 C4 C6 19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
B 25 4 4 07 C8 43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	65	0000
B 26 4 0 06 C6 3C	ELECTRICAL SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
B 27 4 0 06 05 32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1055	5000	2051	2051	3	1	67	85	64	0000
B 30 4 1 C2 C2 11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
B 31 4 1 01 C2 06	SEISMIC PROFILING	995	5	6	754	1	2	0	00	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
**B 35 4 6 04 C6 18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
B 36 4 1 05 C5 41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
B 37 4 5 10 C6 C1	PLASMA POTENTIAL	115	1	5	724	2	1	1	41	3000	4653	4000	2000	1102	0000	4	1	68	25	15	0000
B 38 4 0 13 07 75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2501	2000	0000	3	3	69	26	55	0000
B 42 4 0 05 C5 24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
B 43 4 1 05 C6 22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
**B 45 4 5 03 C9 13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B 46 4 5 03 C9 14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

	B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
	B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
	B	49	4	0	06	05	34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
	B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
	B	52	4	0	06	06	28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
	B	61	4	1	04	06	81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
	B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
**	B	64	4	0	11	07	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	66	16	15	0000
	B	65	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
	B	69	4	1	09	04	87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
	B	70	4	0	08	03	52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000
	B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	94	0000
	B	72	4	0	05	05	38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
	B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	94	2000
	B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	8091	1351	4401	2000	2501	0000	5	2	69	45	15	2000
	B	78	4	7	03	13	03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
	B	79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	94	2000
	B	80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	94	4000
	B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000
	B	91	4	9	02	32	01	SEQUENT MULTIBND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
	PHASE C																											
	C	20	4	0	12	07	79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
	C	32	4	1	06	05	40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
	C	33	4	4	07	08	44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	65	0000
	C	34	4	4	07	08	49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
	C	39	4	0	13	07	76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2501	0000	0000	3	3	69	26	55	0000
	C	44	4	1	05	06	23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	82	5000
	C	50	4	1	01	02	05	SEISMIC REFLECTION	994	5	5	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
	C	53	4	6	04	06	21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
	C	54	4	5	03	09	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
	C	55	4	0	05	05	25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
	C	56	4	0	06	06	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	68	16	44	0000
	C	57	4	0	06	05	33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
	C	58	4	4	07	08	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000
	C	59	4	0	05	05	27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
	C	60	4	0	06	06	29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
	C	66	4	0	08	03	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
	C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	94	0000

**Energy supplied by ESS RTG source

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPH, DISQPNLC, AREA, OBJT, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	UNGNCY	NOMEN	SCKRIELML	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICROSSTT	TOTL ERTH RETD MASS KG
GEOPHYSICS																					
PHASE C (CONT)																					
C 68 4 C 13 C7 74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
C 73 4 0 05 05 39	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C 74 4 C 05 05 37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
C 75 4 C 06 C5 35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
C 84 4 0 09 04 56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	6053	0000	5000	0000	0000	2	1	67	55	54	0000
PHASE D																					
D 81 4 7 06 16 06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	56	26	4000
D 82 4 8 09 21 09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
D 86 4 8 11 23 11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	56	26	6000
D 87 4 7 07 17 07	UP ATM ECLIPS SPECTR	393	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	56	26	4000
D 88 4 7 08 18 08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2603	5001	1401	0000	5	9	80	66	16	0000
D 89 4 7 05 15 12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
D 92 4 9 01 31 02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	56	26	0000
D 94 4 9 03 33 01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	5402	0000	5	8	75	17	26	1001
PHASE E																					
E 83 4 8 10 22 10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	5909	4301	0000	5	9	80	18	27	1001
E 93 4 9 02 32 02	SEQUENT MULTIBND PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	6202	0000	5	8	77	18	27	1001
5 PARTICLES AND FIELDS																					
ORBITAL																					
G 22 5 2 02 03 01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
G 23 5 3 05 02 02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
G 33 5 3 01 02 02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
PHASE A																					
*A 11 5 3 01 02 01	SOLAR WIND, SURFACE	112	1	3	693	2	2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
*A 36 5 3 05 02 03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000
PHASE B																					
**B 01 5 2 02 04 01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3901	1401	1	0	65	16	25	1000
**B 04 5 3 05 02 01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
**B 05 5 3 07 01 01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000

*Energy supplied by ALSEP RTG source
**Energy supplied by ESS RTG source

B	06	5	5	22	C2	01	FLARE UV SPECTRA - I	C02	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	5	72	16	25	0000
B	07	5	3	01	01	C1	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
B	08	5	5	22	01	C1	OUTER CORONA SPECTRA	C02	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B	10	5	2	02	C1	C1	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
B	31	5	4	08	C1	01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5901	0000	4	3	71	56	55	0000
B	32	5	3	07	C1	C2	ELECTRIC FIELD	115	1	5	724	2	1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
B	39	5	3	04	C1	01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
B	42	5	2	02	01	03	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000

PHASE C

C	02	5	2	03	C1	01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
C	05	5	2	02	02	C1	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
C	17	5	2	03	C2	C1	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
C	18	5	2	02	02	02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C	19	5	3	01	C1	02	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3901	1001	5	2	69	26	45	0000
C	20	5	3	05	01	C1	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1652	3204	1101	2101	0000	2	1	67	26	45	0000
C	21	5	3	05	C1	C2	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
C	24	5	2	03	C1	02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
C	25	5	2	03	C2	02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
C	41	5	4	08	01	02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
C	47	5	3	04	01	02	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000

PHASE D

D	12	5	5	22	C3	01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	56	26	0000
D	13	5	5	22	06	01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
D	14	5	2	02	C4	02	SOLAR HIGH E ELECTRA	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D	15	5	2	02	02	03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	5351	7804	4000	3102	0000	2	3	72	16	45	1001
D	16	5	5	23	C1	C1	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
D	26	5	5	23	C1	02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
D	27	5	5	22	C3	02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	56	26	0000
D	28	5	5	23	02	01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
D	29	5	3	01	C1	03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
D	30	5	3	05	01	03	SOLAR, GEOMAG FIELD	916	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
D	37	5	2	02	C4	03	SOLAR HIGH E ELECTRA	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
D	38	5	5	22	C4	C1	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	56	26	0000
D	43	5	2	03	C1	03	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
D	44	5	2	03	02	03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001

EXPLORATION PHASE SEQUENCE BY PHASE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH LCA / OSIE SQPN / A REA / O BJ AT / S PE C / I NV S / E XP T)	EXPERIMENT TITLE	EXPT LOCA	MOBRE QE	PHASE	CHRON TIME	IMPORT	UNGNCY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICROSSTT	TOTL ERTH RETD MASS KG
PARTICLES AND FIELDS - PHASE D (CONT)																					
D 45 5 4 08 01 03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	9	80	18	27	4000
D 46 5 5 22 05 01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	24	1000
PHASE E																					
E 34 5 3 01 01 04	SOLAR WIND MFD FLOW	919	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
E 35 5 3 05 01 04	SOLAR, GEOMAG FIELD	919	9	6	764	4	2	2	51	7600	2952	2105	9000	1102	2301	2	3	68	26	85	0000
E 46 5 2 09 01 01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	9	9	80	37	56	0000
6 BIOLOGY																					
PHASE A																					
A 01 6 2 03 04 01	SOIL BANK	996	9	5	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
A 04 6 1 03 03 03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
PHASE B																					
B 02 6 1 04 01 02	EVID EXIST LIFE	395	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
B 05 6 1 04 01 01	INC PREDICT CHEM	392	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
PHASE C																					
C 03 6 1 01 03 01	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
C 06 6 1 01 02 01	BIORHYTHMS/PLANT	392	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
C 07 6 1 02 02 02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	13	1000
7 ASTRONOMY																					
ORBITAL																					
O 34 7 9 07 01 01	ELECTRIC FIELD	001	0	4	681	2	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
O 35 7 9 07 01 02	MAGNETIC FIELD	001	0	4	681	2	2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
O 36 7 9 07 01 03	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4055	2104	2000	0000	0000	2	1	67	25	64	0000
PHASE B																					
B 01 7 1 01 01 01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
B 02 7 2 01 01 02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
B 04 7 2 01 01 04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000

B	09	7	2	01	02	05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	5202	0000	4	2	68	25	64	5000
B	23	7	4	01	05	20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
B	24	7	2	01	02	06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
B	26	7	8	07	01	01	CISLUNAR MEDIUM EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B	29	7	7	07	01	01	AMB MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
B	31	7	8	07	01	02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B	32	7	8	07	01	03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B	33	7	8	07	01	04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000

PHASE C

C	03	7	2	01	01	03	PHOTOELECT.EFECT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
C	05	7	3	02	06	22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	5802	0000	3	2	68	55	15	0000
C	06	7	3	02	06	23	ANGULAR DES X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5502	0000	3	2	68	55	15	0000
C	07	7	3	02	06	24	DIST.INT.MED.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3502	0000	3	2	68	55	15	0000
C	22	7	2	01	05	21	LYMAN ALP.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
C	25	7	2	01	02	07	SCANN. EFECT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
C	27	7	5	04	01	01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4652	1504	3000	6000	0000	2	2	68	55	94	0000

PHASE D

D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
D	10	7	2	01	03	08	PHOTG OBS. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
D	11	7	2	01	03	09	PHOTG. PHOTEM. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
D	12	7	2	01	03	10	PHOTOEL. EFECT. (40)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001
D	13	7	2	01	03	11	SPECTROSCOPY (40)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5501
D	14	7	2	01	03	12	HIGH DISP. SPEC(40)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
D	15	7	2	01	03	13	SPECTR. SCAN (40)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
D	26	7	5	05	01	02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	69	55	15	0000
D	30	7	6	07	01	02	LUN WAVE PROPAGATION	195	2	5	721	2	1	2	06	2001	3452	5104	4001	1901	1001	2	1	68	45	84	0000

PHASE E

E	16	7	2	01	04	14	HIGH RES.PHOTG(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E	17	7	2	01	04	15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
E	18	7	2	01	04	16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6902	0000	5	6	72	18	27	5001
E	19	7	2	01	04	17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E	20	7	2	01	04	18	PLANET LIKE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
E	21	7	2	01	04	19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
E	37	7	5	06	01	01	SUBMILLIMETER RA	696	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	9	5	72	18	27	2002

EXPLORATION PHASE SEQUENCE BY PHASE WITHIN DISCIPLINE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER: EXPL	OSIE SQPN LCH	ARE A	OBJ AT	SPEC	INVS	EXPT	EXPERIMENT TITLE	EXPT LOCA	MOBRE QUE	PMAS E	CHRON TIME	IMPORT	UNGRY	NOMEN	SKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRCESCT	FICRESTT	TOTL ERTH RETD MASS KG
MISSION SUPPORT ORBITAL																											
Δ G	01	8	2	01	01	01	TOPGPHY AAP-LEM SITE	101	C	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
G	02	8	2	01	01	03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	66	46	25	0000
G	23	8	1	02	12	05	STEREOPHOTOGRAMMETRY	001	C	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
G	24	8	1	02	17	01	EARTH RFI/EKGND NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
G	25	8	1	02	17	02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
G	47	8	1	02	17	03	CRITICAL PLASMA FREQ	101	C	4	722	2	3	1	91	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000
PHASE A																											
A	03	8	2	01	01	02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	69	15	24	0000
A	06	8	1	02	11	04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
A	08	8	2	04	34	01	DUST REMOVAL TECHNOLS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
PHASE B																											
B	04	8	1	02	13	01	BIO CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
B	05	8	2	03	20	01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
B	07	8	2	01	02	01	DUST ENVRMT/SURFACE	009	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B	09	8	2	04	31	01	SIM PERS SHLD/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	23	3051
B	10	8	2	04	33	10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B	11	8	1	02	12	01	ELECTRODE CPLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	69	45	54	0000
B	12	8	1	02	11	03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B	13	8	2	03	20	02	MECH EFF MAN REQ GRV	003	0	5	721	6	5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
B	14	8	2	03	20	03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	34	0000
B	15	8	2	04	35	02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	7_	45	74	0000
B	16	8	2	03	20	05	VISION STUDIES	003	0	5	721	6	5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
B	17	8	1	02	11	02	LUNAR DRILL EIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
B	18	8	1	02	11	01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	99	00	00	0000
B	19	8	1	02	12	03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
B	20	8	2	05	39	01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B	21	8	3	06	41	06	H DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	71	25	15	0000
B	22	8	3	06	41	01	H DETECT BY MELT ACT	009	2	5	728	0	4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
B	26	8	2	04	34	14	ELSTME POLYMR DEGRD	002	1	5	723	0	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B	27	8	2	04	34	03	STAT XPOS EFF ON MAT	003	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B	28	8	2	04	34	04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B	29	8	2	01	01	04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B	30	8	2	01	02	08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B	31	8	2	01	02	05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B	32	8	2	04	34	06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B	33	8	2	04	34	07	DYNMIC TEST THIN FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000

Δ"x" indicates classified information

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXLPH / DSIEQ / ARCPN / OBJLC / SPACE / INVAT / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	UGNCY	NGMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRECST	FICRESTT	TOTL ERTH RETD MASS KG
MISSION SUPPORT - PHASE B (CONT)																					
B 34 8 2 04 34 08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B 35 8 2 04 34 15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
B 36 8 2 05 37 01	VIS TECH ASTRO VIS	094	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
B 37 8 2 05 37 02	VIS TECH LAND RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
B 38 8 2 05 36 02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	65	25	0000
B 39 8 2 05 36 01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
B 40 8 3 06 41 05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
B 41 8 3 06 41 04	H WITH PRES COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
B 42 8 2 01 01 09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
B 43 8 2 04 35 01	EFCTS LONG BOOM STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B 44 8 2 01 02 02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B 45 8 2 01 02 03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
B 46 8 2 01 02 04	ANTENNA DUST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B 48 8 2 04 32 03	RF GRD WAVE PROPGTION	004	2	5	733	6	7	2	46	7500	8052	2002	1002	8000	8000	3	3	72	16	25	0000
B 49 8 1 02 18 01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	96	36	5000
B 50 8 2 02 34 13	ENV EFFECTS/SOL CRTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
B 51 8 2 02 32 02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
B 52 8 2 01 01 05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B 53 8 2 01 01 08	SURF PROP LUN SOILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	65	25	0000
B 54 8 2 04 33 01	ELEC TRANS LINE TEST	003	1	5	732	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B 55 8 2 04 34 02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
B 56 8 2 01 02 06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B 57 8 2 04 32 01	LUNAR ENV ON ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
B 58 8 2 04 32 06	RETRODIR OPT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B 59 8 2 01 01 22	LUNAR STRATA E/M PRO	004	2	5	744	7	7	2	36	5000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
B 60 8 2 04 50 03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
B 63 8 2 04 32 04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
PHASE C																					
C 61 8 2 05 40 01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000
C 62 8 2 04 34 05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
C 64 8 2 04 32 05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
C 65 8 2 03 20 11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
C 66 8 2 03 30 04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
C 67 8 2 03 30 02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
C 68 8 1 02 12 07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	69	26	25	5000
C 69 8 2 03 20 06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	15	0000
C 70 8 2 03 20 04	BIOASSAYS-ECOY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	55	0000
C 71 8 2 03 20 10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPH, DSIESQPNLC, ARE A, OBJAT, SPECS, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE Q	PHASE	CHRON TIME	IMPORT	URGNCY	NOMEN	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRESCT	FICRSSTT	TOTL ERTH RETD MASS KG
MISSION SUPPORT - PHASE C (CONT)																					
C 72 8 2 04 50 01	CONV HT TRANS IN LIQ	002	0 6		743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
C 73 8 2 04 50 02	HT XFR FILM/DRP COND	002	0 6		743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
C 74 8 3 06 42 01	CHARAC LUNAR SLFWLDC	004	2 6		744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C 75 8 3 06 43 03	PART ADHESN MECH FRC	004	2 6		744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
C 76 8 3 06 45 01	DRY CEMNT-CONCRT APP	004	3 7		764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
C 77 8 3 06 41 02	CHEM+DTA ANALS-O+CO2	002	0 6		746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
C 78 8 3 06 41 03	DTA ANAL CASTABL MAT	002	0 6		746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
C 79 8 2 04 34 09	LNG STAT XFCS ON MAT	003	1 6		743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
C 80 8 2 01 02 07	LUNAR IMPACT SFERICS	003	1 6		743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
C 81 8 1 02 18 02	REMOTE CORONAGRAPH	044	2 6		754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
PHASE D																					
D 82 8 2 01 01 07	SEISMIC ENVIRONMENT	993	2 6		752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
D 83 8 2 03 30 01	EVALUATION ALGAE STR	002	0 6		743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D 84 8 2 03 30 03	EVAL HYDROGENOMONAS	002	0 6		743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
D 85 8 2 03 30 06	EVAL H-C USING ORGAN	002	0 6		743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
D 86 8 2 03 30 05	EIG MON ECO SYSTEM	003	0 6		743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
D 87 8 2 01 01 06	NUC REAC EMPL ASSESS	003	2 6		753	6	1	2	15	1601	4551	4751	4551	1001	0000	6	2	68	55	55	0000
D 88 8 2 04 33 02	EL TRANS LINE ROUTE	003	2 6		742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
D 89 8 2 03 30 07	EFF LUNR CONC ON PLT	002	0 6		744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D 90 8 2 03 30 08	PLANT GRTH LEV REPRO	002	0 6		744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D 91 8 2 03 30 09	GENETIC EFF/ANIMALS	002	0 6		744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D 92 8 2 03 30 10	ANIML GRTH LEV REPRO	002	0 6		744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801
9 MISC. BASIC AND APPLIED RESEARCH																					
PHASE B																					
B 01 9 0 05 02 01	CRNR RFLR LASER BEAM	906	2 5		734	4	6	1	37	3001	6052	0000	0000	4051	3051	4	1	68	25	54	0000
B 02 9 0 03 03 01	HT XFR/CONVECN GASES	003	1 5		734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
PHASE D																					
D 03 9 0 01 01 01	HI INT ELEC BEAM GEN	003	1 6		743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
D 04 9 0 03 02 01	SLR FRNC/FCL ENG FLX	003	1 6		743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
D 05 9 0 01 02 01	HI INT ARC GENERATR	003	1 6		743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
D 06 9 0 03 01 01	RADIATION CRYOSTAT	003	1 6		743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D 07 9 0 02 01 01	FIELD EMISSION OPTCS	003	1 6		743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051
D 08 9 0 05 01 01	LORENTZ PLSMA MEAS	003	1 6		755	2	6	2	36	1001	0052	4001	2001	4000	0000	5	2	69	45	15	0000
PHASE E																					
E 09 9 0 04 01 01	ATOMIC SPECIES LIFE	094	3 6		753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000

5.2 EXPLORATION PHASE SEQUENCES BY DISCIPLINE

EXPLORATION PHASE SEQUENCE BY DISCIPLINE WITHIN PHASE

EXPLORATION PHASE	DISCIPLINE	EXPERIMENT NUMBER: ARea	OBJECT	SPECIAL	INVESTIGATION	EXPERIMENT	EXPERIMENT TITLE	EXPT LOCA	MISSION GROUP	PHASE	CHRON TIME	IMPORTANCE	URGENCY	NECESSITY	SCIENCE RISK	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SUDEA VT	TIDEM VE	AVEAIL FL	NORES CT	FICRESS TT	TOTL ERTH RETD MASS KG
* ORBITAL																											
1 GEODESY																											
0	01	1	3	03	C7	C7	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
0	02	1	2	02	06	06	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
2 GEOLOGY																											
0	01	2	1	04	C1	02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
0	02	2	1	04	01	01	GEOLOGIC BASE MAPS	991	0	4	688	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
3 GEOCHEMISTRY																											
0	01	3	3	01	01	02	GAMMA RAY SPECTROM	001	0	4	733	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
0	02	3	4	01	04	01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	3	69	17	55	0000
0	14	3	2	01	01	17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
0	15	3	2	01	01	16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
4 GEOPHYSICS																											
0	13	4	3	03	05	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
0	14	4	6	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
0	15	4	4	07	08	86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
0	16	4	2	02	02	84	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
0	17	4	0	08	03	70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
0	18	4	0	07	08	65	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
0	19	4	0	06	05	65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
0	28	4	4	07	08	66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000
0	29	4	5	03	05	68	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	3001	1051	3003	1001	0000	0000	3	5	71	26	25	0000

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EXTENDED LUNAR EXPLORATION STUDY SUMMARY LIST

EXPERIMENT NUMBER (EXPLOR DISCIPLINE AREA OBJECT SPEC INVS EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE QUE	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRCESCI	FICROSSTT	TOTL ERTH RETD MASS KG
ORBITAL - GEOPHYSICS (CONT)																					
0 85 4 0 12 07 80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
5 PARTICLES AND FIELDS																					
0 22 5 2 02 03 01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
0 23 5 3 05 02 02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
0 33 5 3 01 02 02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
7 ASTRONOMY																					
0 34 7 9 07 01 01	ELECTRIC FIELD	001	0	4	681	2	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
0 35 7 9 07 01 02	MAGNETIC FIELD	001	0	4	681	2	2	1	56	3300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
0 36 7 9 07 01 03	PARTICLE FLUX	001	0	4	681	2	2	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000
8 MISSION SUPPORT																					
Δ0 01 8 2 01 01 01	TOPOGPHY ALF-LEP SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
0 02 8 2 01 01 03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	60	46	25	0000
0 23 8 1 02 12 05	STEREOPHOTOGRAMMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
0 24 8 1 02 17 01	EARTH RFI/BKGND NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
0 25 8 1 02 17 02	DIELECTRIC PROPERTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
0 47 8 1 02 17 03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	92	1201	0050	3002	2501	5000	5000	6	1	67	26	15	0000
PHASE A																					
0 LUNAR ATMOSPHERE																					
*A 01 0 1 03 01 59	ATMOSPHERIC PRESSURE	992	1	3	684	2	3	1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
*A 03 0 2 03 02 63	CHARGED DUST	992	1	3	684	2	4	1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
2 GEOLOGY																					
A 06 2 1 01 03 09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
□A 08 2 1 04 02 05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	96	85	1001
A 12 2 1 04 04 11	VISUAL LOGGING	999	9	5	728	2	2	1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
3 GEOCHEMISTRY																					
A 03 3 2 01 01 11	CHEM ANAL BY N ACTIV	002	0	9	728	2	2	1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000

*Energy supplied by ALSEP RTG source
□Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.
Δ"x" indicates classified information

A	12	3	2	01	03	01	VOLATILE DETN/COLLN	002	0	5	746	2	2	1	20	7000	1151	1502	1002	1501	0000	4	2	68	35	24	5000
A	13	3	2	01	01	12	X RAY FLUOR ANALYSIS	002	0	5	755	2	2	1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
A	23	3	2	01	01	06	DENS BY FLOTATION	002	0	5	728	3	6	1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	13	0000

4 GEOPHYSICS

A	01	4	0	01	01	01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
A	02	4	4	07	08	82	TEMPERATURE GRADIENT	993	1	3	702	1	1	1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	65	0000
A	03	4	4	07	08	42	NEAR SURFACE TEMP.	992	1	3	661	1	1	1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	73	0000
A	04	4	0	08	03	53	METEOROID DETECTION	992	1	3	681	1	1	1	36	3300	6152	1902	5000	3051	0000	3	0	66	55	15	0000
A	05	4	1	02	02	07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
A	06	4	4	07	08	47	SUR TEMP DIFFUSIVITY	992	1	3	682	1	1	1	36	6800	3152	1201	1003	3051	0000	2	2	68	65	34	0000
A	07	4	4	07	08	50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
A	08	4	6	04	06	16	MAGNETIC FIELD	993	1	3	681	1	1	1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
A	09	4	6	04	06	17	MAGNETIC FIELD	993	1	3	682	1	1	1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
A	40	4	4	07	08	46	THERMAL BLANKET	993	1	3	681	2	1	1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
*A	41	4	5	03	05	12	GRAVITY-ABSOLUTE	993	1	3	702	2	2	1	36	1501	4052	1804	1501	5051	0000	3	2	69	26	25	0000
A	63	4	0	07	08	83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000

5 PARTICLES AND FIELDS

*A	11	5	3	01	02	01	SOLAR WIND, SURFACE	112	1	3	693	2	2	1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
*A	36	5	3	05	02	03	MAGNETIC FIELD VS. T	112	1	3	693	2	2	1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000

6 BIOLOGY

A	01	6	2	03	04	01	SOIL BANK	996	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
A	04	6	1	03	03	03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000

8 MISSION SUPPORT

A	05	8	2	01	01	02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	69	15	24	0000
A	06	8	1	02	11	04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
A	08	8	2	04	34	01	DUST REMOVAL TECHGCS	003	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000

*Energy supplied by ALSEP RTG source

EXPLORATION PHASE SEQUENCE BY DISCIPLINE WITHIN PHASE

8-25-66
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EXTENDED LUNAR EXPLORATION STUDY SUMMARY LIST

EXPERIMENT NUMBER (EXPLPM, DSIESQPNLC, AREAT, OBJ, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PMASE	CHRON TIME	IMPORT	UNGCY	NOME	SCKRIELML	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	3DTEAVT	TDIEMVE	AYYEARL	NCRCESCI	FICRGSTT	TOTL ERTHRETD MASS KG
PHASE B																					
LUNAR ATMOSPHERES																					
**B 02 0 1 03 02 60	ATMOSPHERIC PRESSURE	993	2 5		723	2 3		1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
B 04 0 2 03 03 61	ELECTRIC FIELD	993	2 5		723	2 4		1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
1 GEODESY																					
B 03 1 3 03 03 03	SURFACE GRAVITY	999	7 9		729	1 2		1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
B 04 1 1 01 01 01	SELENODETIC ASTRON.	999	7 9		729	1 1		1	97	1502	9052	6803	2501	7301	5201	5	5	71	16	15	6001
B 06 1 2 01 02 02	SELENODETIC SURVEY	999	7 9		729	1 1		1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
2 GEOLOGY																					
B 03 2 3 01 03 20	SAMPLE COLLECTION	999	9 9		689	1 1		1	10	6000	2551	0000	0000	1051	1051	3	2	68	33	15	1002
B 04 2 1 01 02 03	FINE STRUCTURE DEF	999	7 9		708	1 1		1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	85	1051
B 05 2 1 01 02 04	GEOLOGIC MAPPING	999	7 9		708	1 1		1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
B 07 2 1 02 03 07	SHALLOW DRILLING	003	2 8		709	1 3		1	14	4401	3651	2003	1203	2400	2400	3	3	70	56	15	4201
B 09 2 4 03 04 13	PALEOMAGNETISM	999	9 5		728	2 6		1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
B 10 2 4 03 03 10	AGE DETERMINATION	999	9 9		706	1 2		1	10	2801	2051	4001	2501	2000	2000	3	3	69	56	95	1001
3 GEOCHEMISTRY																					
B 04 3 2 01 01 01	CHEM ANAL BY N ACTIV	005	7 9		728	2 2		1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
B 05 3 1 01 01 06	MICR MIN & PET STUDY	002	0 5		737	2 2		1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
B 06 3 3 01 01 01	GAMMA RAY SPECTROM	005	7 5		746	2 6		1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
B 07 3 2 01 01 10	SOLIDS M SPEC ANAL	002	0 5		737	2 2		1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000
B 08 3 2 01 01 02	CHEM ANAL BY IR	002	0 5		746	2 2		1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
B 09 3 2 01 01 04	X RAY FLUOR ANALYSIS	005	3 6		755	2 2		1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000
● B 10 3 4 01 04 03	M SPEC GAS ANAL	006	9 5		746	1 1		0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
B 11 3 4 01 04 02	SURF M SPEC GAS ANAL	005	7 5		706	1 2		1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
B 16 3 2 01 01 16	IN SITU IR SPECTRA	005	7 5		755	2 2		1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B 17 3 2 01 01 15	UV-VISIBLE SPECTRA	005	7 5		755	2 2		1	27	1501	2552	7503	3001	7000	7000	4	2	68	25	26	5002
B 18 3 2 01 01 05	CHEM ANAL W REAGENTS	002	0 6		755	3 3		1	20	2101	5552	5003	1002	2002	0000	4	1	67	25	14	0000
B 19 3 2 01 01 03	NMR SPECTROMETRY	002	0 6		755	2 5		1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000
B 20 3 2 01 01 14	IN SITU X RAY DIFF	005	7 6		755	2 3		1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
B 21 3 2 01 01 07	MIN BY X RAY DIFF	002	0 6		764	2 2		1	26	9000	2052	2502	6001	8101	0000	3	4	70	16	15	0000
B 22 3 2 01 01 13	GAMMA SCATTERING	005	7 6		755	2 6		1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
4 GEOPHYSICS																					
B 10 4 4 07 08 45	TEMPERATURE GRADIENT	993	1 5		722	1 1		1	36	3551	8154	0000	3000	5051	0000	2	1	67	25	63	0000
B 11 4 0 12 07 78	GAMMA RAY SPECTRA	993	1 5		723	1 1		1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000

**Energy supplied by RTG source
● Energy supplied by independent power source (emplaced package)

B	12	4	1	02	02	08	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	66	16	94	0000
B	21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	22	4	4	07	08	48	SUB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
**B	24	4	6	04	06	19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
B	25	4	4	07	08	43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	63	0000
B	26	4	0	06	06	30	ELECTRICA SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
B	27	4	0	06	05	32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
B	30	4	1	02	02	11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
**B	35	4	6	04	06	18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
B	36	4	1	05	05	41	E-M PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
B	37	4	5	10	06	01	PLASMA POTENTIAL	115	1	5	724	2	1	1	41	3000	4653	4000	2000	1101	0000	4	1	68	25	15	0000
B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2501	2000	0000	3	3	69	26	55	0000
B	42	4	0	05	05	24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	3	2	69	55	54	0000
B	43	4	1	05	06	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000
**B	45	4	5	03	09	13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B	46	4	5	03	09	14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
B	47	4	6	04	06	20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
B	49	4	0	06	05	34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	68	16	25	0000
B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
B	52	4	0	06	06	28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	69	16	24	0000
B	61	4	1	04	06	81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
B	62	4	0	05	05	36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
**B	64	4	0	11	07	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
B	65	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
B	69	4	1	09	04	87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
B	70	4	0	08	03	52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1502	5000	4051	0000	2	1	67	16	15	0000
B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	94	0000
B	72	4	0	05	05	38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
B	76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	94	2000
B	77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2501	0000	5	2	69	45	15	2000
B	78	4	7	03	13	03	AURORAL AIR GLOW PHO	392	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B	79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	94	2000
B	80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	94	4000
B	90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000
B	91	4	9	02	32	01	SEQUENT MULTIBAND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000

**Energy supplied by ESS RTG source

EXPLORATION PHASE SEQUENCE BY DISCIPLINE WITHIN PHASE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLOR PHASE / DISCIPLINE / SPECIALTY / INVESTIGATION / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRES	PHASE	CHRON TIME	IMPORT	UNGCNY	NGMEN	SCKRIEL ML	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRCESCT	FICRSSTT	TOTL ERTH RETD MASS KG
PHASE B																					
5 PARTICLES AND FIELDS																					
**B 01 5 2 02 04 01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3501	1401	1	0	65	16	25	1000
**B 04 5 3 05 02 01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
**B 05 5 3 07 01 01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000
B 06 5 5 22 02 01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	3	72	16	25	0000
B 07 5 3 01 01 01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
B 08 5 5 22 01 01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	3	72	56	16	0000
B 09 5 2 02 01 02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B 10 5 2 02 01 01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
B 31 5 4 08 01 01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5501	0000	4	3	71	56	55	0000
B 32 5 3 07 01 02	ELECTRIC FIELD	119	1	5	724	2	1	2	51	6600	6051	3602	1000	9700	0000	2	1	68	55	74	0000
B 39 5 3 04 01 01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
B 42 5 2 02 01 03	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
6 BIOLOGY																					
B 02 6 1 04 01 02	EVID EXIST LIFE	395	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
B 05 6 1 04 01 01	INC PREBIOT CHEM	392	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
7 ASTRONOMY																					
B 01 7 1 01 01 01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
B 02 7 2 01 01 02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
B 04 7 2 01 01 04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
B 09 7 2 01 02 05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000
B 23 7 4 01 05 20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
B 24 7 2 01 02 06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	68	35	64	5000
B 28 7 8 07 01 01	CISLUNAR MEDIUM EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B 29 7 7 07 01 01	AMB MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
B 31 7 8 07 01 02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B 32 7 8 07 01 03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B 33 7 8 07 01 04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
8 MISSION SUPPORT																					
B 04 8 1 02 13 01	BIO CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	6001	2200	0000	4	2	69	26	25	1000
B 05 8 2 03 20 01	CLINICAL MONITORING	003	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
B 07 8 2 01 02 01	DUST ENVRMT/SURFACE	009	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B 09 8 2 04 31 01	SIM PERS SHLD/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	23	3051
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000
B 11 8 1 02 12 01	ELECTRODE CPLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	3	69	45	54	0000

**Energy supplied by ESS RTG source

B 12	8 1	02	11	03	CAL RMT SENSNG TECHS	C09	2 5	722	1 2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000
B 13	8 2	03	20	02	MECH EFF MAN FED GRV	C03	0 5	721	6 5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
B 14	8 2	03	20	03	WORK CAPABILITY	C03	0 5	721	6 5	2	60	1601	1051	2100	1001	2000	0000	4	2	68	25	34	0000
B 15	8 2	04	35	02	REPR TECH MAJR STRUC	C03	1 5	724	7 7	2	05	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B 16	8 2	03	20	05	VISION STELLIES	C03	0 5	721	6 5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
B 17	8 1	02	11	02	LUNAR DRILL BIT TECH	C09	2 5	722	6 5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
B 18	8 1	02	11	01	GAS REQTS FOR DRILL	C09	2 5	722	6 5	1	13	1051	1053	0000	0000	1000	1000	3	0	59	00	00	0000
B 19	8 1	02	12	03	EXPLOSV ENERGY COUPL	994	2 5	721	6 2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000
B 20	8 2	05	39	01	XPLOS TECH SURF MOD	994	2 5	721	6 2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B 21	8 3	06	41	06	H DETECT BY IR SPECT	002	0 5	746	2 2	1	27	1601	2552	6002	3001	4001	0000	3	5	71	25	15	0000
B 22	8 3	06	41	01	H DETECT BY NEUT ACT	C09	2 5	728	6 4	1	26	1601	1252	2502	2501	5000	5000	3	3	69	00	00	2000
B 26	8 2	04	34	14	ELSTME POLYMR DEGRD	C02	1 5	723	6 5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B 27	8 2	04	34	03	STAT XPOS EFF ON MAT	C03	1 5	721	9 5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B 28	8 2	04	34	04	XPOS EFF ON RAD MATS	C03	1 5	721	7 7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B 29	8 2	01	01	04	CORROSION TEST	C03	1 5	723	7 7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B 30	8 2	01	02	08	LEAKAGE MEASUREMENTS	C03	1 5	723	2 2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 31	8 2	01	02	05	LUN ATM CONTAM-ROCKT	C03	1 5	723	2 2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 32	8 2	04	34	06	DYNMIC TEST MACHN EL	002	1 5	722	7 5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B 33	8 2	04	34	07	DYNMIC TEST THIN FLM	002	1 5	722	7 5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B 34	8 2	04	34	08	DYNMIC TEST ELE CMPT	002	1 5	722	7 5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B 35	8 2	04	34	15	STATIC/DYNAMIC SEALS	C02	1 5	723	6 7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
B 36	8 2	05	37	01	VIS TECH ASTRO VIS	094	2 5	712	7 5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
B 37	8 2	05	37	02	VIS TECH LAND RECOG	C04	2 5	713	7 5	2	64	1000	0552	0000	0000	3300	3000	5	3	69	25	54	0000
B 38	8 2	05	36	02	DANG TERRAIN WARNING	004	2 5	732	7 1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	85	25	0000
B 39	8 2	05	36	01	SOIL VAL VARI LUNAR	094	2 5	713	6 5	2	12	1501	0200	0000	0000	6200	5000	6	2	70	65	15	0000
B 40	8 3	06	41	05	QUANT ANAL OF HYDROG	C02	0 5	737	6 4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
B 41	8 3	06	41	04	H WITH PROS COND	002	0 5	737	6 4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
B 42	8 2	01	01	09	ELEC PARMTR SURF+SUB	004	2 5	721	1 1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
B 43	8 2	04	35	01	EFCTS LONG PERM STRU	003	1 5	723	7 5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B 44	8 2	01	02	02	LUNAR RF NOISE PT 1	004	2 5	721	1 2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B 45	8 2	01	02	03	LUNAR RF NOISE-2	003	2 5	724	1 1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
B 46	8 2	01	02	04	ANTENNA DUST ACCUMLN	103	1 5	721	1 2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B 48	8 2	04	32	03	RF GRD WAVE PROPGTION	004	2 5	733	6 7	2	46	7500	8052	2602	1002	8000	6000	3	3	72	16	25	0000
B 49	8 1	02	18	01	ASTRONOMY FEASIBIL.	003	1 5	723	1 5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	56	36	5000
B 50	8 2	02	34	13	ENV EFFECTS/SOL CKTS	C02	1 5	723	7 5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
B 51	8 2	02	32	02	RF FRWD SCATTER TECH	C04	2 5	733	7 7	2	46	1001	2052	1502	3000	5000	3500	3	3	71	55	15	0000
B 52	8 2	01	01	05	LUNAR SOIL SHIELDING	112	1 5	723	7 1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B 53	8 2	01	01	08	SUPT PROP LUN SOILS	C04	2 5	723	5 6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
B 54	8 2	04	33	01	ELEC TRANS LINE TEST	C03	1 5	732	7 7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B 55	8 2	04	34	02	DAMAGE LUNAR EQUIPMT	C03	1 5	722	7 5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000

EXPLORATION PHASE SEQUENCE BY DISCIPLINE WITHIN PHASE

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U615-001

EXTENDED LUNAR EXPLORATION STUDY SUMMARY LIST

EXPERIMENT NUMBER (EXLP HLC / DSIE SQPN / ARAE ABAT / OSPE / IMPS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE GO	PHAS E	CHRON TIME	IMPOR T	UNGON CY	NOMEN	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRCESCT	FICRCSSTY	TOTL ERTH RETD MASS KG
PHASE B - MISSION SUPPORT (CONT)																					
B 56 B2 04 02 06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B 57 B2 04 32 01	LUNAR ENV CN ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	66	45	84	0000
B 58 B2 04 32 06	RETRODIR CFT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
B 59 B2 04 01 22	LUNAR STRATA E/M PRC	004	2	5	744	7	7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
B 60 B2 04 50 03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
B 63 B2 04 32 04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000
9 MISC. BASIC AND APPLIED RESEARCH																					
B 01 9 0 05 02 01	CHNR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	8052	0000	0000	4051	3051	4	1	68	25	54	0000
B 02 9 0 03 03 01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
PHASE C																					
0 LUNAR ATMOSPHERE																					
C 05 0 2 03 03 62	ELECTRIC FIELD	995	3	6	769	2	4	1	00	2000	9054	1652	4051	1051	1051	3	3	69	16	54	0000
C 06 0 1 03 04 64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000
1 GEODESY																					
C 05 1 1 01 05 05	EARTH-MOON DISTANCE	995	7	9	729	1	1	1	97	3002	5951	8003	1003	7301	5201	5	5	71	26	25	6001
C 07 1 3 04 04 04	SEISMIC OBSERVATIONS	995	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000
2 GEOLOGY																					
C 13 2 1 01 03 30	SUBSURFACE SAMPLING	995	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	53	2002
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	5	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
4 GEOPHYSICS																					
C 20 4 0 12 07 75	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
C 32 4 1 06 05 40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
C 33 4 4 07 08 44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	63	0000
C 34 4 4 07 08 45	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
C 39 4 0 13 07 76	NEUT ACTIV TRVRS	995	3	6	769	1	4	1	36	6000	5053	1703	2501	0000	0000	3	3	69	26	55	0000
C 44 4 1 05 06 23	MAGNETISM	996	5	6	722	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	62	5000
C 50 4 1 01 02 05	SEISMIC REFLECTION	994	5	9	742	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	65	15	0000
C 53 4 6 04 06 21	MAGNETIC SURVEY	995	5	6	755	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	65	15	0000

C	54	4	5	03	C9	15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	15C1	11C1	1001	5	2	69	26	25	0000
C	55	4	0	05	C5	25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	15C1	2000	2000	5	2	69	55	54	0000
C	56	4	0	06	C6	31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5C51	5C51	3	2	68	16	44	0000
C	57	4	0	06	05	33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
C	58	4	4	07	08	51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000
C	59	4	0	05	05	27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	15C1	2000	0000	5	2	70	16	15	0000
C	60	4	0	06	C6	29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
C	66	4	0	08	03	54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
C	67	4	0	13	07	72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	54	0000
C	68	4	0	13	07	74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
C	73	4	0	05	05	35	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
C	74	4	0	05	05	37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
C	75	4	0	06	05	35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000
C	84	4	0	09	04	56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000

5 PARTICLES AND FIELDS

C	02	5	2	03	C1	01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
C	03	5	2	02	02	01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
C	17	5	2	03	C2	C1	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
C	18	5	2	02	C2	02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C	19	5	3	01	C1	C2	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3901	1001	5	2	69	26	45	0000
C	20	5	3	05	01	01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1852	3204	1101	2101	0000	2	1	67	26	45	0000
C	21	5	3	05	C1	C2	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
C	24	5	2	03	C1	C2	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	5	72	26	45	1001
C	25	5	2	03	C2	C2	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
C	41	5	4	08	01	C2	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	16	2000
C	47	5	3	04	01	C2	AURORAL ELECTRONS	192	1	6	756	5	6	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000

6 BIOLOGY

C	03	6	1	01	C3	C1	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
C	06	6	1	01	02	01	BIORHYTHMS/PLANT	392	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
C	07	6	1	02	C2	C2	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	15	1000

7 ASTRONOMY

C	03	7	2	C1	01	03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
C	05	7	3	02	06	22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
C	06	7	3	02	06	23	ANGULAR DES X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5902	0000	3	2	68	55	15	0000

EXPLORATION PHASE SEQUENCE BY DISCIPLINE WITHIN PHASE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPH, DSIESQPNLC, ARE, OBJAT, SPEC, INVS, EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PMAS	CHRON TIME	IMPORT	UNGNCY	NOME	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRECST	FICRSSTT	TOTL ERTH RETD MASS KG
PHASE C - ASTRONOMY (CONT)																					
C 07 7 3 02 06 24	DIST.INT.PEC.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3502	0000	3	2	68	55	15	0000
C 22 7 2 01 05 21	LYMAN ALP.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
C 25 7 2 01 02 07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
C 27 7 5 04 01 01	NON DIR RADIO ASTR	103	1	5	741	1	1	1	06	7000	4652	1504	3000	6000	0000	2	2	68	55	94	0000
8 MISSION SUPPORT																					
C 61 8 2 05 40 01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000
C 62 8 2 04 34 05	WATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
C 64 8 2 04 32 05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
C 65 8 2 03 20 11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
C 66 8 2 03 30 04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
C 67 8 2 03 30 02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000
C 68 8 1 02 12 07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	69	26	25	5000
C 69 8 2 03 20 06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	15	0000
C 70 8 2 03 20 04	BIOASSAYS-ECOY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	55	0000
C 71 8 2 03 20 01	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	8452	9002	2001	5501	0000	2	1	68	15	24	0500
C 72 8 2 04 50 01	CONV HT TRANS IN LIG	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
C 73 8 2 04 50 02	HT XFR FILM/CRF COND	002	0	6	743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000
C 74 8 3 06 42 01	CHARAC LUNAR SLFWLDG	004	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C 75 8 3 06 43 03	PART ADHESN MECH FRC	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
C 76 8 3 06 45 01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
C 77 8 3 06 41 02	CHEM+DTA ANALS-O+CO2	002	0	6	746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
C 78 8 3 06 41 03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000
C 79 8 2 04 34 09	LNG STAT XPOS ON MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000
C 80 8 2 01 02 07	LUNAR IMPACT SFERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000
C 81 8 1 02 18 02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
PHASE D																					
4 GEOPHYSICS																					
D 81 4 7 06 16 06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	96	26	4000
D 82 4 8 05 21 09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
D 86 4 6 11 23 11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1602	0000	5	4	72	56	26	6000
D 87 4 7 07 17 07	UP ATM ECLIPS SPECTR	393	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	96	26	4000
D 88 4 7 08 18 08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	9	80	66	16	0000
D 89 4 7 05 15 12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
D 92 4 9 01 31 02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	96	26	0000

D	94	4	9	03	33	01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001

5 PARTICLES AND FIELDS

D	12	5	5	22	03	01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	96	26	0000
D	13	5	5	22	06	01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
D	14	5	2	02	04	02	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D	15	5	2	02	02	03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
D	16	5	5	23	01	01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
D	26	5	5	23	01	02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
D	27	5	5	22	03	02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	96	26	0000
D	28	5	5	23	02	01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
D	29	5	3	01	01	03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000
D	30	5	3	05	01	03	SOLAR, GEOMAG FIELD	916	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
D	37	5	2	02	04	03	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
D	38	5	5	22	04	01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
D	43	5	2	03	01	03	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
D	44	5	2	03	02	03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
D	45	5	4	08	01	03	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	5	80	18	27	4000
D	46	5	5	22	05	01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000

7 ASTRONOMY

D	08	7	3	03	07	25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	66	55	15	0000
D	10	7	2	01	03	08	PHOTG OBS. (4C)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
D	11	7	2	01	03	09	PHOTG. PHOTOM. (4C)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
D	12	7	2	01	03	10	PHOTOEL. PHOT. (4C)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001
D	13	7	2	01	03	11	SPECTROSCOPY (4C)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5501
D	14	7	2	01	03	12	HIGH DISP. SPEC(4C)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
D	15	7	2	01	03	13	SPECTR. SCAN (4C)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
D	26	7	5	05	01	02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2851	3004	3000	2301	1001	2	1	69	55	15	0000
D	30	7	6	07	01	02	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1901	1001	2	1	68	45	84	0000

8 MISSION SUPPORT

D	82	8	2	01	01	07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
D	83	8	2	03	30	01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D	84	8	2	03	30	03	EVAL HYDROCARBONS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
D	85	8	2	03	30	06	EVAL H-C USING ORGNM	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
D	86	8	2	03	30	05	BIO MON ECO SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
D	87	8	2	01	01	06	NUC REAC EMPL ASSESS	003	2	6	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	66	55	55	0000
D	88	8	2	04	33	02	EL TRANS LINE ROUTE	003	0	6	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
D	89	8	2	03	30	07	EFF LUNA CONC ON PLT	002	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D	90	8	2	03	30	08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D	91	8	2	03	30	09	GENETIC EFF/ANIMALS	002	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D	92	8	2	03	30	10	ANIML GRTH DEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801

EXPLORATION PHASE SEQUENCE BY DISCIPLINE WITHIN PHASE

8-25-66
U615-001

EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLOR PHASE / DISCIPLINE / EXPERIMENT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE GE	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEM	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICROSSTT	TOTL ERTH RETD MASS KG
PHASE D																					
9 MISC. BASIC AND APPLIED RESEARCH																					
D 03 9 0 01 01 01	HI INT ELEC BEAM GEN	003	1 6		743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
D 04 9 0 03 02 01	SLR FRNC/FCL ENG FLX	003	1 6		743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
D 05 9 0 01 02 01	HI INT ARC GENERATR	003	1 6		743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
D 06 9 0 03 01 01	RADIATION CRYOSTAT	003	1 6		743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D 07 9 0 02 01 01	FIELD EMISSION OPTCS	003	1 6		743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051
D 08 9 0 05 01 01	LORENTZ PLSMA MEAS	003	1 6		755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
PHASE E																					
2 GEOLOGY																					
E 11 2 1 02 03 08	DEEP DRILL - 300M	999	9 6		753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
4 GEOPHYSICS																					
E 83 4 8 10 22 10	PLANET ATM TEMP+COMP	393	1 6		759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	80	18	27	1001
E 93 4 9 02 32 02	SECUENT MULTIBND PHC	103	1 6		755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001
5 PARTICLES AND FIELDS																					
E 34 5 3 01 01 04	SOLAR WIND MPC FLOW	919	9 6		753	1	2	4	56	3401	2552	1305	4000	1401	2301	5	2	69	26	45	0000
E 35 5 3 05 01 04	SOLAR, GEOMAG FIELD	919	9 6		764	4	2	2	51	7600	2952	2105	9000	1102	2301	2	2	68	26	85	0000
E 40 5 2 09 01 01	NEUTRINO SOURCE FLUX	113	4 6		744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
7 ASTRONOMY																					
E 16 7 2 01 04 14	HIGH RES.PHOTO(100)	113	1 8		789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E 17 7 2 01 04 15	HIGH DISP.SPEC(100)	113	1 8		789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
E 18 7 2 01 04 16	HIGH ENERGY (100)	113	1 8		789	4	6	2	97	1804	1002	2004	5001	6502	0000	5	6	72	18	27	5001
E 19 7 2 01 04 17	OUTER ENVEL. (100)	113	1 8		789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E 20 7 2 01 04 18	PLANET LIKE (100)	113	1 8		789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
E 21 7 2 01 04 19	MAG. AND COLOR(100)	113	1 8		789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
E 37 7 5 06 01 01	SUBMILLIMETER RA	696	5 6		755	3	7	3	99	5003	1501	2007	1003	1003	1002	5	5	72	18	27	2002
9 MISC. BASIC AND APPLIED RESEARCH																					
E 09 9 0 04 01 01	ATOMIC SPECIES LIFE	094	3 6		753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000

6.0 COMPOSITE SEQUENCES

COMPOSITE SEQUENCE

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (E DS X IE L SQ P PN H LC A O R A E O B J S P T E C I N V E X P T)	EXPERIMENT TITLE	EXPT LOCA	MOBRES (M O B R E Q)	PHASE (P H A S E)	CHRON TIME	IMPGT (I M P G T)	UNGCY (U R G N C Y)	NOME (N O M E N)	SCKRIEL (S CK RI EL WL)	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT (S DT EA VT)	TDIEMVE (T DI EM VE)	AYYEARL (A YY EA AI RL)	NCRESCT (NC RC ES CT)	FICRESTT (F IC RE SS TT)	TOTL ERTH RETD MASS KG
PHASE A																					
BASE																					
ANALYTICAL LAB																					
A 03 3 2 01 01 11	CHEM ANAL BY N ACTIV	002	0 9		728	2 2		1	26	1601	1252	6002	2501	2401	0000	3	3	69	56	55	0000
A 12 3 2 01 03 01	VOLATILE DETN/COLLN	002	0 5		746	2 2		1	20	7000	1151	1502	1002	1901	0000	4	2	68	35	24	5000
A 13 3 2 01 01 12	X RAY FLUOR ANALYSIS	002	0 5		755	2 2		1	26	7000	2052	1002	5051	2201	0000	3	2	68	56	55	0000
A 23 3 2 01 01 06	DENS BY FLOTATION	002	0 5		728	3 6		1	20	5051	1052	0000	0000	2001	0000	4	0	67	15	13	0000
DRILLING																					
A 12 2 1 04 04 11	VISUAL LOGGING	999	9 5		728	2 2		1	17	1700	8053	4501	1002	1001	1001	2	2	68	16	64	0000
A 02 4 4 07 08 82	TEMPERATURE GRADIENT	993	1 3		702	1 1		1	36	4400	1152	1902	9000	5051	0000	2	2	68	25	63	0000
A 03 4 4 07 08 42	NEAR SURFACE TEMP.	992	1 3		681	1 1		1	36	5551	8154	0000	3000	1051	1051	3	2	78	45	73	0000
EMPLACE AND MONITOR																					
*A 01 0 1 03 01 59	ATMOSPHERIC PRESSURE	992	1 3		684	2 3		1	00	1000	6354	8003	2001	1051	0000	3	2	68	16	15	0000
*A 03 0 2 03 02 63	CHARGED DUST	992	1 3		684	2 4		1	00	8500	7353	2003	5051	1000	0000	3	3	69	36	35	0000
A 04 4 0 08 03 53	METEOROID DETECTION	992	1 3		681	1 1		1	36	3300	6152	1902	5000	3051	0000	3	0	66	55	15	0000
A 06 4 4 07 08 47	SUR TEMP DIFFUSIVITY	992	1 3		682	1 1		1	36	6800	3152	1201	1003	3051	0000	2	1	68	65	34	0000
A 08 4 6 04 06 16	MAGNETIC FIELD	993	1 3		681	1 1		1	36	6000	2052	2502	5000	3051	0000	3	1	66	85	15	0000
A 09 4 6 04 06 17	MAGNETIC FIELD	993	1 3		682	1 1		1	36	7500	4052	1602	1201	5051	0000	3	1	67	85	15	0000
A 40 4 4 07 08 46	THERMAL BLANKET	993	1 3		681	2 1		1	36	2500	1051	0000	3000	2051	0000	3	3	69	16	15	0000
*A 41 4 5 03 09 12	GRAVITY-ABSOLUTE	993	1 3		702	2 2		1	36	1501	4052	1804	1501	5051	0000	3	2	69	26	25	0000
*A 11 5 3 01 02 01	SOLAR WIND, SURFACE	112	1 3		693	2 2		1	51	2300	8353	1304	3000	2051	0000	1	0	62	00	25	0000
*A 36 5 3 05 02 03	MAGNETIC FIELD VS. T	112	1 3		693	2 2		1	51	3000	1452	2204	5000	3051	0000	1	0	61	00	15	0000

*Energy supplied by ALSEP RTG source

COMPOSITE SEQUENCE

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPL SQPN LCA / OBJECT / SPECIAL / INVEST)	EXPERIMENT TITLE	EXPT LOCA	MOBER EQ	PHASE	CHRON TIME	IMPORTANCE	UNCERTAINTY	NOMENCLATURE	SCIENTIFIC RELEVANCE	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRESCT	FICRESTT	TOTL ERTH RETD MASS KG
PHASE A - BASE (CONT)																					
ENG 6 OPERATIONAL																					
A 08 8 2 04 34 01	DUST REMOVAL TECHGCS	CC3	1	3	702	6	5	1	43	1001	2052	5000	5002	1000	0000	6	1	70	55	15	0000
PHOTOGRAPHY																					
□ A 08 2 1 04 02 05	SURFACE PHOTOGEOLOGY	999	9	3	708	1	2	1	17	3301	3551	9602	1002	3000	2000	3	3	69	96	85	1001
SAMPLING																					
A 06 2 1 01 03 09	SURFACE SAMPLING	999	7	9	708	1	1	1	13	4100	6253	0000	0000	5000	5000	3	1	67	55	44	2002
A 01 6 2 03 04 01	SOIL BANK	996	9	9	687	1	1	2	24	0000	0000	0000	0000	0000	0000	0	0	00	00	00	0000
A 03 8 2 01 01 02	ENG PROP LUNAR SURFC	009	1	3	699	1	1	1	13	1800	6053	0000	0000	2000	1500	6	3	69	15	24	0000
A 06 8 1 02 11 04	GEOLOG-CHEM SAMP CAS	009	1	3	702	1	2	1	22	2001	5051	0000	0000	4000	1000	5	2	68	55	54	1000
SEISMIC																					
A 01 4 0 01 01 01	SEISMIC VELOCITY	992	1	3	691	1	1	1	36	1301	1852	1700	2001	2051	0000	2	1	67	85	15	0000
A 05 4 1 02 02 07	SEISMIC, PASSIVE	993	1	3	691	1	1	1	06	1101	3352	1902	1101	1000	0000	3	2	68	16	54	0000
SETUP AND READ																					
A 07 4 4 07 08 50	SURFACE EMISSIVITY	992	1	3	682	1	1	1	36	9551	1152	5000	5000	4051	0000	2	2	68	35	14	0000
A 63 4 0 07 06 83	SPECTRAL REFECTANCE	993	1	5	723	2	4	1	00	1201	4753	2502	5000	1000	0000	3	2	68	36	35	0000
OTHER																					
A 04 6 1 03 03 03	GEN/EFFECTS/MICRO	302	0	5	722	2	1	1	72	0000	0000	0000	0000	2001	0000	0	0	00	00	00	0000
PHASE B																					
BASE																					
ANALYTICAL LAB																					
B 05 3 1 01 01 08	MICR MIN A FET STUDY	002	0	5	737	2	2	1	20	7300	5052	5903	5002	1002	0000	4	3	69	65	64	0000
B 07 3 2 01 01 10	SOLIDS M SPEC ANAL	002	0	5	737	2	2	1	26	2301	1552	6002	3001	4001	0000	3	3	69	56	45	0000
B 08 3 5 01 01 02	CHEM ANAL BY IR	002	0	5	746	2	2	1	27	1601	2752	1302	1000	2201	0000	3	5	71	56	55	0000
B 18 3 2 01 01 05	CHEM ANAL W REAGENTS	002	0	6	755	3	3	1	20	2101	5552	3003	1002	2002	0000	4	1	67	25	14	0000
B 19 3 2 01 01 03	NMR SPECTROMETRY	002	0	6	755	2	5	1	26	2001	4052	4003	2501	2101	0000	4	4	70	56	55	0000
B 21 3 2 01 01 07	MIN BY X RAY DIFF	002	0	6	764	2	2	1	26	9000	2052	2502	6001	6101	0000	3	4	70	16	15	0000

□ Energy supplied by independent power source (Astronaut Survey Staff). Mass includes 20 KG for TV monitor located in the LEM.

B	38	4	0	13	07	75	NEUTRON-ACTIVATION	993	1	5	723	1	4	1	00	9000	8053	1703	2901	2000	0000	3	3	69	26	55	0000
**B	64	4	0	11	07	77	NEUTRON SPECTRA	992	1	5	723	2	4	1	00	5500	6053	2904	5400	2051	0000	2	2	68	16	15	0000
B	71	4	0	13	07	71	ALPHA MASS SPEC	993	1	5	723	3	4	1	00	1201	5153	1400	3051	1051	0000	2	1	67	16	94	0000
B	02	6	1	04	01	02	EVID EXIST LIFE	395	2	5	723	1	2	2	77	5701	8251	7703	5002	2702	0000	3	2	68	35	74	3000
B	05	6	1	04	01	01	INC PREDICT CHEM	392	0	5	742	4	3	1	72	4501	1951	1503	1501	2402	0000	2	1	68	35	54	1000
							DRILLING																				
B	10	4	4	07	08	45	TEMPERATURE GRADIENT	993	1	5	722	1	1	1	36	5551	8154	0000	3000	5051	0000	2	1	67	25	63	0000
B	22	4	4	07	08	48	SUB SUR DIFFUSIVITY	992	1	3	681	1	2	1	36	2600	1653	7202	1001	1000	0000	5	2	68	45	24	0000
B	51	4	0	05	05	26	MAG. SUSCEPTIBILITY	993	1	5	732	2	2	1	36	2000	1051	3002	1501	1000	0000	5	2	69	16	25	0000
							EMPLACE AND MONITOR																				
**B	02	0	1	03	02	60	ATMOSPHERIC PRESSURE	993	2	5	723	2	3	1	00	1000	6354	4004	2001	1051	0000	3	2	68	16	15	0000
B	04	0	2	03	03	61	ELECTRIC FIELD	993	2	5	723	2	4	1	00	2000	9054	1652	4051	1000	0000	3	3	69	16	54	0000
**B	24	4	6	04	06	19	MAGNETIC FIELD	996	1	5	722	1	2	1	36	6000	2052	1804	5000	1000	0000	3	1	67	45	84	0000
**B	35	4	6	04	06	18	MAGNETIC FIELD	996	1	5	722	2	1	1	36	6000	2052	1804	5000	1000	0000	3	1	67	85	15	0000
B	37	4	5	10	06	01	PLASMA POTENTIAL	119	1	5	724	2	1	1	41	3000	4653	4000	2000	1101	0000	4	1	68	25	15	0000
B	70	4	0	08	03	52	METEORITE DETECTION	993	2	5	724	2	6	1	36	3300	6152	1902	5000	4051	0000	2	1	67	16	15	0000
**B	01	5	2	02	04	01	NUCL RADIATION ENVRN	112	1	3	692	4	1	2	56	4800	3051	1404	1500	3901	1401	1	0	69	16	25	1000
**B	04	5	3	05	02	01	MAGNET FIELD MONITOR	112	1	3	693	4	1	1	11	2000	7053	1804	2000	2500	0000	1	0	61	00	15	0000
**B	05	5	3	07	01	01	ELECTROSTATIC FIELD	112	1	3	693	2	1	1	11	3000	3053	2604	2000	3500	0000	2	1	68	85	15	0000
B	09	5	2	02	01	02	SOLAR CHG PAR, LOW E	193	1	6	762	4	3	1	56	4600	5753	1803	3000	1502	0000	4	1	67	55	15	0000
B	10	5	2	02	01	01	SOLAR CHG PAR, LOW E	193	1	5	742	4	3	1	56	4600	5753	1203	3000	1002	0000	4	1	67	55	15	0000
B	31	5	4	08	01	01	GALAC PAR SCAT, REAC	113	1	5	734	4	1	2	57	6800	2852	1002	3001	5901	0000	4	3	71	56	55	0000
B	32	5	3	07	01	02	ELECTRIC FIELD	119	1	5	724	2	1	2	51	6600	6051	3002	1000	5700	0000	2	1	68	55	74	0000
B	39	5	3	04	01	01	AURORAL ELECTRONS	192	1	6	746	5	4	1	56	4500	1452	5603	4000	2202	0000	2	1	68	84	25	0000
B	42	5	2	02	01	03	SOLAR CHG PAR, LOW E	193	1	6	783	3	4	1	56	4600	5753	3603	3000	2702	0000	4	1	67	55	15	0000
B	28	7	8	07	01	01	CISLUNAR MEDIUM EXP	103	1	5	721	1	1	1	06	2001	4053	1503	5000	8000	0000	5	1	68	35	54	0000
B	29	7	7	07	01	01	AME MAG FIELD MEAS	103	1	5	721	1	2	1	06	5500	3053	5003	5000	5701	0000	2	1	67	15	24	0000
B	31	7	8	07	01	02	RANGING STA CENTRAL	109	1	6	755	4	6	1	06	2001	4053	7503	5000	8000	0000	2	1	70	45	74	0000
B	42	8	1	02	01	09	ELEC PARMTR SURF+SUB	004	2	5	721	1	1	2	36	3501	1000	2002	5000	1401	1101	5	2	70	35	44	0000
B	43	8	2	04	35	01	EFCTS LONG EDGE STRU	003	1	5	723	7	5	2	43	8000	5052	0000	0000	2000	0000	4	1	69	35	54	0000
B	44	8	2	01	02	02	LUNAR RF NOISE PT 1	004	2	5	721	1	2	2	51	7001	1051	4003	2001	1001	0000	2	1	68	45	74	0000
B	45	8	2	01	02	03	LUNAR RF NOISE-2	003	2	5	724	1	1	1	46	6000	2251	2003	1001	6500	0000	4	3	69	26	35	0000
B	46	8	2	01	02	04	ANTENNA DUST ACCUMLN	103	1	5	721	1	2	1	11	2000	1052	2002	3000	2000	0000	2	1	68	35	54	0000
B	48	8	2	04	32	03	RF GRD WAVE PROPGTION	004	2	5	733	6	7	2	46	7500	8052	2602	1002	8000	6000	3	3	72	16	25	0000

**Energy supplied by ESS RTG source

COMPOSITE SEQUENCE

8-25-66
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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH LC / DSIE SQ PN / AREA / OBJT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE QE	PHAS E	CHRON TIME	IMPOR T	UNGC Y	NOME N	SCKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAARL	NCRCESCT	FICRCSSTT	TOTL ERTH RETD MASS KG
PHASE B - BASE (CONT)																					
ENG 1 HUMAN FACT																					
B 05 8 2 03 20 01	CLINICAL MONITORING	CC3	0	5	721	6	5	2	60	1401	4052	7001	5000	1401	0000	6	0	67	00	24	1000
B 13 8 2 03 20 02	MECH EFF MAN RED GRV	003	0	5	721	6	5	2	66	1801	1551	1601	4000	4000	0000	2	0	67	00	54	0000
B 14 8 2 03 20 03	WORK CAPABILITY	003	0	5	721	6	5	2	60	1801	1051	2100	1001	2000	0000	4	2	68	25	34	0000
B 16 8 2 03 20 05	VISION STUDIES	003	0	5	721	6	5	1	60	2300	2053	2001	4001	5051	0000	2	1	68	15	24	1051
ENG 2 CONSTRUCTION																					
B 09 8 2 04 31 01	SIM PERS SPLC/SOLAR	002	0	5	722	7	5	1	43	3051	1054	0000	0000	2051	0000	1	0	66	00	23	3051
B 15 8 2 04 35 02	REPR TECH MAJR STRUC	003	1	5	724	7	7	2	03	1001	0551	1003	1003	3000	0000	5	2	71	45	74	0000
B 20 8 2 05 39 01	XPLOS TECH SURF MOD	994	2	5	721	6	2	1	14	1002	0300	0000	0000	1001	0000	2	2	71	55	54	0000
B 52 8 2 01 01 05	LUNAR SOIL SHIELDING	112	1	5	723	7	1	2	15	1001	1052	2051	1000	1301	0000	3	2	70	16	35	0000
B 53 8 2 01 01 08	SUPT PROP LUN SOILS	004	2	5	723	5	6	2	14	6500	0251	2000	2000	5000	0000	3	2	68	85	25	0000
ENG 3 MAT EFFECTS																					
B 26 8 2 04 34 14	ELSTME POLYMR DEGRD	002	1	5	723	6	5	1	43	2500	1052	0000	0000	2000	0000	6	2	70	55	15	1000
B 27 8 2 04 34 03	STAT XPOS EFF ON MAT	003	1	5	721	9	5	1	23	2000	1052	0000	0000	5051	0000	4	1	71	25	44	1000
B 28 8 2 04 34 04	XPOS EFF ON RAD MATS	003	1	5	721	7	7	1	23	5000	0551	1002	1002	1500	0000	4	1	71	25	44	0000
B 29 8 2 01 01 04	CORROSION TEST	003	1	5	723	7	7	1	00	1000	0200	0000	0000	1000	0000	6	0	66	00	00	1000
B 32 8 2 04 34 06	DYNMIC TEST MACHN EL	002	1	5	722	7	5	1	43	2001	0100	5003	5002	2000	0000	4	2	71	16	35	1000
B 33 8 2 04 34 07	DYNMIC TEST THIN FLM	002	1	5	722	7	5	1	43	1001	1052	2003	2002	2000	0000	4	2	71	55	15	1000
B 34 8 2 04 34 08	DYNMIC TEST ELE CMPT	002	1	5	722	7	5	1	41	5000	1052	1003	1002	1000	0000	5	2	71	55	15	1000
B 35 8 2 04 34 15	STATIC/DYNAMIC SEALS	002	1	5	723	6	7	1	43	5000	1052	0000	0000	1500	0000	3	2	68	35	84	2500
B 50 8 2 02 34 13	ENV EFFECTS/SOL CKTS	002	1	5	723	7	5	1	56	4000	1553	1003	2001	2051	0000	2	2	69	75	15	2000
ENG 4 RESOURCES																					
B 40 8 3 06 41 05	QUANT ANAL OF HYDROG	002	0	5	737	6	4	1	26	2001	4052	4001	2501	4000	0000	4	4	70	00	00	2000
B 41 8 3 06 41 04	H WITH PHOS COND	002	0	5	737	6	4	1	26	1001	2052	4001	1001	4000	0000	4	4	70	35	74	2000
ENG 5 FLUID MECH																					
B 02 9 0 03 03 01	HT XFR/CONVECN GASES	003	1	5	734	7	7	1	22	2001	5052	1002	2001	3000	0000	5	2	69	55	15	0000
B 60 8 2 04 50 03	STRATIF CRYOGEN LIQ	003	0	5	723	7	5	1	22	1000	0000	1052	1053	0000	0000	5	1	69	25	54	0000
PHOTOGRAPHY																					
B 04 1 1 01 01 01	SELENODETIC ASTRON.	999	7	5	729	1	1	1	97	1502	5052	6803	2501	7301	5201	5	5	71	16	15	6001

SAMPLING

B 04	8	1	02	13	01	BIC CONTAM LUNR SOIL	002	1	5	721	1	2	1	76	1501	1051	6002	8001	2200	0000	4	2	69	26	25	1000
B 30	8	2	01	02	08	LEAKAGE MEASUREMENTS	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
B 31	8	2	01	02	05	LUN ATM CONTAM-ROCKT	003	1	5	723	2	2	1	43	4600	5753	3053	3053	0800	0000	4	1	67	55	15	0000
			SEISMIC																							
B 12	4	1	02	02	06	SEISMIC, PASSIVE	993	2	5	723	1	1	2	36	1401	1752	3601	3000	6000	1000	3	2	68	16	94	0000
B 21	4	0	01	01	02	SEISMIC VELOCITY	992	7	5	682	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
			SETUP AND READ																							
B 11	4	0	12	07	78	GAMMA RAY SPECTRA	993	1	5	723	1	1	1	00	6000	5553	4500	1000	5051	0000	2	1	67	16	15	0000
B 65	4	0	13	07	73	RADIOACTIVITY	993	1	5	723	2	4	1	00	1800	4053	1303	8000	1000	0000	1	0	66	85	84	0000
			TELESCOPE																							
B 76	4	7	01	11	01	EARTH HEAT BUDGET	393	1	5	725	4	4	1	97	7801	1651	3202	1501	2701	0000	5	2	69	45	94	2000
B 77	4	7	02	12	02	EARTH ALBEDO +REFLEC	393	1	5	725	4	4	1	97	7801	1351	4401	2000	2501	0000	5	2	69	45	15	2000
B 78	4	7	03	13	03	AURORAL AIR GLOW PHO	393	1	5	725	4	4	1	97	7401	2451	4401	2000	2001	0000	5	2	69	35	84	2000
B 79	4	7	04	14	04	UV SCATTER EARTH ATM	393	1	5	725	4	5	1	97	7801	1351	4401	1500	2001	0000	5	2	69	45	94	2000
B 80	4	7	05	15	05	EARTH ATMOS IR SCANG	393	1	5	725	4	5	1	97	8001	1351	4401	2000	2001	0000	5	2	69	45	94	4000
B 90	4	9	01	31	01	OCEAN HEAT BALANCE	183	1	5	725	5	6	1	87	6901	6052	3203	1501	3301	0000	3	3	70	76	75	0000
B 91	4	9	02	32	01	SEQUENT MULTIBND PHO	103	1	5	725	5	6	1	87	7301	6352	3003	1501	3101	0000	1	1	68	26	25	2000
B 06	5	5	22	02	01	FLARE UV SPECTRA - I	002	1	5	725	4	4	1	97	1302	2551	3003	1001	7000	0000	4	3	72	16	25	0000
B 08	5	5	22	01	01	OUTER CORONA SPECTRA	002	1	5	725	4	4	1	97	1102	2351	3001	1201	1201	0000	4	5	72	56	16	0000
B 01	7	1	01	01	01	LUN.ENVIR.TEST	113	1	5	721	2	1	1	93	5001	1051	3002	2001	3102	0000	4	2	68	25	54	1000
B 02	7	2	01	01	02	HIGH RES PHOTG (12)	113	1	5	732	4	1	1	97	5201	2051	3202	2001	3202	0000	4	2	68	25	54	2101
B 04	7	2	01	01	04	LOW DISP. SPEC.(12)	113	1	5	732	4	1	1	97	5201	1251	1803	2001	3102	0000	2	2	68	35	74	2000
B 09	7	2	01	02	05	SKY SURVEY (12)	113	1	5	732	4	6	1	97	5101	1051	1603	2001	9202	0000	4	2	68	25	64	5000
B 23	7	4	01	05	20	EINSTEIN PROB.	153	1	5	723	5	6	1	97	2001	1000	4001	2001	6201	0000	4	1	67	25	34	2001
B 24	7	2	01	02	06	VAR BRIGHT OBS (12)	113	1	5	732	5	6	1	97	5001	1051	1603	2001	5002	0000	4	2	66	35	64	5000
B 49	8	1	02	18	01	ASTRONOMY FEASIBIL.	003	1	5	723	1	5	2	97	1202	2000	1003	2001	2001	0000	2	4	70	96	36	5000
			BASE OR TRAVERSE																							
			ANALYTICAL LAB																							
B 04	3	2	01	01	01	CHEM ANAL BY N ACTIV	005	7	9	728	2	2	1	26	1601	1252	5002	2501	2201	2001	3	3	69	56	85	0000
B 06	3	3	01	01	01	GAMMA RAY SPECTROM	005	7	5	746	2	6	1	16	3201	1052	2003	1000	2001	2001	3	2	68	56	25	0000
B 09	3	2	01	01	04	X RAY FLUOR ANALYSIS	005	3	6	755	2	2	1	26	7000	2052	1002	5051	2201	2201	3	2	68	56	55	0000

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLPHLC)	EXPERIMENT TITLE	EXPT LOCA	MOBREQ	PHASE	CHRON TIME	IMPGT	URGNCY	NOGMEN	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRCESCT	FICROSSTT	TOTL ERTH RETD MASS KG
PHASE F - BASE OR TRAVERSE (CONT)																					
• B 10 3 4 01 C4 03	M SPEC GAS ANAL	006	9	5	746	1	1	0	00	2001	1552	1505	3001	0000	0000	3	3	69	56	25	0000
B 11 3 4 01 C4 02	SURF M SPEC GAS ANAL	005	7	5	706	1	2	1	26	2001	1552	7503	3001	4500	4500	3	3	69	56	25	0000
B 16 3 2 01 C1 18	IN SITU IR SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	16	15	5002
B 17 3 2 01 01 15	UV-VISIBLE SPECTRA	005	7	5	755	2	2	1	27	1501	2552	7503	3001	7000	7000	4	2	68	26	25	5002
B 20 3 2 01 C1 14	IN SITU X RAY DIFF	005	7	6	755	2	3	1	26	9000	2052	2002	6001	1001	1001	2	2	68	16	15	0000
B 22 3 2 01 01 13	GAMMA SCATTERING	005	7	6	755	2	6	1	26	2000	1053	2502	2501	1001	1001	4	1	67	56	55	0000
DRILLING																					
B 07 2 1 02 03 07	SHALLOW DRILLING	005	2	9	709	1	3	1	14	4401	3851	2003	1203	2400	2400	3	3	70	56	15	4201
B 09 2 4 03 C4 13	PALEOMAGNETISM	999	9	5	728	2	6	1	01	1000	5053	1000	5000	2051	2051	2	1	67	45	84	0000
B 25 4 4 07 08 43	SUBSURFACE TEMP.	994	2	5	723	1	2	1	36	5551	8154	0000	3000	2051	2051	2	1	67	25	65	0000
B 49 4 0 06 05 34	SUBSURFACE RESIST.	994	2	5	723	2	2	1	36	2000	4053	1053	5000	2051	2051	3	2	66	16	25	0000
B 52 4 0 06 06 28	SELF POTENTIAL	995	2	5	732	2	2	1	36	2500	2052	2001	1000	2000	2000	5	1	65	16	24	0000
B 72 4 0 05 05 38	DIELECTRIC CONSTANT	994	2	5	723	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	24	0000
B 17 8 1 02 11 02	LUNAR DRILL BIT TECH	009	2	5	722	6	5	1	13	5051	1053	0000	0000	0000	0000	3	0	66	00	00	0000
B 18 8 1 02 11 01	GAS REQTS FOR DRILL	009	2	5	722	6	5	1	13	1051	1053	0000	0000	1000	1000	3	0	99	00	00	0000
EMPLACE AND MONITOR																					
B 07 5 3 01 01 01	SOLAR WIND SPECTRUM	194	2	5	723	2	1	2	51	7000	3052	1803	6500	2001	5100	2	1	68	26	75	0000
B 32 7 8 07 01 03	RANGING STA REMOTE A	106	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B 33 7 8 07 01 04	RANGING STA REMOTE B	206	6	6	755	4	6	1	06	5001	8053	7503	5000	8000	8000	2	1	70	45	74	0000
B 57 8 2 04 32 01	LUNAR ENV OB ANT SYS	004	2	5	734	7	7	1	46	7000	3551	1002	2000	3000	1000	3	2	68	45	84	0000
B 58 8 2 04 32 06	RETRODIR OPT SYS TEC	004	2	5	734	7	7	2	07	3000	1051	5001	5000	1000	0500	3	1	67	35	54	0000
ENG 1 HUMAN FACT																					
B 36 8 2 05 37 01	VIS TECH ASTRO VIS	054	2	5	712	7	5	2	64	4000	0151	0000	0000	4300	4000	5	1	70	25	44	0000
B 37 8 2 05 37 02	VIS TECH LAND RECOG	004	2	5	713	7	5	2	64	1000	0552	0000	0000	3300	3000	5	3	65	25	54	0000
ENG 4 RESOURCES																					
B 21 8 3 06 41 06	M DETECT BY IR SPECT	002	0	5	746	2	2	1	27	1601	2552	6002	3001	4001	0000	3	5	71	25	15	0000
B 22 8 3 06 41 01	M DETECT BY NEUT ACT	009	2	5	728	6	4	1	26	1601	1252	2502	2501	5000	5000	3	3	65	00	00	2000
ENG 6 OPERATIONAL																					
B 07 8 2 01 02 01	DUST ENVRPT/SURFACE	009	1	5	722	6	5	1	12	2000	2053	0000	0000	2000	0000	6	1	70	15	14	1000
B 10 8 2 04 33 10	ELEC SYST GROUNDING	003	2	5	721	6	5	1	41	3000	1052	2051	1000	2000	2000	4	1	67	35	54	0000

• Energy supplied by independent power source (emplaced package)

B	51	8	2	02	32	02	RF FRWD SCATTER TECH	004	2	5	733	7	7	2	46	1001	2052	1502	3000	5000	3500	3	3	72	55	15	0000
B	54	8	2	04	33	01	ELEC TRANS LINE TEST	003	1	5	732	7	7	1	41	2000	5003	0000	0000	2000	0000	2	1	71	25	54	2000
B	55	8	2	04	34	02	DAMAGE LUNAR EQUIPMT	003	1	5	722	7	5	1	13	0000	0000	0000	0000	3000	1000	6	2	71	00	00	0000
B	56	8	2	01	02	06	THRML RAD FLUX+GRAD	004	2	5	723	2	2	1	42	1001	0251	1002	5001	2000	1000	4	1	69	25	54	0000
B	59	8	2	01	01	22	LUNAR STRATA E/M PRO	004	2	5	744	7	7	2	36	3000	1552	2502	1002	7500	3000	4	2	70	16	25	0000
B	63	8	2	04	32	04	RF SUBSURF PROPGTION	004	3	6	744	6	7	3	46	2001	5052	3502	1002	1101	7500	5	3	72	85	25	0000

MAPPING AND SURVEY

B	04	2	1	01	02	03	FINE STRUCTURE DEF	999	7	9	708	1	1	1	16	3801	2451	1702	1002	5000	5000	3	3	69	17	85	1051
B	05	2	1	01	02	04	GEOLOGIC MAPPING	999	7	9	708	1	1	1	16	2801	2051	1602	2501	8000	8000	3	3	69	76	65	1051
B	01	9	0	05	02	01	CRNR RFLR LASER BEAM	906	2	5	734	4	6	1	37	3001	6052	0000	0000	4051	3051	4	1	68	25	54	0000

OTHERS

B	12	8	1	02	11	03	CAL RMT SENSNG TECHS	009	2	5	722	1	2	1	16	0000	0000	0000	0000	1000	1000	6	0	00	00	00	0000

SAMPLING

B	10	2	4	03	03	10	AGE DETERMINATION	999	9	9	708	1	2	1	10	2801	2051	4001	2501	2000	2000	3	3	69	96	95	1001
B	03	2	3	01	03	20	SAMPLE COLLECTION	999	9	9	689	1	1	1	10	6000	2551	0000	0000	1051	1051	3	2	68	35	15	1002
B	43	4	1	05	06	22	MAGNETISM	994	2	5	721	2	2	1	34	2000	1051	0000	0000	2000	2000	5	1	70	44	82	2000

SEISMIC

B	23	4	0	01	01	03	REFLECTION PROFILE	994	1	5	721	1	2	1	36	1101	1852	4600	2001	3051	0000	2	1	67	85	15	0000
B	30	4	1	02	02	11	SEISMIC ARRAY	996	2	6	753	1	2	2	36	1102	5251	4801	1402	2000	2000	3	2	68	16	54	0000
B	31	4	1	01	02	06	SEISMIC PROFILING	995	5	6	754	1	2	0	06	1101	1652	5052	3000	0000	0000	3	2	68	16	54	0000
B	48	4	0	01	01	04	REFRACTION PROFILE	994	2	5	723	2	2	1	36	1101	1852	4500	2001	6051	5051	2	1	67	85	15	0000
B	19	8	1	02	12	03	EXPLOSV ENERGY COUPL	994	2	5	721	6	2	1	34	1001	1852	2700	3001	8000	0000	3	1	67	16	15	0000

SETUP AND READ

B	03	1	3	03	03	03	SURFACE GRAVITY	999	7	9	729	1	2	1	37	2701	8352	2103	1001	1701	1301	5	5	71	16	15	0000
B	27	4	0	06	05	32	SURFACE RESISTIVITY	994	2	5	725	1	2	1	16	4000	1452	1053	5000	2051	2051	3	1	67	85	64	0000
B	36	4	1	05	05	41	E-P PULSE	994	2	5	724	2	1	0	46	4000	2252	0000	1001	0000	0000	2	1	67	16	15	0000
B	42	4	0	05	05	24	MAG. SUSCEPTIBILITY	995	2	5	722	2	2	1	36	2000	1051	2303	1501	1000	1000	5	2	69	55	54	0000
B	51	4	1	04	06	81	MAGNETO-TELLURIC	994	2	5	723	2	3	2	36	4600	1152	1202	5000	3000	0000	2	2	68	16	34	0000
B	69	4	1	09	04	87	SUBSURFACE HARDNESS	999	9	5	725	2	5	1	03	1001	1051	2000	2001	2051	2051	3	4	70	16	15	0000
B	11	8	1	02	12	01	ELECTRODE COUPLNG PROP	004	2	5	724	6	1	1	31	2000	1552	2052	5000	4000	3000	5	5	69	45	54	0000

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPH LCA)	EXPERIMENT TITLE	EXPT LOCA	MOBRE GO	PHASE	CHRON TIME	IMPORT	UNGCY	NOMEN	SCRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRECT	FICROSSTT	TOTL ERTH RETD MASS KG
PHASE B - TRAVERSE ONLY (CONT)																					
ENG 6 OPERATIONAL																					
B 38 8 2 05 36 02	DANG TERRAIN WARNING	004	2	5	732	7	1	1	14	2001	0551	2003	2001	2000	2000	3	2	71	85	25	0000
B 39 8 2 05 36 01	SOIL VAL VARI LUNAR	094	2	5	713	6	5	2	12	1501	0200	0000	0000	5200	5000	6	2	70	65	15	0000
MAPPING AND SURVEY																					
B 06 1 2 01 02 02	SELENODETIC SURVEY	999	7	9	729	1	1	1	97	1402	8652	3403	2501	5501	3701	5	5	71	26	25	6001
B 26 4 0 06 06 30	ELECTRICA SURVEYING	994	2	5	724	1	2	1	36	4300	9453	3301	5002	1000	1000	3	2	68	16	44	0000
**B 45 4 5 03 09 13	GRAVITY-ABSOLUTE	996	1	5	722	2	2	1	36	1501	4052	1804	1501	1200	2051	5	2	69	26	25	0000
B 46 4 5 03 09 14	GRAVITY SURVEY	995	2	5	722	2	2	1	36	1501	4052	6002	1501	2500	2000	5	2	69	26	25	0000
B 47 4 6 04 06 20	MAGNETIC SURVEY	995	2	5	722	2	2	1	36	6000	2052	2501	5000	2500	2000	2	1	67	85	15	0000
B 62 4 0 05 05 36	ELECTRICAL SURVEY	994	2	5	702	2	4	1	16	6051	9554	0000	0000	1000	1000	3	1	68	15	22	2000
PHASE C																					
BASE																					
EMPLACE AND MONITOR																					
C 05 1 1 01 05 05	EARTH-MOON DISTANCE	999	7	9	729	1	1	1	97	3002	5951	8003	1003	7501	5201	5	5	71	26	25	6001
C 02 5 2 03 01 01	GALACTIC NUCLEI	193	1	5	742	4	4	1	56	1102	1151	2404	4000	5501	0000	2	1	68	26	45	1001
C 03 5 2 02 02 01	SOLAR CHG PAR,HIGH E	193	1	5	742	2	2	1	56	2001	4952	2004	4000	5401	0000	3	2	70	16	35	4000
C 17 5 2 03 02 01	GALACTIC ELECTRONS	193	1	5	742	4	4	1	56	1102	1151	2404	4000	2101	0000	2	1	68	26	45	1001
C 18 5 2 02 02 02	SOLAR CHG PAR,HIGH E	193	1	6	762	2	2	1	56	2501	5452	3904	4000	1602	0000	2	3	72	16	35	6000
C 20 5 3 05 01 01	SOLAR, GEOMAG FIELD	113	1	5	724	4	1	2	51	5000	1852	3204	1101	2101	0000	2	1	67	26	45	0000
C 24 5 2 03 01 02	GALACTIC NUCLEI	193	1	6	762	4	4	1	56	1102	1251	4804	4000	2102	0000	2	3	72	26	45	1001
C 25 5 2 03 02 02	GALACTIC ELECTRONS	193	1	6	762	4	4	1	56	1102	1251	4804	4000	7701	0000	2	1	68	26	45	1001
C 41 5 4 08 01 02	GALAC PAR SCAT, REAC	113	2	6	754	4	1	2	57	7001	2351	2004	2002	9701	0000	5	6	75	17	15	2000
C 47 5 3 04 01 02	AURORAL ELECTRONS	192	1	6	756	5	0	1	56	4500	1452	1104	4000	4202	0000	2	1	68	84	25	0000
C 27 7 5 04 01 01	NON DIR RADIO ASTR	105	1	5	741	1	1	1	06	7000	4652	1504	3000	6000	0000	2	2	68	55	94	0000
ENG 1 HUMAN FACT																					
C 65 8 2 03 20 11	BONE DEMINERALIZATN	003	0	6	742	6	5	2	60	6501	1052	1004	1003	5501	0000	6	0	67	00	54	1000
C 66 8 2 03 30 04	EFF BREATH MIX GAS	003	0	6	742	6	5	2	60	3001	8452	0000	0000	2301	0000	6	2	68	35	54	0000
C 69 8 2 03 20 06	PSYCHOLOGICAL STUDY	003	0	6	742	7	5	2	60	7000	6052	0000	0000	2001	0000	6	1	68	15	13	0000
C 70 8 2 03 20 04	BIOASSAYS-BODY FLUID	003	0	6	741	7	7	2	60	3500	4052	0000	0000	2101	0000	6	0	67	00	35	0000
C 71 8 2 03 20 10	CARDIOVASCULAR PHENO	003	0	6	742	6	5	2	60	7300	6452	9002	2001	5501	0000	2	1	68	15	24	0000

**Energy supplied by ESS RTG source

ENG 2 CONSTRUCTION

C 61	8	2	05	40	01	METL JOIN LUNA CONST	003	1	6	744	7	7	2	24	2001	0551	1004	1004	1801	0000	5	3	74	35	84	0000

ENG 3 MAT EFFECTS

C 62	8	2	04	34	05	MATER DYN TEST	003	2	6	742	7	5	1	43	8001	0200	2004	8002	2001	0000	4	2	72	16	45	3000
C 79	8	2	04	34	09	LNG STAT XFCS ON MAT	003	1	6	743	7	7	1	23	5000	1552	4001	4001	3000	0000	4	1	71	45	15	2000

ENG 4 RESOURCES

C 74	8	3	06	42	01	CHARAC LUNAR SLFWLDG	004	2	6	744	7	7	1	24	5000	0351	0000	0000	4500	3500	5	2	71	25	54	0500
C 75	8	3	06	43	03	PART ADHESN MECH PRC	004	2	6	744	7	7	1	24	4002	1000	1004	1503	2401	2000	5	3	73	16	35	4000
C 76	8	3	06	45	01	DRY CEMNT-CONCRT APP	004	3	7	764	6	7	2	24	1102	1000	7003	1503	5101	9000	5	4	73	55	15	5000
C 77	8	3	06	41	02	CHEM+DTA ANALS-O+CO2	002	0	6	746	7	3	1	20	1501	1451	3202	1002	1001	0000	4	2	68	00	00	1000
C 78	8	3	06	41	03	DTA ANAL CASTABL MAT	002	0	6	746	7	3	1	20	5000	1051	1501	1002	1001	0000	4	2	68	00	00	1000

ENG 5 FLUID MECH

C 72	8	2	04	50	01	CONV HT TRANS IN LIG	002	0	6	743	7	7	1	22	7000	5052	5000	3002	1001	0000	5	2	69	25	44	0000
C 73	8	2	04	50	02	HT XFR FILM/DRP COND	002	0	6	743	7	7	1	22	3000	2052	2000	1002	1001	0000	5	2	69	25	54	0000

ENG 6 OPERATIONAL

C 80	8	2	01	02	07	LUNAR IMPACT SFERICS	003	1	6	743	2	2	1	46	2001	0100	1003	1000	2400	0000	5	1	70	65	15	0000

ENVIRONMENTAL LAB

C 03	6	1	01	03	01	GEN/EFFECTS/PLANT	392	0	5	722	2	1	1	72	2602	4151	0000	0000	1702	0000	1	1	68	25	34	0000
C 06	6	1	01	02	01	BIORHYTHMS/PLANT	392	0	6	771	4	4	1	77	2601	1151	3001	1051	8002	0000	2	2	69	74	14	2000
C 07	6	1	02	02	02	BIORHYTHMS/ANIMAL	302	0	6	771	4	4	1	77	1000	2654	0000	0000	2403	0000	2	1	68	14	13	1000
C 67	8	2	03	30	02	SOIL USE/HIGHER PLNT	002	2	6	741	6	7	1	72	3002	1500	3404	1703	1402	0000	3	3	72	26	35	0000

SETUP AND READ

C 68	8	1	02	12	07	EARTH REF GRAVIMTR	003	1	6	746	2	2	2	36	5000	1552	8003	1000	1601	0000	3	2	69	26	25	5000

TELESCOPE

C 03	7	2	01	01	03	PHOTOELECT.PHOT(12)	113	1	5	732	4	1	1	97	6001	2051	3004	1002	2502	0000	4	2	68	25	54	1000
C 05	7	3	02	06	22	SPECTR.CHAC.X-RAYS	153	1	5	722	4	6	1	97	1001	3051	1004	2002	9802	0000	3	2	68	55	15	0000
C 06	7	3	02	06	23	ANGULAR FCS X-RAYS	113	1	5	722	4	6	1	97	2501	2000	1003	2002	5502	0000	3	2	68	55	15	0000

COMPOSITE SEQUENCE

8-25-66
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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLORG AREA JPSEC INVSTGT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE QE	PMAS E	CHRON TIME	IMPORT	URGNCY	NOE	SCKRIELWL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEARL	NCRECT	FICROSSTT	TOTL ERTH RETD MASS KG
PHASE C - BASE (CONT)																					
C 07 7 3 02 06 24	DIST.INT.MED.X-RAY	113	1	5	722	4	6	1	97	2501	2000	1003	2002	3902	0000	3	2	68	55	15	0000
C 22 7 2 01 05 21	LYMAN ALP.SURVEY	113	1	5	722	5	6	1	97	2501	1000	1004	2001	6102	0000	5	2	68	15	54	0000
C 25 7 2 01 02 07	SCANN. PHOT. (12)	113	1	5	732	5	6	1	97	5201	3051	3204	2001	2802	0000	2	2	68	45	74	5000
C 81 8 1 02 18 02	REMOTE CORONAGRAPH	044	2	6	754	2	5	2	94	2001	2052	0000	0000	6700	2500	6	1	69	35	54	2051
BASE OR TRAVERSE																					
ANALYTICAL LAB																					
C 20 4 0 12 07 79	GAMMA RAY SPECTRA	995	3	6	769	1	1	1	00	6000	5553	7000	1000	1000	1000	2	1	67	16	15	0000
C 39 4 0 13 07 76	NEUT ACTIV TRVRS	5	3	6	769	1	4	1	36	6000	5053	1703	2501	0000	0000	3	3	69	26	55	0000
C 67 4 0 13 07 72	ALPHA MASS SPEC	995	3	6	769	2	4	1	00	1201	5153	2800	3051	0000	0000	2	1	67	16	54	0000
DRILLING																					
C 13 2 1 01 03 30	SUBSURFACE SAMPLING	999	3	6	755	1	2	1	14	1401	5051	0000	0000	2051	2051	3	2	68	35	53	2002
C 14 2 2 01 04 12	SUBSURFACE MAPPING	002	3	6	709	1	3	1	14	1102	1000	2404	5003	1401	1401	3	3	69	27	16	1001
C 33 4 4 07 08 44	SUBSURFACE TEMP LOG	995	5	6	755	1	2	1	36	5551	8154	0000	3000	3051	3051	2	1	67	25	65	0000
C 34 4 4 07 08 49	TEMP DIFFUSIVITY	995	5	6	755	1	2	1	36	1101	2353	3152	1001	2051	2051	2	3	70	55	24	0000
C 50 4 1 01 02 05	SEISMIC REFLECTION	994	5	5	724	2	2	2	36	1201	1952	4200	2001	2100	2000	2	0	67	85	15	0000
C 59 4 0 05 05 27	MAG. SUSCEPTIBILITY	994	3	6	763	2	2	1	36	2000	1051	3002	1501	2000	0000	5	2	70	16	15	0000
C 60 4 0 06 06 29	SELF POTENTIAL	995	5	6	773	2	2	1	36	2500	2052	2001	1000	3000	3000	5	1	69	16	24	0000
C 73 4 0 05 05 35	DIELECTRIC CONSTANT	995	5	6	754	3	6	1	36	4000	1253	2052	1001	1051	1051	2	1	67	55	24	0000
EMPLACE AND MONITOR																					
C 44 4 1 05 06 23	MAGNETISM	996	5	6	742	2	2	1	34	2000	1051	0000	0000	3000	3000	5	1	70	44	83	5000
C 66 4 0 08 03 54	METEOROID DETECTION	995	4	6	755	3	6	0	36	3500	5252	3602	1001	0000	0000	2	2	68	65	54	0000
C 19 5 3 01 01 02	SOLAR WIND SPECTRUM	115	5	6	764	2	1	3	51	3301	2152	3404	4000	3901	1001	5	2	69	26	45	0000
C 21 5 3 05 01 02	SOLAR, GEOMAG FIELD	915	5	6	764	4	1	2	51	4100	1452	4804	7000	3701	8100	2	2	68	26	45	0000
ENG & OPERATIONAL																					
C 64 8 2 04 32 05	LASER SCATTER PROP	095	3	6	743	7	7	3	46	8001	0500	1002	5001	4000	2000	5	2	70	55	25	0000
SEISMIC																					
C 07 1 3 04 04 04	SEISMIC OBSERVATIONS	999	7	9	729	1	2	1	37	6401	2852	1703	5000	1401	1201	5	3	69	25	24	0000

SETUP AND READ

C 05 0 2 03 03 62	ELECTRIC FIELD	995	3	6	769	2	4	1	00	2000	5054	1652	4051	1051	1051	3	3	69	16	54	0000
C 32 4 1 06 05 40	E-M PULSE	995	5	6	755	1	2	0	36	6000	5252	0000	1001	0000	0000	3	3	70	16	15	0000
C 55 4 0 05 05 25	MAG. SUSCEPTIBILITY	995	5	6	755	2	2	1	36	2000	1051	3002	1501	2000	2000	5	2	69	55	54	0000
C 57 4 0 06 05 33	SURFACE RESISTIVITY	995	5	6	755	2	2	1	16	5000	5452	1053	1001	1051	1051	3	1	67	85	64	0000
C 68 4 0 13 07 74	RADIOACTIVITY	995	3	6	769	2	4	1	00	1800	4053	2603	8000	1000	1000	1	0	66	85	64	0000
C 74 4 0 05 05 37	DIELECTRIC CONSTANT	995	5	6	755	3	6	1	36	4000	1253	2052	5000	1051	1051	2	1	67	55	64	0000
C 84 4 0 09 04 56	SURFACE HARDNESS	995	5	6	755	5	5	0	03	2000	8053	0000	5000	0000	0000	2	1	67	55	54	0000

TRAVERSE ONLY

DRILLING

C 75 4 0 06 05 35	RESISTIVITY SUBSUR	995	5	6	755	3	6	1	36	2000	4153	1053	1001	1000	1000	2	2	68	75	64	0000

EMPLACE AND MONITOR

C 06 0 1 03 04 64	GAS CHROMATOGRAPH	995	3	6	769	3	6	1	00	6300	1052	1804	3001	2001	2001	3	3	69	26	25	0000

MAPPING AND SURVEY

C 53 4 6 04 06 21	MAGNETIC SURVEY	995	5	6	753	2	2	1	36	6000	2052	5001	5000	1101	1001	5	1	68	85	15	0000
C 54 4 5 03 09 15	GRAVITY SURVEY	995	5	6	754	2	2	1	36	1501	4052	7502	1501	1101	1001	5	2	69	26	25	0000
C 56 4 0 06 06 31	ELECTRICAL SURVEYING	995	5	6	755	2	2	2	36	4300	9453	3601	5002	5051	5051	3	2	66	16	44	0000
C 58 4 4 07 08 51	SURFACE TEMP PROFILE	995	5	6	755	2	2	0	16	1000	1653	0000	5000	0000	0000	2	2	68	85	64	0000

PHASE D

BASE

ANALYTICAL LAB

D 07 9 0 02 01 01	FIELD EMISSION OPTCS	003	1	6	743	6	7	1	47	3000	1052	1003	1002	1501	0000	4	2	69	85	25	5051

EMPLACE AND MONITOR

D 88 4 7 08 18 08	MICROWAVESCANPASSIVE	393	1	6	759	5	9	2	97	9302	3951	2803	5001	1401	0000	5	9	80	66	16	0000
D 14 5 2 02 04 02	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	16	45	0000
D 15 5 2 02 02 03	SOLAR CHG PAR,HIGH E	193	1	6	783	2	2	1	56	4301	3351	7804	4000	3102	0000	2	3	72	16	45	1001
D 29 5 3 01 01 03	SOLAR WIND SPECTRUM	916	5	6	764	2	1	4	51	3301	2152	6404	4000	6101	1201	5	2	69	26	45	0000

COMPOSITE SEQUENCE

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPLORE SQUIRE ARGOS BJT SPACE INVS EXPT)	EXPERIMENT TITLE	EXPT LOCA	MOBRE QUE	PHASE	CHRON TIME	IMPORT	UNGRY	NOGO	SKRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SDTEAVT	TDIEMVE	AYYEAIRL	NCRECST	FICROSSTT	TOTL ERTH RETD MASS KG
PHASE D - PASE (CONT)																					
D 30 5 3 05 C1 C3	SOLAR, GEOMAG FIELD	516	5	6	764	4	1	2	51	4100	1452	9604	7000	6501	1401	2	2	68	00	45	0000
D 37 5 2 02 04 C3	SOLAR HIGH E ELECTRN	696	5	6	792	2	2	2	56	1801	6552	1205	1001	9101	3201	2	2	69	00	55	0000
D 43 5 2 03 01 C3	GALACTIC NUCLEI	193	1	6	783	4	6	1	56	1302	1551	9604	4000	4002	0000	2	3	72	00	16	2001
D 44 5 2 03 02 03	GALACTIC ELECTRONS	193	1	6	783	4	4	1	56	1102	1251	9604	4000	7701	0000	2	3	72	26	45	1001
D 45 5 4 08 01 C3	GALAC PAR SCAT, REAC	113	1	6	754	4	6	2	57	1002	1451	2005	1503	8801	0000	5	9	80	18	27	4000
D 08 7 3 03 C7 25	DETECTION GAM.RAD.	113	1	5	722	4	6	1	97	2501	5051	1005	2002	6102	0000	2	2	68	55	15	0000
D 26 7 5 05 C1 02	DIR RADIO ASTRONOMY	104	3	6	755	1	1	2	06	5102	2651	3004	3000	2301	1001	2	1	69	55	15	0000
D 30 7 6 07 C1 C2	LUN WAVE PROPAGATION	199	2	5	721	2	1	2	06	2001	3452	5104	4001	1901	1001	2	1	68	45	84	0000
ENVIRONMENTAL LAB																					
D 83 8 2 03 30 01	EVALUATION ALGAE STR	002	0	6	743	7	7	1	72	3202	1100	1404	1703	2102	0000	3	3	72	26	35	4500
D 84 8 2 03 30 03	EVAL HYDROGENOMONAS	002	0	6	743	3	3	1	72	3202	1100	2003	1202	2102	0000	3	2	72	26	35	1501
D 85 8 2 03 30 06	EVAL H-C LSING ORGAN	002	0	6	743	3	3	1	72	3202	1100	1404	1703	1102	0000	3	2	72	26	35	2051
D 86 8 2 03 30 05	BIO MON ECO SYSTEM	003	0	6	743	7	7	1	60	1001	0551	1204	5001	1001	0000	5	3	70	25	54	1052
D 89 8 2 03 30 07	EFF LUNR COND ON PLT	002	0	6	744	3	3	1	77	4702	4000	5002	1001	8501	0000	3	2	72	26	45	1001
D 90 8 2 03 30 08	PLANT GRTH DEV REPRO	002	0	6	744	3	7	2	72	4702	4000	6003	6001	5002	0000	3	2	72	26	45	2002
D 91 8 2 03 30 09	GENETIC EFF/ANIMALS	002	0	6	744	2	1	1	62	4702	4000	0000	0000	1002	0000	3	2	72	26	45	0000
D 92 8 2 03 30 10	ANIML GRTH DEV REPRO	002	0	6	744	7	7	2	62	4702	4000	0000	0000	5002	0000	3	2	72	26	45	6801
TELESCOPE																					
D 81 4 7 06 16 06	ATM DENSTY STAR REFR	393	1	6	759	4	9	2	97	3103	1001	4001	2001	1202	0000	5	4	72	96	26	4000
D 82 4 8 09 21 09	PLANETATMCIRCULATION	393	1	6	759	4	9	1	97	3003	1001	5000	2001	3301	0000	5	4	72	17	36	9000
D 86 4 8 11 23 11	PLANETALBEDO-REFLECT	393	1	6	759	5	9	1	90	3003	1001	2402	2001	1802	0000	5	4	72	96	26	6000
D 87 4 7 07 17 07	UP ATM ECLIPS SPECTR	393	1	6	759	9	2	1	37	3003	1001	1601	2001	2300	0000	5	4	72	96	26	4000
D 89 4 7 05 15 12	EARTHLARGESCALEPHEN-	393	1	6	759	5	9	1	97	3003	1001	6501	2001	5201	0000	5	4	72	17	26	6000
D 92 4 9 01 31 02	OCEAN HEAT BALAN-PH2	183	1	6	755	5	6	1	87	3103	1001	8103	2001	1003	0000	5	6	75	96	26	0000
D 94 4 9 03 33 01	SEA SURF HEIGHT MEAS	183	1	6	765	5	6	1	87	3103	1001	1304	5001	9402	0000	5	8	75	17	26	1001
D 12 5 5 22 03 01	GRANUL FINE STRUCTUR	002	1	6	745	4	2	2	97	1703	3500	4002	1002	5401	0000	4	5	74	96	26	0000
D 13 5 5 22 06 01	FLARE EJECTA, ACCEL	002	1	6	745	4	2	2	97	1603	3500	8001	2501	1701	0000	4	5	74	96	26	1001
D 16 5 5 23 01 01	UV LOW DISPERSION	002	1	6	745	4	3	2	97	2503	4500	1002	3001	8000	0000	4	5	74	17	26	0000
D 26 5 5 23 01 02	UV HIGH DISPERSION	002	1	6	745	4	2	2	97	2503	4500	2002	3001	1101	0000	4	5	74	17	26	0000
D 27 5 5 22 03 02	GRANUL VELOC FIELDS	002	1	6	745	4	4	2	97	2503	4500	4002	2501	3101	0000	4	5	74	96	26	0000
D 28 5 5 23 02 01	FLARE UV SPECTRA -II	002	1	6	745	4	2	2	97	2503	4500	5002	3001	2101	0000	4	5	74	17	26	0000
D 38 5 5 22 04 01	SUNSPOT FORMATION	002	1	6	745	5	2	2	97	1703	3500	2203	1002	1601	0000	4	5	74	96	26	0000
D 46 5 5 22 05 01	PROMINENCE STRUCTURE	002	1	6	745	4	6	2	97	1603	3500	1203	2501	2202	0000	4	5	74	96	26	1000
D 10 7 2 01 03 06	PHOTG OBS. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	5402	0000	3	4	70	96	26	5001
D 11 7 2 01 03 09	PHOTG. PHOTOM. (40)	113	1	6	753	4	6	2	97	3003	1001	3002	2001	2402	0000	3	4	70	96	26	5001
D 12 7 2 01 03 10	PHOTOEL. EFFCT. (40)	113	1	6	753	4	6	2	97	3003	1001	3004	2002	4802	0000	3	4	70	96	26	5001

D 13 7 2 01 03 11	SPECTROSCOPY (40)	113	1	6	753	4	6	2	97	3003	1101	7803	2001	9102	0000	3	4	70	96	26	5501
D 14 7 2 01 03 12	HIGH DISP. SPEC(40)	113	1	6	753	4	6	2	97	3203	1401	1504	2001	9402	0000	3	4	70	17	26	1002
D 15 7 2 01 03 13	SPECTR. SCAN (40)	113	1	6	753	4	6	2	97	3003	1101	4504	2002	9102	0000	3	4	70	96	26	5001
D 82 8 2 01 01 07	SEISMIC ENVIRONMENT	993	2	6	752	1	1	1	36	1001	3052	2004	5000	1000	0000	3	3	70	25	44	0000
OTHER																					
D 03 9 0 01 01 01	HI INT ELEC BEAM GEN	003	1	6	743	3	7	1	46	1501	5052	1004	5004	2001	0000	4	2	69	16	25	0000
D 04 9 0 03 02 01	SLR FRNC/FCL ENG FLX	003	1	6	743	6	7	1	47	1002	1500	1003	5001	1501	0000	5	2	70	85	25	0000
D 05 9 0 01 02 01	HI INT ARC GENERATN	003	1	6	743	3	7	1	46	2501	6052	3003	1004	1501	0000	4	2	69	16	35	0000
D 06 9 0 03 01 01	RADIATION CRYOSTAT	003	1	6	743	6	7	1	46	1001	1051	1002	1000	2001	0000	4	2	71	55	15	0000
D 08 9 0 05 01 01	LORENTZ PLSMA MEAS	003	1	6	755	2	6	2	56	1001	6052	4001	2001	4000	0000	5	2	69	45	15	0000
BASE OR TRAVERSE																					
ENG 2 CONSTRUCTION																					
D 87 8 2 01 01 06	NUC REAC EPPL ASSESS	003	2	6	753	6	1	2	15	1601	4551	4751	4951	1001	0000	6	2	68	99	99	0000
D 88 8 2 04 33 02	EL TRANS LINE ROUTE	003	2	6	742	7	7	2	41	0000	0000	1003	1002	6000	5000	6	0	00	00	25	1000
PHASE E																					
BASE																					
DRILLING																					
E 11 2 1 02 03 08	DEEP DRILL - 3000M	999	9	6	753	2	3	2	14	7003	1101	4506	5502	1203	0000	2	1	74	57	56	2003
EMPLACE AND MONITOR																					
E 34 5 3 01 01 04	SOLAR WIND PHC FLEW	919	9	6	793	1	2	4	56	3401	2552	1305	4000	1402	2301	5	2	69	26	45	0000
E 35 5 3 05 01 04	SOLAR, GEOMAG FIELD	919	9	6	764	4	2	2	51	7600	2952	2105	9000	1102	2301	2	2	68	26	85	0000
E 40 5 2 09 01 01	NEUTRINO SOURCE FLUX	113	4	6	744	4	6	3	56	4602	8551	1606	1102	5202	0000	5	9	80	37	56	0000
E 37 7 5 06 01 01	SUBMILLIMETER RA	696	5	6	755	3	5	3	99	5003	1501	2007	1003	1003	1002	9	5	72	18	27	2002
TELESCOPE																					
E 83 4 8 10 22 10	PLANET ATM TEMP+COMP	393	1	6	759	4	9	2	37	2204	1102	9703	9909	4301	0000	5	9	80	18	27	1001
E 93 4 9 02 32 02	SEQUENT MULTIBAD PHO	103	1	6	755	5	6	1	87	2104	1102	1103	5001	8202	0000	5	8	77	18	27	1001

COMPOSITE SEQUENCE

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EXTENDED LUNAR EXPLORATION STUDY
SUMMARY LIST

EXPERIMENT NUMBER (EXPL SQPN LCA / ORBJ AT / SPEC / INVS / EXPT)	EXPERIMENT TITLE	EXPT LOCA	NOBREQ	PMASE	CHRON TIME	IMPORT	UGNCY	NOGMEN	SCRIEL WL	EQPT MASS KG	EQPT VOL CU M	TOTL EQPT ENGY WH	PEAK POWR WATT	TOTL MAN-HRS	TRVRS MAN-HOURS	SOTEAVT	TDIEMVE	AYYEAARL	NCRECST	FICROSSTT	TOTL ERTH RETD MASS KG
PHASE E - BASE (CONT)																					
E 16 7 2 01 04 14	HIGH RES.PHOTO(100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	1103	0000	5	6	72	18	27	5001
E 17 7 2 01 04 15	HIGH DISP.SPEC(100)	113	1	8	789	4	6	2	97	2004	1102	6004	5001	1103	0000	5	6	72	18	27	1002
E 18 7 2 01 04 16	HIGH ENERGY (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	6902	0000	5	6	72	18	27	5001
E 19 7 2 01 04 17	OUTER ENVEL. (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	7302	0000	5	6	72	18	27	5001
E 20 7 2 01 04 18	PLANET LINE (100)	113	1	8	789	4	6	2	97	1804	1002	2004	5001	4302	0000	5	6	72	18	27	5001
E 21 7 2 01 04 19	MAG. AND COLOR(100)	113	1	8	789	4	6	2	97	1804	1002	4004	2002	1003	0000	5	6	72	18	27	5001
OTHER																					
E 09 9 0 04 01 01	ATOMIC SPECIES LIFE	094	3	6	753	4	6	2	56	1002	5051	2003	2002	7001	5001	4	4	72	16	35	0000
ORBITAL																					
ORBIT																					
EMPLACE AND MONITOR*																					
0 24 8 1 02 17 01	EARTH RFI/EKGAD NOIS	991	0	4	684	3	5	1	41	1501	6052	4004	1001	0000	0000	2	2	68	16	15	0000
0 25 8 1 02 17 02	DIELECTRIC PROPRTIES	991	0	4	685	2	4	1	91	3001	6052	4004	1001	0000	0000	3	2	68	16	15	0000
0 47 8 1 02 17 03	CRITICAL PLASMA FREQ	101	0	4	722	2	3	1	91	1201	0050	3002	2501	5000	0000	6	1	67	26	15	0000
MAPPING AND SURVEY																					
0 02 1 2 02 06 06	SELENODETIC MAPPING	991	0	4	689	1	1	1	97	5302	8651	5103	1003	0000	0000	5	5	71	17	16	1002
0 01 2 1 04 01 02	SURFACE MAPPING	991	0	4	708	1	1	0	07	7501	1151	3802	2501	0000	0000	2	2	68	36	55	8001
0 02 2 1 04 01 01	GEOLOGIC BASE MAPS	991	0	4	686	1	1	0	06	1602	7051	5003	1004	0000	0000	2	4	70	17	16	0000
0 01 3 3 01 01 02	GAMMA RAY SPECTROM	001	0	4	753	1	6	0	00	3201	1052	2003	1000	0000	0000	3	3	70	17	16	0000
0 14 3 2 01 01 17	ORBITAL IR SPECTRA	001	0	4	737	2	2	0	00	1501	2552	1505	1003	0000	0000	4	3	69	17	16	0000
0 15 3 2 01 01 16	ORBITAL UV-VIS SPEC	001	0	4	737	2	6	0	00	1501	2552	1505	1003	0000	0000	4	3	69	27	26	0000
0 18 4 0 07 08 69	PHOTOGRAPHY	991	0	4	689	3	4	1	00	1000	1053	0000	0000	0000	0000	2	2	68	26	25	5000
0 85 4 0 12 07 80	GAMMA RAY SPECTRA	991	0	4	769	5	6	1	46	2801	3352	4002	2000	0000	0000	2	1	67	16	15	0000
Δ0 01 8 2 01 01 01	TOPOPHY AAP-LEM SITE	101	0	4	695	1	1	1	17	1801	3952	5000	1001	0000	0000	4	x	xx	xx	xx	1002
0 23 8 1 02 12 05	STEREOPHOTOGRAMMETRY	001	0	4	714	2	2	2	17	7002	4051	2003	2501	8000	8000	5	2	69	26	35	1802
ORBITAL PROBE																					
0 15 4 4 07 08 86	REMOTE TEMPERATURE	996	0	4	688	2	3	0	06	2001	5052	1202	1001	0000	0000	5	4	70	16	15	0000
0 16 4 2 02 02 84	REMOTE SEISMIC	996	0	4	723	2	2	0	06	3000	1053	1201	1000	0000	0000	2	1	67	25	14	0000
0 02 8 2 01 01 03	SOIL SURF BEAR STREN	101	0	4	695	1	1	1	14	4501	1251	9301	2502	1000	0000	5	2	66	46	25	0000
RADIO AND RADAR																					
0 19 4 0 06 05 65	RADAR MAPPING	991	0	4	728	1	1	0	01	1002	5051	2403	1004	0000	0000	3	5	72	56	16	0000
0 28 4 4 07 08 66	MICROWAVE RADIOMETRY	991	0	4	728	1	2	0	01	5001	1052	2402	1001	0000	0000	3	5	71	16	25	0000

Δ"x" indicates classified information
*These experiments entail placing equipment into lunar orbit and monitoring it

OTHER

0	01	1	3	03	07	07	ORBITING GRAVITY	991	0	4	689	1	2	1	37	1402	1051	2203	1001	0000	0000	5	5	71	17	16	0000
0	02	3	4	01	04	01	ORB GAS MASS SPEC	001	0	4	726	2	2	0	00	2001	1552	1505	3001	0000	0000	3	5	69	17	55	0000
0	13	4	3	03	09	85	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
0	14	4	6	04	06	67	TOTAL MAGNETIC FIELD	991	0	4	728	1	2	0	06	2001	3052	2402	1001	0000	0000	1	1	67	85	15	0000
0	17	4	0	08	03	70	METEORITE DETECTION	991	0	4	689	2	4	1	00	3700	4053	5601	2051	0000	0000	2	1	67	16	25	0000
0	29	4	5	03	09	68	GRAVITY GRADIENT	991	0	4	728	1	2	0	00	5001	1051	3003	1001	0000	0000	3	5	71	26	25	0000
0	22	5	2	02	03	01	CHARGED PAR ANISOTPY	991	0	4	683	4	4	1	56	1101	3052	4303	6000	3300	0000	2	1	67	16	25	3000
0	23	5	3	05	02	02	MAGNET FIELD, SHOCK	991	0	4	693	2	2	0	00	3000	1452	2204	5000	0000	0000	1	0	61	00	15	0000
0	33	5	3	01	02	02	SOLAR WIND, SHOCK	991	0	4	693	2	2	0	00	2300	8353	1304	3000	0000	0000	1	0	62	00	25	0000
0	34	7	9	07	01	01	ELECTRIC FIELD	001	0	4	681	1	2	1	56	2000	9054	2000	4051	0000	0000	2	1	67	15	24	0000
0	35	7	9	07	01	02	MAGNETIC FIELD	001	0	4	681			1	56	5300	2853	7002	7000	0000	0000	2	1	67	15	24	0000
0	36	7	9	07	01	03	PARTICLE FLUX	001	0	4	681	[illegible]	[illegible]	1	56	2300	4053	2104	2000	0000	0000	2	1	67	25	64	0000