Table of Conents for the Apollo 17 SEP Experiment Final Technical Report (3 Parts)

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A. DATA HANDLING A the analog tape dat	ND PROCESSING: This section describes the system for converting a collected on the moon by the SEP experiment.	11–512	
A.1 SURFACE ELECTRICAL PROPERTIES MARK II DATA ACQUISITION SYSTEM by G.L. Wagner: This report describes the final system used in processing the lunar data. It includes complete design and circuit diagrams.		11–249	
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A.2 From Analogue Tape to Digital Tape by J.D. Redman: This report summarizes the actual operation of the data acquisition system and shows basically how digitized tapes were generated from the analog tape produced on the moon on the DSEA tape recorder. It discusses digitizing errors, etc., and presents a detailed analysis of the navigation, the temperature, and calibration and background noise information. Appendix B presents the reduction and analysis of SEP navigation and includes a 83-page tabulation of navigation data for EVA-II (Table #2, pages 310- 392 in the PDF file). Appendix H provides Calibration data and transmitter-off data and plots on pages 453-473).		250-483	
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A.3 Digital Processing and Science Data Processing by R.D. Watts: Part 1 contains Digital Processing for Navigation Data; Part 2 contains Science Data Processing.	474–512			
APPENDIX - NAVIGATION DATA PROGRAMS + INPUT/OUTPUT ROUTINES: Digital Processing 1) Navigation Data by R.D. Watts	482–512			
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A.3 (Continued) Digital Processing and Science Data Processing by R.D. Watts	1–311			
Digital Processing	3-66			

2) Science Data Processing by R.D. Watts Figure 1 provides flight unit calibration data. This section explains the format of the straightened science and navigation binary data file and the binary file containing only unstraightened science data.

APPENDIX - Programs for processing science (VCO) data and merging it with Nav 67-92 Data

 A.4 Apollo 17 SEP Data Processing by John C. Rylaarsdam
 93-262

 This section summarizes the intermediate stage processing operations performed on the data from the Apollo 17 SEP experiment. It includes two complete sets of plots, named "SCI2B Plots", as a record of the data: db values versus range in meters and dB values versus range in wavelengths.
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 SCI2B Plots
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 A.5 Comparison of SEP Range Data and Data from the VLBI Experiment by John C.
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A.6 SEP Antenna Patterns Reconstructed from EP-4 turn by J.R. Rossiter 266-311

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	SEP Final Theory Report by A.P. Annan Presents a complete unified discussion of the electromagnetic response of a plane stratified structure. Provides a detailed and comprehensive analysis of the theoretical parts of the electromagnetic response with emphasis on the physical meaning of the complicated mathematical expressions. Applies this theory to numerical analysis, using Hankel transforms or 2-dimensional Fourier transforms, of electromagnetic fields in a stratified medium.	4–138

	Surface Electrical Properties Simulation Model Final Report by W.M. Waller,	139-386
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	Describes measurements made with a scale-model simulation of the experiment.	
	Includes an extensive set of traverse patterns taken with a dielectric fluid	
	overlaying metal and dielectric plates both with and without the addition of	
	various structures designed to simulate various features such as crevasses,	
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	generally agree with theoretical calculations. Discusses the various	
	experimental techniques that were used and provides an index to the traverses	
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c.	Reprints, Preprints, and Papers in Preparation	387-603
-	The Surface Floctuical Dueneutica Europeinant by Gimmong C. Strongery, D. W.	207 200
	The Surface Electrical Properties Experiment by Simmons, G., Strangway, D.W.,	387-399
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	ulkliowii, 1972.	
	Radio Interferometry Depth Sounding: Part I - Theoretical Discussion by Annan,	400-423
	A.P., Geophysics, Volume 38, Number 3, pages 557-580, 1973.	
	Radio Interferometry Depth Sounding: Part II - Theoretical Discussion by	424-442
	Annan, A.P., Geophysics, Volume 38, Number 3, pages 581-599, 1973.	
	Instruments and Methods, Radio-Frequency Interferometry - A new Technique for	443-452
	Studying Glaciers by Strangway, D.W., Simmons, G., Latorraca, G., Watts, R.,	
	Bannister, L., Baker, R., Redman, J.D., and Rossiter, J.R., Journal of	
	Glaciology, Volume 13, Number 67, pages 123-132, 1974.	
	The Electromagnetic Response of a Low-loss 2-Layer, Dielectric Earth for	453-490
	Horizontal Electric Dipole Excitation by Annan, A.P., Waller, W.M., Strangway,	
	D.W., Rossiter, J.R., Redman, J.D., and Watts, R.D., in Final Report on the	
	Surface Electrical Properties Experiment, NASA CR-141724, 1974.	
	Detection of Thin Layers by Radio Interferometry by Rossiter, J.R., Strangway,	491-516
	D.W., Annan, A.P., Watts, R.D., and Redman, J.D. in Final Report on the	
	Surface Electrical Properties Experiment, NASA CR-141724, 1974.	
	Electrical Structure at Taurus-Littrow by Strangway, D.W., Annan, A.P.,	517-564
	Redman, J.D., Rossiter, J.R., and Watts, R.D., in Final Report on the Surface	517 501
	Electrical Properties Experiment, NASA CR-141724, 1974.	
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	Preliminary Science Report, NASA SP-330 1973	202-270
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	Line-Source Radiation over a Layered Dielectric: Inversion of Radio	5/9-602
	Interierometry Data by Watts, R.D., Physics Branch, Johnson Space Center,	
	Houston, Texas, and Lunar Science Institute, Houston, Texas.	
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