

# University of Houston Clear Lake

## Archives and Special Collections

**HSF-5**

**John M. Eggleston Papers**

[Human Space Flight Collection]

**Collection Number:** HSF-5

**Title:** John M. Eggleston Papers

**Dates:** 1946-1987

**Creator:** John M. Eggleston

### **Abstract**

The John M. Eggleston Papers is composed of books, NASA manuals, reports, book chapters, original and photocopied papers, flight plans, photographs, memorandums, and miscellaneous records, created, used, or collected by John M. Eggleston during his career with National Advisory Committee for Aeronautics at Langley Research Center and the National Aeronautics and Space Administration at Johnson Space Space. He worked for the organizations from 1949 to 1980. Eggleston had many roles at NASA JSC, including the following: Assistant Chief of the Space Environment Division; Deputy Chief of the Lunar and Earth Sciences Division; and Staff Assistant to the Director of the Manned Spacecraft Center.

The bulk of the collection consists of a variety of materials created, used, or collected by John Eggleston during his work on several different NASA programs, including Mercury, Gemini, and Apollo programs. The most important items in this collection are the Apollo 11 Final Flight Plan from July 1, 1969; and the Apollo 11 Early EVA Alternate Flight Plan from July 20, 1969. There are also period copies of research papers authored or co-authored by Eggleston on various human space flight and aerospace engineering aspects.

**Extent:** 1.6 linear feet

**Language(s):** English

### **Repository**

University of Houston-Clear Lake Archives and Special Collections, Alfred R. Neumann Library, 2700 Bay Area Blvd., Houston, TX 77058-1002

**Restrictions on Access:** There are no restrictions on accessing this collection.

## **Restrictions on Use**

A number of the materials in the collection were produced or published by those other than NASA and John Eggleston. This means that the University of Houston-Clear Lake Archives and Special Collections does not own the copyright to all the materials in this collection. Materials created by government agencies such as NASA are public use; but materials created by private organizations, individuals, or other entities retain their copyright, and the copyright remains with the creators under Title 17 of the U.S. Copyright Law. Researchers are responsible for obtaining permission from the copyright holder(s) to use materials beyond the “fair use” clause of the U.S. Copyright Law.

Some of the technical and scientific information in this collection may fall under the International Traffic in Arms Regulations (ITAR) of the United States government. As such, it cannot be placed shared online, digitally, or in hardcopy format with individuals residing in, citizens of, or representatives of the countries deemed as being restricted for U.S. citizens to share such information. Researchers interested in publication of the technical and scientific information are required to consult the appropriate NASA officials prior to doing so; otherwise, researchers who do not receive permission from NASA may face federal prosecution for breaking ITAR regulations.

## **Preferred Citation**

[Item name or title], [Box Numbers], [Folder Numbers], John M. Eggleston Papers, HSF-5, University of Houston-Clear Lake Archives and Special Collections, Alfred R. Neumann Library, 2700 Bay Area Blvd., Houston, TX 77058-1002

## **Acquisition**

The collection was donated to the University of Houston-Clear Lake Archives and Special Collections by Mary Allen Stang (daughter of John Eggleston) of Seabrook, Texas in June 2010.

## **Separated Material**

The family retained the original page 3-69/3-70 of the *Final Apollo 11 Flight Plan* containing Eggleston’s handwritten notes on the actual lunar landing and signed by Neil Armstrong. The collection document contains a photocopy of the original page.

## **Processing Information**

The original collection was numbered according to a pre-2022 numbering system, which was the accession number for the collection. This was composed of the year in which the collection was accessioned into the UHCL Archives’ holdings, and the number of the collection in the order it was accessioned. For example, the collection number “2010-0007” should be interpreted as “Year 2010, 7th collection accessioned that year.” Folders in the collection were numbered using a number for the box number, followed by a short dash, followed by the folder number, placed on the far-right side of the folder tab. For example, Box 1, Folder 1, would be written as “1-1.”

Starting in 2022, the UHCL Archives began implementing a new collection numbering system to better reflect the various collecting area categories of the Archives, and to make locating and identifying which collections belonged to which collecting areas within the Archives' storages areas and shelves. The John M. Eggleston Papers collection number was changed from "2010-0007" to "HSF-5", which represents "Human Space Flight Collection, collection number 5 within this category.

**Processed by:** Shelly Henley Kelly, July 2010; finding aid updated by Matthew M. Peek, April-June 2023

### **Arrangement**

The collection is arranged by the formats and NASA programs in folders. The collection is grouped into the following series: Series I: Books; Series II: Papers (Authored or Co-authored); Series III: Photographs; Series IV: NASA Program Materials; and Series V: Mary Allen Wylie Papers.

### **Biographical Note**

John Marshall Eggleston Jr. (who went by "Jack") was born in San Francisco, California, on June 26, 1926, to John Marshall and Dorothy Ferguson Eggleston. His father was a career U.S. Navy officer from Norfolk, Virginia. John Eggleston was raised in Norfolk, and graduated from Oceana High School there. He served during World War II in the U.S. Marine Corps, and participated in the campaign on the island of Okinawa in the Pacific Theater in 1945. Eggleston was the sole survivor of the First Marine Division from that battle. After WWII, John Eggleston attended college at Virginia Polytechnic Institute and State University in Blacksburg, Virginia (now Virginia Tech), graduating with his BS degree in Aeronautical Engineering in 1949. Around July 8, 1950, he married Phyllis Matthews Holland. Eggleston graduated with his master's degree in Aeronautical Engineering from University of Virginia in 1954, and a master's degree in Engineering from Princeton University in 1958.

In 1949, he joined the National Advisory Committee for Aeronautics (predecessor of NASA), and was assigned to the High Speed Flight Research Station at Muroc Army Airfield in California through 1951. Eggleston worked as a flight test engineer on early supersonic research aircraft which were then in their testing stages. He moved in 1951 to the Langley Research Center as a research scientist working on stability and control of aircraft and missiles. In 1958 when NACA became NASA, Eggleston became the Assistant Chief of the Flight Mechanics Branch at Langley Research Center, working on spacecraft reentry and rendezvous. He would help develop techniques later used on the Gemini and Apollo Program missions. As a Langley representative, he was a member of the first group to develop the Apollo Program concept for the Moon landing.

In 1962, Eggleston transferred to the Space Task Group, which moved to coastal Houston, Texas, with the opening of the Manned Spacecraft Center (later Johnson Space Center). There, he helped to develop the Lunar Module concept for the Apollo Program into a definitive design

for the Moon landing mission. In 1963, he became Assistant Chief of the Space Environment Division, composed of geologists, space physicists, cartographers and geophysicists, responsible for defining the space environment and lunar surface characteristics for design of Apollo spacecraft, lunar surface experiments, spacesuits and mission operations. From 1965 to 1966, NASA relocated Eggleston and his family to Boston, Massachusetts, allowing him to participate at MIT as a Sloan Fellow in Industrial Management. Returning to Houston in 1966, Eggleston became the Deputy Chief of the Lunar and Earth Sciences Division through 1971. His position made him responsible for the definition of Lunar surface experiments, landing site selection, and survey of orbital earth resources capability using remote sensors.

In 1968, John Eggleston was assigned as Staff Assistant to the Director of the Manned Spacecraft Center and was involved in management techniques. He was responsible for coordinating and planning the use of Center resources in terms of Center programs; and developing and recommending management techniques for planning and work implementation. He served as technical advisor to the Director, Deputy Director, and Associate Director of the Manned Spacecraft Center concerning management operations; optimum planning for the utilization of research and design laboratories and facilities at the Center; and the reallocation of civil service and support contractor manpower to support the technical programs of the Center.

Eggleston completed his career at JSC serving as assistant to the Director of Engineering and Development from 1971 to 1980. In that roll, he acted as program manager overseeing a staff of 800 to 1000 people. In 1980, John Eggleston retired after working over 30 years at NASA and its predecessors combined. Eggleston worked from 1980 to 1988 as a consultant with several NASA contractors. From around 1980 to 1985, he worked for with ILC Space Systems as their program manager in 1983, then their research and planning manager between 1984 and 1985. Eggleston would work for Houston-based Eagle Engineering from around 1985 to 1987. The Egglestons moved to a farm in Hanover County, Virginia, and retired from all consultancy work in 1990. John M. Eggleston died on February 23, 2009, in Norfolk, Virginia.

## **Scope and Content**

The collection is composed of books, NASA manuals, reports, book chapters, original and photocopied papers, flight plans, photographs, memorandums, and miscellaneous records, created, used, or collected by John M. Eggleston during his career with National Advisory Committee for Aeronautics at Langley Research Center and the National Aeronautics and Space Administration at Johnson Space Space. He worked for the orginazations from 1949 to 1980. Eggleston had many roles at NASA JSC, including the following: Assistant Chief of the Space Environment Division; Deputy Chief of the Lunar and Earth Sciences Division; and Staff Assistant to the Director of the Manned Spacecraft Center.

The bulk of the collection consists of a variety of materials created, used, or collected by John Eggleston during his work on several different NASA programs, including Mercury, Gemini, and Apollo programs. The most important items in this collection are the Apollo 11 Final Flight Plan from July 1, 1969; and the Apollo 11 Early EVA Alternate Flight Plan from July 20, 1969. There are also period copies of research papers authored or co-authored by Eggleston on various

human space flight and aerospace engineering aspects. This includes an original period copy of his MIT thesis paper. The collection includes photographs of Eggleston from the 1960s.

## **Subject Terms**

### **Personal/Family Name**

Eggleston, John M. (John Marshall), 1926-2009

### **Corporate Names**

Lyndon B. Johnson Space Center  
United States. National Aeronautics and Space Administration

### **Geographic Name**

Houston (Tex.)  
Langley (Va.)

### **Topical Term**

Apollo 11 (Spacecraft)  
Bell X-1 (Supersonic plane)  
Langley Research Center  
Lyndon B. Johnson Space Center  
Manned space flight--History  
Project Apollo (U.S.)  
Skylab Program  
Spacelab Program  
Space shuttles--United States--History  
Space--Social aspects--History  
United States. National Aeronautics and Space Administration--History

### **Genre/Physical Characteristic**

Handbooks  
Memorandums  
Operating manuals  
Photographs  
Publications  
Report  
Technical manuals  
Technical reports

## **Collection Inventory**

### **Series I: Books**

Series I consists of several books and NASA manuals that John Eggleston collected over the years.

<b>Box/Folder</b>	<b>Description</b>	<b>Date</b>
1/1	Casey Jones Cyclopedia of Aviation Terms	1946
1/2	Flight Testing Conventional and Jet-propelled Airplanes, by Benson Hamlin	1946
1/3	Survey of Lunar Surface Measurements Experiments and Geologic Studies, Contract NAS 9-2115 Final Report (Texas Instruments)	August 30, 1964
1/4	Exploring Space with A Camera, NASA SP-168	1968

### **Series II: Papers (Authored or Co-authored)**

Series II consists of original and photocopied papers written or co-authored by John Eggleston between 1956 and 1968, mostly while he worked at NASA. The papers include author's personal copies marked as such. Of particular interest is a period copy of Eggleston's original June 1966 MIT thesis.

<b>Box/Folder</b>	<b>Description</b>	<b>Date</b>
2/1	The Application of Eigenvalues (Characteristics) to the Solution of Multi-Degree Complex Systems	August 30, 1956
2/2	Theoretical Calculation of the Power Spectra of the Rolling and Yawing Moments on a Wing in Random Turbulence (with Franklin W. Diederich) NACA Report 1321 (Stamped "author's personal copy") with Errata insert	1957
2/3	A Method for the Calculation of the Lateral Response of Airplanes to Random Turbulence (with William H. Phillips) NACA Technical Note 4196	February 1958
2/4	Piloted Entries into the Earth's Atmosphere (with Donald C. Cheatham); Presented at the National Summer Meeting of the Institute of the Aeronautical Sciences (Marked "personal copy")	June 16-19, 1959

2/5	Lecture on Elementary Equations of Motion (copy)	October 19, 1959
2/6	A Review of Current Energy Management Studies at NASA/SAE Committee A-18	June 14-16, 1961
2/7	Establishment of Environmental Risks; presented to “Lectures in Aerospace Medicine; USAF School of Aerospace Medicine, Brooks AFB, Texas.	February 3-7, 1964
2/8	Contributions of MSC Personnel to the Manned Lunar Exploration Symposium (Section 3. “Spacecraft Capability for Apollo Scientific Experiments”) (2 copies)	June 15-16, 1964
2/9	Space and the Moon—Photography’s Challenge for Tomorrow (with John R. Brinkman; to be presented at the Society of Photographic Instrumentation Engineers)	August 25, 1964
2/10	Photographic Requirements for Manned Space Missions (with John R. Brinkman) A paper from the SPIE Technical Symposium	August 26, 1964
2/11	Executive Selection and Development in a Large Government Agency (NASA) MS Thesis Massachusetts Institute of Technology	June 1966
2/12	Preliminary Investigation of a Lunar “Rolling Stone” TM X-58007	March 1967
2/13	Lunar ‘Rolling Stones’ by Eggleston, A. W. Patteson, J.E. Throop, W. H. Arant, and D.L. Spooner (Reprint from Photogrammetric Engineering)	March 1968
2/14	Trajectory Control for Vehicles Entering the Earth’s Atmosphere at Small Flight-Path Angles (with John W. Young) NASA MEMO 1-19-59L (review copy)	Undated
2/15	“Results of Lunar Orbiter and Surveyor Data in Support of Apollo Site Selection” with John R. Sevier	Undated

### **Series III: Photographs**

Series III is composed of a small collection of photographs collected or used by John Eggleston, mostly from his time working at NASA. There are period copies of official NASA and Johnson Space Center photographs; several photographs from geological survey trips in Texas and Mexico; and several aerospace vehicles. There are also a few photographs of Eggleston, and one of the West Mansion on the grounds of Johnson Space Center.

<b>Box/Folder</b>	<b>Description</b>	<b>Date</b>
2/16	Apollo 10 and Apollo 11	1969
2/17	John M. Eggleston	1963-1964
2/18	NACA F86-C (FU-459)	Undated
2/19	NASA Lunar Images	Undated
2/20	NASA Marathon Basin (TX) Geological Field Trip	April 3, 1964
2/21	NASA Mexico Geological Field Trip	1966
2/22	NASA Tours (Cartographic Laboratory & Ellington Simulated Lunar Surface)	1964, 1967
2/23	USAF Bell X-1 "Glamorous Glennis"	1947, 1951
2/24	West Mansion	1967

#### **Series IV: NASA Program Materials**

Series IV consists of reports, manuals, flight plans, papers, book chapters, memorandums, and miscellaneous records, created, used, or collected by John Eggleston during his work on several different NASA programs, including Mercury, Gemini, and Apollo programs. There are also some materials produced at the Langley Research Center in Virginia. The materials are arranged in smaller groupings by the work program or location. The most important items in this series are the Apollo 11 Final Flight Plan from July 1, 1969; and the Apollo 11 Early EVA Alternate Flight Plan from July 20, 1969. The final flight plan originally had a page with Eggleston's handwritten mission notes on the actual lunar landing which was signed by Neil Armstrong. The original page was retained by the Eggleston family, with a photocopy of the original page retained in its place.

<b>Box/Folder</b>	<b>Description</b>	<b>Date</b>
<i>Langley Materials</i>		
3/1	Principles and Applications of Gyroscopes, by William H. Phillips (with notations)	Undated
3/2	Closed-Loop Centrifuge Simulation of Space Vehicle Performance, by Randall M. Chambers and Harold V. Doerfel. Presented at the ARS Semi-Annual Meeting	June 8-11, 1959



3/3 “NASA Reports—A Discussion for Prospective Authors” January 3, 1962  
by William H. Phillips

*Mercury Materials*

3/4 “Mercury Seven-Orbit Mission Capability” Mercury March 5, 1962  
Project Office Memorandum Report

*Gemini Materials*

3/5 Preliminary B GT-3 Flight Plan Prepared by Flight Crew September 20, 1964  
Support Division

3/6 Gemini Narrative History Draft Chapter “Planning the July 31, 1968  
Experiments” (Grimwood)

3/7 Gemini Narrative History Draft Chapters “The Idea of December 19, 1968  
Rendezvous” and “Rendezvous in NASA Planning”  
(Hacker)

*Apollo Materials*

3/8 “Problems and Potentialities of Space Rendezvous” by 1961  
John C. Houbolt (reprint from Vol. VII 1961 Astronautica  
Acta) includes Eggleston’s handwritten notes on Lunar  
Rendezvous and Direct Lunar Landing.

3/9 Positional Uncertainties in Lunar Landmarks MSC Internal January 5, 1965  
Note 65-ET-2

3/10 Technical Memorandum relating to “Instrumentation for January 20, 1965  
Thermal Measurements on the Lunar Surface” prepared by  
Arthur D. Little, Inc

3/11 Mission V Design Review May 26, 1967

3/12 A Preliminary Evaluation of Landing Areas for Potential November 1967  
AAP Sites (alternate title: A Preliminary Evaluation of  
Landing Areas for the 17 AAP-Science Sites photographed  
with Orbiter V.) Rough Draft prepared by Mapping  
Sciences Branch

3/13 An Investigation of Earthshine Lighting Conditions for November 1967  
Lunar-Surface Operations by Robert L. Jones; NASA  
TM X-58011

4/1	Apollo Site Selection Process (Bellcomm D. B. James)	14 Feb 1968
4/2	Lunar Site Selection Memorandum	February-March 1968
4/3	Apollo Program Evaluation of the LM Guidance System Performance over the Approach Terrain of Five of the Proposed Apollo Landing Sites, MSC Internal Note 68-EG23-03 (David A. Dyer)	March 6, 1968
4/4	Apollo 8 (AS-503) Mission Operation Report (prelaunch) M-932-68-08	December 9, 1968
4/5	Notes and comments taken by Eggleston about systems engineering and post-Apollo planning	March 1969
4/6	Final Apollo 11 Flight Plan AS-506/CSM-107/LM-5	July 1, 1969
4/7	Apollo 11 Early EVA Alternate Flight Plan	July 20, 1969

#### **Series V: Mary Allen Wylie Papers**

Series V is a small group of materials produced as a result of a student project conducted by University of Houston-Clear Lake student Mary Allen Wylie entitled *The International Space Station*. The project was completed under Dr. Grady Purdue at UHCL. The project completion date was June 25, 1987.

<b>Box/Folder</b>	<b>Description</b>	<b>Date</b>
4/8	Report	June 25, 1987
4/9	ESA	June 25, 1987
4/10	Japan/SS/Canada	June 25, 1987