APOLLO 13:
A SUCCESSFUL FAILURE

In 1960 US President John F. Kennedy announced the USA would land a man on the Moon by the end of that decade. And history records he was right! On July 20 1969 the Apollo 11 spacecraft landed on the Moon.
Apollo 11 and 12 spacecraft had landed on the smooth lunar mare, the lava seas that formed relatively late in the moon's history. The Apollo 13 mission was to land on the Fra Mauro Hills and perform geological tests which would give an insight into the older parts of the Moon.
However an explosion on the spacecraft en route to the moon caused the mission to be aborted and the astronauts' major task then became how to return to Earth safely. The flight was considered a 'successful failure' because of the experience gained in rescuing the astronauts.

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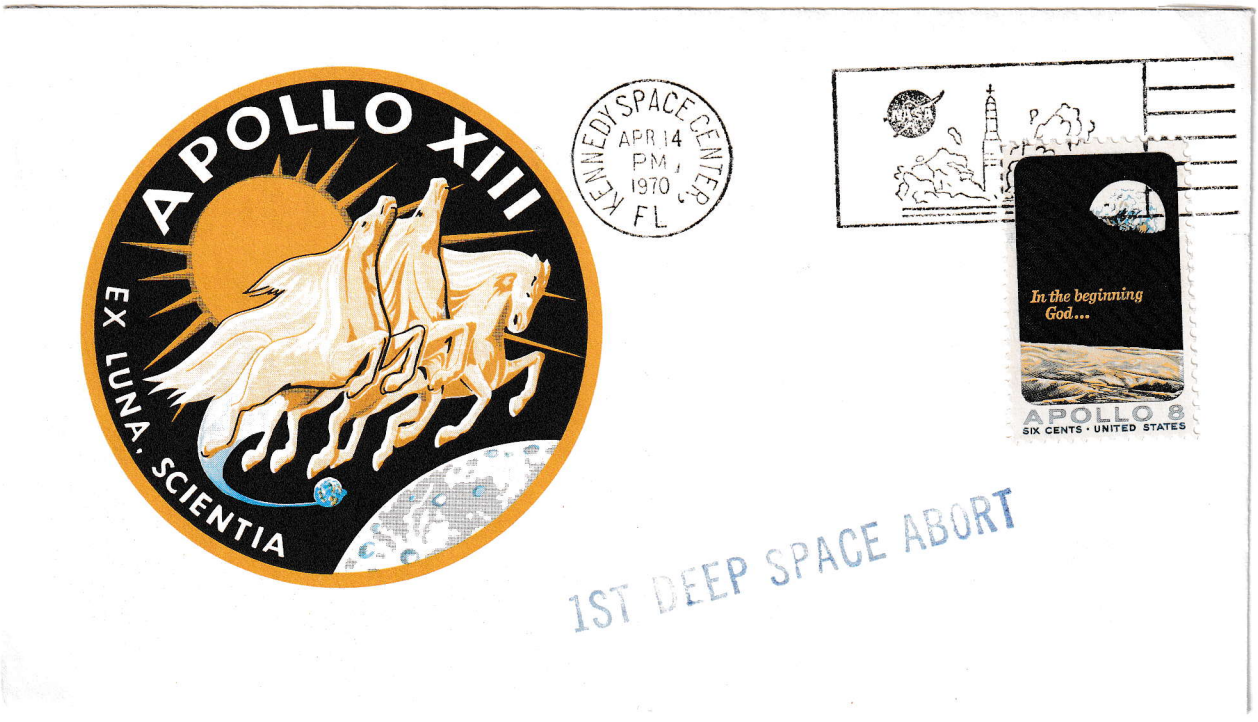
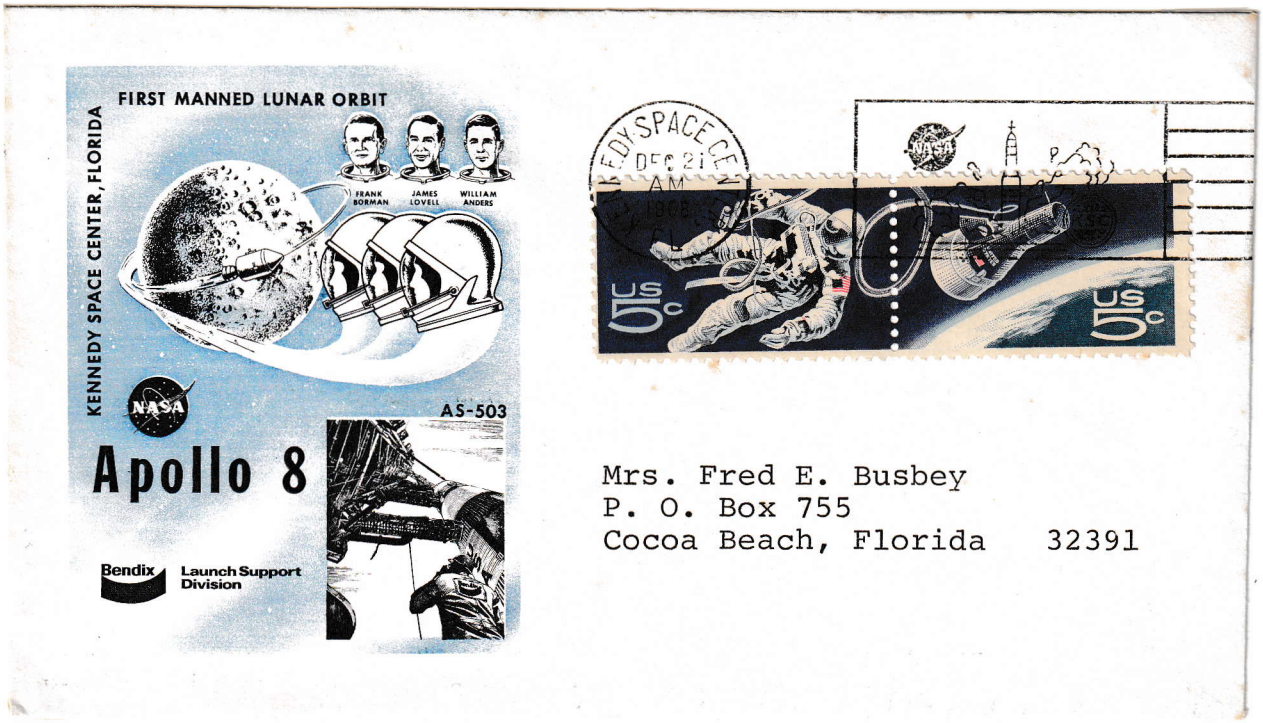
Reference: Spaceflight Magazine (UK) – April 1999
Sky & Space Magazine (Australia) – October 1995



1 Apollo 8 – first lunar flight

Apollo 8 was the first lunar flight, ie the first manned spacecraft to orbit the moon. The moon was photographed and studied in preparation for a later mission which would attempt a lunar landing.

Apollo 8 (NASA launch vehicle serial number AS503) completed 10 orbits of the moon.



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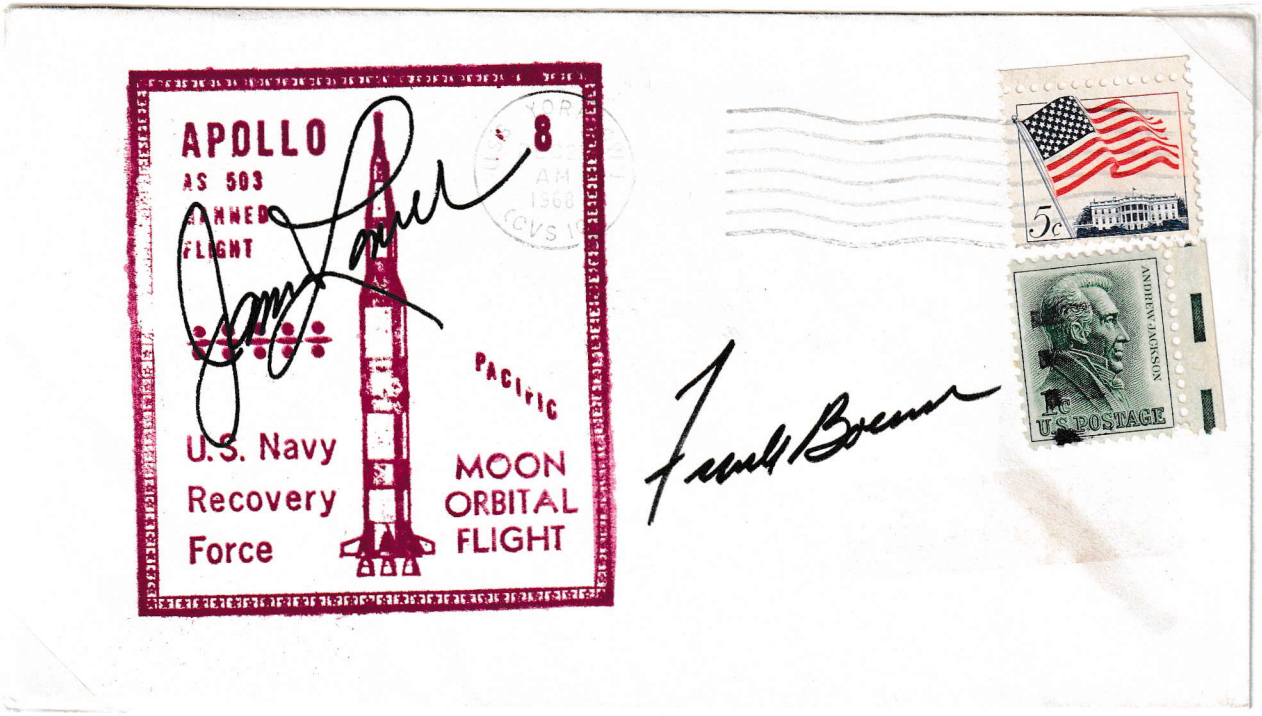
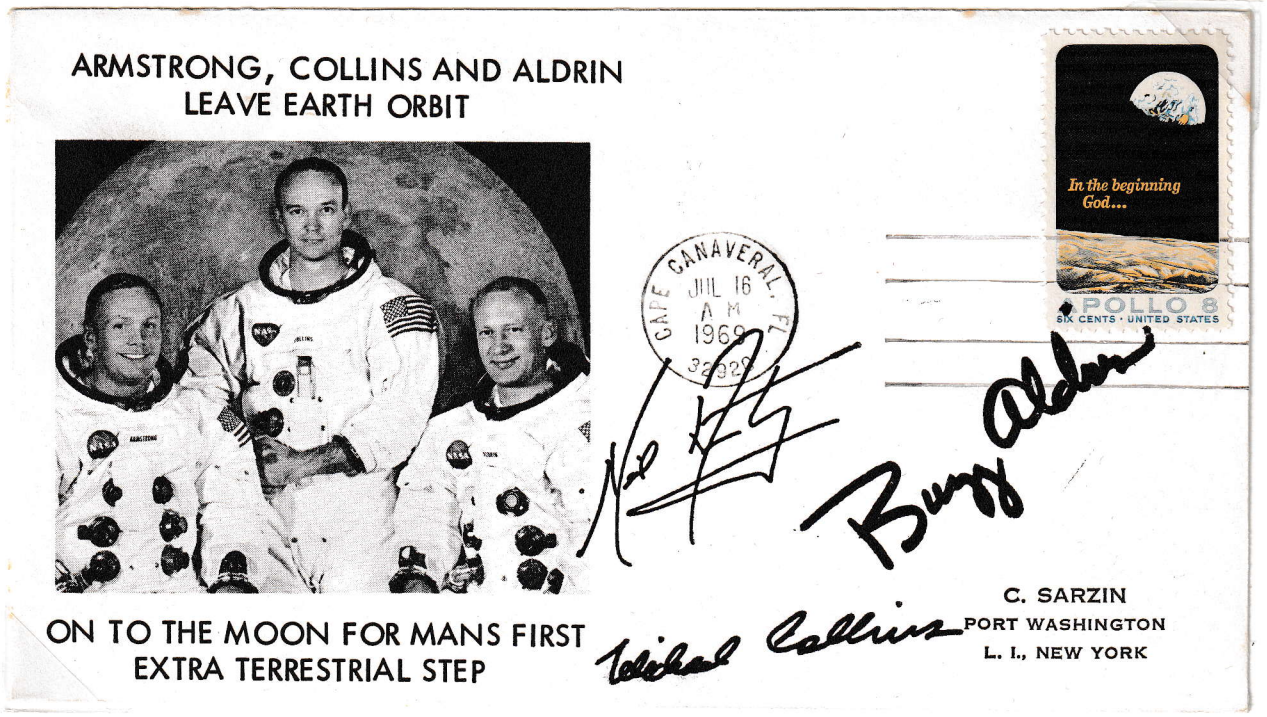


Postmarked on board the prime recovery vessel, U.S.S. Yorktown on splashdown date. Cover has been signed by two of the three astronauts.

2 Apollo 11 – first lunar landing

On July 20, 1969 Neil Armstrong and Edwin Aldrin climbed down from their lunar module to become the first men on the moon, while Michael Collins circled above in the command module.



Cover postmarked at Cape Canaveral (launch site) on launch date.
Cover bears autopen signatures of the astronauts

Cover postmarked on board the prime recovery ship, U.S.S. Hornet, stationed in the Pacific, on splashdown date.

(The Saturn rocket used for this mission was coded NASA launch vehicle serial number AS506).

3 Apollo 13 - The Flight Crew

The astronauts on this flight were

- James A. Lovell, the Commander
- Jack L. Swigert, the Command Module Pilot
- Fred W. Haise, the Lunar Module Pilot

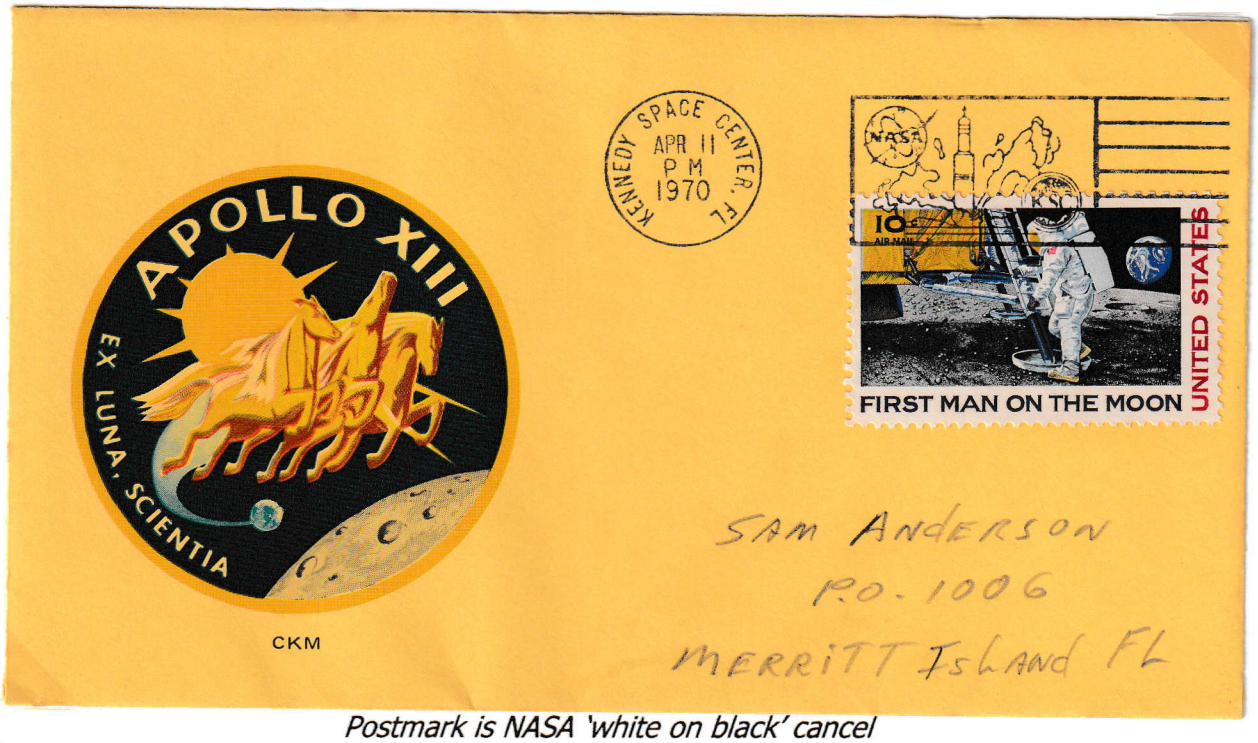
(Jack Swigert replaced Ken Mattingley as the Command Module Pilot
two days before launch as Mattingley had contracted German measles)

Postmarked at Cape Canaveral (Kennedy Space Centre) on launch date

Postmarked at Kennedy Space Centre on launch date

4 The Launch

The launch took place on April 11, 1970 at 1.13pm EST from Launch Complex 39A, Kennedy Space Centre, Florida USA. One of the most critical stages of any mission is the launch, but the launch of Apollo 13 went very smoothly with no indication of the events which were to come!!



Postmark is NASA 'white on black' cancel

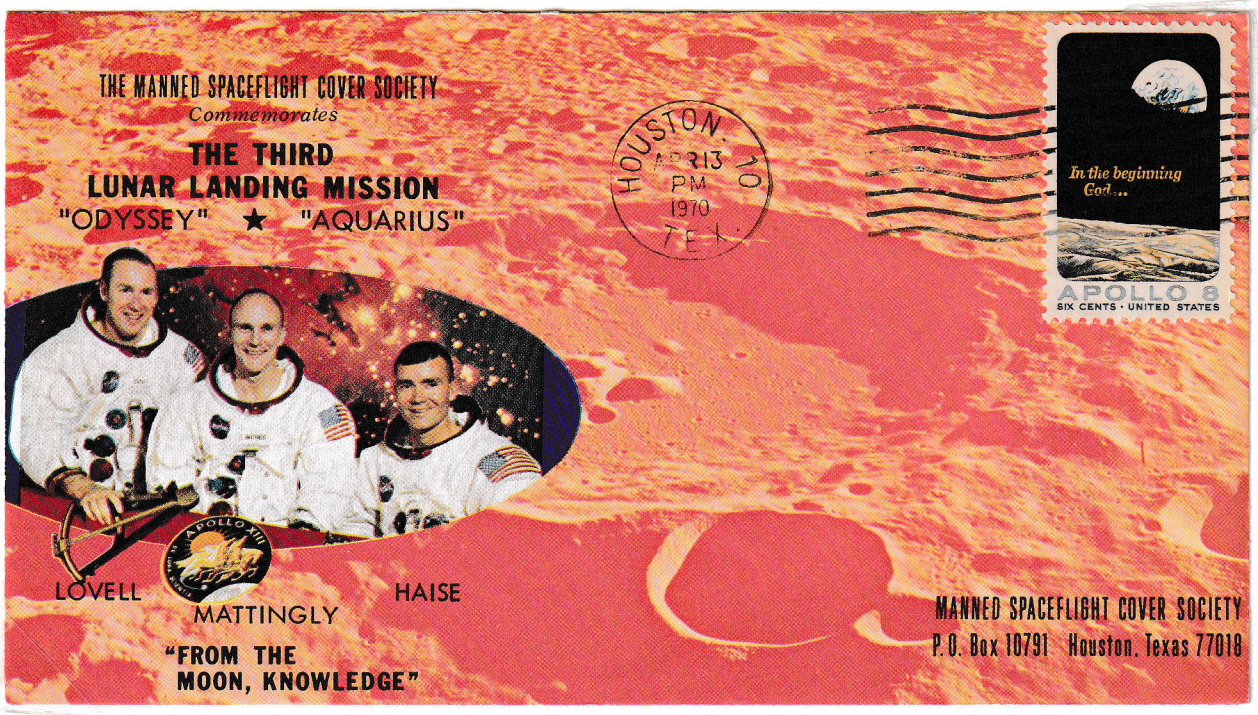
The Saturn 5 rocket was the largest operational launch vehicle ever produced. The technology was first used on Apollo 4 in 1967 and was so advanced that a Saturn 5 rocket was used for all Apollo flights. The Saturn rocket used in this mission was coded NASA launch vehicle serial number AS508.

Postmark is NASA 'black on white' cancel

5 Mission Control

Any spacecraft which is launched from Cape Canaveral (Kennedy Space Centre) is under the control of KSC for the first 2 minutes of the flight. Control is then passed to Mission Control at Houston Space Centre and remains with them until splashdown when control is passed to the prime recovery ship.

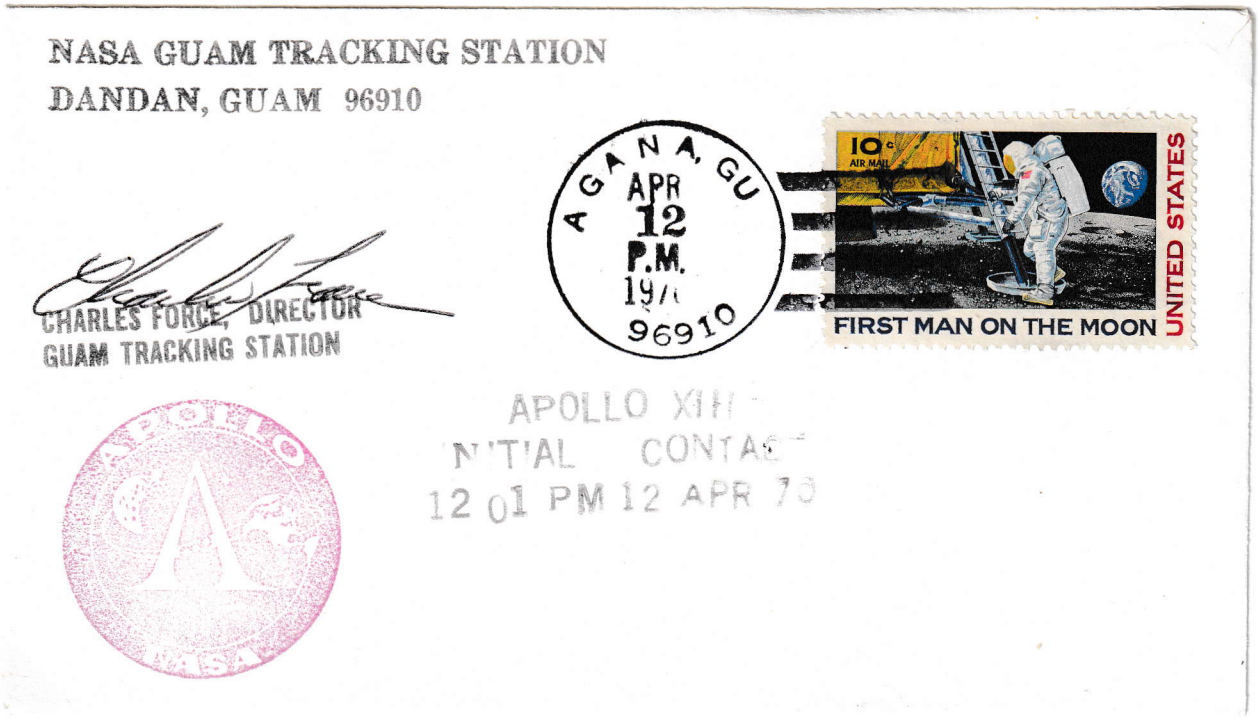
Apollo 13 took approximately 1 hour 30 minutes to complete an orbit of the earth and so for over 2 days the three astronauts remained in contact with Mission Control, completing routine tasks including plotting of several stars with the use of a sextant.



Postmarked at Houston on April 13, 1970 (day 3 of the flight)

5 Mission Control

Although overall control of the mission is with Houston, tracking stations around the world play a vital role in feeding information to Mission Control.



Postmarked at Guam tracking station on April 12, 1970 (day 2 of the flight)

Postmarked at Woomera tracking station in South Australia on April 13, 1970 (day 3 of the flight)

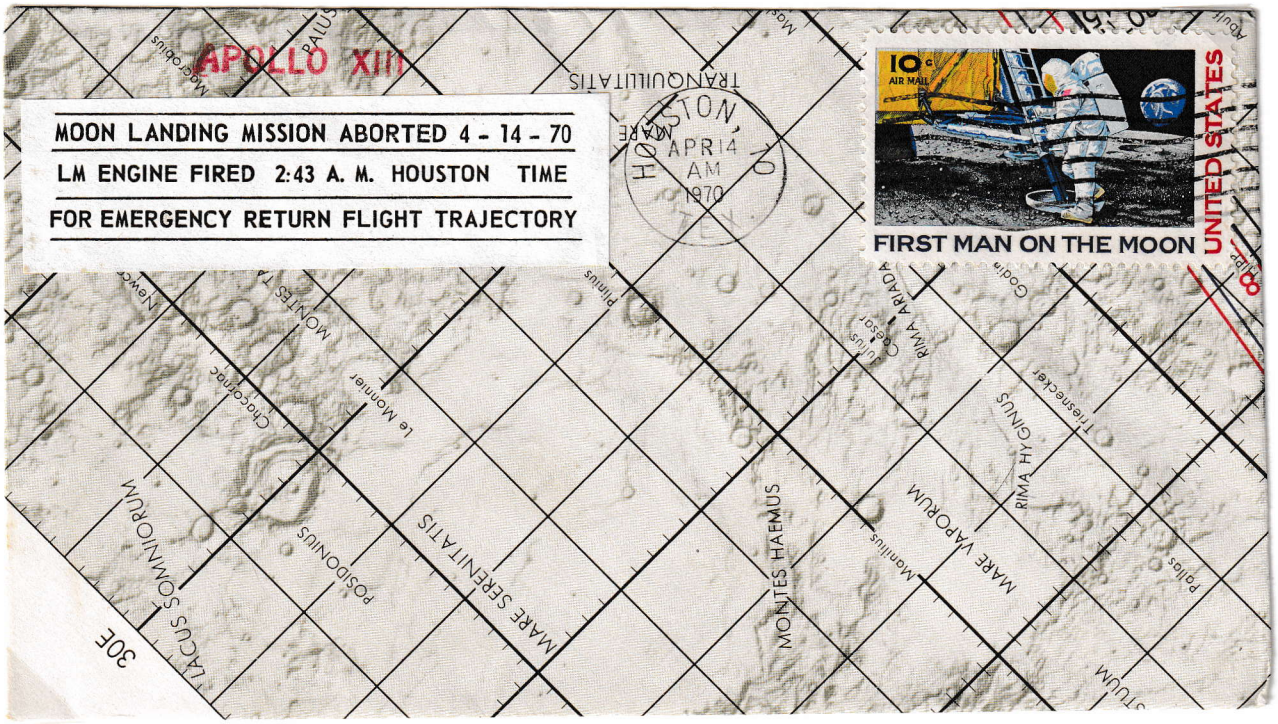
6 'Houston we have a problem'

Three days into the mission and 200,000 miles from Earth, a fault in electrical equipment inside the Service module's oxygen tanks produced an explosion, cutting electrical power to the Command Module. In a massive understatement, astronaut Jack Swigert utters that famous sentence ... 'Houston we have a problem'.

North American Aerospace Defense Command (NORAD) is a joint organization of Canada and the USA that provides aerospace warning, air sovereignty, and defense for the two countries. Their headquarters are located at the Cheyenne Mountain Tracking Station in Colorado Springs, Colorado

6 'Houston we have a problem'

The crew were forced to shut down the Command Module to conserve its batteries and oxygen for the flight home, and use the Service Module's resources as a 'lifeboat'.



All mail in the Houston area, and this includes the NASA Space Centre is cancelled at the main Houston Post Office. The Space City Cover Society decided that the best and proper way to fill this philatelic void was to create a NASA Local Post with its own cancel, which is permissable under postal regulations. These covers are only available from the Houston Space Centre.

Postmarked at Houston on April 14, 1970

7 Worldwide Tracking Network

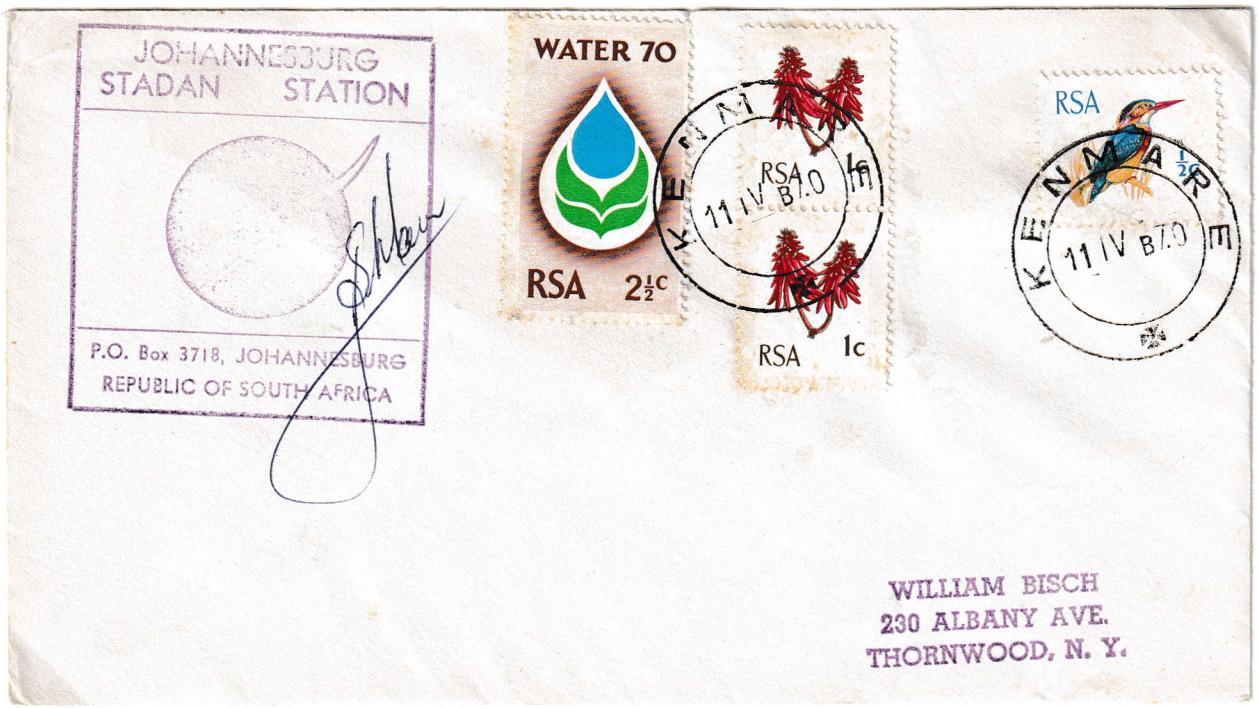
Throughout the flight the spacecraft is tracked by a worldwide network of tracking stations.

Wallops Station, Wallops Island, Virginia, USA
Air Mail cover – postmarked April 11, 1970

Bermuda Tracking Station – postmarked April 11, 1970
Cover is signed by Station Director, DA Heeley

7 Worldwide Tracking Network

The Spacecraft Tracking and Data Acquisition Network (STADAN) was established by NASA to satisfy the requirement for long-duration, highly-available space-to-ground communications. Consisting of parabolic dish antennas and telephone switching equipment deployed around the world, the STADAN provided space-to-ground communications for approximately 15 minutes of a 90-minute orbit period. In May 1971 STADAN was consolidated with the Manned Space Flight Network (MSFN).

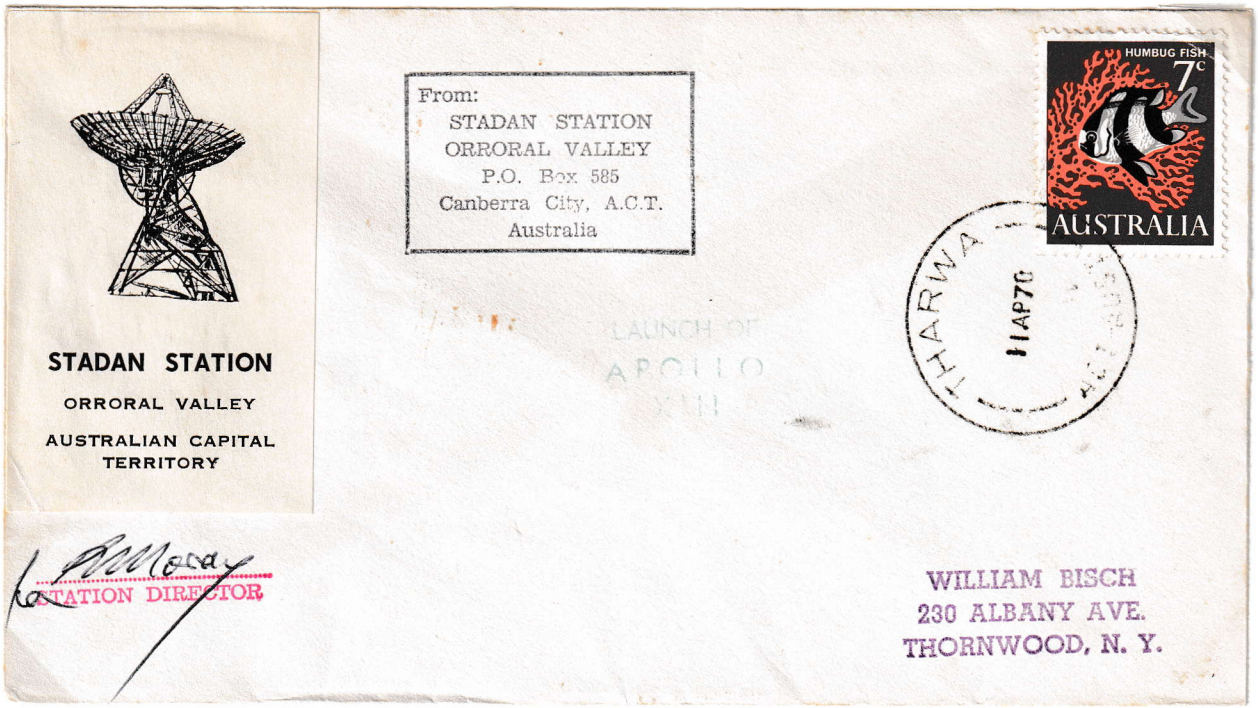


Johannesburg Stadan Station, South Africa – postmarked April 11, 1970 at Kenmare, the closest Post Office to the tracking station
Cover is signed by Station Director, S.J. Marr

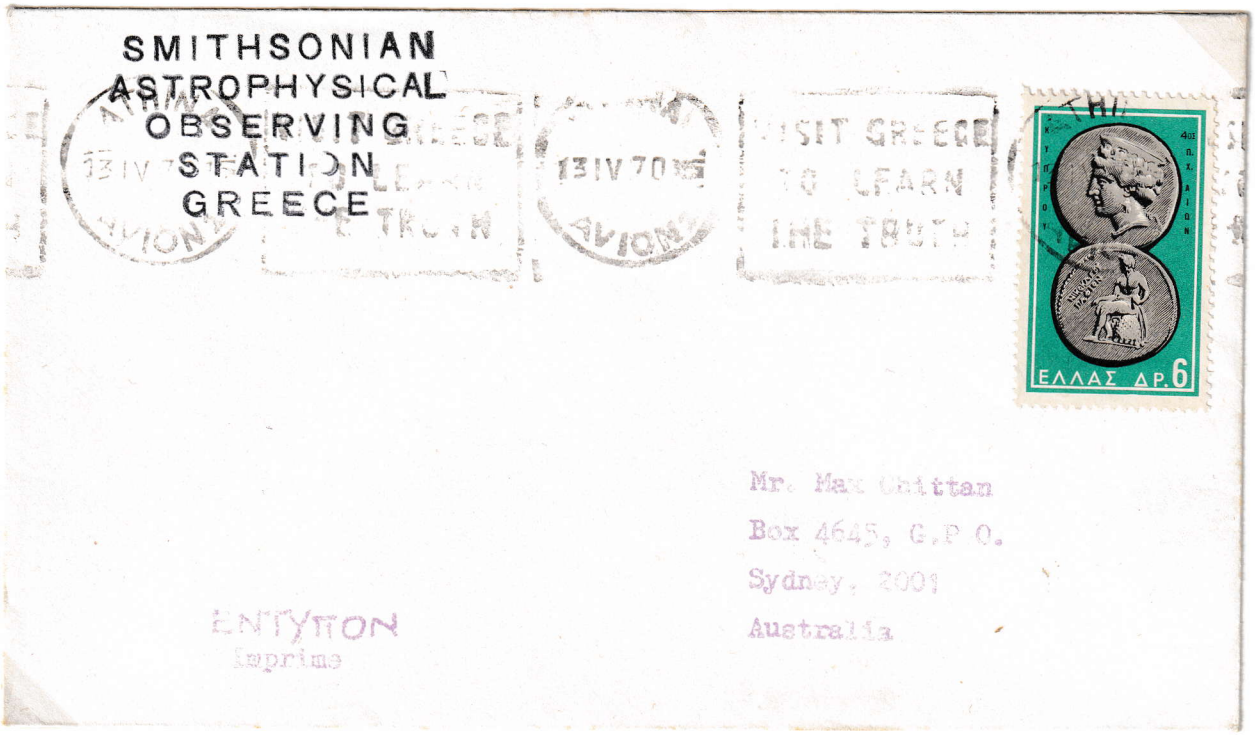
The first tracking station in Australia to detect Apollo 13 was Carvarvon Tracking Station in Western Australia. Cover is postmarked April 11, 1970

7 Worldwide Tracking Network

During the last part of each orbit of the earth Apollo 13 passed over several tracking stations in the Pacific Ocean.



Orroral Valley STADAN Station, Canberra, Australia - postmarked April 11, 1970 at Tharwa, the closest Post Office to the tracking station
Cover is signed by Station Director, R.A. Moody

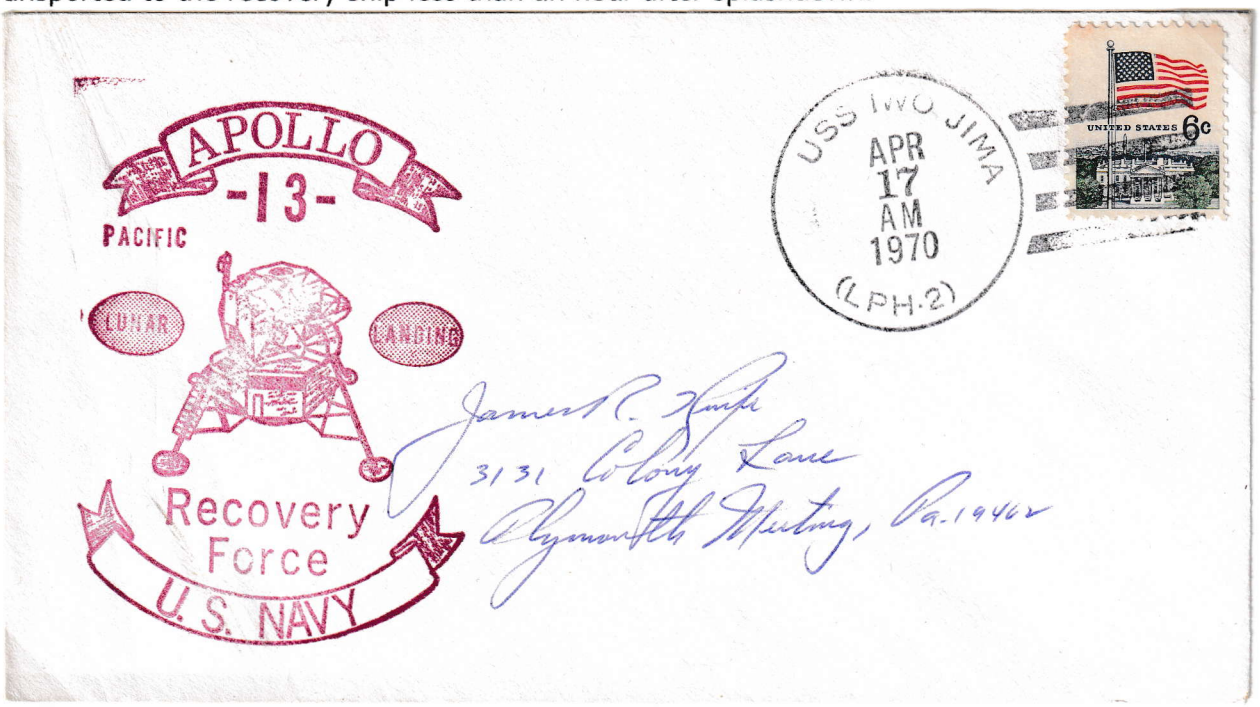


The Smithsonian Institute operated a Tracking Station outside Athens, Greece which was utilized during this mission. Cover is postmarked April 13, 1970.

8 Splashdown – Prime recovery vessel

Despite the high risks caused by limited power, the loss of cabin heat and being unable to remove lethal carbon dioxide, the crew of Apollo 13 returned safely to Earth and the mission was termed 'a successful failure'. Splashdown occurred on April 17, 1970 – the mission duration was a very tense 5 days, 22 hours and 54 minutes!

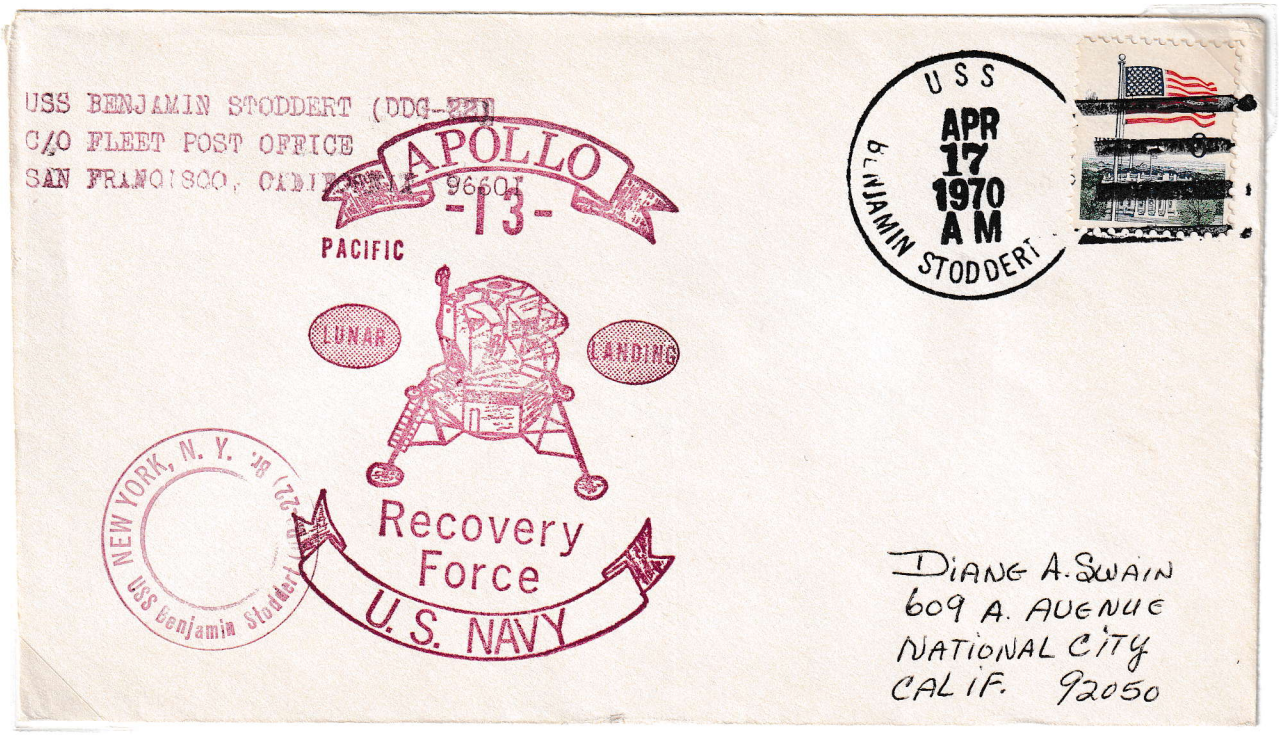
The U.S. Navy deploys several ships into the recovery area for rapid retrieval. U.S.S. Iwo Jima, an aircraft carrier, was the Prime Recovery ship. The astronauts were picked up by helicopter and transported to the recovery ship less than an hour after splashdown.



Two covers postmarked on board the prime recovery vessel, U.S.S Iwo Jima, on splashdown date. Cover features a maroon official NAVY rubber stamp cachet.
Top cover is a hand cancel –Type A, bottom cover is a hand cancel - Type B

9 Other recovery vessels network

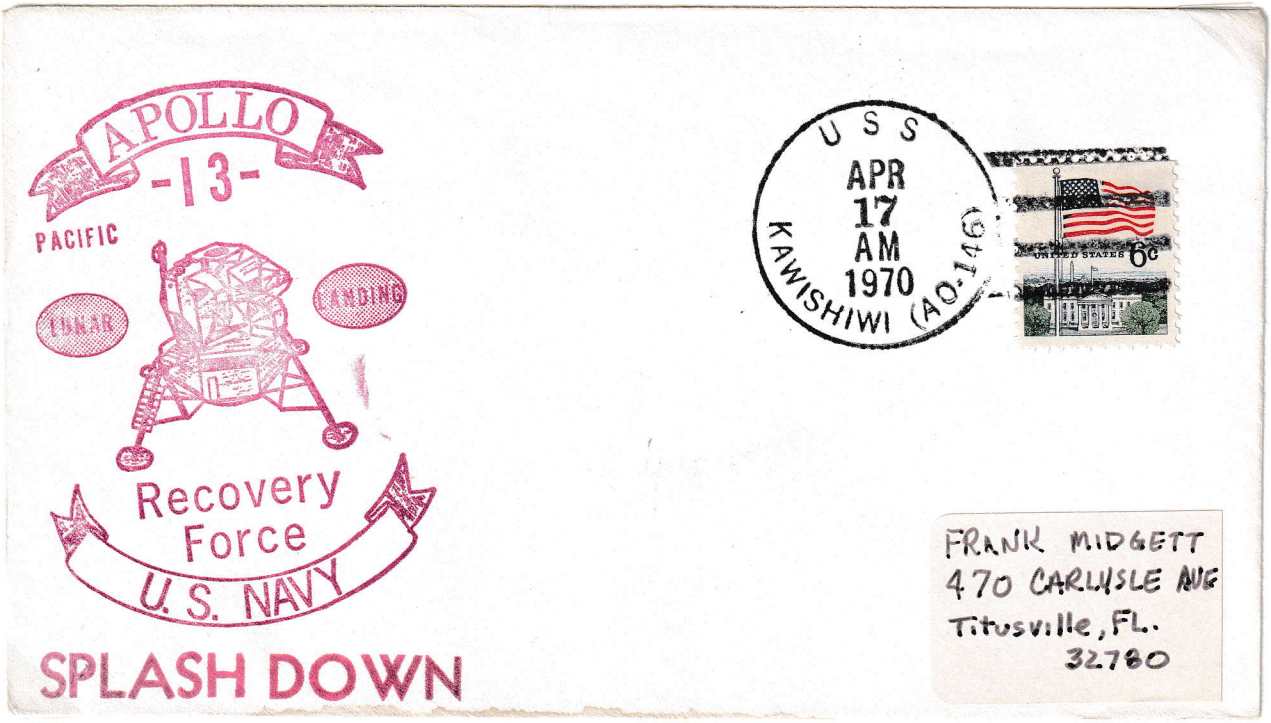
For each space mission there are a fleet of back-up vessels stationed in the Pacific and the Atlantic Oceans. They are known as Secondary Recovery Ships.



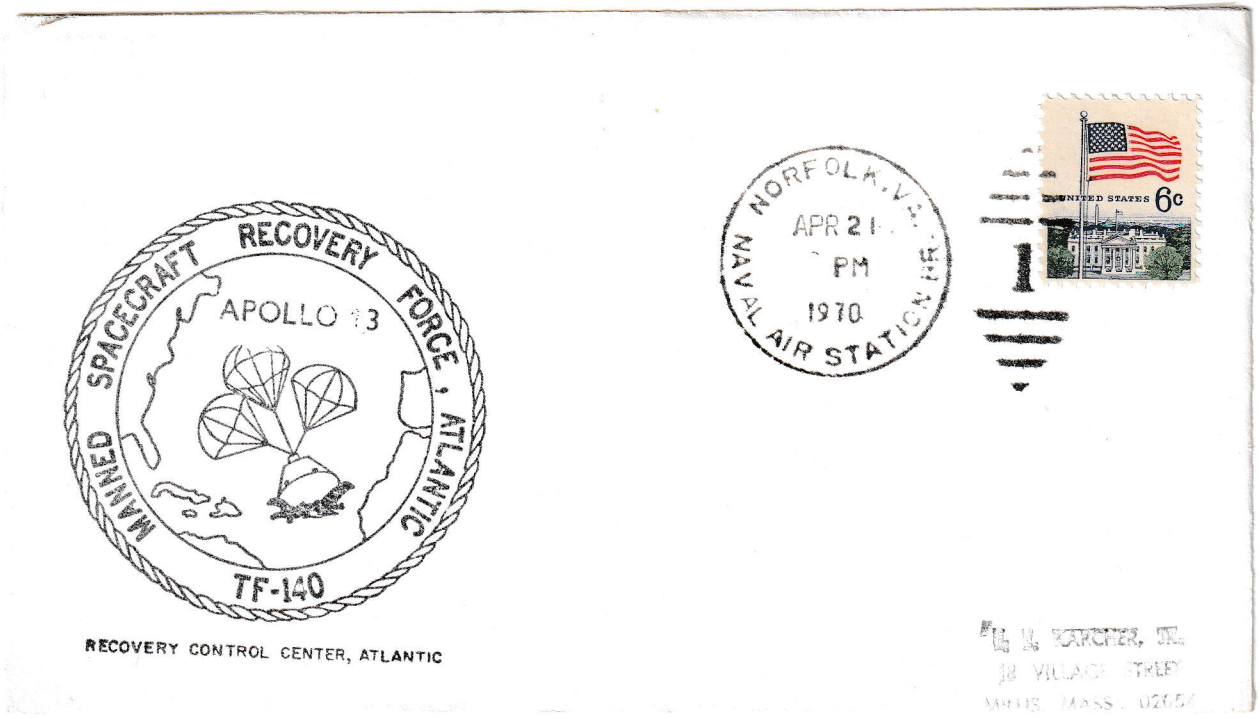
Cover postmarked on board one of the secondary recovery ships stationed in the Pacific, U.S.S. Benjamin Stoddert (a guided missile destroyer), on splashdown date. Cover features a maroon official NAVY rubber stamp cachet

Cover postmarked on board one of the secondary recovery ships stationed in the Atlantic, U.S.S. New (a destroyer), on splashdown date. Cover features a black official NAVY rubber stamp cachet

9 Other recovery vessels network



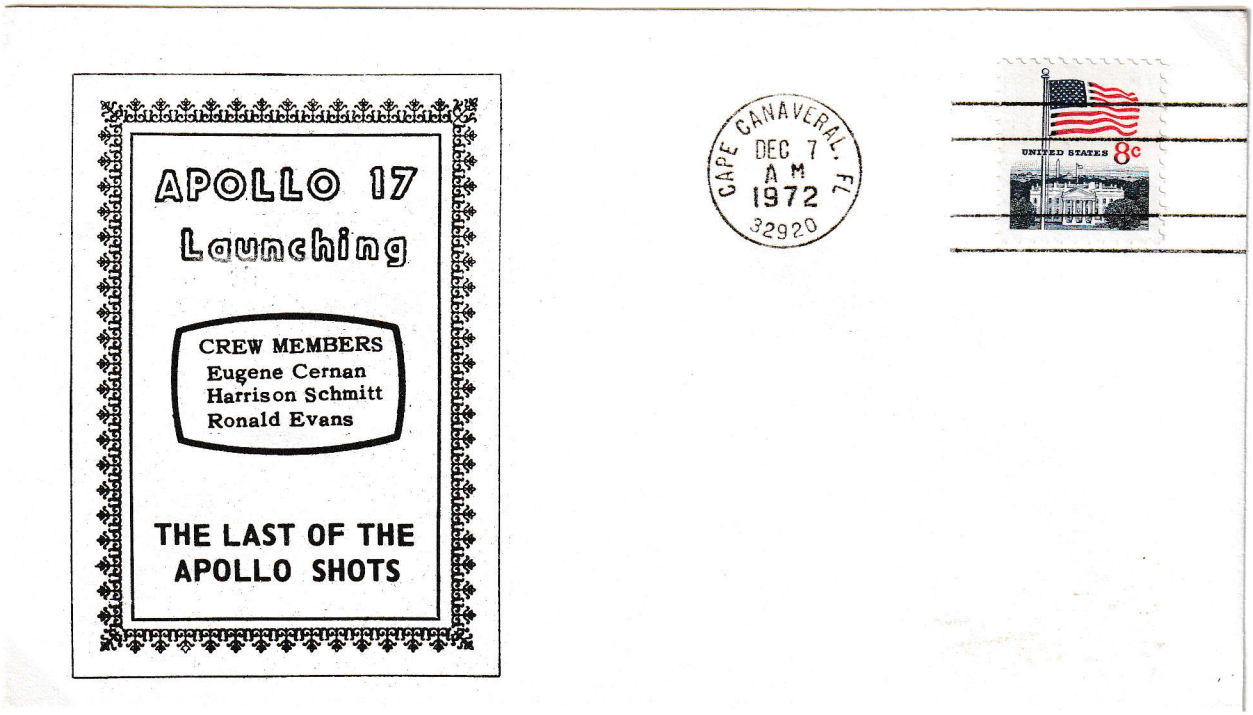
Cover postmarked on board one of the secondary recovery ships stationed in the Pacific, U.S.S. Kawishiwi (an oiler), on splashdown date, using a hand cancel.
Cachet shown is a purple official NAVY rubber stamp cachet.



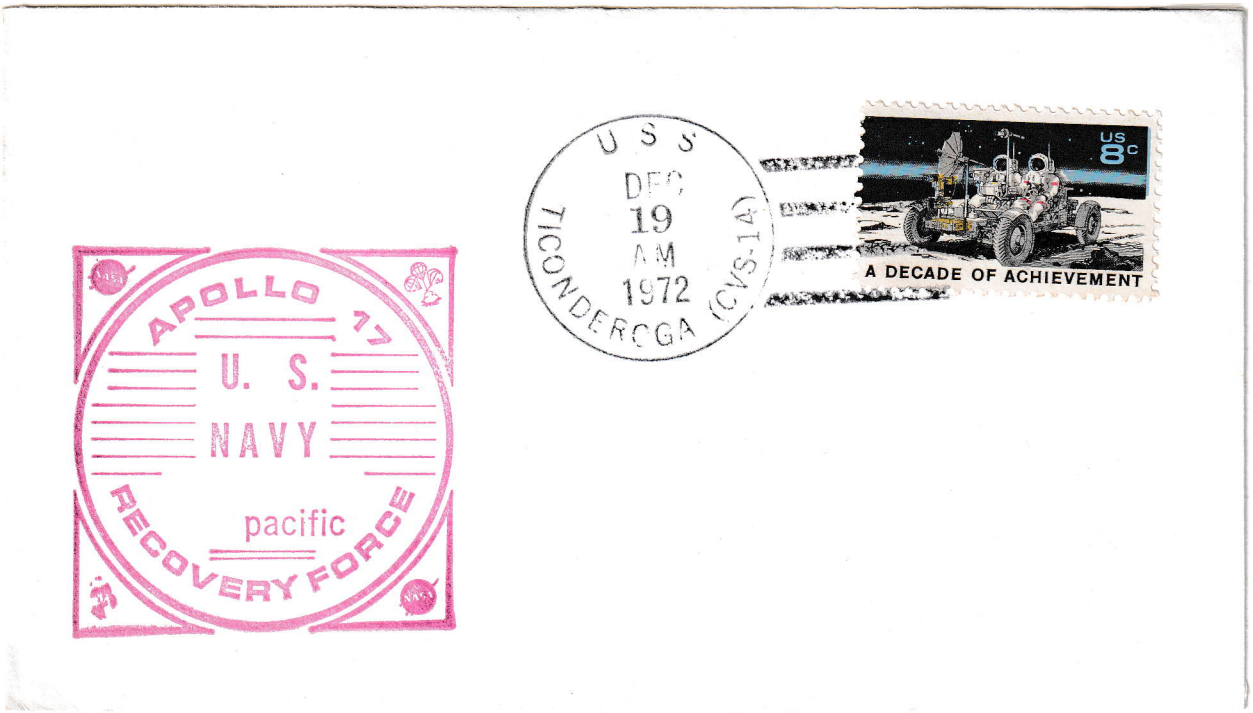
Cover postmarked at Norfolk Virginia USA Naval Air Station, using a hand cancel.
Cachet is from the Spacecraft Recovery Force based in the Atlantic Ocean

10 Apollo 17 - Farewell to the Moon

Due to cutbacks to the Apollo program Apollo 17 was to become the last lunar flight of the Apollo missions. History shows this was the last time Man set foot on the Moon.



NASA launch vehicle serial number AS512
Cover postmarked at Cape Canaveral



Cover postmarked on board the primary recovery ship U.S.S. Ticonderoga (an aircraft carrier), stationed in the Pacific on splashdown date, using a hand cancel