

Mt. Cuba Observatory and the NASA Moon Rocks

The 1960s and early 1970s were an exciting time for NASA. In the greatest feat of human history, Apollo 11 had successfully landed and returned from Earth's Moon. Between 1969 and 1972, six Apollo missions returned 842 pounds (382 kg) of lunar samples. These samples consisted of lunar rocks, pebbles, core samples, sand, and dust from six different sites on the lunar surface.



Left: Apollo 16 Mission Lunar Sample weighing 1.8 kg. **Right:** Astronaut collecting lunar samples.

In the 1970s, NASA began making some of the lunar samples available to educators. A detailed description of the NASA Lunar and Meteorite Sample Disk Program can be found [here](#). Mount Cuba Observatory (MCAO) hoped to participate and obtain lunar samples for use in youth programs. On March, 1978, MCAO manager Lemert E. Wade Jr, contacted the Lyndon B. Johnson Space Center to obtain information. He was sent, and completed, a Display Agreement and a Security Plan. In August of 1978, Mr. Wade attended a training session at the Goddard Space Flight Center in Greenbelt, MD. After completing the workshop, he received his certificate and Mt. Cuba Observatory was granted a loan of Lunar Sample Disk #3.



Above: Images of samples from Lunar disk #3: Basalt, Breccia, Anorthosite, Orange Soil, Highland Soil, and Mare Soil.

The Lunar Sample Program at MCAO

MCAO's Lunar Sample Program began on September 20, 1978 with an advertisement placed by Mr. Wade in the local newspaper. The public programs presented videos and slides, and featured the actual examination of the Lucite encased lunar samples under a microscope.

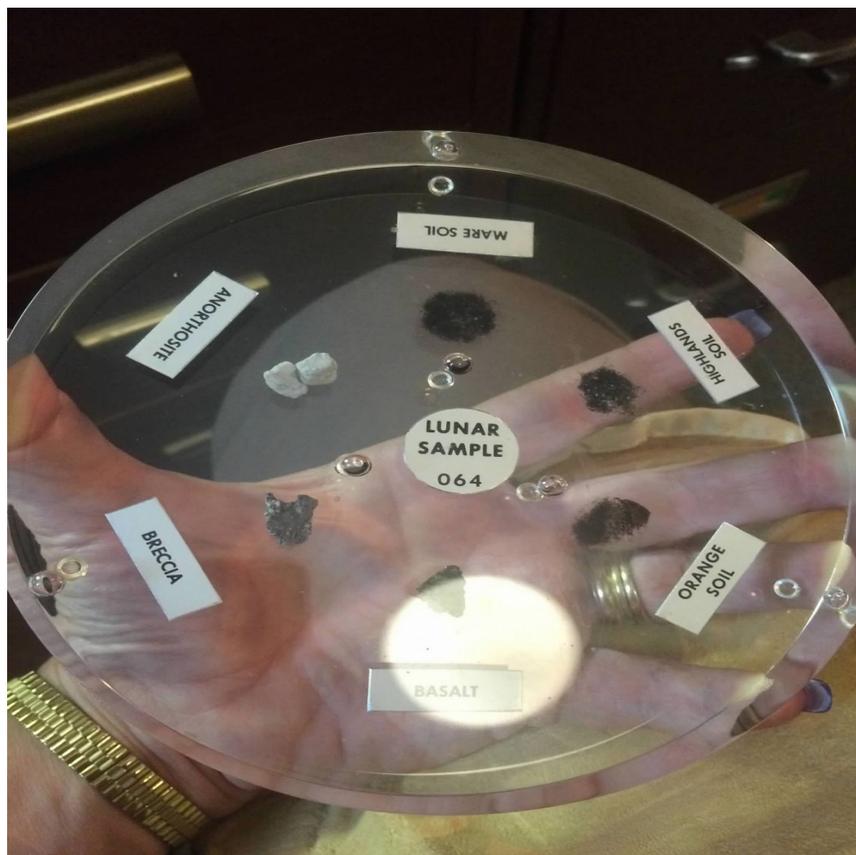
Moon Materials Exhibit at Mt. Cuba

Moon rocks and lunar soil samples will be on display at the Mt. Cuba Astronomical Observatory for several weeks.

The lunar material, brought back by the Apollo astronauts, is discussed in a program which includes a movie, slides and examination of the six samples under a microscope. The samples, encased in Lucite, are on loan from the Johnson Space Center.

Tickets may be obtained free by calling the observatory, or sending a self-addressed envelope to the Mt. Cuba Astronomical Observatory, Greenville, PO Box 3915, Wilmington, 19807.

In February 1978, the Lyndon B. Johnson Space Center began a new lending program for samples of meteorites. In June 1979, MCAO initiated a new and improved public night program involving meteorite samples and lunar sample 64. The program was a huge public success. In a 12 month period, ~2200 guests passed through the observatory doors. The original 90 day sample loans turned into 9 month loans, and then yearly loans.



In 1982, Grace Quirk became the new secretary at Mt. Cuba Observatory. Grace's job involved coordinating public programs and answering questions from the public. She was also responsible for keeping the lunar and meteorite samples secure. Security of the samples was a serious concern for NASA. The samples were required to be kept under lock and key unless they were being used. Grace made sure that the samples were kept locked in a secure filing cabinet in the Observatory Office.

Lemert Wade remained a constant supporter of the lunar and meteorite samples program until his passing in 1986. The popular program was passed to Leo Glasser, one of the three original founding members of Mt. Cuba Observatory. In 1990, John Rogers Jr, then the Observatory manager, inherited the program. Dr. Emil Volcheck took over the reins in 1994.

In 1998, the NASA Curator's Office requested the return of the meteorite sample. The meteorite samples had been on loan to NASA from an outside source, and that source was requiring their return. With great sadness, on August 26, 1998 MCAO returned the meteorite sample disk.

From 1999 to 2003, MCAO continued the occasional public night featuring the Lunar samples. In 2003, MCAO renewed its sample loan for a new 5 year term.

In 2007, Grace Quirk decided that the main office at MCAO was no longer secure enough to house the lunar samples. She had them quietly moved to the dark room, in a filing cabinet with a secure lock.

At this point, the story of the Mt. Cuba lunar samples becomes blurred by the passage of time and unfortunate illness. The Lunar samples public night program had not been held in some time, so no one person was "in charge" of the program. Through an administrative oversight and a lack of a system to track renewals of long term loans, NASA did not follow up with the loan renewal in 2008. Illness struck Grace Quirk and Emil Volcheck, and both passed away. The relocation of the lunar samples to the MCAO dark room was forgotten, lost in the mists of time.

In 2010, NASA contacted Mt. Cuba Observatory about the lunar samples. The observatory was searched multiple times, but the lunar samples were not located. A search of paperwork generated confusion between the meteorite samples and the lunar samples. Evidence indicated to Mt. Cuba Observatory that Emil Volcheck had returned the samples to NASA. This claim sparked an investigation by NASA's Inspector General. The IG found that NASA lacked sufficient controls over its loans of moon rocks and other materials, increasing the risk that these resources may be lost.

In May 2015, Kim Green, Grace Quirk's daughter, became the secretary at Mt. Cuba Observatory. Dave Groski, the Chairman of MCAO, asked Kim if she could help track down the whereabouts of the lunar samples. Kim began the arduous process of searching through 30 years of her mother's memos, notes, and daily planner entries. She quickly found a notation in 1998 about the Moon Rocks being sent back to NASA. This notation was part of the basis for MCAO's belief that the lunar samples had been returned. In reality, this was the date when the meteorite samples were returned. Sifting through daily planners from 1982-2007, Kim came across a notation that Grace had moved the lunar samples to the dark room. She immediately went upstairs to the dark room and found the locked cabinet. No one had ever looked inside the cabinet because it was locked. The lunar samples were inside! Dave Groski was able to call NASA and give them the great news. The samples were safely returned to NASA.



Above: The recovered moonrocks!