

TRAJECTORIES

Official Newsletter of the Cape Canaveral Space Force Museum

Quote of the Month:

"You can't eat potential."
Norman Borlaug

Launch Viewing



Space Launch Delta 45 (SLD-45) canceled Cape Family Day for this year and suspensions of launch viewing and the Trusted Traveler program continue. It may seem pretty bleak when it comes to sharing the extraordinary activities of the Cape, past and present, with the public. However, there is hope.

The Cape's Spaceport Integration Office (SIO) is spearheading a "Launch Viewing Experience" initiative. Their goal is to make it an official SLD-45 event held quarterly on the museum grounds at historic Launch Complex 26!

The museum grounds offer a sequestered location on the Cape at a safe distance from launch activity but close enough to provide a unique launch viewing experience. Visitors can take in historical exhibits in the Blockhouse and Exhibit Hall, along with static displays outside. There's talk of food trucks and other amenities/activities.

The Museum is working with SIO to help this vision materialize. A consortium of SLD-45 offices are also lending a hand, including Security Forces Squadron, Force Support Squadron

Civil Engineering, and more. We could see as many as 1,000 people for the inaugural event later this summer. Bleachers have been put in place near Pad 26A, thanks to SIO and some volunteers. There will be more information coming, so stay tuned!

DID YOU KNOW?



The first-stage segment from Gemini Titan 5 (GT-5) on display in Hangar C offers some impressive statistics. GT-5 launched from LC-19 on Cape Canaveral in 1965, propelling astronauts Cooper and Conrad into orbit for a record-breaking eight days in space. According to a recovery report in our reference collection, the first-stage reached a top speed of 5,931 mph, heated to 408 degrees Fahrenheit during reentry, impacted 454 miles downrange, and hit the water at 270 mph! On top of all that, the booster ascended to an apogee of 79.5 miles. That's well beyond the Karman Line, making it a true, space-flown vehicle.

Message from the Director

James W. Draper



I opened this newsletter with a quote from Norman Borlaug on potential. "Potential" has been the prominent descriptor used for our museum operation for decades. The challenge resides in harnessing and exploiting that potential to expand the museum and make it accessible to all.

I recently read an eye-opening piece from the Summer 1999 issue of The Florida Historical Quarterly – "Missiles as Artifacts: The Creation of the Air Force Space & Missile Museum" by Gordon Patterson. What a fantastic glimpse of the early development of our museum! The struggle to maximize and capitalize on the "potential" of this site has been around since its very inception.

Maj Gen Leighton Davis and Brig Gen Harry Sands were among the first to see the potential. They took immediate action to create the museum before the founding phases of our space programs disappeared.

Maj Robert White and his assistant, Arthur Hicks, laid the foundation. Seeing the potential firsthand, they collected 30 rockets and missiles in 1965 alone without any official authorization or funding. Maj White said, "We are marking the milestones of the space age for coming generations."

Through the subsequent decades, hundreds of volunteers and dedicated mission partners kept the museum going with "little money and lots of proud effort." The museum introduced millions of visitors to the rich and inspirational history of America's space and missile programs.

The article continued with all the challenges faced and ended with, "It remains an open question whether this 'Kitty Hawk' of the space age will be preserved for future generations." What a dismal conclusion. Yes, the author enumerated the abundance of challenges the museum faced over the decades, such as limited access, resources, staffing, and exposure. However, the museum has done a remarkable job of inspiring and educating millions of people, despite all of that.

How many times have you heard s/he had so much potential after the bad news dropped? So much potential is wasted all around us all the time. We sit around and lament the closing of a business that had so much potential. That's not this museum operation.

Potential is one of the greatest assets of our museum. We have the location, the story, the content, the artifacts, the historic sites, and many other resources for greatness! We enjoy support from the U.S. Space Force Historical Foundation, Museum Volunteer Association, and a wide array of mission partners to grow and go big! This second "space race", one that is international and commercial in scope, will shine a bright light upon us.

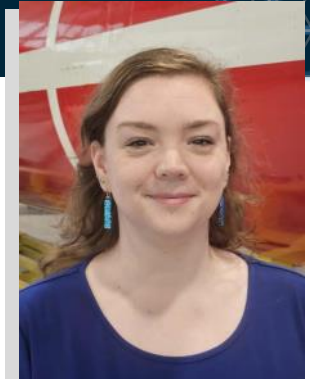
Prepare for the next stage of development for the Cape Canaveral Space Force Museum when we REALLY start to harness the potential of this site!

A handwritten signature of James W. Draper in black ink.

James W. Draper, Museum Director

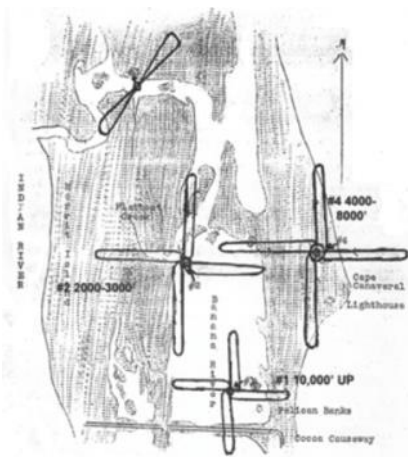
The Curator's Corner

with Sabra Gossett



Bombs Away!

While recently going through our backlog of artifacts needing to be accessed, I came across not one, but TWO WWII-era target bombs. Now why would a space museum have target bombs from World War II? Well let me tell you...



During WWII, American fighter pilots out of Banana River Naval Air Station (now Patrick SFB) used the areas around Cape Canaveral for bombing practice. Both land and water were utilized. For water targets, they used various points on the Banana River, as well as Sykes Creek. Today, circles of metal can be found in the Banana River, the remains of the bombing targets. Land targets were within the now Canaveral National Seashore, and near the Cape Canaveral Lighthouse, where Launch



Complex 16 would later be established. One night, a target bomb landed a little too close to the lighthouse, due to a student bombardier missing his mark! The Coast Guard wasn't happy, but luckily no one was hurt, including the lighthouse.



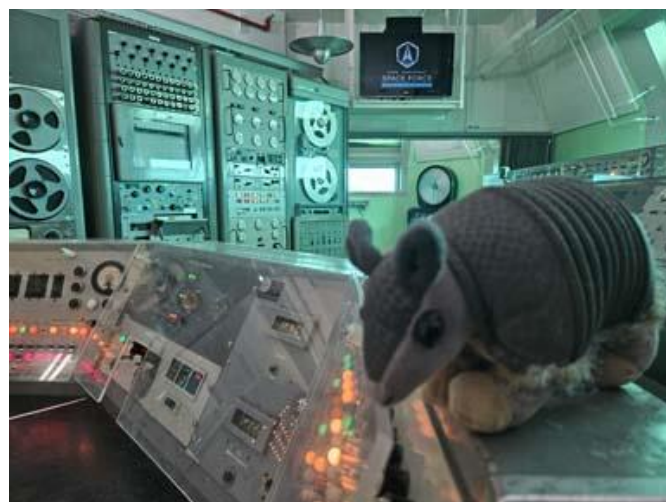
The two bombs in our possession are 3lb. AN MK-23 Low-Altitude Horizontal and Dive-Bombing Practice Bombs. One was recovered by EOD during a renovation of Launch Complex 16, buried underneath the original pad. The other was found at DRMO (Defense Reutilization Marketing Office). The MK-23 was made of cast iron and was the most common of the miniature practice bombs. It used a 10-gauge shotgun shell as a charge, which at impact came forward into the firing pin. When detonated, it made a bright flash and large puff of smoke. The MK-23 and its similar versions were mostly used against land targets, as they could not be used against armored-deck target boats. A metal band, known as a "shroud", wrapped around the tail fins was used to control the spin and direction of the bomb. Neither of our examples has this band.

And don't worry, these bombs have been checked over and are inert. But if something does happen, blame it on the armadillo.

Museum Updates and News

Firing Room Upgrades

Museum volunteer Chip Sams made some upgrades recently to Firing Room B in the LC-26 Blockhouse. Tours through the space will now enjoy a new historic launch experience. Mr. Sams updated the AV elements and programming to make the immersion more authentic. Simulations still include successful and unsuccessful Juno II launches, but now with new features like period voices from inside the Firing Room during the launch sequence. *(To the right is Rupert the Space Armadillo posing for the camera in Firing Room B.)*



Visit from the Galactic Gal

The Galactic Gal toured Museum facilities as part of an official Space Force mission to highlight the past, present, and future of America's military space operations. She's an award winning space communicator with a massive online audience. Her passion for everything space was evident when she saw the amazing in-situ history on display at our sites. *(To the left is a view of Jamie, Sabra, the Galactic Gal, and Rupert the Space Armadillo standing on Pad 26A, where America entered the Space Age in 1958.)*

Spacecraft Preparations

The second meeting of the Museum Volunteer Association was held on 3 March at the History Center. Guest speaker, Andrew Whittington of SpaceX, shared an enthralling presentation on spacecraft preparations for our museum volunteers. Those in attendance peppered him with discussions, which have resulted in many fascinating conversations since. We are so appreciative of all the great speakers for our volunteer meetings this year! *(To the right shows Mr. Whittington beginning his fantastic presentation on spacecraft preparations at the volunteer meeting.)*



Museum Updates and News



New Jupiter Exhibit

The Association of Air Force Missileers (AAFM) provided a grant to our Museum Foundation for a new Jupiter missile display. Sabra Gossett used those funds to research, design, fabricate, and install a wonderful addition to the LC-26 Blockhouse. This new exhibit introduces the story of the Jupiter IRBM—a story crucial to LC-26 and the history of America's space and missile programs. The new exhibit truly enhances the presentation in the Blockhouse. *(To the left shows is a view of the new Jupiter exhibit outside Firing Room B in the LC-26 Blockhouse.)*

Martin Caidin Documentary

Jim Lewis and his film crew paid a visit to historic Launch Complex 26 on 5 April. Their mission was to film in the Blockhouse for his upcoming documentary on Martin Caidin. Caidin was a prolific author and aerospace expert from this region. The BBC once interviewed him in one of the Firing Rooms in the LC26 Blockhouse. The Museum was thrilled to support this worthy effort to preserve the memory and spirit of Martin Caidin. *(To the right is a view of Jim Lewis and his film crew at work in Firing Room A inside the LC-26 Blockhouse.)*



Community Outreach

Jamie Draper spread the word about the Museum through several presentations to local community groups. On 18 March, he elaborated on the past, present, and future of the Museum to the Military Officers Association of America (MOAA) Cape Canaveral Chapter at the Indian River Colony Club. Then a month later, Mr. Draper presented to the Kiwanis Club of Cocoa Beach during a luncheon meeting on 17 April. Each speaking event introduces new audiences to our museum operation. *(To the left is an image of Mr. Draper giving his presentation to the MOAA Cape Canaveral Chapter.)*



Museum Updates and News

VEA Recipient

Museum volunteer Randy Coppola deserves hearty congratulations the next time you see him. He won the coveted Volunteer Excellence Award (VEA) for outstanding contributions to the Museum and for preserving the history of the Cape. Mr. Coppola serves as one of our lead docents. He shares the history of the Cape through digitized content presented on YouTube and community speaking events. The VEA is a Department of the Air Force-level honor. *(To the right shows Mr. Coppola receiving his prestigious honor during a special ceremony on Patrick Space Force Base.)*



New Outdoor Panels Installed

Our merry band of museum ninjas surreptitiously installed several new outdoor historical panels throughout the Cape. These expertly researched and crafted panels went up at LC-31, LC-32, and Hangar C. They provide information and historic photos to educate and inspire passersby. Each year more panels go up to make the entire Cape an outdoor museum without walls. *(To the left is a view of the LC-31 and 32 panels after installation. Note the "beehive" blockhouses in the background for early Minuteman testing.)*



Disaster Averted

A catastrophe was prevented at Hangar C. Sabra Gossett noticed something off while securing the facility on a late Friday afternoon. A 4" pipe from the fire suppression system burst in one of the cable ways in the floor right underneath the Thor Missile restoration. Cape Support dealt with it immediately before the facility saw any flooding. They cut off the water flow and are purchasing new pipe for replacement. Be sure to report anything out of the ordinary to Museum staff. *(To the right shows the cableway under the Thor. Water gushed underneath with only a little bit splashing out before it was shutdown.)*



Museum Updates and News

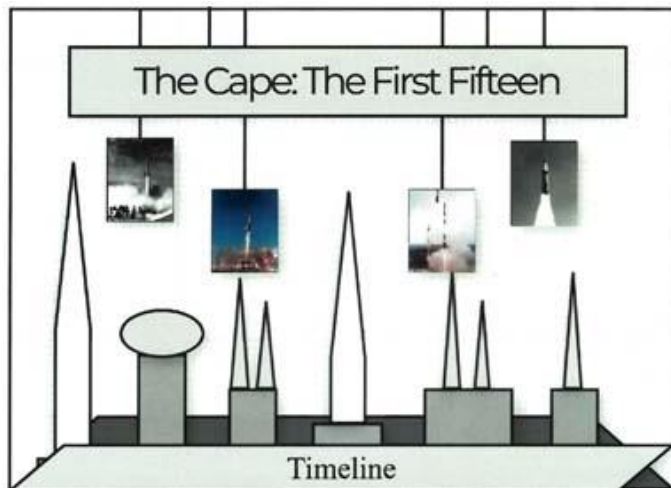


Reusable Rocket Boosters

The third CAPE Series event was held on 29 March as part of our celebration of 75 years of launch from the Cape. This one included a special presentation by Connor Timmins, Launch Site Mission Manager for SpaceX. He elaborated on reusable rocket boosters. This technology has changed the paradigm for space launch capability by offering more environmentally friendly options and reducing the cost. Mr. Timmins enjoyed a sizable audience full of questions. *(On the left is a view of our guest speaker enjoying some excellent questions from the crowd during the CAPE series event.)*

In “Stile” at the Museum

Visitors to the museum grounds will notice a new object on display near the parking lot. It was delivered recently by the Crane Shop. This aluminum piece looks like a small launch stand. It is actually a stile. This piece of equipment was used to process the payload into the fairings for Defense Support Program (DSP) satellites on Delta IV Heavy boosters. An outdoor panel will be developed for the site to add some interpretation. More details to follow. *(To the right shows the new stile on display near the parking lot at LC-26.)*



SPotFi Exhibit Development

Spaceport of the Future Initiatives (SPotFi) will bring sweeping changes to Cape Canaveral Space Force Station. It will transform the installation into a commercial spaceport. Many who currently work in the Industrial Zone will move to new admin facilities built near the museum grounds within the next couple of years. Sabra Gossett has been working with the SPotFi team on historical exhibit designs for those spaces, allowing us to share the history of the Cape with future Cape workers. *(To the left is one of many exhibit concepts in development for the SPotFi team.)*

Museum Updates and News

Lt Rupert Reporting for Duty

Rupert the Space Armadillo has embarked upon a regimen of training for space missions. He's been spending time with Jondavid DuVall, a Space Logistics Officer, or "Space Loggie". So far, Rupert has completed Space Cargo Specialist training and the National Security Space Institute's Space 100 certification. This takes him one step closer to space! He has some exciting missions ahead. Be sure to stay tuned for updates. *(To the right is a photo from a promotion ceremony held at Hangar C for Rupert. He attained the rank of 1st Lt for completing all his recent space training.)*



Rocket Propulsion Program

Our celebration of 75 years of launch from Florida's Space Coast continued with another special CAPE Series event on 25 April. Museum Volunteer and aerospace expert, Geoff Gonzalez, provided a fascinating presentation on rocket propulsion. He delved into legacy hardware, the science, application, technology, propulsion for space travel, and careers in the field. It was a fantastic dive into everything propulsion! *(To the left is a view of Mr. Gonzalez using visuals and artifacts to explain the fundamentals and more on rocket propulsion.)*



Pad 26B Improvements

Efforts to make historic Launch Pad 26B more accessible to the public continue. Over a year ago the Crane Shop helped move several gantry segments from the pad. Just recently we worked on the downed fences. Enough hardware was salvaged to enclose the remaining gantry base. Several hazards were removed. Efforts will continue to remove other debris from the site so visitors can traverse the site and appreciate the history made there. *(To the right shows salvaged fencing installed around the gantry base to keep people from climbing on the hardware.)*

Museum Updates and News



Gen Raymond Uniform

On 23 April, Retired General Jay Raymond delivered his original OCP (Operational Camouflage Pattern) uniform to Museum staff at the Sands Space History Center. Gen Raymond served as the first Guardian for the Space Force and first commander as Chief Space Officer (CSO). Several distinguished visitors attended the handoff and donation to the Museum. Plans are developing for a special display for the uniform in the History Center. *(To the left shows Gen Raymond, Jamie Draper, and Sabra Gossett posing with the uniform at the History Center.)*

Peru Space Agency Visit

The Sands Space History Center hosted a visit by the top leaders from the Peruvian Space Agency. Several university and industry leaders met with them to highlight cooperation between our two nations in space efforts. The event was part of a larger series of events in the region, where the Peruvian delegation gathered information and support toward their nascent space program. The History Center helped provide them with 75 years of American historical efforts in space. *(To the right is a view of Robert Katz from the World Innovation Network making introductions to the delegation from Peru.)*



AFHRA Oral History

The Air Force Historical Research Agency (AFHRA) interviewed Jamie Draper as part of a “USSF First Curators” oral history project. This is part of an overall effort to document the transition from USAF to USSF heritage programs during the standup of Space Force. The Q&A allowed Mr. Draper to elaborate on his experiences and that of the museum’s during the transition. The video and transcript will be preserved in AFHRA’s holdings for future researchers and scholars. *(To the left is an image of Mr. Draper during his interview, which was conducted remotely from Hangar C.)*



Our Museum Family



CAPE CANAVERAL
SPACE FORCE
MUSEUM

Museum Staff:

James Draper, Museum Director
Sabra Gossett, Museum Curator

Museum Volunteer Association:

Randy Wehrung, Chairperson
Bill Jelen, Secretary



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HISTORICAL FOUNDATION

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Raymond Sands, Chairman
Steven Lepper, Major General, USAF (ret.)
Vice Chairman
Rob Quigg, Treasurer
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