Hands Across History

A joint newsletter for the White Sands Historical Foundation and the White Sands Pioneer Group.

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Visitors Welcome Again

It has been a long time coming, but the White Sands Missile Range Museum is now open for business with its new exhibit hall and state-of-the-art displays. A grand reopening ceremony was held on May 4, 2023 at 9 a.m. and was attended by missile range personnel and community supporters.

Museum Director Darren Court said, "With the work, dedication, and involvement of hundreds of people over the last almost thirty years, we are finally able to open a world-class, modern museum showcasing the wonderfully diverse history of the Tularosa Basin, the Army's role in New Mexico, and the incredible technological and military achievements made during the Cold War period here at WSMR." WSMR Historical Foundation members over the same period can be proud that their support and financial contributions of over one million dollars were pivotal in creating the space to house the museum. Such strong support helped convince the Army's Center for Military History to invest several million dollars in keeping the museum open and equipped with new displays.

The museum is open Monday - Saturday, 9 a.m. to 4 p.m. and closed Sundays and holidays.

The ribbon is cut at the entrance to the WSMR Museum marking its reopening to the public. Doing the honors are, from left to right: Col. Bryan Hunt, Director of Army Museums, US Army Center of Military History; Col. David Mitchell, WSMR Garrison Commander; Darren Court, Director of the Museum; Frances Williams, President of the WSMR Historical Foundation. Photo by Jim Eckles

See more photos from the event on pages 4 & 5. ☞

Memories Of Maj. Gen. Waldo E. Laidlaw, 1956-1960

Editor's Note: The following is an extract from a memoir dictated by MG Laidlaw from his time as commander of WSMR.

I remember Col. Les Skinner of the Ordnance Department who one time received about $300 for his experiments with rockets at Aberdeen Proving Grounds. That was the total authorization for the missile business for the U.S. Army in the 1930s.

With the advent of Sputnik, everybody in the country wanted to see a missile fired. And the only place they were firing them was at White Sands. So everybody came to White Sands to see them. At that time missiles were very unreliable. The oldest anti aircraft missile, the Nike Ajax (later there was the Nike Hercules) had been fired by the time I got to White Sands reasonably successfully, but not reliably.

We were working on several different types of missiles. The Navy had the Talos missile which was to be launched from the deck of a cruiser. The Army had the Lacrosse missile, the Honest John, a reasonably reliable missile, the Corporal missile which had been around for a long time and was fairly reliable, and the Dart, an anti-tank missile and others. At one time, a Corporal missile fell near the Talos missile launching site where Lois (daughter) was working. We also launched a Corporal that went over the mountains on the side of the range, but it apparently did no damage. Numerous missiles failed to meet their objectives, but practically no damage resulted. We also tested the first anti-missile missile, the Nike Zeus.

The Zeus' testing was started while I was in command at White Sands and was so important that it seemed that everybody wanted to hear the results of the first firing. The Secretary of the Army, Wilbur Brucker, had a direct telephone connection from Washington to me to learn the results. Fortunately, the firing was satisfactory.

The Air Force had a Matador missile which went astray. There were two destruct systems on the missile, but unfortunately, both of them ended up going through the same switch which malfunctioned and we couldn't bring the missile down. We got all sorts of reports as to where it landed, even from a woman in Michigan who said it landed near her. Actually, the missile went up east of Albuquerque and fortunately landed in the desert and did no harm.

We had one very scary thing that happened to us. We fired a Nike Hercules at a B-17 which was radio controlled. We just winged the airplane and lost control of it, and it kept circling overhead. We sent up a couple of fighters, but they couldn't bring it down either. Every time that airplane circled over the housing area with its load of gas I shuddered. It circled for sometime, then much to our relief it crashed out in the desert and did no harm. The burst of flame that rose when it landed gave us an idea of what could have happened.

We had an excellent safety man by the name of Nat Wagner in whom I had every confidence. He could destroy missiles from the control center if they had self destruct equipment. He couldn't make them go anywhere, but he could blow them up at the right time when they went astray.

Statement of Purpose and Membership

The "Hands Across History" newsletter is published by the White Sands Missile Range Historical Foundation and the White Sands Pioneer Group (WSPG). Both nonprofit organizations aim to preserve the accomplishments of White Sands Missile Range.

The newsletter is intended to keep members of both groups informed about current events and share information of common interest. The editor is Jim Eckles. He can be contacted by email at nebraska1950@comcast.net or at either address below.

Membership to either organization is open to anyone who shares their goals.

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Bill Godby Wins Army Environmental Award

U.S. Army Release

White Sands Missile Range is a rather complex facility in terms of both archaeological sites and historic structures. Bill Godby has just been recognized as a champion of historic preservation in that envrionment. Godby, an archaeologist with the Environmental Division at WSMR, was selected as the recipient of the 2023 ***Secretary of the Army Environmental Award*** for his achievements in cultural resource management.

"It is an honor and a privilege to have the opportunity the leadership and the contract support team to preserve, interpret and manage the incredible history at WSMR. The historic landscape here is truly world class and includes the prehistoric archaeology, the ranches and mines and the Cold War era resources. There's never been a day of coming to work that I didn't feel blessed to have this job," said Godby.

He has led efforts to preserve and manage two National Historic Landmarks: The Trinity Site, location of the first atomic explosion; and the V-2 Launch Complex, site of the first generation of rockets tested in the United States.

In commenting on Bill's achievements, Brian Knight, Environmental Division Chief, stated "Bill has proven to be one of the finest cultural resource managers in the Army with his innovative approaches to how we manage historic resources and his support of our critical test/evaluation mission. Bill has done an outstanding job to preserve the unique history of WSMR and tell our story and its importance to our nation."

While WSMR has an important role in history, the installation today continues to have an exceptionally large and complex environment, consisting of thousands of structures, many historic, that support the most instrumented test range in the world. Godby has been lauded for leading efforts to get funding and support to facilitate public interpretation and education through restoration and adaptive reuse of the historic facilities.

In 2020, Godby spearheaded the creation of the WSMR Cold War Tour, utilizing significant historic facilities to share the stories and history of this critical period in our nation's history. Godby's tour was created to support internal outreach, STEM programs and VIP visits. Godby has also partnered with the WSMR Museum in supporting museum outreach education.

Bill Godby examines the T-4 telescope on Mule Peak during a scouting trip. Later he had the instrument moved, refurbished and installed in the WSMR Museum's Missile Park. Bill served on the WSMR Historical Foundation board for awhile. Photo by Jim Eckles.

Part of Godby's role is to support and facilitate the necessary modernization at WSMR, while simultaneously meeting requirements of the National Historic Preservation Act. Godby has secured funding and contracting for National Register of Historic Places evaluations of launch complexes and facilities that have included 384 historic properties. Ongoing NRHP efforts also resulted in the WSMR Cultural Resource Program being awarded the Heritage Organization award in 2018 by the State of New Mexico's Cultural Properties Review Committee for exceptional Cold War historic context development.

Godby has been proactive in utilizing funding to maintain and repair historic structures supporting WSMR missions. In 2020 he led an effort to resolve a long-standing water penetration issue with the historic 1945 Navy Blockhouse, one of the oldest structures of its kind. He helped identify a specialized contractor who was able to complete

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Photos From The Grand Reopening .....by Jim Eckles

Some of the crowd on hand for the ceremony.

A WSMR soldier examines the display on the Apache that inhabited the Tularosa Basin when Europeans arrived. Behind the Apache warrior is a mannequin dressed in a Buffalo Soldier's uniform like that worn at the Hembrillo Battlefield in April 1880.

Museum Director Darren Court takes a moment after the ribbon cutting before opening the doors.

Dennis Daily, Department Head of NMSU's Archives and Special Collections, works his way through the museum.

Yolanda Hingel sings the national anthem.

It was standing room only for late-comers.

More Photos.....

Old timer Ron Hayslett poses beside the Vega Target Control System console. The system could automatically fly targets or allow pilots to take over control and fly the drones. Ron came to WSMR in 1966 as a mechanical engineer in the Instrumentation Directorate. During his career he served as director of both the Directed Energy Directorate and the Instrumentation Dir. In the middle of this he won "The Great American Race" three times in his vintage cars - twice in a 1933 Packard Coupe.

WSMR Historical Foundation vice president Karrie Porter Brace chats with Col. Bryan Hunt.

Since no food or drink is allowed in the museum, snacks were served on the patio.

Darren Court thanks Rick Jackson for his years of support. Rick retired from the Army as the WSMR command sergeant major in 1998. In 2017 he was appointed a civilian aide to the Secretary of the Army.

Las Cruces Bulletin reporter Elva Osterreich questions Darren Court about the museum.

Col. Bryan Hunt, Center for Military History, talks with Bill Godby, a WSMR archaeologist. Bill was selected as the recipient of the 2023 Secretary of the Army Environmental Award for his achievements in cultural resource management. See page 3 for more on Bill.

The Lowly Weather Rocket Has Been WSMR's Workhorse

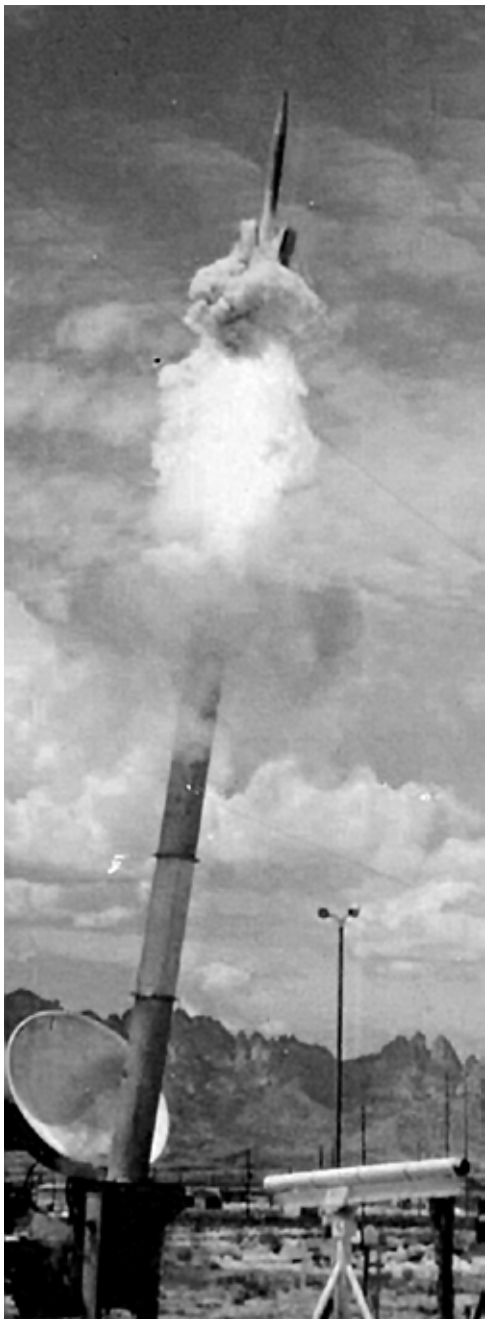
By Bruce Kennedy

At WSMR there were more meteorological rockets launched than any other rockets or missiles. Did I take an actual count? No, but during the 1960's and 70's the Army Atmospheric Sciences Laboratory (ASL) fired three rockets a week, year round, as part of a national effort to study the upper atmosphere. Other government agencies, including the Air Force, Navy, NASA, and the National Weather Service (NWS) combined resources to measure stratospheric temperature and winds between 100,000 and 200,000+ feet altitude. When combined with meteorological balloon data, which measure atmospheric parameters between the surface and 100,000 feet, a complete data profile was produced.

All data from national and international soundings were sent to the World Data Center A for Meteorology which was run by the NWS.

EDITOR'S NOTE: The World Data Center (WDC) system was created to archive and distribute data collected from the observational programs of the 1957–1958 International Geophysical Year by the International Council of Science. The program continued decade after decade, collecting information. Data Center "A" is the United States while Date Center "B" is Russia. Other centers have the letter "C."

The ARCAS rocket, manufactured by the Atlantic Research Corporation, was the early workhouse for data collection. It was just under 5 inches in diameter and about 8 feet in length. It was launched from a tube usually at an elevation angle of 85 degrees. It burned for 30 seconds and carried a temperature sensing payload to an altitude of about 210,000 feet where an explosive charge ejected the payload and parachute.



A tube launched ARCAS rocket. Bruce Kennedy photo.

The radar-reflective parachute was tracked by radars, and the differential position versus time was used to derive wind speed and direction as a function of altitude. The payload transmitted temperature data to ground-based AN/GMD-1 trackers and TMQ-5 strip chart recorders. Eventually the ARCAS and its payload were replaced by the SUPER LOKI Datasonde, a much smaller and less expensive system manufactured by the Space Data Corporation.

The ARCAS was also used to carry small scientific payloads for various types of research. For example, one of ASL's scientists conducted studies of stratospheric ozone. Several other scientists came to White Sands to use the rather inexpensive rocket to conduct stratospheric research. A professor from Penn State measured electron density in the lower ionosphere, and another professor from Penn State wanted to collect quarks.

What is a quark? Some kind of elusive never before seen sub-atomic particle that the professor opined he could find in the upper reaches of the atmosphere. In order to collect a quark he designed a unique payload featuring a sampling chamber that used cryogenic pumping to increase the quantity of air collected.

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Finding Quarks —— CONTINUED FROM PAGE 6

The cryogen used was liquid neon at a temperature of about minus 410 degrees Fahrenheit. After the payload was ejected from the rocket and the parachute opened, the valve to the chamber opened, and the air rushed in. The extremely low temperature liquefied the air and prolonged the pumping process. After a few seconds, the valve closed, hopefully capturing enough sample to grab a quark or two.

Next, the payload had to be recovered so that the sample could be analyzed. The 15-foot diameter parachute drifted with the wind for about two hours and wound up off range somewhere in the southern foothills of the Sacramento Mountains. The air and ground recovery team scoured the area and failed to find the payload. It wasn't until many months later that the payload was spotted and picked up. By that time the sample was long gone. No quarks.

There is a fundamental rule that must be followed in ballistic rocketry: The center of gravity must be forward of the center of pressure. When the opposite is true, the unguided rocket becomes unstable and can go in any direction. One of ASL's scientists wanted to fly a very light payload in order to attain a higher apogee. Unfortunately, the stability margin was reduced to nearly zero, and when the ARCAS was launched the rocket headed south instead of north. From the Small Missile Range it crossed over south range and impacted on Fort Bliss Doña Ana Rrange about 20 miles to the south of the main base.

The ARCAS could be fitted with a booster rocket to put heavier and larger payloads to a higher altitude. The rocket motors most commonly used were the HVAR and Sidewinder to which an adapter was attached that cradled the aft end of the ARCAS. The assembled booster and ARCAS were launched from a rail instead of a tube.

The firing line was rigged so that the booster would light first, then the ARCAS. Both ignitions occurred while the rockets were still on the launch rail. The booster burn lasted only a few seconds, and then the ARCAS would separate. While most launches were successful, I remember one spectacular failure.

Two German scientists came to WSMR to put their payload on a boosted ARCAS. Immediately after launch the rocket became unstable and pitched radically until it built up enough speed to gain stability. Unfortunately, the ARCAS was pointed downward when that occurred, and the rocket impacted a few miles north of the Small Missile Range under full power. The ensuing brush fire was quickly extinguished.

EDITOR'S NOTE: In our next issue we'll continue Bruce's MET rocket history with the Super Loki rocket.

Fixing McDonald Ranch House —— CONTINUED FROM PAGE 3

the necessary work to allow it to return to supporting mission activities for the U.S. Navy.

Applying the same dedication to historic preservation, and reuse, Godby helped lead efforts to restore the Schmidt/McDonald Ranch house at the Trinity site. The 1913 ranch house is where the plutonium core of the world's first atomic bom was assembled and transported to Ground Zero. Godby coordinated an exceptional and complex long-term repair for rehabilitation and preventing the collapse of portion of the structure.

More than 8,300 archaeological sites are contained within WSMR's 3,200 square mile boundary. In his role as archaeologist, Godby, working with the University of New Mexico's Office of Contract Archaeology, coordinated and secured funding for a noteworthy study of prehistoric pottery found at the installation, just one of several scientifically significant contributions he has executed with environmental funding.

This study helped to identify subtypes of El Paso Polychrome pottery. This is an important step in helping to more accurately identify when sites on WSMR were occupied. This level of precision will help archaeologists narrow down whether sites were continuously occupied or periodically reoccupied, using relative dating along with absolute dates.

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The Back Page -- Just A Reminder

This is where the new museum exhibit hall stands today and what it looked like in January 2019 for the ground breaking ceremony. Most of these people have moved on but some of us were at the May 4 reopening ceremony. It has been a TEAM effort. These folks are, from the left: Command Sergeant Major William Wofford, WSMR Commander Brig. Gen. Gregory Brady, Test Center Commander Colonel David Cheney, Garrison Commander Colonel Christopher Ward, Garrison Command Sergeant Major Robert Parker, WSMR Historical Foundation president Frances Williams, WSMR Historical Foundation treasurer Jon Gibson, Field Representative for Senator Martin Heinrich Ms. Dara Parker, Field Representative for Senator Tom Udall Mr. Rene Romo and head of the WSMR Directorate of Public Works Jose Gallegos. Photo by Jim Eckles