



# The Catalyst

A Newsletter for the White Sands Missile Range Historical Foundation

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## Forgotten Bunker Still Standing In Tech Area

On White Sands Missile Range there is an obscure little concrete building in the middle of the main post that was an important part of the V-2 rocket program. The abandoned structure was once the blockhouse for the V-2 propulsion unit calibration stand and was used in the late 1940s.

At the close of World War II, captured German V-2 rocket components and associated equipment were shipped to White Sands during August 1945.

General Electric was awarded a contract to assemble and launch the German V-2s. With German assistance, GE fired the first V-2 at White Sands in a static test of the propulsion system on March 15, 1946. The first flight was accomplished on April 16, 1946.

Through 1951, GE launched 67 V-2 rockets. Most of them carried scientific payloads to the edges of outer space.

Early in the program, GE engineers realized the V-2s were unreliable. They were never sure how high an individual rocket would go because the propulsion system varied from unit to unit.

To fix this, a facility to calibrate each rocket's propulsion system was built in 1947.

The V-2 was propelled by burning alcohol using pure oxygen in the rocket motor. To maintain

thrust, the two liquids or propellants were pumped into the combustion chamber with turbo pumps. The turbo pumps were powered by steam generated in the chemical reaction of hydrogen peroxide and sodium permanganate.

In this process any number of problems could occur to reduce the amount of one or both propellants reaching the combustion chamber.

GE built a test stand in which they could mount a rocket motor along with the turbo pumps and steam generating system. During a test they would run this whole pressurization system and measure its performance.

For safety reasons, they pumped water instead of propellants.

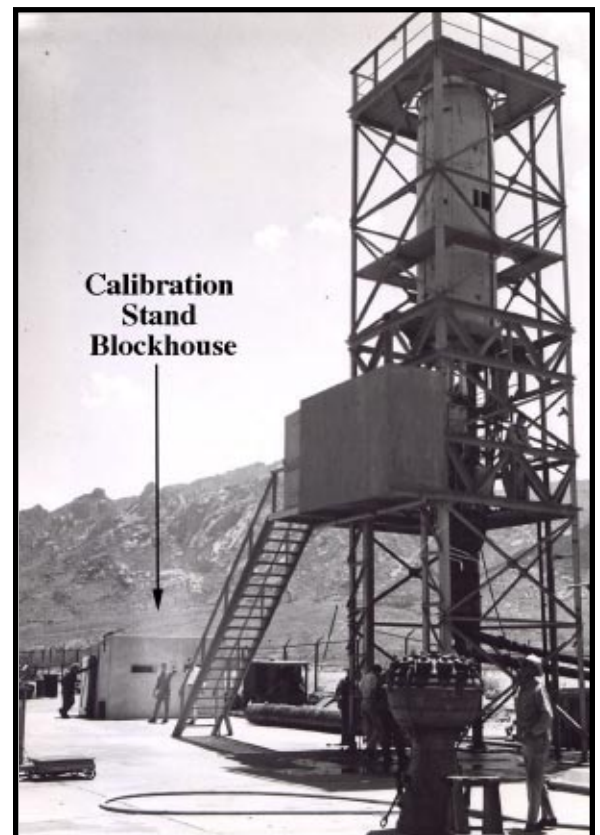
Because of the pressurized steam, a small blockhouse was built to protect men and equipment in case of an accident. The wall facing the test stand is 12 inches thick and is fitted with two small bulletproof windows.

The use of the stand by GE engineers led to more consistent results because they could make adjustments to a propulsion system before it flew.

Also, they were able to tweak the systems to make them operate more efficiently. They found they could add up to 700 pounds of payload and still attain the same altitudes.

The test stand was removed decades ago but the small blockhouse is still in place.

The White Sands Directorate of Environment and Safety has published a small pamphlet about the calibration facility that is available from the White Sands Museum.



# Ball Family Is First Honored Patron

The family of Major General Duard D. Ball is the first Honored Patron of the White Sands Missile Range Hall of Fame with their donation to the Historical Foundation's Museum Building Fund. Because of Maj. Gen. Ball's association with the hall of fame, recognition of their donation is mounted at the hall's entrance.

Ball founded the White Sands Hall of Fame in 1980 with the help of White Sands Pioneer Group

founder Austin Vick.

Ball wanted a way to honor those who have made outstanding contributions to the missile range's mission. During the first hall of fame induction, presided over by Ball as the range commander, six people were inducted, including Wernher von Braun and Clyde Tombaugh.

Subsequently, both Ball and Vick have been inducted into the hall of fame.

Others are encouraged to follow the Ball family lead with donations to the Museum Building Fund. Donors of \$2,500 or more are permanently recognized on a plaque which is mounted in an area of the facility that houses the Hall of Fame. Donors are also recognized by the White Sands Command at a recognition ceremony, on the Foundation's Web Site, and in the Foundation's newsletter.

# Engel Family Leaves A Lasting Mark On WSMR

Brig. Gen. Bill Engel has retired from White Sands and he and his wife Linda have left a gaping hole in the missile range community.

Always a supporter of the museum, Engel left his mark on it when he left. Typically when a commander retires, he receives many gifts at luncheons and special functions. Engel created a new tradition at White Sands when he asked that, instead of gifts, people make donations to the White Sands

Historical Foundation in his family's name.

The idea quickly caught on. For instance, at the postwide retirement luncheon, directors and office chiefs came forward to praise Bill and Linda and to donate the funds their employees had contributed. At the end of the affair there was a box full of envelopes for the foundation board to open.

In the end, a total of \$3,019 was donated to the historical

foundation in the Engel's name.

This isn't the end of it either. Longtime range and contractor employee Jim Scott is retiring as this newsletter goes to press and his company is sponsoring a similar collection to make a donation to the foundation for the museum.

Thank you Bill Engel.

## Terrie Cornell Donates In Memory Of Yvonne Henning

Terrie Cornell, the White Sands Museum Registrar, donated \$25 to the Foundation Building Fund in honor of the late Yvonne Henning. Yvonne was a highly respected and well liked employee of the White Sands Museum Gift Shop.

Cornell and the Foundation encourage others to make similar donations in Yvonne's honor.

Donations totaling \$150 or more will permanently recognize Henning on the Foundation Memorial Board in the Museum facility.

### *In Memoriam*

MG Alan A. Nord  
Harris & Hollingworth Family  
William "Bill" Lieberman  
Sumiko Piland  
MG Thomas J.P. Jones  
Edward Southworth  
Mary Bochmann

# Ranch Tours Being Conducted At WSMR

A small group of visitors got a peek into New Mexico's agricultural past recently during a tour of ranches on White Sands. The tour, sponsored by the missile range and the New Mexico Farm and Ranch Heritage Museum, was conducted to offer the public an opportunity to see what ranch life was like in southern New Mexico during the early to middle part of the 20th century.

Attendees gathered in Las Cruces and then caravanned to the Small Missile Range gate. Public Affairs then escorted the group

uprange.

The tour included stops at the Jose Lucero, Potter, Rhodes, Miller, Hardin and Wood ranches. At each stop Toni Laumbach and Bob Hart from the Farm and Ranch Museum lectured about ranching in general and about each of the



The Miller ranch house was part of the tour. The Millers used the wood from a portable dance floor to add a room to the house.



Bob Hart, left, talks to tour visitors at the Potter Ranch in Rhodes Canyon. In addition to herding angora goats, the Potters ran a gas station in front of their house along the old state highway.

families who operated the ranches. Laumbach is the museum's chief curator and Hart is the curator of interpretation.

Jim Eckles, from the range Public Affairs Office, supplemented their talks with stories about ranch life he has collected from his years of escorting families back to their ranches.

The ranches varied greatly. Some were angora goat operations while others grazed cattle. Some of the homes were made of adobe while others were constructed of stone or simple wood frames.

A ranch tour was the idea of the White

Sands Cultural Resource Advisory Board with tours to be conducted twice a year. The board was put together by the Directorate for Environment and Safety to work on historic preservation issues for the missile range and is chaired by Mike Mallouf, range archaeologist.

Toni Laumbach is a member of the advisory board and has been working with Jim Eckles in Public Affairs to make the joint venture work. The Farm and Ranch Museum takes care of advertising the tours and signing people up for the trips.

The next tour is tentatively scheduled for this fall.

## WSMR To Host Museums

The Mesilla Valley Museum Consortium will host the annual conference of the New Mexico Association of Museums Sept. 17-19. Ron Burkett, White Sands Museum Curator, is president of the Mesilla Valley group.

Burkett says the conference attendees will get a chance to visit the missile range museum and tour White Sands facilities.

***White Sands Missile Range***  
**Historical Foundation**

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## **The Back Page**

**Human Systems Research (HSR) archaeologist Karl Laumbach stands in the excavation of an agave roasting pit at the mouth of WSMR's Hembrillo Canyon. Karl led the team that dug out the core of the mound of broken rock to extract charcoal and bone fragments for carbon dating. The Apache and possibly people before the Apache used the mound of rocks to roast agave (century plant) hearts to make a foodstuff. They made a pit in the rocks, lit a fire to heat the rocks and then covered the agave with the hot rocks. The work was paid for by WSMR's Directorate for Environment and Safety.**

