



Hands Across History



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

Volume III, Letter II

May 2007

The Foundation Receives Two Donations

The White Sands Historical Foundation received two generous donations recently. The first was a \$10,000 check from the Raytheon Company that was presented on April 10 during a special ceremony marking their 50-year association with White Sands Missile Range.

Pete Franklin, Raytheon's vice president for Integrated Air and Missile Defense, presented the check to Jon Gibson, Foundation Treasurer during the ceremony.

Also, during the ceremony, Jon assisted Dave Hawkins, Raytheon's local rep, in unveiling the Raytheon brick that will anchor the expansion of the Museum's Signature Plaza. The plaza already has hundreds of bricks in place and needs additional room for growth. The addition will extend out into Missile Park along the walkway.

In addition to the check and brick, Raytheon created a custom made photo-display for the museum that pictures 50 years of the company's activity at White Sands. It is now in place in the Museum's main hall.

Raytheon has tested such systems as HAWK, THAAD, Patriot, Stinger and CLAWS at White Sands.

On May 9, Jon Gibson accepted a \$100 check from Linda Silvernail, President of the White Sands Club. The club is the overall organization that replaced more traditional military clubs such as the Officer's Wives Club and the NCO Wive's Club.

The club supports a variety of activities on the range and is open to any one with an interest in White Sands.



Foundation Treasurer Jon Gibson and Dave Hawkins, Director of Raytheon's Mission Capability at White Sands, pose beside the new custom Raytheon brick to be placed in the Museum Signature Plaza. Raytheon also presented the Foundation with a check for \$10,000 to assist in building a new Museum building.



Foundation Treasurer Jon Gibson accepts a check for \$100 from White Sands Club President Linda Silvernail.

Viking Lander Returns To WSMR Museum

By Terrie Cornell, Director
White Sands Missile Range Museum

We are pleased to announce that Darren Court is the new museum registrar. Raised in Canyon, Texas, Darren served in the Army from 1987 to 1994 and was stationed at WSMR from 1991 to 1994 with Support Troops Battalion.

After the Army, he went back to school for his undergraduate and masters degrees in history at NMSU. He remained at NMSU working in the Graduate School until he was selected to be the WSMR Museum Registrar in May 2007. He said he had been trying to get back to WSMR for many years and is delighted to be at the museum. And we are thrilled to have him aboard!

In April, a Viking lander tested at White Sands Missile

Range in the 1970s came back to the Range. Texas Aviation Historical Society which runs the English Field Air and Space Museum in Amarillo, TX, had to find homes for its artifacts, many of which had come from the missile range originally.

Our Museum now has a Redhead-Roadrunner drone, an AIM-7 Sparrow and an assortment of smaller missiles fired here, as well as the lander. Most of them will be in Missile Park eventually, for the public to enjoy once again.

Please keep your museum in mind when you clean out your attic. Don't toss your WSMR mementoes. Please bring or ship them to the WSMR Museum, P.O. Box 400, WSMR, NM 88002-0400. Give us the right of first refusal so we can save and protect the history of White Sands.



The WSMR Hall of Fame has a new look. Jim Eckles, Public Affairs, measures to hang the next photo in the refurbished hallway. According to Eckles the displays were remade to make room for future inductions and provide a nice consistent presentation. The next induction date is unknown as the selection committee won't meet until June.

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 edi-

tor 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. However, details of membership (dues, etc.) differ between the two groups. For more information, please contact the appropriate organization and we will send it via the Post Office or email.

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Getting To The Top Of The World

By Jim Andress

It was 1958 and that time of year when the range was open to hunters. To constantly keep track of all the hunters as well as provide for their safety, the Military Police needed reliable radio communications to areas of the range not normally covered.

In order to provide this coverage, a special radio repeater location was required and the only place that would provide the required coverage was a remote unused mountain top northwest of the Rhodes Canyon station called Salinas Peak. The mountain is the highest on White Sands and is just a few feet short of 9,000 feet.

One of the unwritten rules in the radio communications business states that the better the location is for a radio transmitter, the worse it is logistically. Salinas Peak fit this rule very nicely.

The job to provide radio facilities for the range was assigned to the Radio Installation Section of what was then called the White Sands Signal Agency. That section, where I was then employed, was under the direction of the late Ashley Griswold. He had several crews made up of RCA Service Company contractor employees, military personnel and civil servants.

Some names that come to mind are: Paul Arzada, Ralph Raymond, Harmon Bergman, now retired and living in Las Cruces, Jody Hudson and the late Harry Lapin - all were civil service. In the military there were two sergeants named Ruskin and LaBrie. Some of the RCA personnel were Bob Hall, Wilbur Hughes, Bill Ellis, Larry Sokoloski, Herb Brackett and Al Martel.

The technical radio part of the job was simple. We simply used a repeater unit and an antenna that could 'see' the many hidden canyons and other open areas where hunters would likely be roaming.

Griswold had obtained a Jamesway hut in which to house the radio. The Jamesway was essentially a tent, but had a floor, ribbing to keep it fully erect and filled out, as well as being able to be tied down to avoid being blown away.

I was assigned to the 'mountain crew,' along with Harry Lapin and three others who I don't remember. Being late in the year the weather was decent, so the job was not hindered in that respect. However, at that time, the only access to the top of Salinas was by foot or helicopter.

Helicopters could reach the top but the USAF/Army Aviation pilots were less than enthusiastic about working the mountain due to winds and the thin air. Also, the available 1958 vintage choppers could not haul heavy loads to 9,000 feet.

A similar task had been undertaken two years prior, so the bush had been cleared and a trail of sorts had been established.

That left us with one solution - drive it up the mountain

even though there was no road.

A base camp was established at an old abandoned mining shack in the general area of where the present Salinas crew shelter is located.

The base camp could only be reached in a rather round about way. After getting to the Rhodes Canyon Range Camp, you followed what was old N.M. Highway 52, heading west. You went through Rhodes Canyon itself to a junction a mile or so east of Rhodes Grave (next the Miller ranch headquarters), then north on an old trail-road past the Hardin ranch house and on several miles past the Wood headquarters to a rather obscure location west of Salinas and about 35 miles south of Stallion.

Then by going in a easterly direction, somewhat cross country on what was left of an old mining road you came to Grapevine Canyon which led up toward the western face of Salinas. By following a steadily climbing rocky and sandy dry steam bed or arroyo you finally came to the base camp which was as far as our truck could go. The peak itself was still some miles ahead and up, mostly up.

We had one 2 and 1/2 ton truck to haul the Jamesway, a couple of small tower sections and a small generator up to the base camp. Also we had a couple of 1957 Chevy 1/2 ton pickups. Looking back, those Chevys were very reliable as well as being remarkably sure-footed and stable considering the terrain involved. On the several trips I made, often alone and at night, the reliability was much appreciated especially since it was about a three-hour drive just from Rhodes to the base camp.

In order to have maximum daylight on the mountain, we spent each night at the base camp. Since I didn't care to be anywhere near the potential snakes and other critters that might be in or under the old mine shack, I chose to put my sleeping bag in the rear of one of the pickup trucks. The other 'brave' souls slept in the mine shack.

My trip up the mountain was started early in the morning. Our prime mover was the bulldozer - a D-8 Caterpillar. This was a big dozer but was needed for its stabilizing weight as well as the power to climb the steep terrain that was almost 45 degrees at times.

There were only two people anywhere on the White Sands complex who would drive the bulldozer for this job. I don't remember their names but one was a sergeant who worked for Recovery and the other was a former rancher who worked for Post Engineers at Oscura Range Camp.

The trailer for the dozer to haul all the gear was an old generator trailer, one of those low tandem wheeled units. Due to its low center of gravity, it would not tip over as readily then traversing the steep inclines sideways.

The actual trip up the mountain was in some respects not very exciting. It was slow and dusty as the bulldozer slipped, spun and labored up the rocky trail, pushing rocks

see SALINAS PEAK TRIP, page 6

Way Back When

Nike Zeus Complexity May Have Killed It

By Doyle Piland

From the WSMR Museum Archives

This is the third and final part of three articles about Launch Complex 38 (LC-38) formerly called Army Launch Area Five (ALA-5), detailing the way it was Way Back When.....

In the first two articles, we have looked at the various parts of the Nike Zeus system infrastructure built for the largest system ever tested at White Sands Missile Range. For those with experience associated with smaller systems, the size and complexity of the Zeus System is mind boggling. As it turns out, that may have been one of the reasons the Nike Zeus system research was terminated. Advances in technology also played a major role in the decision.

So, in January 1963, the effort to develop an Anti-Intercontinental Ballistic Missile system was re-designated from Nike Zeus to Nike X. The Nike X system consisted of a Multifunction Array Radar (MAR) discussed in the Way Back When article in the March 2006 *Hands Across History*, an improved, stretch version of the long range interceptor called Spartan, and a new, very fast reacting, short range interceptor called Sprint as discussed in the August 2006

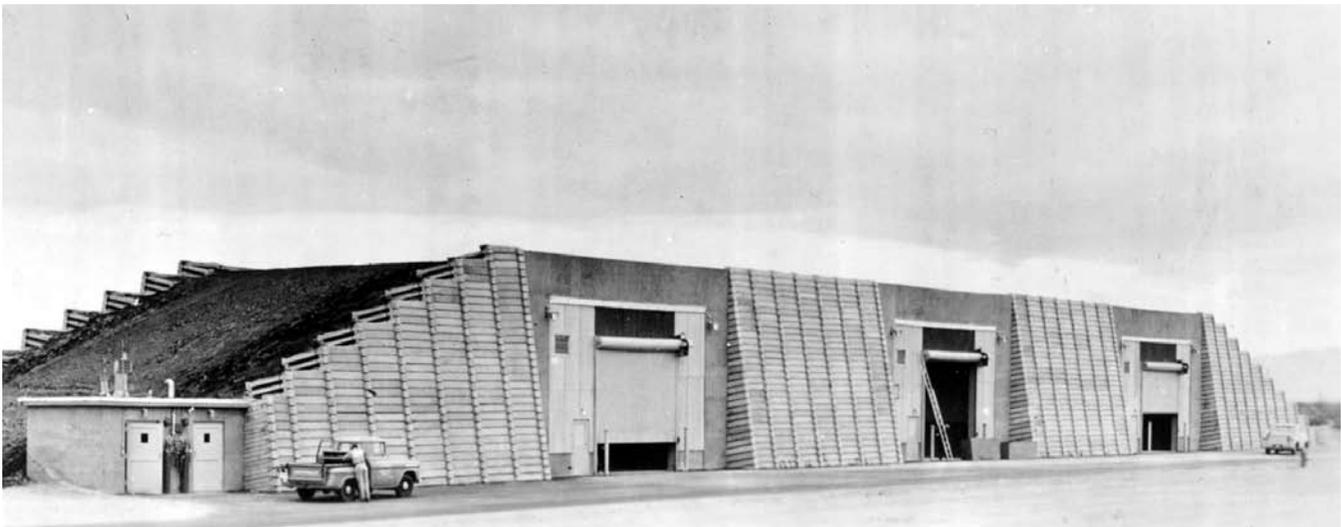
has its own story and will be addressed individually.

The first thing you come to when arriving at LC-38 is the Missile Assembly Building (MAB) 16. After Zeus, the office portion on the north side of the building was used by the Nike Engineering Service Test Organization (Nike ESTO), which changed to the Sentinel System Evaluation Agency (SENSEA) in late 1967 and later to Safeguard System Evaluation Agency (SAFSEA).

The High Bay area was used by a drone target contractor most likely Ryan, but that isn't certain. After the Sprint program ended at White Sands in August 1970, all of MAB-16 was taken over by the SAM-D (later Patriot) program contractor, Raytheon. Raytheon and the Patriot program still occupies the building.

Across the road from MAB-16 and a little North is the "Field Mess Hall." This building has continued to be a dining facility of one type or another until this day. Something that is appreciated by those who work at LC-38 since it is a long drive to anywhere else to find something to eat.

Further north on the left is the "Live Assembly Area" and the "Live Storage Area" shown in the Zeus site plan in the March 2007 *Hands Across History* article. In the 1963



Live Assembly Area at LC-38. Originally used for Nike Zeus, then Sprint and finally the SAM-D/Patriot.

Hands Across History. If you don't have the back issues of the *Hands Across History*, you can find links to them online at the bottom of the page at URL <http://www.wsmr-history.org/Foundation.htm>.

As the previous articles would indicate, the MAR and Sprint were both tested at White Sands. The Spartan was never tested at White Sands. All Spartan testing was done at Kwajalein and Meck Islands in the Pacific.

With the end of the Zeus program, most of the system infrastructure was not used for the Nike X program. Various parts were used for a variety of programs. So, each facility

- 1964 time frame, one bay in the Live Assembly Area (see photo above) was modified and a Sprint Vertical Assembly pit was installed just inside the north rollup door.

The Sprint Missile was assembled in the vertical assembly cell and was then removed from the assembly cell and transported to LC-50 (see August 2006 *Hands Across History*) and placed in the launch cell.

In 1969, a new R&D Air Defense system, SAM-D was given a bay in the Live Storage Area for temporary use as their Missile Assembly area until the Sprint program terminated. SAM-D was later re-designated as "Patriot" and see LC-38, page 5

LC-38 — CONTINUED FROM PAGE 4

took over all of the Live Storage and Live Assembly areas when the Sprint Program terminated its White Sands testing in August 1970. Patriot still utilizes these facilities some 37 years later.

Further north at the end of the road was the Zeus launch cells and the Launch Control Building (LCB). For the most part, these were unused, except maybe for storage, from the end of the Zeus firings in December 1963 until ramp up of the SAM-D program in 1970. SAM-D used only the LCB from the Zeus infrastructure and developed their launch area a little north of the Zeus cells.

Just north of the LCB, they built a building that housed the very early version of the R&D phased array radar. That building remains but is only used for storage, if it is used at all. The LCB is no longer used, replaced by a mobile Launch Control Van. The two berms west of the LCB and the two R&D Launch cells were destroyed and replaced by a building and parking lot.

During 1964, the Zeus Ground Control equipment in the Battery Control Building, to include the Missile Tracking Radar (MTR), was modified to make them compatible with the Sprint Missile. Launch control, missile tracking, and control of the Sprint missile, which was launched from LC-50, several miles away was from the Battery Control Building at LC-38. Sometime after termination of the Sprint program, the Battery Control Building was taken over by the Army Material Test and Evaluation (ARMTE) Hybrid Computer facility, and is still used by ARMTE's replacement, Material Test Directorate (MTD).

The Zeus Acquisition Radar (ZAR) operation was terminated and all the equipment removed from the ZAR Receiver building. Although records do not indicate such, it is suspected that the ZAR Transmitter equipment was also removed as well.

In early 1965, construction and equipment installation was begun for the Hard Point Demonstration Array Radar (HAPDAR) in the old ZAR Receiver building (see photo to the right). The ZAR Receiver antenna was left in place, as shown in the photo.

The HAPDAR continued operation until around 1970. In the early 1970s, a contract was let to dismantle and remove the ZAR Receiver antenna. During the dismantling operation, the antenna caught fire and burned. The fire and smoke was clearly visible from the Main Post area.

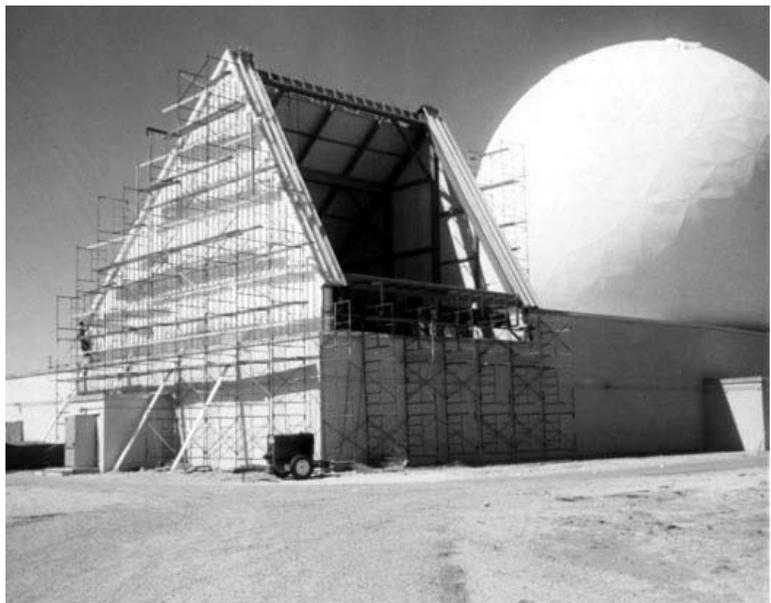
The Patriot Test Operations of ARMTE used the ZAR Receiver building as office space for many years until a new building was built for them just west of the ZAR complex. The ZAR receiver building sets vacant today. The clutter fence around the ZAR transmitter was removed and a ramp was excavated and an opening cut into the west wall of the transmitter building. This building has been used for

various things over the years, to include operations for a small helicopter drone program during the 1980s.

During 1964 through 1969, the TTR and DR continued operations with funding from Department of Defense Advanced Research Projects Agency (ARPA) in support of Hard Point Demonstration Array Radar (HAPDAR) tests and Athena, an ABRES (Advanced Ballistic Reentry System) program. In October of 1968, operation of the TTR and DR were transferred from ARPA to the Advanced Ballistic Missile Defense Agency (ABMDA) and was terminated in September of 1969.

Equipment, to include the radar antennas, was removed from the TTR & DR. The office building attached to the TTR building has been in use as office space for ARMTE SAM-D (Patriot) personnel and the large shielded room in the radar building is used as a large classified storage container for analysis and storage of test data, and remains that was today.

One of the two clutter fences around the DR building was removed in the late 1980s. The DR building, as with all the Zeus radar buildings, had a large shielded room to either keep the RF signal in, or keep RF signals out. The large, shielded room in the DR was converted to an Anechoic Chamber by the Vulnerability Assessment Laboratory (VAL)



In 1965, the ZAR receiver building is being modified to add a radar array as part of the modifications making it into the HAPDAR. The array was constructed in the large opening in the front. Note the ZAR receiver antenna in the background.

of the Army Research Laboratory in the 1980s.

A few years ago, the RF absorbing material inside the Anechoic Chamber caught fire and the chamber was completely destroyed. The large new building at the southwest corner of Headquarters Avenue and Raritan Avenue is being built to take the place of the chamber that burned and should be completed soon.

Salinas Peak Trip

CONTINUED FROM PAGE 3

and small trees out of its way. In some places, the old trail had to be re-cut laterally across the steep inclines where past rains had washed it out or rocks and dirt had slid across it.

We either walked, a difficult task in itself, or stood across the bed and tailgate of the trailer, an equally difficult task due to the incline and the problem of keeping one's balance due to the jerky motion.

The high altitude made prolonged physical exertion difficult too, particularly after reaching the top. While pausing for breath, one could enjoy the very beautiful view ñ seemingly endless in all directions.

Monitoring the time was important while on top of the mountain because we had to be sure and leave in time to get down before sunset. In some respects it was more dangerous going down than up, therefore we only traveled during full daylight.

I don't remember exactly how long the operation lasted. A few days, I believe, including set-up and removal time. In any case, it was one of those choice unusual jobs that luckily come along occasionally.

If I can make fun of the bureaucracy for a moment, spending the night on official business we had to be placed on TDY orders. Since there were NO facilities at the base camp we check out sleeping bags from Special Services and got some groceries at the commissary. After we returned and filed our vouchers, the finance people decided since we were on White Sands, we must have utilized government quarters and reduced our per diem payment accordingly.

We pointed out that we did not use government quarters. After much high level deliberation, the bureaucracy decided that using GI sleeping bags in a mine shack or in the back of the GI pickup were 'inadequate' government quarters so they paid the full amount. In those days the daily per diem rate was about \$15.

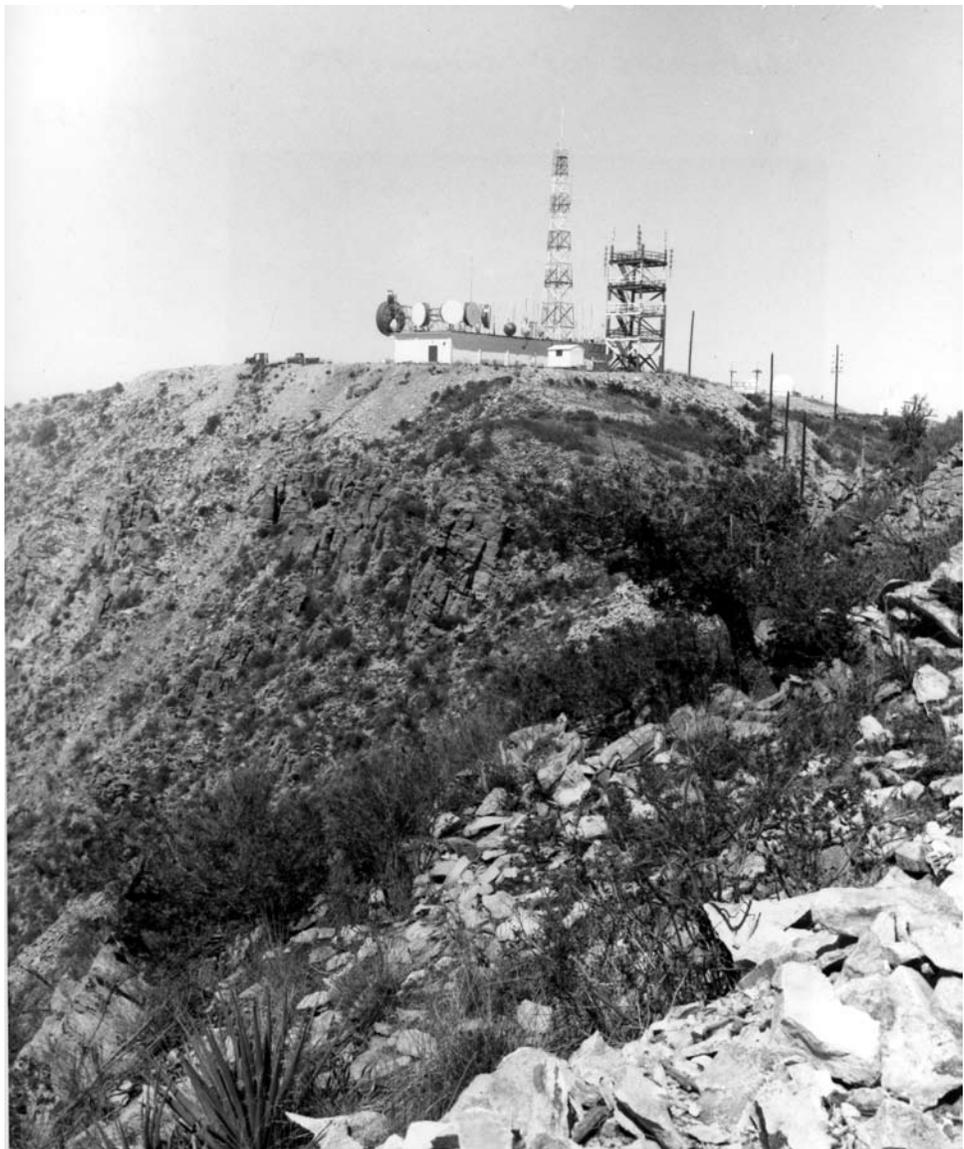
It was this trip and a previous one that pushed officials to look at putting a permanent station on Salinas Peak. There is no question as to its value for a communications relay as well as

other instrumentation facilities.

In 1959, a permanent road to the top and a large building were constructed, along with several other facilities. This road is easily negotiated by an automobile so there haven't been anymore bulldozer rides up Salinas Peak.

EDITOR'S NOTE - Today the very top of Salinas is cluttered with buildings, antennas, cabling and assorted other equipment. There is very little room to add anything else.

However, the Navy has a new research radar in place and the Air Force's Airborne Laser has a small facility used in testing lasers beaming light to Salinas from their main research facility atop North Oscura Peak. The site conducts research that will improve the Air Force's ability to track and apply laser energy to destroy missiles. Work has been ongoing since the late 1990s.



Looking southwest across the top of Salinas Peak in 1967. The commo building and towers are shown at the very top. The road is on the western slope. This photo was used in the Nov. 1967 issue of SIGNAL Magazine.

50 Years Ago, This Quarter, At White Sands

Beauty Queens - The White Sands newspaper, *The Wind and Sand*, reported that Sue Meeks was selected "Miss White Sands of 1957," on April 5. The paper reported, "A 20-year-old stenographer with a smile as big as her home state of Texas will be White Sands Proving Ground's entry in the annual Truth or Consequences Fiesta."

The paper further reported, "A throng of post personnel, mostly GIs, watched in wonderment as the beauties (13 in all) paraded on a runway first in evening gowns and then in bathing suits.

"Mrs. Meeks, wearing a black-net bathing suit, received thunderous applause in both appearances.

"Her winning measurements, from top to bottom, are 36-23-36. She is five feet three inches in height and weighs 110 pounds.

"Runnerup in the contest was Miss Carol Barnett, of Las Cruces, who represented White Sands Signal Agency. Placing third was Miss Billie Jo Frey, of Post Transportation, who went into the contest with the largest number of popular votes."

The panel of judges for this event included the mayor of Las Cruces and the El Paso mayor pro-tem.

By the way, Sue finished second in Truth or Consequences a couple of weeks later.

Foreign Nationals Visit - On May 31, officials from 47 countries sat side by side as they visited White Sands for an all-day tour and to witness some missile firings. At that point in the range's history it was the largest foreign group to visit and may still be the record for the most countries ever on White Sands at one time.

Here is what *The Wind and Sand* had to say. "In an all-day tour of the Proving Ground, the foreign attaches out of Washington, D.C., were briefed on operations at this unique installation, where all four of this nation's services work in close harmony.

"Missile shots of one of the Navy's newest weapons and the Army's rugged and reliable Honest John rocket and Nike Ajax surface-to-air missile climaxed the day's tour for the dignitaries.

"Col. B.J. Leon Hirshorn, deputy at WSPG, welcomed the visitors after they arrived in two Army buses.

"Luncheon in the Officer's Mess was followed by a whirlwind tour of the post and the two Army missile firings."

The military officials, ranged in rank from major generals to captains. Maj. Gen. Franjo Knebl, of Yugoslavia, was the senior attache for the entire tour.

As one might expect, there were representatives from countries traditionally friendly with the United States such as New Zealand, Australia, Canada, Great Britain, France, Germany, Denmark, Sweden, etc. There were also attaches from countries like China, Pakistan, Egypt, Iran, Chile, Ethiopia, Viet Nam and Burma.

Overpass Contract Awarded - At the beginning of June, the New Mexico Highway Commission opened bids for work to convert the section of Highway 70 from San Augustin Pass to the access road to a four-lane road.

The contract for the 5.37 miles of road included the overpass and cloverleaf interchange at the White Sands access road. Before that construction, traffic entering the intersection would halt at the stop sign and then try to enter the traffic flow.

The apparent low bidder was Henry Thygesen & Co. from Albuquerque. Their bid was \$966,698.

VIPS Visit WSPG - This visit trumps the foreign attache visit and certainly overshadows anything done currently at White Sands.

On April 25, 250 top Army officials and industrial leaders visited for briefings and to watch firings. This group included such legends in the rocket and missile field as Maj. Gen. J.B. Medaris, Chief of the Army Ballistic Missile Agency and Dr. H.W. Pickering, Director of the Jet Propulsion Laboratory. Other recognizable names included the retired General Matthew Ridgway and Lt. Gen. Walter Weible.

By the way, also included were Wilber Bucker, Secretary of the Army and Assistant Secretaries Hugh Milton and Dewey Short.

Aerobee-Hi Record - An Aerobee-Hi sounding rocket set a new world record for single-staged rockets when it reached an altitude of 190 miles.

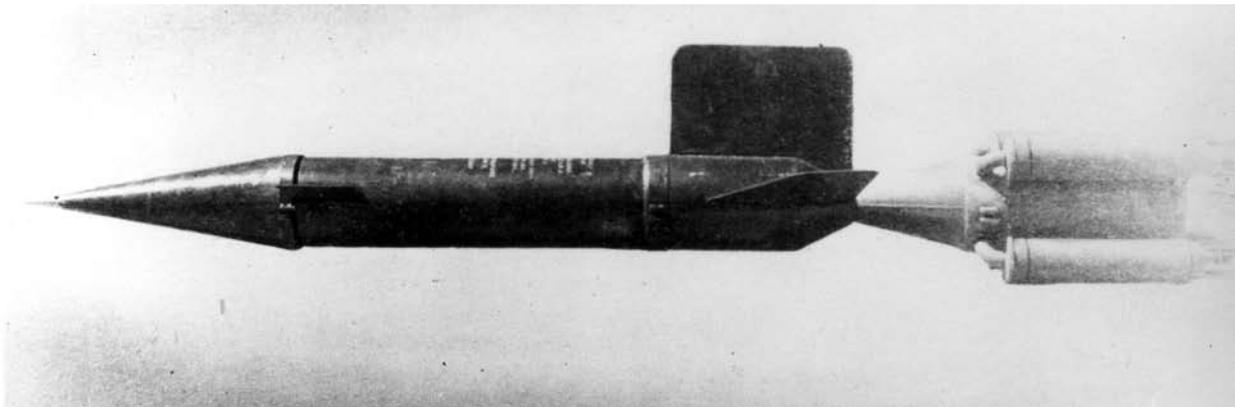
The April 30 White Sands launch bested the Aerobee-Hi's own previous record which was 164 miles.



An Honest John firing off of its self-propelled launch vehicle. The foreign national visitors saw a firing like this during their visit. The Honest John could carry a conventional warhead or a nuclear one.

Hands Across History
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The Back Page



What was the first rocket fired in the Tularosa Basin? Well, it wasn't a V-2 or a WAC Corporal. It was the Private "F" and they were fired from Hueco Range on Fort Bliss in April 1945. According to an Ordnance Corps report, "A total of 17 rounds were fired including two dummies to test operation of the launcher and boosters. Tests were conducted for the purpose of investigating some of the problems of winged missiles, particularly aerodynamic problems of stability and drag at high speeds and to check on the feasibility of extending the range of a missile by the use of wings. When the missiles were fired, in no case was satisfactory steady flight produced." Over-all the Private "F" weighed 506 lbs. with 175 lbs. being the propellant. It was 92" long, 9.6" in diameter and had a diameter around the fins of 33".