



# Hands Across History



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

Volume X, Letter III

August 2014

## Building 100 Dedicated To Niles Fulwyler & Fulwyler Estate Makes Museum Donation

By Laura Almaraz, WSMR Missile Ranger

One of the most charismatic and influential leaders in the history of White Sands Missile Range now has a permanent place on the installation. The legacy of Maj. Gen. Niles J. Fulwyler continues as the Headquarters Building was dedicated in his honor June 5.

The building was dedicated to the 16th commander of WSMR in recognition of his accomplishments during his almost four years of service to the range. The dedication ceremony took place in front of Bldg. 100 and was followed by a reception at the WSMR Museum.

“General Fulwyler traveled to and he lived in numerous places around the world. However, he often spoke of White Sands as some of the best times of his life,” said Michael J. Thompson, Fulwyler’s grand nephew. “To have his name on this building is a very fitting symbol of a legacy that he leaves behind.”

Family members and close friends were amongst those present to honor the late general. Randy Grunow, Installation Safety and Nuclear Surety Director at WSMR, called Fulwyler his “army dad.” His relationship with Fulwyler began in 1982 when he became the general’s driver.

Maj. Gen. Gwen Bingham, WSMR commander at the time, and Command Sgt. Maj. Jimmy Sellers helped the Fulwyler family unveil a plaque and a Dynamite Crepe Myrtle tree in front of the build-

ing. The family members in attendance were great nephew Ryan Thompson, grand nephew Michael Thompson, niece Sandi Thompson, nephew Jay Thompson, and grand nieces Lori Lynn and Jodi Fergusson. Michael Thompson spoke on behalf of the family.

“The beautiful plaque with General Fulwyler’s picture (where he is) smiling, that’s how we will all remember him. The tree, it adds special meaning that his memory lives on,” Thompson said.

Thompson then presented a check for \$50,000 to the WSMR Museum through the White Sands Historical Foundation.

Thompson told the audience, “General Fulwyler was

see \$50,000 Check Donated, page 2



**Maj. Gen. Fulwyler’s grand nephew Michael Thompson, left, presents WSMR Historical Foundation representative Jim Eckles with a check for \$50,000 to be used for the missile range’s museum. The check was presented during the June 5 ceremony dedicating Bldg. 100 to Fulwyler. Photo by Adriana Salas.**

# \$50,000 Check Donated — CONTINUED FROM PAGE 1

a great student of history. He was very involved with the White Sands Missile Range Historical Foundation and the museum's activities. It was General Fulwyler's desire upon his passing to donate a gift to the museum."

Fulwyler was an original member of the historical foundation and served later as a special advisor to its board of directors. He died on Jan. 11, 2014 at the age of 85.



Maj. Gen. Niles Fulwyler's family and friends pose behind the newly unveiled plaque honoring the former commander and in front of the crepe myrtle whose flowers will be artillery red. From left to right, Lori Lynn, Jodi Fergusson, Sandi Thompson, Jay Thompson, Ryan Thompson, Michael Thompson, Ethan Epstein (Civilian Aide to the Secretary of the Army), Maj. Gen. Gwen Bingham, and Command Sgt. Maj. Jimmy Sellers. Photo by Adriana Salas

## The WSPG Is Looking For Volunteers And Donations

The White Sands Pioneer Group is looking for volunteers and donations to keep the longtime White Sands support group running. According to founding father Austin Vick, the WSPG needs a few volunteers to act as officers.

The group promotes the history of White Sands and the contributions of all its personnel. The group supports this

newsletter, helps review WSMR Hall of Fame candidates and sponsors special "Then & Now" lunches to compare the past with the present at WSMR.

Vick and Dolores Archuleta have been pulling all the duty and paying the group's way for years now. To help, write the address below or call Austin at 575-522-4179.

### 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](mailto: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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# Our Readers Remember The Past

**S**ometime around 1958 Frank Hansen and I had returned to town after a successful early morning rocket launch. As part of our procedure for Missile Geophysics (later Atmospheric Sciences Laboratory), we used small helium balloons about 2 feet in diameter to measure wind speed and direction in the first 10,000 feet above ground. As we were leaving White Sands Frank had tossed the extra balloon in the back seat of his car.

About the time we got back to town and Frank was parking the car, a little three year old neighbor girl came running over to us. "Would you like a big balloon?" Frank asked. With a big smile and bright eyes she giggled, "Yes!" Since the balloons were tied off with a cord after inflation, Frank loosely tied the cord around the girl's wrist giving her some brief instructions. "Don't take the string off your wrist or the balloon will fly away." She went scampering off in delight. A few minutes later she returned in tears, and wailed, "I dropped my balloon and it flew away!"

From that time on, when inflating balloons for wind determination, the men were instructed, "Take care, and don't drop your balloon."

Henry Rachele

**A**round Feb 72, another S&E GI and I were bored in the barracks, so we decided to investigate a mine. Hiking and exploring was a common diversion that many GIs did at that time, mostly in the Organs.

We decided on the mine you can see from US 70 going west up the pass, near the top of the 3rd peak to the north. We climbed to the 2nd peak and walked the ridge to the 3rd.

In and near the entrance (east side), we found neat stuff like old magazines, bottles, faucets, washtubs, etc. Curiosity led us back into the mine shaft to see what else was there.

We found a downward-sloping (about 60 degrees) shaft covered with what looked like mine tailings. We went for it and slid about 20 feet down the tailings.

Unfortunately, the tailings were so loose, we couldn't crawl back up. Not good.

I don't know how long we looked around for another escape route, but our flashlight batteries started to die. We could barely see two horizontal shafts, so we remained motionless for a few minutes so the dust could settle. Then we noticed a slight wisp of fresh air coming from one of the shafts. Seeing hope, we took that one.

Luckily, we finally came to a bend around which we could see daylight glinting off of an ore bucket track. A little beyond that was an entrance / exit ... on the west side of the mountain.

We eventually reached a dirt road that led to US 70, from which we hitched a ride back to our car on the east side of the mountain.

This adventure still makes me shudder to think that we could have died trapped in that mine. I often wonder how many GIs have disappeared without a trace, lost in one of

the many mines. But then again, if any GIs ever disappeared from WSMR, it probably happened in Juarez.

Gary Guzie

**I**n 1956, I was tutored on the subject of unguided rocket ballistics, and subsequent trajectories. During this period one of my specialties was Impact Predictor for higher altitude Aerobee Hi. Impact Predictors were responsible for providing the launcher settings and the final go/no-go decision to launch the rocket. This was based on the effects of drag, wind, temperature, earth's rotation, gravity and engine thrust on the rockets trajectory computed by ballistics specialists. In short, how to position a rocket launcher so that the rocket or its nose cone would hit the earth in a designated location.

For one rocket launch, I was the Impact Predictor, and Nat Wagner was the Missile Range Safety Officer--the person responsible for aborting an errant missile or rocket. Safety on and off range was the name of the game. Several minutes after the rocket was launched I received a phone call from Nat. "Do you know where you put that rocket?" he bellowed into the phone. "No," I meekly replied. In a voice that everyone in the room could hear, he said, "Five miles out of Holloman!" "Are you kidding?" I asked. "Hell, No!" he shouted back. Fortunately, in spite of the incident, we remained friends and carpool members for many years.

Henry Rachele

**S**peaking of dust storms, we used to attach jammer pods on EA-6s at Holloman AFB. During one spring wind storm, a 10-foot thorn-covered tumbleweed came blowing out of the desert at high speed and blind sided the technician while he was working under the wing. Funny to me, not to him.

That reminds me of one spring day, standing in front of our building (1624) talking before going home when Billy Garcia's briefcase accidentally fell open. It was like it was blown open by a shotgun; in about 1/2 second there were hundreds of papers headed east across the parking lot and street. Billy's pleas for help to gather up the papers were in vain ... they were in Orogrande before we could take a step.

Gary Guzie

**W**e used to watch lot acceptance firings from a berm at LC-32. You could see the cars stacked up at the San Augustin Pass red roadblock by their windshields glinting in the sun.

On one shot, the missile took a hard left right off of the launcher and headed for the pass. As you know, Hawks don't fly slow like a Redstone or Space Shuttle, it's more like watching a bullet.

Missile Flight Safety was quick in blowing up the bird, but I often wonder what the viewers on the pass thought that day as the explosion must have been relatively close to them.

Gary Guzie

# Meteorological Rockets - Many Missions

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, week after week, year after year 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 for Meteorology, run by the NWS.

The ARCAS rocket, manufactured by the Atlantic Research Corporation, was the early work-house 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. The 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 – the stuff that protects us from the sun's ultraviolet radiation.

Several other scientists came to White Sands to use the rather inexpensive rocket to conduct stratospheric research. A professor from Pennsylvania State University 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. 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 this is ignored, 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 Ft. Bliss Dona Ana range 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



**A boosted ARCAS launch at the Small Missile Range.**

**see Full Power Impact, page 5**

# Full Power Impact — CONTINUED FROM PAGE 4

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.

In order to make meteorological measurements at a higher altitude, the Space Data Corporation developed the Super Loki ROBIN sphere. When launched from WSMR the payload, a one-meter diameter aluminized mylar sphere could be deployed at altitudes up to 300,000 feet. At ejection the sphere inflated, and radars tracked the sphere as it descended. The derived data included wind speed/direction as a function of altitude. The sphere typically collapsed at about 125,000 feet. Wind and air density data from the sphere were compared with Loki Datasonde in the overlap zone, and the data, while not perfectly matched, were in reasonable agreement.

Bob Olsen, an ASL research meteorologist, and I made a number of trips to Kwajalein Missile Range (KMR) to conduct operational tests in support of Army ballistic missile defense and Air Force ICBM tests. These included the introduction of the ROBIN sphere system, a digital radiosonde, a 12-inch inflatable calibration sphere, a rapidly descending Loki Datasonde, and a comparison of the Super Loki sphere with active Air Force density payloads. We had to provide ballistic and safety data to KMR range safety officers for the Super Loki booster. The booster burned for about 5 seconds, and once the Dart separated, the booster became unstable and broke apart into several pieces. This information was given to KMR safety along with the expected radius of impact of the pieces.

KMR launched the first Super Loki from Meck Island. Shortly afterward I received a summons from the safety officer. Upon arrival I was met with a livid safety officer. It seems that they had placed spotters on Meck to observe booster impact. Apparently, one of the booster pieces almost hit one of the observers. I asked Mr. Safety where

the observer was standing with respect to the launcher, and it turned out that the guy was within the hazard circle that I had provided. I suggested that the next time we launch, the observer should be outside the danger zone.

Two interesting projects that had their roots at WSMR, ended up at KMR. The first involved the KMR requirement to calibrate radar cross section by the sophisticated radars, including the phased array missile defense radar. Their test procedure was to attach an aluminum calibration sphere to a weather balloon. Radars would acquire and make their radar cross section measurements. Unfortunately, the balloon drifted with the wind, often in the wrong direction.

Enter Marvin Squires, who was working at the Nuclear Effects Lab at WSMR. In his garage he had developed a 12-inch diameter inflatable sphere made of silicone material. He applied an adhesive coating, and then sprayed it with silver powder. This made it radar reflective, and, hopefully of radar cross-section quality. We managed to squeeze the rolled up sphere into a Loki dart that normally housed the Datasonde. Proof of concept tests were conducted at WSMR. We launched the Loki and it expelled the sphere at about 200,000 feet. It immediately inflated and was acquired by FPS-16 radars. The radars observed the radar cross section which remained steady until balloon collapse at 100,000 feet. Based on successful tests at WSMR, we reached an agreement with the Ballistic Missile Defense office to conduct test firings at KMR for their missile defense radar.

Fast forward a few months, Bob Olsen and I arrived at KMR to observe the tests. The major questions were: will the spheres be of radar calibration quality; will the trajectory be satisfactory; will the higher cost of a rocket-borne sphere justify replacing a less expensive balloon-borne sphere. Testing began.

The radar which is supposed to track multiple incoming targets failed to acquire the first sphere. The next five firings were a complete success, and the radar cross section remained steady and constant until collapse. Success! I called Marvin on an autovon line and congratulated him on designing a successful device. Reality set in later as the BMD office retained the less expensive balloon-borne sphere. We had a lot of fun, though.

The second interesting and fun project also utilized the Loki with its Datasonde payload. The operational Loki Datasonde was deployed on a balloon parachute named the Starute. It was made of aluminized mylar and provided very stable aerodynamic qualities. Descent time after expulsion from the dart was more than two hours. Back to KMR.



**A Super Loki being loaded into a launcher. Hard to believe this small rocket could carry a payload to 50 miles above the ground.**

see **Correcting Differences**, page 7

# Paying Tribute At Normandy 70 Years Later

By Dolores Archuleta, WSPG Vice President

I was honored and humbled to be the guest of Catherine Meunier in Normandy for the 70th anniversary of D-Day this year. I was there from June 2 to June 10 along with my daughters Patricia Pugh, Deb Postier and her husband Marshall.

We made the trip to visit the grave of Las Cruces native Julian Melendrez who was killed a month after the World War II invasion. He is buried in the Normandy American Cemetery and Memorial. Catherine Meunier takes care of Julian's grave.

Our host Catherine and her husband Jean Charles, their twin sons Corentin and Guillaume, and Catherine's parents Robert and Monique Montmessin are members of a volunteer organization called "Les Fleurs de Memorie (The Flowers of Memory)." It was established to recruit French volunteers to place flowers on the graves assigned to them - especially for D-Day and Memorial Day.

Another goal of Les Fleurs de Memorie, with its 4,000 members, is to educate the younger generations about how WWII affected their area. The Meunier family is a perfect example of three generations doing just that.

Mr. & Mrs. Robert Montmessin were assigned two graves, one is of an "Unknown Soldier-Known but to God." Besides Julian Melendrez, Catherine has two other graves assigned to her.

The cemetery, located on a bluff overlooking Omaha Beach, was established on June 8, 1944. It contains 9,387 graves, most of whom were killed during the invasion of Normandy, and is managed by the American government.

Soon after I accepted the invitation from Catherine Meunier to visit them for the 70th anniversary of D-Day, I made plans to take along a New Mexico flag and present it to the Meunier family in honor of our New Mexican heroes buried at Normandy. It wasn't just an ordinary flag however. I called the Governor's Office and arranged to get a flag that was flown over the state's capitol building.

Within two weeks I received the flag with a certificate, signed by Governor Martinez, stating "...this official state flag of New Mexico was flown on the grounds of the State Capitol on March 8, 2014, in honor of your service to our great state and nation." At our presentation to the Meunier family, Patricia Pugh read the certificate and Deb Postier described the meaning of the ZIA design on the flag.

Along with the Meunier family, a nice large crowd gathered to witness the flag presentation. I was told later the flag presentation had never been done before.

It was a very emotional trip for all of us and we are extremely grateful to Catherine who planned our daily itinerary. She also acted as our personal tour guide as we attended all the ceremonies especially those on D-Day on June 6.

One event that was not planned, but somehow came together "by divine intervention," was when Catherine took us to visit Saint Germain sur-Seves. This is the battle site

where Pvt. Julian D. Melendrez, 358 Infantry, 90th Division, was killed in action on July 23, 1944.

The site includes a memorial built by the Americans and Germans but is very secluded and hard to find. In fact is in a marsh and is only accessible by foot. During Catherine's attempts to find out more about Julian Melendrez, she found the site.

Sitting quietly at the site next to a stream, we were surprised when two gentlemen, one with a German flag emblem on his sleeve, approached. They too were surprised to find other visitors already there. I greeted them and asked if they spoke English and one said "Yes!" He, in turn asked, "do you all know of the battle fought here on the 22nd and 23rd July, 1944?" He proceeded to tell us that it was one of the bloodiest battles in the Normandy breakout campaign.

Two other Germans soon joined us, one who introduced himself to us as Heinrich Leuffert, 88, who actually fought the Americans in that "horrific" battle. After two days of fighting, the Americans won the battle. According to Leuffert, the Germans were very impressed with the American medics who attended to their wounded as well. As a result, in 1945 the Americans and Germans, working together, built the memorial at the site that reads in part: "From 1945, as long as they have stayed alive, former enemies - Americans, French and Germans have met in the same place...together they have mourned for their comrades killed in action and they all have become close friends."

As we were video taping their comments, I asked Mr. Leuffert if he had children and have they joined him for one of these gatherings. "Yes," he said, "I have a son and a daughter, but I don't bring them here because this second generation is just not interested in preserving these memories."

The German with German flag emblem on his sleeve reminded all of us to keep our voices down, that "this was hallowed ground and where we were standing many Americans and Germans had died." After exchanging e-mails we quietly left the site.

The Americans won that battle with 60,000 soldiers against the 37,200 Germans, but at the cost of 100 Americans killed, 400 wounded and 200 taken prisoners. There are no reliable estimates of the German losses.

## Flash - Mastodon Found On WSMR

Missile range archaeologists have found the remains of a mastodon between Lake Otero and the San Andres Mountains. It is the first mastodon found in the Tulrosa Basin.

They surmise it was a young animal based on the small amount of tooth wear. Also, they said the animal indicated the area was once covered with shrubs and trees which is what mastodons ate during the last ice age.

The bones and teeth were found by personnel looking for human artifacts in the area. They are now trying to link the animal to human activity from 20,000 years ago.

# A Rare Chance To See What Green River Looks Like Today

In June, editor Jim Eckles received an email from Tim Tyler. Tim said, "I'm a military history buff that enjoys researching Cold War era sites & systems -- not only the major installations like a Fort or Air Force Base, but also the smaller, lesser-known facilities that were often communications or instrumentation annexes, etc. Back in 2002 when moving from SE Michigan to Northern California, I made an overnight stop in Green River Utah, and saw some interesting/unusual structures the next morning while getting on the road. It resulted in the next several hours being spent poking around several former WSMR facilities up there, all based on the sheer luck of stopping in Green River for the night."

Tim is a photographer and he took dozens of pictures of what is still up there. He has posted the photos on the internet and is inviting anyone to look at them. He said, "In addition to wanting WSMR - Green River veterans to see what their old stomping grounds looked like long after abandonment, I am hoping that they will help me provide accurate captions for the photos and hopefully pass along old war stories."

The URL for Tim's photos at FLICKR is:  
<https://www.flickr.com/photos/coldwararchaeology/sets/72157625672626440/>

Tim's email address is: polohat@gmail.com

We ask that if you do send any information to Tim, you include a copy to *Hands Across History* so it can be shared with all our readers and preserved at WSMR. You can just include Jim Eckles email address at: nebraska1950@comcast.net

By the way, Tim is aware that *Popular Mechanics* proposed Green River would be the next Air Force Area 51.



A couple of Tyler's photos of Green River.



## Correcting Differences — CONTINUED FROM PAGE 5

The atmospheric parameters (temperature, pressure, wind speed and direction) in the re-entry corridor were very important for ballistic missile tests. Radiosondes were released periodically before each test. Unfortunately, the ascent time to 100,000 feet took over 90 minutes, and quite often the balloon drifted away from the re-entry corridor.

Bob Olsen and I proposed a series of tests using the Loki Datasonde suspended from a rapidly descending parachute. We told KMR officials that we could put the payload in the re-entry corridor and obtain valid data between 100,000 feet and ocean surface in less than 30 minutes. The new cross parachute was about 12 inches in diameter and made of radar reflective silk. The chutes were produced by George Sloan, an engineer at the Naval Ordnance Laboratory, and we did proof of concept launches at WSMR.

Success! The payload deployed above 100,000 feet and descended to the surface in 30 minutes. The trajectory was in a simulated re-entry corridor. As I recall we conducted about six launches at KMR, all successful. We left KMR officials all of the technical information necessary to assemble the systems. I don't know if they continued using the system.

As the many years of upper atmosphere data collec-

tion progressed, data analysts discovered some differences in the multi-national results. The United States, Canada, France, Japan, Great Britain, and the Soviet Union conducted routine soundings. However, each country had their own version of temperature sensors, parachutes, and data reduction procedures. To confront these issues and try to resolve the observed differences, the World Meteorological Organization and its Committee on Instrumentation and Methods of Observation proposed an intercomparison test. Two trials were conducted in the early 1970's, one at Wallops Island, Virginia, and the second at the Kourou, French Guiana, test range.

Robert Leviton from the Air Force Cambridge Research Lab was the overall leader, and I was the United States coordinator. Each country launched multiple rockets, and the data were assembled and analyzed by several agencies. Differences were observed in temperature and wind measurements which prompted participants to review their systems and improve data accuracy.

Routine firings of meteorological rockets by ASL ended in the late 1970's. They continued launching only in support of other programs.

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## **The Back Page**

A big **THANK YOU** goes out to Ken Bellinger who recently donated his collection of photos of optics instruments to the WSMR Museum Archives. This is one of his photos and shows an Aeroflex camera with 40-inch lens mounted on a FPS-16 radar at White Sands.

Ken worked at WSMR almost 30 years, retiring in 1984 as a physical science technician with the Instrumentation Directorate. He did stuff like manage the multi-million dollar procurement, acceptance testing, installation and integration of the Contraves EOTS-F cinetheodolite system into WSMR's optical instrumentation complex.

He was in great demand and also did work for Yuma Proving Ground, Nellis AFB, Eglin AFB, Edwards AFB, Redstone Arsenal and Dugway Proving Ground.

In 1979, a suggestion by Ken to refurbish nine cinetheodolites instead of buying new ones was accepted and saved the government over \$4 million. For that he was chosen "Suggestor of the Year" and was flown to Washington for the award.

Ken now lives in Leander, Texas.

