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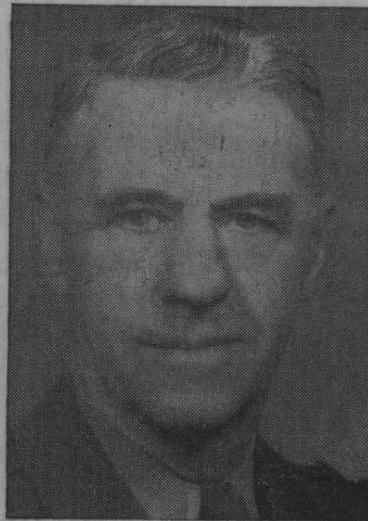
WIND & SAND

In the interest of military and civilian personnel of WSPG for a betterment of understanding between the Military Services and Federal Employees, and a greater Guided Missile Program for peace and in time of war.

Vol. IV, No. 16

LAS CRUCES, NEW MEXICO, THURSDAY, JULY 9, 1953

PUBLICATION OFFICE
114 So. Church St., Las Cruces, N. M.



MAJ. GEN. E. L. FORD
Chief of Ordnance



BRIG. GEN. G. G. EDDY
Commanding General

Commanding General's Anniversary Message

OFFICE OF THE COMMANDING GENERAL
WHITE SANDS PROVING GROUND
Las Cruces, New Mexico

23 June 1953

It is a pleasure to take this means of extending to each and every one of you at White Sands Proving Ground my warmest greetings and sincerest congratulations on the occasion of this Eighth Anniversary of the establishment of the Proving Ground.

As we look back over the last eight years, we can see that much has been accomplished through our concentrated efforts, coordination, programming and cooperation.

As we begin a new year for the Proving Ground, we see further opportunity to add to our list of accomplishments while endeavoring to carry out our mission in the best manner possible.

It is a constant gratification to see the Army, Navy, Air Force, Scientists, Scientific Institutes, and private industry working together as a team in the National Guided Missile Program. Unification in this new field of endeavor is exemplified by this Command.

(Signed) G. G. EDDY
Brigadier General, USA
Commanding

Congratulations from Maj. Gen. E. L. Ford

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ORDNANCE
Washington 25, D. C.

2 July 1953

Brig. Gen. G. G. Eddy
Commanding General
White Sands Proving Ground
Las Cruces, New Mexico
Dear General Eddy:

On the occasion of the eighth anniversary of the establishment of White Sands Proving Ground it is a pleasure to take note of the vital role it is playing in the over-all mission of the Armed Services.

The contributions to the defense effort by your integrated post, which has been pioneering in the important field of rockets and guided missiles for the past eight years, are indeed impressive.

My congratulations and best wishes to all of you on this happy occasion.

Sincerely,
(Signed) E. L. FORD
Major General, USA
Chief of Ordnance

Post Has Had Three COs In Eight Year History

White Sands Proving Ground in its eventful eight-year history has had only three commanding officers.

The first Commander was Lt. Col. (now Col.) Harold R. Turner. Colonel Turner served from the activation of the base in July 1945 until Aug. 4, 1947.

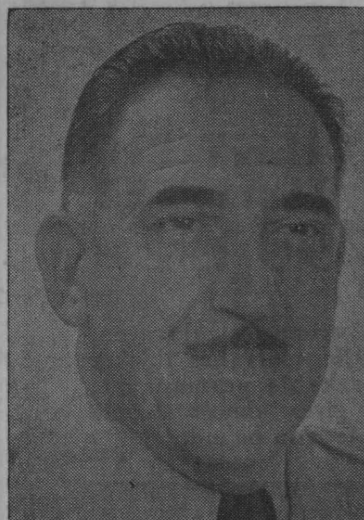
Brig. Gen. Philip G. Blackmore assumed command of WSPG on Aug. 4, 1947. Colonel Turner served as General Blackmore's Executive Officer until the former's retirement.

Colonel Turner now lives in retirement in the El Paso Lower Valley.

Eddy Succeeds Blackmore

General Blackmore served as Commanding General until January 1950, when he retired after 38 years of Army service. He now makes his home in San Francisco, Calif.

Col. (now Brig. Gen.) George G. Eddy was named Deputy Commander of WSPG on Jan. 12, 1950. Less than a month later, on Feb. 1, 1950, he assumed command of



COL. HAROLD R. TURNER
Former C.O., WSPG

the post. He has served continuously since that date.

Awarded Honorary Degree Stationed at the Proving Ground since February 1949, Colonel Eddy had served as Chief of the Tech-1, 1950, he assumed command of

WSPG 'Star Gazers' Construct New Type Of Telescope to Fill Own Requirements

'Desert' Navy's Association With Army at White Sands Makes for Unique Operation

A complete Navy unit in the middle of the New Mexican desert is, in itself, an oddity. But added to the fact that it is located within a definite Army installation and its work is closely associated with an Agricultural and Mechanical Arts College, the U. S. Naval Ordnance Missile Test Facility at White Sands Proving Ground should easily place first in the "unique" class.

The U. S. Navy's association with Army Ordnance at WSPG began in July, 1946, by direct invitation from the Army Ordnance department through the Secretary of the Navy. Management is exercised by the Chief of the Bureau of Ordnance. Military command and coordination control of the facility is under the control of the Commandant of the Eighth Naval District. Technical control is vested in the cognizant agencies of the Navy Department.

At the Army Ordnance installations, the unique facility supports the Navy's rocket missile program by providing essential services to various Navy agencies and their contractors, as well as coordinating activities with the Army's similar program.

Coordination Stressed
One of the most important missions of the "Desert Navy" is the continual training of Navy personnel in the field of rocket missiles and the coordination of Army-Navy efforts to insure the most effective and economical use of White Sands Proving Ground and its facilities.

While the missions of the Army and Navy Ordnance programs are closely associated, each has additional facilities for its own special types of missiles. Each has its own launching site, which is centered around a blockhouse, with complete communications system

(Continued on Page 6)

Captain P. D. Quirk Heads Naval Facility

Captain P. D. Quirk is the Commanding Officer of the Naval Ordnance Missile Test Facility at White Sands Proving Ground. Before coming to White Sands, the Captain served aboard both Submarines and Destroyers. Executive Officer on the USS Granopus (SS-207), Captain of the USS Gar (SS-206), the USS Gridley (DD-390), and the USS Walker (DD-517).

A graduate of the U. S. Naval Academy at Annapolis, Md., the Captain wears the Silver Star, six Bronze Stars, and earned a Fleet Commendation while serving with submarines. Aboard the Gridley, he pulled 23 aviators out of the water during the "Marianas Turkey Shoot," June 19, 1944. Also, the Gridley rescued Radioman 1/c George R. Tweed from Guam, after Tweed had served 43 months behind the Japanese lines.

Captain Quirk is married. He and his wife, Regina, live at WSPG with their three children, Barbara, Patricia, and Phyllis. He is a member of the American Rocket Society, considers his command at White Sands the most important of his career.

It is of interest that his father, the late James E. Quirk, was a Master Mariner, made the trip around the world with the "Great White Fleet," was Master of the "Eastern Glade" and made four more trips around the world, touching ports all the way from Vladivostok to India. His mother, Florence A. Quirk, is now living in Union, New Jersey. (U. S. Navy Photo)

4119th Leads Post In AER Drive Sales For Cash Prizes

Three of the five top salesmen in the annual Army Emergency Relief drive, which ended Friday evening, were members of the 4119th ASU.

The amounts obtained by each was not available at press time. The men received recognition from the Command and their cash prizes Monday afternoon in the office of the Post Adjutant.

M/Sgt. Arnold R. Sterling, 4119th ASU, assigned to the Finance Office, led the group. Second place went to Pfc. Clarence A. Everly, 4119th ASU, of the Security Pass Office. Other top salesmen were Sfc. Kenneth Menchey, Det. 1, Logistics Branch; Sfc. Elyer Thompson, Det. 2, assigned to a missile project; and Sfc. George S. Melcher, 4119th ASU, of the Post Engineers.

Everly Double Winner
Not only did Everly take second place as a salesman, but he led the list of prize winners at the drawing which was held at the Post Theatre Friday evening. Other winners of merchandise and war bonds, contributed by Las Cruces and El Paso merchants, included: K. Schulz, Det. 1, Ticket No. 1872; Edith Sollers, Woman's Dorm, 801; Pfc. Phillip Phillips, 9577th TSU, 4981; Chitester, 138th Ord. Co., 4037; Din-

(Continued on Page 6)

Ohioan Named New Salary & Wage Chief

Gaylord E. Sheller, former Assistant Personnel Officer, Mt. Ranier Ordnance Depot, Tacoma, Wash., has assumed duty as the new Salary and Wage Chief, Civilian Personnel Branch. He replaces Joseph C. (Jay) Bowman. Sheller, formerly a major with the 96th Infantry Division in the Pacific, is a graduate of the Ashland, Ohio, High School and attended Ohio University. He is the son of Mr. and Mrs. W. H. Sheller, Ashland, Ohio.

Mr. Sheller and his wife, Loretta, with their children, Tommy, Connie and Paul, live at 1112 Dove Lane, Las Cruces.

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Brig. Gen. G. G. Eddy is shown following the acceptance of a photographic enlargement of an outstanding missile shoot at the Proving Ground. The photograph, suitably framed, was loaned to the Proving Ground by the Glenn L. Martin Company. Shown with General Eddy are William Ruckert, of the Martin Company's sales department, and Ed Munnell, project engineer for Martin missiles.

All in Day's Work, Say Tombaugh, Braum, Dennon of FDL Staff

A trio of practical civilian "star gazers" at White Sands Proving Ground have bettered the old axiom regarding the building of better mousetraps. But they care so little about the world's beating a path to the door of their small work shop that they sum up a pair of remarkable inventions as "all in a day's work for the accomplishment of the specified mission of the Proving Ground."

The three, all associated with a new invention intended to facilitate photographic data vitally important to the research and development of Army Ordnance guided missiles and rockets, include Clyde W. Tombaugh, known to astronomers throughout the world as the discoverer of the planet Pluto; William C. Braum, physicist, formerly associated with the Yerkes and McDonald Observatories; and 26-year-old Clyde R. Dennon, mechanical engineering graduate of Notre Dame University.

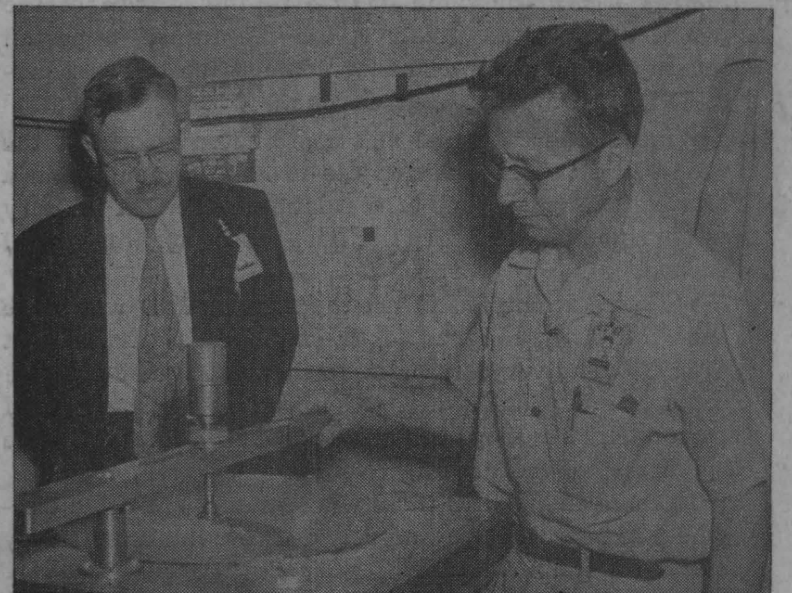
All three are employed at the Flight Determination Laboratory, White Sands Proving Ground, and all three make their homes at Las Cruces or adjacent Mesilla Park.

Devised New Telescope
Tombaugh, Optical Staff Physicist, observed a need for a type of missile tracking telescope not available through customary channels supplying optical equipment. Undaunted by the fact that the desired apparatus had not yet, to common knowledge, been developed, he devised plans for the type of telescope needed, an adaptation of a German optical system which he altered to meet the specific tracking requirements of White Sands Proving Ground.

In 1930, Bernhard Schmidt, of the Bergedorf Observatory, near Hamburg, Germany, invented the most remarkable optical system of the past half-century. The Schmidt system consisted of a spherical, concave, primary mirror and a (non-spherical) thin aspheric correcting plate at the center of curvature of the mirror. To prevent spherical aberration (a defect resulting from spherical surfaces), the rays of light were deviated slightly from their parallel course so that when the rays of light struck the concave mirror they converged to a point at the focus. Moreover, parallel beams inclined to the principal optical axis were also brought to sharp points in the focal plane for all portions of the field, unlike the short ratio parabolic mirror system.

The Schmidt optical system was acclaimed throughout the world. However, modern as the system was, it was not fully adequate.

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Clyde W. Tombaugh, left, Optical Staff physicist of the WSPG Flight Determination Lab, watches William C. Braum grinding a mirror for one of the two "off-axis" Schmidt telescopes under construction at the Proving Ground. The "off-axis" telescope was designed by Mr. Tombaugh for specific needs of the Army Ordnance research and development center for guided missiles and rockets.



Clyde R. Dennon, 26-year-old mechanical engineering graduate of Notre Dame University (left), checks his blueprints with Clyde W. Tombaugh, inventor of the "off-axis" Schmidt telescope. Dennon, in addition to drawing the blueprints, designed the mount for a structure to hold the optics of the telescope camera.

FHA Accepts Finished WSPG Housing Project

Marking yet another vast change in the growth of facilities for the installation, on its eighth anniversary, was the acceptance of the completed two and one-half million dollar White Sands Proving Ground Housing Project by officials of the Federal Housing Administration the latter part of June.

The 235-unit project, constructed by three El Paso firms—J. E. Morgan & Sons, C. H. Leavell & Co. and Dan R. Ponder, Inc.—was begun last fall when Brig. Gen. G. G. Eddy broke the ground in a special ceremony Aug. 1.

The project, constructed under the terms of the Wherry Section of the Public Housing Act, was under the administrative direction of Edward C. Robertson, of the Albuquerque FHA District Office. The firm of W. C. Kruger, Santa Fe, N.M., were architects.

Scheduled for completion at the beginning of January, the first families—the George Nepevuxes, C. J. Buckleys and W. E. Gillilands—moved into the first completed houses March 13th.

Garages Are Attached
The units, Southwestern ranch-house style with wide overhanging eaves, have exteriors of stucco in pastel shades. Each unit has an attached garage and a separate storage room.

All utilities, such as street paving, curbs, gutters and sidewalks, were completed under contract with the builders by the Government, under the supervision of the U. S. Corps of Engineers headed by Col. C. E. McNutt, Albuquerque.

(Continued on Page 6)

Some Long-Timers In Military Units

The 1st GM Brig. Det. has the largest number of "old-timers" among the military personnel on post who have been here five years or more.

Col. C. Q. Wadsworth leads the list for the 1st GM, along with Captains Bryan and Pettijohn.

Other early military arrivals were 1st Lt. Frank H. Beighley, M/Sgt. William Dennison, Sfc. Harold Wiatrowski, Cpl. Joe T. Blackwell, M/Sgt. Dick E. Smith, and M/Sgt. Carol Stracener.

M/Sgt. Ray E. McDaniel is the sole "long-timer" for Det. 1, 9393rd TSU, and M/Sgt. David Johns, of the NCO Club, was also one of the earliest arrivals.

The 4119th ASU lists M/Sgt. Carvel Q. Gilmore for its sole pioneer and Sgt. N. A. Schmidt holds down the title for the 4119th ASU.

WIND & SAND

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This Anniversary Issue Dedicated to 'Old-Timers'

With this issue of Wind & Sand we observe the eighth anniversary of White Sands Proving Ground.

In observance of the occasion we have tried to give our readers a near-complete picture of the growth of the installation and to preserve, for the future, a partial record of the accomplishments achieved by our post personnel, both military and civilian.

Without the continual and coordinated efforts of the "Old-Timers," who changed the Proving Ground from a tent cantonment to one of the nation's foremost military establishments, we would not have reason for this special edition.

We have attempted to list the names of all who have been militarily assigned to, or employed as civilians, at WSPG over five years. Due to the shortage of time we could spend in compiling this issue, and a shortage of personnel, we may have over-looked some of these "pioneers" of the Proving Ground.

To them, along with those whose names are listed elsewhere in this issue, we sincerely dedicate this anniversary edition of Wind & Sand.

Signal Corps Has Active Role In Growth of Proving Ground

By Pvt. J. Carter

With the activation of White Sands Proving Ground, the Ordnance Department directed the coordination of various associated sections, one was the Signal Corps Engineering Laboratories of Fort Monmouth, N.J., which was requested to provide facilities at the new installation.

As a result 10 men and two modified SCR-584 vans were dispatched from Fort Monmouth to the Proving Ground on April 2, 1946. This constituted the birth of SCFL Field Station No. 1.

"A" Station was established one mile south of the Army Blockhouse where, with a few pieces of equipment, operations were under way until the summer of 1947. Here the first V-2 rocket was fired from WSPG and was the first to be successfully tracked in the United States.

Asked to Remain

"A" Station equipment was moved to the present site of "C" Station for permanent quarters because the development of the rockets demanded more equipment and different launching conditions.

The Ordnance Department requested the Signal Corps to re-

main at the Proving Grounds for certain duties such as the provision of communications and instrumentation for ballistics. The plan was approved by the Office of the Chief Signal Officer.

Majors Herbert N. Osturn and Peter E. Watras figured prominently in the earliest stages of development. Major Osturn originated the plotting board system of missile control, while Major Watras supervised the building of the radio control station near Alamo Lookout.

9577th Activated

Activation of the 9577th TSU came about on the 1st of January, 1949, at Fort Bliss. The purpose of the activation of the unit was to supplement the groups already working on missile research.

The activation of the new unit was followed by the consolidation of White Sands Proving Ground and Holloman Air Development Center Project on March 24, 1950. Conditions bringing about the consolidation were to combine management, command, operations and budgets, the latter for prevention of economy and prevention of over-lapping activities.

Another Signal Corps operation, begun September 1, 1951, was the

WHITE SANDS WOMAN WINS SLOGAN CONTEST

Mrs. Thomas Tyson of White Sands Proving Ground is the winner of a "Safe Driving Slogan Contest" conducted over radio station KR0D, El Paso.

Mrs. Tyson's slogan is "Thank Safety Rules for your accident that didn't happen." Her entry was selected from among hundreds submitted by listeners all over the Southwest.

Mrs. Tyson's husband is employed at the Flight Determination Laboratory, WSPG.

As winner of the contest, Mrs. Tyson received a 1953 model radio. Bob Fulton, KR0D announcer made the presentation during the program Saturday.

gathering of data for the Armed Services, commercial airlines and shipping companies, concerning future weather conditions. The data was furnished by the White Sands Ionosphere Station working in conjunction with the National Bureau of Standards.

169th Arrives

Arrival of the 169th Signal Construction Company, October 26, 1949, added yet another unit to the growing agency. This group arrived en masse from Camp Gordon, Ga., and comprised six officers and 210 enlisted men.

One of the most important jobs, that of the Area Frequency Coordination during operations, was organized in 1946 to minimize interference for range instrumentation. It was improved in 1948. The group controls the area within a radius of 150 miles of the Proving Ground. Maj. Peter Watras was the first commanding officer of the AFC.

Late in 1952, several changes were made at the Proving Ground. The major change was the birth of the White Sands Signal Corps Agency. In August, WSSCA was placed under the control of the Chief Signal Officer with its designated mission to provide communications and electronic assistance to the Proving Ground.

14th Signal at HADC

Range Instrumentation began installation of equipment for tracking missiles in their new building at Oscura Peak during September, 1952, and June of this year brought the small force of one officer and 18 enlisted men who were the forerunners of the 14th Signal Operations Company. This unit is now stationed at HADC and is commanded by Capt. Thomas Peterson.

December 18, 1952, brought five Micro-Wave Relay teams to the Proving Ground from San Luis Obispo, Calif. This detachment was the first of the 837th Unit and remained attached to the 6th Army.

In a history of the Proving Ground, it is also just to mention the civilian employees who have contributed to the increasing importance of the activity. O. M. Covington is one of the pioneers of the installation. He has been continually employed since the activation of Signal facilities at the Proving Ground.

Col. Earl F. Cook assumed command of Signal activities at the Proving Ground last year. A native Floridian, he was graduated from West Point in 1931 and has had a continuous and honorable military career which included a number of important assignments overseas.

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Always Get Your
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Our Congratulations to the Personnel of White Sands Proving Ground on This Their 8th Anniversary! . . . We are happy that we are able to offer these Outstanding Values at Such Low Prices During Your Anniversary Celebration!

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STOCK-UP!

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All Wool Blankets

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72" x 84"

Penney's opens its big annual July Blanket special! A pure wool blanket . . . wonderfully warm, richly textured, bound in acetate satin. 7 new colors match-up with all our solid color blankets. And Penney's offers 5-yr. guarantee against moth damage.

EXTRA LENGTH!

All Wool Blanket

Warm, fleecy . . . with 6" extra length for plenty of tuck-in. Acetate satin bound. 5-yr. guarantee against moth damage.

990
3 1/4 lb.
72" x 90"

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All Wool Blanket

Luscious winter weight blanket . . . thicker, close-woven. Acetate-satin bound. Guaranteed for 5 years against moth damage.

1190
3 1/2 lbs.
72" x 90"

DOUBLE WOVEN

NEW SCIENTIFIC BLEND BLANKET
790 72" x 90"

New blend (75% crimped staple rayon, 15% cotton, 10% wool) has thicker nap with remarkable permanence. Double weave gives almost double thickness. Acetate-satin bound.

CHOOSE NOW ON LAY-AWAY!

PENNEY'S



Husky 4 Lb.

All Wool Blanket
1375

72" x 84"

Handsome sportsman's blanket with magnificent depth of texture . . . so warm you can use it outdoors. It's creamy white bordered with brilliant stripes, doubles as a coverlet in dorm, lodge, etc. Whip-stitched. Also: scarlet with black stripes.



Flower Basket

Jacquard Blanket
690

72" x 90" — 3 1/2 lb.

Perfect for comfortably cool nights, ideal as an "extra" in winter, so handsome it even doubles as a coverlet. 65% rayon, 25% cotton, 10% wool. Acetate satin bound. . . 7 lovely colors.



2-Fold Plaid

Pair Blanket
549

72" x 84" — 3 1/2 lbs.

Double warmth! Woven in one long 168" piece, this Penney blanket folds over . . . traps air between 2 layers of cozy blanketing. 75% cotton, 20% rayon, 5% wool. Hunter, geranium, blue, wine, rose. Acetate satin.

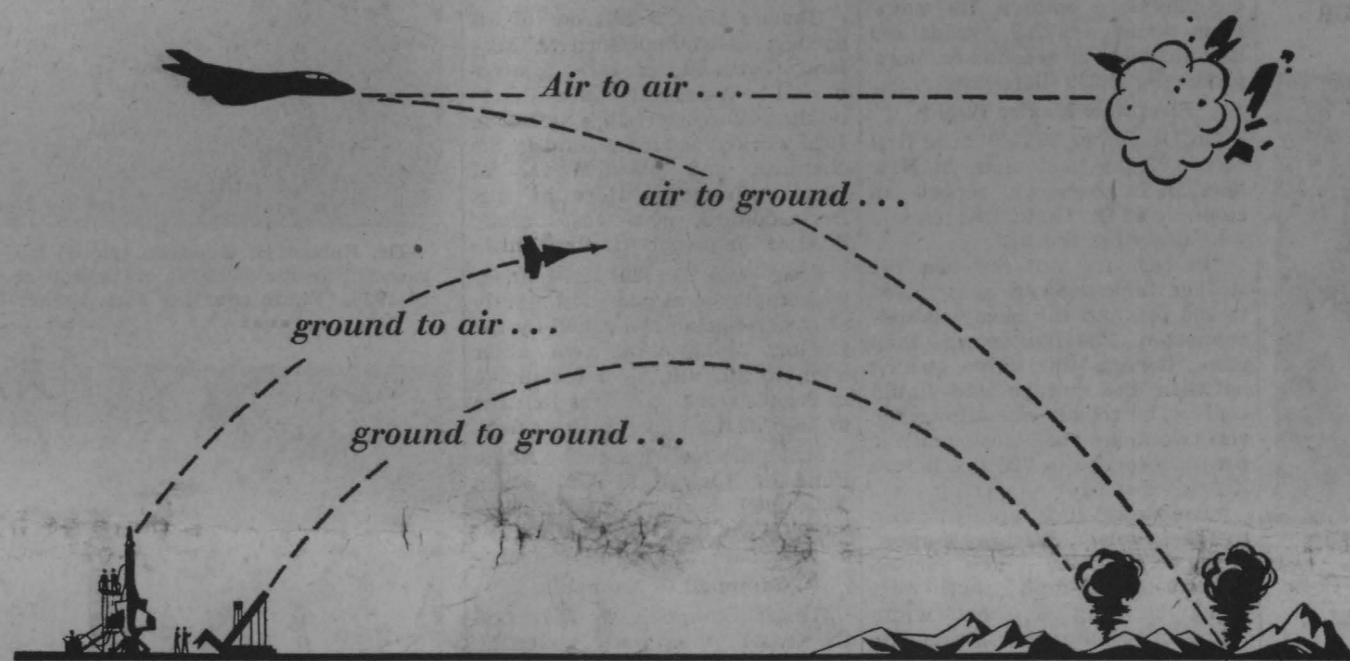


WSPG, 1946—This composite picture taken in 1946 by Fred A. Koether, then stationed here with the Army and now Chief of the Technical Information Branch, shows how the little desert station looked in those days. Photographer Koether was standing in a bare spot upon which Headquarters Building was later to be erected. He was facing toward the Organ Mountains to the southwest when he snapped the two pictures which have been put together to make the one view of what was then the entire main base. Note the tents in the left foreground, where the Headquarters Building parking lot is now located.



WSPG, 1953—This composite taken last month by Sfc. K. C. Uchima from the roof of Headquarters Building takes in approximately the same area as Mr. Koether's 1946 photo, but shows that the post has grown considerably. This is only a small portion of the WSPG of today, while Mr. Koether's 1946 composite shows virtually the entire main base of seven years ago. Only one or two buildings located north of the present PX Cafeteria and west of the present Officers' Open Mess were not in the 1946 picture.

The people of Douglas Aircraft Company, Inc. are proud to have been associated with the White Sands Proving Ground and wish to congratulate them on their 8th Anniversary. It is our earnest hope that this pleasant association will continue for many years to come.



Douglas Guided Missiles

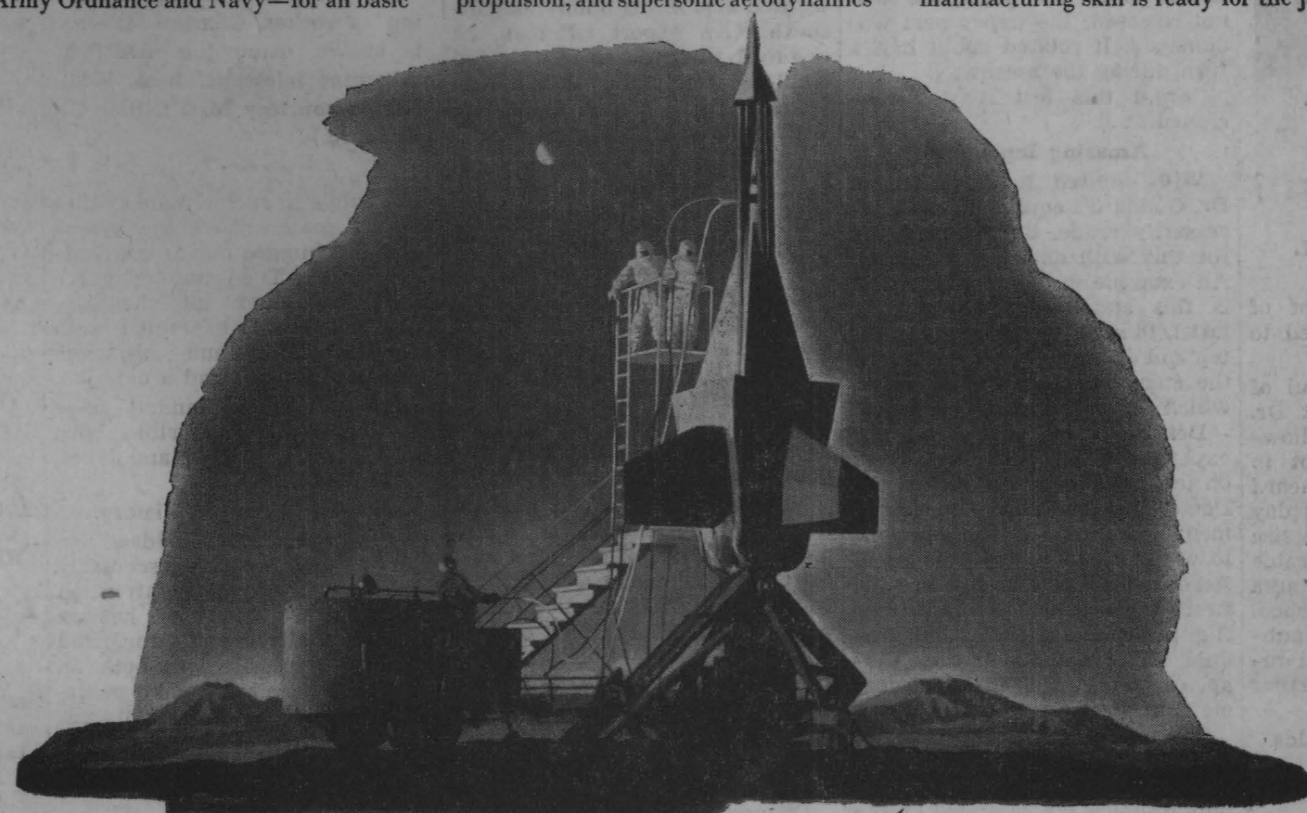
Increasingly important to the nation's defense, guided missile research and development has been a vital project at Douglas for more than ten years.

During this time, Douglas engineers have helped develop missiles for both Army Ordnance and Navy—for all basic

uses. Some to be fired from planes at planes . . . some from planes at surface targets . . . from the ground at aircraft . . . and from the ground at surface targets. Douglas has contributed to the science of automatic control, guidance, propulsion, and supersonic aerodynamics

—and has developed automatic computers needed in guided missile design.

Development of new guided missiles is further evidence of Douglas leadership, and now that the time to produce missiles *in quantity* has come, Douglas manufacturing skill is ready for the job.



Depend on **DOUGLAS**



First in Aviation

Father of Modern Rocket Left Invaluable Legacy for WSPG

Dr. Robert Hutchins Goddard Made History; 3 Associates Now Work at Proving Ground

(Editor's note: We are grateful to Esther C. Goddard (Mrs. Robert H.) of Worcester, Mass., and Mr. G. Edward Pendray, editors of the book "Rocket Development," a compilation of Goddard's experiment reports during the Roswell period, and to Mr. Pendray's book "The Coming Age of Rocket Power," for information and quotations used in this article. We are grateful also to Mrs. Goddard for supplying us with some of the pictures which she herself took during Dr. Goddard's work.)

By Pfc. Richard G. Smith

Except for the genius and amazing persistence of one man, an American physicist, Dr. Robert Hutchins Goddard (1882-1945), White Sands Proving Ground would not be celebrating its eighth anniversary this month. Now recognized as the father of the modern rocket, and likely to become a legendary figure, Dr. Goddard left an invaluable legacy for the use and profit of White Sands. To a great extent, this legacy was created just 200 miles from here at Roswell, N. M.

In the broadest sense, Dr. Goddard's legacy consisted of a rebirth of practical interest in the rocket field, which had lain dormant since the work of Congreve, a 19th Century British scientist.

Left Valuable Legacy

As a more personal legacy he left a score of inventions leading, among others, to the "bazooka," the jet airplane and the V-2 missile—for which German scientists, in irony, give much credit to Dr. Goddard.

For rocket engineers today, he left papers on rocket propulsion and theory, and meticulous notebook accounts, photographs and motion pictures of his experiments, which are still being studied at White Sands, for he knew more about rockets 10 years ago than engineers here have as yet learned.

Dr. Goddard left also a living legacy—his assistants—three of whom are now working at the Proving Ground. They are Charles W. Mansur, Chief of the Measurements and Service Laboratory, Electro-Mechanical Lab; Albert S. Campbell, Foreman of the Modification Branch, Systems Test Division, and Lowell N. Randall, Project Engineer for the Electro-Mechanical Division.

Began Studies at 17

Dr. Goddard was born in Worcester, Mass., on October 5, 1882. As a young man of 17 he began to speculate about conditions in the upper air and beyond and to consider methods to reach these regions. He began to satisfy his curiosity as early as 1908, conducting experiments with small rockets in the cellar of Worcester Polytechnic Institute. As one can imagine, he often had to do a lot of fast talking to get out of trouble.

An early demonstration of Dr. Goddard's inventiveness and mechanical talent is a paper which he read before his freshman class at Clark University. In it, he described a railway line in which cars traveled suspended without any metal to metal contact over electromagnetized rails. Ten years later a French inventor, Emile Brachelet, proposed a similar plan which was presented to Dr. Goddard for criticism. Included in the Doctor's critique was a short story based on the theme of ten years before.

Gets Smithsonian Grant

The young man became a professor of physics at Clark University, Worcester, and here made important contributions in the fields of electricity and magnetism. He carried on this work during a brief fellowship at Princeton University (1912-13), but soon returned to his first love, the study of rockets and jet propulsion, and to Clark, where he maintained connections until 1943.

Such was Dr. Goddard's enthusiasm about rockets that he spent a large part of his slender salary as a professor for experimentation with solid fuel rockets.

By 1916, Dr. Goddard's work reached an extent beyond his personal financial means. He was in the exciting period of early discovery. His calculations showed that only a little fuel could lift a payload to really great heights by rocket. Anxious to transform his figures into mechanical reality, though not experienced in self-promotion, he cast his theory into scientific form and submitted it to one foundation after another. Finally he was rescued by the Smithsonian Institution with a total grant of \$11,000 that was stretched through to 1929.

First Rockets Fired

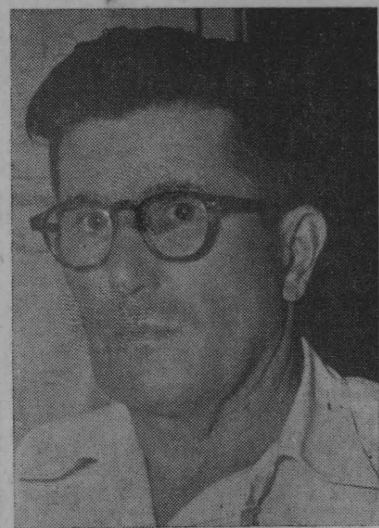
This period included the first flight of a liquid propelled rocket—using gasoline and oxygen for fuel—which took place on a farm in Auburn, Mass., March 16, 1926. The rocket was an odd and fragile looking device, ten feet long and held together by its piping. The



CHARLES W. MANSUR



LOWELL N. RANDALL



ALBERT S. CAMPBELL

motor was located in front of the fuel tanks, then believed to give stability.

Until 1929, only a handful of specialists had heard about Dr. Goddard. On July 17, 1929, however, came the second shot in Massachusetts to be "heard around the world." On this day a rocket of relatively large size was fired. It made considerable noise and residents near the area thought an airplane had crashed.

As a result of unfavorable publicity, the state fire marshal refused permission for any further testing.

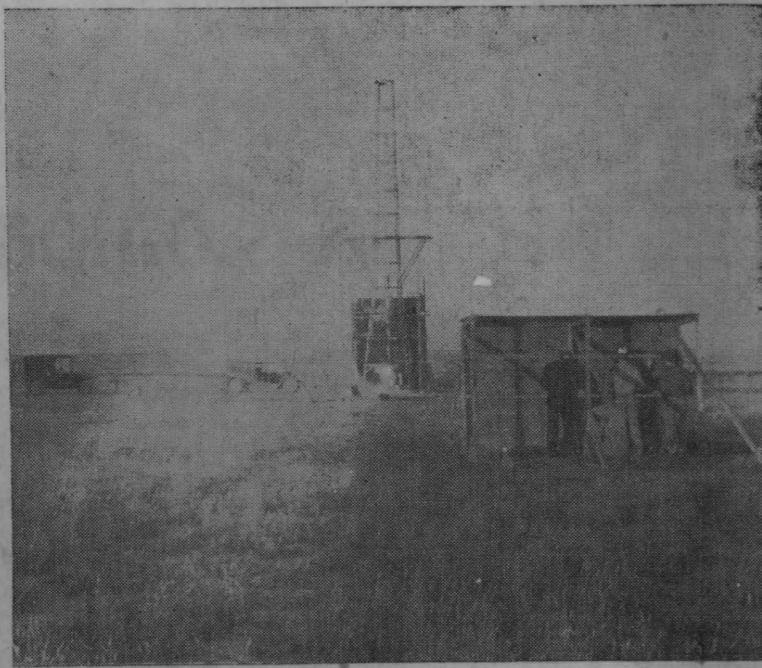
Guggenheim Foundation Aids

Nevertheless, the incident was fortunate, for it drew the attention of Col. Charles A. Lindbergh, and through him the Guggenheim Foundation. Although the Doctor's grant amounted to only \$18,000 annually, according to Mrs. Goddard, he was now able to move to the freedom of Roswell.

In August 1930, Dr. Goddard, four assistants (including Charles Mansur) and all his equipment was moved to the Mesalero Ranch near Roswell, where a shop with 35-x-50-ft. floor space was erected. At the rear of the ranch house a 20-ft. tower was built for making static tests, and 200 feet from the shop a 60-ft. tower was erected for flight tests.

Built Dependable Motor

A concrete gas deflector was constructed at the base of the test stands to avoid the formation of a dust cloud during a run, and the gases were directed through a pipe and out behind a sheet iron shelter which was built around



Watching a static test, November, 1937. The rocket employed a 5/4 in. diameter motor using nitrogen gas for pressure. A Sept motion picture camera was mounted on the 40-ft. tower. The test was controlled from a wooden lean-to 55 feet away and also observed from a shed at a 1000-ft. distance. (Photo courtesy Mrs. Esther C. Goddard.)

three sides of the tower's base. Located only 55 feet from the tower was a wooden shelter covered with corrugated iron and provided with a narrow slot for observation and control lines. An 85-ft. steel launching tower erected later now stands on the Historical Museum grounds in Roswell as a memorial.

The first project was to develop a standard rocket motor which would deliver dependable power. The motor finally produced was 5/4 inches in diameter and weighed five pounds. Its maximum thrust was 289 pounds and it could burn 20 seconds or more, producing 1,030 horsepower.

First New Mexico Flight

On December 30, 1930, the first rocket flight took place in New Mexico. In his own report—an example of Dr. Goddard's method—he describes the test:

"In carrying out the test the storage-tank pressure was raised to 200 psi, and the hose was disconnected. The igniter was then fired, the gasoline valve opened between the storage and liquid tanks. The rocket was allowed to rise two inches, as before, and the pressure to rise to 225 lbs. before it was released.

"The rocket rose rapidly within the 60-ft. tower, reaching a speed of 60 or 80 mph. It headed into the 10-or 12-mph south-west wind, showing a short white flame unaccompanied by smoke. It finally became horizontal, the flame disappearing a second or so afterward. The rocket then left a grayish smoke trail and made a whistling noise heard easily half a mile away.

"From the recording telescope record, the greatest height was 2,000 ft., reached 400 ft. from the tower in seven sec. The firing time was 8 to 8.5 sec. The rocket landed about 1,000 ft. from the tower; since the parachute was not released, the upper part was damaged. It rotated about half a turn during the ascent.

"From this test it was concluded..."

Amazing Ingenuity

With limited funds, much of Dr. Goddard's equipment was necessarily crude, but he made up for this with amazing ingenuity. An example in one of his reports is this statement: "During the last 1/16 in. of possible travel, the top end of the rod pressed against the stem of a bicycle-tire valve, which served as a safety valve."

Despite these handicaps, the experiments at Roswell carried on until October 1941 (when the Doctor, his assistants and equipment were moved to Annapolis to work for the Navy Bureau of Aeronautics), resulted in the first gyroscopically controlled flight (April 19, 1932) and gradual improvements in the guidance system, which included nozzle vent steering.

The propulsion system was also developed. From the early method in which relatively low running pressure was supplied by the

fuels themselves, to the use of an auxiliary nitrogen tank by which high pressure was supplied via an ingenious and complicated bellows pump, and finally to the development of a sturdy two-fuel-pump system. Gradually the initial shock or starting explosion was being eliminated.

Mansur Right-Hand Man

Dr. Goddard's assistants varied from month to month and he rarely had more than four or five men working with him at one time.

Charles Mansur was one of his earliest assistants. Born at Rutland, Vermont, in 1905, Mansur moved to Worcester and while attending Worcester High School in 1925 worked as an assistant in the chemical and physical lab at Clark University. Here he met Dr. Goddard, who was already head of the physics department.

From 1925 to 1929, Mr. Mansur was employed at odd jobs, mainly at gas stations, until asked by the Doctor, along with two other men, to aid him as a technician in rocket work. His first job was to help in the move to Roswell.

Mr. Mansur married Addie Bond of Roswell in 1937. From 1925 until the death of Dr. Goddard, August 10, 1945, he served as the Doctor's right-hand man.

Campbell to Annapolis

Albert Campbell was born in the small town of Provencal, Louisiana, in Sept. 1895. His father was a school teacher and as a youth Campbell moved often throughout Texas and the "Panhandle." For twenty years he held odd jobs as an auto mechanic working through Texas, Wyoming and California, all the time gaining engineering ideas.

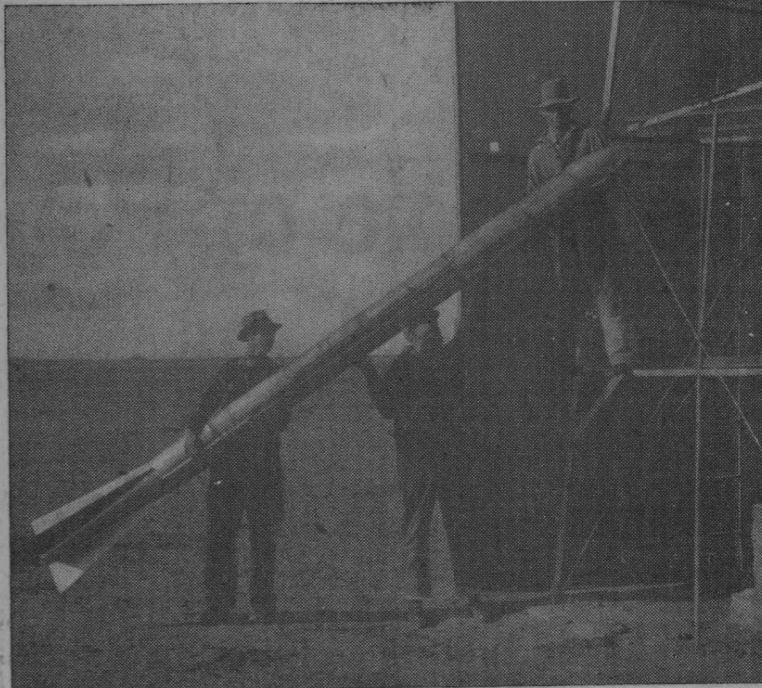
In 1936, Mr. Campbell moved to Roswell and set up an experimental workshop, where he worked also in his hobby as gunsmith. (An expert rifleman, he has over three dozen medals and trophies won while with a rifle team at Camp Perry, Ohio, and with American Legion teams.)

Randall Gets New Job

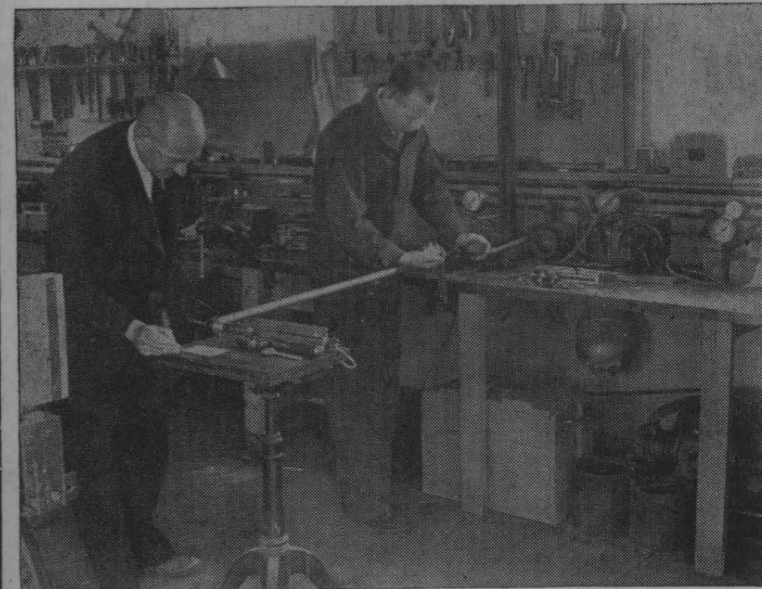
Lowell N. Randall was the youngest and most recent of Dr. Goddard's assistants. Born in Roswell May 12, 1915, he was graduated from Roswell High in 1933. Until February, 1941, he worked with a furniture company in Roswell.

Mr. Randall, however, made a hobby of mechanics and airplanes. He developed a gyroscope drift indicator using a lathe borrowed from a bicycle shop. Curious about the work going on just outside of town—which had an air of mystery and intrigue—and also wanting to know if his gyroscope-indicator was of any value, Lowell Randall determined to ask Dr. Goddard.

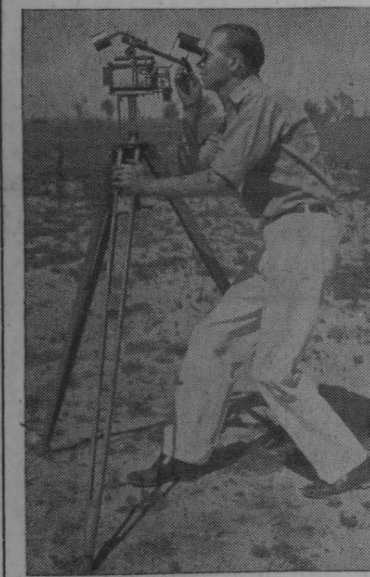
Connecting his invention to his



Placing a rocket in the tower, February 16, 1935. Using gyroscopic guidance control, which Dr. Goddard steadily improved, a 10-degree deviation was permitted from the vertical at this time. Thus, during the first few hundred feet of flight, the rocket looked like a fish swimming gracefully up into the air. (Photo courtesy Mrs. Esther C. Goddard.)



Dr. Robert H. Goddard (right) and Charles W. Mansur doing research in the 35x50 ft. workshop near Roswell, N.M., in the fall of 1938. (Photo courtesy Mrs. Esther C. Goddard.)



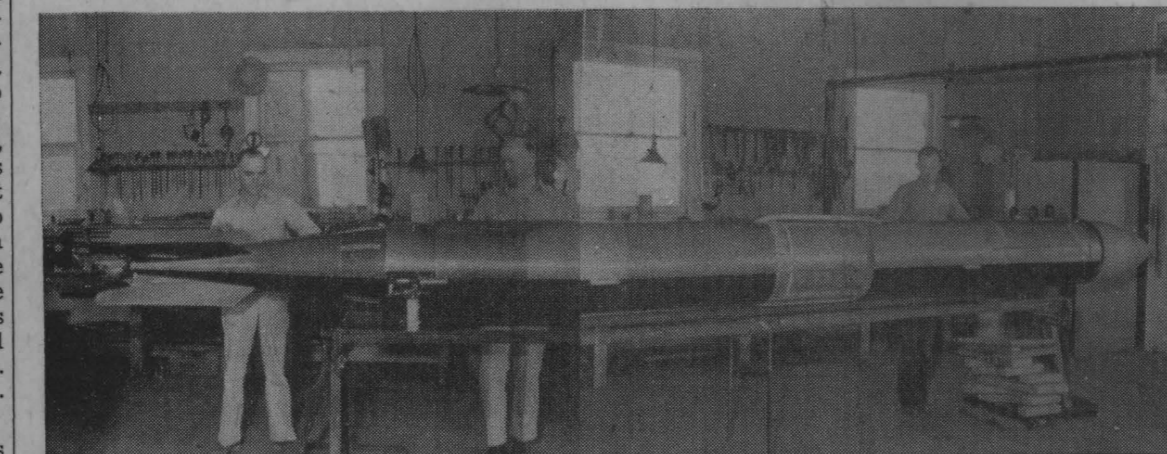
An early method of "tracking" a rocket. Charles Mansur is shown using the modified recording telescope, June, 1936. (Photo courtesy Mrs. Esther C. Goddard.)

automobile in such a manner that the car motor drove the gyroscope, he chugged out to the Goddard farm. The running gyroscope was brought into the Goddard house and examined with utmost caution and suspicion. Soon Mr. Randall had a new job.

Mr. and Mrs. Randall have three daughters: Martha, born 1940; Linda, born 1946, and Janet, born in 1950.

Goddard Changed History

To a stranger, Dr. Goddard appeared quiet, sensitive, scholarly and reluctant to draw attention to himself. To his friends he was friendly, witty and unfluffed with obstacles. He was both an accomplished pianist and a painter who enjoyed entertaining his friends. A victim of tuberculosis, he might have done nothing. Instead, he changed the course of history.



Front and rear views juxtaposed to provide a complete view of a Goddard rocket tested February 9, 1940. This rocket was one of a series begun in Sept., 1938, to develop propellant pump drive. The rocket had an over-all length of 21 ft. 11 3/8 in., weighed over 236 lbs., and used 500 lbs. of liquid oxygen and gasoline fuel. It developed between 600 and 700 lbs. initial lift and contained a landing parachute in the nose. Shown with the rocket are (center) Dr. Robert H. Goddard, (right) Charles W. Mansur and (left) Nils T. Ljungquist. (Photo courtesy Mrs. Esther C. Goddard.)

Tail-Winds

By Ruth A. Mabe

Capt. Jon H. Gray, L-19 pilot on ninety-day TDY to WSPG from San Luis Obispo, California, arrived on the Post Monday, 29 June. Capt. Gray feels very much at home, since his home town is Albuquerque, New Mexico. His wife, Mary K., and two children, Jon H. Jr., 10, and Patsy, 6, will remain in California.

Capt. Gray is a little "publicity shy". . . He insists that he is neither romantic nor a hero, therefore should not have his name in the paper. . . Isn't that an odd attitude for a MAN? . . . Reminds me of HST!

Welcome to Maj. W. C. O'Kelle, Range Recovery Officer, who replaced Capt. E. P. Regritto. Like a duck takes to water, Maj. O'Kelle has hit the BLUE. . .

Col. J. G. Bain, Sandia, New Mexico, a familiar figure around Condon Field for the past few years, made a farewell visit last week. Col. Bain is joining the Allies in Washington, D. C. . . For the past two years, Col. Bain has flown his private plane between Sandia and Condon Field. . . We will miss him. . . No, he will not be flying in from Washington. Due to the distance, he said that he had sold his plane.

How do I keep the fellows around Condon Field in line? Easy. I just keep a lizard near my desk. (Wonder if Marilyn Monroe has ever tried that? . . .)

A/2C John Giumarra, crash crewman, reported for duty at Condon Field 23 June. This brings the total personnel assigned Condon Field to sixteen Airmen, one Army and one civilian; just double the number of one year ago.

MEDITATION: With necklines getting lower and skirts getting shorter, maybe "The Twain WILL Meet". . .

'Police Gazette'

By C. J. Bickley

The weather, along with tempers, is making things very warm for us here in the PMO. The vehicle inspection is assisting the heat along this line. Many persons are coming into the vehicle registration section with papers which are improper or they lack papers, mostly insurance.

The largest number of vehicles being rejected at the inspection is due to mufflers which are too loud. It has been established that mufflers which are too loud are prohibited by the State of New Mexico. Also, this is a regulation at this activity.

It has been written that a car which is in perfect mechanical condition but the exterior is in need of re-conditioning has been turned down by the "COOK." This so-called "COOK" has been with the Military Police Corps for a number of years and probably could not boil water without burning, but is very apt at inspecting vehicles.

If one looks on the reverse side of the vehicle registration form it shows a space for "General Appearance"—need I say more! . . .

By the time this hits the paper Capt. Sweeney, the PM, will be on leave.

Remember of all the "NUTS and BOLTS" in an automobile the biggest one sits behind the W—L.

The average automobile cost \$2,000, but you can't take it with you—drive carefully.

New Arrivals

MILITARY—

Cpl. Ernest Patrick, 9393 TSU, former resident of Walterboro, S. C.
Pvt. Thomas W. Sowers, 9393 TSU, former resident of Bradford, Penn.

Pvt. Daniel B. Tyeck, 9393 TSU, former resident of Buffalo, N. Y.

CIVILIAN—

Miss Maria Elena Amezcua, 343 E. Amador Ave., Las Cruces.

Cecil O. Barr, Radio Repairman, Las Cruces, former resident of Anson, Tex.

Miss Frances Ann Bennett, Physical Science Aid, Silver City, N. M.

Miss Alberta Marie DuLavey, Clerk-Typist, 1208 Klein Drive, Las Cruces.

Don Gordon Duncan, Mathematician, 1816 Mabel St., Tucson, Ariz.

James Elmer Gearhart, Field Maintenance, Mesilla Park, N. M.

Warren Gorrell Jr., Physicist, former resident of Chicago, Ill.

Eligio C. Griego, resident of WSPG, former resident of Lincoln, N. M.

William H. Merrell, Security Guard, resident of Fort Stanton, N. M.

Ignacio Lloyd Miller, Security Guard, resident of Capitan, N. M.

Mrs. Betty Schumpert Payne, 526 W. Missouri St., El Paso.

Kiwanians Hear C of C Manager

Clint Smith, Secretary-Manager of the Mesilla Valley Chamber of Commerce, Las Cruces, was guest speaker at a meeting of the Mesilla Valley Kiwanis Club Tuesday night, June 30, at the Lions Park house.

Stressing public relations, cooperation and the value of setting definite goals in advance, Mr. Smith discussed the history and past accomplishments of the Mesilla Valley Chamber of Commerce and then outlined the organization's plans for the future.

Wayne M. Roemersberger, president of the Kiwanis Club, presided at the business session. Visiting members of the Las Cruces Kiwanis Club, sponsor of the new Mesilla Valley Club, were Bill Ambrose, president; Chester Adams, vice president; and Bob Bradley, Vance Wilkins and Jack Gregory, members.

Visiting from the Downtown Kiwanis Club of El Paso was Jerry Harris.

Charter night ceremonies for the new club are scheduled tentatively for Saturday night, July 18, at Milton Hall on the New Mexico A&M College campus.

Eddie V. Blackmore, Son of Former CG, Follows Dad's Lead

Eddie V. Blackmore, son of the former Commanding General of White Sands Proving Ground, is following in his father's footsteps.

But while the father, Brig. Gen. Philip G. Blackmore, was an Army career officer and guided missile technician until his retirement in January 1950, the son is a civilian guided missile technician.

Young Blackmore is now employed as a Laboratory Electronics Mechanic in the Propulsion Branch, Electro-Mechanical Laboratories Division, WSPG. He also is Administrative Assistant for the Propulsion Branch.

Eddie lived on the post with his family while his father was Commanding General. He left WSPG in 1950 when General Blackmore retired and moved to San Francisco, Calif. After completing his education in California, Eddie Blackmore returned to WSPG in September 1952.

He has been assigned to the EML Propulsion Branch since March 22, 1953.

General Electric Co. Participation in Armed Forces Guided Missile Programs Covers More Than 8 Years

By P. F. Gavaghan

Project Hermes was established by the Army Ordnance Corps on November 15, 1944, for development, fabrication and test of a series of surface-to-surface tactical missiles by the General Electric Company. Out of this initial project has grown an association between the Armed Services and G.E. that has lasted more than eight years, and has involved activities in all phases of guided missile design.

General Electric's participation in missile programs can be tracked back to the very origins of American entry into the rocket field. G-E scientists, including Dr. R. W. Porter (now manager of the Guided Missile Dept., Aeronautic & Ordnance Systems Division), travelled into Germany on the heels of the invading Allied armies before V-E Day. In addition to invaluable design information, they inspected captured components for 100 V-2 missiles, all of which were immediately shipped to Las Cruces, New Mexico, for testing.

Assignment Defined

The V-2 testing program executed by General Electric ran historically parallel to the already functioning Hermes Project. They complemented one another, since components for Hermes tactical missiles were tested on the German rockets. G. E.'s V-2 assignment was defined as follows:

"In general, this work will consist of the firing of German rockets. . . Also included is the necessary work in connection with the actual firing such as transporting, handling, unpacking, classifying (identifying), reconditioning, and testing of components of German rockets, as well as assembling and testing subassemblies and complete rockets, manufacture of new parts, modification of existing parts, conducting special tests, constructing temporary test equipment not available at the Proving Ground, procuring and handling of propellants and supervision of the launching of rockets."

The captured V-2 material was unloaded at Las Cruces in August 1945. With the assistance of military personnel and German specialists, the first rocket was static fired on March 15, 1946, and the first one to be launched went aloft on April 16, 1946. By June 30, 1951, the General Electric Company had supervised the construction, test and launching of 69 V-2 rockets.

Carrier Launches V-2

There were several important phases of this program, including activities of standard missiles, the Pushover Project, and the Bumper Project. Charles P. Thompson directed operations for G. E. at the scene initially, and was relieved for other duties by L. D. White, who is still in charge of field operations at WSPG.

At the Navy's request, the "PUSHOVER OPERATION" came into spectacular play in 1947. G. E. was responsible for rocket assembly and in assisting Navy testing operations. Three major tests were made to determine the effect of an exploding missile on a warship. Out of this successful investigation evolved "OPERATION SANDY," whereby a V-2 missile was launched from the deck of the USS Midway. This operation proved conclusively that a rocket could be launched at sea.

Altitude, Velocity Records

Within the V-2 program, the problems associated with two-stage missiles were explored. In the summer of 1946, the "BUMPER" Program was inaugurated. A WAC Corporal missile was attached to the nose of a V-2. Separation of the WAC from the V-2 for its own powered flight took place at the end of the V-2 burning period. The fifth of these "Bumpers" attained a speed of 5,000 mph and a height of 250 miles. This is the greatest velocity and the highest altitude ever reached by a man-made object.

The Bumper flights demon-

strated for the first time the feasibility of launching one rocket from another larger one after the latter has reached its full speed. Many problems of propulsion, aerodynamics, launching and handling and flight control had to be solved in order to bring about these successful flights. Illustrative of these problems was the difficulty in starting a liquid-propellant rocket at an altitude of nearly 20 miles. Two firings of Bumpers were also executed by G-E scientists at the Banana River Long-range Proving Ground in Florida.

Hermes A-1 Fired

The first G. E.-designed vehicle was flight tested at the White Sands Proving Ground on May 19, 1950. Five of these test vehicles, known as the Hermes GAL 2 W&S GENERAL ELEC. A-1, were fired by April 26, 1951. Chief value of the Hermes A-1 was that of an experimental prototype for research and development on tactically feasible surface-to-surface missiles.

In 1947, the Hermes telemetry system was successfully flight tested in a V-2. This meant that it was possible to transmit—from a vehicle in flight back to a recording ground station—performance data of the entire operating system. Since then, Hermes telemetry has been adopted by other missile projects, notably Nike.

Staffs Augmented

Concurrently, the General Electric Company was augmenting its research and development staffs. Original members of Project Hermes formed the nucleus for what was to become the Guided Missile Dept. of Aeronautic & Ordnance Systems Division. Extensive development programs were started at G. E.'s Campbell Avenue plant in Schenectady, N. Y., and Electronics Park at Syracuse, N. Y. In a large wooded area at Malta, N. Y., a testing station was set up with the collaboration of the Army Corps of Engineers, for static testing of liquid-fuel rocket motors and combustion experiments.

Project Hermes has involved G-E personnel in broad studies of the field of missile guidance, as well as recent classified work on specific missile design. Extensive studies were carried out on the Hermes "B" supersonic ramjet and the "C-1" long range rocket missile, before these projects were turned over to Redstone Arsenal in order to permit the G. E. group to concentrate its efforts on a single weapon.

Better Rocket Motor

Another achievement in the propulsion field has been the development of another type rocket motor incapable of the explosions or hard starts which have been a source of trouble with more conventional motors. This activity has been part of a consistent effort by General Electric to achieve its goal: more economical, simpler and more flexible missile systems.

General Electric is proud of this lengthy association with WSPG, dating back to pioneer

The Desert



NAVY

It is not often that we go out on a limb as we are about to do now, but the cause of the common man is something every writer should champion—not that we are any great shakes at writing, it is just that championing is a new experience, and we need the experience.

The subject of this bitter controversy is Levis, a type of pants. For some unknown reason these are not approved for wear in the Navy Club. Ten Gallon Stetsons are approved, cowboy boots are approved, fancy shirts are o.k'd. Why no Levis?

And another thing, we stand for equal rights—we have never seen a woman in Levis told to go home and change to the uniform of the day, which would probably be halter and shorts, and might be a good idea. Why not let these dudes play cowboy during their tour of duty in the Southwest? Incidentally, so that you don't think we are prejudiced, we don't own and have never worn a pair of the subject pants—the closest we have come is Navy dungarees—it's just the principle of the thing! Up the Irish!

Welcome Aboard: Sanchez, HM3, from Camp LeJeune, N. C.; Stephens, SK1, from US Naval Station, New Orleans; Tate, TM3, from USS Bushnell (AS-15).

Separated: Goodin, ET1, to Orange, Texas, for separation.

Transferred: Fine, FT1, to Fire Control Technician School, Washington, D. C.; Dillon, ICCA, to Naval Hospital, Corpus Christi, Texas, for treatment.

Temporary Duty: Captain P. D. Quirk, to and from Bureau of Ordnance, Washington, D. C., in the last week of June.

Everybody wants to get in the act. Captain Quirk tells this one on Lt. Col. Manatt (Air Force): The Colonel is building a boat, and Lieutenant Commander Stecher was helping him drive nails, but throwing every other nail away. "How come?" says the Colonel. "On account of they have the head on the wrong end," says the Commander. "You're a heck of a sailor," says the Colonel, "those are for the other side of the boat!"

Launching of said boat will take place in the Navy pool on Saturday. Bets are being placed on whether it will float or not.

missile activities in this country, and hopes to furnish further scientific and engineering assistance to the Armed Services in programs of the future.

What's Being Done In Det. One

By M/Sgt. George R. Sanders and Pfc. Martin D. Wilner

FLASH!!! Cpl. Charles W. Smith and Miss Janet L. Elphick will become man and wife on July 11, in Watertown, Mass. "Smitty" has a life size portrait of Janet in his wall locker and she sure is a honey. Knowing "Smitty" pretty well, I can assure you their second piece of furniture will be a pool table. (Wonder what the first one will be?)

Overheard at the swimming pool: "This security badge sure is devilish on the ear, but we can't leave 'em on our clothes."

We wonder what deep, dark and sinister background causes M/Sgt. Eddie Rauhauser to awaken mornings and think he's in jail. Better "fess up" now, Rauhauser, your past will eventually catch up with you.

SONG OF THE WEEK: "I'm

'Old-Timer' Sedan Driver Sees WSPG Grow From Tent Camp to Busy Military Station

Sgt. N. A. Schmidt, 4119th ASU Medical Detachment, can claim the distinction of being the senior ambulance driver at the Post Dispensary and is believed to be the oldest, in length of service, among the sedan drivers for the Post Motor Pool. He was assigned as driver for both Brig. Gen. Philip G. Blackmore and Brig. Gen. G. G. Eddy before going to the Dispensary.

Schmidt, who has been nicknamed "Storky," due to his repeated races with the baby-bearing bird enroute to Beaumont Hospital, has watched the post change from a tent cantonment to its present city-like appearance. Recalling the changes during the past eight years, Sgt. Schmidt states the present Headquarters parking lot was filled with four-man canvas tents. It was routine, during the sand storm season, to chase down one's tent and blankets, by jeep, before breakfast.

Only One Mess Hall

The only mess hall on the post in 1948, according to Sgt. Schmidt, was located at the rear end of the present Dispensary. In the 18x20-foot room, recently used as a day room and currently as the administrative office, the entire post personnel was fed, exclusive of officers. The civilian complement then numbered about 50 persons, who were skilled technicians or scientists. Routine labor was performed entirely by military personnel.

Troops fed at the post's only mess were from the single battery of the 1st G.M. Battalion and the 40 to 50 troops which comprised

Walking Behind You." Dedicated to the M. P.'s who take the prisoners to chow.

We're going to have to send Pfc. Dick Symes back to school. He's already losing his heavy tan. (How you can get a tan like that in a classroom will have to remain one of life's many mysteries.)

The company beer party was a major success (Aspirin sales at the P. X. the next day broke a six-year record.) Everybody except the dayroom orderly was having a wonderful time. The men who were dishing out the beer were very democratic about it, working on the "one for me, one for you," system.

As the bartenders went down they were quickly replaced by others who used the same system. Needless to say we had 43 bartenders that night. To sum up the whole affair I will repeat the now immortal words of a Pvt-2 who said on that fateful night, "I'm not as drunk as some think peep I am and besides I'll have all day sober to Tuesday up in."

RECOMMENDED READING FOR DET. ONERS. . . "The Lost Weekend." The story of Saturday training. . . of course we do learn some things of interest such as how to lay a minefield and how to identify an Italian booby trap, or we can take care of anybody who shows symptoms of African sleeping sickness.

C'mon Rauhauser, "fess up."

the 9393rd TSU.

On Schmidt's arrival at WSPG, the Dispensary was officially an "infirmary" and a children's observation ward was a part of the set-up. Children of dependents were held for observation for childhood diseases warranting future quarantine. A similar ward was maintained for military patients kept overnight for minor illnesses.

Passing of an Era

Sgt. Schmidt's observations concerning the greatest change at the Dispensary is the fact that nightly two or more trips were made to Beaumont Hospital with expectant mothers. Now, "infanticians" provide their own transportation, barring emergencies, and the senior ambulance driver mourns the passing of the exciting night life of the old era when the installation was in its infancy.

Five Days Labor

By Rose Mai Lewis

We are happy to welcome Capt. Brechwald back into the fold following a three-weeks vacation to the CORN (???) tSate—Iowa, no less!!!

Walter Hass of the IBM Section has returned from his vacation to London, England. Walter flew over to attend the Coronation!!!

Art Dittmar is on vacation. . . Those lucky people who work in Field Measurements? ? ? ?

Terry Vandermuelen has returned to work (and in fairly good condition) following her vacation to New York. . . Joe Marlin really took a FLING, all the way to Alabama VIA California, and finally returned to good ole New Mexico. . . Bart and Ann Good tried to take in all the National Parks in the U. S. and Canada on their vacation.

Glenn Deahm spent his vacation in Colorado.

Frank Dickey spent his hard-earned vacation in California. . . Earl Peterson resigned recently to accept a position in New York.

Bill Rabe and Bob Cooper are proud papa's. Congratulations, You Guys. . .

We have another celebrity in our midst. Winston Shillito of the Field Measurements Branch made his debut on TV last week!!!

Austin Vick has decided to spend his weekends "Bustin' Broncs." Wonder who busts who?

We are happy to welcome Dr. Paul Jose into FD.L. Dr. Jose transferred here from Aberdeen Proving Ground.

FLASH: Who smokes the most cigars in one day? Col Manatt or Albert Jones? ? ? ?

The 106th Inf. Div. will hold its seventh annual reunion July 24-26 in Columbus, Ohio. D. B. Frampton Jr., convention general chairman, can be contacted at 1201 Huntington Bank Bldg., Columbus. (AFPS)

★ For Rent

EFFICIENCY APT. No dogs. Air-conditioned; quiet; redecorated. \$50 month. Furnished, or partly furnished, as desired. See at 1201 N. Second, after 5. Homer Gruver, Las Cruces Citizen.

THE FREQ'S

By Nettie Foresman

The Frequency picnic at Radium Springs last Sunday was a big success. A very enjoyable afternoon was spent swimming and playing volleyball. There were bathing suits of all shapes, styles and colors!!! Natch.

Dave Waddington was high-point man, or rather nearly broke his neck trying to be! Ft. Bliss and Holloman Sub Stations were well represented.

Don't believe that men can't cook. Pfc. Steve Cortes and Phil Phillips were unanimously declared chefs for the afternoon.

Maj. Hagerman is on a "much needed" vacation this week. We understand he plans to spend it remodeling one of his houses. (The one he rents to the attractive airline stewardesses, that is).

But Kay and Eleanor are still acting rather queerly? ? ? ?

ON THEIR

8th ANNIVERSARY

THE POPULAR

SALUTES THE

White Sands

Proving Ground

for their great

contribution

toward

Our Country's

Defense

popular

BY EBOOS CO.

El Paso, Texas

CONGRATULATIONS TO THE W.S.P.G. MILITARY

AND CIVILIAN PERSONNEL ON YOUR

8th ANNIVERSARY

From the

R. L. Dorbandt Motor Co.

YOUR PLYMOUTH-CHRYSLER DEALER

227 N. MAIN

LAS CRUCES

A WIDE SELECTION OF NEW CHRYSLERS AND PLYMOUTHs ON HAND

Over 20 Select Used Cars to Choose from

Priced to Sell!

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BEST WISHES

AND A

HAPPY ANNIVERSARY

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Maytag — Kelvinator

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141 S. MAIN

LAS CRUCES

FOR SALE

1952 Model Harley-Davidson Motorcycle

O. H. V.

Contact—

Sgt. Robert V. Wesley
138th Ord., WSPG

Phone WSPG 5245
or 5246

comb-1f

Post Has Had 3 COs In Eight-Year History

(Continued from Page 1)

nical Division prior to being named Deputy Commander.

Born July 4, 1895, in Norwich, Conn., General Eddy was graduated from the U. S. Military Academy at West Point in 1918. He received his Bachelor of Science degree from Colgate University in 1928, and his Master's degree in Business Administration from Harvard University in 1931. This year, General Eddy was awarded an honorary Doctor of Science degree by New Mexico A&M College.

Over the past eight years Colonel Turner, General Blackmore and General Eddy have guided and participated in the remarkable growth and development of White Sands Proving Ground. They have seen WSPG spring up from the barren desert and then grow from a small desert station to one of the nation's foremost research and testing facilities for the National Guided Missile Program.

History Made at WSPG

History has been made at WSPG during the past eight years. Some of it has already been recorded and published. However, due to its classified nature and the necessity for tight security in the present national emergency, much more of it still remains to be revealed to the public.

WSPG was made a permanent Class II installation on Sept. 16, 1948, when it became apparent to the nation's military planners that the guided missile program was to become a permanent activity within the Armed Forces.

Under Chief of Ordnance

An Army Ordnance activity, the technical functions of which are under the command of the Army's Chief of Ordnance, Maj. Gen. Elbert L. Ford, WSPG is unique in that every branch of the service—Army, Navy, Air Force and Marine Corps—is represented in its personnel. In addition, civilian establishments, both academic and industrial, are located permanently on the post. Also, the installation employs thousands of U. S. Civil Service Commission government workers, most of them employees of the Department of Defense.

The primary mission of WSPG is the developing and testing of intermediate range rockets and guided missiles. This testing involves the cooperative efforts of all the above groups, military and civilian.

'Desert' Navy's Association with Army At W.S.P.G. Makes for Unique Operation

(Continued from Page 1)

for field range instrumentation.

Over 70 Buildings

In general, it is recognized that missile handling and launching equipment must of necessity be constructed to fit a particular missile. For this reason, existing installations at WSPG were adapted to service the particular missiles intended for Army land use and Navy shipboard use.

A complete installation within itself, the Navy cantonment area contains more than 70 buildings, a large number of which are assigned primarily to technical work. Space is also provided within the area for associate civilian contractors.

Work with College

In addition to Army-Navy coordination of research and development, USNOMTF also works with New Mexico A&M College, by contract, for special types of services relative to testing and installation work on missile-borne equipment. Under this partnership with an agricultural college, the school also pursues new developments in both ground and airborne cut-off equipment.

The high performance missiles, some mechanical aid to human judgment is required in order to determine whether or not cut-off is necessary to a missile in flight.



NEW HOUSING AREA—The new White Sands Proving Ground Housing Project is shown from the air following completion in June. In the extreme right foreground is the Proving Ground Elementary and Junior High School. In foreground at left is the Post Commissary. The darker roads outline the new area.

ARC Water Safety Instructor Will Be In Area July 27-31

Anyone at WSPG who has a Red Cross Water Safety Instructor's Certificate and would like to have it renewed will have the opportunity to do so during the week of July 27, John P. Sydor, WSPG Red Cross Director, announced this week.

Also, anyone who has a Red Cross Senior Lifesaving Certificate and would like to apply for a Water Safety Instructor's Certificate may do so during that week, Mr. Sydor said.

Edwin Cram of St. Louis, Mo., National Red Cross Water Safety Instructor, will be in this area Monday, July 27, through Friday, July 31, the Red Cross Director reported. During that week Mr. Cram will test a group at New Mexico A&M College for the Water Safety Instructor's Certificate.

Anyone interested in the course is asked to contact Mr. Sydor at his office in Building T-1658, telephone 2-2123, before Mr. Cram arrives on July 27.

The Red Cross Director also reported that arrangements may be made at a later date for the children now taking swimming lessons at the WSPG Navy Training Pool to take their Beginner Swimmer tests for Red Cross certificates. More information will be announced later.

Don't censure a man for flirting with the waitress. He may be playing for big steaks.

FHA Accepts Finished Post Housing Project

(Continued from Page 1)

que District The project was planned to house 1,000 persons and cover an area of 50 acres.

While the landscaping has not been completed and lawns are not yet seeded, the units are otherwise finished and are already occupied by military and civilian post personnel.

The project includes 60 2-bedroom duplex units, 95 single 2-bedroom houses, and 80 individual 3-bedroom houses. All units have evaporative air cooling systems.

Civilian Jurisdiction

While the new housing facility is completely civilian in jurisdiction, excepting for the allocation of units which is handled by Maj. C. P. Crouch, Chief of Administration Division. Army regulations govern the rights of both contractor and tenant.

Under the provisions of AR 210-220, the new housing provided under the National Act is designed for residential use by military and civilian personnel of the Army, Navy, Air Force and Marine Corps, including employees of Government contractors assigned to duty at the installation. The allocation of such housing is subject to the discretion of the Commanding General of the installation, with maximum occupancy the obligation of the Command.

U. S. Sells Services

Charges for utilities and related services are determined by the Corps of Engineers and must conform to similar service charge levels in the area, but must not be less than cost to the Government which sells the services on a reimbursable basis.

Police and fire protection is furnished by the installation, under regulations. The collection of rents and administrative operation of the housing units are not the responsibility of the Command. However, there is a moral obligation on the part of the Command to see that tenants do not abuse the rights of the contractor within the limits of the installation. In this respect, tenants will be expected to conform to the general rules governing proper conduct with regard to property located within the confines of the Proving Ground.

Advertising Doesn't Cost, It Pays!

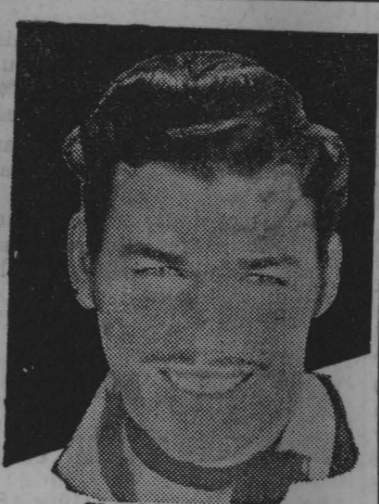
REISEL'S Greatest Clearance Sale Now in Progress

Men's Suits
19.75 - 29.75
39.75
Reg. to 69.00

In all wools, gabardines, shark skins, flannels, rayons and acetates, tropical worsteds. . . All tremendously reduced!

Sport Shirts
Extra Savings!
1.25 - 1.77
2.77 - 3.77

Complete stock; in long and short sleeves. Hundreds to choose from in linens, rayons, cottons, meshes. In all colors and patterns. Four big lots.



SLIM WHITMAN

Slim Whitman Show At NCO Club Tonight

Billed as America's favorite new folk singer, "Slim Whitman" and his troupe will entertain members of the WSPG NCO Mess tonight between 7 p. m. and 11 p. m.

Slim, a Navy veteran and former professional baseball player, has appeared on various radio programs in addition to cutting many major hit records.

The show is billed as the "Louisiana Hayride" and will include Sugarfoot Collins, Curly Harris and other talented performers from the world of radio and stage. A unique feature of the act is Whitman's method of playing the guitar. Being a "south paw" he strings his key board backwards but the results, according to his fans, compare with—or surpass—the efforts of other artists who play stringed instruments in the conventional manner.

Familiar to many radio listeners is the radio broadcast initiated over station KWKH, Shreveport, Louisiana, named with the same billing nom-de-plum that Whitman attaches to his show, namely "Louisiana Hayride." He has a definite right to bill the performance of his troupe as such as he is, or rather was, the originator of this sparkling review.

Members of the NCO Club and their guests are advised not to miss Slim Whitman's "Louisiana Hayride" show at WSPG tonight.

Congratulations on Your Anniversary!
Pittsburgh Plate Glass Company
EL PASO, TEXAS

Civilians With Long White Sands Service Outnumber Military at Eight-Year Mark

When it comes to "old-timers" or "pioneers" of the Proving Ground, civilian Civil Service employees outnumber the post's military personnel by a wide margin. This is due to the fact that the average serviceman's tour of duty at one station is shorter than the five years considered necessary to qualify as one of these "old-timers" now that WSPG is eight years old.

Long-time employees in the Civilian Personnel, Logistics, Safety, Comptroller, Facilities Planning, Field Maintenance and Field Service divisions include the following:

Civilian Personnel—Mrs. Mary Newman, Assistant Secretary, Board of Governors; Ray Torres, Wage Analyst; M. D. Silkiner, Assistant Chief (former Post Adjutant).

Logistics—Kenneth Ford, Inspection Branch; Bert Holmes, Equipment Inspector; Arthur D. Richards; James A. McSwain, Property Disposal Agent, Surplus & Salary Branch; Burt Brown, Research & Development Branch. Safety—Frank D. Mayes, Director.

Comptroller—F. W. Herlihy, Chief, Budget & Fiscal Branch; Dorothy Irving, Budget & Fiscal

Whalen Heads NCO Board of Governors

M/Sgt. Daniel W. Whalen, Det. 1, 9393rd TSU, was named President of the Board of Governors for the NCO Open Mess. The election was held June 27.

Sgt. Robert Myers will represent Air Weather Detachment on the new board, and CPO D. B. McGrath will represent the U. S. Navy.

Other members of the board include M/Sgt. Girstle R. Shaw, Det. 1, 9393 TSU; M/Sgt. A. I. Bagley, Det. 2; M/Sgt. Kenneth Seifert, Det. 2; M/Sgt. William E. Tucker, 9577th TSU; Sfc. Eugene Rhodes, 4119th ASU; Sfc. Ralph Friday, 169th Sig. Const. Co.; Sfc. Emil H. Struzik, 138th Ord. Co.; and Sfc. Fred E. Lundquist, 1st GM Brig. Det.



Congratulations on Your Anniversary!
Pittsburgh Plate Glass Company
EL PASO, TEXAS

Branch. Facilities Planning—Herbert L. Karsch, Assistant to Commanding General for Facilities Planning; Charles Brink, Survey Unit.

Field Maintenance—Lewis E. Vaughan, Body Shop Foreman; R. V. Duran, Ernest Dominguez.

Field Service—Lt. Col. G. P. Grant, Division Chief; Mrs. Luel-la Stark.

WSPG Navy Executive Has Multiple Duties

As Executive Officer for the Naval Facility at White Sands Proving Ground, Lieutenant Commander Lewis J. Stecher Jr., is also Operations Officer.

In addition, he is a member of the Shore Station Development Board, the Special Court Martial Board, the Reports Control Board, President of the Passive Defense Board, President of the Planning



Board for Training, the Work Planning Board, the Conservation Board, Navy member of the Range Scheduling Committee.

Lt. Cdr. Stecher, a graduate of the US Naval Academy at Annapolis, Md., attended the University of Washington in Seattle before going to the Academy. Later, he graduated from the Massachusetts Institute of Technology in Cambridge, Mass., with a Master's Degree in Electrical Engineering.

The Commander served aboard the USS Pensacola (CA-24), the USS Biloxi (CL-80), USS Perkins (DDR-877), and the USS Rochester, (CA-124), in the Pacific, for a total of 86 months. He wears the Commendation Ribbon with Battle Clasp.

He lives at WSPG with his wife, Carolyn, and two children, Susanne and Lewis J. III. His parents, Captain (USN Ret.) and Mrs. L. J. Stecher, live in La Mesa, Calif. His brother, Lieutenant Commander Robert W. Stecher, is attending the Naval War College.

(U. S. Navy Photo)

EML, TECH STAFF, MISSILE PROJECTS HAVE OLD-TIMERS

E. V. Blackmore, Administrative Assistant, heads the list of early arrivals in the Electro-Mechanical Lab's Propulsion Branch. Frank Koen, of the same branch, is also an "old-timer."

Other EML employees with more than five years at WSPG include Elvin Magee, Harvey Conlogue and Charles Shaptach.

Among the missile project early-comers is John Piech, while Joe Putegnat is the only early arrival listed for the Analysis Branch, Tech Staff.

German scientists, included in the earliest arrivals, are Guenther Hintze, Frederick Dohm and Helmuth Horn. Other German scientists coming to WSPG in the early days of the post have now left, but these three are still employed here.

4119th Leads Post In AER Drive Sales

(Continued from Page 1)

kel, Det. 2, 3484; Enright, Det. 1, 1190.

Maj. E. B. Hagerman, WSSCA, 2247; Goede, 138th Ord. Co., 2548; H. T. Peters, 1st GM, Fort Bliss, 4651; Gene Edson, 317 12th St., Alamogordo, 4897; Gillard, Det. 2, 3997; Duke Hood, Fire Dept., 198; Augustin Rominez, 14th Sig. Co., 4920.

Prizes at Adjutant's

T. J. Garvey, Fire Station, 199; Robert H. Nelson, FDL, 1726; Leon G. Brown, 4119th ASU, 551; McNeely, 550-B, 1031; Alfonso A. Salas, 320 E. Soledad, Las Cruces, 320 E. Soledad, Las Cruces, Pfc. H. A. Huber, Det. 2, 782; an illegible card, No. 1422; Fred L. Waterfield, Oscura Peak, 4982; Marceline Stuart, 1011 No. Campbell, El Paso, 1744; Ed Zombelli, 410 No. Armijo, Las Cruces, 2233; C. I. Ricketts, State College, 658; another illegible card, No. 1823; Frank Newmann, Comptroller's Office, 1410 Roger, Det. 1, 1826; and Whitener, USAD, 765.

Prize winners may pick up their winnings at the Post Adjutant's Office, WSPG. It is urged that the prizes be picked up at the winner's earliest convenience, Maj. Lloyd Z. Purvin stated Monday.

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8th ANNIVERSARY**

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HEADQUARTERS FOR RANCHERS & FARMERS
601 W. AMADOR LAS CRUCES, N. MEX.

1st GM Softballers Edge Douglas, Capture League Crown

Artillerymen Overcome Last Inning Deficit

Only a last inning rally saved the 1st GM from an upset defeat at the hands of the Douglas crew.

Despite the excellent pitching form of 1st GM's Bill Poteat, a 5th inning homerun ball served up to center fielder Cuba provided Douglas with a 2 to 1 lead which held up until the top of the 7th frame.

The Blissmen had scored earlier on 3rd sacker Hunt's homer for their lone run in six frames off of hurler Tomljancovich. It looked like Tom would reap the reward of a well pitched game, however 1st GM stalwarts were not to be denied as a last ditch effort produced two runs to give them a close 3 to 2 win.

Crist Gets Winning Hit
With one down in that 7th frame, Moles and Hunt poked out singles to start the rally. A walk to Young loaded the bases setting the stage for center fielder Crist's line single to center scoring Moles and Hunt to put the 1st GM in the lead. Crist's single was quite a rewarding one as a two-year undefeated skein rode on that final inning rally.

In the Douglas half of the 7th, Stitt's third hit of the game was the only thorn in Poteat's side as he set them down without a run to gain the win.

Caravello, Taylor Lead Det. 2
Homeruns by Caravello and Chiarizia, and triples by Liss and Taylor helped drub the sailors in Det. 2's 16 to 8 victory over the Navy.

Oberholtz, Page and Gottschalk paced the hitting in their losing cause as Det. 2 hurlers Van Der Aa and Liss combined talents to limit the swabbies to seven hits.

Five hits and a walk in the 5th inning accounted for a six run spree virtually deciding the contest in Det. 2's favor at that point.

RESULTS JUNE 29 - JULY 1

MONDAY 29:
1st GM—3, Douglas—2.
Det. 2—16, Navy—8.

TUESDAY 30:
138th Ord.—16, Post Prop.—13.
9577 TSU—18, Officers—15.

WEDNESDAY 1:
Det. 1—16, 9577 TSU—4.
Officers—24, 169th Sig.—23.

LEAGUE STANDINGS

July 5

TEAM 2nd Rd. TOTAL

1st GM Brig. 5 0 14 0

4119 ASU 4 2 10 5

Douglas 5 1 9 6

Officers 2 4 9 6

9577 TSU 4 3 9 7

Det. 2 3 3 7 8

138th Ord. 2 2 6 7

Det. 1 3 2 6 8

169th Sig. 1 5 3 12

Navy 1 5 1 5

Post Prop. 1 4 2 12

SCHEDULE JULY 9-15

THURSDAY 9:
1800—Navy vs 1st GM.

2000—9577 TSU vs Post Prop.

FRIDAY 10:
1800—Det. 1 vs Officers.

2000—Det. 2 vs 4119 ASU.

MONDAY 13:
1800—4119 ASU vs Post Prop.

2000—Officers vs 138th Ord.

TUESDAY 14:
1800—169th Sig vs 1st GM.

2000—138th Ord vs Det. 2.

WEDNESDAY 15:
1800—Officers vs 1st GM.

2000—9577 TSU vs Douglas.

Dentists are always looking down in the mouth.

STEPHEN'S USED CAR LOT

E. Mesa Las Cruces

Invites You to Come In and Meet:

"RED" REED and

DON NICHOLS

OUR NEW SALESMEN

Come in and have Red or Don show you our fine selection of clean

USED CARS

WIND & SAND
Thursday, July 9, 1953

Amateur Radio Club Organizes, Elects Lt. Carson President

WSPG personnel met June 25, for official formation of an amateur radio club. Twenty-one members were included in the original charter of the new club which has been named the "Boondocks Amateur Radio Club."

Lt. Richard Carson was named president of the club and Len Boroviak was selected as vice-president. Mrs. Esther Carson is the club secretary-treasurer. Club activities will be under the management of Pfc. Arthur Marinas.

Mr. Edward O. Ringland is the club technical committee chairman and will be assisted by Lt. J. R. Hall and Pfc. Stanley Chapman, the latter two will direct the code school for post enthusiasts.

The first official meeting of the organization was held Thursday at which time 14 new members were included on the club's roster.

The Code School for the new club members will begin Monday, July 13, in Room 5, of the T&E Building, at 7 p. m.

Two-hour classes will be held Monday, Tuesday, Wednesday and Friday evenings with code being taught the first two evenings and theory the latter two.

Lt. Carson pointed out that the club and the school is open to all post personnel, military and civilian, and from six to 60 years of age. Two women are already enrolled for the school, Mrs. J. R. Hall and Mrs. Esther Carson. Two high school students are also enrolled in addition to a number of military personnel.

Thursday evenings have been left open for the regular meetings of the club which are held the 1st and 3rd Thursdays of each month. Door prizes are presented at these meetings to which a cordial welcome has been extended by club officers.

Navy, WSSCA, AF Have Post Pioneers

The U. S. Marine Corps, WSPG, is included in the personnel having more than five years of service. Lt. Col. N. Pozinsky upholds the Corps' stability for the honor roll.

The sexes evenly divide the USNOMTF honors for long service. Mrs. Ethel Anderson, Civilian Personnel Director for the Navy, is the only "old-timer" for the female of the species, and T. D. Conger, Navy Supply, is not only an "old-timer," but is the first male civilian employee for the Desert Navy.

The White Sands Signal Corps Agency's pioneers are all civilian, counting J. B. Dickey, who was a major until his retirement. Others on the honor roll include Richard Shoulders, Mrs. Margaret Collins, Mrs. Gladys Griffie, Mrs. Rita Mundy and Bernard P. Yarter.

Mrs. Ruth A. Mabe, Aircraft Dispatcher, Condon Field, is one of the first women employees.

T/Sgt. Ferdinando Maso and Capt. Lyle H. Danke, of Air Weather Detachment, have broken service records but both rate among the WSPG pioneers.

Rockets Win 2, Defeat Holloman in League Tilt

By Pfc. Ted Majzer

The White Sands Rockets returned to their winning ways last week by trouncing the Las Cruces Blue Sox 17 to 11 and besting the airmen from Holloman in an Armed Forces League game by a 7 to 5 score.

The night game with Las Cruces was a high scoring affair although the Rockets had to overcome a seven run deficit to over take the hustling Blue Sox. The visiting Cruces club held the lead at the end of the 1st inning by virtue of Windlam's homer with two aboard. The Rockets could manufacture but two runs on hits by Shaw and Huff.

The Blue Sox then scored two runs in the 4th, three in the 5th, and one more in the 6th frame to take a 9 to 2 lead going into the Rocket 6th inning.

Jones' Homer Starts Rally
With the aid of some long balls and some shoddy fielding support, the Sandmen finally reached southpaw Harty, sending him to the showers by tallying nine runs off six hits, a walk and two errors.

Jim Jones drove the ball into center field for a round tripper to start the rally. Dick Tippett singled, Shaw walked, and George Adams was a victim of a wildly pitched ball filling the bases. Swabby Simpson lined a single to center driving in two more runs. Adams then scored on an error and was followed by Simpson who scored moments later when the centerfielder dropped a fly ball. Mike Hudak's single scored Perkins bringing up Jones for the second time in the 6th inning. Jones promptly singled to load the sacks once again.

Dick Tippett then smashed the longest home run ball of the season as it sailed clear past the 401 ft. mark on the fly rolling to the softball field interrupting a game that was also in progress. Unfortunately, the umpire ruled that Tippett failed to touch 3rd base and was therefore out, ending the nine run scoring spree.

The Rockets added six more insurance runs and Las Cruces tallied two in the 9th to complete the scoring in the three hour contest.

Rockets Get 23rd Win
In a league game at Holloman Air Base, pitcher Berguist pitched a beautiful six hit game to give the Rockets their 6th league victory.

Las Cruces
Bradley lf 5 0 0 Adams ss 2 2 0 Apodaca 2b 4 1 1 Simpson 1b 5 2 2 Lopez cf 5 3 2 Asp 1b 1 1 1 Lewis ss 4 3 1 Perkins 3b 5 2 0 Windlam c 4 2 4 Sullivan c 4 1 2 Siddall 3b 5 0 0 Huff lf 6 1 2 Matlock rf 5 0 0 Gearou 2b 2 0 0 Paul 1b 4 0 0 Hudak 2b 2 1 1 Harty p 2 2 1 Jones rf 5 2 2 Swartz p 1 0 0 Tippett p 4 1 2

Blue Sox
39 11 9 38 17 13
Rockets—200 009 42x—17
RBI—Simpson 4, Sullivan 2, Hudak 2, Tippett 2, Huff, Jones, Windlam 6, Lopez 2, Apodaca, Matlock, Harty. 2B—Tippett, Windlam 2. 3B—Windlam, HR—Jones, Windlam, DP—Sullivan to Asp to Sullivan. BB—Tippett 3, SO—Tippett 11. WP—Tippett (5-2).

Rockets
Shaw cf 4 1 3 Elmore lf 5 2 1 Adams ss 4 0 1 Mehall 3b 3 0 1 Simpson 1b 5 0 2 Hicks 1b 5 0 1 Perkins 2b 5 0 1 Risher 2bc 2 0 0 Sullivan c 5 0 1 Gray 2bc 2 0 0 Huff lf 4 2 1 Gauvin cf 4 0 1 Jones rf 4 1 1 Stedman rf 4 0 0 Hudak 3b 3 2 1 Sedwick 2b 4 0 1 Berguist p 4 1 1 Millsap p 2 1 0

Rockets
38 7 12 34 5 6
Rockets—040 120 000—7
HAFB—003 010 001—5
RBI—Shaw 2, Perkins, Jones, Elmore, Mehall, Hicks. 2B—Shaw, HR—Elmore DP—Berguist to Adams to Simpson, Sedwick to Gatto to Hicks, Gatto to Sedwick. BB—Berguist 6, Millsap 3, SO—Berguist 6, Millsap 0, WP—Berguist (4-1).

17 General Electric Men Have 5 or More Years at W.S.P.G.

Seventeen employees of the General Electric Company, which maintains a force at WSPG working on missile projects under contract with the Department of Army, have been employed here continuously for five or more years.

Two of the GE employees, Leo D. White and Edward W. McQuade Jr., have been at WSPG almost since the post's beginning. Mr. White came here in September 1945, and Mr. McQuade in December 1945.

Other GE long-timers at WSPG and the dates of their arrival here are listed below:
Frank L. Emerson, March 1946;
Barney B. Halbert, June 1946;
John D. Umphress, June 1946;

Stephen Porter, formerly assigned as Assistant Fire Chief, has begun his duties as Technical Safety Inspector for the Post Safety Office. His transfer was effective last week.

NEW SECRETARY

Mrs. Joy Henshall began her duties Monday morning in the Office of the Commanding General. She replaces Mrs. Sharlyn Linard who is taking an extended leave of absence.

Mrs. Henshall comes to WSPG from Norman, Okla., where she was employed by the U. S. Navy. She is the wife of Cpl. William A. Henshall, assigned to the Finance Office.

The Henshalls live at 1014 Montana St., El Paso.

Det. 1 Bags 7th Win, 9577 & Officers Split

The 9577 TSU split a pair of ball games, edging the Officers 18 to 15 and dropping a 16 to 4 decision to Det. 1.

Against the 9577th, the Officers could score in just two innings, grouping seven runs in the 2nd inning and eight in the 6th frame. On the other hand, the Signalmen pecked away a little at a time in coming from behind to win. It could be said that the 9577th took the lead in a "walk-away" as their five run seventh frame resulted from Brown's four base blast coming on the heels of Melton's single and seven walks in overcoming the three run deficit.

Collecting three hits for the Officers were McMillan and Nixdorff with Gay and Wilson contributing two hits each in their losing venture.

The top of WSSCA's batting order accounted for 16 runs as Melton and Stevens each scored five times. Melton's 3-for-3 paced an attack which saw two hits each by Brown, Bryant and Kaschner.

Mossbacher Hurls Win
Det. 1 nixed 9577th's bid for a higher rung in the league ladder by soundly thumping the furlough weakened Signalmen 16 to 4. The

Ordnance men lashed out a 19-hit assault to score in all but two innings while 9577th could do no better than score twice in the 2nd and 4th frames.

Four hits each by Kwiatkowski and Mills led the victors. Denmon and Mossbacher also contributed three bingles with Mossbacher and Mills getting home runs.

Pitcher Mossbacher scattered nine hits, giving up three each to Brown and Sickler. A second inning home run by Kaschner was the first of two hits for the strong armed right fielder in rounding out the hitting for 9577 TSU.

169th, O. O. M. in Marathon
With bats zooming and tempers raging, the Officers Club pulled out of a victory famine by edging the 169th Sig. 24 to 23. Not exactly a pitchers' duel, it became apparent from the 11 to 10 1st inning score that another marathon was in the making. As a matter of fact, the contest was reminiscent of an earlier game between the Officers and Det. 1 in which neither team ever did win.

Despite the all out efforts of the 169th, sparked by Anguiano and hustling catcher Ferreira, the Officers emerged victorious via Gay's 7th inning single to center scoring Brooks from 2nd base.

Harry B. Schur, November 1946;
Charles A. Cameron, November 1946;
Frank E. Medlin, November 1946.

And Henry F. Flamm, March 1947;
George S. Emmons, March 1947;
Arthur D. Turner, April 1947;
Albert M. Cann, April 1947;
Otto L. Antlitz, April 1947;
William E. Bright, September 1947;
Ken F. Davis, September 1947;
Grover L. Davis, March 1948;
Jesse R. Hutchison, July 1948.

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ADULTS ALWAYS 50c

KIDS UNDER 12 FREE

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July 9-10-11

DOUBLE FEATURE PROGRAM!

SILVER CREEK... THE MOST DANGEROUS CITY NORTH OF THE GRAND!

FEDERAL AGENT AT LARGE

SUNDAY & MONDAY JULY 12-13

DOUBLE FEATURE PROGRAM!

EIGHT IRON MEN

MUSIC in the MOONLIGHT

TUESDAY & WEDNESDAY July 14 & 15

ALL-SPANISH PROGRAM!

JORGE NEGRETE y ELSA AGUIRRE

En Una Superproduccion Mexicana de Gran Espectaculo!

"Lluvia Roja"

Con ALICIA CARO DOMINGO SOLER JULIO VILLAREAL

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OUR HEARTY CONGRATULATIONS TO THE MILITARY AND CIVILIAN PERSONNEL OF WHITE SANDS PROVING GROUND

ON THEIR 8th ANNIVERSARY

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- ★ TO THE MILITARY AND CIVILIAN PERSONNEL OF WHITE SANDS PROVING GROUND ON THEIR 8th BIRTHDAY

Mesilla Motor Co.

Your Friendly  Dealer

600 N. MAIN LAS CRUCES PHONE 203

WSPG 'Star-Gazers' Construct Telescope to Fill Own Needs

(Continued from Page 1)
quate for the needs of the Ordnance research and development program at White Sands Proving Ground.

Now Being Constructed

It was due to these deficiencies that Mr. Tombaugh devised the "off-axis" Schmidt telescope now under construction in a small basement work shop at the Flight Determination Laboratory.

Recording of missile tracking data, to a research and development center such as White Sands Proving Ground, is vital both now and to the future of long-range testing programs. Studies by Mr. Tombaugh and his associates revealed the standard optics cones which come with high-speed cameras are not always adequate to meet certain photographic requirements of some small, high-velocity missiles, especially those with high elevation angles where the burn-out point is very high above the ground.

Fast Exposure Time

Burn-out velocity, according to the Proving Ground scientists, is especially important in ballistic rockets because that point corresponds to the muzzle velocity of an artillery gun. It is the only place where measurements can be made, which correspond to the pointing of a gun. At least two trajectory points at burn-out, each from not less than two optical instruments, are required to furnish data for the determination of velocity in space.

The exceedingly high velocity of some small missiles makes it necessary to limit the exposure time to about 1/10,000th of one second, or less, in order to essentially "freeze" the missile in flight and obtain readable images. This requires a very "fast" optical system of about F3 (the focal length is three times longer than the diameter of the aperture), which makes for a brilliant image.

The smallness of the missile and its height above the ground require a scale of images that can be obtained only with focal lengths of about three feet or more. This means the aperture of such an instrument must be twelve inches in diameter.

Image Defects Intolerable

Lens systems of the refractor type for this size and focal ratio would be impractical and expensive. Certain image defects (known as "coma" and "astigmatism"), over the field become intolerable with parabolic mirrors of very short focal ratio.

The Schmidt system proved itself of extraordinary value in astronomical use where a cut film is placed in a special film holder in the middle of the tube at the focus, half way between the correcting plate and the spherical mirror, to record the images of stars and nebulae at night with exposures of several minutes. In missile firings, however, a very rapid frame rate is required in the taking of photographs.

This necessary rapidity introduced a difficult problem at the Army Ordnance facility. A motion picture camera mechanism is large and obstructs too much light in the beam. Also, the film in motion picture frames must be flat, whereas the focal plane of images in a Schmidt is strongly curved (convex toward the mirror). Fortunately, it is known that the curved image plane can be reduced to a flat one by the use of a simple plano-convex lens placed just in front of the film.

First Solution Impractical

At first it was thought to use a flat mirror inclined 45 degrees to the optical axis (called the "diagonal mirror"), to intercept the image plane to the side of the tube into the camera (the Newtonian form). But, it was decided, the "steep" light cone in such short ratio would require a fairly large, expensive optical flat to avoid vignetting, even for a limited field. The light loss from this arrangement would amount to about 40 per cent, which is equivalent to prolonging the exposure from 1/10,000th second to 1/7,000th second. Obviously, this is a disadvantage as regards "travel blur" of missiles.

It was then decided by Mr. Tombaugh to depart from the conventional form of Schmidt design to an "off-axis" one, in which there would be no obstructions in the light beam. The principal optical axis would then be placed to one side of the entire light beam, and even OUTSIDE the telescope tube. A high frame speed camera would then be attached to the side of the tube, on the principal optical axis and facing the vortex of the concave mirror. Stray light, in the new adaptation, would be eliminated by the use of a closed tube which has a fairing on one side to admit the beam of the camera.

Difficult to Make

The new type of arrangement, the Ordnance scientists believe,

will permit the most effective focal ratio possible for a given diameter and focal length of optical parts, and will minimize the overall size of the instrument, thus reducing weight and cost.

Unfortunately, the "off-axis" Schmidt is much more difficult to make. In addition to being unsymmetrical (aspheric), the "correcting plate" must also be ground in de-centered zones. The theory of this procedure was worked out by Mr. Tombaugh. The curve-depths were computed, and the necessary grinding jig and testing equipment were designed by Mr. Braun at the laboratory.

Following Mr. Tombaugh's design, young Dennon drew up the blueprints for the "off-axis" Schmidt, and worked up the mount for the actual structure to hold the optics of the camera. The actual work of grinding, requiring continual minute measurements, was begun by Braun. The exactitude of the work was described by Mr. Tombaugh as "a science dealing with the finest quantities of material removal of any trade known. Such material removal, as the grinding of the mirror for the off-axis Schmidt, requires exactness within a few millionths of an inch."

Thickness Gauge Built

Mr. Braun, like his associate Tombaugh, found the equipment at hand was not adequate for the infinitely small measurements required in grinding of the mirrors. To facilitate his work, Mr. Braun devised and developed a "thickness gauge" in the basement work shop which will check measurements to 1/2,500th of an inch. From the grinding apparatus, which is set atop an ordinary metal barrel and is cushioned to protect the mirror by a chunk of hand-hooked rug, Braun frequently moves the mirror to a near-by desk to check the depth of his curves against the working graph.

The simplicity of his "thickness gauge" is deceptive. A standard gauge was attached to a solid metal frame on which the mirror rests, during the measuring, balanced by two small blocks of wood. The metal barrel was used, not only to eliminate the cost of additional equipment but for its accessibility since the semi-circular motion of the grinding jig necessitates the technician being able to circle the mirror from all angles.

Sets Precedent

As far as is known, this is the first application of the German Schmidt optics to guided missile and rocket informational data. The motion picture camera requirement was a challenging consideration of the "off-axis" form of the Schmidt. The large size necessitated an unconventional grinding technique.

It is, undoubtedly, an experiment with great potentialities for Army Ordnance instrumentation. For this reason, the construction of the two instruments was undertaken in order that the Optical Group, who were already skilled in optical work, might gain an intimate acquaintance with the features and field adjustments of Schmidt optics. Also, it was feared that optical manufacturing companies would be hesitant to undertake the construction of a prototype without subsidy or very high initial cost.

The two "off-axis" Schmidts being devised in the basement work shop are more than half-way along in construction. It will be recalled that two is the minimum number needed to provide coordinate points. With a focal length of 33.85 inches, it may be possible to determine absolute positions of trajectory points by star orientation to an accuracy of one part in 200,000, which is equivalent to one inch in three miles.

Will Be Tested

The primary mirrors are 16 1/2 inches in diameter with curves one-half inch deep. The net aperture of the "correcting plate" is twelve inches in diameter, giving the effective focal ratio of 2.82, which should permit exposure of less than 1/10,000th second. Each instrument will be 6 1/2 feet long and weigh approximately 600 pounds without mounting.

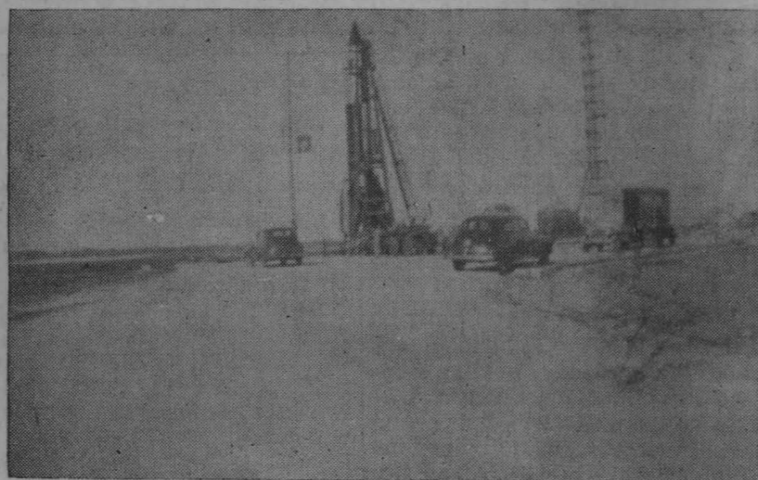
The civilian employee trio's work will not end with the anticipated successful completion of the new type telescope. Once the equipment is ready to leave the shop, it will be tested in the field under the supervision of its designer and his associates. Each minute phase of the equipment will be checked and re-checked for accuracy and fulfillment of the needs of the rocket and guided missile program.

Once it is determined there are no "bugs" to be ironed out, the prototypes will be contracted for large scale production.

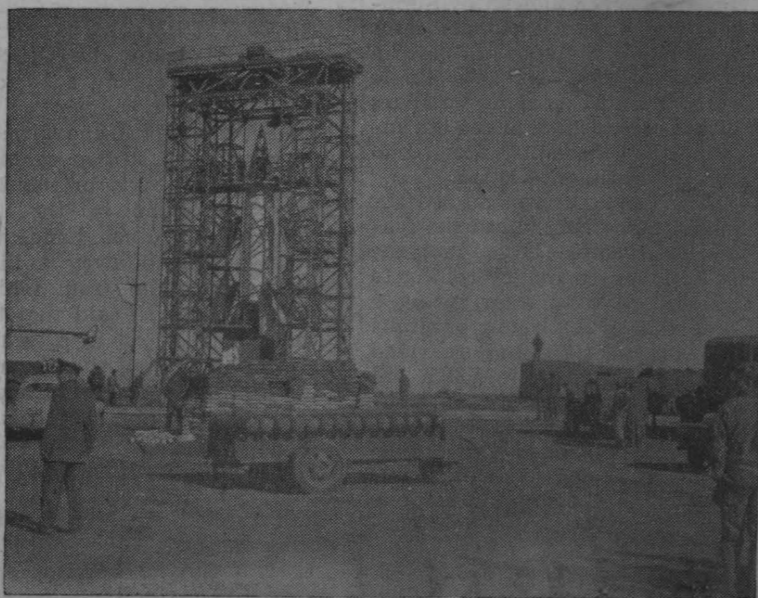
'Just Part of Day's Work'

Questioned regarding possible copyrights on their inventions,

White Sands Personnel... To Celebrate Your 8th Birthday



THE OLD—In the early days of WSPG there were no huge power-operated cranes like the modern Gantry nor other complicated heavy equipment with which to handle or work on missiles in the launching area. This picture, taken in 1946, shows crewmen working on a poised V-2 using firemen's ladders and other "borrowed" or "makeshift" equipment. Ingenuity was required, but the WSPG pioneers met the test and the missile development and testing programs progressed far more rapidly than most expectations. (Photo courtesy Fred A. Koether.)



THE NEW—As the work of developing and test firing guided missiles progressed, gigantic Gantry cranes like this one were built to replace the ladders and makeshift platforms which were used at first. The Gantry crane, resembling the steel framework for a skyscraper under construction, enables crews to work on a missile poised for takeoff at all levels simultaneously. Portable Gantry cranes, with electric hoists, also are used.

Post Engineer Div. Has Many Old-Timers

Long-time WSPG employees "old-timers" include the following:
Administrative Section—C. A. Farley, Eloise W. Ellis, George Boyland.
Fire Department—Chief Ernest Boyd, A. W. Johnson, Milo Bennett, Assistant Chief Stephen C. Porter.
Water & Sewerage Section—Stephen Skaggs, Tommy Take, Thomas S. Pate, Thomas Yarborough.
Oscura Range Camp—Ted Kidwell, Ted Johnson.
Plumbing Shop—Ben Ames, Ernest Alvarez.
Refrigeration Shop—Joe Archuletta.
Warehouse—Richard Bronson.
Engineering Section—Paul Holland.
Heavy Equipment Section—Clarence "Buck" Chambers, Herminjo Aguiar, Clyde Daugherty, Robert C. Love, Thurman Dunn, Pierre Delcambre.
Electric Shop—N. H. Mullen, H. L. Haddock.
Carpenter Shop—A. M. Knapp, Clyde U. Holguin, D. U. Holguin, C. Y. Banegas, A. D. Ortega, George Gallegos, J. D. Fairall, Jim Shows, John Owens, N. L. Walters.
Grounds Shop—M/Sgt. Roy Horsley, Frank Dominguez, Ralph Urquidez, Paul Abernathy.

Tombaug and Braun jointly disowned any intention of profiting by their work. Simultaneously they declared their inventions were devised only to fulfill an immediate need for their specific jobs at the Proving Ground. Tombaug expressed the attitude of both when he stated:

"Whether or not someone else has devised a similar apparatus for such work, we don't know. We believe that these are the first of their kind for this specific purpose. If not, we will be only too glad if others, with similar missions, can profit by our devices without having to spend time developing something which we have already constructed and which, from calculations made to date, are believed to be as near accurate as possible without actual field tests.

"After all, it's just part of the day's work. If we don't have what we need, we build it, not only for our own use but for the advancement of others seeking to further the guided missile and rocket program for the defense of the nation and for scientific research in time of peace."

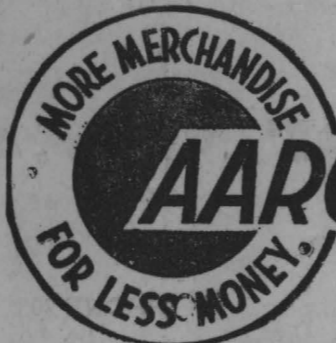


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