



## Three-Year Labor Contracts Signed

AGREEMENTS REACHED—Two labor unions recently reached agreement with Sandia Corporation on terms of new three-year contracts. Above, preparing to sign the new pact with the Atomic Projects and Production Workers, Metal Trades Council, AFL-CIO, is E. C. Peterson (3220). From left are J. A. Maldonado (4624), Council Vice President; H. R. Messenger (4232), Council negotiating committee member; Mr. Peterson; F. A. Baczek (3221); W. E. Myers (4253), Council President; and R. W. Clark (3220). Below, signing the new contract between Sandia Corporation and the Office Employees International Union, Local 251, AFL-CIO, is P. J. Cruz (4151), Union President. From left are M. G. Chavez (4151), Union Secretary-Treasurer; D. W. Russell (2553), Union negotiating committee member; Mr. Cruz; K. E. Sutton (3222); and Mr. Peterson. Both new agreements will be in effect through midnight, July 5, 1968.



## Sandians Now Investing \$592,600 In U.S. Savings Bonds Per Year

Led by the Military Liaison organization with 100 per cent participation, Sandia Corporation employees signed up to purchase more than a half million dollars in U. S. Savings Bonds annually during the recent campaign.

Employees at both Livermore and Sandia Laboratories signed up for \$49,386 in bonds

### T. B. Miller Appointed Ass't. Area Manager AEC - Kansas City



Terrance B. Miller, AEC/SAO, has been appointed Assistant Area Manager for Operations at the Atomic Energy Commission's Kansas City (Mo.) Area Office, effective July 11. He has been Chief, Quality Assurance Branch, in the Commission's Sandia Area Office, Albuquerque, since January 1958.

The Kansas City Area Office administers the AEC's contract with The Bendix Corporation for operation of the Kansas City Plant.

In January 1951, Mr. Miller transferred to the AEC's Sandia Field Office in Albuquerque. He received the Commission's Superior Performance Award in 1958 and a High Quality Performance Award in 1964 in recognition of his sustained superior performance of duties.

to be deducted each month. This will total \$592,642 annually.

The number of Sandia employees participating in the Savings Bond program increased from 935 to 3178.

Payroll deduction cards are still coming in, according to R. N. Reed (3151), secretary to the Sandia Savings Bond committee. It is expected that the totals will increase in the next few months.

The opportunity still exists for employees to join the Savings Bond program at any time. Division secretaries have a supply of the payroll deduction forms. Information on any aspect of the advantages of a Savings Bond investment program is also available. Contact Mr. Reed, 264-2161.

Thirty-nine per cent of Sandia employees are now regularly purchasing Savings Bonds.

Sandia organizations achieving 50 per cent or more participation include Quality Assurance 2100, Manufacturing Development 2500, Comptroller 4100, Development Shops 4200, Advanced Systems Development 5600, and Computing 9400.

R. S. Wilson, supervisor of Weapon Systems Development Department II, 1520, chairman of the Sandia Savings Bond Committee, thanking members of the committee and those who participated in the mechanics of the drive, said, "We are grateful for a job well done. Our job was to bring the message of the advantages of a Savings Bond investment program to all employees. Thanks to all employees who participated."

SANDIA CORPORATION

# LAB NEWS

PRIME CONTRACTOR TO THE ATOMIC ENERGY COMMISSION / ALBUQUERQUE, NEW MEXICO / LIVERMORE, CALIFORNIA

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### One-of-a-Kind Device

## Revolutionary 70mm Film Printer Installed at Sandia

Some Sandia-designed refinements to a 70mm optical motion picture printer may have far-reaching effects in the instrumentation field.

The printer, built for the Company by the Oxberry Corporation of Mamaroneck, N.Y., was installed and placed in operation recently by Industrial Photographics Division 3465, in Bldg. 863. New 70mm color processing equipment was put into service at the same time.

W. S. Hunter II (3465-1), who drew up the Sandia design specifications for the optical printer, says the machine already has given Sandia several unique capabilities. Perhaps the most significant have application in tracking operations.

In the past, cameramen have experienced difficulty in tracking airborne objects, such as rockets, on their high-speed paths across the sky. This was so because their 35mm cameras had narrow fields of view.

With the 70mm film format, the photographer employs a camera system having a much wider field of view. In some cases fewer cameras may be used, and the broader view makes it somewhat easier for the cameraman to keep high-acceleration objects in the tracking field.

The 70mm film has a recording area

about seven times as great as the 35mm film and records a much larger image.

Once the film is processed, it is ready for printing in the new Oxberry machine. This is where Mr. Hunter's design work enters the picture.

He developed a reflex viewer which allows the operator J. B. Flanagan (3465) to "zoom in" on any portion of a frame of 70mm film to pick up and enlarge details which would otherwise be passed by. This is possible because the printer is capable of producing enlargements with no noticeable loss of detail and of tracking the object of interest in making final prints.

The "zoom" capability can make an object appear up to 30 times larger than it appears in the original film.

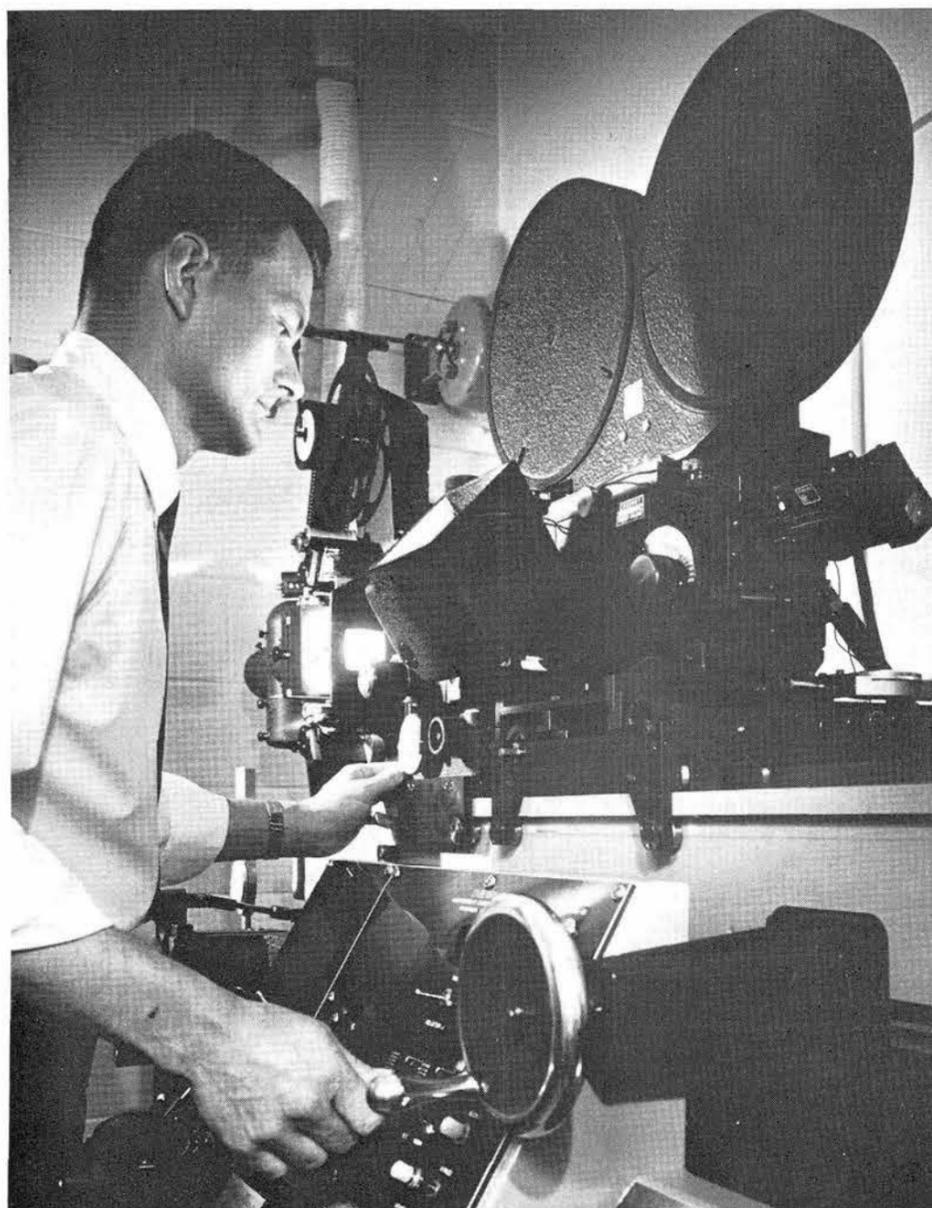
The ability to "zoom in" and track certain portions of a frame makes it possible to eliminate original tracking errors. Hence, there is no "jiggle" in the finished film turned out by the printer.

The end product of the optical printing operation is either 16mm or 35mm motion picture prints.

"The implications for record-gathering purposes are tremendous," Mr. Hunter says. "The potential of the printer is unlimited."

The machine is the only one of its type.

NEW OPTICAL PRINTER—J. B. Flanagan of Industrial Photographics Division 3465, peers into the reflex viewer on a new 70mm optical motion picture printer recently installed at Sandia Laboratory. The machine has many Sandia-designed refinements which are expected to have significant applications in the instrumentation field.



## Supervisory Appointments

**ELDON R. JULIUS** to supervisor of Electromagnetic Radiation Division 7333, Planning and Functional Test Department, effective July 1.



Eldon has been in the Environmental Testing organization since coming to Sandia eight years ago. His first work was in instrumentation for environmental tests, however, he has been associated with electromagnetic radiation testing for the past four years.

Prior to coming here, he was attending Iowa State University where he received his BS degree in electrical engineering.

He is a member of Tau Beta Pi, honorary society.

**JACK L. MORTLEY** to supervisor of Area III Instrumentation Division 7335, Planning and Functional Test Department, effective July 1.



Jack has been concerned with instrumentation of environmental tests since coming to Sandia six years ago.

Immediately prior to employment here, he was at the University of Iowa where he received his MS degree in electrical engineering and had a graduate research assistantship for one year with the Iowa Institute of Hydraulic Research. His BS degree was also from the University of Iowa.

Jack is a member of the Instrument Society of America, and Tau Beta Pi, Eta Kappa Nu, and Sigma Xi, honorary societies.

From 1950-54 he served in the Air Force.

**ROBERT D. CHRISTOPHER** to supervisor of Stockpile Sampling Division B, 2125, Systems Quality Engineering Department, effective July 1.



Bob has been at Sandia 13 years and has been assigned to quality assurance groups the entire time.

Immediately prior to coming here, Bob was graduated from Purdue University with a BS degree in electrical engineering.

He is a member of the American Society for Quality Control and the Institute of Electrical and Electronics Engineers, and is a registered professional engineer in New Mexico.

Bob served a year and a half in the Army while on a military leave of absence from Sandia.

**WILLIAM P. THOMAS** to supervisor of Explosive Devices Division 2546, Manufacturing Development Components Department, effective July 1.



Bill has been with Sandia Corporation since it was formed in 1949. His assignments have been in production engineering, manufacturing engineering, manufacturing development engineering, and since January 1958 in explosive devices.

In 1943 he was employed at Los Alamos when it was part of Manhattan Engineer District, and a year later was drafted into the Army in a Special Engineer Detachment and assigned back to his civilian job. After discharge in February 1946, Bill returned to Z Division at Los Alamos and was a member of that group when it was transferred to Sandia Base.

Bill quit work in 1947 to attend the University of New Mexico and later received his Bachelor's degree in business administration from that school.

**JAMES T. HILLMAN** to supervisor of Energy Components Division 2134, Component Quality Engineering Department, effective July 1.



Jim has been working in quality engineering since joining Sandia nine years ago.

Immediately prior he was in the Air Force for three and a half years. During the last half of his tour of duty, Jim was assigned to Field Command/AFSWP on Sandia Base.

He received a Bachelor's degree in mathematics from Texas A&M University and has done some graduate study at the University of New Mexico.

His memberships include the Institute of Electrical and Electronics Engineers and the American Society for Quality Control.

**J. PATRICK CONLON, JR.**, to supervisor of Plastics Section 4224-2, Specialties Division B, effective July 1.



Pat has been working in the plastics shop during his four months with Sandia.

Prior to coming here, he had been with Goodrich-Gulf Chemical Company in Port Nechez, Tex., for four years in the firm's plastics technical services lab. His work experience also includes two years as a refinery engineer with Esso Standard Oil Company, Baton Rouge, La.

Pat received his BS degree in chemical engineering from Kansas State University and has taken graduate study at the University of New Mexico. He is a member of Phi Lambda Epsilon and Sigma Tau, honorary societies, and the Society of Plastics Engineers.

He served six months in the Army Chemical Corps.

**DON S. PITTS** to supervisor of Electronics Devices Division I, 2547, Manufacturing Development Components Department, effective July 1.



He has been assigned to the Manufacturing Development organization since being hired by Sandia more than 13 years ago.

For two years prior, Don worked for a consulting engineering firm in Albuquerque.

Don has a BS degree in electrical engineering from the University of New Mexico, and is a registered professional engineer in New Mexico.

During World War II, he served two years in the Army Air Corps.

**GUS W. KRAUSE** to supervisor of Electronic Components Division I, 2548, Manufacturing Development Components Department, effective July 1.



Since coming to Sandia in 1952, Gus has worked in manufacturing development systems engineering, and in components engineering for both Manufacturing Development and Electromechanical Component Development organizations.

Previously he worked a year and a half as a refinery designer for the Texaco Company in Houston, Tex.

Gus has a BS degree in mechanical engineering from the University of New Mexico and is a member of Kappa Mu Epsilon and Pi Tau Sigma, honorary societies. He is a registered professional engineer in New Mexico.

Gus served four years in the Air Force.

## Ex-Sandians at Bellcomm Work On Project Apollo Moon Shot

Putting two men on the moon by 1970, then getting them home again, is the vast and complex task of the National Aeronautics and Space Administration. To that goal as well go the efforts of Bellcomm.

The challenge to NASA, and therefore to Bellcomm, has to do with people as much as with the unprecedented technical divisions of the task—how to acquire, develop and apply the human intelligence this immense undertaking demands. Elemental and managerial problems—like filling the job with the right man, who will work well with other men—are of singular importance to the success of Project Apollo.

To the extent it can be published at this time, then, is this story of Bellcomm.

Bellcomm is small. Its materials are brains and judgment; its product, expert counsel.

An AT&T subsidiary born from the combined resources of Western Electric, Bell Laboratories and the other Bell companies some two-and-a-half years ago, Bellcomm works under contract to NASA. It exists solely to review and study problems presented by NASA—to give NASA a "technical position." In doing this, Bellcomm people often raise and solve more problems.

Who are the people? They are about 300 scientists, engineers, administrators who, say Bellcomm officials, represent a pool of talent collected not only from within the Bell System but also from campuses and other corporations.

A number of men who formerly worked at Sandia Corporation are now with Bellcomm. They are: F. Carter Childs, James Ortega, Julius Dohnanyi, Harold Davis, William E. Boyes, Michael J. Norris, Hermann A. Wente, Wilson T. Botner, and James Jacobs.

People at Bellcomm bring with them a knowledge of fields ranging from physics and mathematics to geology and psychology, and while they are already specialists, because of Bellcomm's unusual demands they also require the broad viewpoint: they are flexible. Says Bellcomm Vice President and General Manager Robert Gradle:

"They are people who want to be challenged, who are looking for new fields to explore. They are people who want to break new ground, who want to find—and do find in Bellcomm—a small outfit that puts a high value on individual and collective creativity."

The problems, new as they may be, are of the real world, says Bellcomm President John A. Hornbeck. What will the effects be from meteorites and radiation? Will the spacecraft and launch vehicle meet expectations? Will the Lunar Excursion Module be able to lift itself off the moon and into an orbit to rejoin the main unit? These are the kinds of questions Bellcomm is taking on.

The act of performing these tasks, as Bellcomm executives point out, in turn creates its own management problems: to get the job done, Bellcomm must not only recruit and develop human resources it must apply them effectively.

Says President Hornbeck: "The management problem relates directly to the nature of Bellcomm's job—systems engineer-

ing—which by its nature crosses organizational lines and disciplines on almost every task."

What is "systems engineering?" It is a concept Bell Telephone Laboratories helped introduce during World War II—an approach in which scientific reasoning and methods are applied to all phases of a job, from definition to conclusion, in a way to integrate them as far as possible into one complete and functioning process.

Bellcomm is structured in much the same way as parts of Bell Labs, Mr. Gradle points out—with the same concept of service, the same primary resources: judgment and the ability to think. In some vital ways, however, the two differ.

The Labs' mission is both to think and, ultimately with Western, to convert thoughts into products. Bellcomm's is mainly to think. Both supply service, yet unlike the Labs, Bellcomm must deal with the "outside" directly—with its sole customer, NASA.

It must integrate effectively with NASA (the project's central administrative agency) for example, and it must maintain close liaison with the three NASA field centers where the hardware takes shape.

To handle this relationship, to deal with its myriad implications, requires a large measure of collective and individual talent and tact—the talent to work independently, the tact to work cooperatively.

Bellcomm must function with, and sometimes in opposition to, a multitude of people with diverse opinions, theories. All may be valid, one must be chosen, but in a venture like Project Apollo, the question is which one?

Furthermore, like virtually all other agencies caught up in the moon race, Bellcomm must establish a reputation for excellence before its ideas will be accepted—yet even before this can happen it must have excellent ideas.

Says Mr. Gradle: "The more you feel you can come up with solid answers, the more your answers will be accepted."

Each plan is therefore reviewed, rehearsed, reconsidered, but always with one eye to the calendar. Most answers can't wait, for if the systems engineering approach is to work, one answer will inevitably influence another, and upon this whole substructure rest ladders of decision.

All these necessities—talent, tact, cooperation, care, individual initiative and team orientation—make up the nature of Bellcomm in doing its jobs and, at the same time, are one way of defining the day-to-day jobs and the problems of those working for Bellcomm. Have they solutions?

Definitely, says Mr. Hornbeck—but they can only be found in a system of technical management that is flexible, efficient, and geared to the hard facts of reality. This is Bellcomm's aim.

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LAB NEWS  
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### SANDIA CORPORATION LAB NEWS



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# LIVERMORE NEWS



PREPARING QUESTIONS for next year's Certificate in Data Processing examination are (l to r) Mickey McKinney, Kit Harrington, and Chet McIntosh, recent recipients of Certificates in Data Processing who have been selected by the Data Processing Management Association to serve on its International Certificate Testing Committee.

## Three Appointed to Committee Posts

Livermore Laboratory employees W. J. (Kit) Harrington, Chet McIntosh, and A. W. (Mickey) McKinney of Numerical Applications Division have been appointed by the Data Processing Management Association (DPMA) to its International Certificate Testing Committee. All three were recently awarded Certificates in Data Processing by the DPMA.

Membership on the committee is composed of a number of certificate holders who received outstanding scores in their examinations.

Each committee member is responsible for submitting three or more questions to the six-man CDP Advisory Council for the next examination scheduled for February. The exam will consist of items selected or revised by this council, and covers a variety of subjects in the field of data processing and management information systems, including electronic computer programming concepts and techniques.

CDP is designed to establish high standards for data processing personnel. Passing the examination is only one requirement to qualify for the certificate. Scholastic achievement, direct work experience, and recommendations of professionals in the field are other considerations.

## Welcome Newcomers

June 5 - July 1

<b>California</b>	
Steven C. Berglund, Mountain View	8115
Robert S. DeZur, Berkeley	8144
*Louis J. Hamilton, Pleasant Hill	8113
*John R. Helms, Fresno	8115
Eric A. Hirst, Palo Alto	8146
Shannon P. Houk, Castro Valley	8144
*Ted C. Krumland, Concord	8146
Stephen A. Mick, Alamo	8232
John R. Parry, Walnut Creek	8121
James C. Reitz, Livermore	8232
*John W. Stull, Albany	8126
Louie N. Tallero, Palo Alto	8155
<b>Alabama</b>	
Franklin D. West, Talladega	8111
<b>Ohio</b>	
Paul E. Williams, Cleveland	8115
<b>Oregon</b>	
John A. Anderson, Klamath Falls (summer hire)	8112
John A. Battilega, Corvallis	8144
Walter R. Richartz, Klamath Falls	8126
Richard M. Roy, Klamath Falls	8121
Armand R. St. Hilaire, Klamath Falls	8154
<b>Washington</b>	
*Michael McCoy, Seattle	8144
<b>Returned from Leave</b>	
Sydell P. Gold	8144
<b>Transferred from Albuquerque</b>	
Richard D. Feil	8168
Paul T. Lubeck	8113
John M. Nielson	8122
Den L. Wiggins, Pleasanton	8210
<b>Youth Opportunity Program (Livermore)</b>	
Loretta Bloomer, Livermore	8210
Deanna L. Correa, Livermore	8210
Gilbert E. Cruz, Pleasanton	8210
Gregory C. Drummond, Livermore	8210
Ross H. Hoblitzell, Livermore	8210
Linda L. Light, Livermore	8210
Raymundo J. Lopez, Livermore	8210
Jill M. Roach, Pleasanton	8210
*Denotes rehire	

## Events Calendar

Discount tickets are available from Employee Benefits for the following performances of Ringling Bros. and Barnum and Bailey Circus:

San Francisco Cow Palace,  
July 30 (2:30 and 8 p.m.)  
August 1 (6 p.m.)

Oakland Auditorium, August 2  
(2:30 and 8 p.m.)

## Hong Kong Throngs, Hiroshima Museum Are Trip Highlights

The mass of people in Hong Kong—60 per cent of whom are under 15 years of age—was perhaps the thing that most impressed Pat Hinrichsen (8232) on her recent trip to the Orient.

Pat and her husband Virgil, an LRL employee, visited the Far East as members of the LRL Recreation Association tour group.

"To alleviate the housing shortage in Hong Kong, large new apartment houses are going up at the rate of one every seven days. Each family is allotted one 9x10-foot room and several families share bath and kitchen facilities, but it's still better than the tin shacks," Pat remarked.

At one time, even water was rationed in this British Crown colony, but now supplemental water is purchased from Red China.

In Japan, Pat was especially interested in the new museum in Hiroshima, located near ground zero, documenting the destruction caused by the first atomic bomb used in warfare. "The displays include large photographs taken after the blast, examples of distortion to portions of buildings, and damage to ordinary household items and articles of clothing," she said. "One shoe bore the imprint of the wearer's foot bones."

In Taipei, Formosa, Pat had the feeling that conditions were 100 years behind times; however, the hotel built by the government for visiting VIP's was extremely luxurious.

The 30-day trip also included stops at Bangkok—"The Venice of the East," Kyoto, Tokyo, Singapore, and Honolulu.

MEMORIAL MONUMENT AT HIROSHIMA, dedicated to the victims of the atomic bombing, was visited by Pat and Virgil Hinrichsen while in Japan. The stone chest under the vault contains "the Books of the Past," and the inscription on the chest reads: "Rest in peace, for the error shall not be repeated." Through the arch can be seen the ruins of a building located almost directly beneath the spot where the bomb detonation occurred.



## Livermore Notes . . .

A bulletin board for educational announcements has been installed in the hallway near the south entrance of Bldg. 911. Postings on the board include current lecture series information and high school, college, and correspondence school course schedules. Catalogs for various universities and colleges are also available to employees through this media.

John W. Dini of Materials Application Division was re-elected secretary of the San Francisco Branch of the American Electroplaters' Society for the year 1965-66. This is the third consecutive year John has served as secretary of the organization. AES promotes the advancement of electroplating, metal finishing, and allied arts.

Jim Wimbaugh (8161) was recently elected second vice president of the Livermore Lions Club for a one-year term. For the past three years Jim has served on the club's board of directors. The service club meets each Thursday noon at Eagles Hall in Livermore.

Woody Hammons, Livermore Laboratory insurance counselor, won the first place trophy in the June 27 Sandia Employees Golf Club tournament. He finished with a net low score of 62. The handicap tourney was played at Swenson Park Golf Course in Stockton. John Turk (8252-5) placed second with a net score of 66.

## Weddings . . .

Sandians Pearl Johnston and Paul Stewart were married July 3 in the Little Church of the Wayfarer in Carmel.

The couple is planning a wedding trip to the east coast for the month of September. Pearl, a stock record clerk in Procurement Research and Administration Division, has worked at Livermore Laboratory since April 1957. Paul, a gage designer in Acceptance Equipment Division, joined Sandia at Albuquerque in September 1951 and transferred to Livermore Laboratory in March 1958.

Sandians Pat Long and Jim Gallagher were married June 12 at 10:30 a.m. at the Messiah Lutheran Church in Hayward, Calif. After a family reception at a friend's home in Hayward, the couple left for a 10-day wedding trip to Mexico.

Pat has worked in Purchasing, Clerical and Files Section at Livermore Laboratory since January 1964. Jim, a systems analyst in Administrative Systems, Classification, and Public Information Division, joined Sandia at Albuquerque in March 1957 and transferred to Livermore Laboratory in November 1960.

The couple will reside in Livermore.

## Retiring



Will B. Williams will retire from Sandia on July 16 after almost eight years at Livermore Laboratory.

He has worked as a boiler plant operator in the Plant Maintenance Division for the entire time. He owns

and will continue to operate a body, fender, and paint shop in Oakland.

Bill and his wife live at 7529 Hamilton Street, Oakland. They have two children—a daughter in Richmond and a son in San Bernardino, Calif.

Cabinetwork rates as Bill's favorite hobby.

## Last of Five Trailers Now Removed from Livermore Laboratory

The Laboratory scene changes. Gone now is the familiar green and white trailer that was located south of Bldg. 912. This trailer was the last of five to be removed from the Laboratory during the past three months. One trailer was transferred to Sandia Laboratory, and the other four were returned to the leasing agent.

The trailers, three singles and two doubles, were leased in 1963 to provide 3500 square feet of temporary office space during the construction of additions to Buildings 912, 913, and 973. Now that construction is finished and final moves are taking place, there is no further need for the trailers.

The Manufacturing and Shop Liaison Division, which occupied the trailer south of Bldg. 912, has been moved to Room 110, Bldg. 913.

## Film Series Available to Livermore Lab Employees

Lawrence Radiation Laboratory Recreation Association Film Society is sponsoring a series of American and foreign films again this year for LRL or Sandia employees and members of their immediate families.

Twelve films will be presented from July to December on alternate Thursdays at 8 p.m. in the LRL Auditorium, Bldg. 111. Dates and a synopsis of each film are posted on Livermore Laboratory bulletin boards. Selected short subjects will be shown with the movies.

The foreign films, consisting of French, Italian, Japanese, Indian, Mexican, Danish, and Russian releases, have English subtitles.

Tickets cost \$2.50 per person for the entire series, and are available from Jim Henderson in Employee Benefits, ext. 2254. Tickets to individual films will not be sold.

## Congratulations

Mr. and Mrs. Dean Weitman (8151), a son, James Gene, June 26.

Mr. and Mrs. Frank Murar (8125), a son, Paul Francis, June 16.

Mr. and Mrs. Marv Brieske (8123), a son, Matthew, June 11.

## Sympathy

To Jack Brierly (8115), for the death of his father in San Jose, Calif., June 22.

To Bob (8115) and Peg Zumwalt (8233) for the death of Bob's brother in Richland, Wash., June 19.

# Birth Scars Still Mark Site of First Atomic Explosion

Trinity Site, a remote spot in the south-central New Mexico desert, is marked only by an unassuming rock monument and the birth scars of the world's first atomic explosion.

That explosion was triggered 20 years ago today, on July 16, 1945.

The birthplace of the Atomic Age stands desolate and forlorn in the northern reaches of White Sands Missile Range—a grim reminder of wartime 1945 when an early end to the hostilities was, on July 15, as yet unforeseen.

The nearest town of any size, Socorro, lies some 40 miles to the northwest. Alamogordo is about 55 miles to the southeast.

Because of its location within the impact area of the missile range, Trinity Site remains closed to the public, save for a once-a-year pilgrimage conducted by the Alamogordo Chamber of Commerce. The annual tour generally is in October after the scorching summer heat has passed.

No special observance of the twentieth anniversary of Operation Trinity was conducted at the site today, but the lack of formal ceremonies somehow adds to the 20-year-old continuing drama. A curtain of secrecy so shrouded the 1945 Trinity event that not one newspaper reported it.

Albuquerque papers printed one small story about an explosion near Alamogordo, reporting it to be an ammunition dump accident. Newspapers elsewhere, completely unaware of the blast, devoted most of their space to the action on World War II fronts.

It wasn't until Aug. 6, after the A-bomb was dropped over Hiroshima, that the world was told of the first man-made atomic explosion at Trinity Site.

Curiosity seekers visiting the famed site nowadays are greeted by a splintered, weather-beaten sign cautioning, "Dangerous Area, Keep Out, By Order of the War Dept." The faded warning is fastened to a steel security fence which now collects wind-blown tumbleweeds as it meanders unevenly around Ground Zero.

### Monument Erected

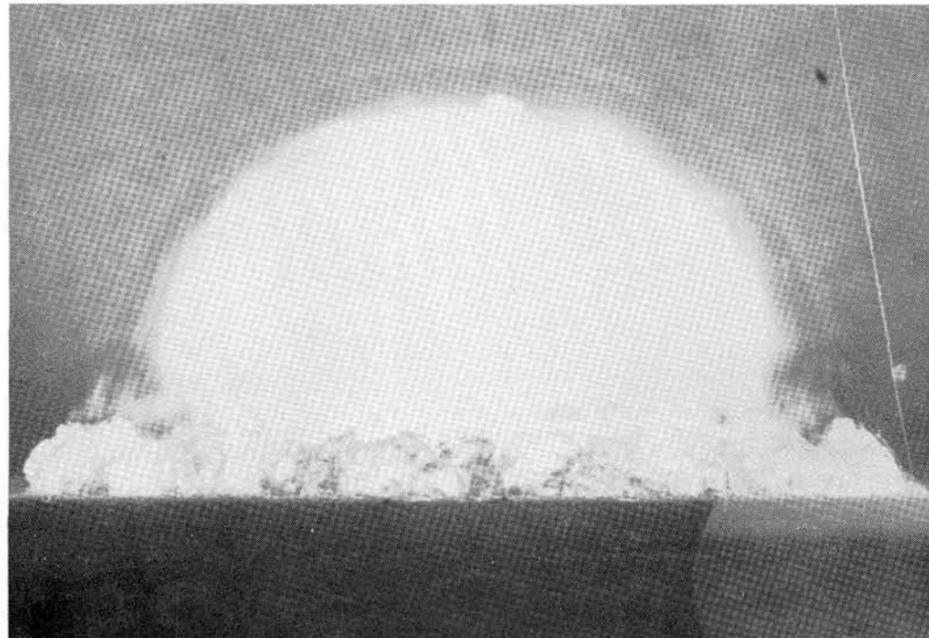
For nearly 20 years, Ground Zero was identified only by an old board sign and a stake marking the center of the tower where the bomb was housed. Then, early this year, White Sands Missile Range erected a simple, pyramid-shaped monument bearing the inscription, "Trinity Site, Where the World's First Nuclear Device Was Exploded on July 16, 1945."

Time has healed most of the disfigurements left by the detonation. A small depression in the desert floor is all that remains of the blast area; what had been a crater 10-25 feet deep now appears nothing more than a shallow, natural hollow in the earth. Yucca plants and scrub vegetation abound, and desert wildlife scurry about the area.

Only small bits of Trinitite, a green,



BEFORE—The world's first atomic explosion took place 20 years ago today atop this tower at Trinity Site in south central New Mexico. Albuquerque newspapers the next day reported an "ammunition dump" explosion. (LASL Photo)



DURING—The Trinity fireball is pictured about one-half second after the nuclear device was detonated. Unsuspecting citizens as far away as Gallup in west central New Mexico reported that their windows rattled. (LASL Photo)

glasslike substance produced by the sand's fusion, leave a hint of the past.

The dry New Mexico air has been kind over the years. Although shifting desert sands have covered most of what scientists failed to remove, observation bunkers dotting the area have deteriorated very little. However, some of them have partially collapsed under the weight of the wind-swept sand.

The old ranch house where the nuclear charge was assembled is slowly giving in to the elements, too. It was in this crumbling building that scientists put together the "gadget" on Friday the 13th.

A day later the device was hoisted up the 100-foot tower, and the rigging of complete instrumentation began.

Detonation was scheduled for 4 a.m. Monday, July 16, but inclement weather delayed the test an hour and a half.

### Secret Agency Formed

The bomb was developed and built at the University of California's Los Alamos Scientific Laboratory. Speculative theory behind it was implemented in the fall of 1942 when the Manhattan Engineer District was formed as a highly secret agency to develop and adapt atomic energy for military purposes.

Wartime development of the atomic bomb project was under the direction of Dr. J. Robert Oppenheimer of the University of California. By October 1942, he and a small group of physicists had advanced their studies to the point where experimental work was necessary.

Several areas in the Southwest were examined, and the decision was made to center weapons research on the Pajarito Plateau northwest of Santa Fe. An agreement was reached with the University of California, an organization already active in Manhattan District work, to direct technical aspects of the program. Hence, the Los Alamos Scientific Laboratory was born.

The "Hill," as the laboratory was called, began operations early in 1943 on the site of an old, boys' school. Work progressed so rapidly that in just more than a year it was deemed essential to initiate planning for an enormous step forward—an actual field test with full instrumentation.

Theoretical studies had projected the feasibility of a nuclear fission bomb. Differential equations and partial experiments had confirmed it. Now it had to be tested as a complete unit.

A site not too far from Los Alamos was picked — an isolated area of the storied Jornada del Muerto (Journey of Death). Engineers and scientists began preparations early in the spring of 1945, and operations moved to the test local in a deserted section of what was then Alamogordo Air Base.

### High Stakes

In the middle of the desert there were no elaborate laboratories or accommodations. Personnel slept in windowless CCC barracks and were fed from Army mobile field kitchens. Men labored as their fam-

ilies back home wondered where they were and what they were doing.

There was a lot at stake, and all these pioneers knew it. One false move would blast them and their \$2 billion effort into oblivion.

Tension grew to a fever pitch. Failure was an ever-present possibility. Too successful a device, on the other hand, might mean an uncontrollable, unusable weapon.

What happened, of course, is history.

An intense flash of light bleached the desert an eerie white, a boiling reddish-yellow mushroom-shaped cloud rolled skyward, and a deafening roar shattered the early-morning stillness. The 100-foot tower was completely vaporized, and all life—plant and animal alike—was snuffed out for a mile.

The War Department statement issued on Aug. 6 gave this account of the blast:

"At the appointed time, there was a blinding flash lighting up the whole area brighter than the brightest daylight. A mountain range (Sierra Oscura) three miles from the observation point stood out in bold relief.

"Then came a tremendous sustained roar and a heavy pressure wave which knocked down two men outside the control center. Immediately thereafter, a huge multi-colored surging cloud boiled to an altitude of over 40,000 feet. Clouds in its path disappeared. Soon the shifting sub-stratosphere winds dispersed the now grey mass.

"The test was over, the project a success."

### Sandia Lab Emerges

Speculative theory had been projected



AFTER—For nearly 20 years, Ground Zero at Trinity Site was identified only by a weathered sign. Today it is enshrined by this 12-foot monument erected by the White Sands Missile Range. (WSMR Photo)

into practicality. The energy of the atom had been unleashed.

The battle of the laboratories, for all practical purposes, was over. The United States had accomplished the instantaneous release of the tremendous energy of nuclear fission. Germany and Japan hadn't.

A month later, the Trinity spectacle was repeated at Hiroshima and again at Nagasaki. On Aug. 14, just 30 days into the Atomic Age, the Japanese surrendered, bringing World War II to a close.

While preparations for the event destined to hasten the end of the war were taking place at Trinity Site, it was recommended that a group be assembled at Los Alamos to handle future weapons development, engineering, and bomb assembly. The organization, called "Z" Division, was formed late in July 1945 and ultimately was to evolve into Sandia Laboratory.

## Take Note . . .

Slides and movies of previous outings will be shown during the forthcoming meeting of the New Mexico Mountain Club. The group will meet Thursday, July 22, at 8 p.m. in Odium Hall at the Lovelace Radiation Therapy Building, George Steck (5255), club president, points out that newcomers to Albuquerque are especially invited to attend to learn about the summer program.

\* \* \*

A pre-evaluation of speech or hearing therapy needed by children of any Sandia Corporation employee is now available free of charge. Parents are asked to call Mrs. Janis Whelan at tel. 264-6996.

Since last October, Mrs. Whelan has given both private and class lessons to children (pre-school and older) with speech or hearing problems. The classes are conducted in Education Building 339 on Sandia Base. She previously headed a similar program for three years at an American school in Italy.

\* \* \*

Sandia employees and their families are invited to participate in the folk music club recently organized by the YWCA.

International songs, and songs of New Mexico and other regions of the United States are presented. Instruction is provided once-a-month by local professional and semi-professional folk singers. The group meets alternate Sundays in the YWCA, 316-4th SW. The next meeting will be at 7:30 p.m., July 25.

Further information may be obtained from Meridie Gordy, YWCA Young Adult Program Director, tel. 247-8841.

\* \* \*

Members of the Paradise Hills Lions Club have honored Sverre (Jo) Johannessen (2512) by electing him "Lion of the Year."

A charter member of the Club, Jo served as secretary last year and is currently second vice president. He has been one of the strong supporters of the New Mexico Lions Eye Bank.

Information about donating your eyes after death to this eye bank to help persons who are blind may be obtained by writing to the N.M. Lions Eye Bank, 5200 Gibson Blvd. SE or calling tel. 265-1211.

## Sandia Speakers

J. L. Mortley (7334), "Preparation and Compilation of Experimental Data for Computer Analysis," Iowa Hydraulics Colloquium, June 6-9, State University of Iowa, Iowa City.

Frank Biggs (5231), "The Influence of Paramagnetic Impurities on Nuclear Magnetic Resonance Lines," American Physical Society, June 21, New York City.

# Scientists Find Teaching-Research Abroad Very Different Experience

Two Sandia scientists are back at their desks after many months in Egypt and Sweden. Both work in Atmospheric and Underground Nuclear Burst Physics Department 5230.

Frank P. Hudson spent a year as a guest scientist in quantum chemistry at the University of Uppsala in Sweden. Crawford MacCallum has been in Egypt since last September where he taught at Ein Shams University under a Fulbright Lecturing Award.

In addition to lecturing, Frank continued to do research in his specialty—quantum

theory of chemical kinetics. The Quantum Chemistry Department at Uppsala is considered the world center of advance theoretical work in atomic and molecular quantum mechanics. Frank felt that one of the advantages of working with a group of more than 30 scientists from many foreign countries was to observe the many approaches taken to solve problems. English was the official language.

The University of Uppsala is one of the outstanding schools in Europe in technical fields, and will soon observe the 500th anniversary of its founding. The school which is primarily oriented toward graduate work has 10,000 students.

The city of Uppsala, located about 25 miles from Stockholm, is the cultural and religious center of Sweden.

"I consider the whole year highly worthwhile and certainly a wonderful experience for my family," Frank said. The four Hudson children attended Swedish schools and became quite fluent in Swedish.

Crawford's experience in Egypt was rather different. "I was 'kidnapped' by the Dean of the Engineering College upon my arrival and it wasn't until January that I discovered I was supposed to have been assigned to the Science faculty," he explained. He taught Electronics and Freshman and Sophomore Physics.

"Their teaching methods and concepts of science are quite different from ours," Crawford asserted. Written English is taught in Egyptian schools and most of the native professors have been educated in England. The usual method of teaching a college-level course is for the professor to write notes on the blackboard, which are copied and memorized by the students. The examination at the end of the year seems based more on the student's memory capacity than on his knowledge of the subject. "These students really don't understand spoken English, and they're unable to solve problems based upon notes they have been given," Crawford pointed out.

There are virtually no scientific textbooks printed in Arabic. There are no words in Classical Arabic for many technical terms and, due to stringent grammatical rules, it is even difficult to coin suitable words.

Ein Shams, which is one of four modern universities in Egypt, has about 6000 students in its Engineering College, including a comparatively high proportion of coeds. Students take 10 or 12 courses at one time and as many as 500 students may be enrolled in one course.

## Sandia Authors

C. Trujillo, Jr., and J. A. Chacon (both of 9423), "Sandia Corporation Automated Quotation Analysis," June 3 issue, PURCHASING.

J. E. Hesse (5154) and F. K. Truby (5122), "Conditions for the Preparation of n-Hexadecylsulfide by H<sub>2</sub>O<sub>2</sub> Oxidation of the Thiol," Apr. 17 issue, CHEMISTRY AND INDUSTRY.

F. K. Truby (5122), D. C. Wallace (5155), and J. E. Hesse (5154), "Energy Migration and Localization Process in Gamma-Irradiated, Amorphous n-Alkyl Disulfides," June 1 issue, JOURNAL OF CHEMICAL PHYSICS.

P. E. Waltman (5421) and D. L. Hanson (formerly of Sandia), "A Note on a Functional Equation," No. 2, 1965, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS.

P. E. Waltman (5421), "An Oscillation Criterion for a Nonlinear Second Order Equation," No. 2, 1965, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS.

W. E. Warren (5251), "Thermal Stress Concentrations in a Notched Half Plane," March issue, JOURNAL OF APPLIED MECHANICS.

R. R. Boade (5234), "Effect of Collision Partners on Vibrational Relaxation," Apr. 15 issue, JOURNAL OF CHEMICAL PHYSICS.

G. P. Carter (1433), "Evaluating Digital Integrated Circuits," July 5 issue, ELECTRONIC DESIGN.

Ruth E. Whan (5211), "Evidence for Low Temperature Motion of Vacancies in Germanium," June 1 issue, APPLIED PHYSICS LETTERS.

A. R. Sattler (5211), "Ionization of Energetic Silicon Atoms within a Silicon Lattice," June 14 issue, THE PHYSICAL REVIEW.

A. R. Sattler (5211) and G. P. Dearnaley (Los Alamos Scientific Laboratory), "Anomalous Energy Losses of Protons Channeled in Single Crystal Germanium," July 14 issue, PHYSICAL REVIEW LETTERS.

R. D. Andreas and G. H. Honnold (both of 2421), "Spectra of Sampled Signals," June issue, IEEE PROCEEDINGS Correspondence Section.

E. H. Beckner (5142), "Interaction of Polarization Currents with a Quadrupole Magnetic Field," June issue, THE PHYSICS OF FLUIDS.

R. S. Claassen (5100), "Research Training for the Engineer," March issue (Vol. E-8, No. 1), IEEE TRANSACTIONS ON EDUCATION.

C. C. Hudson (5231), "Experimental Evidence of a Twinkling Layer in the Earth's Atmosphere," a July issue, NATURE (a weekly British publication).

R. L. Schwoebel (5121), "Condensation of Gold on Gold Single Crystals," Vol. 2, 1964, SURFACE SCIENCE.

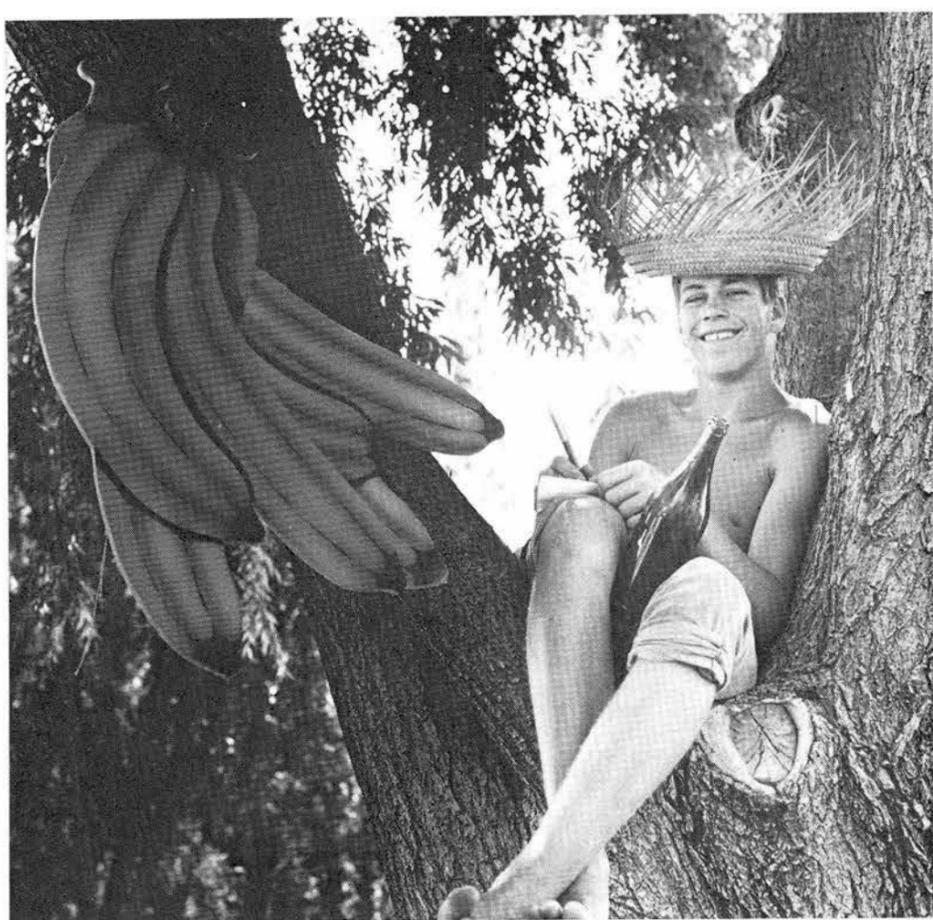
L. S. Nelson (5234), "Explosion of Burning Zirconium Droplets Caused by Nitrogen," June 18 issue, SCIENCE.

R. G. Fitzgerald (1113), "Electrical Charge as a Function of Stress and Time in a Mica-Filled Epoxy," May issue, MATERIALS RESEARCH AND STANDARDS.

M. K. Parsons (5132), "Note on the Classical, Small Signal Theory of Acoustic-Electric Interaction," June issue, IEEE PROCEEDINGS Correspondence Section.

E. J. Graeber (1114) and Abraham Rosenweig (professor in geology at the University of New Mexico and a Sandia consultant), "The Unit Cell of Krausite," March-April issue, AMERICAN MINERALOGIST.

D. P. Brautigam (4517-1), "You Can Apply the Network Technique to Plant Maintenance," May issue PACIFIC FACTORY magazine.



"HELP, HELP, I'm shipwrecked," writes Laurie Goddard as he gets ready to launch the proverbial empty bottle on ocean waters. Coronado Club members and guests can join him at the annual Shipwreck Costume Party on July 31.

## Costume Party Set For Late July at Club

A Shipwreck Costume Party, complete with prizes for the most appropriate and the most original outfits, gets top billing on the Coronado Club calendar for late July.

The masquerade, slated for July 31, is part of a continuing Saturday evening entertainment series in La Granada Room.

Dancing at the costume ball will be from 9 p.m.-1 a.m. to the music of the Phil Graham Orchestra. Sandwiches will be served from 7-9 p.m.

The fare includes roast beef on French dip roll, as well as beef, ham, and turkey sandwiches. Club members will be admitted for \$1; guests for \$1.50.

An Evening in Rome will be the theme at a Coronado Club dinner-dance tomorrow night. The Italian cuisine includes spaghetti with Romano sauce, veal scallopini, golden gerbanza, and zucchini. Dinner will be served from 7-9 p.m. with dancing to follow. Music will be provided by the Lamplighters.

Tickets are \$3 members and \$3.50 guests. The July 24 program will consist of dancing to the Jerry Lee Combo and a top sirloin or prime rib dinner. Tickets are \$2.75.

## Coronado Members Vote for New Directors At Annual Meeting

The annual meeting of members of the Coronado Club will be held Monday, Aug. 2, at 8 p.m. at the Club. Six Directors will be elected and reports will be given by present members of the Board.

President George D. Horne, Jr., announces that nominees for the six Directors are: Pearson Crosby (AEC/ALO), J. H. Hann (2531), E. D. Herrity (4342), M. M. Newsom (5611), D. M. Olson (1530), and J. H. Shelby (4253). Nominations will also be accepted from the floor during the meeting.

Carryover Directors are Fred Bogott (ACF), D. W. Ballard (2564), A. G. Carter (5613), and J. W. Carroll (4352). C. W. Dickinson, Jr., (3120) and D. P. Dickason (AEC/Sandia Area Office) are Sandia Corporation and AEC-appointed Directors.

PAGE FIVE  
LAB NEWS  
JULY 16, 1965

## Promotions

Lloyd O. Terry (7331) to Staff Associate Technical  
Archie M. Sorley (2413) to Staff Assistant Technical  
Amado N. Chavez (7332) to Staff Assistant Technical  
Louberta A. O'Connor (2213) to Staff Assistant Drafting  
Evelyn Bachman (8233) to Staff Assistant Administrative  
Lorena Schneider (8234) to Staff Assistant Administrative  
Charles Z. Mitchell (4511) to Maintenance Mechanic (Plant)  
Frederick Palkovic (4511) to Maintenance Mechanic (Plant)  
Neal N. Rozell (4511) to Maintenance Mechanic (Plant)  
James C. Vincent (4511) to Maintenance Mechanic (Plant)  
H. Dewey Heffington (8222) to Utility Operator  
James J. Furtado (8222) to Trades Helper  
Shirley Stahmann (3126) to Secretarial Steno  
Patricia White (3126) to Secretarial Steno  
Maxine Ludi (4341) to Steno Clerk  
Mary Ann Griego (4342) to Steno Clerk  
Mildred E. Mellen (3126) to Secretarial Typist  
Corlyss Morgan (3126) to Secretarial Typist  
Joe P. Armijo (9411) to Data Processing Clerk  
Lucille Montoya (7521) to Typist  
Iva E. Adkins (4212) to Senior Clerk  
Esther Moya (2231) to Record Clerk  
Margaret Sanders (2231) to Record Clerk  
Benjamin Garcia (9411) to Computer Facility Operator  
Evelyn Maynard (8211) to Secretarial Steno  
Mary Lu Taylor (8245) to Record Clerk  
Ted L. Hebebrand (8232) to Mail Clerk  
Doris L. Pouard (8232) to Library Assistant  
Emma Jean Stuart (8245) to Service Clerk  
Mabel C. Avallone (3420) to Secretary  
E. Janet Suchland (5250) to Secretary

## Max Apodaca Combo Plays At Coronado Club Tonight

Social Hour at the Coronado Club will be followed this evening by a Chuckwagon Roast Beef and Shrimp Buffet. The Max Apodaca Combo will play for dancing.

Tickets are \$1.75 adults, \$1.50 children. A Chicken Buffet is on the Club menu next Friday, and dancing will be to the music of the Sol Chavez Combo. Adult admission is \$1.25; child's tickets are \$1.

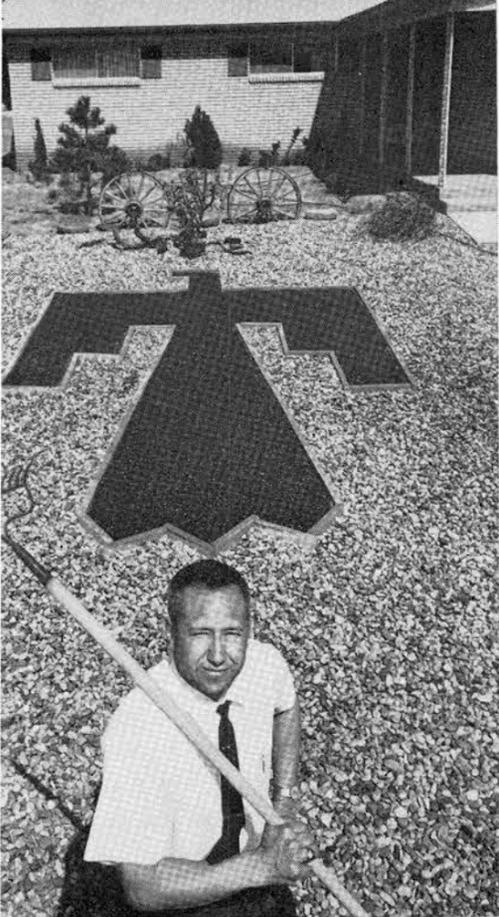
## Sympathy

To J. C. Shelton (1443) for the death of his son in Albuquerque, July 1.

To Filiberto Sanchez (4574) for the death of his father in Belen, June 26, and his brother in Belen, July 1.

To R. N. Browne (7214) for the death of his wife in Albuquerque, June 28.





**SOUTHWESTERN LANDSCAPE**—The insignia on a Sandia Corporation matchbook cover was the model for this eye-catching yard decoration at 2726 Dallas NE. Built by Carmel Mares, (2531), the thunderbird has a wing span of 10 ft. and is 12 ft. high. It is filled with red sandstone chips and took two weekends to finish.

## Deaths . . .

Myna S. Shinn, a Sandia employee for more than 14 years, died June 30 after a lengthy illness. She was 46.

Mrs. Shinn worked in Quality Assurance Data and Reports Division 2112.

Survivors include her husband, Kenneth C. (2551); two sisters, Mrs. E. B. Lewis of New York City and Mrs. O. M. Fligner of Albuquerque; and a brother, Marcel C. Schiess (7532) of Albuquerque.

\* \* \*

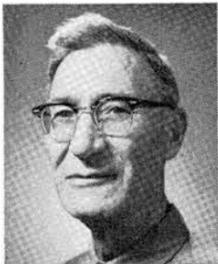


Julian Trujillo, a Sandia employee for more than 14 years, died suddenly at his home July 1. He was 46.

He worked in Stock and Material Control Division.

Survivors include his widow, three sons, seven daughters, his parents, two brothers, and a sister.

\* \* \*



Frank Balok, who retired from Sandia in January 1964, died July 6 after a brief illness. He was 63.

He worked in Janitor Service Division during his six years at Sandia.

Survivors include his widow, two brothers, and three sisters. All reside in New Mexico.

\* \* \*



Ervin W. Wolfe, a Sandia employee for eight years, died suddenly at his home July 7. He was 61.

Mr. Wolfe was standards lab coordinator for Facilities and Supplier Evaluation Engineering Division

2522.

During his residence in Albuquerque and also previously in Houston, Mr. Wolfe had been active in Scouting and had returned only a few days earlier from taking 50 Scouts on a 10-day outing in the Pecos wilderness. He organized and was Scoutmaster for Troop 383.

Survivors include his widow, a daughter—Mrs. Patricia Buehring of Fort Worth, Tex., and two sons—Donald of Lake Jackson, Tex., and Gary of Albuquerque.

## How to Be Rescued From a Tropical Isle In Cruise Ship Style

The COOK ISLAND NEWS, local newspaper at Rarotonga, may have had to print a correction to an earlier story which stated: "On Friday (June 11) the last three men from Sandia Corporation will be boarding the Polynesian Airlines' plane to return to their homes and families."

It seems that the regularly scheduled weekly airplane probably still hasn't landed at Rarotonga, where a group of Sandians launched rockets to gather atmospheric data during a recent eclipse.

Art Verardo, Pete Seward, and Don Field, all of Programming and Logistics Department 2550, remained on the South Pacific island after the main party of engineers and technicians had flown back to Albuquerque. After dismantling equipment, readying it for shipment, and paying bills, they were scheduled to leave via Polynesian Airlines on June 11. The weekly plane customarily arrives on Thursdays and leaves on Fridays. Only this particular week the plane developed a wing fault as it left Western Samoa and was grounded—apparently permanently.

The airlines already had a new DC-3 on order, but there was no assurance the replacement plane would be delivered before mid-July. Since there were 156 persons "stranded" on the various islands served by the airline, an attempt was made to charter a plane from Fiji Airlines. Negotiations were still underway when the Sandians discovered that a Matson Line cruise ship would be making its monthly circle around Rarotonga on June 12.

That is how the three Sandians, three British scientists, and a New Zealand vacationer happened to join the native vendors and island entertainers as they boarded a small passenger lighter to reach the Mariposa anchored offshore (there's no harbor at Rarotonga).

Three and a half days later they reached New Zealand—and the change from tropic weather to mid-winter was a shock. Twelve hours later they boarded a Teal Airways' plane for the flight to Fiji where they changed to Quantas Airlines to reach Honolulu.

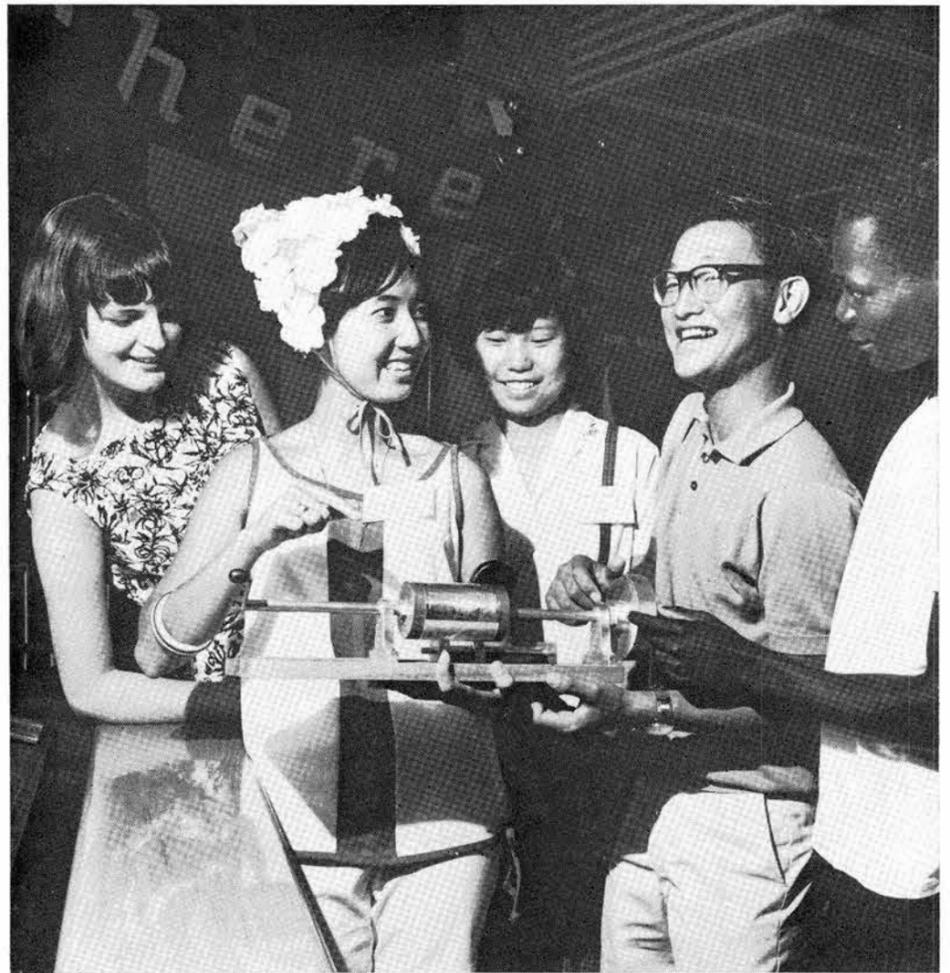
## Special Libraries' Information Booklet Aids Small Businesses

A handy booklet listing some standard information sources frequently needed by small businesses and offices in New Mexico has been published by the Rio Grande Chapter of the Special Libraries Association.

George Dalphin of Sandia's Technical Library Division headed the committee which compiled the information. Florence MacPherson, also of the division, was one of the librarians who assisted the committee.



**SPECIAL BUS**—More than 80 Sandians have been using "bus pool" service on a daily basis to get to work. The Albuquerque Transit System, encouraged by the reception given the two special buses, has expressed interest in expanding current operations.



**SPHERE GUESTS**—Five of the 44 foreign exchange students who visited the Sphere of Science at Sandia Laboratory recently were intrigued by this replica of Thomas Edison's first hand-cranked phonograph. The students are (l to r) Margaret Wraight, Manchester, England; Tran-Thi-To-Nga, Can Tho, South Vietnam; Masago Takagi, Osaka, Japan; Shizuo Tsuiki, Tokyo, Japan; and Philip Egessa, Uganda, East Africa. Each of them attended high schools in the Los Angeles area during their senior years and have received diplomas.

## First SNAP Generator in Space Still Functioning After 4 Years

June 29 marked the fourth anniversary of the first nuclear power generator to be placed in space. This historic generator, which converts heat energy of radioisotopes directly into electricity, was developed by the Atomic Energy Commission. It has traveled an estimated 500 million miles, and is still functioning aboard the Navy's experimental navigational satellite 4-A.

The grapefruit-sized, five-pound, three-watt nuclear generator is supplementing solar power on the 175-pound drum-shaped satellite which is still signaling clearly and regularly to tracking stations around the world.

The satellite was launched June 29, 1961, from Cape Canaveral. It became the oldest operating U. S. satellite in May 1964, when signals of Vanguard I were last heard.

A second, similar Navy satellite with the same type of nuclear generator was

launched in November 1961 and is still operating. Two Navy navigational satellites were launched in 1963 from Vandenberg Air Force Base, Calif., with larger nuclear generators developed by the Atomic Energy Commission. These generators are providing all the power to the satellites.

All four generators were developed under the Atomic Energy Commission's SNAP (Systems for Nuclear Auxiliary Power) program. The aim of the program is the development of compact, lightweight, reliable nuclear electric devices for unattended operation in space, in the sea, and on land. A variety of radioisotopes may be used as the fuel for generators of this type. The heat generated from the radioactive decay of the fuel is converted directly into electricity through thermocouples which surround the fuel. A thermocouple is composed of two dissimilar metals joined together at both ends, producing a loop in which an electric current will flow when there is a difference in temperature between the two junctions.

Other SNAP generators are operating on land and in the sea. One is powering a Navy automatic weather station in the Antarctic. One is supplying electrical energy for a Navy acoustic beacon located at the bottom of the Atlantic Ocean. The first nuclear powered Navy deep-sea floating weather station has completed over 16 months of operation in the Gulf of Mexico, and still is fully functioning despite an encounter with Hurricane Hilda in September 1964. Last month, the first nuclear powered Coast Guard lighthouse completed its first year of unattended operation in Chesapeake Bay, Md.

To increase the applicability of these nuclear generators, the Atomic Energy Commission is developing more efficient and more compact versions. These advanced types of generators are designed to be economically competitive with conventional power sources in many instances. They are expected to see widespread use as power sources for space communications systems, seismological stations, navigational aids, and weather stations.



GOLF WINNERS—Showing off the trophies they won at the recent Sandia Laboratory Women's Golf Association Tournament at Socorro are Ida Mae Gutierrez (left) (3421) and Pat Anderson (7241). Ida Mae captured low net honors, while Pat was the low gross winner.

## Sandia Librarian Has Leading Role in 'I Am A Camera'

"I Am A Camera," the current attraction at the Corrales Community Theater, features Sandia librarian John Gardner (3421) in the leading role.

The three-act comedy-drama depicts life in Berlin in the 1930's. The cast is limited to seven and John, in his part as Christopher Isherwood, is on stage during the entire play.

A native of Birmingham, England, John appeared in Shakespearean productions there and had walk-on roles in repertory theater. After coming to the United States, he appeared in plays and musicals and directed three dramas during six years of association with the Barn Theater in Mountain Lakes, N. J. He has had parts in two productions of the Albuquerque Little Theatre.

Jeanne Swain, wife of A. D. Swain (1443), plays the role of Frau Schneider.

This play will be presented July 16-17-18, and again July 23-24-25. Curtain time is 8:30 p.m. The theater is located in century-old San Ysidro Church in Corrales.

## AEC Seeks Bids On Sandia Lab Job

The Atomic Energy Commission will invite bids later this month on a multi-faceted construction project in Tech Area III at Sandia Laboratory.

Small business firms only will be asked about July 27 to submit bids. They will be opened Aug. 24 in the AEC's Albuquerque Operations Office.

The job calls for modifications and additions to three existing buildings and the construction of two new ones. The alterations will be performed on Bldgs. 6590, 6592, and 6593.

All three of the buildings are used by the Nuclear Burst Physics and Mathematical Research directorate. The same organization will occupy the two new structures—a 40x100-foot prefabricated metal building and a 12x12-foot aluminum building.

Project engineer R. C. Piper, 4542, said work is to be completed within 150 days after the contractor gets notice to proceed.

## Welcome Newcomers

June 24 - July 9

Albuquerque		
Michael C. Carter	2514	
Rosie Lee Cata	4623	
Patience Cramp	3154	
Joe E. M. Coullar	4574	
Barbara J. Ghion	4314	
Mary L. Hamilton	3126	
Joyce H. Hoch	3126	
Dixie L. LaMoria	3126	
Gilbert E. Larsen	5232	
Julie A. Lotz	2534	
W. George Perkins	5213	
Paul W. Plomp	1522	
Mary E. Remillard	3126	
Helen G. Riedy	3126	
Mary E. Ryan	3126	
William E. Singdahlsen	4543	
Betty Lou Womack	3126	
Nebraska		
John W. Schwarz, Lincoln	5600	
New York		
Thomas A. Duffey, Jr., Ithaca	5621	
Oregon		
Richard G. Hay, Portland	9313	
Pennsylvania		
Leslie E. Brubaker, Philadelphia	5151	
William H. Dodson, Pittsburgh	1314	
Patrick L. Walter, Clairton	7332	
Rhode Island		
Robert L. Park, Providence	5121	
South Dakota		
Leonard D. Licking, Buffalo	1443	
Washington		
Paul G. Beck, Pullman	7215	
Wisconsin		
Bruce R. Hawkinson, Platteville	3411	
*Denotes rehire		
Summer Hire		
David L. Hetrick, Tucson, Ariz.	9312	

## 15 Years



Charles O. Mayer  
2212  
July 17, 1950

Vaughn D. Nogle  
1413  
July 20, 1950



George D. Horne, Jr.  
9414  
July 24, 1950

David H. Winner  
3241  
July 28, 1950

## Service Awards



Lloyd E. Barnes  
2521  
July 28, 1950

Leroy H. Huenefeld  
4373  
July 18, 1950



Robert Creveling  
1421  
July 17, 1950

John W. Ethridge  
3242  
July 31, 1950



Maggie A. Wheeler  
3427  
July 18, 1950

Chester O. Weaver  
1323  
July 25, 1950

## Apparent Low Bid of \$28,068 Received for Area III Job

Weaver Construction Company of Albuquerque submitted the apparent low bid for a construction project in Tech Area III at Sandia Laboratory.

The firm bid \$28,068 for construction of a 900-square-foot service addition to Bldg. 6587. The new facility will be occupied by Plant Maintenance Department.

Work involves installation of all utilities including cooling and alarm systems. Completion of the job is expected by early October.

The Weaver bid was the lowest of five opened in the Albuquerque Operations Office of the Atomic Energy Commission.

## 10 Years

July 17-31

Jean A. Langston 5100, Arthur M. Hill 3134, Donald N. Munro 8142, Willie L. Smith 4513, and Jack E. Marcu 2453 (bridged service).

## PAGE SEVEN

## LAB NEWS

JULY 16, 1965

## SHOPPING CENTER

**CLASSIFIED ADVERTISING**  
Deadline: Friday noon prior to week of publication unless changed by holiday.  
A maximum of 125 ads will be accepted for each issue.

### RULES

1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Corporation and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

### FOR SALE

- AKC registered miniature Poodles, silver, males or females. Loeper, 265-0472 after 5.
- FOUR HILLS, tri-level, 4-bdr., den, 2 1/2 baths, storage rm., oversized double garage, landscaped, 2200 sq. ft. Law, 298-0287 evenings, weekends.
- 26' AIRSTREAM TRAILER, extras, \$5800. Winfrey, 298-9526.
- '56 FORD Victoria, HT, R&H, ST, best offer. Guist, 299-9060.
- 17' OWENS boat, 75hp Evinrude, trailer, fully equipped, matched rig. Small, 299-0025.
- '62 OLDS 98 convertible, red w/black top, \$2000, see at 8209 Marquette NE, Apt. B, evenings, Chrisman.
- '59 FORD, 6-cyl., 3-speed pickup, \$600. Tant, 255-9857.
- STEEL GUITAR w/case, National, brand new, pd. \$125, make offer; gentle Shetland pony. Simon, 877-3352.
- '51 GMC 1/2-ton pickup. Saxton, 299-8547.
- '60 FORD V8, R&H, PS, AT, factory air, \$595. Hansen, 299-2337.
- HOUSE, 2-bdr., hw/floors, pool, \$11,000 FHA appraisal, \$10,700, 825 Alvarado SE. Bechtel, 268-7409.
- WOOD BURNING RANGE for mountain cabin; chain saw, 7HP, 36" chain; outboard motor, 5 1/2 HP Johnson, Crass, 299-1418.
- '52 CHEVROLET, 2-dr., one owner, \$60. Pierce, 298-0781.
- ROBERSON 3-bdr., den, fireplace, electric kitchen, dishwasher, AC, new Herculon carpet, double garage, \$2500 down, GI loan. Taylor, 298-0426.
- '62 BSA MOTORCYCLE 650cc twin, low mileage, fiberglass saddlebags, crash bar. Ristine, 256-2708.
- '59 HILLMAN HUSKY station wagon, \$250, new rubber all the way around. Luna, 877-1055.
- KENMORE automatic washer; Kenmore gas dryer, white, \$150 for both; Kenmore ironer, \$25. Spencer, 298-5061.
- SCHIPPERKE PUPS, seven wks. old, ready to go, \$35. Kohl, 242-7822.
- FRENCH POODLE, male, 20 mos. old, \$15 to right owner. Mandell, 299-4158.

- MOSSMAN HOME, 3-bdrm., den, 1 1/4 bath, fireplace, range, dishwasher, sprinklers, carpets, drapes. Parsons, 298-5280.
- COLLIE PUPPY, sable/white, AKC, excellent pedigree. Baggett, 1421 Gretta NE, 299-0658.
- '61 DKW compact car, \$450. Matlack, 256-7371.
- 1-BDR. BRICK DUPLEX, AC, utility rm., colored built-in range, colored bath fixtures, landscaped, walled, \$14,000. FHA appraisal—\$14,800. Smith, 633 Grove SE, 255-2977.
- BIRD CAGE, \$5. Langston, 268-6933.
- SOLID MAPLE spindle bed frame, new, twin size, \$25. Wallis, 255-2935.
- COMPLETE HOUSE OF FURNITURE including TV and electrical appliances. Walters, 5804 La Corrida NE.
- ANTIQUE EMPIRE SOFA from New York state, mahogany. Millard, 299-2039.
- HAM GEAR, DX 100, HQ-100, complete rig including mike, antenna, relay, etc., \$100. Branen, 268-6310.
- 5-BDR., den, garage, \$18,750, or 4-bdr., extra family rm. w/rear entrance, separate utility rm., FHA, large deep lot. Jackson, 299-0942 or 255-3823.
- USED KENMORE electric range, 40", single automatic oven, push-buttons, deep well cooker, \$40. Roberts, 255-9527.
- BICYCLES: one 26" "Royal Crown" 3-speed English racer, \$20; one 20" sports "Brody Wagon" custom equipment, \$25. Richter, 299-0409.
- '59 RAMBLER, 6-cyl. wagon, AT, PS, radio, \$375. Houghton, 265-0130.
- PRIDE HOME, built-ins, paneled den, big fireplace, formal DR w/built-in hutch, 3-bdr., 1 1/4 baths, \$22,890 FHA, 5% down. Givens, 299-7781.
- 3-BDR., separate DR, carpeted, AC, double garage, sprinklers, walled backyard. NE, sell for FHA appraisal \$15,000. Stewart, 298-6246.
- KELVINATOR REFRIGERATOR, 11 cu. ft., \$50. Lathrop, 298-4235.
- PUPPIES, FREE, Collie Shepherd cross. Tolbert, 282-3438.
- FREE German Shepherd, 1 yr. old, male, has all shots; also free, four kittens. McCampbell, 282-3966.
- LUGER 9mm, 8" bbl., \$80; 12" ref./freez., \$65; new port. sewing machine, \$85; 3000 CFM blower/mtr., \$25; '64 Kharman Ghia, \$400, take balance \$1600. Scott, 298-1554.
- '59 INTERNATIONAL TRAVELALL, 4-speed, no spin, 6-ply nylon truck tires, full flaps, best offer over \$1300. Cook, 255-4941.
- '52 CADILLAC, full power; '9x9' Wenzel tent; Coleman stove; trade '57 GMC and '63 Teardrop camper for camp trailer. Naumann, 298-3559.
- GARAGE DOOR, 8'x7'. Amador 242-7728.
- STRATOVOX elec. guitar w/Kay amplifier, \$85 or take over payments \$8.50/mo.; GE room air conditioner, portable w/stand, \$25. Cowham, 298-4249.
- '52 CHEV. 4-speed pickup, \$175. Bauhs, 282-3497.

- 3-RM. CABIN w/carpport, Manzano Mts., 8 mi. S. of Highway 66; 5-yr.-old gelding, fair to good roper. Bluett, 282-3686.
- HOTPOINT elec. range, \$50; blonde coffee table, 2 end tables w/formica tops, \$7.50/ea. Goodwin, 256-2216.
- SIX sea foam green, aluminum roll up porch blinds, originally \$40 ea., for \$12/ea.; yellow and black interlined drapes for 7' traverse rod, \$15. McMaster, 268-8062.
- 2 SADDLES, \$60, \$100; mare, \$250; mowing machine, \$60; stock rack for '56 Ford pickup, \$75; 7 acres Bosque Farms. Schooley, Los Lunas 636-2970.
- '60 TRIUMPH HERALD, 2-dr., sedan, new tires, new brakes, 27mpg, \$400. Galbreath, 898-0644.
- '61 CHEV BISCAYNE, 8-cyl., stick shift, turquoise and white, 48,000 miles, new tires, R&H, \$850. Foster, 5115 Aspen NE, 265-0069.
- '54 CHEVROLET convertible, new top. Versteynen, 298-6087.
- 3-BDR., family room, 2 1/4 baths, 2 fireplaces, hw/floors, double garage, screened patio, landscaped. Forsythe, 299-2785.
- SMALL CHEST FREEZER, Coldspot, \$50; wrought iron table frame and 4 chairs, \$20; double bed springs, mattress and metal frame, \$15. Hughten, 298-2900.
- '64 CHEVELLE 4-dr. Malibu V8, original owner, \$1850 or trade for '63 or '64 Belair Impala wagon. Coalsen, 298-8074.
- '51 PONTIAC 4-dr. sedan, make offer. Peterson, 299-4714.
- '51 CHEVROLET COUPE, \$125. Holben, 345-1476.
- TYPEWRITER, Remington, standard, \$45. Chaves, 255-6155.
- '63 CHEVROLET Greenbrier camper, sleeps 2 adults, 2 children, \$1775; two 12" Electro-voice speakers, \$25 for the pair. Clement, 298-4994.
- LARGE 3-bdr., 1 1/4 baths, AC, carpeting, drapes, selling below appraisal, assume FHA loan. Valley, 299-8941.
- POWERFUL 16HP '61 Mustang Thoroughbred, \$145 or will trade for good Honda 50 or 90. Webster, 242-8898.
- TWO PIECE SECTIONAL, flexsteel, \$99; sofa modern style \$49; sabled oak dining set, \$69; five bar stools, \$14. Winblad, 344-3109.
- 8MM MOVIE CAMERA, Ward's f1.8 lens, electric eye, zoom lens, footage indicator, built-in filter, pistol-grip handle, \$55. Walker, 299-6039.
- TWO 800x14 snow tires, \$5/ea.; one 8x14 tire and Chevrolet wheel, \$6; one 760x14 Goodyear double-Eagle, \$10. Houghton, 299-3386.
- '63 TRIUMPH TR4, convertible, roll-up windows, leather upholstery, carpet, 4 speeds synchronized, electric OD, disk brakes, radio, new battery, \$1710. Magnuson, 628C Alcazar SE, 255-3921.
- NEAT 3-bdr. and den house, near school and shopping centers, access to back yard, trade for House Trailer. Boyden, 268-8767.
- TAPE RECORDER, Concord 800 stereo. Harris, 299-6664.

- REEL MOWER, 18" Jacobsen, \$45; picnic table w/benches, \$7; Scott's spreader, \$5; wheel barrow, \$5. Von Riesenmann, 298-0222.
- GAS RANGE, 4 burners w/griddle and interchangeable 5th burner, large oven, broiler, pan storage. Moore, 298-8909.
- FREE KITTENS, Long-haired males and females, orange, charcoal, calico, etc. Plumlee, 282-3224.
- MOTORCYCLE, Allstate, low mileage, windshield, needs battery, \$145. Hawk, 256-6264.
- CUSTOM BUILT on 1/2-acre, 3 large bdrs., 2 1/2 baths, 2 fireplaces, 2 wells, landscaped, carpeted, drapes. Eiffler, 898-0324.
- TWO DOUBLE BEDS, one, \$15, one w/bookcase headboard, \$25. Brooks, 282-3753.
- BOY'S 24" bicycle, \$12; girl's 20" bicycle, \$8. Cultreri, 298-5252.
- BOW AND ARROW set, \$10; bull whip, \$2; fishing pole, \$2; 16" hand lawn mower, \$10. Causey, 299-0089.
- 2 MOUNTAIN CABIN SITES, good spring, spruce trees, all-weather road, on Pecos River. Collins, 268-3612.
- '51 WILLYS 1/2-ton pickup, 4-wd, rebuilt engine; '15' Mercury camping trailer, \$700; 4-bdr., 2-story home, 2 baths, SE location, sell for FHA appraisal. Trujillo, 242-3827.
- NEAT 3-bdr. house, landscaped, carpeted, walled yard, newly painted interior and exterior, patio, built-in range. Cranfill, 298-2518.
- JIG SAW w/shaft coupling for shop smith or bench. \$30. Denney, 268-0004.
- '63 CHEV. Impala, 2-dr., HT, 237 cu in. engine, check NADA price \$1600. Steele, 299-9117.
- 20-ACRES of wooded Manzanos, 12 miles south on highway 10. Romero, 344-0302.
- '62 TR3, white, \$1325; complete U.S. divers SCUBA equipment, 30% off; child's SCUBA tank and regulator, \$35. Flynn, 299-4929.
- LARGE 3-bdr. and den, NE Heights, near schools, drapes, hw/floors, built-in stove, storage, many extras, FHA appraised. Coonce, 296-1089.
- FRENCH POODLE, AKC registered, 3 mos. old, white, miniature female w/permanent distemper shot. Barton, 299-3738.
- 1000-WATT portable generator, \$45; 7x14.5 Travel Trailer wheel and tire, 10 ply, never used, \$30. Kurifink, 299-6434.
- LADIES WESTERN BOOTS, size 7D, \$25 or best offer. Pierce, 255-7923.
- 3-BDR., pitched roof, NE, central heat, AC, hw/floors, low down, \$12,200, owner, Smith, 296-1049.
- FLOOR furnace gas; upright furnace (LP); garage door; DC generator (inoperative), trade for .45 automatic, 30-06, LP tanks, etc. Aaron, 282-3124.
- ROBERSON, \$19,500, 4-bdr., den, util. rm., carpeted, garage, AC, built-in range, corner lot, landscaped, FHA \$1000 down or take over 4 3/4% GI. Neas, 11617 Snow Heights Blvd. NE, 299-1764 after 5.
- '63 CORVAIR MONZA, white w/red interior, 4-speed trans., R&H, w/w, actual mileage 17,000. Carlyon, 299-7251.

- 3-BDR., AC, carpeted, intercom., fire alarm, landscaped corner lot, NE Heights, \$1000 equity, terms, \$101/mo. Cutchen, 298-0449.
- ANTIQUE WALNUT washstand, \$35; drop-leaf table, \$35; chair, \$30. Cotter, 298-3820.
- BOSQUE FARMS NORTH LOOP, 3-bdr. home, pitched roof, frame stucco, CFA, AC, 1826 sq. ft. garage, 1/2 acre, lawn, trees, irrigation system, \$17,500. Shaw, Los Lunas 636-2715.
- UNDERWOOD TYPEWRITER, \$20; PSI course in Spanish, \$9; transistor tape recorder, \$5; 50-yr. old charcoal drawing, \$20. Ludwick, 114 Mesa SE, 243-6544.
- MANKIN HOME, 3-bdr., den, 1 1/4 bath, dbl. garage, 1700' living space, \$2800 cash to loan, balance \$17,500. Watkins, 516 Hillview Ct. NE, 298-3667.

### FOR RENT

- ROOM AND BOARD in private home for elderly ambulatory ladies, Los Lunas area. Carson, 264-5001.
- 3-BDR., NE Heights, carpet, drapes, electric range, near schools, reasonable for good care and one-year lease. Hamlet, 299-5124.
- NEWLY PAINTED apartments, furnished, unfurnished, electric kitchen, carpeted, AC, pool, 1-bdr., \$100/mo.; 2-bdr., \$115/mo., includes utilities. Jochims, 298-8984.
- HOUSE in Sandia Park on 3 acres, secluded but not isolated, partially furnished, carpeting, drapes, refrigerator, stove, piano, double heated garage, 30 mins. from Tech Area. Available Sept. 1. Fife, 282-3206.
- 3-BDR. HOUSE, partly furnished, 5500 Arvilla NE, \$85/mo. Carabaja, 268-9401.
- SMALL 3-bdr. home, \$90/mo., NE Heights, available Aug. 1. Cultreri, 298-5252.

### WANTED

- HOME for small dog, spayed female, 5 mos. old, short-haired, has all shots. Matlack, 256-7371.
- '55-'56 CHEVIE 2 or 4-dr. or equivalent, cash deal. Pope, 816 Val Verde SE, 255-6702.
- WANT TO RENT small trailer tent camper such as Apache or Nimrod for July 17-21. Roberts, 255-9527.
- TRUCK, 1 1/2 to 2 ton size, van or stake, '54 or older model, in good enough condition (or repairable) for 2000-mile trip. Cutchen, 298-0449.
- HOME for tiger kitten w/buff undercoat, female, weaned and housebroken. MacCallum, 242-4602.
- '52-'53 FORD shop manual. Frasier, 299-6933.

### LOST AND FOUND

- LOST—Sunglasses w/black and silver frames, reading glasses, 3 decks playing cards, brown plastic raincoat in case, clear lens prescription glasses, pair white earrings; silver earring w/blue stones, black wallet, grey plastic raincoat in case. LOST AND FOUND—tel. 264-2757.
- FOUND—15 yr. tie clasp, 5 keys on ring w/Honolulu Airport tag. LOST AND FOUND, tel. 264-2757.

# Eighty Summer-Hire Youths Now on Company Roll

## Employment Part of President's Youth Opportunity Campaign

The newest Sandians — 80 students hired by Sandia for temporary summer employment—are making meaningful contributions to the Company. The young women, primarily filling typist and filing positions, are taking chunks out of the backlog of typing and filing which accumulates periodically in Sandia organizations. The young men, working in ground crews, in the motor pool, and in janitorial slots, are proving to be a real help.

E. J. Whitmore, supervisor of Labor Support and Grounds Maintenance Division 4575 which has 10 of the students on its rolls, says, "They've been watering, pruning, draining ditches, hoeing weeds, spraying insecticides, and taking on any job as it comes along. They have a few blisters, but their enthusiasm is great. The regular crews have been most helpful providing guidance and encouragement."

The hiring of the 80 youths is part of President Johnson's recently announced Youth Opportunity Campaign. Availability of temporary summer work means the difference between going back to school or not going back for the students.

Forty of the students at Sandia Laboratory were placed in jobs outside the Tech Area. Thirty others will be working inside in drafting positions and as laboratory assistants as soon as their expedited clearances are granted. Ten of the students are employed at Livermore Laboratory.

The Youth Opportunity Campaign at Sandia has the full support and cooperation of the Atomic Projects and Production Workers, Metal Trades Council, AFL-CIO, and the Office Employees International Union, Local 251, AFL-CIO, in Albuquerque and the International Union of Operation Engineers, Stationary Local 39, in Livermore.

Typical of students are the five pictured here. Interviewed last week, the summer hires were amid new surroundings, new people, and new experiences. All displayed an eagerness to fit in and do a good job.



**GLORIA SAAVEDRA**  
—Rio Grande High School grad on to UNM—

GLORIA SAAVEDRA signed into Sandia Laboratory July 6 to be a typist and file clerk in Purchasing's Division 4362. She has been typing transmittal forms to send inactive records to Archives. She has also been typing memorandums and filing and retrieving microfilmed aperture cards for drawings.

Gloria graduated this past June from Rio Grande High School where her primary courses were in business—typing, shorthand, general business, and bookkeeping. Next Fall, she intends to enroll at the University of New Mexico and take a general college course until she decides upon a major. The Sandia job will help make it possible.



**ELENO ROMERO and JON ROYBAL**  
—Grounds maintenance crew for summer, back to high school next Fall—

ELENO ROMERO is on a ground maintenance crew for his summer of Sandia employment. He will return to Lourdes High School next September as a senior.

He plans to become a mechanical engineer and attend either UNM or New Mexico State University after graduation from high school.



**CHARLES K. DAVIS**  
—Gas pumping a civil engineering degree—

CHARLES DAVIS was helping at the Motor Pool last week, temporarily assigned there until his clearance comes through. He will work as a draftsman for the remainder of the summer.

No stranger to a gas pump, Charlie has worked part time in a service station for the past three years to finance his studies at UNM. He will be a senior next year majoring in civil engineering. He's hoping that the Sandia employment will enable him to devote full time to his studies next year.

### ISA Officers Elected

Sandia employees have been elected to fill three of the five officer's positions in the Albuquerque Section of the Instrument Society of America. They are T. S. Rathke, president; J. L. Mortley, vice president; and W. L. Jacklin, national delegate. All three are in Instrumentation Development Division, and their terms are for one year.

JON ROYBAL is also working with a grounds crew this summer.

He will be a senior at Albuquerque High School next semester taking archaeology, algebra, and physics as main courses. His ambition is to become a dentist. He has worked past summers as a bus boy in a local restaurant.



**CECILIA MOYA**  
—Saving to become a cosmetologist—

CECILIA MOYA, working in Personnel Division 3152, is busy typing personnel reports, bond report forms, and progress review reports.

She graduated from Los Lunas High School in 1964, and worked for a year at the Los Lunas County courthouse operating a bookkeeping machine.

Cecilia is saving to enter beauty college next September with the aim of becoming a cosmetologist.

### Sandia-Designed Pulse Integrator Granted Patent

A patent for a "Variable Time Constant Pulse Integrator" issued in the name of G. W. Rodgers, manager of Electronic Systems Department 1420, has been assigned to the Atomic Energy Commission.

The circuit receives unidirectional voltage pulses and integrates them by a unique combination of positive and negative feedback circuit techniques. The circuit is customarily part of a complex electronic system.

The patent is number 3,189,833 and was issued June 15.

## Youths Employed At Sandia Laboratory

Robert L. Benton	7326
Ramona L. Carmignani	4517
B. Franklin Griggs	4574
Hannibal E. Ortega, Jr.	7326
Dorothy A. Woodward	3241
Henry Armijo	4542
David R. Casias	4573
Betty M. Martinez	3131
Joe I. Martinez	4575
Max B. Sandoval	4573
Ellis L. Wiederkehr	1316
Mark A. Wieland	3312
Richard H. Jackson	1316
Gene A. Bates	4574
Davis P. Begay	4575
Linda-Lee Brongersma	3134
David B. Hamilton	4575
Patricia A. Martin	3212
R. Jon Roybal	4575
Marianna E. Smith	3154
Julianna S. Archuleta	3341
Gloria L. Chavez	4613
Edward B. Coleman	3211
Charles K. Davis	4573
Joseph M. Hodcock	4517
Timothy S. McDonald	4517
Gretchen Vogel	3111
Eleno J. Romero	4575
Margaret R. Romero	4333
Mary K. Baron	3122
Anthony M. Martinez	4575
Rose Mary Baca	3126
Marcy Martinez	4575
Susan A. McCann	3432
Richard D. Martinez	4542
John Woods, Jr.	3154
Martel J. Fisher	4574
Cecilia Moya	3152
Connie M. Aragon	3126
Joann E. Armijo	3126
Rafaelita Chavez	3111
Peggy Anne Clark	3126
Phillip R. Cordova	4573
Mary Ann Crowmover	3126
Dianna Lee Grant	3126
Dan Martin Kirk	4575
George A. Lovato	4613
Mary Ann Romero	3126
Cruz Ulibarri	4574
Ann Louise Wehrle	3154
Herbert S. Archuleta	3153
Barbara D. Burke	4333
Roy G. Hammit	4575
Patricia S. Holder	3152
John M. Levesque	2512
Luis F. Lucero	4574
Bruce E. Reed	4575
Gloria J. Saavedra	4362
Sam D. Salazar	4574
Robert E. Willis	4575
Deanna L. Woken	4545
Christopher F. Specter	4573
Jack D'Ambrosio	4575
Keith L. Cook	4613
Brenda J. Carragher	4333
Mary M. Flavin	3132
Linda G. Baxter	3153
Jeanne Burns	3341
Rose L. Gonzales	3153
Barbara Prejean	3151

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LAB NEWS

JULY 16, 1965

## Sandia's Safety Scoreboard

**Sandia Laboratory:**

18 DAYS

630,000 MAN HOURS

WITHOUT A

DISABLING INJURY

**Livermore Laboratory:**

29 DAYS

148,500 MAN HOURS

WITHOUT A

DISABLING INJURY