



CAVEMAN, an optical surveying instrument developed by Sandia, is positioned above the drill hole on the Project Dribble site by Grover Hughes (7224). The device, by means of a unique optical system, measured the dimensions of the nuclear cavity.

SANDIA
CORPORATION

LAB NEWS

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

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Sandia Commended By AT&T President

During the recent holiday season Sandia President S. P. Schwartz received the following note from American Telephone and Telegraph Company President H. I. Romnes.

"The cordial holiday greetings from you and your fellow officers of Sandia are much appreciated. Your performance makes us proud of our association with this venture which is so important to the welfare of our country. May 1966 be a good year for all of you."

Sandia Payroll Reaches \$78.6 Million for Calendar Year

Sandia Corporation's payroll for the calendar year 1965 amounted to approximately \$78.6 million, including the \$9.3 million payroll at Sandia Livermore Laboratory. For 1964 the figures were \$76.8 million and \$9.1 million respectively.

During 1965, the number of persons on roll at Sandia Corporation averaged about 8090, including 970 at Livermore. This compares with the 1964 average of 8127, including 985 at Livermore.

Assets of the Atomic Energy Commission's installations operated by Sandia Corporation totaled about \$182.6 million at the end of 1965, compared to \$166.6 million in 1964. These figures represent undepreciated values of buildings and facilities at Sandia Laboratory, Sandia Livermore Laboratory, and Tonopah Test Range.

Purchases by Sandia Corporation in the State of New Mexico amounted to approximately \$22.1 million for the calendar year 1965, based on actual figures for the first 11 months and estimated for December. The figure does not include purchases from other AEC contractors. In 1964, purchases in the state amounted to about \$22.4 million.

Approximately 99 percent of the amount spent in New Mexico in 1965, or just under \$21.8 million, went to Albuquerque firms.

New Mexico firms doing business with Sandia Corporation during 1965 numbered 1393. All but 30 of these are Albuquerque firms.

National Health Test On Local TV Jan. 18

Albuquerque TV viewers will have a chance Tuesday, Jan. 18, to test their knowledge of health against that of studio audiences.

The hour-long network program, "National Health Test," will be carried in Albuquerque on KGGM-TV starting at 9 p.m. (MST), and in Livermore on KPIX-TV at 10 p.m. (PST). A follow-up program is tentatively scheduled for Tuesday, Jan. 25. The format will be similar to last year's National Drivers' Test.

The broadcast questions were prepared through the cooperation of about 20 national medical and health organizations and the Education Testing Service, Princeton, N.J.

The health information to be offered in the "National Health Test" covers a wide variety of illnesses, diseases, and remedies.

Sandians Return from Air Drop Tests in Mid-Pacific Areas

About 145 Sandians, who participated in the month-long Joint Task Force Eight non-nuclear air drop exercise south of Hawaii, returned to Albuquerque in time to spend Christmas with their families. The last group arrived at the Sunport on Dec. 23.

The exercise involved dropping instrumented test-simulation objects from B-52 aircraft while three NC-135A flying laboratories simulated gathering nuclear effects data in the drop areas. It was conducted to help maintain facilities, resources, and crew proficiency in a state of readiness to promptly institute nuclear tests in the atmosphere if ever required.

Approximately 1500 personnel from the Department of Defense, Atomic Energy Commission, and the AEC weapons laboratories participated in the non-nuclear tests conducted from mid-November to mid-December. The Sandia contingent was made up of some 100 technical and 45 administrative support personnel. Thirty Sandians manned instrumentation posts on the three flying laboratories.

Groups of Sandia employees started leaving for the Pacific area in mid-October to prepare for the exercise. The last group of participants departed for Hawaii on Nov. 15.

They were stationed at five different locations, such as Johnston Atoll, Hawaii, and Barber's Point and Hickam Field on Oahu.

Assignments and living conditions varied, but the general experiences of Art Cole, supervisor of Test Vehicle Operations Division 7256, are probably typical of many Sandia participants in Hawaii.

As project officer of ground support for the Sandia test group, Art was involved in preparing operation procedures, methods, and equipment for the simulated test months before his scheduled departure for Hawaii.

He left Albuquerque the morning of Oct. 8 on a commercial flight for Los Angeles where he transferred to another flight and arrived at Honolulu early that same afternoon. After checking-in at the Sandia office on Ohohia Street, Art drove to the Waikiki Surf Hotel where he was quartered for the duration of the exercise. A dozen other Sandians were housed in the same

hotel and others were billeted throughout the Waikiki area.

Art's typical work day started with an hour's drive to the work site. Normal working hours were from 7:30 to 4:30, but work days were extended during operations.

Sandians on Hawaii generally spent their off-work hours swimming at the beaches or in pools. Some tried their fishing skills. The largest catch reported was a 194-pound blue marlin landed by R. J. Kindley, Special Systems Engineering Division 1523. Bob caught the nine-foot-long fish from a charter boat on Veterans' Day.

Mild, but wet, weather hosted the group in Hawaii. Art reported that on one occasion about six inches of rain fell within an 18-hour period. The December rainfall totaled about 14 inches, whereas the normal is a few inches.

President S. P. Schwartz; E. H. Draper, 2000; R. A. Bice, 7000; and L. J. Heilman, 2100, visited with many of the Sandia participants during a tour of the various sites. Other observers included AEC Commissioner Gerald F. Tape and LASL Director Norris Bradbury.

L. E. Hollingsworth, director of Field Testing 7200, was commander of the Sandia test group. The deputy commander was H. E. Viney, manager of Nuclear Test Department 7250.

Project officers for the Sandia test group and their responsibilities were A. F. Hutters, supervisor of Diagnostic Aircraft Operations Division 7255, diagnostic aircraft; J. E. Stiegler, Diagnostic Instrumentation Division 7252, systems engineering; R. S. Millican, supervisor of Diagnostic Instrumentation Division 7252, instrumentation; C. S. Selvage, manager of NTS Management and Support Department 7260, Johnston Atoll; and Art Cole.

C. L. Gomel, supervisor of Field Test Staff Division 7261, was Sandia test group chief of staff and J. H. Davis, supervisor of Test Vehicle Design Division 7253, was alternate project officer of ground support.

"A very smooth operation," "Well trained and capable personnel," and "All of the participants seemed vitally interested in the operation" were some of the general comments by Sandians on the non-nuclear air drop exercise.



ON THE PARKING APRON at Hickam Air Force Base on Oahu are the three NC-135A flying laboratories operated by personnel from Sandia, LASL, and LRL. In the recent Pacific exercise, the aircraft simulated gathering of nuclear effects data during non-nuclear drop tests.

Two Sandia Devices Photograph, Map Nuclear Cavity

A pair of remotely operated instruments developed and operated by Sandia Laboratory personnel have provided the earliest observations and measurements ever made of a cavity created by an underground nuclear explosion.

The devices—Cozy, a heat and radiation resistant TV camera, and Caveman, an optical surveying instrument—were lowered through a drill hole into a nuclear-detonation-created cavity in a salt dome near Hattiesburg, Miss., while temperature and radiation remained at high levels.

Participating in the development and operation of the two devices were G. W. Hughes (7224), J. S. Talbutt (7242), G. G. Curry (7264), and C. E. Meyer (7263).

The cavity, formed by a five-kiloton explosion 2715 feet underground on Oct. 22, 1964, was created as part of Project Dribble, designed to improve methods of detecting, locating, and identifying nuclear explosions. Lawrence Radiation Laboratory is in charge of the experiment, sponsored by the Advanced Research Projects Agency as part of the Vela Uniform program.

Cozy was first lowered into the cavity on Feb. 18, 1965. It encountered temperatures in excess of 400°F. Early pictures, relayed to monitors at the surface, were obscured by steam and gas clouds, but subsequent photos, obtained during more than 30 descents into the cavity, provided a clear view of the walls and floor.

Packaged in a five-inch-diameter cylinder which had a platinum jacket covering thermal insulation and radiation shielding, Cozy was designed to operate in temperatures up to 1000°F., radiation levels of 100 roentgens per hour, and a physical environment which consisted of salt, hydrochloric acid, water, sulphuric acid, ferric chloride, and traces of other corrosive compounds. The standard 16 mm f/1.2 lens was covered with a coated quartz disk to screen out heat-producing infrared rays.

The camera was equipped with two separate lens systems—one which permitted pictures to be taken of the cavity floor and another which allowed pictures to be taken of the walls. The latter contained lights for illuminating the walls and was equipped with a platinum-plated mirror set at a 45° angle in front of the lens. This permitted the sides of the cavity to be photographed although the camera was suspended vertically with the lens pointing downward. A panning motor rotated the camera so that all sides of the cavity could be viewed. Pictures were recorded at the surface on videotape and a 16 mm kinescope.

Caveman, based on a design conceived by Lawrence Radiation Laboratory, consisted of a specially designed two-and-one-half-inch diameter 35 mm still camera and a hollow aluminum spacer tube fitted at the top with a 45° angle cone. A xenon lamp shone on the highly polished cone and through a small hole the length of the cone.

The camera, equipped with a 180° lens, was positioned to look up the tube to the cone, thus photographing on the film the dot of light passing through the cone while at the same time photographing the thin circle of light which the cone reflected against the walls of the cavity. Images on the film looked like a series of small bull's-eyes.

The few millimeters between the center of each bull's-eye and the outer circle represents the distance between the center of the cavity and the walls. Tests involving known distances were conducted in advance of the experiment to determine the ratio of feet to millimeters, thus permitting the diameter of the cavity to be measured at various elevations by raising or lowering the camera. A compass in the system provided the same reference point for each elevation.

Editorial Comment

What are the numbers on your paycheck? Whatever they are they're certainly meaningful to you and your family. Numbers that we read can be vital or can be just another statistic that may surprise, shock, bore, or simply be glossed over as a meaningless figure.

Thirty-six is a small figure. On a paycheck it would be depressing. More depressing is the knowledge that 36 lives were lost in Albuquerque in 1965 due to traffic. People like you and I who need not have died.

Four hundred and seventy-nine is a larger figure. Still not much money—though few of us could spare it. Can we spare the 479 lives lost in New Mexico traffic deaths in 1965?

561 is a Happy New Year figure. The New Year's weekend toll of traffic deaths.

721 equals a Merry Christmas traffic death weekend.

How does forty-nine thousand strike you? That's the number of people whose world ended due to traffic "mishaps" in our country in 1965. More than 49,000 deaths.

What can we do? Very little actually. We can encourage our state officials and legislators to increase traffic laws and enforcement of these laws—hoping that our police will catch the speeding driver or traffic law violator before he kills himself or us. We can use seat belts, and encourage the inclusion of more "standard" safety devices in cars. And, of course, we can religiously obey traffic laws.

But most importantly, we can and we must drive defensively. We must be ever alert to the actions of other drivers. We must watch out for the driver who treats his four wheeled killer like a toy, and watch for the driver who "owns the road" and is heedless of any other vehicle.

Traffic deaths and traffic death figures are sickening and so very needless. Let's drive defensively and live.



BESSIE PASSMORE displays her prizewinning crocheted tablecloth.

Medicines Can Be Harmful, Be Careful How You Treat Them

by S. P. Bliss, M.D.
Sandia Corporation Medical Director

The days of flu, colds, and sore throats, are just about upon us. All of us hate to see someone suffering with a bad cold or a sore throat that seems to hang on and on. In the interest of helping, many people will offer drugs that helped them recover from a similar affliction. Or, if we're the suffering ones, drugs will be offered to us by our friends.

Don't do it! Offering your medicine to others, or taking medicine prescribed for others is a dangerous practice.

A prescription is a written direction for the preparation, compounding and administration of a medicine. In a prescription, the physician designates the kinds and amounts of the drugs he wants the pharmacist to dispense to his patient, and the directions that should be put on the label about when and how to take these drugs. Each prescription is the doctor's individual request for the drugs to be used as part of his treatment of a particular patient during a certain illness. Even though the pharmacist takes the prescribed amount of these drugs from previously prepared stock, each prescription still is the expression of the physician's judgment in regard to the needs of this one patient, for a specific purpose, at a given time.

When offering a prescribed medicine to a friend, the donor may be giving trouble instead of aid. He further assumes that the dose of drug he took is the proper dose of the proper drug for his friend. Lastly, he is taking the responsibility for any adverse reaction or side effect his friend may have from this drug.

Some drugs are habit forming. Some are cumulative. Others so affect the body that the physician must alter the dosage periodically to get the desired results. A few drugs are too dangerous to risk unsupervised use. These are some of the reasons why pharmacists are reluctant to refill prescriptions, and why physicians sometimes mark prescriptions so that the pharmacist will fill them only once. Whenever one is refused a refill, he should remember that both the physician and the pharmacist are trying to protect him from possible hazard.

For nearly every drug one can find some person who is exceptionally sensitive to it, and some drugs tend to produce more adverse reactions than others. Nonetheless, the United States Food and Drug Administration, the American Medical Association, the companies manufacturing drugs, the Pharmaceutical Manufacturers Association, and many other groups are constantly studying drugs, determining their safe and effective doses, learning of their side effects, and advising physicians

and pharmacists about their safe use as well as their dangers.

Patients should feel free to take the drugs prescribed by their physicians unless they are known to have an allergy or otherwise react adversely to the drug. If a patient believes he is having a reaction that is not normal he should report it to his physician immediately and stop taking that drug until his physician can advise him. Only in this way can one be protected from individual differences in drug reaction.

According to the American Medical Association's Department of Drugs, there is a right way and a wrong way to take medicine. When medicine is taken correctly the exact prescribed dose should be taken at the proper time under conditions that insure against error. Here are a few useful directions:

- Store medicines in a cabinet, preferably locked, away from the reach of children.
- Keep only medicine currently in use.
- Destroy old prescriptions, because most drugs lose potency or may be chemically changed by time.
- Read the label in a good light before opening the bottle or box. Read it again before taking the medicine.
- If you have more than one box of pills or capsules to take, be sure one is closed before opening the other. This avoids switching covers and also the labels.
- When pouring from a bottle, keep the label up so that any dripping will not soil it and make it hard to read.
- When taking medicine at night, be certain that the light is on and that you are wearing glasses if you need them. It is even more important to read and understand labels when you are sleepy than when fully awake during the day.
- Keep medicines away from the bed. Make it necessary to get up to take them. Drugs and medicines on the nightstand by one's bed are dangerous because an overdose may occur if the medication is accidentally repeated while one is sleepy.
- Keep medicines in the original labeled container. If you carry pills in a pocket pill box, identify them with a label. Never put medicines in containers identified with foods.
- Avoid medicine which is disguised as candy for children. Poisoning—or at least overdoses—can occur when children find and take medicine which looks and tastes like candy.

All drugs should be used with respect and a great deal of care. Used properly under a physician's direction, they truly are modern miracle-workers and good servants.

Bessie Passmore Crochets to Relax; Does Beautiful Prize Winning Work

Bessie Passmore (2234) has been knitting and crocheting since she was about 11 years old. In the 50-odd years since, her skill has become needle-sharp, and she produces lovely, delicately crocheted tablecloths, pillow cases, and bedspreads. She knits colorful sweaters, afghans, and other pieces primarily as gifts for members of her family or for friends.

Recently her work was honored with three blue ribbons at the New Mexico State Fair. The prizes were awarded for an embroidered and crocheted tablecloth, a tatted centerpiece tablecloth, and a tatted end embroidered pair of pillow slips.

The tablecloth, shown in the accompanying picture, took more than a year to complete. It has 198 linen pieces which were cut individually, embroidered, and then crocheted on the edges and in the connection of the pieces. Bessie worked on the table-

cloth in the mornings before work, during breaks and noon hours, and for a couple of hours each evening at home.

"It was a lot of work," Bessie says. "This one was perhaps the most tedious item I ever worked on, but I did it for relaxation. I find working with my hands relaxing and I enjoy the thrill and satisfaction of completing a piece like this."

Through the years, Bessie has undertaken many types of projects, ones which offer new kinds of difficulties and new challenges. Currently, she is working on three afghans, each with a different pattern.

"I keep busy," Bessie says, "and I think I learn a little as I go along."

The most difficult piece she has produced is the centerpiece tablecloth. This was made by tating, weaving lace with small needles and a fine number 50 thread. "This one took a little over a year to finish," she says, "and it is not going to be a gift; it's for me."

Bessie finds that there is more interest in needlework these days among women. "I've worked at Sandia 17 years," she says, "and it seems that in the past five years, I've taught a dozen or so of my co-workers how to knit or crochet. In previous years, no one really wanted to learn. It looks difficult, but the skill can be mastered. It brings years of pleasant activity, not to mention the lovely things which you can make."



Arlyce Pearlman (4333)

Take A Memo, Please

The winter months are a good time to clean out unwanted items and flammable objects from garages and storage areas.

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Editor: Robert C. Colgan
Sandia Corporation, Albuquerque, New Mexico

Editorial Offices
Sandia Laboratory
Albuquerque, New Mexico
Employee Publications
Bldg. 800
Room 112
Tel: 264-1053

Livermore Laboratory
Livermore, California
Public Information
Bldg. 912

Tel: Hilltop 7-5100, Ext. 2395

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LIVERMORE NEWS

Fund Drive Begins Next Week for Valley Memorial Hospital Expansion

Sandia employees at Livermore Laboratory are joining other residents of the Livermore Valley in an intensive fund drive to raise \$800,000 toward a \$2.2 million expansion of the Valley Memorial Hospital.

The drive at the Laboratory will be held Jan. 17 through Jan. 21, according to R. L. Peurifoy (8120), chairman for Sandia's campaign.

The present hospital facility was completed in 1961 through voluntary contributions, including over \$60,000 donated by Sandia employees and \$13,000 by Sandia Corporation during the initial and supplementary drives.

When Valley Memorial was originally constructed, the community leaders who planned the structure anticipated that an expansion program would be necessary as the valley grew. Now, having served the valley community for the past four years, a period of rapid growth for the Livermore Valley, the hospital is overcrowded. In the past year, for example, Sandia employees and their dependents used the hospital an average of more than one patient per day. To meet this increased occupancy problem and adequately serve the health needs of this fast-growing area, the board of directors has initiated action to enlarge the facility.

Expansion plans for the hospital will more than double the bed capacity from 46 to 112. Plans include the addition of a third floor and the doubling of floor space for such ancillary services as the clinical laboratory, x-ray department, obstetrics department, central sterile supply, and pharmacy. Also to be added are an intensive care unit and a physical therapy department, both State Hospital Code requirements for all hospitals of over 100 beds.

Federal-State matching grants of \$1,411,462, allocated to Valley Memorial on Dec. 17, 1965, under the Hill-Harris Act, will cover approximately two-thirds of the total expansion construction costs. The remaining \$800,000 must be secured by contributions or pledges from the community within 120 days or the allocation will go to another community.

Three-year pledges for funds are acceptable in qualifying the hospital for construction aid, and at Sandia a pledge may be paid through payroll deduction.

A payroll deduction pledge of at least

three dollars per month for a three-year period (about 10 cents a day) will entitle the donor to a membership in the Hospital Corporation with voting rights in annual elections for the hospital's board of directors. Members of the Corporation are also issued a membership card which grants them the privilege of deferring financial arrangements with the hospital for the first 24 hours of any stay.

"I believe that Sandia employees will meet this new challenge with the same civic-mindedness they showed when the hospital was originally constructed," Mr. Peurifoy said. He noted that during the initial drive more than three-fourths of the eligible Sandia employees participated as donors and the average gift was in excess of \$100. "Drawing on the broader base of eligible employees, those living in Livermore, Pleasanton, Sunol, and the Dublin-San Ramon area, and assuming the same community interest on the part of Sandians, a total employee contribution of more than \$60,000 could be realized," he said.

Squad leaders and solicitors conducting the expansion fund drive and the organization they represent will be:

Squad Leaders

John Marion (8110), "Mo" Jones (8120), Bob Johnson (8140), Jay Gilson (8150), Gene Aas (8160), Don Wagner (8210), John Bryson (8220), Lurl Ostrander (8230), "Smoky" Maxwell (8240), and Bill McGuire (8250). Lee Davies (8160) will act as special solicitor.

Solicitors

8110: Dick Jacobson and Marion Burnett (8111), Joe Beltz (8112), Joe Darginis and Carl Schoenfelder (8115), Joey Beatty and Charles DeCarli (8116), and Don Roth (8117).

8120: Chet Tarne, Steve Wilcox, and Bob Neighbors (8121); John Nielson and Jack Wilson (8122); Dave Bray (8123 and 8125); John Neuberger (8124); Elvis Skidgel (8126); and Bob Carrell (8127).

8140: Ralph Richards (8142), Dick Watkins (8143), Frank Cupps (8144), Don Rich (8144-3), Carlton Scott (8146), Gerald Benedetto (8147), and Tom Holmes (8148).

8150: Lew James (8151), Ron McClellan (8153), Paul Heppner (8154), Norm Jacobson (8155), and Charles Duffey (8156).

8160: Marv Becktell (8161), Carl Beckham and Dick Sundahl (8162), Sid Wagner (8163), Ken Helmstadter (8166), and Max Schell (8168).

8210: Janet Wickerink (8211), Walt Frykholm (8212), Matt Connors (8213), and Vern McNabney (8215).

8220: Maurice Robert and Jesse Floyd (8222); Jay Jost, Emory Padgett and "Dan" Daniel (8223); and John Barnhouse (8226).

8230: Mary Ellen Jacob and Phyllis Munn (8232), Joe Genoni (8232-1), Bill Knauth (8233 and 8234), Helen Bond and Don Van Dyke (8233-3).

8240: George Perkins (8241), "Smoky" Maxwell (8243), Joe Buchler (8244), and John Miller (8245).

8250: Ken Finders (8251); Chester Hamlin and Larry Brown (8252-1); Bob Bailey, Grace Matuska, and Dick Finn (8252-2 and 8252-5); Bob Graham (8252-3); Norm Toley and Don Dow (8252-4); Vern Chandler (8253-1); Chuck Drury (8252-2); and Doris Ward (8253-3).

5510: Waits May.

7200 at Livermore: Val Black.

LRL Director, Dr. M. M. May To Address ASME Meeting

A joint meeting of the Mt. Diablo Subsection and San Francisco Section of ASME is scheduled to be held at the Castlewood Country Club on Jan. 27.

Guest speaker at the meeting will be Dr. Michael M. May, newly appointed Director of Lawrence Radiation Laboratory, Livermore. Dr. May will discuss "New Projects and Graduate Education."

Social hour will begin at 6 p.m., followed by dinner and the meeting at 7. For reservations or further information, contact Louie Tallerico (8155), ext. 2807, or Del Elliott (8154), ext. 2688.



THROUGH A TECHNICAL PANEL FOR COMMUNITY SERVICE being organized in the Livermore Valley, volunteers from such fields as science, engineering, and mathematics are contributing their professional skills in planning the Valley Memorial Hospital expansion program. Shown at a recent meeting are panel members (l to r) R. W. Ashworth, Mechanical Technician Division Head, LRL; Panel organizer G. W. Anderson, Manager, Preliminary Design Department 8140; and Dr. E. C. Greist, Chief of Staff, Valley Memorial Hospital.

Congratulations

Mr. and Mrs. Ralph Boberg (8223), a daughter, Tammy Kay, Dec. 10.

Mr. and Mrs. Leo Gutierrez (8100), a son, Robert Peter, Dec. 18.

Mr. and Mrs. Larry Skenandore (8121), a daughter, Elizabeth Ann, Dec. 16.

Mr. and Mrs. Gabe Gutierrez (8253), a son, Ricardo Steven, Dec. 16.

Mr. and Mrs. Glenn Dietel (8155), a daughter, Diane Patricia, Dec. 15.

Mr. and Mrs. Ed McKelvey (8126), a daughter, Sheri Sue, Dec. 30.

Sympathy

To Hans Birnbaum (8116) for the death of his father in Sarasota, Fla., Dec. 18.

To Joyce Blanchard (8211) for the deaths of her mother-in-law and father-in-law in Poyssippi, Minn., Jan. 1.

BOTH VALLEY MEMORIAL HOSPITAL and Tommy Baker (son of Doyle Baker, 8127), the first baby delivered in the hospital, celebrated their fourth birthdays last Oct. 2. Mrs. Lois Howell (right), obstetrics department supervisor at Valley Memorial when Tommy was born, presented him with a birthday hat for the ceremony. The first gift toward the hospital expansion drive was received from Tommy's grandfather who lives in San Francisco.

DISCUSSING THE VALLEY MEMORIAL HOSPITAL EXPANSION FUND DRIVE are (l to r) Sandia Chairman R. L. Peurifoy (8120); C. H. DeSelm (8200); General Campaign Chairman C. R. Barncord (8150); B. S. Biggs (8000); W. A. Jamieson (8232), who is a hospital board and

Campaign Steering Committee member; and hospital administrator F. F. Morin. The campaign for Livermore Laboratory will be conducted during the week of Jan. 16. Sandians donated more than \$60,000 during the initial and supplementary hospital drives.



Supervisory Appointments

FLOYD H. MATHEWS to supervisor of Coyote and Thunder Division 7343, effective Jan. 1.



Floyd was a summer employee at Sandia from 1956 to 1958, working as a draftsman and then staff assistant and staff member in environmental testing. He became a full-time employee in the Shock Division in 1961.

He received his BS degree in mechanical engineering from the University of New Mexico in 1958 and an MS degree in mechanical engineering from Massachusetts Institute of Technology in 1960. From 1960-61 he worked as a graduate assistant in mechanical engineering at UNM.

Floyd is a registered professional engineer in the State of New Mexico.

JOHN V. OTTS to supervisor of Area III Vibration Division 7324, effective Jan. 1.



John has worked in the Vibration Division since joining Sandia in June 1962. Previously he was a test engineer with Esso Research and Engineering in New Jersey from 1959-61.

He received a BS degree in mechanical engineering from the University of Missouri in 1959 and an MS degree in engineering mechanics from the University of Kansas in 1962. He has also completed some graduate work at the University of New Mexico.

John is a member of Tau Beta Pi, Pi Tau Sigma, and Pi Mu Epsilon societies. He served three years in Germany while with the U. S. Air Force from 1952-56.

CHARLES M. TAPP to supervisor of Tube Development Division 1413, effective Jan. 16.



Charles joined Sandia as a staff member in Materials and Device Physics Division in June 1964. Previously he was employed as a physicist on radiological devices with the National Bureau of Standards in Washington, D.C., during summer vacations.

He received a BA degree in philosophy from Union University in 1958; a BS degree in physics from Memphis State University in 1960; and an MS degree in physics in 1962 and a PhD degree in physics in 1964, both from the University of Virginia.

Charles is a member of the American Physical Society, American Association of Physics Teachers, and Sigma Xi and Chi Beta Phi societies.

ALEC R. WILLIS to supervisor of Applied Mechanics Division I, 8146, Preliminary Design Department, effective Jan. 1.



Since joining Sandia's Livermore Laboratory staff in February 1961, Al has been primarily concerned with studies in heat transfer and aerodynamic heating.

Immediately before coming to Sandia, Al attended the University of California at Berkeley where he received his BS and MS degrees in mechanical engineering. He is a member of Tau Beta Pi and Pi Tau Sigma engineering honorary societies.

Before attending the university, he served two years as an ordnance officer in the U.S. Army.

Registered as a professional engineer in California, Al is currently a director of the Mt. Diablo Subsection of the San Francisco Section of the ASME.

MALCOLM L. SHANNON to supervisor of Area I Vibration Division 7321, effective Jan. 1.



"Mac" joined Sandia in December 1948 and worked for about 11 years in surveillance which gradually evolved into what is now known as quality assurance. In 1959 he transferred to environmental testing.

Mac received his BS degree in mechanical engineering from the University of Pennsylvania in June 1948. He is a member of the American Society of Mechanical Engineers.

He enlisted in the U.S. Navy as an apprentice seaman in 1943 and was selected for officer candidate school. He served as an engineering officer and was discharged as a lieutenant j.g. in 1946.

JAMES H. PORTER to supervisor of Communication Systems Division 3416, Technical Information Department, effective Jan. 1.



Jim joined Sandia in August 1949 as a research assistant. He was promoted to section supervisor in charge of stockpile records in September 1950. In 1959 he transferred to Communications System Section.

Jim received a BS degree in engineering administration from James Millikin University in Decatur, Ill., in 1949. He is a member of the Armed Forces Communications and Electronics Association.

He entered the military service in January 1942 and served as an Air Force navigator in Italy. He was discharged as a first lieutenant in November 1945.

DONALD W. BAUDER to supervisor of Area I Shock Division 7341, effective Jan. 1.



Don joined Sandia in 1957. He was with Area III operations group for two and a half years before transferring to shock testing. One year later he was transferred to sled track operations. He has been in facility engineering since 1963.

He was a mechanical engineering specialist for infantry weapons testing with the U. S. Army at Ft. Benning, Ga., for two years before he was discharged in October 1956. From June 1952 to October 1954 he was a power plant installation design engineer with Convair in San Diego, Calif.

Don received his BS in mechanical engineering from the University of Colorado in 1952.

RALPH R. DAVIES to supervisor of Purchasing Development Division 4382, effective Jan. 1.



Ralph joined Sandia in April 1953. He was assigned to engineering methods for one year before transferring to manufacturing development engineering where he worked for five years. In 1958 he transferred to the purchasing organization.

Ralph served as an enlisted man in the U. S. Navy from 1942 to 1946. He was recalled to active duty as an Air Force Reserve officer in 1951 and served two years at the Air Force Special Weapons Center at Kirtland. He was a first lieutenant at the time of his discharge in 1953.

Ralph received his BBA degree from the University of New Mexico in June 1951 and has completed some graduate work at UNM and University of California at Los Angeles. He is a senior member of the American Institute of Industrial Engineers.

ARNOLD S. RIVENES to supervisor of Advanced Development Division 8153, Product Development Department, effective Jan. 1.



Arnie has worked primarily in the Preliminary Systems Design Division since joining Sandia in July 1959.

He received his BS degree in mechanical engineering from the University of Washington in 1959. While attending the university, he worked as an engineering aide for an aircraft manufacturer.

Before attending college, Arnie served in the U. S. Army's Corps of Engineers for two years.

JOHN SHUNNY to supervisor of Technical Information Division II, 3412, effective Jan. 1.



John joined Sandia as a technical writer in June 1954. Two years later he transferred to staff employment. He has been in the Classification Division since 1958.

John served as an enlisted man and an officer in the U. S. Navy. In 1946 he received a BA degree from Brown University under the NROTC program. He was assigned to the National Security Agency in Washington, D.C., in 1947 and was discharged as a lieutenant commander in 1953.

He is a member and former president of the National Classification Management Society and a member of Naval Research Company, USNR, in Albuquerque.

HOMER L. CRUMLEY, JR., to senior buyer, Contract and Purchase Service 4362, effective Jan. 1.



Roy has worked in the purchasing organization since he joined Sandia in September 1947, with the exception of two years in production control.

He received a bachelor of business administration degree from the University of New Mexico in 1959. He has also completed his course work for an MBA degree and his thesis is currently being reviewed.

MAX McWHIRTER to manager of Shock and Track Department 7340, effective Jan. 1.



After joining Sandia in May 1951, Max worked as a structural engineer for a year. In May 1952 he was promoted to supervisor of Systems Dynamic Structural Tests Section and worked in that capacity for eight years. From 1960-61 he was supervisor of Environmental Facilities Design and Procurement Section. He was promoted to supervisor of Systems Shock and Vibration Division in 1961 and has been supervisor of the Shock Division since 1962.

Max was an associate research engineer at New Mexico School of Mines, which is now New Mexico Institute of Mining and Technology, from March 1946 to May 1951.

He attended New Mexico Military Institute from 1935-38 and received a BS degree in mechanical engineering from the University of New Mexico in 1944.

Max is a member of the Society for Experimental Stress Analysis and the Institute of Environmental Sciences. He served as an ensign and lieutenant j.g. in the U.S. Navy from February 1944 to February 1946.

Sandians to Participate In Reliability Symposium

A number of Sandians have been active in the planning and will participate in the 1966 Annual Symposium on Reliability in San Francisco Jan. 25-27. The event is sponsored by the American Society for Quality Control, Institute of Electrical and Electronics Engineers, Society for Nondestructive Testing, and the Institute of Environmental Sciences.

L. J. Paddison, Director of Product Test Equipment Development 2400, is a member of the program committee; D. W. Ballard, supervisor of Manufacturing Research Division 2564, is a member of the Symposium Board of Directors; and A. C. Littleford, supervisor of Test Equipment Reliability and Engineering Design Practices Division 2442, is serving as Southwest area publicity chairman.

W. W. Westman, Jr., supervisor of Test Systems Design Practices Division 2224, will moderate a program session on computer technique. Mr. Westman will also serve on the 1967 symposium program committee. C. H. Purdue of Division 2442 will moderate a session on computer model specifications for transistors and diodes.

About 2000 scientists and engineers are expected to attend the symposium.



TOP FOOTBALL TEAM of Sandia Laboratory takes the traditional winners' pose with the Corporation championship trophy. The 31-34-41-9400 team, with a 10-won, one-lost record, downed 11-4200-AEC in the final game, 56-30, to take the league crown. In the first row, from left, are Tom Bratcher (9424), Bobby Jaramillo (9411), Howard Nafzger (IBM), Pat Sanchez (3415), Dennis Gutierrez (3415), and manager Buddy Sanchez (9411) with trophy. In the second row are Morris Bakker (CDC), Joe Montoya (9411), Carl Wersonick (3465), Jerry Williams (9411), Claude Glass (Stromberg-Carlson), and Neil Gholson (9411). In the third row are Jim Travis (CDC), Larry Wilhelm (9411), Pat Monahan (IBM), Joe Wooley (9411), Arthur Hardeman (9423), Dave Demattos (4112), and Steve Fish (9413).

Quick Action by Lou Baudoin Saves Two Youngsters 'Sleeping' in Car

One evening while doing Christmas shopping, Lou Baudoin (2211-5) was faced with a crisis. A woman's screams for help brought him running through a shopping center parking lot. She explained that she had noticed two boys sleeping in a parked car. The doors and windows were closed and the car's motor was running.

Fearing carbon monoxide poisoning, she had rapped on the windows and tried to rouse the boys. She blew her own car's horn. She couldn't get any reaction from them and she couldn't get the doors open. That's when she yelled for help.

Hesitating only a moment, Lou tried to break a window with his hands and then his shoulders. This didn't work, so he kicked in the small window in the front passenger's side. By now another man had joined the group.

The two men pulled the boys from the car and began artificial respiration. Lou was working on the older boy, about age eight, who stirred almost immediately. Lou determined that he was breathing. The second boy, about six years old, required more artificial respiration and responded within a couple of minutes.

The parents of the boys returned to the car about this time and a merchant policeman and city patrolman also arrived. The parents indicated they would take the

youngsters to a physician. The boys seemed dazed.

Lou doesn't know who the observant lady was who sounded the alarm, he doesn't know the stranger who helped him, and he doesn't know the parents of the boys. He does know one thing:

Never leave children in a parked car with the windows closed, heater on, and the motor running.

"I'm convinced," he says, "that we arrived just in time. Another two minutes in that car would have been the end."

Gertrude Byrne to Be AMA Seminar Leader

Gertrude M. Byrne, supervisor of Secretarial Section 3126-4, has been invited to be one of two discussion leaders at a workshop seminar sponsored by the American Management Association's Administrative Services Division.

Entitled "Improving the Operation and Administration of Secretarial and Stenographic Services," the seminar will be held Jan. 17-19 in Chicago. The discussion will be centered around such topics as training of employees, staff, equipment, costs, and kinds of service. According to the program director, the intention will be "to reflect the most significant problem areas in the field and to cover the latest practical advances made by forward-looking companies."

Miss Byrne was a participant in an AMA seminar on the same topic two years ago.

Former Sandian To Retire From Western Electric

Eugene W. Peirce will retire from Western Electric Company on Feb. 1. From September 1950 to April 1957 he was on loan to Sandia Corporation and was manager of Employee Benefits, Services, and Training Department.



In recent years, Mr. Peirce has been assistant superintendent in charge of safety, security, and defense coordination at WE's Hawthorne Plant in Chicago.

Mr. and Mrs. Peirce plan to travel extensively after his retirement. Two of their children reside in Albuquerque, a third is stationed with the Army in Korea.



GEORGE MANCUSO (4221-2), center, emerged champion of the 4200 Golf Tournament after a three way tie with Willard Rappleyea (4253-3), left, and Robert Lemm (4230), right. The trio each shot 69 with handicap on the Arroyo Del Oso course the first time around. George took the playoff. Tony R. Lopez (4212-2) was tournament chairman.



MEXICAN CARNIVAL EVENTS, part of the highlights planned for the Coronado Club's tour of Mexico Feb. 12-26, are discussed by Pearson Crosby (AEC/ALO), Club travel director, and Joe Shelby (4253), Club board member. The tour group will visit Mexico City, Cuernavaca, Taxco, Acapulco, and Guadalajara traveling by air, train, and bus. Tour costs about \$350. Deadline for registration is Jan. 17. Full information is available at the Club.

'Hard Times' Party Heads Three Big January Events at Coronado Club

Suffering from lack of cash from recent holiday spending? Then join other Coronado Club members for the Hard Times Party tomorrow evening. Mulligan stew, salad, rolls, and beverage will be served beginning at 7 p.m. Dancing to the Tommy Kelly Trio starts at 9. Prizes will be awarded for the best "hard times" costume. Admission for members is \$1.50, \$2 for guests.

Find out what teenagers are really like. Be one at the Adult Go-Go scheduled Jan. 22 at the Club. The event will feature Go-Go Girls and the Morticians. No charge and no reservation needed. The music is scheduled from 9 p.m. to midnight.

A weekend in Las Vegas for two will be the door prize at the "Las Vegas Hacienda Night" scheduled Jan. 29. Winners will receive an expense-paid weekend at the Hacienda Motel in Las Vegas—room, meals, entertainment. At the party, a Nevada-style night on the town is planned. Play money will be issued at the door. Elton Travis and his Swinging Westerners will play for dancing from 9 to 1 and a snack bar featuring ham and turkey sandwiches will be open from 10 to 1. Price is \$1 for members, \$2 for guests.



SAD STORY of Bill Weinbecker (4252) touches the heart of Cis Kelly (3113), while Tommy Kelly (2441) provides suitable music. Only solution to the problem is to attend the Coronado Club's Hard Times Party tomorrow night. Mulligan stew will be served beginning at 7 p.m.

Other Events

Social Hours

Tonight, the popular roast beef and shrimp buffet will be featured at the Club's social hour. The Lamplighters will provide the music. Next Friday, Jan. 21, the Elaine Harris combo will play and the Mexican buifet will be featured. On Jan. 28, social hour will feature the Tommy Kelly Trio and the seafood buffet.

Bridge

The Coronado Bridge Club will meet for a dinner session Monday, Jan. 17, at 6 p.m. For reservations, call 299-2533.

On Thursday, Jan. 20, the Coronado Club Ladies Bridge group will meet at 1:15. For reservations call 868-7605 or 299-9371.

The Monthly Master Point competition will be held Monday, Jan. 24, with play starting at 7 p.m. Duplicate bridge play is scheduled Jan. 31 beginning at 7 p.m.

Ski Club

Two movies on ski areas are scheduled for the Coronado Ski Club meeting Jan. 17 in the Club's dining room at 7:30 p.m. The Club's outing to Red River is scheduled for Washington's birthday, Feb. 22, and there is still time to make reservations.



FIVE TIME WINNER Jim Leonard (9319), left, did it again. He holds another trophy earned as Sandia Laboratory's champion golfer. Jim's low gross score for four tournaments was 289. Ivars Gals (7332), right, holds the President's Cup trophy, earned for his low net (with handicap) score of 278.



SINGLES CHAMPS of the Sandia Laboratory Horseshoe Tournament demonstrate winning style. From left are Parker Burns (2524), Class A champ; Jim Taylor (4224), Class B; and Jose Pecos (4135), Class C. About 200 Sandians participated in the tourney.

Once You've Shucked Indian Corn, Yellow Corn Will Seem Monotonous

Iowa may be famous for its tall corn, but there's hardly a place that gets more use out of its corn than New Mexico.

Aside from the customary uses, corn is the basis for the traditional native dish, "posole" (hominy-meat-chili), eaten on New Year's Eve to bring good luck. Also, the Pueblo Indians use sacred corn meal to

Sympathy

To R. G. Elsbrock (3211) for the death of his mother in Cincinnati, Dec. 24.

To Harold E. Kindschi (4573-1) for the death of his mother in Colorado Springs, Nov. 24.

To George B. Roberts (2222) for the death of his son in a military hospital in the Philippines Dec. 25. He was wounded Dec. 14 in Viet Nam.

To Stanley Harvey (4151-1) for the death of his mother in New Orleans, Dec. 17.

To I. Roy Griego (4152-2) for the death of his father-in-law in Albuquerque, Dec. 5.

To D. S. Cone (3211) for the death of his mother in Florida, Jan. 6.

To Harry K. Daniel (7513) for the death of his wife, Jan. 5.

"feed" the gods, to offer prayers, and to bless a home. But Albuquerque backyard farmers grow Indian corn for its entertainment value—you never know what color the kernels will be.

Maxine Hempen (4332) placed a display of her "harvest" in the lobby of Bldg. 800 and it caused considerable comment by out-of-town visitors as well as many requests for seeds.

The various colored corns grown by the Indians were noted by the earliest Spanish explorers. In one area in the interior of Mexico, Indians separate the various colored kernels and designate days of the week by specific colored tortillas (made from the ground corn).

Aside from hand-separating the kernels, it is extremely difficult to produce a pure strain of purple corn, for example. All of the seed corn would have to be a strong purple color and you would have to make sure there was no other corn around since bees will cross-pollinate the crop.

Maxine reports that Indian corn has the same soil and water requirements as sweet corn; however, the stalks grow considerably higher. The seeds should be planted in rows at least a foot apart. The change in color of the kernels occurs during the later stages of maturity.

The Indians like to hang clusters of the cobs in their homes for good luck, but for this purpose you must use three or five cobs, never four.

Before hanging them as decoration, spray the cobs with insecticide to prevent emergence of weevils.

Australian Lad Asks Sandia For Help In Bowling Interest

A Sandia Corporation advertisement in SCIENTIFIC AMERICAN to recruit scientists and engineers has brought many inquiries, but one that Sandia needs help in answering came from a 14-year-old boy in Australia.

Alex Kotow of Adelaide, South Australia, noticed Sandia's address in the magazine and, as a result, appealed to the Company's employment organization for help—either "direct or indirect."

"... I have just turned 14 and am a great 10-pin bowling fan," he wrote, "but unfortunately I cannot bowl as I lost both legs in a car accident in which both my parents died."

Alex explained that he recently started a hobby of collecting bowling emblems and patches, and has received many insignia from different bowling centers in Australia.

"But I don't know anyone in your country," he continued. "Could you find out some bowling centre addresses or put me in touch with someone who can . . . so I can put my story to them and ask them to help me?"

Sandia's Public Information Division 3431 has acquired a bowling league champion patch to send to Alex. However, he would enjoy hearing from fellow bowling fans and receiving other insignia from the United States, whether they be from the Albuquerque area or elsewhere.

His address is Alex Kotow, 11 Toowong Avenue, Kensington Park, Adelaide, South Australia, Australia.

Two Section Winners Here In Bell System Chess Tourney

Gary Wolcott (1425) and Robert E. Smith (9311) were section winners in the recently concluded chess-by-mail tournament for Bell System employees and retirees.

About 700 players participate in the annual tournament. There is a championship section for the top 10 rated players, three championship candidate sections, and a multitude of sections (comprised of eight or nine persons each) for average, below average, and above average players. This particular round of games started in the fall of 1963.

Gary started playing chess seriously about four years ago. This was his first try in the Bell tournament, but he has entered two rounds since then.

Bob has been interested in chess since he was 12 years old, and has been a section winner in the Bell tournament five times. Currently he is competing in one of the championship candidate sections with two other Sandians—Harold Meidal (4232) and Crawford MacCallum (5231).

Sixth CQ-WE Contest For Radio Amateurs Held This Month

The sixth annual CQ-WE contest for licensed amateur radio operators employed by or retired from Sandia Corporation, Western Electric Company, and Bell Telephone Laboratories will be held this month.

All participants are eligible to compete for the individual high-scoring trophy as well as contribute toward the Traveling Works Trophy.

Contest scoring will be on the basis of two points for each confirmed two-way contact, two additional points for each contact involving novices, multiplied by the sum of all the different U.S. call districts and foreign prefixes. The same station cannot be counted more than once for each mode of operation.

Logs must be submitted before Feb. 18 to the Sandia host coordinator, E. G. Stewart (4512-3), home address 4915 Palo Alto SE. Each must show date, time in Greenwich Meridian Time (GMT), call of the station worked, operator's name, the mode, and Sandia, WE, or BTL location to which he belongs or from which he is retired.

The two-hour sessions will start at 1900 GMT (noon MST) on Jan. 15 and 22, and 0200 GMT (7 p.m. MST) on Jan. 16 and 23. The VHF-RTTU schedule calls for four hours of continuous operation on Jan. 30.

The complete operating schedule, world time conversion charts, and official log sheets are available from Mr. Stewart.

Events Calendar

Jan. 14-15—13th annual UNM Opera Workshop, Richard Strauss' "Ariadne auf Naxos." Tickets at Fine Arts Center box office.

Jan. 18—Lecture by Baroness Maria von Trapp (characterized in "The Sound of Music"), 8 p.m., UNM Student Union, sponsored by Newman Forum.

Jan. 19—Movie adventure travelogues on Africa and Alaska, 8 p.m., UNM Student Union, sponsored by Albuquerque Wildlife and Conservation Association. Advance tickets available at Coronado Club.

Jan. 19-22—St. Joseph Basketball Tournament, Civic Auditorium.

Jan. 23—Animal and Comanche dances performed at San Ildefonso Pueblo.

Thru Feb. 6—Annual exhibit by UNM art department members, Fine Arts Center Art Museum.



RED, PINK, BLUE, and polka-dot Indian corn, grown by Maxine Hempen (4332), was of interest to John H. Newman, Director of Marketing, Bendix Corporation, Baltimore, Md., during a recent visit to Bldg. 800.

Service Awards — 15 Years



J. M. Baca 7223, L. E. Baca 4512, S. G. Baca 3242, George Baldonado 4152, E. M. Bauer 7334, C. F. Bild 1100, H. J. Brown 3241, R. G. Carlisle 4512, W. H. Cope 4622, V. J. Curran 8244, J. J. Dobias 1323, P. N. Dwyer 4252, R. E. Glass 7262, Woodrow Glasscock 4511, J. M. Gustafson 4631, D. D. Hesselbarth 2524, H. A. Hinrichs, Jr. 4514, G. V. Lemmon 7311, R. G. Lopez 4228, R. F. Marquez 4221, A. T. Marrs 7215, E. C. Mathias 4211, K. E. Mead 1134, Helen Melancon 4153, A. E. Menapace 4545, W. J. Meyer 2533, C. E. Miller 7214, Joseph Murphy 4224, F. J. Ridlon 4513, H. E. Roy 2523, Jennie Spann 4234, C. L. Stoner 4252, E. L. Strance 2534, H. C. Strauss 4315, A. P. Sutton 4512, M. W. Tippy 3211, Marcial Valdez 4151, Rudolph Vinovich 2534, J. M. Wahlenmaier 3242, W. A. Whitfield 2211, D. K. Yearout 1422

Sandia Speakers

G. W. Stone (9324), "The Magnus Instability of a Sounding Rocket," AIAA's Third Aerospace Sciences Meeting, Jan. 24-26, New York City.

L. D. Tyler (9321), "Numerical Evaluation of the Shock Tube-Wind Tunnel Blast Simulation Technique," AIAA's Third Aerospace Sciences Meeting, Jan. 24-26, New York City.

D. H. Anderson (5132), "Pressure Dependence of the Ferromagnetic Nuclear Resonance Mn²⁺ in MnSb," American Physical Society meeting, Jan. 26-29, New York City.

G. W. McClure (5121), "Electron Transfer in Proton-Hydrogen Atom Collisions," American Physical Society meeting, Jan. 26-29, New York City.

E. D. Jones (5155), "P²⁺ in the Paramagnetic State of MnF," American Physical Society meeting, Jan. 26-29, New York City.

C. B. Pierce (5155), "Stress Spectra of F-Aggregate Centers in NaCl," American Physical Society meeting, Jan. 26-29, New York City.

L. F. Shampine (5262), "Quasilinearization and a New Monotone Iteration," American Mathematical Society meeting, Jan. 24-28, Chicago.

R. T. Meyer (5122), "Fast Gas Phase Reaction Studies by Flash Photolysis and Time-Resolved Mass Spectrometry," University of Wisconsin chemical research seminar, Nov. 16, Madison.

Retirement



Jose L. Gomez, a cleaner in Janitor Service Division 4574, retired Dec. 30 after 14½ years of service.

Jose started his Sandia career as a janitor and later worked as a laborer. He has been a cleaner for the past

10 years.

A native New Mexican, Jose came to Albuquerque in 1921. He reports that large herds of cattle grazed in three-foot high grass on the present site of Sandia Base in the early '20s.

Jose and his wife visited relatives in California in 1928, but the traffic was so bad he decided to return to Albuquerque and make it his permanent home. Jose likes to vacation in Colorado, but he anticipates farming will occupy most of his time.

Mr. and Mrs. Gomez plan to devote their time to vegetable gardening and raising sheep on their 3½ acres at 1618 Atrisco SW.

Conservation Group Elects Four Sandians To Serve as Officers

Members of the Albuquerque Wildlife and Conservation Association have elected four Sandians to serve as officers for the coming year.

They are Fred A. Gross, Jr. (5520), president; Dr. Walter A. Schoen, Jr. (3330), first vice president; Richard G. Illing (9319), secretary; and Arthur J. Arenholz, Jr. (9413), treasurer.

The group is affiliated with the New Mexico Wildlife and Conservation Association and works closely with the State Game and Fish Department and the National Forest Service in carrying out conservation measures. Some of the association's activities include planting trees, building earthen dams, and sponsoring an Explorer Post of the Boy Scouts specializing in conservation.

Funds are raised through a "Liars' Banquet" held annually in April. In addition, the association will sponsor two adventure movies "Safari Ya Congo" and "Road to Romance" (Alaska), filmed and narrated by sportsman Wally Taber, to be shown Jan. 19 at 8 p.m. at the UNM Student Union. Tickets are available from association members or officers, and at the Coronado Club.

Membership in the group is open to anyone interested in conservation and wildlife.

Welcome Newcomers

Dec. 27-Jan. 7

Albuquerque	
Catherine B. Dick	3126
Roy P. Jaramillo	3415
James F. Muir	9326
Sarah S. Van Domelen	5263
California	
Arthur A. Rodriguez, Bishop	7226
Colorado	
Edwin A. Kjeldgaard, Boulder	1311
Massachusetts	
*Richard W. Holland, Cambridge	5142
Missouri	
Ellis L. Sykes, Independence	7335
*Denotes rehire	

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LAB NEWS

JANUARY 14, 1966

10 Years

Jan. 14-27

Leon Filvin 2211, W. L. Ray 2211, W. F. Stolpun 2212, L. C. Fair 2213, John Ayala 4513, B. K. Seely 1121, C. E. Land 5142, Ruth E. Fogarty 4135, Jim Arnold 9212, V. V. Salas 4131, Pauline H. Selph 4233, Emily A. Isaacs 8212, A. K. Alberts 2234, and Ann W. Shiver 5263.

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

'58 CHEVROLET Belair 8, red and white, all extras including air, new ball joints and shocks, \$375. Freshman, 299-9263.

3-BDR., 2 bath mountain home on one acre, 1 mile south of Ranger Station. Oxy-acetylene welding outfit including twin hose, \$60. Flowers, 282-3458.

'62 RAMBLER Classic, automatic, 6-cyl., low mileage, new tires, \$875. Nogle, 299-3863.

BC-348 RECEIVER, \$30. w/AC power supply, \$35; Moseley trapped vertical antenna, 40 thru 10 meters, \$15. Dawirs, 299-3039.

TWO heavy duty Hollywood bed frames, one twin-size head board, \$5 each; Cosco youth chair, \$5; 8-00x14 used tires, \$2.50 each. Wheeler, 256-6230.

TO QUALIFIED PILOT, 1/3 interest in A-35 Bonanza, \$2400. Hart, 299-0669.

EIGHT INCH Craftsman bench saw w/3/4 HP motor; cast iron, white double sink w/all fittings; Tote Goat. Calvery, 255-9545.

TWO SETS swing-up garage door hardware, \$10. Gibbs, 282-3639.

PORTABLE Singer sewing machine, sell or trade for portable typewriter. McCoach, 298-5960.

'62 NEW MOON mobile home, 10x60, 3-bdr., 1 1/2 baths, awning, landscaped, carpeting, garbage disposal, loads of extras, \$4250. Morewood, 299-1734.

ROBERSON, 3-bdr., 1 1/2 baths, double garage, den w/fn, hw/floors, corner lot, sprinklers, AC, many extras, below appraisal of \$19,400. Duvall, 299-8744.

GE FREEZER, 13.5 cu. ft. upright, new unit, \$95; wood desk, 36"x60", metal chair, \$10. Weber, 344-5183.

'62 FORD Fairlane, one owner, \$900. Duncan, 299-2415.

VM HIFI, table model, blond, \$40; 2-tier blond table \$10; brass head board, 54", \$25. Lang, 344-9028.

ADMIRAL '59 upright freezer, warning light on door, 3 months guarantee, pull-out basket, \$100. Flinchum, 344-1072.

DOBERMAN PINSCHER puppies, AKC registered, champion and CD lineage, excellent temperament. Cundiff, 256-0043 after 5:30.

'63 FALCON WAGON, large six engine, AT, AC, deluxe trim, top racks, \$1450. Whitney, 298-2809.

'62 CORVETTE, R&H, 360 HP, Positraction, both tops, metallic brake linings, low mileage. Leamon, 242-0909.

SHOT GUN, Stevens 12 gauge double barrel. Kent, 256-1221.

CAMPER, 1 1/2-ton school bus, 4wd, hubs, duals rear, sleeps 4, kitchenette, dinette, L.P. gas stove, light, 36-gal. pressure water system. Cole, 298-5801.

BUNK BEDS; blond drop leaf dining table; ranch oak sofa; \$135 or sell separately. Banks, 255-2544.

BOY'S bicycles: 20" American Flyer and 24" Hawthorne, \$15 ea. Tiefa, 299-2763.

WINCHESTER 1892 rifle, \$45; .22 Woodsman, trade for fancy old hunting knives or Nazi daggers. Smitha, 299-1096.

WESTINGHOUSE sun lamp, \$5; new electric toaster, \$6; steel tackle or tool box, \$1; misc. other items. Brammer, 265-7098 after 5.

SELL OR TRADE: Webcor tape recorder, 16M sound projector, \$45 each; one live, friendly monkey, \$45 or make offer, need couch and chairs. Pritchard, 268-9618.

TV, 17" portable, working, \$35; new Industrial electrical breaker box w/24-20 amp. breakers, 1/2 wholesale. DeZeeuw, 296-1003.

'63 HONDA motorcycle, 150cc, electric starter, 140 mhp, \$325; double-size mattress, box springs; kingsize bedspread; breakfast table and chairs. Chandler, 298-1114.

1509 VIRGINIA NE, 1800 sq. ft., \$500 under appraisal or \$1000 and take over payments. Greenwood, 298-5268.

ROPER gas range, 40", \$100. Fjelseth, 299-4539.

NEW ZEBCO 33 reel, tubular fiberglass rod, leatherette carrying case, spare spool, \$15. Mitcham, 299-8425.

SELL OR RENT: 3-bdr. home in NE Heights, den, new carpet, 1 1/4 baths, newly decorated. Massey, 298-1468.

TIRE CHAINS, Riverside lug type, fits 7:60-15 and 8:50-14 tires, used once, \$13 value for \$8. Meyer, 298-4825.

COMBINATION boy's or girl's 20" bike, \$7.50. Baxter, 344-7601.

VIOLIN, case, bow, music stand and books, \$65. Adams, 268-5943.

'58 GMC 3-speed pickup, engine-tires-transmission-rear end-good condition, cab-wrecked, \$150. Jeys, 299-4197.

TEN-SPEED Schwinn Varsity racing bicycle w/generator light, \$40. Boyes, 282-3602.

TYPEWRITER, Royal office model, 14" carriage, \$55. Moss, 298-2643.

3-BDR., fully landscaped, 2 baths, large living and family room, fireplace, AC, utility room, double garage. Jones, 1300 Glorieta NE, 298-5286.

TV, Magnavox, 21" table model, \$35. Garcia, 242-1182.

'54 CHEVY station wagon, rebuilt front end, snow tires, standard shift. Gutscher, 298-6563.

'63 CHEV. IMPALA Super Sport coupe; RCA "mike," high impedance, \$5. Johnson, 255-5427.

'53 CHEVY, \$200. Davis, 298-8559.

SKI BOOTS, Kastinger, men's size 7 1/2 medium, \$12.50. Glass, 298-0842.

3-BDR., 1 1/4 baths, 1 mile from Wyoming gate, near schools, golf course, large, landscaped yard, trailer parking. Robnett, 299-8615.

3-BDR. ROBERSON, extra large lot, fully landscaped, carpet, drapes, below FHA, 3200 Pitt NE. Clark, 299-6410.

SCOTT RADIO; table lamps, crystal and ceramic; floor lamp; dressing table w/mirror and bench. Nichols, 247-2564.

GERMAN SHEPHERD, 7 wks., \$35; rollaway bed w/washable cover, \$25; refrigerator w/freezer across top, \$30; buggy, \$5. Browne, 344-9675.

HOUSE TRAILER, '58 Hicks 10x48'. Tucker, 877-1140.

ETHAN ALLEN spoon foot harvest table, 66"x23", extends to 66"x44 1/2", \$50. Wilson, 282-3225.

'56 CHEVY 1/2-ton pickup, 6-cyl., 3 speed. De-long, 268-3655.

FULL-SIZE BED, cherry wood, cost \$52, sell for \$24.95; mattress and springs, \$14.88. Cultreli, 298-5252.

TWIN LAUNDRY TUB, porcelain, \$15; plates, French Haviland, Austrian Imperial; cuckoo clock, \$10. Weaver 242-5560.

'55 MERCURY 2-dr. sedan, transmission and motor recently overhauled. Kelly, 345-1214.

SELL OR LEASE: 3-bdr., den, pitched roof, hw/floors, AC, FHA app., landscaped, near schools, shopping. Coonce, 296-1089.

'55 CHEVROLET 4-dr. V8, AT, \$150; complete 100-watt sideband amateur radio station, NC-303 receiver, Globe trans., VFO, VOX; blond ash rolltop desk, cost over \$700, sell \$325. Bauer, 255-7774.

TWO-WHEEL TRAILER, light, pulls good, box size 72"x45", \$25. Hudgens, 247-8296.

AKC reg. wire-haired terriers and collie puppies. Naumann, 298-3559.

TWO-CAR wooden garage door complete w/hardware, \$25; '56 Chev. station wagon, new tires, \$250. Hipsher, 299-0673.

ROBERSON 3-bdr., 1 1/4 baths, paneled den, wood floors, carpet, dbl. garage, built-in workbench, sprinklers, FHA appraisal \$18,500. Johns, 298-1778.

'62 TR 4, R&H, OD, w/w, new battery, \$1325. Wilson, 298-0049.

MOUNTAIN HOME for large family, near Tijeras, six bdrs., 2 1/2 baths, barn and corral. Williams, 282-3379.

2-BDR. partial-basement home, University Heights, between Coal and Highland, 314 Bryn Mawr SE, existing 4 1/2% GI. Harrison, 256-0216.

CARTOP CARRIER, enclosed, \$7.50; pocket binoculars, 7-power, \$7.50. Parks, 268-0875.

'60 VW PICKUP, low mileage, will sell with or without cab-over camper for about the same price. Netz, 282-3607.

10 ACRES of good mountain land near Golden, N. Mex., \$225 per acre. Daily, 255-2690.

WESTINGHOUSE washer, \$35; dryer, \$35; Mauser rifle, \$20; stroller, \$4; '41 Lincoln convertible, restorable or parts car, \$225. Harrington, 282-3188.

'59 MERCURY, AT, PS, PB, factory air, \$400. Honnold, 268-5628.

'55 BUICK, all power, air, six tires and wheels, recent transmission overhaul, seat belts, \$300. Dingman, 344-1052.

EXERCYCLE, \$150 or best offer. Goen, 268-7521.

CUSTOM-BUILT Roberson 3-bdr., paneled den, w/fn, dbl. garage, extra large LR, carpeted, available immediately, \$20,500. Butler, 299-5626.

BLOWER for Coleman wall furnace (unused), \$24; 6 1/2" electric hand saw, \$15; 2 venetian blinds for 6'x2' windows, \$5/ea. Toya, 125 El Pueblo Rd. NW, 898-0491.

'57 LINCOLN 4-dr. sedan, new brake linings, \$280. Schroll, 299-9142.

FURNITURE: complete bdr. set, \$75; large kitchen set w/6 chairs, \$50; washer, front load, \$150; many more. Ayers, 255-4902.

'58 CHEV. station wagon V-8, AT, one owner, \$425. Harvey, 256-2666 evenings or weekends.

'61 VW, 2-dr., new motor, paint and tires, \$900 or best offer. Salazar, 255-1301 after 5:30.

SLIDE PROJECTOR, Revere model 808 w/16 slide trays. Phipps, 299-3151.

WANTED

RIDE from 407 12th St. SW to personnel bldg, 832. Telles, 243-2783.

SHARE RIDE to and from Bldg. 892 or 880 to vicinity of Menaul and Louisiana. Devor, 298-9743.

HARD TOP for TR-3. Dowd, 255-8473.

SKIS, 6' 6" or 6' 9", poles, boots, size 10. Copeland, 255-4688.

FOR RENT

FURNISHED 2-bdr. apartment, auto, washer, AC, water paid, newly decorated, near Sandia, \$87.50 monthly, 8322 Trumbull SE. Villella, 255-7416.

REDECORATED 2-bdr. apt., electric kitchen, near schools, buses, and base, lots of storage space, available Jan. 15. Parker, 268-5844.

FURNISHED HOUSE, 4 rooms and bath, newly decorated, 231 Sunnyslope SW. Snyder, 877-1378.

FURNISHED 3-bdr. house, SE, near bases, schools, shopping, busline; carpeted, walled backyard, AC, enclosed garage. Campbell, 256-1015.

LOST AND FOUND

LOST—Coventry silver ear clip, Man's blue wool scarf, Aztec silver fish-shaped pin, Plymouth car key, silver and pearl earring. LOST AND FOUND, tel. 264-2757, Bldg. 610.

FOUND—Rosary, gold ear clip, measuring tape, man's grey coat, 3 keys on string. LOST AND FOUND, tel. 264-2757, Bldg. 610.

Upper Atmosphere Research Rockets To Be Fired This Month in Hawaii

Rockets carrying plastic spheres, luminous cloud-making chemicals, and densitometers are scheduled to be launched by Sandia from the Barking Sands complex on Kauai in the Hawaiian Islands during the latter part of January.

Forty-four Sandians will participate in the high altitude wind studies which involve launching three series of four to seven rockets each. The rockets are scheduled to be fired over a three-day period starting Jan. 24.

Each series will consist of one or more rocket systems containing trimethylaluminum (called TMA), density spheres, densitometers, and chaff. The various data gathering techniques will be used to compare data from each type of experiment with that obtained from the other experiments.

A total of 15 rockets are scheduled to be launched from the Barking Sands complex within the three-day period.

Nike-Apache and Nike-Cajun rocket systems will be used to carry the TMA, which produces luminous blue-green or white trails between 50 and 100 miles above the ocean. Camera stations on Kauai, Oahu, Maui, and Hawaii will photograph the TMA trails to obtain information on winds, turbulence, and particle diffusion at high altitudes.

A station near Barber's Point will be used to record the aluminum oxide spectrum with spectographs and a scanning spectrometer to obtain high altitude temperature data.

All of the firings, with the exception of one rocket containing TMA, will be fired at sunset or after darkness. The single daytime TMA launch is to determine the

feasibility of obtaining useful data from the trails during daylight hours when the trails are not distinct.

Densitometers, which will be mounted on some of the Nike-Apache and Nike-Cajun nose cones, will be used to measure the density of the upper atmosphere electronically. The electronic density readings will be relayed back to ground stations by telemetry.

Nike-Cajun nose cones in each of the three series of firings will contain three deflated radar reflective spheres. Made of reflectorized plastic, the spheres will be ejected at intervals of 70, 135, and 180 seconds after launch.

Gas pistons, which are activated by pyrotechnic fuses, eject the deflated spheres from the nose cone. The spheres are pushed out the side of the cone, at about a 120 degree angle to the rocket trajectory. A small capsule of isopentane enclosed in each sphere is punctured by a small needle as the deflated sphere is ejected from the nose cone. Isopentane released from the capsule inflates the sphere to its full 26-inch diameter.

After release, the inflated spheres continue to follow the nose cone's general trajectory, almost to its apogee. Ground radar stations track the spheres to check air density and winds through the sphere's rate of fall and drift at various altitudes.

By tracking at least two of the spheres in each launch, it is anticipated that information on diffusion can be obtained.

L. B. Smith of Atomic Particles Physics Division 5241 is the scientific advisor for this project. Sandia engineers and technicians conducting the launches will be under the supervision of R. R. Moore, supervisor of Projects Division 9221.

W. E. Walker and L. F. Luehring, both of Carrier Development Division 9224, will be in charge of rocket assembly operations. Ronald L. Johnson, Photometrics Division 7226, will be in charge of the photographic stations.

The spectrograph stations on Barber's Point will be manned by J. M. Hoffman, P. J. Brannon, M. A. Palmer, and L. W. Schieber of Radiation Phenomena Division 5242.

Twenty-six Sandians will be assigned to the Barking Sands range for the firings and 18 Sandians will correlate data received at Kauai. Radio and phone links will provide communications between all of the islands.

Cost Improvement

Forms for reporting cost improvement actions are now available in all Sandia Laboratory self-service store rooms, according to Value Engineering and Cost Reduction Division 2563. The forms, SF 7920-A, are completed by individual employees who describe actions taken to achieve cost improvements for the Company. Any action involving \$100 or more should be reported.

Congratulations

Mr. and Mrs. Oscar Goodwin (3465-2), twin sons, Richard and Thomas, Dec. 29.

Dave Nokes Drives Formula Vee VW To Victory in Ft. Sumner Races

"You hit about 105 on the straight-aways," Dave Nokes (2452) says. "You brake hard to about 40 on the curves and then tromp on it again."

Dave was describing the sports car races he entered in Ft. Sumner. Driving his blue "formula vee" Volkswagen, Dave took first in his class. He built the car about 20 months ago from a junked VW and a commercial kit. Since then, he has raced a number of times and taken firsts at Aspen, Colo., and at Las Cruces. After each race, he tears the car down, cleans it, reassembles it, and tunes it.

Although he enjoys working on the car and keeping it tuned to perfection, he enjoys driving in the races more. "This is the exciting part," he says.

Dave admits that some danger is involved in racing but that sports car races are as safe as possible. He participates in races sanctioned by the Sports Car Club of America and safety is always a prime consideration when planning a race. He is assistant Regional Executive of the Rio Grande Region of SCCA. Jack Shoup (1430) is Regional Executive and Ruth Shoup (7523) is secretary.

The Ft. Sumner races are typical of an SCCA-sanctioned event. The races were held on a marked course on the airport runways. Dave averaged about 72 mph for the 30 miles.

Dave's car weighs about 825 pounds "dry," without gas or driver. With only this much weight, the little VW engine produces plenty of power. Speeds over 100 mph are possible.

"You sit only inches above the ground," Dave says, "and the feeling of speed is terrific."

Most recent event that Dave entered was the SCAA-sanctioned races in Phoenix Dec. 4-5. Fighting engine trouble, Dave finished third in his class. Engine trouble

also plagued Bill Denison (1512) who entered a newly-completed formula vee VW in the Phoenix races. Bill is a member of SCCA and has raced other formula vees in the past. Next event scheduled is a national competition in Roswell April 30-May 1 sponsored by the New Mexico Sports Car Club.

"You don't have to be interested in racing to be a member of SCCA," Dave says, "just interested in sports cars. The local group welcomes new members. Call me at 299-8753 if you would like to attend our next meeting."



SPEEDING CARS are stopped by the camera during Ft. Sumner sports car races. Dave Nokes (2452) is in car number 22, a formula vee with a Volkswagen engine.



"LITTLE TIGERS" is what coach Rol Hewitt (7255) calls his Pee Wee League Ice Hockey players. The boys, ranging in age from 7 to 14, play demonstration games at 7 p.m. on Monday nights at Iceland.

Rol Hewitt Loves Hockey; Helps on Pee Wee League for City Youngsters

Rol Hewitt (7255) believes that the fastest, most exciting sport for either spectator or participant is ice hockey.

Born in Canada, Rol practically grew up on skates. He's been a member of competitive ice hockey teams ever since his junior high school days. Currently, he's a member of the Albuquerque Flyers who compete in the newly-organized five-team Sandia Mountain Hockey League. Games are played Monday nights at 8 p.m. at the Iceland arena.

Preceding each of the games is another kind of skirmish which is just as satisfying to Rol as the rapid-action games he plays. Members of the Pee-Wee League, boys from 7-14, play ice hockey. Rol is the "founding father" of the group and coaches one of the three teams in the league.

Last summer, Rol and several other Sandians decided to see what they could do to promote ice hockey as winter recreation for youngsters in the Albuquerque area. They held an ice hockey clinic in July which attracted 60 boys. Clinic activities were conducted until the end of August. Three teams were formed and the Pee Wee League was organized.

"When we started, about 75 percent of the boys had never been on the ice before," Rol says, "but they're coming along fine now. They're little tigers, as a matter of fact."

Helping with the clinics were Sto Bell (5253), Don Rigali (9326), and George Vaughn (2334). These men are now active as coaches or managers of the Pee Wee teams and have been joined by Newt Fawcett (1111) who helps coach one of the teams. They hold practice sessions with the boys one or two nights a week, and, of course, are on hand for the games. The men also play hockey in the Sandia Mountain League. Werner Kuhn (2562) is a coach for one of the senior teams.

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LAB NEWS

JANUARY 14, 1966

Sandia's Safety Scoreboard

Sandia Laboratory:

25 DAYS

875,000 MAN HOURS

WITHOUT A

DISABLING INJURY

Livermore Laboratory:

211 DAYS

1,029,700 MAN HOURS

WITHOUT A

DISABLING INJURY