

AN AIR FORCE TITAN III C booster successfully lifts two Vela nuclear detection satellites from a launch pad at Cape Kennedy April 28. Sandia and Los Alamos Scientific Laboratory designed the payloads in the satellites, the fourth pair to be placed in orbit. (USAF Photo)

Now Transmitting Data

New Pair of Vela Satellites Orbiting

After a three-day delay caused by a faulty control valve, a Titan III C rose from Cape Kennedy early April 28 to place two Advanced Research Projects Agency's Vela nuclear detection satellites in orbits 60,000 nautical miles in space at opposite sides of the earth.

Both the twins are functioning as designed. Payload systems on the first one were "turned on" the evening of May 8. The second was activated a week ago today. Each one is transmitting data on background radiation to a network of ground stations.

Sixteen Sandians participated in the successful launching of the satellites containing Sandia and Los Alamos Scientific Laboratory payloads. The new twins are larger and have more capabilities than the other previous Vela satellites orbiting the earth.

After the successful launch, nine of the Sandians left the Cape to join three other Sandians already at the Satellite Test Center in Sunnyvale, Calif. There they followed the progress of the satellites to provide guidance in activating the payload

systems and also to provide preliminary evaluations of detector and logic systems performance.

During each of the 11 tense days, the satellites performed their anticipated maneuvers. One, having attained its planned orbit and proper orientation to earth on May 8, was ready to be turned on. Following a command from earth, the satellite started transmitting data to Air Force satellite ground stations around the world.

An analysis of the data at Sunnyvale showed that all of the detectors and the logic systems were on and operating. As early as mid last week, it was transmitting background radiation data to the network of ground stations.

More days of waiting followed for the "turn-on" of the second satellite. A week ago today, its payload was activated and it started sending the data as planned.

Payloads in the improved 26-sided satellites have design capabilities for detecting nuclear bursts deep in the earth's atmosphere and behind the moon.

Sandia designed and fabricated associated data processing electronics in the pay-

loads and the special ground equipment to test the payloads. The new 730-pound satellites also contain Sandia-developed detectors and power supplies.

LASL designed the x-ray, gamma-ray and neutron detectors. Los Alamos also provided new scientific experiments to measure background radiation.

Satellite Systems Division I and II (9231 and 9234) personnel developed the logic systems and the computer-controlled ground checkout equipment. Seismic Systems Division 9233 and Electro-Optics Division 9232 developed the Sandia-supplied detectors.

Sandians at the Satellite Test Center included E. L. Whitlow (9231), R. E. Spalding, J. C. Mitchell, R. W. Gallegos, J. C. Rehberg, C. H. Stockley, H. L. Hawk (all 9234), H. M. Dumas, C. F. Jacobs and F. E. Thompson (all 9233).

Among the Sandia personnel participating in the launch activities were P. E. Phipps, W. J. Rogers (both 9231), C. M. Greenwood, J. L. Bloomquist, H. B. Gottlieb (all 9234), J. D. Brandt and H. F. Chaney (both 9233).



SANDIA LAB NEWS

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SANDIA LABORATORIES

ALBUQUERQUE, NEW MEXICO; LIVERMORE, CALIFORNIA

OPERATED BY SANDIA CORPORATION FOR THE U. S. ATOMIC ENERGY COMMISSION



K. S. Spoon Retires; 42 Years WE Service

K. S. Spoon will retire June 30 after 42 years service with Western Electric Company. Mr. Spoon is Director of Purchasing and Traffic 4300 at Sandia Laboratories.

He began his WE career in July 1925 in the Merchandising organization at Hawthorne Works in Chicago. In March 1926 he transferred to Headquarters, New York City, and from there worked in field locations in San Francisco, Kearny (N.J.) Works and New York City. On Dec. 8, 1941, the day following Pearl Harbor, he was transferred to the Kearny Works in the Speciality Products (known as the War Department Group) organization, where he was in charge of procurement for the 54th Street Special Radar Plant.

Mr. Spoon returned to Headquarters in 1945 for a few months and in May 1946 again transferred to San Francisco to the Supplies Services Division. He remained there until October 1951 when he was assigned to Sandia as department manager of Contract & Traffic organization. He was named to his present position in December 1954.

"Naturally, the organization has had tremendous growth," Mr. Spoon says, "because these have been the years of atomic weapons development. Our job was to secure major sources of supply for Sandia's contribution to this development."

Mr. Spoon belongs to a number of civic and business organizations—the Chamber of Commerce, American Ordnance Association and New Mexico Business & Manufacturers Association—where he has served on the board of directors and for the past three years as a member of the executive board. He helped organize the Purchasing Agents Association of New Mexico and was president of the group.

"There are many things I enjoy doing," Mr. Spoon says. "I have a small woodworking shop, I collect stamps, and I particularly enjoy gardening, fishing and entertaining my three grandchildren."

"I'm very happy that I had the opportunity to come to New Mexico, and Mrs. Spoon and I plan to remain here."

Noon Bus Service to Coronado Club Will Start Monday, May 22

Beginning Monday, May 22, two Sandia buses will provide transportation to and from the Coronado Club during lunch hours. Marked No. 1 and 2, the buses will observe the following schedule:

Bus No. 1 will board passengers outside Gate 1 and depart for the Coronado Club promptly at 12:05. It will then return to the Laboratory through Gate 1 at approximately 12:15 to 12:20 and load passengers south of Bldgs. 802, 836 and 860 for a return to the Club through Gate 6.

Bus No. 2 will board passengers north of Bldg. 892 at 12:05 and pick up additional passengers south of Bldg. 836 and outside Gate 1.

Bus No. 1 will depart from the Coronado Club between 12:35 and 12:40 as demands warrant. It will enter Gate 1, proceed directly through Gate 6, and unload passengers as requested. It will then return to the Club for a last load, departing from the Club at 12:50, and returning through Gate 1 to proceed through Gate 6.

Bus No. 2 will depart from the Coronado Club at 12:45, enter Gate 1 unloading passengers as requested, and terminate at a point north of Bldg. 892.

The Coronado Club features a daily hot, hand-carved sandwich buffet in addition to the regular cafeteria service.

AEC Reorganized; Gen. Giller Will Head Division of Military Application

Brig. Gen. Edward B. Giller, U.S. Air Force, will become director of the Atomic Energy Commission's Division of Military Application July 1. He succeeds Brig. Gen. Delmar L. Crowson who plans to retire from the Air Force to become director of the AEC's newly established Office of Safeguards and Materials Management.

The appointments are part of major organizational changes in the operating and regulatory staffs of the AEC concerning international and domestic safeguards.

The changes reflect, in part, legislation approved in 1964 providing for private ownership of special nuclear materials. In the past, all of these materials were owned by the government. In the next few years, large quantities of fissionable materials will be privately owned.

General Crowson, as director of the new Office of Safeguards and Materials Management, will head the development and coordination of the AEC's safeguards policies and programs for both domestic and international activity. The office will assume the safeguards inspections and materials management functions of the Division of International Affairs, including responsibility for conducting on-site safeguards inspections of material distributed abroad under bilateral agreements.

The Division will also review and ap-



Gen. Crowson

Gen. Giller

prove the licensee safeguards program, carry out other regulatory functions in the accountability and safety areas, and take enforcement action including suspension of licenses when warranted.

As Director of the Division of Military Application, General Giller's duties include direction of programs of research, development, testing, production, storage and readiness assurance of nuclear weapons; maintaining liaison between the AEC and the Department of Defense on nuclear weapons matters; and administering AEC activities under international agreements for cooperation involving nuclear weapons.

At the time of his appointment, General Giller was Director of Science and Technology in the office of the Deputy Chief of Staff for Research and Development, Department of the Air Force.

C. C. Campbell Is New Assistant Manager, Administration, AEC-ALO



Charles C. Campbell, manager of the Atomic Energy Commission's Sandia Area Office with administrative responsibilities for Sandia Laboratory from 1958 to 1962, has been promoted to assistant manager for administration, Albuquerque Operations. Mr. Campbell has been assigned as deputy assistant manager for administration, ALO, for the past year. He succeeds Ralph P. Johnson who retired May 6.

The Office of Administration supervises the following seven divisions at the ALO headquarters: Administrative Services,

Contracts and Supply, Engineering and Construction, Finance, Nuclear Materials Management, Organization and Personnel, and Security.

Mr. Campbell has been associated with the atomic energy program since 1943 in a military and civilian capacity with the Manhattan Engineer District and since 1947 with the AEC.

He was manager of the Los Alamos Area Office from June 1962 to February 1967 primarily to supervise the disposal of the community in accordance with the AEC Community Act. Before his service as manager of SAO, he was deputy area manager at Rocky Flats (Colo.) Plant from 1952 to 1958 and held various assignments in the personnel and labor relations field at Los

(Continued on Page Six)

Reynolds Paper Given at AGARD Meeting in Canada

R. S. Reynolds (9233) will present a technical paper at the 30th Flight Mechanics Panel Meeting of NATO's Advisory Group for Aerospace Research and Development (AGARD), to be held May 30-June 1 in Montreal, Canada.

The meeting is specifically on flight test instrumentation and Mr. Reynolds' presentation is entitled "Telemetry Standards of the Inter-Range Instrumentation Group, Range Commanders Council."

The sessions are divided into discussions of user requirements, instrumentation systems, data reduction, and sensing and transcribing. The speakers are from France, West Germany, United Kingdom, the Netherlands, Canada, Italy and the United States.

Editorial Comment

Prevent Auto Theft

Analysis of national statistics for auto theft reveals that four out of 10 cars stolen had the keys left in the ignition. More than 80 percent of all cars stolen had the doors unlocked.

The magnitude of auto theft is staggering. A car is stolen every minute of every day somewhere in the United States. The crime of auto theft cost the public more than \$250 million last year (including items stolen from automobiles). Auto thefts have increased more than 60 percent since 1960, more than double the percentage increase of auto registrations.

If you remove your key from the ignition and lock your car, you can probably avoid theft of your car. If you lock any attractive packages in the trunk, you can eliminate this tempting invitation to theft.

In communities where a concentrated effort has been made with a "Remove Your Key—Lock Your Car" campaign, auto thefts have been reduced by 50 percent. Albuquerque Police have been conducting such a campaign for some months now. Please help. The car you save is your own.

New Northeast Heights To Sandia Laboratory Bus Route Proposed

Some interest has been expressed by employees for another Albuquerque Bus Company bus route to serve Sandia Laboratory. It would serve three major residential areas—Holiday Park, Eastridge, Monterey Manor—and other areas east of the present two routes.

The suggested route would be as follows:
East on Menaul from Carlisle to Moon or Eubank
North on Moon or Eubank to Comanche
East on Comanche to Juan Tabo
South on Juan Tabo to Lomas
West on Lomas to Eubank
South on Eubank to Sandia (Gates 7 and 3)

If you would be interested in this bus service, please complete the following form and mail to Noble Johnson, Community Relations Division 3433.

I am interested in riding
.....To Sandia
.....From Sandia
.....To and From Sandia
.....Days per week (average)
I would board the bus at this point along the suggested route:
.....

**Welcome . . .
Newcomers**

May 1-12

Albuquerque	
Lynda M. Archuleta	3151
Marie A. Arellanes	3153
Frances L. Chavez	3153
Imogene Holmes	3153
George Lujan	4574
Vivian D. Messersmith	3154
Raymond K. Sandy	3415
Kenneth D. Smith	1111
Gail D. Stenger	3154
Canada	
*Edward M. Shoemaker, Burnaby, B.C.	5261
Colorado	
Danny W. Aubuchon, Peyton	4543
Georgia	
William M. Dabney, Atlanta	1433
New Jersey	
David O. Smallwood, Seabright	7324
*Denotes rehired	

SANDIA LAB NEWS



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ALBUQUERQUE, NEW MEXICO
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New National Drivers Test Will Be Televised May 23

An all-new National Drivers Test for 1967, timed for the week before Memorial Day, will provide a means to check your defensive driving skills. It will be broadcast at 9 p.m. Tuesday, May 23, over KGGM-TV, channel 13.

This is a participation program. Taking the test can be an important step in a chain of safe driving actions leading to a safe driving attitude. Safety Engineering Department 3210 urges all Sandians and their families to watch the program and take the test.

The program format will follow the pattern set by the two previous National Drivers Test programs. Filmed from the standpoint of the driver, the situations will involve the viewer and elicit natural driver reactions. Walter Cronkite will be the program moderator.

Main objective of the program is to persuade people to drive defensively.

Answer forms for the test are available from Shell Oil service stations; however, a pencil and a sheet of paper are all that are required. The questions will require only true-false answers.

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VISITING SANDIA LABORATORY recently (from left) H. T. Herrick, Director, Labor Relations, AEC, Washington, D.C.; and John P. Chapman, Assistant Director, Labor Relations, who reviewed administrative policies and programs with President John A. Hornbeck and L. P. Gise, Manager, AEC Albuquerque Operations.

Monthly Investment in Bonds Increased to \$101,566 During Recent Campaign

Sandia employees' monthly investment in U. S. Savings Bonds jumped from \$88,526 per month to \$101,566, an increase of 15 percent, as a result of the recent bond drive at Sandia and Livermore Laboratories.

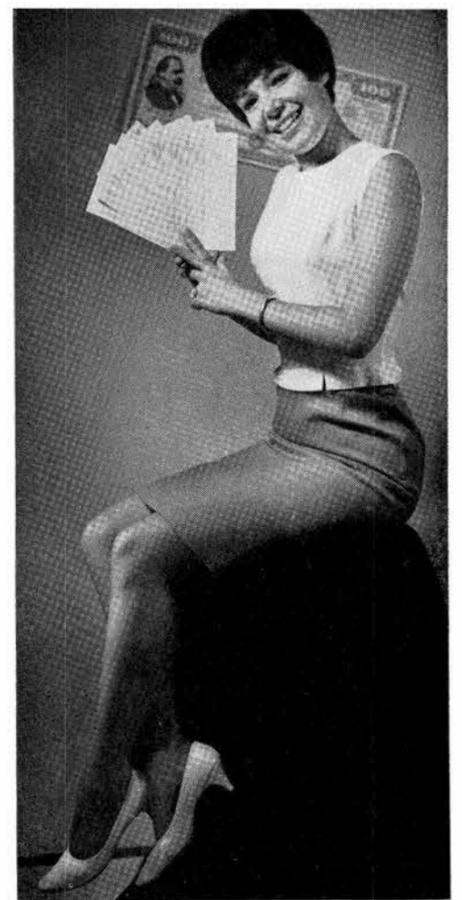
Robert Lynes (9413), chairman of the bond drive committee, reports that 203 employees, not previously enrolled in the savings bond program, signed up for payroll deductions for bonds.

The new Freedom Shares offering, which pays 4.74 percent interest and matures in four and half years, accounts for much of the increase.

Although these results are encouraging they are not final, Mr. Lynes says. He notes that many employees still have their payroll deduction cards in their desks. He urges all employees who have not done so, to complete the cards, indicating their selection of E bonds and Freedom Shares, and return them to Division 4131 or, at Livermore Division 8213.

Currently, 84.5 percent of the 8195 Sandia Corporation employees are enrolled in the savings bond program. Some 1159 employees increased their deductions during the recent campaign. Freedom Shares are being purchased by 1145 employees.

At Livermore Laboratory, 36 employees not previously enrolled signed up for U.S. Savings Bonds. The monthly investment of Livermore employees in savings bonds increased from \$8193 to \$10,286.



Take a Bond, Please

Karen Cohen (3421) urges all Sandians who have not filled in their payroll deduction cards for E bonds and Freedom Shares to do it now. Take the cards out of your desk and mail to the payroll organization.

Supervisory Appointments



JAMES H. RENKEN to supervisor of Computational Physics Division 5231, effective May 1.

Jim has worked in Computational Physics Division since he joined Sandia in July 1964. He has been primarily concerned

with formulating mathematical models to describe nuclear weapons effects.

Before coming to the Laboratory, Jim was a first lieutenant in the Signal Corps assigned to Picatinny Arsenal. During most of his military service from October 1962 to June 1964, he was responsible for certain studies in the area of nuclear weapons effects.

He received both his BS and MS degrees in physics from Ohio State University in June 1958. In June 1963, he was awarded his PhD in physics from California Institute of Technology.

Jim is a member of the American Physical Society and Tau Beta Pi.



ROMAN S. HEUER to supervisor of Instrument Service Section B 4615 - 2, effective May 1.

After joining Sandia in June 1955, Roman was assigned to an engineering support organization where he performed special assignments. In March 1956 he transferred to a weapons design group where he had design responsibilities for components. He transferred to Shop Engineering Division 4214 in October 1962. There he has had responsibilities for numerical control equipment, served in a consulting capacity to development shops and has worked on special controls for electron-beam welding.

Roman received a BS degree in electrical engineering from Purdue University in June 1955.

From 1943 to 1945, he was an aviation ordnanceman and worked in under-water warfare group in the U. S. Navy, mainly in the Atlantic Theater.



JERRY A. HOOD to supervisor of the newly created Radiation Effects Division 1435, effective May 1.

He joined Sandia in June 1956. Initially he was concerned with designing semiconductor devices and later the effects of nuclear radiation on electronic components.

In September 1965, he was granted a leave of absence to do graduate work at the University of New Mexico. He returned to the Laboratory in December 1966 and was assigned to the radiation effects group in Microelectronics Division 1433 where he has worked on the effects of radiation on electronic components.

Jerry received his BS degree in electrical engineering from the University of Oklahoma in June 1956 and an MS in electrical engineering from UNM in June 1964. In December 1966, he completed his requirements for a PhD in electrical engineering at UNM.

He is a member of the Institute of Electrical and Electronics Engineers and Sigma Xi.

Congratulations

Mr. and Mrs. Paul R. Dodge (7122), a son, Douglas Paul, May 3.

Rose Show Chairman, Yardman Are Tasks for 'Gardener by Marriage'

"A gardener by marriage" is how Ed Johnson (3455/9300) identifies his place in the horticultural world, but his activities range from the usual yard chores to arranging for rose shows.

His current job is serving as general chairman for the 18th annual Albuquerque Rose Show to be held May 27 and 28 at the Floriculture Building on the State Fair Grounds. The show is sponsored by the Albuquerque Rose Society, Inc.

In talking about his own garden, which has been included by many garden clubs in annual tours, Ed will say, "Oh, that's Ruthie's project. I'm just there to do the heavy work." Speak of the couple's attendance and participation in local or national flower shows and Ed will say, "Oh, I'm just Ruthie's chauffeur." Actually, gardening is a hobby enjoyed by both Ed and his wife Ruth.

When the Johnsons moved into their Albuquerque "honeymoon cottage" in 1950, it already had two cottonwood trees and a willow. Compared to Iowa and Colorado, their previous homes, some of the warm January days seemed Spring-like, so they started to put in plants. "The neighbors clucked, and they were right. It was a false Spring," Ed recalls.

The original trees have disappeared and the garden has undergone almost yearly changes. "We're fortunate that our neighbors have high trees which shade our yard. It enables us to plant a wide border of bulbs, annuals, perennials, flowering bushes and small trees up to the fence, creating a feeling of greater depth than would normally be possible with our size lot," he explains. "As Ruthie's flower beds get larger, my lawn area gets smaller."

A neighbor took Ruth to the 1950 rose show. She later attended a series of courses and workshops required for becoming an accredited judge for both the American Rose Society and the National Council of Garden Clubs. Ed accompanied her to the local shows and found that the Albuquerque Rose Society meets evenings and a number of men are members. "I enjoyed the people and liked finding out the names of patented roses and their individual characteristics. They became something

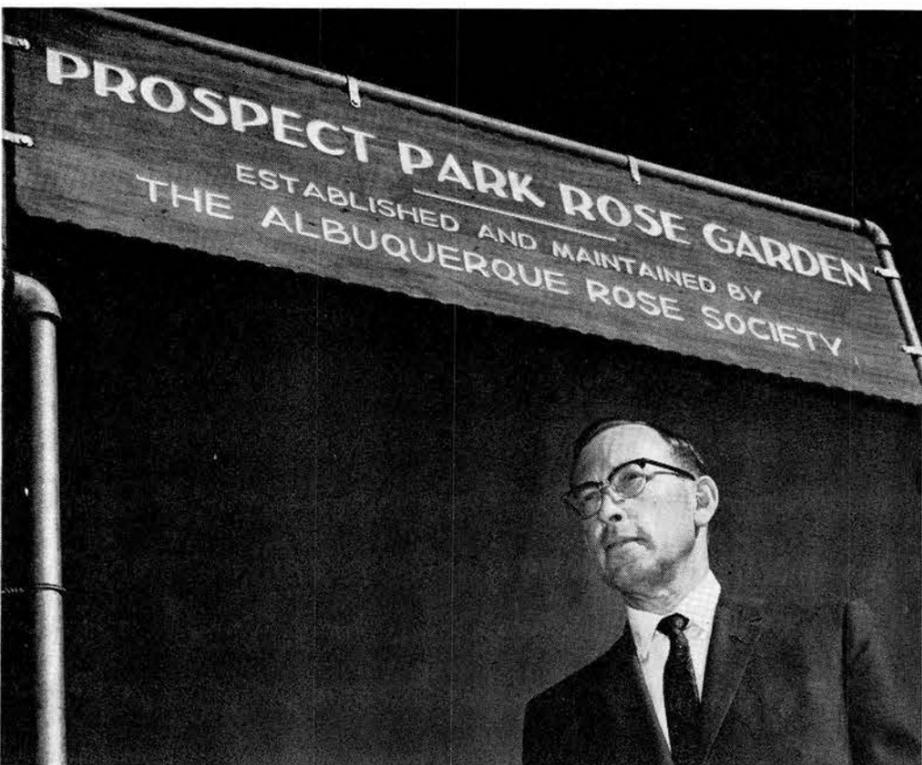
more than different colored flowers on a fence," Ed says. "First thing, I was mopping floors along with bank vice presidents and doctors and doing the other tasks associated with putting on a rose show."

As their interest grew, the Johnsons began to plan their vacation around national conventions of rose fanciers. They especially enjoy attending the district meetings as then they have an opportunity to talk with others who grow plants under similar conditions. In June, Ruth will judge horticulture entries at the Denver Rose Show and in October they will attend a district convention in Sun City, Ariz.

Since 1962, one of the Albuquerque Rose Society's main projects has been planting and maintaining more than 600 rose bushes at Prospect Park (near Menaul and Wyoming). The Johnsons take pride in this project and Ed remembers showing the garden by car headlights to the American Rose Society president who stopped here briefly between planes. A pruning demonstration is held at the park every March and the rest of the growing season the public has an opportunity to view the named varieties of roses and see how well they adapt to our climatic conditions.

"I'm pleased to see what has happened to Albuquerque gardens, partly due to the influence of the many garden clubs," Ed says. "There are more flowers and flowering trees than ever before and the nurseries are carrying better stock and a wider variety of plants. Visitors are amazed that the city is well-planted in almost every sector. Gardening is a challenge here and I think our flowers are better than those in the Midwest or on the West Coast."

This is Ed's second time as rose show chairman (Ruth was general chairman last year). It involves coordinating the workers and the many duties, selling ads in the printed program, and lining up special awards. One award this year will be a gift certificate for "La France," introduced in 1867 and considered to be the first hybrid tea rose. The Johnsons have donated a silver traveling trophy for the best floribunda rose entered in the show. They feel this variety is ideal for yard planting where a mass of color is desired.



ED JOHNSON (3455/9300) and other members of the Albuquerque Rose Society are justifiably proud of the Prospect Park Rose Garden which gives residents a chance to study characteristics of patented roses.

Sympathy

To Fermin Nieto (4574) for the death of his son in Albuquerque, April 23.

To Wilber G. Grisham (1611) for the death of his mother in Trinidad, Colo., April 26.

To Richard W. Vivian (1611) for the death of his father-in-law in Carlsbad, Calif., April 19.

To William H. Shively (4514-3) for the death of his brother-in-law in Missouri, May 9.

To William L. Gault (7233) for the death of his wife in Tonopah, May 14.

Gene Newlin to Address Inventors Congress Here

Gene Newlin, supervisor of Invention Reports Division 6011, will speak during the Southwest Inventors Congress in Albuquerque June 8-11. Title of his talk is "Patent Law and Procedure for Inventors."

The four-day event will be a showcase for inventors, manufacturers and investors of a nine-state area. It will feature exhibits of new inventions, displays of manufacturer's products and workshop sessions for participants.

Governor David F. Cargo will present inventors awards in several categories.



MEDELLIN, Colombia, with a population of three-quarters of a million, has its share of high-rise buildings and plate glass store fronts which must be considered in any estimates of damage from blast waves.

Unique Survey Made in Colombia For Study of Proposed Canal

A six-foot four, red-haired gringo is bound to be noticed in a crowd of South Americans—especially if he spends his time walking the city streets looking at windows.

And Jack Reed (7111) did attract attention during his window survey in a half dozen cities in Colombia.

"Several times people on the street apparently did ask what I was doing (Jack's Spanish is far from fluent), but I had an answer ready, 'No hablo Espanol,'" he explains.

The window count was being made in the name of science.

Jack, a meteorologist, has been studying blast waves since 1951, most recently in connection with a blast safety prediction program as part of an overall engineering feasibility study of possible nuclear excavation of a new Isthmian canal (See SANDIA LAB NEWS, Nov. 18, 1966). Preliminary studies are underway on the Sasardi-Morti route (Route 17), 100 miles east of the present Panama Canal, and on the Atrato-Truando route (Route 25) in the extreme northwest of Colombia.

The window count was part of a survey to establish estimates of glass breakage and other damage that might be caused by the blast waves from nuclear cratering explosions along either route. Using the survey's data, scientists can designate the limits of atmosphere overpressures that might result from nuclear explosions so as to help assure public safety. These limits would be one of the guides used in determining the maximum yields of nuclear explosives that could be used.

In addition to giving Jack a first-hand knowledge of the locales that might be subject to these blast waves, an effective survey demanded his on-the-scene presence to recognize potential problem areas.

As chairman of the Canal Study Commission's Acoustic Wave Working Group, Jack and members of the group are interested in possible damage from a nuclear cratering explosion as the blast wave expands in the atmosphere. Thus the recent trip to Colombia.

The places visited were Barranquilla and Cartagena, both on the Caribbean coast, and the inland cities of Monteria, Medellin, Bucaramanga, and Bogota—the capital. The populations range from 126,000 in the northern half of the country and are within 500 miles of the nearest proposed canal route.

"Although many people think of jungles and swamps when you mention Colombia, its cities are really very modern. There are many high-rise buildings (up to 28 floors) that make extensive use of glass," Jack says.

On his survey, Jack was accompanied by Dr. Armando de la Torre, a Colombian engineer recommended by the Minister of Public Works. "He served as contact man, interpreter, engineer, and fellow window-counter," Jack explains. And the two actually did walk up and down every other street in downtown Bogota—an area about two miles by one-and-a-half miles—to take a sample count of both glass store fronts and building windows. They drove through each of the "barrios" or residential sections of town.

"We figured out five income groupings and, for each class, we took sample counts of the number of windows in their homes and the size of the window panes. By knowing the general types of homes in each section, we can estimate damage that might result from long-range propagation



COLOMBIAN ENGINEER Dr. Armando de la Torre, who accompanied Jack Reed (7111) on his survey, is in the foreground in this photograph of downtown Bucaramanga.



THIS SECTION of downtown Bogota, Colombia, shows a few of the skyscrapers found there. The large, many-windowed building in the center is a bank.

waves of different strengths," Jack says.

Jack was in Bogota a week and a half after the city experienced its worst earthquake in 100 years (about 90 persons were killed in the area between Bogota and Neiva). There had been considerable glass damage, but repairs were already underway on a large scale.

At the time of the quake, Jack was in Medellin. "I was on the fourth floor of a modern office building, and it rocked a little even though the city was some distance from the area of greatest seismic intensity."

Ground motion data obtained from existing seismic stations in Colombia can probably be used in nuclear blast studies.



NEW 5000-FOOT SLED TRACK in Area III has exceeded design specifications. Some 75 rocket sleds have successfully been fired at the new facility. At left is Marv Timmerman who prepared the design specifications for the track. In the center, marking the water trough and 22-inch gage of the track, is T. R. Arrington. At right is Bill Kampfe, track project leader. All are in Division-7344.

Unique Design Features Work

New 5000-Ft. Sled Track Proved Successful; 75 Rocket Sleds Fired

Some 75 rocket sleds have streaked down Sandia's new 5000-foot track in Area III since completion of the facility last October. From an operational standpoint, the new track is a complete success. The unique design features of the track provide for better sled performance, easier data collection and more efficient braking and recovery of sleds.

Taking time out from a heavy schedule of environmental testing, Dave Bickel, supervisor of Track and Guns Division 7344, discussed the advantages of the new track.

"If we had to do it over again, we wouldn't change a thing," he said. "In some ways, its capabilities have exceeded design expectations."

The track was designed to accommodate sleds with speeds up to Mach 5. In a recent run, a single stage monorail sled achieved 6000 feet per second, or Mach 5.5. It seems feasible that 7000 feet per second or Mach 6.4 can be achieved on the new track.

The unique design features of the track include:

—A 22-inch gage, which means smaller sleds with reduced aerodynamic drag can be used.

—A walled configuration of the supporting concrete which permits the track to be filled to the rail heads with water and allowing monorail sleds to be braked with water probes.

—A beveled shoulder beneath the outer rail which reduces reflected shock waves.

—An underground instrumentation bunker only 50 feet from the target impact area which can be manned during tests.

Use of smaller sleds on the 22-inch gage of the new track has reduced aerodynamic drag by 40 percent when compared to older sleds, Dave said. The country's other two major sled tracks (which Sandia uses occasionally) are the ones at Holloman Air Force Base, which has a gage of 84 inches, and Naval Ordnance Test Station (China Lake), which has a gage of 56½ inches. When using dual-rail sleds on these tracks, the outrigger on the sled accounts for 75 percent of the aerodynamic drag.

Dave says the capability of filling the track with water up to the railhead level has braking advantages for both dual-rail and monorail sleds.

On other tracks, monorail sleds are braked with water-filled polyethylene bags taped to the rail surface. On Sandia's new

track, sleds can be braked more precisely with water-probes which extend into the water from the sled's slippers.

The higher water level also benefits dual-rail sleds, which previously were subjected to upward pressures on the rear slippers and downward pressures on the front slippers because braking forces applied to the water-probe were some distance from the center-of-gravity of the sled. On the new track, these forces are nearer the center-of-gravity.

Gradual braking for both types of sleds is achieved by the four-inch-per 1000-foot downward slope of the track. This means that sled probes and undercarriages gradually encounter deeper water, which enhances braking effectiveness.

The beveled shoulder of the track foundation eases loads on high speed monorail sleds caused by reflected shock waves. Such waves tend to force the sleds upward, causing excessive wear on the sled slippers. Dave says the beveled edge of the new track's foundation reduces the intensity and the number of reflected waves.

Location of the underground instrumentation bunker adjacent to the target area of the track has greatly simplified data acquisition. Cable lengths to the instrumentation are less than 100 feet. Telemetry receivers can be located much closer than before resulting in better signal reception.

While the test schedule on the new track has been heavy—an average of about three runs per week—Division 7344 has continued to use the old 3000-foot track for a number of ballistic trajectory tests.

The data acquisition system used for these is a complex arrangement of nine cameras which provide the needed data. However, reducing the data is a frame-by-frame calculation from the film.

Under Sandia contract for development now is a new laser data acquisition system which will be installed at the new track. This new laser system, designed to Sandia specifications, will enable trajectory data to be recorded on magnetic tape during the test and then immediately processed by computer for final, readable results.

The system is being built by Sylvania Electronic Systems and is an advanced version of a model now being used by the Holloman track. When installed at the new track, the old 3000-foot track facility will be retired.

Events Calendar

- May 19-21—Albuquerque Jaycee Stampede, Tingley Coliseum.
- May 19-21—YWCA tour to Canyon de Chelly. For information, tel. 247-8841.
- May 19-21—"See How They Run." Old Town Studio, 1208 Rio Grande NW. For reservations, tel. 242-4602.
- May 20—Canyon Estates — South Peak Trail. N.M. Mountain Club, leader Bill Tryon, tel. 299-6895.
- May 21—Lake Peak. N.M. Mountain Club, leader Hank Tendall, tel. 298-3436.
- May 21—Rio Grande White Water Races from Pilar downstream, 1 p.m.
- May 27-28—18th annual Albuquerque Rose Show, Floriculture Bldg., State Fair Grounds.
- May 28—Indian dances Jemez Pueblo.
- May 29-June 4—Indian dances Tesuque Pueblo.

Roger Mattson Becomes AEC Regulatory Fellow



Roger Mattson of Reactor Development Division 5223 has been given a leave of absence from Sandia to participate in the AEC's Regulatory Fellows program for two years.

The program was established in the AEC's Division of Reactor Licensing last year to meet the increasing workload foreseen in the growing volume of nuclear power plants using power reactors. Participants—five or six scientists and engineers—are selected from candidates recommended by the AEC laboratories and selected universities. The AEC is responsible for protecting public health and safety in the construction and operation of nuclear facilities.

Mr. Mattson will be assigned to a nuclear system technical group developing criteria by which power reactors can be judged safe or unsafe. His Sandia leave is effective May 31 after which time he will be located in Bethesda, Md.

A Sandia employee for three years, Mr. Mattson participated in the Technical Development program. He received his Bachelor's degree in mechanical engineering from the University of Nebraska and his Master's degree from the University of New Mexico.

Sandia Authors

R. P. Clark (1323) and E. D. Zaffery (9233), "Instrument for Continuous Measurement of Internal Resistance of Voltaic Cells During Discharge," April issue, THE REVIEW OF SCIENTIFIC INSTRUMENTS.

C. D. Taylor, C. W. Harrison, Jr. (1425), and E. A. Aronson (5263), "Resistive Receiving and Scattering Antenna," May issue, IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION.

W. A. Millard (9322), "Summary of the Stability and Axial Force Data Obtained During the Sandia Test Program on the Standard Hypervelocity Ballistic Models HB-1 and HB-2," PROCEEDINGS OF THE 27th SUPERSONIC TUNNEL ASSOCIATION.

Secures Power Switches

New Padlock Device Gives Protection While Electricians Working on Job

Electricians know better than most people that 110 or even 60 volts under certain circumstances can injure seriously and even kill.

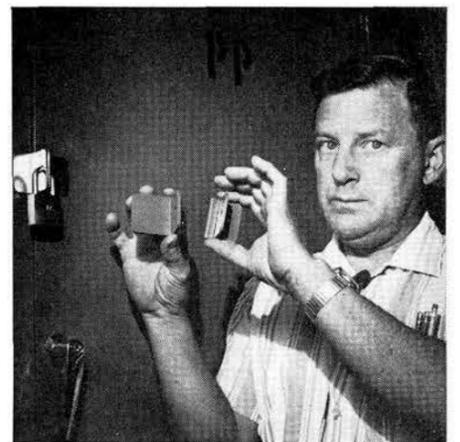
When an electrician works on equipment in a building, he turns the power off from switches located in the electrical distribution panel. In most Sandia Laboratory buildings, the panels are fitted flush to the wall. In some cases they have a lock but occupants of the building have keys to these locks.

In the past, the danger of someone turning on the power while an electrician was working was always present. A couple of no-injury close calls and reports of death from electric shock in similar situations at other companies spurred V. L. Brockway, supervisor of Maintenance Section A 4512-1, to do some serious thinking about the situation. It is standard practice in the 4500 organization to analyze each no-injury and injury report individually to determine if the situation has a "high potential" for serious injury. Mr. Brockway decided this situation did.

The problem could be solved, he figured, if the electrician could place his own padlock on the panel while he was working on the job.

He discussed this with A. W. Railey (4512-3) and H. E. Burrell (4517) who came up with an idea for an easy-to-use, easy-to-carry device that would provide a method of padlocking the flush-set panels.

Harold Burrell sketched the idea and the prototype was made by J. M. Winter (4513-5). After testing and a few changes, the device worked. It is actually two pieces



HAROLD BURRELL (4517) displays a new device which can easily be installed on flush-mounted electrical distribution panels (which contain power switches) and padlocked to protect electricians while they are working on equipment.

of metal which attach to the panel frame and the door. Aligning these with the door closed and placing a padlock in the holes provide the needed protection.

Ninety of the devices were built and they have been standard equipment in electrician's tool chests ever since. When the men are working with up to 440 volts, they don't like to take chances. When in use, the locking device provides absolute safety from the power source for the electrician.

Continued from Page One . . .

C. C. Campbell Appointed to AEC Post

Alamos and at ALO Headquarters from 1945 to 1952.

He attended the University of Nebraska and Colorado State University, and was graduated with special honors from the School of Business, University of Colorado.

Mr. Campbell was first chairman of the Governor's Advisory Council for Personnel Administration and later a member of the New Mexico Personnel Board until May 1, 1967, when he resigned to accept Governor Cargo's appointment to the so-called "Little Hoover Commission" to study reorganization of State Government.

Mr. Campbell is acting president of the New Mexico State Society for Crippled Children and Adults; chairman of Intergovernmental Relations Committee of the Federal Executives Association; a member of the Board of Managers, New Mexico Society, Sons of the American Revolution; and chairman of the DIADEM-Return Committee for the visit of 50 handicapped Danish children to New Mexico during July.

He is also a member of Beta Gamma Sigma, Beta Alpha Psi, American Society for Public Administration and Albuquerque Rotary Club.

LIVERMORE NEWS



REBUILT MILLING MACHINE gives Livermore Model Shop capability of making three-dimensional parts by numeric control. Secretary Vivian Lenz observes while Model and Instruments Maker G. H. Brockmoller (both 8223) shows the completed grid the machine made from a smooth aluminum disc. Converted mill and updated solid-state control panel can now fabricate parts 10 x 20 x 30 inches.

Fred Dalrymple Pursues Judo Art For Physical and Mental Outlet

"Judo is a good, clean, individual competitive sport rather than a method of combat or self defense," says Fred Dalrymple (8224). Accomplished in the art of judo, he was recently awarded the coveted black belt by the American Judo and Jujitsu Federation.

"Judo is something you start and it just grows on you — almost like developing a cold," Fred says.

"I became involved through a friend who had taken instruction in Japan and wanted to continue here," he says. "I was interested in getting some exercise, so the two of us enrolled in the Sukoshi Dojo judo school in Newark, Calif.

"We've been attending classes about three times a week for the past three and a half years, and now I'm teaching 26 men and more than 60 boys at the Livermore Recreation Center evenings and weekends."

Fred is certified by the Federation to teach Kodokan, the judo and jujitsu system developed by Professor Henry Okazaki, founder of the American Jujitsu Institute of Hawaii.

According to Fred, judo means the "way of gentleness." Its basic principle is to give way before an opponent's superior weight and strength in order to overcome him by using his weight and strength to his disadvantage.

Brought from China in ancient times, this "art of suppleness or yielding" was highly developed in Japan and today there exist many methods, the founder of each having his own variations.

The most common variation in the United States is Kodokan with more than 1500 schools. This system stresses the importance of both aspects of the art — first, the technique of defense, embodying the ancient philosophical and moral training

aimed at perfection of character; and second, sports instruction, a directed method of physical culture and mental cultivation.

Although another system, Kodokan, is the only variation rated throughout the world, Kodokan is now working toward competing on the same basis. "We feel Kodokan a more gentle and refined system," Fred says. "In one sense Kodokan is translated as 'the school in which seniors transmit the tradition,'" he adds. "Senior students instruct junior students in the spirit which Professor Okazaki declared was inherent in the Hawaiian word kokua, 'to help one another.'"

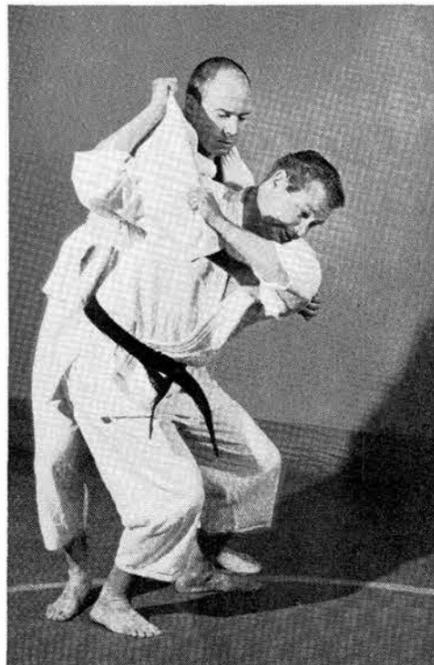
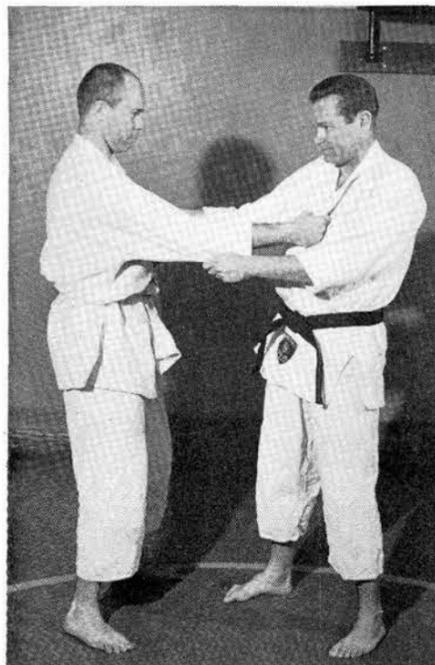
Students are taught the various break-falls, throws and holds. They advance through several ranks, each rank with different color belt for the loose-fitting judo coat, called "gi," until they reach the black belt, or master class; this in turn is divided into grades according to proficiency.

"It is amazing how judo develops grace, poise and self confidence in people," Fred says, "but, as in everything, progress depends on the effort and practice put into it."

According to Fred, the sport is proving more and more popular. There are currently judo clubs in the major countries of the world. In addition, under the name of "self defense," special aspects of judo have been taught to police, probation and parole officers and civilian men and women who want to defend themselves against possible attackers, armed or unarmed. Variations of the methods of paralyzing, maiming, or killing an opponent have likewise been taught, as "combat judo," to the fighting troops of many countries.

Fred continues to take instruction to advance through the belt ranks in the secret arts, restricted only to black belt holders.

Several other Livermore Laboratory employees are also judo enthusiasts. They include Al Campbell (8127), Jim Gibson (8119), Al Scott (8168) and Bill Stoll (8148), all of whom are taking instruction toward their first (green) belts.



Livermore Notes

The second annual Oakland Hobby Show sponsored by the Oakland Recreation Department will be held June 2-4 in the Exhibit Hall of the new Oakland-Alameda County Coliseum.

More than 130 exhibits and demonstrations will be presented by hobbyist collectors, craftsmen, artists, photographers, sportsmen, naturalists and historians, and continuous entertainment will be provided by performing hobbyists—dancers, musicians and sportsmen.

Tickets at 50 cents for adults and 25 cents for children are available at all Coliseum box offices throughout the Bay Area.

Bill Brown (8161) was recently promoted to Chief Petty Officer in the U.S. Naval Air Reserve. He was presented his first CPO hat during a drill meeting at the Naval Air Reserve Training Station, Alameda. Bill was an aviation storekeeper first class prior to his promotion. During his 11 years in the reserves he has been flown to such distant places as Morocco, England, Hong Kong, Newfoundland, Wake Island, the Azores, Guam, the Philippine Islands, Italy and Hawaii of his two-week annual active duty cruise.

P. K. Lovell, Environmental Health and Medical Services Division 8215, presented a technical paper at the annual meeting of the American Industrial Hygiene Association held in Chicago May 1-5. Co-authored by R. O. Campbell (also 8215), the paper is entitled "Environmental Testing of Personnel Dosimeter Films."

Dave Abrahams (8233) is the newly elected president of the Livermore Valley Stamp Club. The club meets the second and fourth Tuesdays of each month at 7:30 p.m. in the conference room of the new Livermore Library. The first meeting of the month is devoted to the trading and auctioning of stamps. A well known philatelist is scheduled as guest speaker for the second monthly meeting. Those interested may obtain further information by contacting Dave at ext. 2515 or 447-9386.

Several Sandians have been elected to posts in local organizations.

Jim Wimborough (8161) is this year's president of the Livermore Lion's Club. He served as vice president of the club last year.

Among the newly installed officers of the Livermore-Pleasanton Elks Lodge No. 2117, BPOE, are A. A. Alford (8223-5), leading knight; D. D. Wagner (8211), inner guard; R. W. Ware (8161-1), tiler; and A. L. Pearson (8222-1), trustee for a five-year term.

Reduced admission tickets on a first-come, first-served basis are available from Employee Benefits for the May 26 8:30 p.m. performance of the Shipstads and Johnson "Ice Follies of 1967" at the new Oakland-Alameda County Coliseum.

Winter Bowling Competition Ends with Trophy Awards

Trophies were awarded to the winners of Sandia bowling leagues winter competition during a recent ceremony.

First place in the 10-team Sandia Mixed Handicap League was taken by the "Stonedrollers." Members of the championship team were Jan (8115) and Dick Silva (8222-1), Ray Gott (8142), Lori Jones and Bill Rego (8245-1). "The Tigers," composed of Roger Baroody (8160), John Anderson (8155), Harry Farmer (8168), Ed McKelvey (8119), Mary O'Shea (8235-1), Otto Schreiber (8139) and Marilyn Sorensen, won the second spot in the league.

For the men, individual awards were presented to Art Kellom (8113) for his high scratch game score of 257; Tabo Hisaoka (8252-1) for high handicap game, 288; Don Knaple (8253-3) for high scratch series, 642; and Paul Dominguez (8161-1) for high handicap series, 798.

Taking honors for the women were Jan Silva and Jackie Garrett (8119-1) for their high scratch games of 211; Marge Bell for high handicap game 257; Lori Jones for high scratch series, 568; and Helen Little for high handicap series, 692.

In the six-team Sandia Men's Thunderbird League, the top spot was won by "The Axis." Team members were Tabo Hisaoka, Ray Leri (8233-2), Hanloy Quock (8114), Ollie Rohrback (8252-5), Jerry Wong and Hesa Yano (8252-4). The "Gas House Five," Don Knaple, John Barnhouse (8226-2), Chuck Drummond (8252-2), Bill Hawkins (8253-3), Jim Kersey (8127-1) and John Leeper (8127) came in second.

Individual honors went to Tabo Hisaoka for his high scratch game score of 249; Tom Fukunaga (8252-1) for high handicap game, 281; Chuck Comito (8252-2) for high scratch series, 645; and Chuck Drummond for high handicap series 684.

Congratulations

Mr. and Mrs. Dave Havlik (8131), a son, David John, April 5.

Mr. and Mrs. Bill Ryan (8212), a son, Trevor Coleman, March 29.

Mr. and Mrs. Hal Brumfield (8142), a son, Brian Scott, April 29.

Mr. and Mrs. Gerry Strandin (8167), a son, Randolph Lee, April 27.

Mr. and Mrs. Cal Feemster (8141), a daughter, Lori Ellen, April 26.

Sympathy

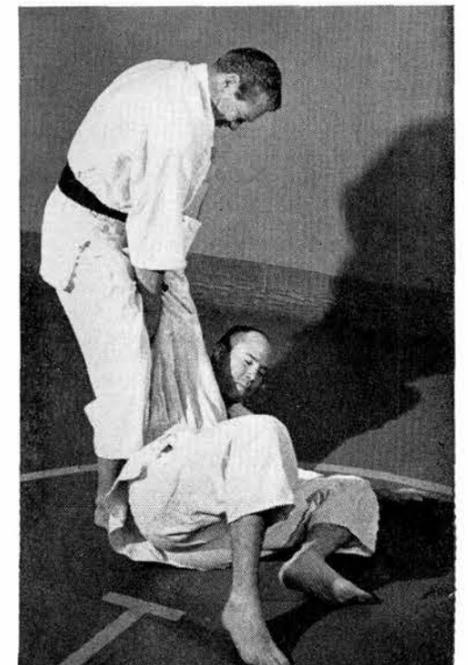
To Lawrence Borello (8252) for the death of his father in Hayward, April 17.

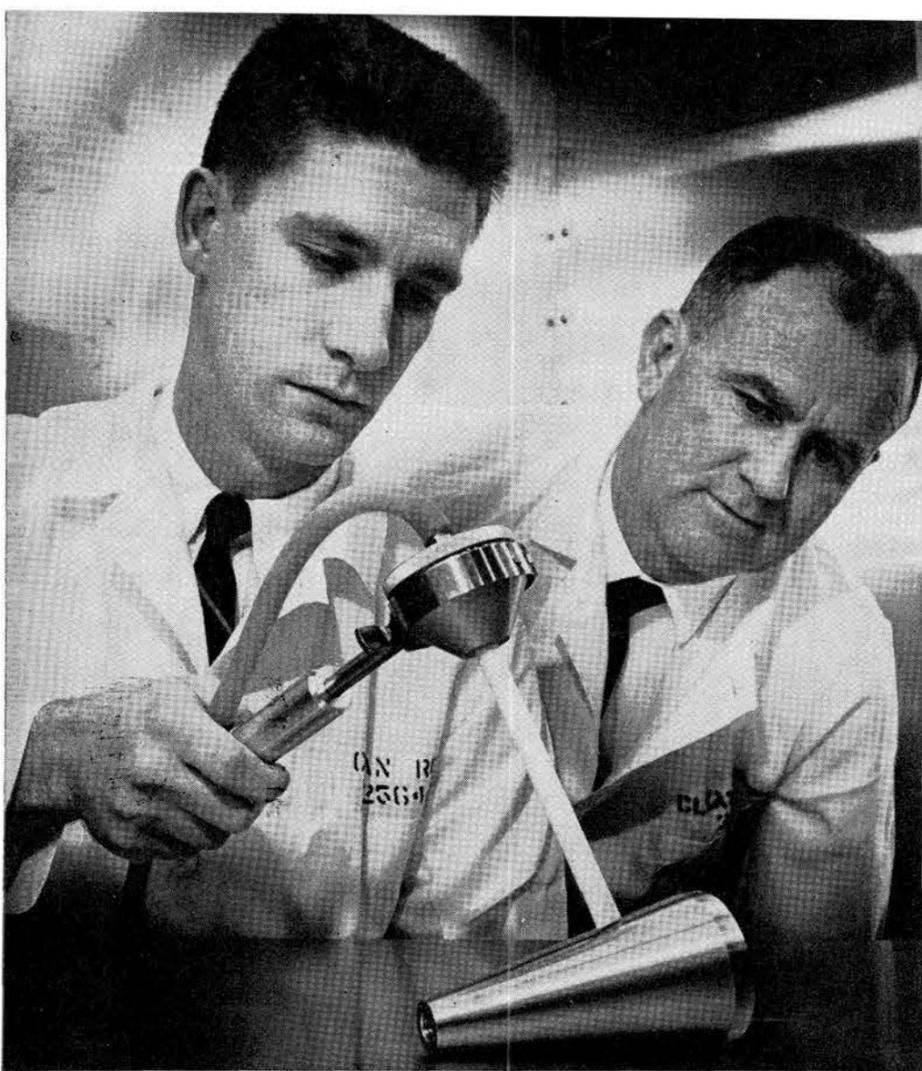
To Tom Buoye (8252) for the death of his mother in Austin, Tex., April 19.

To Carlton Scott (8146) for the death of his son in Livermore, April 16.

To Sid Wagner (8163) for the death of his father-in-law in Madisonville, Tex., April 26.

To Elaine (8161) and Hal Brint (8117) for the death of his parents and sister in an automobile accident near Socorro, N. Mex., May 13.





USING VACUUM PROBE SAMPLER to check contamination on a metal cone in a laminar flow clean room are Virgil L. Dugan, left, and Willis J. Whitfield (both 2572). Developed at Sandia, the small device removes more than 90 percent of the micro-organisms from smooth test surfaces.

New Microbial Contamination Sampling Device Developed Here

First sampling device known to be designed specifically for assaying microbial contamination on large surfaces of spacecraft hardware has been developed at Sandia Laboratory.

The vacuum probe sampler removes more than 90 percent of the microorganisms from smooth test surfaces. In addition, it also tends to break up clumps of bacteria so that bacterial counting equipment may record the individual microorganisms instead of the clumps.

Systems Support Division 2572 developed the sampler for use in ultra-clean environments, such as the laminar flow clean room. It provides a method for determining the amount of microbial contamination on spacecraft hardware, which must be sterilized before launch in accordance with planetary quarantine regulations.

Other microbiological examination methods are less desirable for estimating microbial contamination on spacecraft. For example, the swab-rinse and rinse methods have limited applications since wetting the hardware surfaces often causes rust or corrosion on metals and discoloration of paints.

Although it was developed to be used in studies at Sandia, Lawrence B. Hall, planetary quarantine officer, Bioscience Programs, Office of Space Science Applications, National Aeronautics and Space Administration, requested that the probe be used to monitor a spacecraft before launch.

At Mr. Hall's suggestion, Virgil L. Dugan (2572), designer of the device, took the sampler to NASA's Goddard Space Center last week to monitor AIMP (Anchored Interplanetary Monitor Platform) satellite before it will be launched into an earth orbit sometime this summer. Microbial contamination samples obtained from the spacecraft will be assayed by NASA personnel at Goddard.

The vacuum probe sampler consists of a piece of hollow Teflon tubing (.375-inch inside diameter), an aluminum housing for filters and a handle. Plastic tubing connects the device to vacuum pumps.

The small Teflon tube's pickup end, or orifice, is oval with small (.01 inch) cup-shaped intake holes on two sides of the oval point. Suction draws air through these two slots into the tube when the device is held on, and perpendicular to a test surface.

Bacteria are most effectively removed when the air entering the orifice reaches the peak velocity possible through the intake slots (critical orifice) with a flow rate of two cubic feet per minute. Ultrasonic energy created by the air flow through the critical orifice dislodges the micron-size particles lying on the surface.

The air stream then carries the contaminants into the filter housing where the filters trap them for bacterial counts.

The device was developed as part of the Planetary Quarantine Department's work conducted under a contract with Bioscience Division, Office of Space Science Application, NASA.

W. J. Whitfield, supervisor of Systems Support Division 2572 and the inventor of the laminar flow clean room, suggested the development of the vacuum probe. V. L. Dugan designed the device with the assistance of F. J. Oswalt (2564), J. J. McDade, Lovelace Foundation, and J. W. Beakley, University of New Mexico, assisted in conducting the evaluation studies.



Death

Claude C. Edwards, a retired Sandia employee, died suddenly May 6 in Albuquerque. He was 63.

He retired from Sandia in June 1966 after more than 13 years as an electrician in Remote Areas Maintenance Division 4518.

He is survived by his widow, three daughters, two sons and 11 grandchildren.



MILITARY APPRECIATION DAYS—Tonopah community leaders declared May 12-13 a celebration to honor military and government agencies operating in the area. Banquets, a parade, displays, and other events marked the occasion. R. A. Bice, vice president 7000, represented Sandia Corporation and accepted a citation from Ed Fike, Lt. Governor of Nevada, honoring the Company for its "vital contribution to the life of the community of Tonopah and to the defense of the nation." In the picture at left, taken by Harley Moody

New Test Area Selected for Possible Future Underground Nuclear Testing

After an intensive search in six narrow valleys in central Nevada, the Atomic Energy Commission has selected a relatively small area in the isolated Hot Creek Valley, about 70 miles northeast of Tonopah, in which to drill emplacement holes for possible future nuclear underground tests.

C. S. Selvage, manager of NTS Engineering Department 7130, and M. L. Merritt, supervisor of Underground Physics Division 7111, were Sandia representatives serving on the AEC site selection committee.

The area, selected because of its geological suitability, is about 15 miles long and five to seven miles wide and includes about 100 square miles. Virtually all of the area is government-owned. The initial emplacement hole will be drilled at a location about 11 miles northeast of the Hot Creek Ranch headquarters. The hole is to be 42 inches minimum diameter, drilled to 3050 feet and cased with 26-inch diameter steel pipe.

The central Nevada area was selected for exploration in an attempt to locate one or more sites for nuclear testing devices

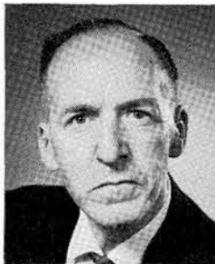
with greater explosive energy than those that can be tested at the existing Nevada Test Site.

To prove out the new area, a calibration test will be conducted, tentatively next fall, in the initial emplacement hole. The calibration test will be carefully instrumented to measure ground shock at varying distances from the test area, so as to determine possible effects of higher yield tests that could follow.

John R. Banister, manager of Molecular and Plasma Physics Research Department 5120, will be technical director of the NVO seismic program for the calibration test. H. E. Walker, supervisor of Test Systems Division 7134, will be assistant technical director.

A site on U.S. Highway 6 about 30 miles southeast of the calibration hole location and about 10 miles northeast of Warm Springs is being considered as the site for a proposed base camp for the central Nevada activities. The camp would be designed to accommodate a peak occupancy of 350 persons, with austere dormitory type housing.

Retiring



Harry K. Daniel retired from Sandia May 9. He worked more than 15 years as an instructor in Weaponry Training Department 1610.

He plans to visit his daughter in Olivehurst, Calif., and renew his acquaintance with his two grandchildren. He hasn't seen them since they were infants.

Another trip Harry has in mind is a visit with a sister in Indianapolis, Ind.

Although he owns property in both Hawaii and the Bermudas, his retirement home will be in Albuquerque which indicates his feeling for New Mexico. The address is 1000 California SE.

His main interest now, in the way of retirement activity, is keeping up with the stock market. He is a member of the Masons and plans to become active after his trips.



Helen G. Besser, secretary in Labor Relations Department 3220, will retire May 31. She joined Sandia Laboratory in January 1951 as a division secretary in cost accounting. In 1952 she was promoted to a department

secretary in the Purchasing organization and in 1955 transferred to her present position. Helen is delighted that the Sandia Retirement Plan provides a program for early retirement.

Before coming to Sandia, Helen had worked for a local insurance firm and at the University of New Mexico. She has lived in Albuquerque since 1944 when she and her family moved here from Kansas City, Mo.

Helen has a married daughter and two grandchildren living in Albuquerque. "My grandchildren are both happy about my retirement," she says, "because now I'll have more time to spend with them. I intend to play more bridge, do some knitting, take life a little easier and have the time to do all the little things I've always wanted to do."

She plans to take a trip this fall—possibly to Europe and is anticipating the arrival of travel folders and vacation information.

Promotions

C. E. Shipley (2225) to Staff Member Administrative
G. E. Loepke (1511) to Staff Associate Technical
W. K. McCoy (9231) to Staff Associate Technical
H. L. Hawk, Jr. (9234) to Staff Associate Technical
D. L. Brown, Jr. (9426) to Staff Associate Administrative
J. A. Gilbert (1132) to Staff Assistant Technical
H. Lucero (9324) to Staff Assistant Technical
Paul H. Gabaldon (4233) to Assembler
George E. Hiett (4233) to Assembler
Charles R. Peebles (4233) to Assembler
John J. Strascina (4233) to Assembler
Lorenzo Lopez (4631) to Technician
Pablo Maes (4631) to Technician
Bernie A. Montoya (4231) to Layout Technician
Glenda S. Kelly (3126) to Typist Clerk
Cecilia P. Tafuya (3415) to Mail Clerk
Ermenio C. Mata (3428) to Service Clerk
Celso F. Padilla (4333) to Property Clerk
L. E. Wilhelm (9411) to Computer Facility Operator
Timothy M. Marino (8235) to Messenger
Sarah A. Rupp (8235) to Assistant Editor
L. E. Myers (9225) to Staff Assistant Technical
R. W. Gallegos (9234) to Staff Assistant Technical
Frank Fuentes (4613) to Stockkeeper
Richard R. Romero (4513) to Helper
William M. Rego (8222) to Helper Trades

Joyce J. Tholburn (2522) to Steno Clerk
Nelle-Louise Moser (4623) to Record Clerk
Oliver W. Davis (2232) to Reproduction Service Clerk
Miguel Griego (2232) to Reproduction Service Clerk
Timothy M. Padilla (2232) to Reproduction Service Clerk
Sandra J. Harris (7521) to Typist
Silviano Chacon (4623) to Service Clerk
Gilbert Ramirez (4153) to Investigator
Herman R. Lucero (3465) to Camera Operator
Dorothy A. Smith (8156) to Secretarial Typist
Karen K. Poor (8235) to Secretary
Gayl R. Tschirter (8000) to Secretary
Danny L. Cobb (1433) to Laboratory Assistant
Kay A. Campbell (3463) to Technical Illustrator



(7232) just before the big parade, are Mr. Fike; S. A. Moore, manager of Tonopah Test Range Department 7230; William Beko, Nye County District Attorney; his son; General O. M. Barsanti, Army Material Command Comptroller and Director of Programs; and Mr. Bice. In picture at right, Sandia's rocket display at the Tonopah athletic field is inspected by Mr. Moore, Don Anderson (7231) and his son, Herb Bowen (7233), Bill Gault (7233) and his family, Frank Perusich (7232), and Mr. Bice.

Service Awards

15 Years



F. G. Armijo
4574



Arthur Bullhorse
7321



P. B. Burns, Sr.
2526



D. S. Carrick
2121



F. C. Chavez
4573



C. E. Dahl
2522



J. H. Franklin
4514



D. E. Larson
9229



R. C. Maydew
9320



T. O. Meyer
2545



E. R. Pitts, Jr.
4252



Charles Reed, Jr.
9232



L. B. Strauch
2523

20 Years



T. S. Church
1410



William Pawley
3463

10 Years

D. W. Russell 4613, J. A. Chavez 4630, J. W. Lenz 8252, Roy Palmer 4622, J. E. Taylor 9319, Sally M. Dyer 4131, J. L. Lovell 7132.

R. B. Reinman 1116, J. T. Black, Jr. 1542, Bertha R. Allen 3421, W. L. Stevens 5530, Signa O. Matthews 8245, and Judith L. Willis 2234.

Rapid Runners Ready For Rio Grande Race

Several Sandia kayak and raft enthusiasts and numerous spectators are looking forward to the 10th annual Rio Grande White Water Boat Race to be held Sunday near Pilar, N.M.

The race starts at 1 p.m. (MDT) one-half mile south of Pilar and ends 4.4 miles downstream at the Taos-Rio Arriba County Line. Since U.S. Highway 64 follows the river along this section, the race can easily be followed from the shore.

Due to low water the race was postponed from May 7. Winning times are expected to be about 35 minutes for kayaks and one hour 10 minutes for rubber rafts.

All contestants must be over 21, sign a release, wear U.S. Coast Guard-approved vest-type life jackets, and have at least one practice run on the course. Spectators must only come prepared with refreshments and promise not to snag the rafts with fish hooks.

Group Encourages Members to Arrange Funerals in Advance

"Death is an unpleasant reality, but since it is inevitable, we must recognize it will come and we must be prepared," says N. J. DeLollis (1133), president of the Memorial Association of Central New Mexico.

"One of our prime objectives is to encourage members to make arrangements for the disposition of their remains in advance and thus relieve the survivors of handling details during a period of emotional stress."

The non-profit association, which has a number of Laboratory employees on its membership roster, encourages simple, dignified funerals. It advises members of the possible ways to dispose of the remains, the costs involved for various services and the institutions interested in obtaining bodies or parts such as eyes for medical use or research.

A member, in consultation with his minister, priest or rabbi, completes his own declaration of intention which is to be fulfilled by those holding the responsibility, usually the nearest of kin. If requested, another member of the organization will assist in formulating the declaration of intention.

One copy of the completed declaration of intention is retained by the individual. Other copies are for the individual's next of kin, attorney or minister; the association's files; and the mortuary selected by the individual.

The group also has forms available for bequeathing bodies to the University of New Mexico Medical School and for donating eyes to the New Mexico Lions Eye Bank. As other "banks for humanity" are formed, the association will provide members with information.

In a survey of Albuquerque mortuaries, the association found that minimum costs are not excessive and that local funeral directors encourage pre-planning and are always available to meet with individuals to discuss costs, arrangements, etc.

J. C. Newton (1413) is vice president and R. W. Gray (1415) is treasurer of the association. Other Sandians were active in the formation of the group.

Take Note



Howard B. Shelton, supervisor of University Relations Division 3134, has been invited to be the first chairman of the newly created Gulf Southwest Section of the Continuing Education Studies Division of the American Society for Engineering Education.

The Gulf Southwest Section includes the three state area of New Mexico, Texas and Louisiana and is one of 12 geographical sections being formed.

Mr. Shelton has been a member of the CE division for the past year and has been associated with ASEE since 1963.

The new chairman of the 12 sections will meet with the CE executive board and present progress reports during the ASEE annual meeting in East Lansing, Mich., June 19-22. The sections will provide increased capability for dealing with the problems of development and identification of effective programs of continuing education for professional and practicing engineers.

George Dennis, deputy director of information for the Atomic Energy Commission's Albuquerque Operations complex, has earned the AEC's high quality performance award for writing film scripts about nuclear weapons. Mr. Dennis, a former naval officer and newspaperman, joined ALO's Division of Information in September 1957.

The Minnesota Mutual life insurance counselors for Sandia employees have moved to new quarters in the northwest corner of Bldg. 610. There is an outside door leading directly into their office.

Don Papineau (3465) was one of the instructors who recently organized the first sheriff's reserve training course for Bernalillo County. One hundred hours of instruction were given to 22 sheriff's reservists. Sandians Robert Biescher (1143), Frank Norris (4541) and William Lincoln (4511) completed the training. They will perform regular police duties during off-hours as volunteer deputy sheriffs.

SHOPPING CENTER

CLASSIFIED ADVERTISING

Deadline: Friday noon prior to week of publication unless changed by holiday.
Use home telephone numbers.
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

CARS AND TRUCKS

- '59 RENAULT CV4, \$65. Chavez, 242-6078.
- '62 FALCON, 4-dr. station wagon, new ring & valve job, \$425. Graf, 299-4366 after 5.
- '63 GMC 3/4 ton, 4-spd., 4500 miles. Paxton, 298-1594.
- '51 MERCURY 2-dr., dual carbs, racing cam, Olds valves, stroker kit, etc., needs tuneup, been sitting. \$135. DeLuca, 298-1458 or 296-4610.
- VOLKSWAGEN SEDAN, low mileage, trade for Ford Econoline truck or Chevrolet panel truck. Smitha, 299-1096.
- '61 RAMBLER Classic, 4-dr. sedan, ST, 6-cyl., R&H, OD, Weitzel, 855-9454 after 6.
- '66 MUSTANG, 6-cyl., 3-spd., 11,000 miles, blue, R&H, white walls, seat belts, flasher system, purchased Nov. '66. Mueller, 255-8292 or 299-1079.
- '62 CHEVROLET Belair 4-dr., AT, PS, 57,000 miles, R&H, Kimball, 299-5527.
- '62 FALCON 4-dr., 6-cyl., \$550. Candelaria, 344-9028.
- '66 BUICK GS, air, PB, PS, 14,000 miles, many other extras, \$2950. Pepper, 299-2459.
- '62 RAMBLER Classic 4-dr. wagon, 6-cyl., OD, \$575. Overmier, 268-4992.
- SPORTS CAR, Triumph, convertible top, sell for \$695 or trade for 4wd pickup. Hammons, 2911 Maxine NE, 296-1142.
- '61 RAMBLER wagon, PS, PB, reclining seats. Long, 256-1683 or 265-8349.
- '57 FORD station wagon, 2-dr., Thunderbird V8, ST, OD, R&H, \$275. Fjelseth, 299-4539.
- '63 CHEVY, 327 V8; or '59 Plymouth, sell or trade for motorcycle. Gallegos, 154 Chama NE, 268-0271.
- '66 TEMPEST convertible, 8000 miles, Firestone wide oval tires, take over payments, will consider trade. Padilla, 256-0701, 877-6858.
- '67 MUSTANG 390 GT. Otero, 256-6597.
- '59 CHEV. Impala, R&H, PS, PB, \$300. DeHaan, 265-4511.
- '64 CHEVY II Nova, AT, R&H, \$1050; '59 Impala, V8, AT, R&H, \$295. Tucker, 877-1140.
- '62 RAMBLER Classic station wagon, ST, radio, 10,000 miles since engine overhaul, \$550. Schellenbaum, 299-1005.
- '59 PONTIAC Safari station wagon, factory air, PB, PS, AT, R&H, \$450. Keeperts, 3608 Florida NE, 299-9217.

- '58 MGA HT, maroon color. Greory, 867-2432.
- '57 PONTIAC 4-dr., R&H, new muffler, AC, V8, \$225 cash. Johnson, 255-2846.
- '65 MUSTANG, bucket seats, R&H, \$1595; or '63 Chev. R&H, \$1095. Reed, 299-1684.
- '64 IMPALA 4-dr. HT, AT, AC, PS, 250hp engine, \$1450. Magerkurth, 299-0379.
- '62 BUICK Special Deluxe wagon, factory air, AT, radio, tire chains, book \$1020, take \$850. Karnes, 299-9033.

MISCELLANEOUS

- TOY POODLES, 6 wks. old, \$50. Schreiner, 268-4159.
- 300 SQ. FT. primed siding (Insulate), 1/2" x 12" x 16"; 1/6HP motor. Lotz, 299-2804.
- FREE KITTENS, 6 wks. old, ready to take home now, dark gray long hair. Lyrns, 268-0144.
- LARGE outside floodlamps, \$5 ea.; boy's 24" bicycle, \$10; 21" television, has picture, as is \$10. 1413 Guaymas NE. Houghton, 299-3386.
- 7 COLTS 1 and 2 yrs. old. LaBrier, 298-2835.
- FLUTE, newly reconditioned, \$65. Thayer, 1424 Hoffman NE, 299-3127.
- '61 Motorcycle, BMW, 500 cc, R50. O'Meara, 299-1080.
- '63 NIMROD Riviera camping trailer. Upchurch, 299-5062 after 5:45.
- TWO Dachshund puppies, purebred, matched coloring, both for \$37 or separately \$25 ea. Bourne, 299-0788 between 5 and 6.
- 5 YR. OLD gray gelding. Eaton, Los Lunas 636-2847 evenings.
- GAS RANGE, dbl. oven, burner w/brain, etc., 6 mos. old. Riley, 299-5868.
- 7 FT. luggage rack for VW station wagon, welded tubular frame w/oak strip flooring. May, 299-6782.
- .44 MAGNUM Ruger rifle, case, and ammo, all for \$75. Smith, 299-5060 after 6.
- 21" RCA television and stand, working, first \$25 buys it. Hughes, 299-0388.
- RIDING HORSE, gelding, about 11 yrs. old, excellent for children, \$60; four milk goats Saanen and Nubian, all good milk producers. Pierson, 282-3229.
- LADIES Spitfire bow, \$35; large barbeque grill & 3 plow seats, \$30; lg. round coffee table, lamps, \$35. Herrmann, 299-5598.
- BLOND oak dining room set, 5 straight chairs, 1 arm chair, china closet w/glass doors, extension table. Gay, 299-5625.
- STUDIO COUCH, \$15; 23" B&W Motorola console TV, walnut cabinet, \$80; 18" rotary mower, 4-cycle engine, \$15. Allen, 256-3234.
- 10" WESTINGHOUSE oscillating table fan, adjustable tilt, 0.8 amp, \$8. Murphy, 256-1130.
- STORKLINE 6 yr. crib, toe release dbl-drop sides, birch hardwood, adjustable springs, teething rails, Kant-wet mattress, \$20. Daut, 255-2529.
- 10'x12' TENT, outside frame, \$70; 49-lb. pull archery bow, \$20. Klett, 344-9021.
- SEWING MACHINE, Kenmore electric, lined oak console, w/button hole attachment, \$95. McDowell, 299-9440.
- POWER PLANT, 5KW water-cooled Onan, 100/220 volt, electric start, \$200. Hansen, 299-2337.

- POLAROID CAMERA, J66 model, has carrying case, flash attachment and color adapter. Hanna, 299-1126.
- 14' ALUMINUM BOAT, 35HP electric start motor, trailer w/winch, skis, ladder, life jackets, etc., \$495. Flowers, 282-3458.
- TV, 21" rectangular tube, Zenith B&W, blend console, just overhauled, \$35. Whitfield, 255-5129.
- HAMMOND SPINET ORGAN, 2 manual and pedal, model M2, walnut finish, bench; 3x6' folding picnic table. Maxon, 255-3134.
- FREEZER, 21' upright, \$50. Logsdon, 344-7278.
- POWER LAWN MOWER, \$20. Johnson, 255-5427.
- TRAILER HITCH for '59 Chevy, \$4. Howe, 344-4798.
- LANE walnut coffee table, \$20; tall table lamp, \$50. Bear, 298-2744.
- FREE PUPPIES, half Schipperke, half Terrier, will be small dogs, 7 wks. old. Kohl, 268-3754.
- 10" WALKER-TURNER floor model sww: rchsn saw; 6" diameter wading pool. Wenz, 299-5488.
- CAR AIR COOLER, evaporative 6-volt, Ward's model No. 61-6246, \$9. Ristine, 298-8383.
- 21" TV console, blond, w/casters, \$40; 36x80" screen door w/grill, hardware, \$5. Sundberg, 299-2177.
- RARE WHITE GUINEA PIG w/ample cage, \$4 or best offer. Shunmy, 265-1620.
- TWIN BEDS w/foam rubber mattresses, \$25; 2 sewing machines, one antique treadle type \$25, other reconditioned electric portable, \$10; reconditioned high school discus, \$5. Simpson, 298-1895.
- 9x12 SIDEROOM umbrella tent, extra sturdy outside frame, carrying case converts to 54"x40" table. Knudsen, 299-6005.
- SPEED QUEEN DRYER, \$50, and washer \$25; will sell individually or as a pair. McMaster 268-8062 after 5.
- FIVE-YEAR-OLD hackney pony w/bridle, gentle w/young children, \$75. Iverson, Los Lunas 636-2675.
- WESTINGHOUSE 2dr. refrigerator, frost free, 14', \$70; upright Hoover cleaner, \$22; baby bathinette, \$10. Browne, 344-9675.
- MOTOROLA stereo components, AM-FM tuner, pre-amp 20-watt R, amplifier, each channel; turn table can be assembled into complete system, \$100. Miller, 265-4266.
- CONTEMPORARY turquoise sofa bed w/matching chair, vinyl covers w/polyurethane cushioning, \$70. Trump, 299-5162.
- WARD'S automatic washer, \$69; RCA portable TV, 16", \$39. Kutzley, 255-3572.
- BABY CRIB and matching chest, \$40; maple settee and matching chair w/ottoman, \$150. Lowery, 299-5177.
- PORTABLE, evaporative cooler; 8mm movie camera and projector. Ezell, 296-4557.
- 8MM RIFLE, \$30; 8mm rifle w/scope, \$60 30.06 Springfield, \$50; home air conditioner, refig. type, \$110. Harrington, 282-3188.
- AIR CONDITIONER, complete, for VW '59, '60, or '61, will also fit pickups, \$65; Cable, \$800 spinet piano, ebony finish, \$390. Hagan, 296-2042.
- ROTARY POWER MOWER. Clark, 299-6410.

- REGISTERED Sorrel Quarter mare, 11 yrs., nice western riding for adults, recently used as brood mare, Palomino background, \$325. Gardner, 344-2547.
- GOLF BAG and cart, \$18; plastic pool, 10' diameter 2' high, \$5; misc. lumber; basketball hoop; girl's 26" bike; soft water conditioner; dishwasher. Chandler 296-3323.
- TENT, 9x12 wall tent w/interior frame, bought last year, used 1 time. Crass, 268-8391.
- FREE KITTENS, well trained, 1 male, 3 female, black w/white markings, born Apr. 14. Jones, 344-9393.
- RANGE, electric Hotpoint, deep well burner, rotisserie, time controls, pan storage, \$75; 7 cu. ft. refrigerator, \$15. Keen, 299-6541.
- DINING ROOM SUITE, drop-leaf table, buffet, 4 chairs, solid oak, \$75. Segrist, 295-5608.
- DINETTE w/chairs, \$35; auto, washer, \$40; dbl. bed w/box springs, mattress, dresser, mirror, \$45; gym mat 15x20', \$180; Judo gear, \$8-12. Treon, 298-1066.
- ADMIRAL DUPLEX 19 cu. ft. refrigerator, vertical doors, 36" wide, turquoise. Carillo, 268-4990 after 5 or weekends.
- FEMALE GERMAN SHEPHERD, purebred, no papers, 6 mos. old, had shots, \$35 takes dog and her house. Duvall, 299-8744.
- 30" ELECTRIC GE stove, white, \$60. Sektnan, 268-6643.
- EVAPORATIVE car cooler; Hollywood bed frame and head board; boat w/65HP motor and trailer. Wheeler, 256-6230.
- REFRIGERATOR, \$150; dishwasher, \$100; gas range, \$50; dinette, \$20; crib, mattress, \$10; chests, car bed, rollaway bed, misc. Wagoner, 298-7196.
- MOTORCYCLE, '63 Honda 150cc, \$225; '65 Ducati, 125cc, motor disassembled, \$40. Robert, 898-0491, 125 El Pueblo Rd. NW.
- WIRE HAIR TERRIER pups, \$50. Haskell, 865-9235.
- ALMOST NEW, 18,500 BTU air cond. used 1 season, \$175; Kenmore gas range, used 18 mos., \$150. Williams, 296-3504.

REAL ESTATE

- 10 ACRES tall pines, title insurance, South Hiway 10, \$2500. Lewis, 299-2322.
- NEAR BASE, 3-bdr., FR, oversize garage, workshop, carpeting, drapes covered patio, \$91/mo., GI mortgage \$300 down. Johnson, 298-8514.
- 4-BDR., 1 1/2 bath, den, laundry rm., hobby shop, garage, walled yard, 10516 Lexington Av. NE. Gladis, 299-7729 after 5:30.
- 4-BDR., 1 1/2 baths, attached garage, \$1100 full equity. Towne, 299-2982.
- CABIN, 12'x28' w/pitched roof, aluminum windows, primer painted, and set on your lot or mine, will trade. Villella, 298-7955.
- 3-BDR. HOUSE w/den, new carpet throughout, fenced back yard, AC, near Bases, schools, 525 Rhode Island SE, \$11,750. Downs, 296-4710.
- LARGE MOUNTAIN HOME, 3-bdr., FR, LR, dbl. fireplace, cathedral ceilings, 17x23 rec. rm., heavy wooded 3/4 acre, trades considered, \$27,500. Souther, 282-3841.
- 3-BDR., 1 1/2 bath, carpet, built-in stove, utility rm., landscaped, near base & golf course, 5 mins. to Winrock, \$14,500. Davis, 299-0297.

- ROBERSON 3-bdr. and FR, 4 1/2 GI Loan, \$96 mo., \$14,500, 10913 Elvin NE. Campbell, 299-9195.
- 3-BDR., large kitchen, fenced, landscaped, \$1000 assumes \$87/mo. FHA loan payments, open house 12 to 6 p.m. on Sat. and Sun. Stomp, 298-3824.
- ALTURA ADDITION, 2-bdr., walnut paneled den, carpet throughout, near UNM and shopping centers, assume low FHA. McCulloch, 255-1277.
- 3-BDR. BRICK, 1 1/2 bath, 1008 Kentucky SE, \$1250 for equity and assume 5 1/4% FHA loan. Bush, 265-7087.
- 3-BDR., den, large yards, 3 doors to school, \$450 down, \$101/mo. Bouton, 299-5591.
- 3-BDR., lg. den, hw/floors, 2 fireplaces, SE heights near UNM, landscaped, selling for FHA appraisal. Miller, 256-6020 after 6.
- 5-BDR. BRICK, lg. den, 3 baths, very near schools-shopping, etc. kitchen, dbl. garage, two fireplaces, shake shingle roof. Goodman, 299-3652.

FOR RENT

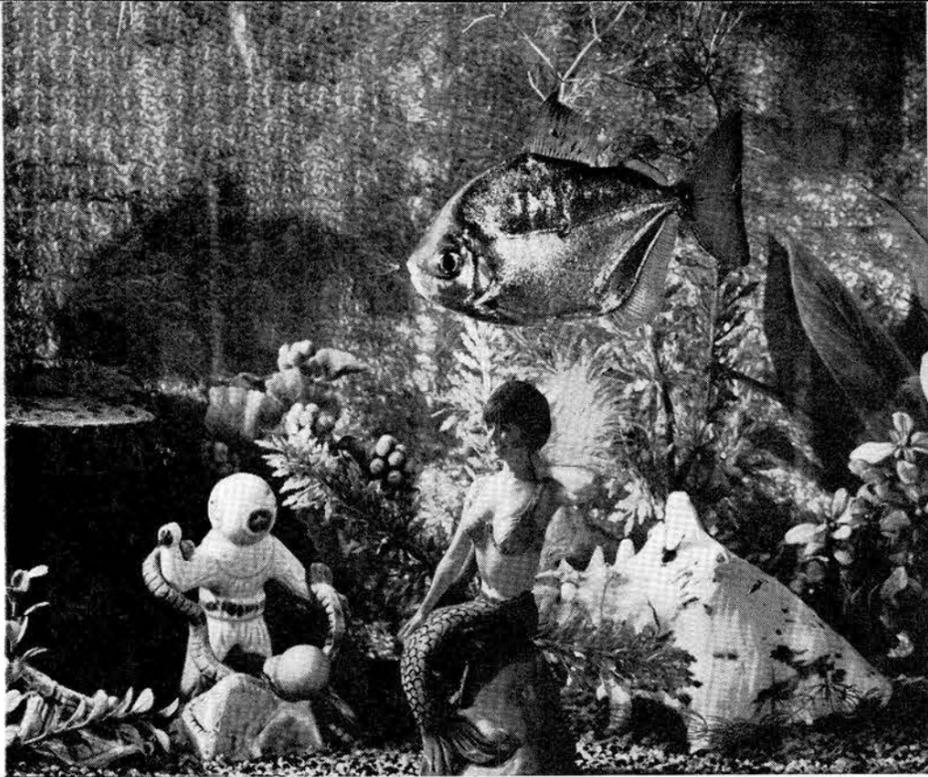
- TRAVEL TRAILER, 15', sleeps five, propane stove, oven, light; reserve now for summer vacation, \$30 per week. Colp, 268-8035.
- MODERN 1-bdr. furnished apt., electric kitchen, nylon carpets, AC, storage rm., 10104 Comanche NE, \$95. Stone, 298-4620 or 265-0786.
- 3-BDR., FR, LR&DR, carpet, drapes, brick, roofed patio, landscaped, close to Fair Plaza and schools, available July 1. Sektnan, 268-6643.
- EFFICIENCY APT., utilities paid, 1311 Truman SE, near Base, \$55/mo, being renovated, ready for occupancy by June 1. Balfour, 265-4677.

WANTED

- SMALL CONCRETE MIXER with or without electric motor. Spoon, 299-8580.
- K AND E surveyors transit. Spacer, 299-0211.
- TRAILER LOT in East Alb. or Tijeras Canyon area, or will trade 2 acres in Belen. Write Arnold, P. O. Box 7434, Alb.
- SWAMP COOLER, 2-spd., down or side draft. Longfellow, 299-7062.
- SWING SET or child's climbing tower. Peterson, 256-7514.
- RENT a garage by month to park outboard motor boat, 16 ft. long. Pajunen, 265-6506.
- RENT pickup camper for sleeping five adults, for week of June 18. Weinmaster, 298-1620.
- 45 RPM records, popular or semi-classical. Davis, 344-7968.
- HOME for 2 kittens, 6 wks. old, mostly black. Farmer, 296-1774 evenings.
- HOME for small dog (Pekinese-Chihuahua mixture), less than 6 mos. old, loves children. Hammons, 2911 Maxine NE, 296-1142.
- ALUMINUM screen door, redwood patio furniture, Zoyzia grass. Chandler, 296-3323.

LOST AND FOUND

- LOST—Airline tickets, lady's white sweater, Cross chrome ballpoint pen, prescription sunglasses w/white frames & gold trim in case, Polaroid sunglasses, man's dark blue sweater. LOST AND FOUND, tel. 264-2757, Bldg. 610.
- FOUND—Key, prescription glasses, SC 10-yr. pin, gold drop earring. LOST AND FOUND, tel. 264-2757, Bldg. 610.



SOMETHING FISHY here to plug to the Coronado Club's Fisherman's Wharf event Saturday, May 27. After spending an aquatic day in the twin pools, top it off with a seafood buffet and dancing to Don Lesman. Social hour starts at 6 p.m., dinner at 7 and dancing at 9. The mermaid is Connie Rey (3153).

Coronado Club Activities

Fisherman's Wharf Event May 27



NEW MANAGER of the Coronado Club is Hubert Pée. He and the assistant manager, Alan Romans, will be presented at an introductory party Monday, May 22, from 6:30 to 10 p.m. All employees are invited.

Szabo Food Service Names New Manager For Coronado Club

Hubert Pée is the new manager of the Coronado Club. He was transferred here May 1 by Szabo Food Service Inc., Coronado Club concessionaire, from Chicago where he was manager of the International House at Chicago University.

It was a big event for Mr. Pée. He had just received his U. S. citizenship. He is a native of South Africa. Prior to coming to the U. S. in 1961, he owned his own restaurant in Umkomaas, Natal, for five years.

He had managed a club and restaurant for an oil company in the Persian Gulf area for a number of years and grown used to sandstorms. His arrival in Albuquerque was like old times. He likes the Southwest and wanted to work in this area since coming to the U.S.

Mr. Pée says that he has been in food service "all his life" and will concentrate on this area at the Coronado Club. He was chef in the Royal Air Force for five years prior to the Persian Gulf assignment.

Newly-appointed assistant manager at the Club is Alan Romans who recently joined the Szabo organization. Since 1960, he has managed dining rooms and supper clubs in Albuquerque. He has been in food service seven years. He is currently attending the University of New Mexico majoring in business administration.

All employees are invited to attend an introductory party for the new executives in the Club ballroom Monday, May 22, from 6:30 to 10 p.m.

A Fisherman's Wharf event featuring a special seafood buffet Saturday, May 27, tops the Coronado Club calendar for the next two weeks. Listed on the menu are Coney Island clam chowder, white fish mornay, shrimp creole with rice and deep fried haddock.

The party schedule calls for a social hour from 6 to 7 p.m., the buffet from 7 to 8:30 and dancing to Don Lesman's band from 9 p.m. Tickets are \$3 for members, \$3.50 for guests. Tickets must be picked up by 9 p.m. Friday, May 26, at the Club office.

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Teenage Go-Go

"The Groove" will be on the bandstand tomorrow evening for the Teenage Go-Go event. Dancing is scheduled from 7:30 to 10:30 p.m. Member parents should pick up tickets (25 cents each or 50 cents for guests) by 5 p.m. tomorrow at the Club office.

* * *

Patio Party

The fun continues in the patio area on Saturday, June 3, from 4 to 8 p.m. with music, hors d'oeuvres and social hour prices. The dress is informal (bikinis preferred) and there is no admission charge. Members only.

* * *

Social Hours

Tonight, Rex Elder will be on the bandstand and the Mexican buffet will be served. The spread is \$1.25 for adults, \$1 for kids.

On Friday, May 26, break a fortune cookie at the Chinese food buffet. Bud Fisher will make the happy music.

Something new will be offered for social hour Friday, June 2. An Indian buffet will be served featuring curry and rice, fried fish and chips, and cheese blintzes. Phil Graham will be on the bandstand for social hour. Pat Reich will be at the piano in the main lounge from 8 p.m.

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Bridge

Monthly master point duplicate bridge will be played Monday, May 22, at 7 p.m. and the regular duplicate bridge meeting is scheduled Monday, May 29. Ladies bridge will meet at 1:15 p.m. Thursday, June 1.

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Club Holiday

While the pools and patio areas will be open during Memorial Day, May 30, the regular club facilities will be closed.

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Swim Team Family Picnic

A potluck picnic and swimming party will be held Sunday, May 21, at the Club patio from 1 to 4 p.m. for all families interested in AAU competitive swimming and diving. Come out and meet the coaches. For additional information, call E. T. Schreiner (2545), tel. 264-3634.

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MAY 19, 1967

SANDIA LAB NEWS

Coronado Club Twin Pools Open Swim Season at 10 a.m. Saturday, May 27

Swim season starts at the Coronado Club Saturday, May 27, with a gala opening celebration at the twin pools and newly enlarged patio area. The fun starts at 10 a.m. Special prices on refreshments will be in effect from 1:30 until 4:30 while Mike Michnovicz, strolling troubador with accordion, entertains. Swimming tickets are not required for opening day, but Club members only are invited.

During the remainder of the summer, the pools will open at 9 a.m. for swimming instruction. Recreational swimming will be from 11 a.m. until 7 p.m. The north pool will be used by adults only during the noon hours and by the swim team from 6 to 7:30 p.m. Both pools will be available for private rental by members from 7:30 to midnight.

Family season tickets for continuing members are \$5. For a continuing member individual, the season ticket costs \$2.50. For non-continuing members, the family season ticket is \$28 and the individual adult is \$8. (A continuous member is one who has been a member continuously since Sept. 1, 1966, or a member since 90 days after eligibility in the case of new employees.)

Instruction will be offered for beginning, intermediate and advanced swimmers. Competitive swimming and diving classes will be offered, and both junior and senior life saving courses will be taught. The group lessons are \$5 per person for 12 sessions. Private instruction costs \$3 for each half-hour session. Children must be five years of age for group instruction. One class for pre-beginners (four year olds) will be offered.

Additional information on class schedules and swim team activities is available at the Club office.



MARY ANN BISHOP (4332) anticipates opening of the Coronado Club pools Saturday, May 27. The fun starts at 10 a.m. with recreational swimming and sunbathing in the new patio area. Entertainment and special prices on refreshments are planned for the afternoon.

Sandia Speakers

E. P. EerNisse and Richard Holland (both 5142), "On the Sinusoidal Steady-State Characteristics of Multielectroded Piezoelectric Devices," Frequency Control Symposium, April 24-26, Atlantic City, N.J.

B. M. Butcher (1141) and D. E. Munson (1143), "The Application of Dislocation Dynamics to Impact Induced Deformation under Uniaxial Strain," Battelle-Seattle-Harrison Colloquium on Dislocation Dynamics, May 1-6, Seattle.

John Matsko and R. A. Lefever (both 5154), "Transparent Yttrium Oxide Ceramics," Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science, April 29-May 3, Tucson.

M. J. Landry (9232), "Holography and Its Application," Southwestern Conference for the American Association of Physics Teachers, April 15, Indiana College, Pa.

H. S. Levine (5234), "High-Temperature Metallic Oxidation," seminar at AeroChem Research Laboratories, April 10, Princeton, N. J.

R. O. Brooks (7341), "Shock Simulation," Florida Chapter meeting, Institute of Environmental Sciences, April 8, Winter Park, Fla.

H. D. Sivinski (2570), "Planetary Quarantine Program," UNM Naval Reserve Research Group, April 19, Albuquerque.

J. D. Shreve (7112), "Excavation with Nuclear Explosives," Downtown Lions Club, April 25, Albuquerque.

C. S. Johnson (7252), "ESP Past and Present," Heights Optimist Club, May 3, and English class, Van Buren Jr. High, May 4, Albuquerque.

D. R. Morrison (5256), "Computing," science class, Holy Rosary School, May 3, Albuquerque.

T. B. Sherwin (3430), "Public Relations Today," civics classes, Wilson Jr. High, May 4-5, Albuquerque.

H. R. Shelton (3134), "An Engineering Team Concept," civics class, Cleveland Jr. High, May 4, Albuquerque.

G. W. Hughes (7224), "Mathematics," civics class, Cleveland Jr. High, May 4, Madison Jr. High, May 12, Albuquerque.

L. B. Smith (5241), "Meteorology as a Career," civics class, Cleveland Jr. High, May 4, Albuquerque.

A. D. Smaller (2563), "A Cost Improvement Program Without a Profit Motive," national conference, American Society of Tool and Manufacturing Engineers, April 24-28, Chicago.

D. W. Ballard (2564), "Recent Advances in Contamination Control for Industry and Medicine," Amarillo Chapter, American Society of Civil Engineers, May 8, Amarillo.

F. W. Oswalt (2564), "One Year's Experience with the Solvent Purity Meter," American Association for Contamination Control, May 16, Washington, D.C.

R. T. Meyer (5234), "Chemical Reaction of Excited Iodine ($^{2}P_{3/2}$) Atoms with Methyl Iodide Studied by Time Resolved Mass Spectrometry," (invited paper for symposium on reaction mechanisms) and with L. S. Nelson (5234), "Mass Spectrometry of Gases Associated with Explosions of Burning Zirconium Droplets," 15th Annual Conference on Mass Spectrometry and Allied Topics, May 14-19, Denver.

E. L. Hollar (1123), "A Process Control for Ion Plating and Glow Discharge Cleaning," Rocky Mountain Section of the American Vacuum Society Symposium, May 11, Boulder, Colo.

Sandia Safety Signals

Memorial Day

In the past 20 years in the United States, more than 9,000 persons have been killed by automobile accidents on Memorial Day holidays, an average of 455 deaths per year. The holidays have varied from one to four days for a total of 50 days, or an average of 173 deaths per day. Don't be one of the people we will memorialize next year!

Carbon Monoxide in Trailers and Campers

If your family rides in your camper body or if you own a trailer and worry about the accumulation of carbon monoxide, the Mine Safety Appliance Company has a device for detecting this gas in confined areas. The kit comes complete with instructions, color chart and 10 ampuls for about \$1.50.