



KITE-LIKE, a Para-Foil is launched by Division 9324 personnel during a test in Coyote Test Field. The system when tethered with a cable provides a stable "sky-hook" for instrumentation cables. In free flight, the Para-Foil is combined with an automatic homing system which brings rocket payloads down to a ground station transmitter.

## Para-Foil Provides Stable 'Sky-Hook' Plus 'Homing' Rocket Recovery System

Guiding a rocket payload from an altitude of 100,000 feet and providing a "sky-hook" from which to hang cables are goals soon to be realized by men of Rocket and Recovery Systems Division 9324.

A device called a Para-Foil has brought both these goals within reach. More a glider than a parachute, the Para-Foil resembles an airplane wing when extended. It can be packed in a space roughly nine inches in diameter and 18 inches long. It weighs from 10 to 12 pounds.

The all-nylon Para-Foil maintains its shape by ram air pressure. The upper surface has an airfoil curve and is joined to the lower surface by a series of vertical fabric walls that run from the front to the back. These form parallel constant-width compartments.

Air enters the open mouth of each of these compartments and flows through the wing to exit through a small vent in the trailing edge. It is this air which keeps the Para-Foil inflated.

With its unique design, the Para-Foil can glide a greater distance horizontally than it falls vertically. (A parachute drops three or four feet for every foot of horizontal glide, whereas a Para-Foil glides three or four feet for every foot of vertical drop.)

Para-Foils can be made in various shapes and sizes. Sandia is currently experimenting with shapes up to 22 feet long and 8.4 feet wide with total wing surface area of 184 square feet.

At Tonopah Test Range, Para-Foils have been successfully tested with a Sandia-designed control system which "homes" the device to a recovery station transmitter. The airborne control system is basically a receiver, a directional reference system which uses a ground station signal, and two servo-mechanisms which automatically exert pressure on shroud lines as directed by the reference control.

The homing system and the Para-Foil have been successfully tested in air drops at Tonopah and at Coyote Canyon Test Field. Some development work remains, but W. B. Pepper, Jr. (9324), Para-Foil project leader, is confident that the system will provide a very useful recovery system for rocket payloads.

"It is an extremely stable system," Bill says. "Unlike parachutes, the high lift-to-drag ratio of the Para-Foil enables it to

maneuver effectively in high winds. Eventually, we will have a system which can descend from 300,000 feet with a 150-pound payload and home in on a ground station."

Meeting the second goal—that of providing a "sky-hook"—has also been successfully demonstrated at Tonopah and at Coyote Test Field. In this application, the Para-Foil is flown like a kite. It can be launched in as little as a five-mile-per-hour wind. It climbs rapidly at about an 80 degree angle to the end of its anchoring cable and "flies" steady—no pitch, no roll, and no wavering in altitude. With proper balancing weights, the Para-Foil is stable in winds up to 40 mph.

(Continued on Page Four)



A SCROLL expressing appreciation for service to Sandia during his three years as Director of the Division of Military Application, AEC, was presented to Brig. General D. L. Crowson (left) during a recent visit. The award, presented on behalf of Small Staff by Vice President C. W. Campbell, depicts several Sandia activities of major interest to DMA.

# SANDIA LAB NEWS



VOL. 19, NO. 13, JUNE 30, 1967

SANDIA LABORATORIES

ALBUQUERQUE, NEW MEXICO  
LIVERMORE, CALIFORNIA

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

## Variable Annuity Option

# Units Affect Retirement Income

Every six months, the SANDIA LAB NEWS will publish a listing of variable annuity unit values. These values reflect the month-by-month condition of investments made by Prudential's Variable Annuity Account.

January '67	\$1.388
February	1.389
March	1.493
April	1.508
May	1.587
June	1.669

### The Variable Unit & Retirement Income

The unit values are used (1) to determine the income of the retired employees who have selected the variable annuity option and (2) to determine the number of units to be credited annually to the accounts of active, participating employees.

Variable annuity units are simply credits. These credits are accrued or accumulated in each employee's account in the variable annuity portion of Sandia's Retirement Income Plan.

The more units (credits) that an employee has in his account when he retires, the higher his retirement income will be. During retirement, each month's unit value is multiplied by the number of units in the employee's account, then that figure is divided by 12 to determine that month's income. For example, if a retired employee has 1200 units in his account, in January 1967 he would receive an income of \$138.80 from the variable annuity portion of the plan (plus his fixed annuity income):

$$1200 \text{ (units)} \times \$1.388 \text{ (unit value)} = \\ \$1665.60 \div 12 \text{ (months)} = \$138.80.$$

### Accumulating Units

When the variable annuity portion of the Retirement Income Plan was introduced earlier this year, employees were given the option of converting 25 or 50 percent of accruals in the existing fixed annuity plan to the variable annuity portion of the new plan. This conversion will take place over a five-year period with each employee having units credited to his account each year according to the amount being converted and the average of that year's variable annuity unit values. For example, if an employee selected 50 percent conversion and had accrued \$2000

in the earlier plan, 50 percent (\$1000) would remain in fixed annuity and 50 percent (\$1000) would be converted to variable annuity units at the rate of \$200 per year for five years. Assuming an average variable annuity unit value of \$1.50 in 1967, 133 units would be credited to the employee's account at the end of the year:

$$\$200 \text{ (amount being converted)} \div \$1.50 \\ \text{(unit value)} = 133 \text{ (annuity units).}$$

### Annual Increase of Units

Each employee who selected the variable annuity option (whether or not he selected conversion of accruals) will have units credited to his account each year. The number of units to be credited is determined by the amount of retirement annuity accrued that year and the average of the year's variable annuity unit values. Using the Retirement Plan's formula of one percent of the first \$3000 and two percent of the balance, an employee earning \$10,000 will accrue \$170:

$$1\% \text{ of } \$3000 = \$30 \\ 2\% \text{ of } \$7000 = \$140$$

$$\text{Total} \quad \$170$$

Of this total, fifty percent (\$85) goes to fixed annuity and fifty percent (\$85) to variable annuity. Assuming that the year's average of unit values is \$1.50, the employee will have 56.66 units credited to his retirement account:

$$\$85 \text{ (accrued funds)} \div \$1.50 \text{ (average} \\ \text{unit value)} = 56.66 \text{ (annuity units).}$$

Of the 7939 Sandians on roll, 6576 selected the variable annuity option and 5653 decided to convert a portion of their accruals from the earlier plan.

A statement of retirement accruals as of December 31, 1966, will soon be issued, and, beginning next spring, employees will receive an annual statement advising them of the number of units they have accrued. Additional information may be obtained from Employee Benefits Division 3122.

## Second Supervisor Chosen For WE Management Training Program in New York



C. Richard Andes (4161) will report to Western Electric Company in New York City July 9 to become the second Sandian to attend WE's Management Training Program.

The five-month program of general management training is offered to a select group of high-potential men. To date, 376 supervisors have participated in the program. (R. J. Blount, 3120, was Sandia's first participant.)

The subject areas include personal development, labor relations, administrative policies and practices, business in the American economy, managerial controls, management science, and public affairs-community relations.

Although the training provides a solid base of knowledge, skill and values on which to construct a management career, the program also recognizes that growth and development are continuous processes.

Dick has been with Sandia nine years and has worked in each of the four departments in the Comptroller organization. He was promoted to section supervisor in Cost Accounting in November 1961 and to supervisor of Accounting Systems Division in January 1965.

He has Bachelor's and Master's degrees in business administration from the University of Oklahoma and worked as an auditor for the school while doing graduate study. His experience also includes three years as an auditor for the U. S. Army Audit Agency in San Antonio, Tex.

## Editorial Comment

Due to the classified nature of our work, it's sometimes difficult to know which Sandia activities we can discuss with our family and friends. One regular and safe source of "cleared" topics is the SANDIA LAB NEWS. In fact, making the bi-weekly paper available to family and friends will help develop a better understanding of our research and development efforts.

Some of the articles may seem a bit technical to those not working in our laboratory environment, but these "technical" articles reflect the complexity and magnitude of our work.

In addition to these articles and pictures of people, projects and equipment, there are "off-job" stories that may be of interest. Since early May, for example, LAB NEWS articles have discussed experiences of a Peace Corps volunteer (on Sandia leave) in East Pakistan and Iran, goals of the local Economic Opportunity Board, membership in Mensa, available Federal aid for college students, activities of the Corrales Community Theatre, work of the State Parks Commission, Judo, the Albuquerque Rose Society, mountain climbing in Mexico, life in Morocco, locating water with a divining rod, and the many activities at the Coronado Club.

Although the paper is written and published for employees, others may find it interesting and informative. Why not take your copy home?

## Retiring



John G. Peterson, Jr., retires from Sandia today. He joined the Company in February 1952 in the General Stores organization. He has worked in Packaging, Production, and since 1960, PT/Gage Programming & Spares Provisioning Section 2522-1 as a property clerk. Before coming to Sandia, John worked for 13 years at Abbott Laboratories in Waukegan, Ill.

Following his retirement, John will continue to live in Albuquerque at 1223 Dorothy NE. Both of his children live here and he has one grandchild.

John's plans include trips to visit with his two sisters—one in Phoenix and one in Waukegan. "And now that I'll have time to enjoy it," he says, "I'll do more gardening and fishing."

\* \* \*



James (Jack) C. Hart retires the end of July with more than 18 years at Sandia Laboratory. He is currently manager of Materiel Redistribution Marketing and Shipping Department 4620. Jack has served the Company in many organizations; his first assignment in May 1949 was to organize the Inspection group. He worked in Project Liaison, was division supervisor in Labor Relations, Assembly Division and Audit Division.

During 1951-52, he attended an eight-month training course in Management and Labor Relations at Western Electric Co. Headquarters. He has been a department manager in Labor Relations; General Stores, Motor Pool and Labor; Maintenance; and has been in his current job since 1963.

Before coming to Sandia, Jack was president, director and general manager of a manufacturing firm with locations in Ohio and Texas.

Jack and his wife, Goldie (a former Sandian), will "start retirement with a bang," he says. "We have a new home under construction and this will keep us occupied for the next few months. We'll take a vacation following completion of the house," Jack says, "and in the future do some traveling as the spirit moves us. During the winters, we may leave Albuquerque for a warmer climate."

Mr. and Mrs. Hart have two married sons and three grandchildren. One son lives in Burlingame, Calif., and the other in Dallas, Tex.

"I expect to devote some time to hospital work or to some organization where I am needed or might be of assistance."



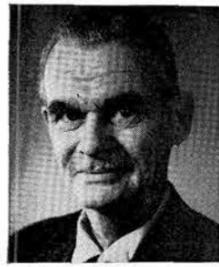
Lorraine W. Torres of Security Information & Education Division 3244, will retire today. She was employed by Sandia Laboratory in October 1955. Her work has been associated with document control and for the past

five years she has been a document inventory clerk. Before coming to Sandia she had worked at various periods since 1939 at the Bernalillo County Clerk's office.

Lorraine's husband, Joe (3242), will retire in January 1969 and until then she is going to "catch up," rest and relax. "I'm going to play golf, swim every day, play bridge, sew and just enjoy everything," she says.

Joe and Lorraine have two married sons—one living in Albuquerque and one in Phoenix—and seven grandchildren. "We'll make an occasional visit to Phoenix and a few other short trips," Lorraine says, "but will make no permanent plans until after Joe's retirement."

\* \* \*



M. Tom Muzzey, Survey Division 2414 of Measurement Standard Development Department, retires from Sandia June 30. Before coming to the Laboratory in 1948, Tom had taught school—high school and university level, had worked for the University of California in New York City on a Navy project, and for 17 months worked at Johns Hopkins Applied Physics Laboratory where his supervisor was Paul J. Larsen. Mr. Larsen later became the first director of Sandia while it was a branch of Los Alamos Scientific Laboratory.

Tom became interested in Sandia through Mr. Larsen and in October 1948 joined the Company's training organization. He worked in the programs of general orientation for new employees and technical orientation for engineers. In December 1957 he transferred to the Primary Standards group where he wrote instrument calibration procedures. In 1964 he transferred to his present position where his work has been analyzing AEC standards and calibration system technical audits.

Mr. and Mrs. Muzzey have planned a leisurely four-month-trip following his retirement. They will travel through Canada and New England "to see and enjoy what we'd missed on earlier hurried trips."

PAGE TWO

JUNE 30, 1967

SANDIA LAB NEWS

## Sandia Laboratory Sponsors Organic Crystals Symposium

Final arrangements are being made for a Symposium on Excitons, Electrons and Holes in Organic Crystals to be held July 13-15 in Santa Fe. The symposium is sponsored by Sandia Laboratory.

Chairman of the organizing committee is R. G. Kepler, supervisor of Physics of Organic Solids Division 5213, which is the Sandia group that has gained national reputation for its research related to radiation effects in organic materials. He has been assisted on the committee by A. C. Switendick (5213), Peter Avakian of E. I. DuPont de Nemours, Wilmington, Del., and R. M. Hochstrasser of the University of Pennsylvania.

Included in the program are five invited papers and 23 submitted papers. One of the invited papers, "Frenkel and Wannier Spin Excitons," was written by Zoltan Soos, Princeton University professor, who is working at Sandia Laboratory this summer in Division 5213. Presentations will be in the fields of singlet and triplet excitons, generation and transport of charge carriers, magnetic excitations, and radiationless transitions.

Sandians presenting papers are: Mr. Kepler, "Photoionization of Excitons in Anthracene"; R. C. Hughes, "Evidence for Wannier Spin Excitons in Charge-Transfer Complexes"; G. C. Smith and Mr. Hughes, "Magnetic Field Effects on Triplet-Triplet Interaction in Anthracene"; and Mr. Switendick and Mr. Smith, "Time and Temperature Dependence Studies of Triplet Phosphorescence." All are in Division 5213.

"We decided to limit the conference to 50 persons," Mr. Kepler says, "in order to encourage open discussions of an informal type. In this way we hope to have maxi-



TECHNICAL PAPERS are reviewed by R. G. Kepler (left) and A. C. Switendick (both 5213) prior to the Symposium on Excitons, Electrons and Holes in Organic Crystals to be held in Santa Fe, July 13-15.

imum interaction among the participants."

The sessions will be held at Bishop's Lodge, northeast of Santa Fe. Planned activities include a tour of Los Alamos Scientific Laboratory and Bandelier National Monument on Thursday, and attendance at the Santa Fe Opera on Friday evening. Arrangements for the symposium have been coordinated by John A. Garcia (3433).

## Authors

R. G. Kepler (5213), "Photoionization of Excitons in Anthracene," May 29 issue, PHYSICAL REVIEW LETTERS.

M. J. Norris (5260) and R. D. Driver (5262), "Note on Uniqueness for a One-Dimensional, Two-Body Problem of Classical Electrodynamics," April issue, ANNALS OF PHYSICS.

L. V. Rigby (2152), "Results of 11 Separate Maintainability Demonstrations," May issue, IEEE TRANSACTIONS ON RELIABILITY.

W. B. Estill, M. M. Robertson and G. H. Conrad (all 1122), "Electron Microprobe and Electron Diffraction Analysis of Surface Replica Extractions," April issue, REVIEW OF SCIENTIFIC INSTRUMENTS.

Bruno Morosin (5151), "The Crystal Structure of Diaquobis (acetylacetonato) Magnesium (II)," February issue, ACTA CRYSTALLOGRAPHICA.

R. R. Prairie (2153), "Probit Analysis as a Technique for Estimating the Reliability of a System Composed of Several Identical Components in Series," May issue, TECHNOMETRICS.

J. W. Reed (7111), "Some Notes on Statistical Winds Aloft Forecasting," April issue, JOURNAL OF APPLIED METEOROLOGY.

R. P. Pardee (1133), "Moisture Depend-

ence of Silver-Graphite Brushes in Air, Nitrogen, Helium, and Carbon Dioxide," May issue, IEEE TRANSACTIONS ON POWER APPARATUS AND SYSTEMS.

O. M. Stuetzer (1420), "Piezoelectric Pulse and Code Generators," April issue, IEEE TRANSACTIONS ON SONICS AND ULTRASONICS.

R. C. Maydew (9320) and J. B. Kyser (9321), "Hypervelocity Wind Tunnels," McGraw-Hill ENCYCLOPEDIA OF SCIENCE AND TECHNOLOGY.

G. J. Simmons (5612), "A Diethantone Problem," April issue, AMERICAN MATHEMATICAL MONTHLY.

B. M. Butcher (1141), "Spallation in 4340 Steel," March issue, JOURNAL OF APPLIED MECHANICS.

R. O. Brooks (7341), "Generating Specified Shock Pulses," April issue, INSTITUTE OF ENVIRONMENTAL SCIENCES JOURNAL.

E. H. Beckner (5142), "A Pulsed, High Intensity Source of Soft X-rays," April issue, REVIEW OF SCIENTIFIC INSTRUMENTS.

E. P. Eer Nisse (5142), "Resonances of One-Dimensional Composite Piezoelectric and Elastic Structures: Electrode Mass-Loading Effects," April issue, IEEE TRANSACTIONS ON SONICS AND ULTRASONICS.

J. E. Hesse (5154), "Melting Point and Index of Refraction Data for n-Alkyl Bromides, Thiols, and Disulfides," 1967, No. 2, JOURNAL OF CHEMICAL AND ENGINEERING DATA.

## Award and Papers at Radiation Effects Meet

Four technical papers based on work at Sandia Laboratory will be presented during the 1967 IEEE Annual Conference on Nuclear Space Radiation Effects to be held July 10-14 in Columbus, Ohio.

In addition, B. L. Gregory and H. H. Sander, both Transient Effects Division 5212, will be honored during the Wednesday morning Awards Session for their paper, "Transient Annealing in Semiconductor Devices Following Pulsed Neutron Irradiation," which was voted the outstanding paper presented during the 1966 conference.

During one of the regular sessions, the two Sandians will present an expanded version of the earlier article entitled "Injection Dependence of Transient Annealing in Neutron Irradiated Silicon Devices."

Other Sandians and their papers are: C. W. Gwyn and J. L. Wirth (both 5212), "The Analysis of Radiation Effects in Semiconductor Junction Devices";

L. D. Posey (7113), "Electron Environment of the Sandia 2-Mev Field Emission Febetron";

J. A. Halbleib (7113), "Neutron Spectroscopy by Foil Activation in Radiation Effects Studies."

## SANDIA LAB NEWS



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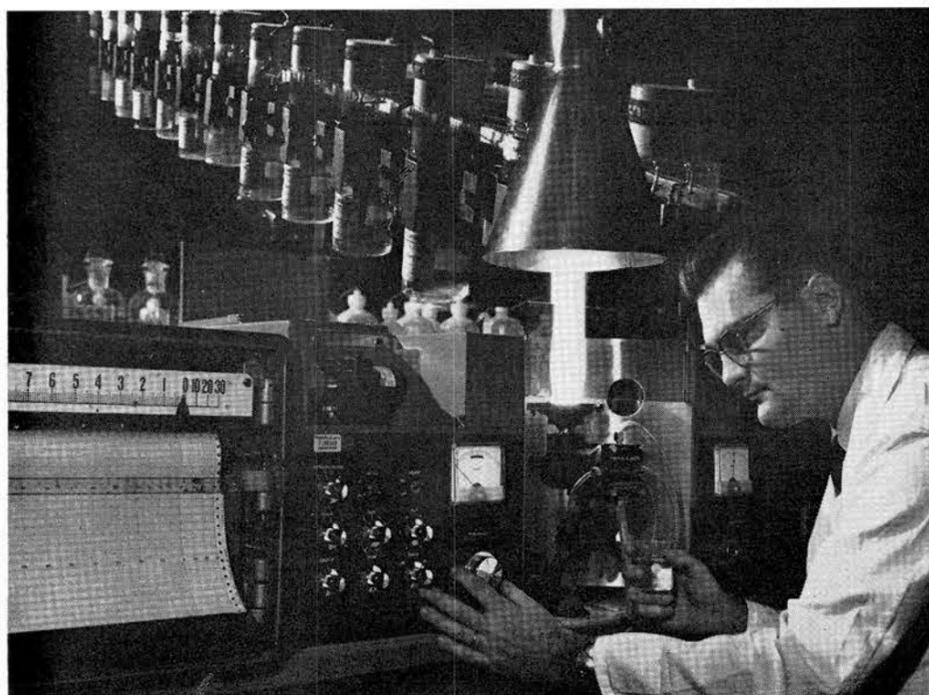
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# LIVERMORE NEWS



SPECTROPHOTOMETER ANALYZES SOLUTION to determine amount of aluminum contained in liquid sample. H. C. Feemster (8133) is making the analysis. Spare hollow cathode lamps (top center) give the instrument the capability of analyzing 60 or more elements.

## New Spectrophotometer at Livermore Eases and Speeds Chemical Analysis

Livermore Laboratory chemists can now determine the concentration of metals in solution to the parts-per-million range in a matter of minutes.

A newly-acquired instrument—an atomic absorption spectrophotometer—makes this possible. Previously, such analyses took hours or even days using the time-consuming and tedious methods of wet chemistry or conventional flame photometry.

In flame photometry, it is estimated that only three percent of the atoms available in a solution are used for analysis. Atomic absorption, however, uses over 95 percent of the available atoms.

Atoms of an element, when excited in a high-temperature flame, emit a spectrum of energies specific to that element. These energies can then be measured at an optimum wavelength.

"In operation," states Carl W. Schoenfelder (8133), "energy from two sources is introduced into the flame of the instrument. One source is a hollow cathode lamp that emits the energies characteristic of the element to be analyzed. The other is a sample in solution that is aspirated into the flame through a capillary tube. The difference in intensity of the energy before and after leaving the flame provides a means for determining the concentration of metal in the sample."

"The instrument not only saves us time," says H. C. (Cal) Feemster (8133),

"but provides an easy means for quickly determining trace quantities of metals."

The instrument is capable of analyzing over 60 elements with little or no interference between analyses.

Personnel in the chemistry lab have found the instrument to be particularly useful in analyzing plating solutions for trace metal contaminants, plastic resins for impurities, and industrial hygiene samples for toxic metals.

## Livermore Notes

H. R. Johnson of Materials Application Division I 8141, presented a technical paper at the general session of the American Electroplaters' Society meeting held in Dallas, June 19-22. The paper, co-authored with J. W. Dini and J. R. Helms (both 8141), was entitled "Effect of Some Variables on the Throwing Power of Copper Pyrophosphate Solutions."

During the Electroforming Symposium portion of the meeting, he presented a paper entitled "The Use of Continuous Electroformed Nickel Foil in Printed Circuitry," co-authored with J. W. Dini.

G. L. Rhodes, supervisor of Safety Engineering Division 8255, served as discussion leader at the safety seminar sponsored by the American Management Association June 12-14 in Los Angeles. The theme of the workshop seminar was Managing a Modern Safety Program.

Lee Parman, manager of Technical Libraries Department 3420, and Liz Bodie of Library Division 8232 have been elected chairman and vice chairman, respectively, of the Nuclear Science Division of the national organization of Special Libraries Association for the year 1967-68. The election was held prior to a meeting of the Association in New York City May 28-June 2.

Reduced admission tickets are available from Employee Benefits for the 1st Annual Bay Area Old Fashioned Patriotic 4th of July Fireworks Spectacular. The event will be held at the new Oakland-Alameda Country Coliseum on July 4 at 7:30 p.m.

Primary objective of the undertaking is to develop a traditional July 4th event second to none in size and scope in the Bay Area. The program will consist of prizes, an elaborate fireworks display depicting historical events, a balloon ascension from the Coliseum field, and hundreds of live performers including marching bands, Miss Liberty Bell, 150-voice Liberty Chorus, daredevil performers, and novelty and comedy acts.

Some 160 Sandians and their families recently toured the General Motors Assembly Plant in Fremont. Automobile and truck assembly operations were described as the visitors rode around the 34 acres of buildings in small electric trains. The hour-long tour is open to the public.

### Sympathy

To Dan Ross (8112) for the death of his mother-in-law in Fresno, Calif., June 11.

To Andy Gross (8125) for the death of his father in Kauai, Hawaii, June 7.

## New Guard Service Starts At Livermore and Tonopah

Sandia Corporation has awarded Wakenhut Services, Inc., two new security contracts for Sandia Livermore Laboratory and Tonopah Test Range, effective July 1.

Under the terms of the one-year contracts, Wakenhut will provide a force of about 60 security officers at the two locations. The service was formerly provided by another firm.

Wakenhut Services, Inc., is a subsidiary of Wakenhut Corporation of Coral Gables, Fla.

## Conduits Added to Power And Communication Lines

Contract work on underground electrical power and communication lines is scheduled for completion this week. The project, performed by a local firm, will provide underground conduits for supplemental intrusion alarms, fire alarms, telephone lines and public address systems. In addition, the work will provide conduits for stand-by electrical power in Bldgs. 911 and 912 for future use by communications and computer facilities.

Project Engineer R. E. Wilhite (8251) says this is the first extensive modification to Livermore's underground electrical facilities in 10 years. Final stages of the work include repairs to streets, sidewalks and landscaping.

## Everett D. Howe to Address Colloquium

Everett D. Howe, director of the University of California Sea Water Conversion Laboratory and professor of mechanical engineering at the Berkeley campus, will speak at Livermore Laboratory's Colloquium on July 11.

His talk, "Sea Water Conversion," will include a survey of water demineralization, with comments about its practicality, economics and present applications.

Well known in the field of water demineralization, Professor Howe has published numerous articles in technical journals, both in the USA and abroad. He has also presented papers on this subject at international meetings, including the Gordon Research Conferences (1964), the Desalination Research Conference (1961), and the United Nations Conference on New Sources of Energy (1961).

His travel to research centers and demineralization plants has been extensive — to the island of Barbados (1962) where he lectured at the Brace Research Institute Experiment Station, to Egypt (1961) as a Fulbright lecturer and government consultant, to various countries of continental Europe (1954, 1958 and 1961), to the Middle East, South Africa, West Africa and the Caribbean (1958), and to North Africa (1954) as a consultant to the Office of Saline Water, U. S. Department of the Interior.

Recently he has been engaged in the study of solar distillation as a possible solution to water problems on some of the South Pacific coral islands.

Professor Howe received BS and MS degrees in mechanical engineering from the University of California where he has held various teaching positions and professorships since 1928. His administrative positions in the College of Engineering have included assistant dean, acting dean, associate dean, and chairman of the Department of Mechanical Engineering. He has been director of the Sea Water Conversion Lab since 1958.

Further information concerning the Colloquium will be posted on the bulletin boards next week. Tickets are required for admission.

A. N. Blackwell (8110) is serving as host for this Colloquium.

## Welcome . . . Newcomers

June 6 - 19

California	
John H. Akins, Livermore	8112
Terry D. Bersie, San Francisco	8252
Calvin L. Boyd, Livermore	8223
Sheila A. Buttler, Stockton	8252
Roger P. Crawford, Manteca	8252
*Frank J. Cupps, Livermore	8115
Glenda L. Day, Livermore	8235
*Lawrence M. Dorety, Albany	8148
Frank S. Felicione, Jr., Berkeley	8158
Lewis H. Frain, Stockton	8252
Mona R. Gralapp, Livermore	8235
George M. Halberg, Stockton	8252
Gregory P. Jones, Stockton	8252
*Paul T. Lubeck, Palo Alto	8146
James W. Lucke, Berkeley	8155
Refugio Marroquin, Tracy	8235
Robert W. Phillips, Oakland	8158
*David M. Pierce, San Jose	8155
Charles J. Ray, Livermore	8252
*Victor P. Remillard, Stockton	8252
Ronald K. Saltgaver, Livermore	8114
William J. Sprague, Livermore	8223
A. G. Tharp, Long Beach	8141
James O. Travis, Manteca	8252
Colorado	
William A. Phillips, Boulder City	8146
Massachusetts	
Richard F. Koehler, Jr., Cambridge	8119
Minnesota	
David W. Bigelow, Minneapolis	8119
Returned From Leave	
Gerald A. Benedetti, Tucson, Ariz.	8147
James A. Spoonmore, Modesto	8223

## Welcome Youth Opportunity Trainees

Stephen M. Cavanaugh, Livermore	8222
David G. Collins, Livermore	8253
Sandra L. Graver, Livermore	8115
Joy A. Gronemeyer, Livermore	8245
James T. Haun, Livermore	8235
Oscar C. Lopez, Livermore	8222
J. Randall Magel, Livermore	8222
Pamela A. Mallory, Dublin	8243
Gary E. McElroy, Livermore	8245
David C. Nielsen, Livermore	8115
Peggy J. Wallace, Livermore	8215

## Congratulations

Mr. and Mrs. Lew Ellis (8155), a daughter, Tami Sue, June 11.

Mr. and Mrs. Tom Gleason (8233), a son, Matthew Joseph, June 12.

Mr. and Mrs. Joe Marques (8223-1), a daughter, Christina Marie, May 25.

Mr. and Mrs. Jerry Uhlgi (8131), a son, Paul Andrew, June 6.



Florence Lenz (8253)

### Take A Memo, Please

What appears to be a cold soldering iron or a harmless piece of metal, plastic or wood may be the object that inflicts a painful burn or cut on the hand.

Remember — before you handle such items, be sure it's safe to do so.



FINISHED FIGURES, representing about a year of Dick Strome's off-hours hobby time, are masterpieces of authentic detail which is accurate down to the regimental markings of the uniforms.

## These Lead Soldiers Are Not Toys; Require Hours to Create True Detail

Lead soldiers are not for kids. Not the kind Dick Strome (3463-1) creates.

Dick's lead soldiers are small (2 1/4 inches high) and extremely detailed — down to painting the thread on the buttonholes of uniforms. After about a year of off-hours "hobby-time," Dick has created two Union soldiers with horses that are masterpieces of craftsmanship. The regimental detail of the uniforms is as authentic as research can make it.

Work on the figures was sometimes delayed while Dick's reading took him into the complexities of Civil War strategies and battles.

Dick buys the basic kits from a mail order specialty house in New York. These contain the rough castings (as many as 17 pieces for a man and a horse). The pieces are assembled with a quick-drying epoxy, the metal is finely shaped and polished with tiny hand tools and then the painstaking painting begins.

Dick uses fine brushes and a magnifying glass for this job. He works hours painting fabric detail, facial expression, flesh tones and weapon detail.

Currently, he's working on a group of soldiers from the Revolutionary war. Included is a bugler with a special uniform which reversed the colors of the standard "GI" issue of the time.

After these are finished, he plans to do a group from the Napoleonic period. "Military history is fascinating," he says.

As an artist (Dick's workroom is decorated with ribbons awarded for his oil paintings), Dick feels that the work on the lead soldiers is an excellent exercise in discipline and control. "Working on such small detail requires tremendous concentration," he says.

Dick is interested in sharing his enthusiasm for the hobby with anyone else "hooked" on lead soldiers. "We might form a local organization and affiliate with the national group. There are hundreds of military miniature hobbyists on the east coast. Hopefully there are a few in Albuquerque."

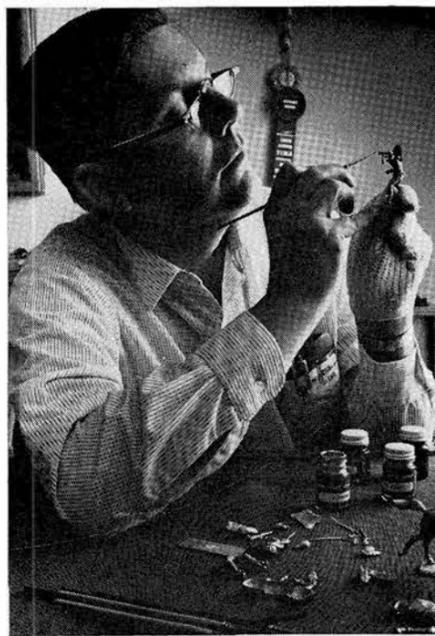
If interested, give Dick a call, tel. 268-2689.

## Nuclear Age Public Health Aspects Interest Sandians

Several Sandians participated in a session on "Public Health Aspects of the Nuclear Age" during the 34th annual meeting of the Confederation of Western Affiliates, American Public Health Association, held in Albuquerque June 18-22.

W. D. Burnett (3311) presided at the afternoon session. Sandians who presented papers included: Howard C. Eberline (consultant), "Developments in Uranium Mines Measurements"; S. L. Jeffers (9312), "Space Nuclear Safety Program"; L. W. Brewer (3311), "Radioactive Environmental Surveys at Sandia"; and J. D. Shreve (5234), "Aerosol Characterization and Inhalation Hazards."

The Confederation of Western Affiliates consists of members from 11 states in the Western region of the United States and Hawaii. This was the first time the meeting had been held in Albuquerque.



DICK STROME applies paint to a Revolutionary War bugler. In foreground are castings which are assembled into the "military miniatures." Research on the uniform detail leads to extensive reading of military history.

Continued From Page One

## Para-Foil Provides 'Sky-Hook'

The Para-Foil system can be used to raise antennas or provide a stable support platform for strings of instrumentation cables. Blast and Earth Motion Division 7242 is using tethered balloons to support instrumentation cables for air blast measurements in the past. A study is underway to adopt the Para-Foil for this use.

The Para-Foil development program at Sandia has been underway for about two years, sandwiched between other projects. The homing system was first developed for conventional parachutes. It was demonstrated with parachutes to a number of military agencies who adapted it to uses such as delivery of military supplies from the air to ground troops.

The homing system was placed "on the shelf" at Sandia because of the inherent difficulty of controlling parachutes in high winds. The Para-Foil provides an effective solution.

The Para-Foil was invented by D. C. Jalbert of Space Research Recovery Center, Florida, for use in the recovery of space vehicles. Additional development and testing was performed by John Nicolaidis, head of the Notre Dame Aerospace Department and a Sandia consultant.

H. E. Widdows (9324) contributed a method of packing the Para-Foil which assures inflation of the device. During two years of testing, Sandia has not experienced an inflation failure.

## New Mexico Chapter ASCET Given Charter

The New Mexico Chapter of the American Society of Certified Engineering Technicians (ASCET) was presented its charter at a dinner meeting earlier this month.

Thomas M. Oppelt (2212-3), president of the new state chapter, accepted the charter from Harry E. Houlgrave, vice president of ASCET southwest region. Attending the ceremony were F. F. Eichert, manager of Design Definition Department 2210, and Dr. F. G. Hirsch, Lovelace Foundation.

ASCET was formed in 1964 to bring together certified engineering technicians and to provide methods of cooperation with engineering and scientific societies and educational institutions at national and local levels. Through its membership, ASCET promotes the identification of the engineering technician.

"Organization of the local chapter is another step in national identification of the engineering technician. We'll also be able to implement closer relationships with high schools and colleges in the state," Tom says.

"In 1961, under the sponsorship of National Society of Professional Engineers, the Institute for Certification of Engineering Technicians (ICET) was formed as an examining body 'to perform the function of determining the competency of those who apply for certification'," he reports. The resulting certification program was adopted by ASCET as a requirement for membership.

The certification program is open to all technicians in engineering and scientific fields who can meet the minimum qualifications. The three certification levels or grades and the requirements are for junior engineering technician, two years of technical experience or a certificate from a two-year Engineers Council for Professional Development accredited technical institute; engineering technician, same requirements as a junior engineering technician plus five years of additional training experience as endorsed by two professional engineers; and senior engineering technician, 10 years of additional technical experience beyond senior engineering technician requirements as endorsed by three professional engineers. An applicant may be requested to take an examination of basic disciplines for the last two grades.

Several Sandians are charter members of the local ASCET chapter. Additional information about ASCET or ICET may be obtained from Tom Oppelt, tel. 264-3473, or B. N. Yates, tel. 264-2141.

The LAB NEWS needs copies of the following issues: March 11, 1966, April 22, 1966, May 20, 1966, July 1, 1966, Aug. 12, 1966, and Jan. 27, 1967. If anyone has extra copies, we would appreciate receiving them. Send to Division 3432.

## Harold Peterson and Bill Colston Named to New Posts at Sandia Area Office



Bill W. Colston has been appointed chief of the Space Projects Branch and Harold B. Peterson has been named contract specialist at the Atomic Energy Commission's Sandia Area Office (SAO) here.

In his new position, Mr. Colston is responsible for administrative direction, coordination and control of contract work of industrial firms engaged in isotopic power work and related research and development.

SAO administers AEC contracts with industrial firms for the Commission's Space Electric Power Office work assigned to Albuquerque Operations for the space isotope power program, under which isotope-powered systems are developed for space application. Technical direction of this contract work is centered in Sandia's Space Isotope Power Department 9330.

Mr. Colston recently transferred to SAO from the Space Nuclear Systems Division in AEC headquarters where he was project engineer in the Isotopic Power Systems Branch. He was employed at Oak Ridge National Laboratory in 1960 and at Atomic International at Canoga Park, Calif., from 1962 to 1966 when he joined the AEC.

Mr. Colston received his BS degree in physics from the University of Oklahoma. He was a graduate student at the University of Tennessee and at the University of California at Los Angeles and is a graduate of Oak Ridge School of Reactor Technology.



Mr. Peterson, in his new assignment as contract specialist, is responsible for the coordination of all procurement activities related to the Space Electric Power Office contracts administered by SAO. He also reviews property and equipment management programs of contractors for compliance with AEC requirements, and reviews and approved selected procurement actions of contractors.

Mr. Peterson transferred to SAO in May 1966 from the AEC's Schenectady (N.Y.) Naval Reactors Office, where he has been director of the Supply Division since 1962. He joined the AEC's Chicago Operations Office as procurement specialist in 1952 and transferred to the Schenectady Office as deputy director of Supply Division in 1956.

## Degrees Conferred



K. D. Harper



E. W. Shepherd

Bachelor's and Master's degrees were conferred upon several Sandians (in addition to those reported in the SANDIA LAB NEWS, June 16) during commencement exercises at the University of New Mexico earlier this month.

Kenneth D. Harper (4542) received an MS degree in civil engineering. His BS degree was from Wichita State University.

Edward W. Shepherd (5590) received a Master's degree in business administration. His Bachelor's degree was also conferred by UNM.

Those earning Bachelor's degrees included: Ervin F. Armbrust (3211), Bachelor of Business Administration; David A. Paschal (1213), Bachelor of Fine Arts in art; Johnny L. Hartley (2411), Bachelor of Science in electrical engineering.

Most attended the university under Sandia's Educational Aids Program.

PAGE FOUR

JUNE 30, 1967

SANDIA LAB NEWS

# Security Lieutenants Appointed



T. J. Chiado      L. E. Colson      G. H. Dance      J. W. Ethridge      H. Flores



J. T. Graham      J. S. Hinson      B. J. Hussey      B. L. King      L. T. McKenzie



C. P. McMurtrey      R. J. Montoya      E. T. Robbins      G. A. Uszuko      J. Wahlenmaier

Fifteen security sergeants and inspectors were promoted to security lieutenants (section supervisors) in Security Standards and Operations Department 3240, effective June 16. As part of the reorganization, the position of security sergeants was abolished.

The 15 security personnel promoted to security lieutenants are as follows:

**THOMAS J. CHIADO** joined Sandia as a security inspector in October 1951. In March 1959, he was promoted to security sergeant. Before his employment at the Laboratory, he owned and operated a grocery store in Albuquerque from 1946-51. In 1945, he worked in the finance department of the Veterans Administration in Albuquerque.

Tom served in the U. S. Air Force from March 1941 to October 1945. He attended officers candidate school and received his commission in October 1942. After three and a half years in the Caribbean area, he was discharged as a first lieutenant.

**LAWRENCE E. COLSON** joined Sandia as a security inspector in March 1951. He was promoted to security sergeant in 1954. Before coming to the Laboratory, he was a dispatcher for the Yellow Cab Company in Albuquerque for six years. From 1939 to 1941, he was an apprentice embalmer with a mortuary in El Paso and was deputy sheriff in Trinidad, Colo., from 1937 to 1939.

Larry was in the U. S. Air Force from December 1941 to September 1945, mainly as a tech sergeant in ground maintenance in the South Pacific. He also served in the regular army as an infantryman from 1935 to 1937, most of the time in Hawaii.

**GILBERT H. DANCE** joined Sandia's security force as an inspector in October 1947. In January 1950, he was promoted to security sergeant. Before coming to Albuquerque, he was an embalmer for a mortuary in Fort Myers, Fla., for 10 years.

Gilbert served with the chemical warfare branch of the U. S. Army from February 1942 to January 1944. Most of his military service was on Kodiak Island, Alaska.

**JOHN W. ETHRIDGE** was hired by Sandia as a security inspector in July 1950. In September 1950, he was promoted to security sergeant. Before coming to Albuquerque, he was employed as a security sergeant at Mason and Hanger-Silas Mason Company in Burlington, Iowa, for two years. From 1945 to 1948, he was a mill operator and diamond core driller at copper mines in Bisbee and Bagdad, Ariz.

John served with the U. S. Marine Corps from March 1942 to September 1945, most

of the time as an assault engineer in the Central and South Pacific areas. Before that, he studied journalism for a year and a half at Phoenix College.

**HUGO FLORES** joined Sandia's security force as an inspector in September 1950. Before coming to the Laboratory, he was a barber in Albuquerque from 1948 to 1950 and a material inspector at the Adams Company in Dubuque, Iowa, for a year before that.

Hugo served with the U. S. Marine Corps from August 1941 to August 1947, mainly in the South Pacific. Following World War II, he participated in Able and Baker nuclear tests in the South Pacific as a sergeant with a Marine detachment aboard the aircraft carrier Shangri-La.

**JACK T. GRAHAM** started his Sandia employment as a security inspector in August 1950. In October that same year, he was promoted to security sergeant.

Jack was a cattle rancher in northern New Mexico until he went into the military service. He joined the U. S. Army as a second lieutenant in February 1941 and was discharged as a captain in March 1950. During World War II he served with the infantry in the South Pacific and later went to Europe with the combat engineers.

**JAMES S. HINSON** became a security inspector at Sandia in January 1950. Two years later he was promoted to security sergeant. Before coming to Albuquerque, he studied business administration at the University of Arkansas and Arkansas State College from 1947 to 1949.

Jim served in the U. S. Air Force from 1946 to 1947 in San Antonio, Tex., and at Lowry Field, Colo., where he was an instructor with the training command. He is sergeant major of ODB-4, Company C, 12th Special Forces Group, U. S. Army Reserve.

**BERNARD J. (Barney) HUSSEY** joined Sandia as a security inspector in January 1952. He was promoted to security sergeant in March 1954. He had one job for 26 years before coming to the Laboratory — serving with the U. S. Army. He joined the infantry as a private in 1925 and retired as a lieutenant colonel in 1951. He was a regular first sergeant when he received his commission in October 1941. Most of Barney's service was in the Orient. During World War II, he was in Burma, China and the South Pacific. He also spent a year in Korea during that conflict.

**BROOKS L. KING** joined Sandia as a security inspector in May 1951 and was promoted to security sergeant in April 1954. Before coming to Sandia, Brooks was manager of a wholesale grocery warehouse in Albuquerque and Clovis for five years. From 1936 to 1946, he was general representative with Standard Oil of Texas. He was manager of a dry goods store in Tucumcari from 1930 to 1936.

**L. T. MCKENZIE** joined Sandia as a security inspector in October 1951. In September 1958, he was promoted to security sergeant. Before coming to Albuquerque, he owned a combination hardware store and gasoline station in Clarksdale, Ariz., for about five years. Earlier he worked for Phelps Dodge as a motorman in a mine at Jerome, Ariz., for five years and owned a service station in Lordsburg, N.M., from 1938-1940.

From July 1944 to February 1946, Mac served with the U. S. Navy, mainly in the South Pacific area.

**CURTIS P. McMURTREY** joined Sandia's security force as an inspector in August 1950. In October 1951, he was promoted to security sergeant. He was a route salesman for a food distributor in Albuquerque for two years before that. From 1947 to 1948, he worked in the office of a local wholesale building supply company.

Mac served in the U. S. Navy from June 1942 to January 1946. He spent about a year in the Atlantic and three years in the Pacific as a machinist mate on a destroyer. Following his military service, he attended the University of New Mexico for a year.

**REUBEN J. MONTOYA** joined Sandia as a security inspector in May 1951. He was owner-operator of a general merchandise store and laundromat in Bernalillo from 1946 until he came to the Laboratory. Earlier he was paymaster for the New Mexico Timber Company for about two years. For a two-year period before that, he was chief deputy county clerk of Sandoval County.

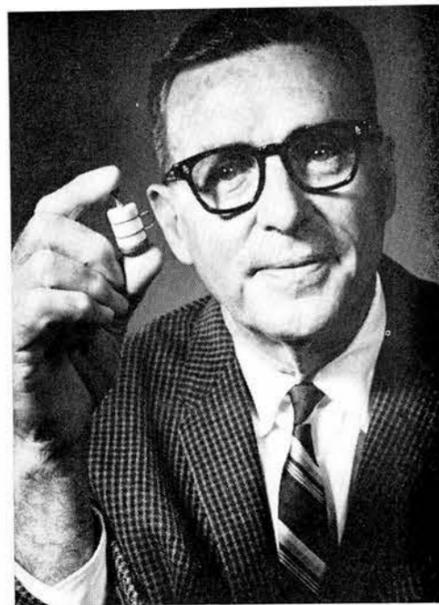
From March 1942 to November 1945, Reuben served with the U. S. Air Force. He was assistant sergeant major at the West Coast Training Command during most of his military service. Currently he is serving his third two-year term as school budget commissioner of Sandoval County.

**EARL T. ROBBINS** joined Sandia as a security inspector at Salton Sea Test Base in November 1950. In January 1953, he was promoted to security sergeant and transferred to Sandia Laboratory in July 1961. Before that, Earl worked in Brawley, Calif. He was office manager and accountant for a produce and farming company from 1946 to 1950. From 1938 to 1941, he held the same position with a farm implement dealer and was a storekeeper and clerk for Southern Sierras Power Company from 1934 to 1937. For two and one-half years before that he studied business at Brawley Junior College.

Earl enlisted in the U. S. Army as a private in June 1941 and was discharged January 1946 as a captain. He received his commission and overseas orders on the same day in July 1942 and served three and one-half years in the South Pacific.

**GEORGE A. USZUKO** was employed by Sandia as a security inspector in September 1950. In January 1953, he was promoted to security sergeant. Before coming to the Laboratory, he was service manager of a retail tire company in Albuquerque from 1946 to 1950. Before that he was a tire and brake serviceman, a shear operator and a plumber's helper. In 1943, George served with the U. S. Air Force.

**JOHN M. WAHLENMAIER** began his employment at Sandia as a security inspector in January 1952. Before coming to the Laboratory, he worked for a year with the City of Albuquerque as assistant superintendent of parks in charge of new development. For three years before that, John was with Texas Engineering and Manufacturing Company of Dallas as an aircraft hydraulic technician.



EXTREMELY DURABLE prototype of a recently-patented electronic switch is held by inventor Robert Creveling (1423).

## Electronic Switch Patent Issued to Robert Creveling

A patent has been issued to Robert Creveling (1423) for his invention—an electronic switch with means to halt the flow of electrons to initiate an arc discharge.

"The invention," Mr. Creveling says, "takes an unorthodox approach to produce repeatable rise-time rates of high currents faster than any other known method." The nominal operating range is 1000-5000 volts.

Prototypes have been made with alternate layers of kovar and glass or kovar and ceramic. When the latter combination is used, the device is capable of withstanding shocks to 100,000 Gs and peak currents of 10,000 amps. The container is filled with helium gas under low pressure (5 torr).

Mr. Creveling has three patents which have been assigned to the Atomic Energy Commission (precision time-delay circuit, thyatron switch, and shock-excited crystal oscillator), and two others on counting circuits which were issued to him personally.

Mr. Creveling was granted a release from the AEC for this latest invention, which permitted him to file a private patent application. The release reserves to the Government and to Western Electric Company (for communication purposes) royalty-free license.

## Take Note



PRESIDENT GEORGE E. STOLL, The Bendix Corporation, chats with President Hornbeck between technical briefings during a recent visit to Sandia Laboratory.

R. G. Luckey, Comptroller 4100, was chairman of a session on Educational Needs during the 48th annual conference of the National Association of Accountants, held in Denver, June 26-28.

Some 150 guests helped Wilbur and Frances Sheaffer mark their 40th wedding anniversary on June 1. They were married in Dunlap, Kans., and have lived in Albuquerque since 1945.

Wilbur, who works in Division 7216, has been at Sandia since 1949 and Frances (2234) has been employed here 11 years. Their daughter and son-in-law David C. Barham (5151) and their three children were on hand for the festivities.

Enchanted Lens Camera Club installed new officers June 13, among them several Sandians. Joe C. Connell (2113) is the new president, Helen R. Smith (2200) took over as secretary, and R. L. Ewing (1421) is vice president. Leroy Hassebroek (2241) was the outgoing treasurer.

The club has 32 members and is open to anyone interested in photography.

# Anthropologist Finds Early Indian Campsites in Coyote Test Field

Coyote Test Field, now the scene of advanced technology testing at Sandia Laboratory, was once the campsite of primitive Indians of the Basketmaker II culture dating from about 1 A.D.

These people, small family bands, hunted the deer and buffalo of the region, did some farming and gathered the sparse pinon nuts in the scattered forests. They were drawn to Coyote Canyon because of the spring, a continuing water supply.

Their campsites, now 10 to 12 feet deep along the eroded arroyo bank, were pointed out last week by Herbert W. Dick, associate professor of anthropology, Adams State College, Alamosa, Colo. Professor Dick was actually hoping to find evidence of early Spanish colonials who settled in this area from about 1598 to 1850. In 1937, while an anthropology student at the University of New Mexico, Professor Dick excavated an early Spanish village near the present highway bridge in Tijeras Canyon.

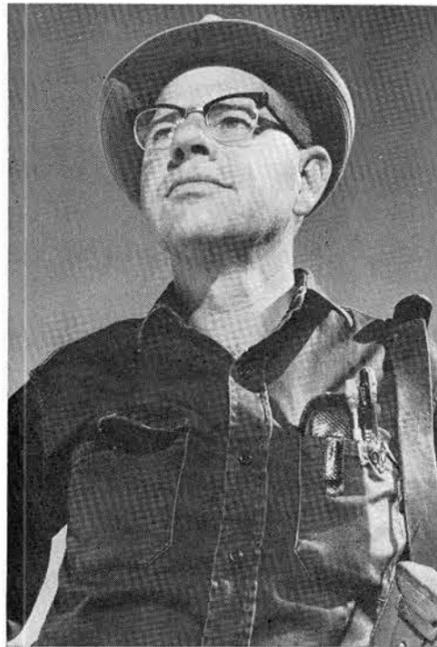
His particular speciality is the cultural interchange between the Indians and the early Spanish. Pottery is one of the keys to this culture interchange and Professor Dick is an authority on Spanish colonial pottery.

"In the early years," he says, "all of the Spanish settlers had Indian servants who made pottery for them. The Spanish and Indian cultures developing into a unique culture is evident in the changes of design and techniques in the pottery."

Although the Spanish colonials brought cattle, sheep, horses, different agriculture and a simple metal technology to the region, they adopted more of the Indian culture than the Indians did of Spanish culture, Professor Dick indicates. The architecture, for instance, is more Indian than Spanish. The churches in this area are unique, vastly different from the established Spanish architecture practiced in Mexico at the time.

What we call "Mexican food" nowadays was an adaptation of native Indian dishes by the Spanish colonials.

Although disappointed in Coyote Test Field, Professor Dick did locate a promising early Spanish colonial site in upper Tijeras



ANTHROPOLOGIST Herbert W. Dick found Indian "Basketmaker II" campsites in Coyote Test Field while looking for early Spanish colonial sites.

Canyon. More work will be done at this site later.

"The Spanish colonials left a unique flavor to this region," he says, "and their contributions need to be more generally recognized. Their influence is still strong after 400 years. I hope to promote a state monument at one of the colonial sites near Abiquiu."

Arrangements for Professor Dick's archaeological survey of Coyote Test Field were made through R. A. Bice, vice president 7000, who is an enthusiastic amateur anthropologist. R. L. Henderson (7311) and W. M. Sundt (2152) assisted in portions of the survey.

# Supervisory Appointments



RAY M. HOOPER to supervisor of Patrol Division 3246, effective June 16.

Ray joined Sandia's security force as an inspector in May 1950 and was promoted to sergeant in September that same year. In August 1951, he was promoted to lieutenant. Before coming to the Laboratory, he was an appliance salesman in Albuquerque for about a year.

From 1946 to 1949, Ray attended Cameron State Agricultural College in Lawton, Okla., and the University of New Mexico where he studied civil engineering.

He served with the U. S. Army from November 1943 to April 1946. During that period, he served as a railroad security guard, as a border patrolman, and with the 4th Armored Infantry in Europe.



JOHN S. TODD to supervisor of Patrol Division 3242, effective June 16.

John has formulated procedures on handling classified documents and information since he joined Sandia's security organization in July 1959. He has also been involved in personnel security for the last five years and has participated in developing security education programs for the last two years.

Before coming to the Laboratory, John was a security representative at North American Aviation in Columbus, Ohio, from April 1958 to July 1959. The previous year he was a security officer at Stavid Engineering in Plainfield, N. J. From 1951 to 1956, he was an agent with the Federal Bureau of Investigation in Newark, N. J., and New York City.

John received a BA degree in psychology from Tulane University in August 1948 and an MS in education from the University of Arkansas in February 1952.

During World War II he was a pilot with the Eighth Air Force. He is chairman of the Albuquerque Chapter of the American Society for Industrial Security and a member of the Society of Former Agents of the FBI.



W. W. (Chuck) LITRELL to supervisor of Patrol Division 3247, effective June 16.

Chuck joined Sandia as a security inspector in May 1950. In September of that year, he was promoted to security lieutenant. Before coming to the Laboratory, he was transportation supervisor for Santa Fe Trailways in Albuquerque from 1947 to 1949. He also owned a frozen custard business in town from about 1947 to 1955.

Chuck served with the U. S. Army from January 1941 to January 1946. In February 1943, he completed the officers candidate school program and received his commission. He served with the combat engineers in the European theater and was discharged as a captain.

From 1938 to 1940, he was a steel charger in the rail mill at U. S. Steel's Gary (Ind.) Works.



MURL B. MOORE to supervisor of Information Processing Division 4114, effective July 1.

Murl first worked at Sandia as a summer employee in plant engineering in 1957-1958. In April 1959 he became a full-time employee with a structural engineering group in plant engineering. He transferred to Systems and Procedures Department 4110 in May 1963 where he worked with an engineering procedures group. For the past two years he has been in the Information Processing division.

Murl received a BS degree in architectural engineering from the University of New Mexico in June 1954 and an MS in civil engineering from Stanford University in December 1958. Since then he has completed the course requirements for a Master's in business administration at UNM.

From 1954 to 1957 he served with the U. S. Marine Corps as a lieutenant, mostly at Quantico, Va.; Camp Pendleton, Calif.; and Okinawa.

# Sandia Traffic Signals

To avoid traffic accidents, confusion and delays, it is essential that drivers on Sandia Base understand and obey the signals used by Military Police to direct traffic.

Although regular drivers on the Base are familiar with these signals, this page should be saved as a reference for family members or friends who may drive on the Base during peak traffic periods.

The MP's maintain safe and expedient traffic flow; however, it is up to the driver to protect himself and others by not speeding, tailgating, switching lanes, driving on the shoulder, or failing to signal a turn or stop.

When the driver sees the MP in these positions it means:



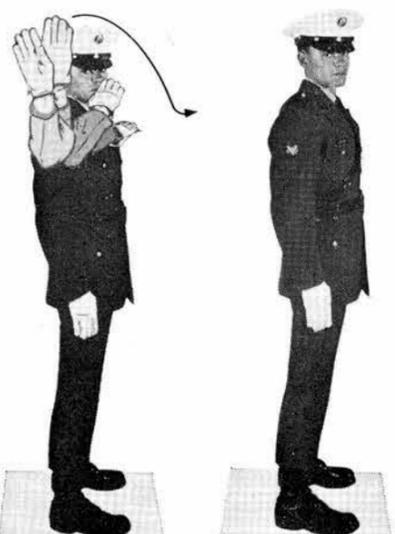
"Stop — all 4 directions"



Front & side views: "Stop — 3 directions"



"Stop — 2 directions"



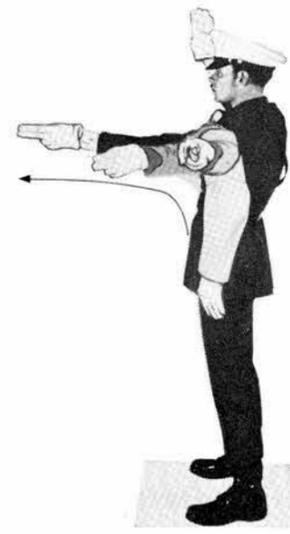
"Proceed & keep moving, but no turns"



"Turn right"



Left turn: "(1) oncoming traffic, stop, (2) bring car to position for turn, (3) turn left"



"You goofed"

# Service Awards

## 15 Years



Louie Bryant  
3242



B. H. Bueffel  
1414



R. D. Christopher  
2125



L. E. Cole  
4136



N. J. Elliott  
2423



Helen Gelwicks  
3241



J. J. Harper  
4234



E. G. Hayes  
9323



Helen Henderson  
4151



A. F. Hurford  
1432



M. M. Karnowsky  
1131



T. P. Krein  
9221



A. B. Lawrence  
2411



A. A. Lieber  
5540



C. B. Litz  
4512



T. C. Looney  
9226



J. S. Miller  
4122



J. H. Mitchell  
4518



Dorothy Mohart  
3134



J. P. Myers  
4214



L. W. Newman  
7513



G. M. Nielsen  
9426



Ishmael Ortega  
1121



R. V. Peet  
9223



E. J. Peterson  
4253



H. C. Redding  
4137



H. W. Richardson  
7321



W. F. Roherty  
5633



Ernestina Romero  
9411



C. G. Scott  
1316

## 10 Years

June 30 - July 13

S. D. Chester 1411, P. P. Stibris 1542, D. W. Bushmire 2544, J. F. Schofield 4112, C. R. McKelvey 4113, A. B. Elliott 4213, J. C. Mick 4254, Peter Olguin 4631, C. E. Abraham 5264, N. N. Cravens, Jr. 5520.

D. K. Buchanan 7331, E. R. Julius 7333, Edith F. Milatzo 8000, W. B. Vandermolen 8125, Irmal R. Brown 8124, K. D. Flynn 8136, K. G. Byrne 8164, R. C. Frost 8164, D. D. Wagner 8211, Mary L. Milatzo 8252.

D. J. Rigali 9326, H. J. Gerwin 9333, W. A. Stephenson 1411, R. A. Wilson 1422, C. E. Haag, K. D. Boutlinghouse 4224, J. J. Lochtefeld 5132, Virgil Erbert 5612, R. E. Church 7513, R. W. Gallegos 9234.

H. M. Jones 1514, D. E. Schweitzer 4135, T. R. Tate 1517, Thelma N. Carpenter 2234, B. Louise Proffitt 3126, W. C. Busby 4112, Frank Koletar 7135, L. D. Stull 1322.

Joseph Fedzuga 2211, P. C. Vigil 4574, C. W. Harrison, Jr. 1425, J. S. Talbutt 7123, Mary M. Gonzales 7521, R. L. Williams 2212, P. L. Meade 3412, and Gladys M. Collins 9230.



J. R. Sisneros  
4151



E. R. Stepka  
9233



N. L. Vinson  
7513



J. P. Watterberg  
1524



L. J. Woolrich  
7322

## 20 Years



J. O. Davis  
7311



K. Harrington  
2444

## Welcome . . . Newcomers

June 12-23

<b>Albuquerque</b>	William L. Albert	4253
	Paul N. Bonaparte	1325
	Harvey J. Brewster	3244
	Garry S. Brown	1424
	Linda O. James	3126
	R. Jeffery Lawrence	1142
	D. June Nieto	3154
	Hannah L. Pendleton	3126
	*Georgia E. Pettit	3126
<b>Alabama</b>	Wayne D. Perry, Tuskegee Institute	1541
<b>Arizona</b>	Paul A. Thompson, Phoenix	9000
<b>California</b>	Jon B. Thebert, El Centro	7226
<b>Illinois</b>	David A. Freiwald, Evanston	5141
<b>Massachusetts</b>	Ralph S. Tyler, Boston	5633
<b>Mississippi</b>	R. Andy Kyzar, Brookhaven	7000
	G. Bruce Varnado, Wesson	7000
<b>New Mexico</b>	William L. Rogers, Portales	1113
<b>Pennsylvania</b>	James H. Graham, Waynesburg	9423
<b>Tennessee</b>	Ronald Lee Fox, Knoxville	9326
<b>Texas</b>	Jerold L. Farmer, Levelland	4135
<b>Washington</b>	Richard H. Erickson, Seattle	9332
<b>Temporary Summer Hires (Albuquerque unless otherwise noted)</b>		
	M. Henry Allen, El Rito, N. M.	3132
	*Kent W. Andres, Stanford, Calif.	1433
	Arthur A. Armstrong, Jr.	1113
	Joseph M. Ballantyne, Ithaca, N. Y.	5142
	Orville L. Brill, Pittsburgh, Pa.	1123
	*Daniel R. Cassidy, Chicago	5212
	M. Lawrence Clevenston, Palo Alto, Calif.	2113
	Barbara E. Close	3153
	*Eugene J. Clothiaux, McMurray, Pa.	5142
	*Archie W. Farnsworth, Providence, R. I.	9310
	*Garland G. Gardenhire	9232
	Peter P. Gillis, Lexington, Ky.	5133
	Norman R. Hayworth, Pueblo, Colo.	2210
	Kenneth G. Hornung, Columbus, O.	1322
	*Sidney C. Larson, Minneapolis	1420
	Hannibal H. Madden, Jr., Detroit	5123
	*Rudolph B. Miller	7214
	*John L. Norton, Lawrence, Kan.	9422
	Alexandro C. Peralta	7216
	*David T. Price, Chicago	5256
	Richard S. Sanchez	7342
	*Thomas N. Taylor, Providence, R. I.	5151
	*Lewis Thigpen, Chicago	9327
	Nicholas Vanderborgh	1121
	Larry A. Walker	7332
	*Leon W. Zelby	9321

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JUNE 30, 1967

SANDIA LAB NEWS

## Promotions

Peter B. Rano (1113) to Staff Associate Technical  
O. Jean Antoine (1315) to Staff Associate Technical  
Kent J. Bowen (1141) to Staff Assistant Technical  
Frank M. Batchelor (1144) to Staff Assistant Technical  
Dorcas L. Gabaldon (4233) to Staff Assistant Technical  
Chester C. Balok (4231) to Staff Assistant Technical  
James E. Clark (7322) to Staff Assistant Technical  
Sylvester Grisby (8142) to Staff Assistant Technical  
Isaac R. Griego (4121) to Staff Assistant Administrative  
Elaine A. Brint (8161) to Staff Assistant Administrative  
Carl A. Wackerly (8213) to Staff Assistant Administrative  
Pete C. Vigil (4573) to Cleaner  
Jose S. Gallegos (4212) to Material Handler  
Onesimo Martinez (4212) to Receiving Clerk  
Celso F. Padilla (4611) to Stockkeeper  
Terry L. Otero (4513) to Helper  
Thomas L. Spindle, Jr. (4224) to Specialties Worker  
Charles W. Dunn (4624) to Packer  
Charles W. DeMoss (4224) to Technician  
Hollis C. Miller II (8245) to Chauffeur  
Roger J. Bouscal (8222) to Laborer  
Lynda Archuleta (4333) to File Clerk  
Vivian Messersmith (4333) to File Clerk  
Faustina Peralta (4333) to Record Clerk  
Milton George, Jr. (3415) to Mail Clerk  
Mary E. Abeita (3126) to Stenographer Clerk  
Guadalupe Dominguez (3126) to Stenographer Clerk  
Keve L. Williams (3126) to Stenographer Clerk  
Frankie M. Weldon (4333) to File Clerk  
Judy E. Eslinger (3126) to Secretarial Stenographer  
Rosemary Montoya (3126) to Secretarial Stenographer  
Judy Scheihagan (3126) to Secretarial Stenographer  
Mary M. Wood (3126) to Secretarial Typist  
Donna L. Lewis (4333) to Teletypewriter Operator  
Peggy L. Schmidt (4333) to Teletypewriter Operator  
Gail D. Stenger (4333) to Teletypewriter Operator  
Nell A. Arnett (3421) to Library Assistant  
Belinda Moseley (3415) to Document Clerk  
Andrew L. Lopez (9411) to Data Processing Clerk  
Wilfred Otero (9411) to Data Processing Clerk  
Warner H. Jones, Jr. (9411) to Tabulating Equipment Operator  
Joann Hinson (4363) to Travel Clerk  
Erenegildo Garcia (4615) to Property Clerk  
Timothy Marino (8253) to Reproduction Equipment Operator  
Froilan Paler (8253) to Reproduction Equipment Operator  
Timothy C. Roubush (8235) to Messenger  
Bertha Frick (8253) to Switchboard Operator  
Jimmy W. Ackerman (8235) to Mail Clerk  
Barbara M. Netherton (8000) to Secretary  
Marilyn J. Taylor (2420) to Secretary  
Clare C. Landvater (5590) to Secretary  
Mary Ann Melo (7120) to Secretary  
Kaye L. Hunemuller (2211) to Draftsman  
Bill M. Casias (1333) to Laboratory Assistant  
Jim F. Sanchez (4624) to Packer

## Sandians Invited to Compete in Bell System Chess Tournament

The 21st annual Bell System Postal Chess Tournament will start about Oct. 1. All Sandia employees are invited to participate.

Players are grouped into sections of about eight players, as evenly matched as possible. Each player in a section plays each of the other members simultaneously. Upon completion of all games in a section, the player having the highest percentage of wins is presented a certificate attesting to his accomplishment.

A point system is used which permits grouping successful players with more expert players in subsequent annual rounds. The better players move up through various sections, finally arriving at the "championship section," whose winner becomes the Bell System champion.

For tournament entry blanks, contact Employee Services Division 3126, Bldg. 610, tel. 264-7775 or Division 8214, Bldg. 912, ext. 2254. Deadline for entry is July 14.

## 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

#### REAL ESTATE

- 3-BDR., fenced, landscaped, \$750 assumes equity, \$87/mo. 5 1/4% FHA loan. Stomp, 298-3824.
- 3-BDR. Mossman, pitched roof, dbl. garage, wood floors, forced air, 1 1/2 bath, AC, fireplace, sprinklers, corner lot. Petersen, 256-0814.
- 3- or 4-BDR., workshop, garage, carpeting, drapes, FR, walled yard, 224 Gen. Marshall NE, \$300 down, \$91/mo. Johnson, 298-8514.
- 4-BDR., FR, dbl. garage, landscaped 1/2 acre, Sandia High, elementary schools 2 bks., consider leasing, immediate occupancy. Roth, 296-1459.
- SMALL 3-bdr. home, small equity and assume payments, no qualifying necessary, immediate possession, partly furnished if desired, near base. Miller, 255-7842.
- MANZANOS, 5.4 wooded acres, level, less than 1 mile from South 10, \$3000 cash. Steck, 299-4192.
- HOLIDAY PARK 3-bdr., den, carpet, drapes, landscaped, built-ins, etc., \$1500 down to \$18,100 balance, 3305 Montreal NE. Edelman, 298-9475.
- 3-BDR. garage, carpeted w/ floors, walled yard, new roof, near Bases, schools, and new library, appraised \$13,750, 724 Cagua Dr. SE. Gallagher.
- 3-BDR., near Lady Fatima Church, hw floors, AC, fr, complete landscape, attached garage, new carpet, \$15,500. Nelson, 255-2564.
- 3-BDR., 1 1/2 baths, DR, AC, carpeting, walled back yard, sprinklers front, garage, \$12,800. Ridlon, 299-0378.
- 3-BDR., 1 1/2 bath, hw floors, LR w/ fr. AC, closed court, near elem. school-shopping center. Upchurch, 299-5062.
- LARGE 2 BDR., den, fireplace, 1 1/2 baths, garage, near base, \$500 down, assume no qualifying mortgage \$10,600, \$91 month. West, 299-6695.

### CARS AND TRUCKS

- '63 BEL AIR 4-dr., 327 VS, R&H, PS, AT, \$800. Gallegos, 154 Chama NE.
- '56 FORD pickup F-100, large bed, radio, w/canvas covered camper, \$295. Price, 298-0262.
- '57 OLDS, \$95. Filusch, 299-5932.
- '59 OLDSMOBILE Super 88, 4-dr. HT, PS, PB, P-aerial, AC, radio, front & back speakers, wsw tires, one owner, 56,000 miles \$600. Clark 243-0180.
- '51 MGTD restored new accessories, \$1150, will swap, make offer. Hansche, 255-2878, after 6, 1713 Rita NE.
- '60 FORD 4-dr. Ranch Wagon, 6-cyl., stand. trans., \$250. Sallach, 298-5366.
- '62 CHEVROLET L160, TT 1340, SMOH 490, Mark II full panel, rot. beacon, sacrifice. Taylor, 299-2866.
- '60 FORD Station Wagon, Cruisomatic, PS, PB, \$445. England, 299-0464.
- '65 TRIUMPH TR-4, blue, black inside & top, Michelin steel cord radial tires, radio, extra white top & weather cover, Maglight, 268-7601.

### MISCELLANEOUS

- SOLID STATE Masterworks portable stereo record player, new in 11/66, completely encased in mahogany, cost \$235, sell for \$150 cash. Cunningham, 255-6083 after 5.
- FENDER Duo-Sonic electric guitar, metallic red, w/case, \$95. Rufsvold, 268-5970.
- PEPE-A-POO puppies, second generation, champion pedigree; automatic washer, 2 yrs. old; 9x9 tent, used once. Morrow, 298-1762.
- 18" \$40 SEAR'S lawn mower, used one summer, \$20; two 1/4hp 115v motors, \$5 ea. Cashion, 242-3345.
- 9" TABLE SAW w/1hp motor, Sear's, \$75. Church, 282-3853.
- RAMBLER station wagon standard luggage cover to fit rack on roof, half of Rambler list is \$19.50. Baxter, 344-7601.
- CHROME reversed rims, Chevrolet 15", \$75; Sun 12v tach., 8.5 R.P.M., \$20. Moore, 268-1683.
- RCA color AV w/remote control, fruitwood console; Frigidaire refrigerator, frost proof. Atkinson, 298-4962.
- DOUBLE BED, box springs and mattress, matching chest and night tables. Blakey, 298-0511.
- SURFBOARDS, three, plus car rack, \$200. Surfboards each \$60. Reed, 255-2010.
- VOLKSWAGEN white sidewall German tire, \$7; Volkswagen (4) covers, \$7; Burnside civil war carbine. Smitha, 299-1096.
- 2 LAWN MOWERS: one power, one muscle builder, \$10 for both. Kindschi, 256-0531.

- 200 MM Spiratone telephoto and ZX telexender for Pentax size cameras, both for \$25. Muench, 264-5137.
- PANORAMIC electric guitar, Italian made semi-hollow type w/case, amplifier, and extras, paid \$175, asking \$75. Wersonick, 298-7012.
- SOLID CHERRY Pennsylvania House Dutch dining set, glass front china cupboard and hutch, drop leaf table and 6 chairs, cost \$600, sell or trade for \$300. Levesque, 299-1213.
- HONDA, 55cc, trail motorcycle, \$145. Aaron, 282-3803.
- ARA auto air conditioner, used 5 mos., \$150. Hinson, 242-1587 or 877-2799.
- WARD'S camping trailer, sell \$225 or trade for car, sleeps four, butane bottle, stove and lantern, 8907 Los Arboles NE. McIlroy, 299-4977.
- CEMENT MIXING TROUGH, 3'x5', clean, w/90 lb. bag cement, make an offer. Woods, 296-4741.
- SPEED QUEEN dryer, \$45; washer needs work on motor, \$20. McMaster, 269-8062 after 5.
- GOLF CLUBS: Spalding Tru-Fit matching (half) set, 2 woods w/new head covers, 4 irons plus putter, \$30, w/bag \$35. Reynolds, 299-5157.
- REFRIGERATOR, 9 cu. ft. Westinghouse, \$35; two new blond end tables, \$7.50 ea. Coughenour, 296-4146.
- FENDER Jaguar guitar, custom finish. Van Praag, 299-5728.
- WEIMARANERS, AKC registered, top field and show bloodlines, 8 wks. old. Hostetter, 898-3785.
- AIR CONDITIONER, fits Volkswagen, \$75. Warner, 298-1746.
- 9-YR. MARE, excellent mountain horse, \$175; 2 registered Quarter horse mares, both performance and show, \$800 ea. Bassett, 898-1840.
- UTILITY TRAILER, one-wheel, steel bed, 3 1/2'x4'x9" w/auto bumper bracket attachment clamps, \$25. Rynders, 299-3894.
- LAWN SWING, glider type w/canopy, seats 4 children, \$12. Matlack, 256-7371 evenings.
- ENGLISH SPRINGER SPANIEL puppy, male, pure-bred, AKC registered, liver and white color, has permanent immunization shots. Barth, 345-0172.
- BRAND NEW blue maternity dress, size 12, \$4. Beck, 4110 Comanche NE, 345-1388.
- 14' ALUMINUM boat, 35HP electric start motor, trailer, skis, life jackets, ladder, etc., total \$495. Flowers, 282-3458.
- ELECTRIC RANGE, large oven w/rotisserie, deep-well burner, timing center, pan storage. Keen, 299-6541.
- BREAKFAST SET, 5 pc., gray/black, 30"x39", plus 8" leaf, \$20. Norton, 268-6308.

- TWO matching bathroom basins, desert tan color, including faucets, all hardware, \$30 ea.; corner book cabinet, \$10. Newman, 256-3295.
- APPALOOSA MARES, wide selection, well bred, some good performance prospects, \$150 up, terms available. Harker, 282-3435.
- SILVERTONE table model radio-stereo amplifier, mahogany cabinet, matching table, \$40. Brice, 268-1315.
- VIOLINS: 3/4 and full-size; trombone; desk; twin beds, dresser, chest, night stand; birch dining table; occasional chair. Copeland, 255-4688.
- MARE, 3-yr.-old 1/2 Arabian, \$200; home air conditioner-refrigerator, cost \$350, sell for \$140; baby stroller, \$4. Harrington, 282-3188.
- IRONRITE ironer, open both ends, \$85. Igel, 299-8211.
- APPROX. 40 different household items: silver coffee service, record players, stereo amplifiers, 21" TV, etc. will give info and price on phone. Browning, 299-6384.
- NORGE WASHER, \$10; wheelbarrow, \$5. Wilson, 298-0049.
- MOTORCYCLE, Bridgestone, 175cc, 20 horses, driven 4000 miles. 4125 Hannett NE, Blair 256-6414.
- BABY BED w/Kant Wet mattress, \$15; bathinette, \$8; baby car seat, \$4; baby scales, \$1. 2816 Dakota NE, Fewell, 268-9084.
- UTILITY TRAILER, 4'x6', \$65; rotary type mower, \$20. Hayes, 299-5832.
- IRONRITE ironer, best offer, Roche, 298-9725.
- '66 BSA motorcycle, 440cc, single, scrambler model, low mileage, \$800 or best offer. Tapia, 268-0691.
- LLOYD'S battery tape recorder; 10" Walker-Turner saw; Monroe electric adding calculator; chain saw; 6" wading pool. Wenz, 299-5488.
- TWO portable GE TV sets: 16", \$85; 14", \$45; lamb mouton jacket, size 10-12, \$50. Emery, 299-1675.
- TWO miniature poodle pups, female, AKC registered, 6 wks. old July 23. Richardson, 298-1688 after 5:30.
- ROTARY POWER mower, 22" blade, 2 1/2 hp, Briggs and Stratton motor, sturdy, \$30. Clark, 299-6410.
- WHIRLPOOL refrigerator with icemaker, Hotpoint 30" range, 12 x 12 beige nylon carpet, drapes, curtains, children's bed, push lawn mower. Utler, 299-8271.
- LIVING ROOM set, Danish modern; 2 pc. sectional, chair, corner table, end table, coffee table, \$75. Flesner, 256-6173.
- DRAPERIES, fully-lined, 100 x 90 inches, will sell for \$25. Nissen, 298-9166.
- BENDIX home ironer. Carpenter, 298-0755.

### WANTED

- YOUNG MALE roommate to share 2-bdr. apt. beginning July 22, 3304 Morris. Clark, 298-8254 after 9 p.m.
- RIDE from vicinity of Personnel Bldg. to corner Juan Tabo & Constitution, 4 days a week. Downs, 296-4710.
- TEENAGER wants summer baby sitting in SE Heights area. Wladika, 255-9166.
- RIDE to Bldg. 802, vicinity Menaul & Eubank, 1 block north of Menaul and 1 block east of Eubank. Dyer, 299-5329.

# Ranger Commander Gerse Martinez Is Dedicated to Youth Activities

"It's a big responsibility, but I've always liked working with children," comments Gersedon (Gerse) Martinez (3432) on his role as adult leader of a local youth group.

Gerse, the service clerk who monitors bulletin boards in Area I, is Commander of the Royal Rangers Outpost No. 7, which is sponsored by the Bethany Spanish Assembly of God Church. In this capacity he devotes many would-be leisure hours to planning programs, raising funds, checking on the boys' achievements, chauffeuring, and supervising camping activities for the 16-member group.

Ever since he started working on the formation of the scout-like group three years ago, Gerse's nights and weekends have generally been devoted to the young boys in his outpost.

"You have to lose some things to gain others," he says. "I don't do it to gain for myself. When you undertake something like this it must come from the heart. I just love kids."

With the exception of consultations he has with the Pastor of the Church, Gerse is the sole adult leader of the active group. Parent and other adult assistance is sporadic and rare.

He picks up four Rangers who live in different heights and valley locations before each weekly meeting. Between meetings, he makes numerous telephone calls to give the boys assignments and to check on their progress.

For weekend campouts at the Church campgrounds near Chama, Gerse loads his station wagon to the limit with Rangers and the assorted utensils and provisions. On one occasion the limit was exceeded—Gerse, 10 boys and the gear. The repair bill for the car was \$65.

Because his station wagon is usually the only vehicle available, he must choose the boys who can go on the outings. His selections are based on achievement. To overcome this restriction, Gerse plans to buy a larger vehicle.

Aside from the weekly meetings and some seven campouts annually, Gerse has taken the boys on tours of various companies in the Albuquerque area, St. Anthony Boys Home, state penitentiary, city jail and Los Lunas hospital.

"I've always liked to work with children, but I have had little opportunity until we formed the Rangers. If I wasn't working with this group, I'd probably be active in the Little League, which is wonderful," he states with conviction.

He finds the youth group's finances can be a problem. The dues are 10 cents weekly. This income is usually used to purchase Ranger manuals. When there is a need, such as a \$100 tent, Gerse often makes the purchase with his own money and the boys try to reimburse him by raising funds through candy sales.

Every member of the group has an official uniform. Money is drawn out of the treasury to purchase uniforms for the members who cannot afford to buy their own.

Shortly after the Assemblies of God Churches formed the national youth organization about four years ago, Gerse became interested in the program of activities—similar to the Boy Scouts. The program is designed to provide boys with exposure to camping, hiking, nature study, first aid, games, crafts, physical fitness, Bible study and Christian service.

He was one of the founders of Outpost No. 7, the first in Albuquerque, almost three years ago. Later he presented the Ranger program to six other local Assemblies of God Church groups. Today there are four outposts in the state.

Gerse has three sons, ages 14, 8 and 5, and a 13-year-old daughter. The oldest son is an active Ranger and the eight-year-old is impatiently looking forward to becoming a member.

Gerse and the Rangers of Outpost No. 7 have been selected to represent the state's Latin American outposts at the Rocky Mountain District Pow-Wow Aug. 17-19. While Gerse and the boys are proud of the recognition, they have not accepted the invitation as yet because of transportation and related logistics. However, they are hopeful.



PROVISIONS FOR A CAMPOUT are loaded in Gerse Martinez's (center) station wagon. Helping Gerse, who is Commander of Royal Rangers Outpost No. 7, are his son Danny (left) and Danny Gutierrez.



FAMILY FUN AND GAMES are planned by the Coronado Club during the old-fashioned Independence Day picnic next Tuesday afternoon at the pool and patio area. Contests, food, refreshments and entertainment will abound. Herb Filusch (7265) and family say "y'all come." Admission is free to members.

## Family Picnic Scheduled July 4 at Coronado Club Pool, Patio Area

The Fourth of July is something special anywhere in this country. The Coronado Club will make it extra special for members with an old-fashioned family Independence Day picnic.

The picnic will begin at 1:30 p.m. with fun and games scheduled through 5:30. Swimming contests, potato sack races and other contests are planned with prizes for

the winners. Vicente with guitar will provide entertainment.

Food tickets, good for two hot dogs, baked beans, soft drink or coffee, will be available for 25 cents. No charge for admission but the affair is for members only.

### Social Hour

Tonight, social hour will feature a Chinese food buffet. Max Madrid will be on the bandstand. The buffet costs \$1.50 for adults, \$1.25 for children. Mike Michnovicz with accordion will entertain in the main lounge from 8 until 11:30 pm.

On Friday, July 7, an exotic seafood buffet with a Mediterranean flavor will be spread. Bud Fischer will make the happy music while Pat Reich will star at the piano in the main lounge.

On Friday, July 14, the buffet will feature Austrian food. The Aristocrats will play.

## Toastmasters Offer Speechcraft Course

Beta Aloosters Toastmaster Club will be conducting a basic course in speechcraft. All Sandians are invited to attend the course.

Instruction will cover introduction to public speaking, selecting a subject, building confidence, building a speech, evaluation and constructive criticism, speech delivery (including visible expression) and chairmanship.

Experienced Toastmasters will conduct the eight sessions of the course. For additional information, contact either Lowell Hammonds (ALO), tel. 264-6041, or Gene Copeland (7332), tel. 264-7909.

## Speakers

C. F. Schroeder, Jr. (2134), "Energy Transfer in Electrostatic Arcs," Fifth Symposium on Electroexplosive Devices, June 13-14, Albuquerque.

R. A. Quelle (3122), "Creativity and Communication," New Mexico Society of Professional Engineers luncheon meeting, June 29, Albuquerque.

J. W. McKiernan (9331), "Engineering Careers," Madison Jr. High civics class, June 1.

Albert Narath (5150), "Nuclear Magnetic Resonance in High Magnetic Fields," Gordon Research Conference on Magnetic Resonance, June 20, Meriden, N.H.

W. L. Holley, J. W. McKelvey and R. J. Everett (all 9315), "Methods of Assessing the Lung Dose from Inhaled  $^{238}\text{PuO}_2$ ," 12th Annual Health Physics Society Meeting, June 20, Washington, D. C.

L. V. Rigby (2152), "The Sandian Human Error Rate Bank (SHERB)," Symposium on Man-Machine Effectiveness Analysis Techniques and Data Requirements, June 15, Los Angeles.

R. S. Claassen (5100), "The Electromechanical Technician in Research," 75th annual meeting of the American Society for Engineering Education, June 19-22, East Lansing, Mich.

F. R. Norwood (5261), "Axially Symmetric Cross-Sectional Strain and Stress Distributions in Suddenly Loaded Cylindri-

cal Elastic Bars" (with O. E. Jones, 5133) and "Diffraction of Transient Elastic Waves by a Spherical Cavity" (with Julius Miklowitz of California Institute of Technology), ASME-Applied Mechanics Division 1967 Joint Summer Conference on Applied Mechanics, June 26-28, Pasadena.

R. T. Dillon (5590), "The Civil Air Patrol Programs," South Valley Optimist Club, June 14, and Sunport Optimist Club, June 21.

C. A. Olson (7221), "Cloud Seeding," Sandia Kiwanis Club, June 20, and Rio Grande Kiwanis Club, July 13.

Albert Goodman (5623), "Some Things the Future May Bring" Sunport Optimist Club, June 28.

N. C. Anderholm (5623), "Lasers — A Step Forward," Upward Bound project students from Ft. Lewis College, June 30, Sphere of Science.

C. S. Johnson (7252), "ESP—Past and Present," South Valley Optimist Club, June 21; "Can We Solve the Problem of Juvenile Delinquency?" Sunport Optimist Club, July 5.

D. M. Fenstermacher (7224), "Popular Astronomy," Albuquerque Kiwanis Club, July 5.

R. M. Jefferson (5224), "Nuclear Reactor Safety," Rio Grande Kiwanis Club, July 6.

## Events Calendar

June 30-July 9—"Barefoot in the Park," Greer Garson Theatre, Santa Fe.

July 1 and 7—"Carmen"; July 5 and 14, "La Boheme"; July 8 and 12, "The Barber of Seville," Santa Fe Opera.

July 2—Cienega Canyon. N.M. Mountain Club, leader George Andrews, tel. 256-1784.

July 4—American Legion - sponsored Fireworks Display, UNM Stadium.

July 4—Seventh annual Nambe Pueblo Ceremonial, 26 miles north of Santa Fe, Indian dances, food, starting at 10:30 a.m.

July 6-9, 13-16—"Chicago" by Sam Shepard and "War" by Jean Claude Van Itallie, Old Town Studio, tel. 242-4602.

July 14-16, 21-23, 28-30—"Mad Woman of Chaillot," Corrales Adobe Theatre.

July 8—Santa Fe Baldy. N.M. Mountain Club, leader Bruce Benedict, tel. 268-4620.

July 10—Lecture Under the Stars, Dr. William Van Til on "Conflicting Ideas on American Education Today," 8 p.m., UNM Administration Bldg.

## Sanado Club Schedules Magic Show for June 11 Mother-Daughter Luncheon

A magic act featuring Paul and Marge Britt will entertain during the Sanado Club's Mother-Daughter luncheon June 11. (Sons are invited too.) The luncheon starts at 1:30 p.m. Make your reservations with Marion Nelson, tel. 264-1072, by July 7.

## Sandia Safety Signals

### Overdoing

Before you play strenuously on weekends, why not warm up. Get the kinks out. Loosen up. Even the pros warm up first. The same should go double for one who rides a desk all week.

### Spray-Type Oven Cleaners

Underwriters' Laboratories, Inc. reports that spray-type oven cleaners may, when sprayed on knobs or push buttons of electrical controls or switches, cause short circuits or grounds, which can result in fires or in eye damage due to arcing. The oven door light switch is especially vulnerable.

Spray-type cleaners can also cause a buildup of film on temperature-sensing bulbs located in the oven, causing inaccurate oven temperatures. Such bulbs should be wiped clean after each use of a cleaner, and care should be taken to prevent disturbing the position of the bulb.