Through Industrial Fund

Opportunity for Sandians to Assist Community

Industrial Foundation of Albuquerque, Inc., is conducting a campaign to establish a $1 million industrial fund to assist in the location of new industry in the Albuquerque area and to aid in the expansion of present industry.

Recognizing the importance of this activity, a number of Sandians already have sent contributions to the Industrial Fund (IF). Others have asked if their contributions could be collected at Sandia and sent to IF.

Employees wishing to contribute to IF may send their check (no cash, please) with the form on Page 8 of this issue, to I. F. of Albuquerque, Inc., P. O. Box 502 or to Division 3126, Rm. 3, Bldg. 610. For those who wish to subscribe over a period of time, Industrial Fund pledge cards are available from Division 3126.

By further developing local industry and bringing new industry to Albuquerque, civic leaders seek to insure a more balanced and stable economy.

All residents will benefit if this goal is realized. A broader industrial base for the economy of the area will contribute to the general prosperity, will provide job and business opportunities, will have a beneficial effect on real estate values, and will help to promote the continued growth and development of the city and state.

Recognizing this, the IF campaign is receiving support from hundreds of individuals and organizations in addition to members of the business community. For example, the Office and Professional Employees International Union, Local 251, is contacting union-represented employees at Sandia to give them the opportunity to contribute to IF. In a circumstance similar to Sandia's, the Albuquerque Public School System is providing its staff an opportunity to contribute.

The Industrial Foundation has issued the following statement to define its purpose:

"The purpose of Industrial Foundation of Albuquerque, Inc., is to establish a fund with which to financially assist sound, well-managed industry through the extension of credit and/or ownership of property for the purpose of providing research and development, manufacturing, and distribution facilities in the environs of Albuquerque, New Mexico.

"This fund is intended as a financial instrument to assist and implement the efforts of Albuquerque Industrial Development Service, the Greater Albuquerque Chamber of Commerce, and any other agency interested in attracting and inducing the development of industry in the City of Albuquerque and vicinity. The Industrial Foundation of Albuquerque, Inc., will in no way duplicate the efforts of these organizations and agencies.

"Recognizing the need of additional funds for the purpose of advertising and promotion by Albuquerque Industrial Development Service, the Board of Directors of Industrial Foundation of Albuquerque, Inc., may allocate a portion of this fund to Albuquerque Industrial Development Service for that purpose."

Annual Luncheon to Highlight Engineers' Week, February 19-25

Strengthening community relations and developing better relations among engineering groups are the dual objectives of the local National Engineers' Week program Feb. 19-25.

Sponsored by the National Society of Professional Engineers, the special week's theme is "Engineering for Human Environment." Albuquerque activities include a luncheon, award presentations, and displays.

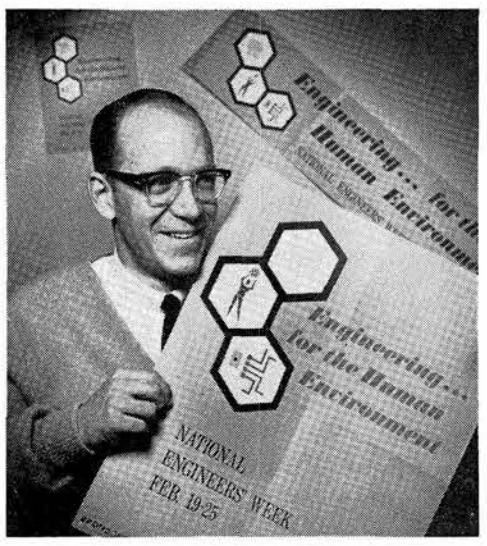
The annual luncheon at Sheraton Western Skies will highlight the week's activities, Dr. Henry E. Holt of the Astrogeological Center, Flagstaff, Ariz., will speak on "Astrogeology—A Lunar Horizon."

The luncheon program will include award presentations to Albuquerque's outstanding engineer and the outstanding foreign engineering student at the University of New Mexico.

Members of the JETS — high school students interested in engineering careers — will attend the luncheon. Over 300 persons attended last year's event.

Throughout the week many local manufacturers will feature displays of engineering subjects. Posters directing viewers to exhibits will be displayed in strategic locations.

Albuquerque activities are supported by the local chapters of the National Society of Professional Engineers, Institute of Electrical and Electronics Engineers, American Institute of Industrial Engineers, American Society of Civil Engineers, and American Society of Mechanical Engineers.



ALBUQUERQUE ENGINEERS' WEEK Chairman Lee J. Seligman (9213) amid "E Week" posters.

Lee J. Seligman (9213), is chairman of the Albuquerque Engineers' Week committee. Other Sandia members of the committee are David L. Poli (2545), John M. Michaels (1513), Charles F. Huff (9326), and John H. Lovelace (7252).

Tickets to the luncheon are available from members of the committee.

SANDIA EXHIBIT for Engineers' Week is being prepared by A. J. Landis, left, and B. J. Russo, both 3433. The exhibit will be displayed at Winrock Shopping Center during Engineers' Week, Feb. 19-25.

SANDIA LAB NEWS

Vol. 19, No. 3, February 10, 1967

SANDIA LABORATORIES ALBUQUERQUE, NEW MEXICO LIVERMORE, CALIFORNIA OPERATED BY SANDIA CORPORATION FOR THE U. S. ATOMIC ENERGY COMMISSION

UCF AWARDS for Sandia organizations are displayed by Robert H. Austin (3433), left, executive secretary ECP committee, and Fred F. Eichert (2210), 1966 ECP committee chairman.

32 Lab Organizations Presented Awards for ECP Achievement

Three Sandia directorates and 29 departments were presented United Community Fund silver plaques during a brief ceremony Tuesday in recognition of their achieving the equivalent of 90 percent employee participation in the Employees Contribution Plan and 75 percent "fair share" contributions.

The plaques, provided by the Albuquerque United Community Fund, were distributed by President Hornbeck. Accepting the awards on behalf of the organizations were the ECP directorate coordinators.

Over 88 percent of the 6977 Laboratory employees, or 6147, are contributing to ECP. A total of 2839 employees are giving their "fair share," which is the equivalent of at least one hour's pay each month. Current employee contributions to ECP are $261,532 annually.

Fred F. Eichert (2210), 1966 ECP committee chairman, opened the meeting by complimenting Sandia employees on their splendid job of supporting ECP. "The results of the drive demonstrate that the vast majority of people want to help their community," he said. "This display of participation and generosity is encouraging. As long as it is maintained, we shall continue to grow locally and as a nation."

Ed Black, president of the Albuquerque United Community Fund, then lauded Sandia employees for their leadership in the fund raising campaign which supports 29 Albuquerque UCF agencies plus eight national agencies.

Military Liaison 7500 and Quality As-

(Continued on Page Eight)

AEC Health Protection Meet Scheduled at Sandia

About 80 medical directors, health physicists, and industrial hygienists will be at Sandia Laboratory next week for the annual Health Protection meeting of Atomic Energy Commission contractors. The AEC's Division of Operational Safety is sponsoring the two-day symposium Feb. 14-15.

Purpose of the meeting is to discuss mutual health protection problems within the AEC complex and to exchange information.

Sandia's Medical Director, Dr. S. P. Bliss (3300), is serving on the arrangements committee for the meeting and will participate in a panel discussion, "Periodic Physical Examinations."

W. H. Kingsley, manager of Environmental Health Department 3310, will present a paper, "Industrial Hygiene Innovations."

R. C. Fletcher, vice president 5000, will open the meeting with a welcoming address.

The meetings will be held in Theater Bldg. 815.

Editorial Comment

What Was That Week That Was?

Americans have a weakness for naming weeks. Countless organizations maneuver, scheme, cajole, and manage somehow to get a proclamation issued by some official naming a week to recognize their special interests.

Most of these weeks are so specialized and of such limited interest that a complete listing reaches the point of ridiculousness. The list ranges from Accordian Week to YWCA Week and includes Insect Electrocutor Week, Panic Week, Procrastination Week, Save the Horse Week, Artichoke Week, and (following Thanksgiving) Indigestion Week.

Although the proliferation of these weeks is unfortunate, some of them do serve a purpose. They direct the public's attention to worthwhile activities. They focus awareness, however briefly, on aspects of our society that legitimately demand recognition and thought.

Such a week is Brotherhood Week, Feb. 19-26, sponsored by the National Conference of Christians and Jews.

In his statement on Brotherhood Week, President Johnson notes:

> "Brotherhood simply means giving to others the rights, respect and dignity they deserve.
>
> "It is a concept that was woven into the very fabric of our Constitution and Bill of Rights. In recent years, civil legislation has sought even more explicitly to guarantee equality for all Americans regardless of race, color or creed.
>
> "Unfortunately, the gap between principle and practice still remains. It is our task—and our responsibility—to make certain that the gap is closed."

Brotherhood Week is a time for examination and evaluation of the practice of our principles. The time for Brotherhood is year round.

Sandia Participating in 'Cabriolet'— AEC Nuclear Cratering Experiment

The nuclear device for Project Cabriolet is poised for detonation at the Nevada Test Site. Part of the Atomic Energy Commission's Plowshare program for developing excavation technology for peaceful purposes, Project Cabriolet involves a nuclear explosion 170 feet underground. The detonation will release about 2.5 kilotons of energy and create a crater estimated about 115 to 145 feet deep and up to 460 feet in diameter.

Sandia Laboratory personnel are participating in the project.

L. E. Hake (7262) and W. C. Wilson (7262) are members of the nuclear arming and firing team. Microbarograph measurements of air pressure waves long distances from ground zero will be made by a group headed by J. W. Reed (5232) and L. B. Smith (5241), scientific directors. Field Test project engineer is A. B. Church (7262).

Close-in air blast measurements will be made by a group headed by L. J. Vortman (5232), scientific director. Field Test project engineer is H. G. Laursen (7242).

The Plowshare program has as one of its goals the development, for the benefit of all nations, of an economic and practical nuclear excavation technology for use in digging harbors, canals, and railroad and highway passes through mountains.

Project Cabriolet is part of a continuing program to develop cratering theory. It will provide information for computer calculations and engineering studies on cratering effects in hard, dry rock.

Cabriolet will release only a small amount of radioactivity. Most of it will be trapped underground or in the earth and rock debris deposited near the crater. The experiment has been so designed that almost all the little remaining radioactivity will be deposited in the controlled area.

The detonation is scheduled this week. However, to assure public health and safety, very precise weather conditions will have to prevail before the experiment is conducted.

These and other precautions will assist the United States in meeting its obligations under the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Underwater. Underground testing is permitted if any release of radioactivity is confined within the borders of the nation conducting the tests.

Objectives of the Sandia participation in Project Cabriolet are to measure air blast pressure-time profiles at ground level from the detonation point to about 200 miles away. These measurements will establish air blast attenuation (decrease with distances and with burial depth) factors for cratering explosions. Sandia will compare results with data from other yields, depths, explosives, and environments.

Sandians manning the microbarograph stations will be at several locations in Nevada, Utah, and California. These include Don McFadden (7262), assistant project leader, at Indian Springs, Nev.; R. W. Jones (2543), Las Vegas, Nev.; D. J. Burns (1334), Boulder, Nev.; T. A. Montoya (Eberline Instruments, Inc., assigned to 7262), Lund, Nev.; A. C. Carabajal (7262), Caliente, Nev.; G. E. Morehouse (7332), Sunnyside, Calif.; D. B. Browning (7262), Castle Cliff, Utah; and E. G. Coffee (1322), St. George, Utah.

The microbarograph stations will be calibrated by one detonation of conventional high explosives just prior to the nuclear detonation and two conventional HE explosions following nuclear detonation. Fred Shoemaker and J. C. Elbert (both 7262) will arm and fire the HE calibration shots.

For close-in measurements, eight instrumentation stations, each with two gages, will be located from point zero at intervals up to 6000 feet. B. C. Holt (7242) is responsible for this instrument installation.

Data reduction duties at the Test Site will be handled by F. K. Milsap and T. F. Laney (both 7267).

SANDIA LAB NEWS

SANDIA LABORATORIES
ALBUQUERQUE, NEW MEXICO
LIVERMORE, CALIFORNIA

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PLANNING SPRING CONFERENCE for the American Institute of Industrial Engineers are (l to r) G. S. Kimball (1422), publicity chairman; A. D. Smailer (2563), program chairman; and A. E. Kaping (4332), general chairman. Industrial expansion will be the theme for the Feb. 17 event.

Experts to Address Industrial Expansion Conference Next Week

Industrial development authorities from throughout the country are scheduled to speak at a one-day conference on industrial expansion at Holiday Inn on Friday, Feb. 17.

Sponsored by the New Mexico Chapter of the American Institute of Industrial Engineers, the conference will open at 8:30 a.m. with a welcome address by Lee Stinnett (4517), president of AIIE, who will deliver the keynote address entitled "Are We Ready for Industrial Expansion?"

Gov. David F. Cargo will be the banquet speaker and James O. Roberson, executive director, Albuquerque Industrial Development Service, will speak on "New Mexico's Economic Future" at the luncheon.

Other prominent speakers appearing on the morning program include John C. Kinnear, Jr., general manager, Western Mining Division, Kennecott Copper Corp.; James F. Reilly, director, Goodbody and Company; and Robert S. Silva, manager, Applications Development, U. S. Operations, Foxboro Co.

Speakers scheduled to address the afternoon sessions are Dr. Anne Summerfield, senior operations research scientist, Systems Development Corp.; Earle R. Poorbaugh, director, N. M. Department of Development; Ernest B. Tremmel, director, Division of Industrial Participation, Atomic Energy Commission; and George Carmack, editor, ALBUQUERQUE TRIBUNE.

A. E. Kaping (4332) is general chairman for the conference. Serving as chairmen of subcommittees are A. D. Smailer (2563), program; G. S. Kimball (1422), publicity; R. J. Burnett (2546), attendance; E. R. Barber (2221), arrangements; J. H. Martin (2241), finance, registration and hospitality; and E. W. Shepherd (5590), printing and publications.

L. P. Gise, manager of AEC/ALO, will be the chairman of an afternoon session. Among the Sandians serving as chairmen of sessions are E. E. Devor (2563), K. A. Sarason (2563), W. F. Jemison (9414), R. R. Davies (4382), and G. E. Anderson (2241).

Registration for the full conference, including luncheon and the banquet, is $18. Registration forms may be obtained from members of the committee.

Events Calendar

Feb. 10 - March 16—"Cubism" Exhibit, UNM Art Museum.

Feb. 11—Bach Aria Group, UNM Cultural Series, Fine Arts Concert Hall.

Feb. 11-12—Backpack trip to Wheeler Peak area. N.M. Mountain Club, leader Don Mattox, tel. 296-4149.

Feb. 12—Day trip for the beginning snowshoer. N. M. Mountain Club, leader Mary Dey, tel. 256-1970.

Feb. 13—Concordia College Choir, UNM Concert Hall.

Feb. 15—Albuquerque Symphony Orchestra with Irene Jordan, soprano, and Bernard Thomas, narrator. UNM Concert Hall.

Feb. 15-19—Two one-act plays, "The Ceremony of Innocence" and "The Theatre of the Soul," Old Town Studio, 1208 Rio Grande NW, 8 p.m. For reservations call 242-4602.

Feb. 17—Senator Wayne Morse, "Alternatives to U. S. Warmaking in Asia." UNM Concert Hall, 8:15 p.m. Free admission.

Feb. 22—Albuquerque Symphony Orchestra with Ralph Berkowitz, pianist. UNM Concert Hall.

NEW ADDITION to the east side of Bldg. 880 is about 15 percent complete. C. N. Morrisett (left) and Tom Eglinton, project engineers with Building and Facilities Design Division II 4543, checked progress last week with Don Payne (right), construction company superintendent. The 22,500-square-foot addition will house new Sandia computing facilities.

Sandians Ted and Sydell Gold Report on Globe-Circling Trip

The striking contrast in culture between east and west was perhaps what impressed Sydell (5510) and Ted Gold (8131) most on their recent trip around the world.

Traveling west from San Francisco, primarily by plane, but also by train, boat, and car; the Golds toured through Japan, Hong Kong, Thailand, Nepal, India, and Israel.

An ex-Sandian, Keith Christian, who had worked with Sydell and Ted both in Albuquerque and Livermore, joined them in Israel for the remainder of the trip. A mechanical engineer, he had just completed two years with the Peace Corps in East Pakistan and Iran.

From Israel, the three flew to Germany, picked up a VW automobile, and toured through the Scandinavian countries, Germany, Austria, and then to Yugoslavia where they stayed at a resort on the Adriatic Sea for several days. From there they drove north through Italy, Switzerland, and France, ending their trip in Amsterdam.

"We enjoyed the entire trip," Sydell and Ted commented, but both agreed that the most exciting part was their travels through Asia, particularly India and Nepal.

"In addition to seeing the magnificent monuments of the past such as the Taj Mahal, which alone is worth the trip," Sydell said, "the way of life in these countries is so different from our own that there were some new and interesting experiences every moment.

"The poverty of the average person in India is overwhelming," she added, "and we can now appreciate the problems that these people face in trying to progress. However, they are trying."

During most of their stay in India, the Golds traveled with a young Indian lawyer they met in Jaipur, one of the first stops in India. "He was vacationing and matched his schedule to ours," Ted said. "He was exceptionally well versed in the history of his country and was able to add immeasurably to our enjoyment and understanding of the places we visited."

Sydell's favorite place was Nepal, a small country in the Himalaya mountains between India and Tibet. "Kathmandu, the capital city, is in a beautiful valley completely surrounded by mountains," she said, "and we spent most of our time bicycling to various scenic spots in the valley. We were told that Mount Everest is visible from Kathmandu, but the cloud-filled skies prevented us from verifying this. On our first day there we were fortunate to see King Mehendra escorted by a mounted guard on his way to address the assembly. It was like something out of a fairy tale," she added.

Kashmir, in northern India, was another highlight of the trip. "The scenery is most impressive, with snow-capped mountains, lush valleys, and clear streams and lakes," Ted commented. "The only noticeable evidence of the recent war are the large number of Indian soldiers in the area. It is the one place we visited in India where extreme poverty is not apparent—in fact, we were told that Kashmir is self-sufficient," he added.

While in Kashmir, Sydell and Ted stayed on a houseboat moored on the Jelhur River in Srinagar. "Each houseboat comes equipped with a domestic staff and a shikara (a smaller 'taxi' boat)," according to Sydell, "and for a few days one can live like a maharajah."

After traveling through east Asia, the Golds thought that Israel and Europe seemed like home although this was their first visit to these places. "Even the differences between East and West Berlin seemed small to us compared to the differences between either one and India," Ted said.

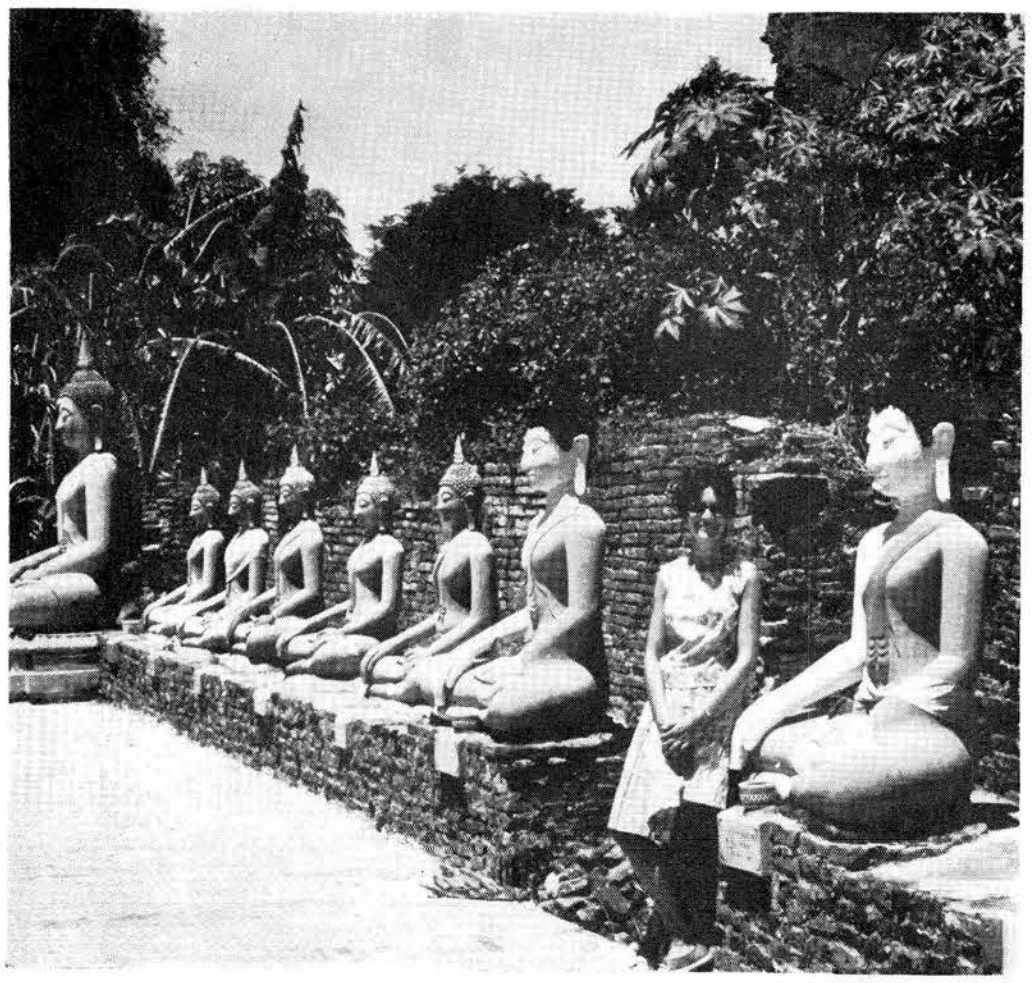
The highlight of this portion of their travels was the opportunity to visit with various families in their homes.

In Israel they stayed at an Arab home with the family of a friend whom Ted had met at Aerospace Corporation in California. "The family lived in Rama, a village in northern Israel, and they gave us an extremely warm and friendly welcome," said Sydell. "Rama was quite an interesting village," Ted commented. "It seemed every adult we met was a teacher, and they were very proud that they had a large number of their young people studying at universities in Europe and the United States. The visit destroyed some of my illusions about Arab village life that I'd received from the typical French Foreign Legion type movies," he added.

SYDELL talks with a group of children at a Buddhist temple in Nepal.

On another occasion, they spent about four days with Keith's aunt and family in Finland's lake country, about 250 miles north of Helsinki. Here they encountered the usual communication barrier when neither can speak the other's language, but in this case the barrier was partially removed through the language of music. Keith's cousin, a well known recording artist, entertained them with Finnish folksongs, accompanying himself on the kantele, the national instrument.

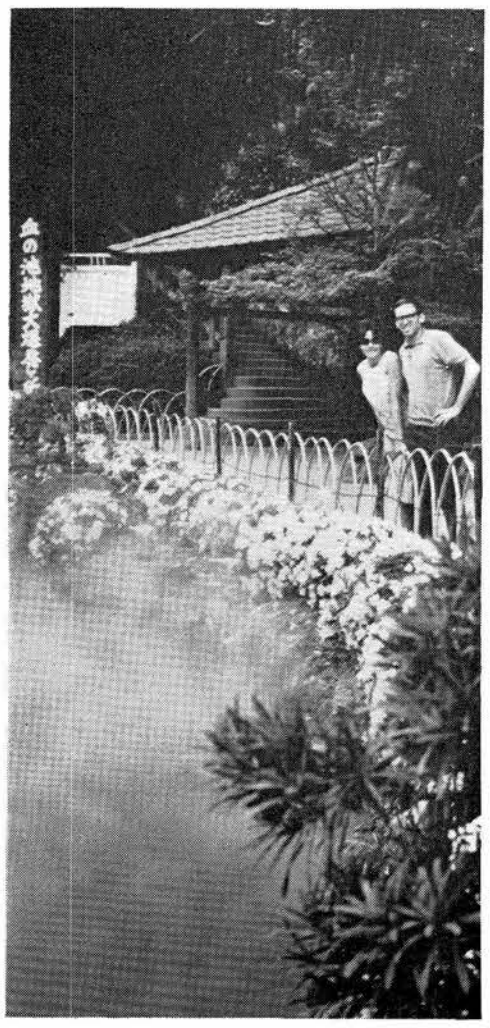
They both summed up their experience with "fantastic!"



SYDELL, at the ruins of the old capital of Thailand, Ayudhya, now being restored.

LIVERMORE NEWS

THE GOLDS and ex-Sandian Keith Christian (left) enjoy the Mediterranean beach at Cesaerea, Israel—King Herod's capital, now a beach resort.



WHILE IN JAPAN, Sydell (5510) and Ted Gold (9131) stayed at the hot springs resort area of Beppu on the Island of Kyushu.

Welcome Newcomers

Jan. 16-26

California

Milton C. Benson, Livermore	8222
Roger J. Bouscal, Livermore	8235
Thomas B. Buoye, Berkeley	8252
Gary D. Fisher, Fremont	8222
Clinton P. Mah, Berkeley	8252
Juanita Mansfield, Livermore	8144
Timothy M. Marino, Livermore	8235
James P. Wurm, Daly City	8111

Dr. Ray H. Rosenman To Address Livermore Colloquium, Feb. 14

Dr. Ray H. Rosenman, assistant chief of the Department of Medicine at San Francisco's Mount Zion Hospital and Medical Center, will speak at the Livermore Laboratory Colloquium on Feb. 14. The title of his talk is, "Behavior Patterns in Coronary Artery Disease."

In addition to his practice of Internal Medicine and Cardiology at the hospital, Dr. Rosenman is assistant director of the Harold Brunn Institute for Cardiovascular Research and serves as a consultant in Cardiology to the U. S. Public Health Hospital in San Francisco.

Dr. Rosenman received AB and MD degrees from the University of Michigan. After internships in Hematology and General Medicine, he served as a resident physician in three fields—Pathology, Cardiovascular Diseases, and Internal Medicine.

Since 1950, Dr. Rosenman has divided his time between his medical practice at Mount Zion Hospital and research studies of lipid metabolism and coronary heart disease at the Harold Brunn Institute in San Francisco.

Further information concerning the colloquium will be posted on bulletin boards the week of Feb. 13. Tickets are required for admission.

W. A. Jamieson (8235) is serving as host for this colloquium.

Livermore Notes

LIVERMORE PAGE coverage of the United Bay Area Crusade earned a first place honor award in a five-county Bay Area contest.

* * *

G. L. Rhodes, supervisor of Safety Engineering Division 8255, was one of the speakers at the Industrial Safety Conference held in Los Angeles Feb. 2-3. He discussed "Your Industrial Safety Quotient" at the manufacturing section of the conference.

* * *

Mt. Diablo Subsection of ASME is holding its February meeting on the 16th at Castlewood Country Club. Guest speakers at the meeting will be Dr. Verne T. Inmann and Prof. Howard Eberhart of the Medical and Engineering Divisions in the Biomechanical Laboratory, University of California Medical Center, San Francisco. They will discuss "Biomedical Engineering."

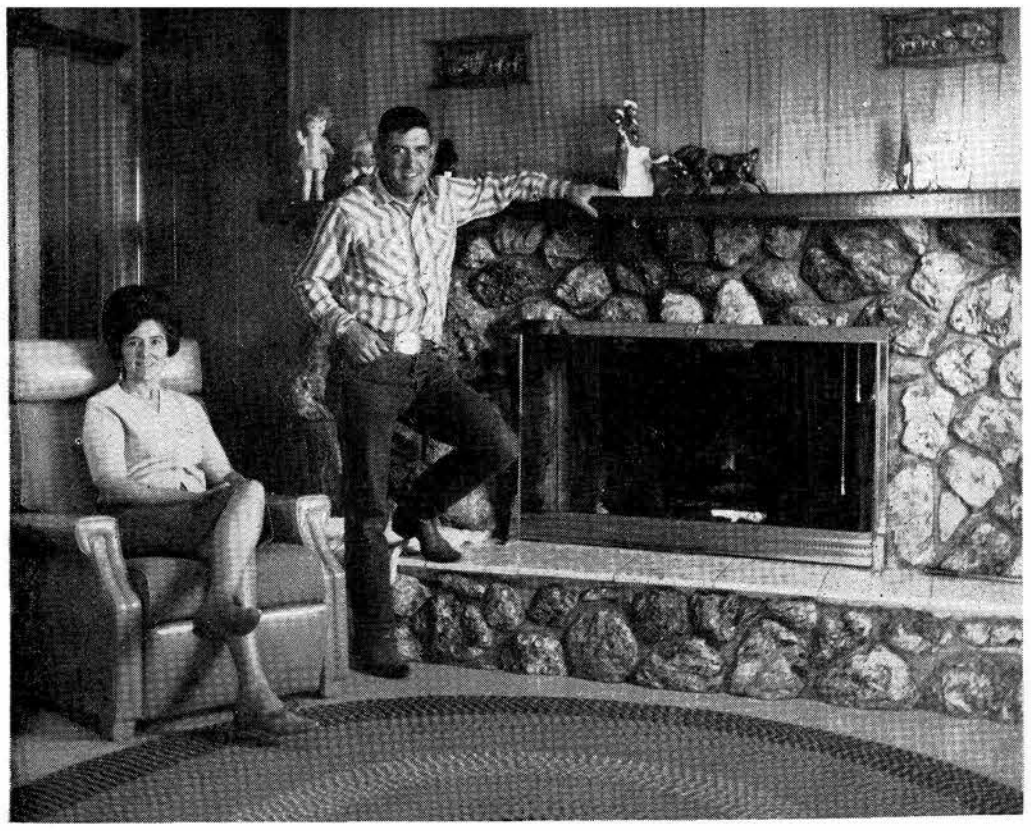
Social hour will begin at 6 p.m., followed by dinner at 7. For reservations or further information, contact Louie Tallerico (8152), ext. 2579.

* * *

John Barnhouse (8226) won the first place trophy in the Jan. 28 Sandia Employees Golf Club tournament with a net low score of 71. The straight handicap tourney was played at the Silver Pines Golf Course in Newark.

Walt Dzugan (8212) and Mo Houk (8161) both shot net low scores of 76 to tie for second place awards.

The next SEGC tournament will be held at the new Galbraith Golf Course in Oakland on Feb. 18. Those interested should contact Elmer Smith (8118), ext. 2738; or Joe Genoni (8235), ext. 2433.



NEW DEN in rebuilt 40-year-old adobe house is enjoyed by Chewie and Erminia Baca. Native stone in massive fireplace came from Chewie's mountain cattle range.

Security Guard J. M. Baca Also Farms, Raises Cattle in Tome

J. M. (Chewie) Baca (3432) enjoys the best of two worlds.

During the mornings and his days off, he is a successful farmer and cattleman with 60 irrigated acres planted in alfalfa and 100 head of cattle grazing on 18,000 acres of private and U.S. Forest Service land in the foothills of the Manzano Mountains.

Afternoons and evenings (the swing shift) Chewie is a security inspector at Sandia Laboratory.

The two worlds are separated by the 33 miles between Albuquerque and Tome and by about 100 years in time.

Although the prosperous people of Tome use the latest agricultural technology; the feeling, the culture, and the society are rooted in a rural past and a unique Spanish colonial heritage.

Chewie's great-grandfather gained title to part of the land by homesteading. The valley around Tome belonged to the community under a Spanish land grant issued to Tome Dominguez for settlement of the area almost 300 years ago. Chewie, as an heir to this part of the valley, is a stockholder in the Tome Land and Improvement Corporation which now holds title.

Chewie's house was built by his father 40 years ago. Completely remodeled now with additional rooms and a new roof, the core of the house is contained by the original two-foot-thick adobe walls. Chewie spent more than a year rebuilding and modernizing the old house.

In addition, Chewie has constructed a pumphouse, corral, and large garage-shop-storage buildings.

Before joining Sandia in 1957, he was an Industrial Arts instructor at Belen High School for eight years. His skill with tools is reflected in the cabinet work and panelling in the house, the finish of the door frames and windows, and the construction of the corrals and garage.

Current project is a new corral and training area for his five permanent registered quarter horses. He is training two of these horses for show. In the meantime, they earn their keep as cow ponies. He checks his grazing herds as often as possible, repairs fences, and breaks the ice on water troughs during cold weather.

On the leased forest land, Chewie has partially completed a water distribution system which brings water from natural springs into central, covered, storage tanks and then into wide areas of the range through a pipeline system. When completed, he can increase his herd of cattle.

His family and his wife's relatives form a larger social group with shared interests and activities centered around the crops,

RIDING registered quarter horse, Chewie heads out to check grazing cattle, repair fences, or break ice in water troughs.

the cattle, church, and community affairs.

Whatever the problems and physical efforts required, Chewie's energy is equal to the need. He thrives on five hours sleep and one-by-one tackles the chores as they come.

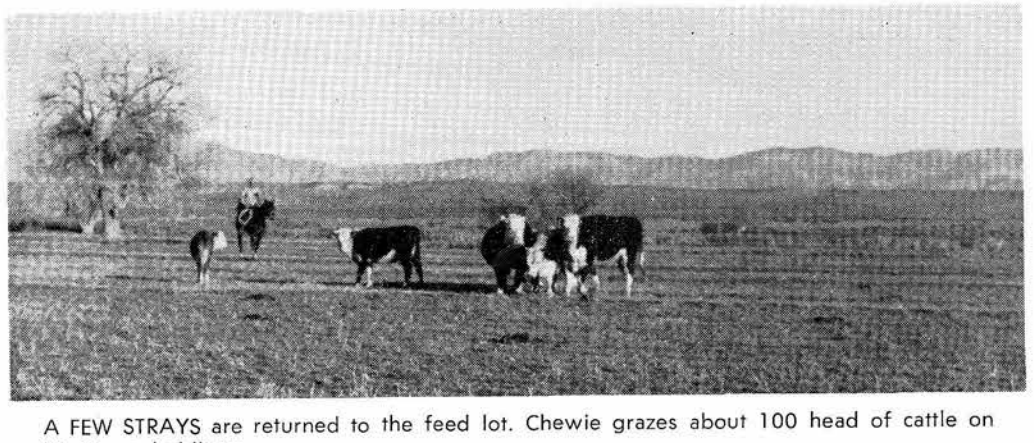
His wife, Erminia, contributes to the effort when she is not involved with the care of their lively daughter, Rosemary, age three and a half.

"A century ago," Chewie says, "most Americans worked and lived in farm communities where, I think, American values were created. Although I enjoyed teaching school and think that my work at Sandia is important, I belong on the land."

Improvements to the land and more time-saving equipment for farming and maintenance are the goals Chewie holds for the future. Like all busy fathers, he wants to be able to spend more time with his family.

In the meantime, the seasons change and the chores change, but for Chewie it's more of the same.

"More work," he says.



A FEW STRAYS are returned to the feed lot. Chewie grazes about 100 head of cattle on his Tome holdings.

Ed Phinney and Dick Richards

Save Bernalillo County Money With Voter Registration Board Work

In six years of serving as members of the Bernalillo County Board of Registration, Richard A. Richards (7245), Edward S. Phinney (9319), and Mrs. Mary Lawlis (the third member of the Board), have been instrumental in effecting a complete changeover in the voter registration records system.

Some 43,000 names have been purged from the voter lists, as they should have been according to law, and the preparation of eligible voter lists prior to elections has been greatly streamlined.

Using the machine system has saved the County some $40,000 during the six years the Sandians have served.

In 1960 there were some 100,000 registered voters in the County, now there are more than 130,000 and each name is part of a permanent machine-record system. Computers print out the lists of eligible voters by voting divisions and precincts prior to elections. Additions and deletions can be made mechanically to the master listing.

However, the three-man Board is still responsible for the master books of registration affidavits, and these are the authoritative records.

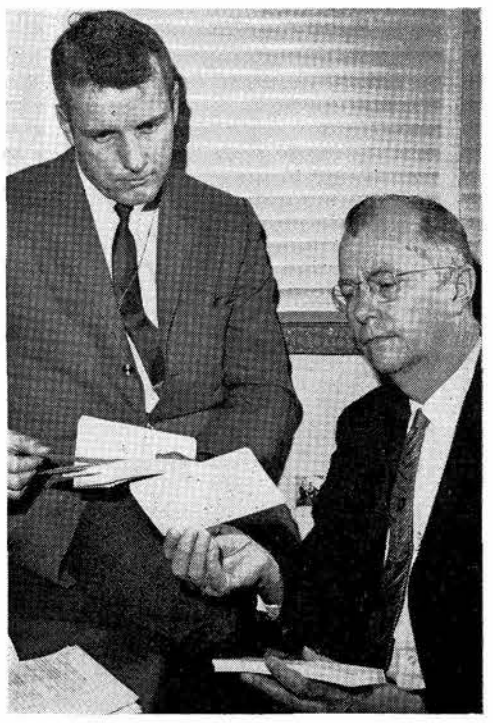
"The new systems were made possible through the efforts and support of the County Clerk and the County Commission," Ed says. "We have suggested the changes, and many times performed the required programming, and even suggested legislation to enable changes to be made to the system. The goal is to serve the voters by providing an accurate, rapid, and economical system."

Dick, who was long associated with the development of Sandia's Automated Programming and Recording (APAR) testers, feels that the data processing system is not only more accurate and efficient, but provides improved protection from fraud or manipulation of the voter registration lists.

The next step, according to the Sandians, is to implement a signature roster voting system at the polls during elections. An experiment was conducted at Precincts 44 and 50 during the last general election and proved successful. Here again, "successful" means more rapid and more efficient service to the voter.

The machine system involved computer-printed listings of the voters of the precincts, a number from the list which was used by the voting officials to check eligibility, and the signing of a data card when the voter cast his ballot.

The card is a voting record and will be used later in the purging of voter lists of those people who did not vote in at least one of the last two general elections.



SANDIANS Ed Phinney, left, and Dick Richards check data cards used in a recent Bernalillo County voting procedure experiment. Their work as members of the Board of Registration helped establish a new system for voter registration records. Resulting efficiency has saved the County $40,000 in the past six years.

This eligibility requirement for eligible voters has been a headache in keeping voter rolls accurate and up to date. Much of the manual checking and rechecking of the lists could be eliminated with the use of a machine system.

"We helped write the bill that the Legislature passed which authorizes Class A Counties to use machine systems," Ed says. "Our recent experiment proves the system is feasible and, more important, reasonable in cost. The next step is up to the new County Clerk."

Both Sandians became interested in local politics several years ago and worked on the precinct level to register voters — Ed for the Democrats and Dick for the Republicans. Through the years on the Board, they have worked together to serve the interests of all voters, a fine example of what democracy is all about—government by responsible, representative citizens.

Sandia Authors

G. C. Smith (5213), "Resonance Type Dielectric Behavior in Solids," Vol. 212, Pg. 15-20, KOLLOID-ZEITSCHRIFT UND ZEITSCHRIFT FUR POLYMERE (published in Darmstadt, Germany).

R. C. Hughes (5213) and Z. G. Soos of Princeton University, "Paramagnetic Susceptibilities and Temperature - Dependent Excitation Energies in Linear Organic Crystals," January issue, JOURNAL OF CHEMICAL PHYSICS.

Richard Holland (5142), "The Equivalent Circuit of a Symmetric N-Electrode Piezoelectric Disc" and "Representation of Dielectric Elastic and Piezoelectric Losses by Complex Coefficients," January issue, IEEE TRANSACTIONS ON SONICS AND ULTRASONICS; "The Linear Theory of Multielectrode Piezoelectric Plates," 1966 WESCON Convention Record.

D. C. Wallace (5155), "Renormalized Spin Waves in the Heisenberg Ferromagnet," January issue, PHYSICAL REVIEW.

H. J. Stein (5211), "On the Energy Dependence of Neutron Damage in Silicon," January issue, JOURNAL OF APPLIED PHYSICS.

H. H. Wicke (5261), "Open Continuous Mappings Satisfying a Completeness Condition. Preliminary Report," Vol. 13, Pg. 511, NOTICES OF THE AMERICAN MATHEMATICAL SOCIETY.

H. H. Wicke and J. M. Worrell, Jr. (both 5261), "The Open Compact Continuous T_2 Images of Metrically Topologically Complete Spaces," January issue, NOTICES OF THE AMERICAN MATHEMATICAL SOCIETY.

J. M. Worrell, Jr. (5261), "On Compact Spaces and Cech Completeness," Vol. 13, Pg. 644, and "Local Completeness and a Variation of Arhangel'skii's Base of Countable Order Concept. Preliminary Report," Vol. 13, Pg. 510, NOTICES OF THE AMERICAN MATHEMATICAL SOCIETY.

L. F. Shampine (5262), "An Inequality for the Derivatives of Non-Negative Polynomials," December issue, AMERICAN MATHEMATICAL MONTHLY.

G. A. Samara and D. H. Anderson (both 5132), "Ferroelectric-Paraelectric Transition in Lithium Trihydrogen Selenite," January issue, SOLID STATE COMMUNICATIONS.

G. A. Samara (5132), "Insulator-to-Metal Transition at High Pressure," January issue, JOURNAL OF GEOPHYSICAL RESEARCH.

W. C. Lyons (1116) and T. Mura of Northwestern University, "Continuous Distribution of Dislocations and Energy Dissipation in Metals," Vol. 39, No. 30, JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA.

B. W. Marshall (9311), "Oxidation and Ablation Characteristics of Tantalum in a Hyperthermal Environment," November issue, AIAA JOURNAL.

R. T. Meyer (5234), "Flash Photolysis and Time Resolved Mass Spectrometry. I. Detection of the Hydroxyl Radical," Jan. 15 issue, JOURNAL OF CHEMICAL PHYSICS.

J. M. Peek (5121), "Theory of Dissociation of H_2^+ by Fast Electrons," Feb. 5 issue, PHYSICAL REVIEW.

H. H. Wicke and J. M. Worrell, Jr. (both 5261), "Extension of a Result of Dieudonne," February issue, NOTICES OF THE AMERICAN MATHEMATICAL SOCIETY.

R. C. Wayne and D. H. Anderson (both 5132), "Pressure Dependence of the Morin Transition in the Weak Ferromagnet alpha-Fe_2O_3," February issue, PHYSICAL REVIEW.

John E. McDonald Accepts National Committee Post With Astronautics Group

John E. McDonald, manager of Materials and Process Department I 1110, has accepted an appointment to serve on a national committee of the American Institute of Aeronautics and Astronautics.

The newly created committee will serve as a focal point for information about space age materials, materials development, and future needs for material development. They will collect and disseminate information and recommend areas of interest and problem areas for investigation.

In addition, the five-man committee will undertake self-generated surveys on pertinent problems in the materials field which are particularly appropriate to AIAA interest. They will also serve as, or arrange for, consultants to various government, industry, and university agencies on materials problems.

Mr. McDonald will serve for a year on the committee.

He holds a PhD degree in physical chemistry from Purdue University and is the author of a number of technical publications in the field.

Musical Program Set For Sanado Meeting Feb. 14

Sanado Woman's Club will present a musical program by soprano Suzie Poole at a sherry luncheon Tuesday, Feb. 14, at 1:30 p.m. at the Coronado Club.

Theme of the decorations will be "Hearts and Roses," according to Mrs. Joseph Feistamel, chairman. She will be assisted by Mmes. B. A. Hock, G. Q. Wilson, and R. A. Leach.

Honored guests at the meeting will be the Board of Governors of the Kirtland Officers' Wives Club.

Reservations should be made with Mrs. E. E. Bylander, 3303 Tiley Drive, NE, today.

College Notes Are Old But Diploma Is New

Last month Helen Spriggs, secretary for Division 1323, proudly displayed her graduation diploma from the University of Montana. The unusual factor is that she hasn't "gone to school" for better than 20 years.

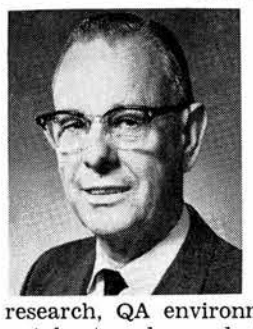
Helen attended the University at Missoula before and just after her marriage. She quit when her husband Charles (3465) "went to war." After he returned, she was busy raising five children.

"I only lacked one credit for receiving my degree and I was always going to take a course to complete the requirements, but it never seemed convenient," she says.

Last year Helen wrote to the college authorities and found them "helpful and pleased" that she intended to complete her degree work. The Montana school officials waived the residence requirement and allowed her to take a course in Adolescent Psychology by correspondence.

That's how Helen earned her BA degree. with majors in sociology and economics. "I tell acquaintances that the degree is older than I am," she says.

Retired



Albert R. Elwell, Jr. of Field Test Scheduling Division 7221, retired from Sandia Jan. 31. He joined the Laboratory in July 1952 as a military liaison training instructor. He has worked in quality assurance testing, personnel research, QA environmental testing, radiant heat and non-destructive testing, and field test.

Before coming to Sandia, Mr. Elwell taught physics at the University of Wyoming. Since his retirement, he has resumed teaching, and is an electronics instructor at the Technical Vocational Institute.

Mr. and Mrs. Elwell live at 504 Girard Blvd. SE. They both like to travel and since 1960 have vacationed in Europe, Hawaii, and Central America. Mr. Elwell is active in several organizations; he is Commander of Pilgrim Commandery No. 3, Masonic Temple; is a member of the Sons of the American Revolution and the New Mexico Genealogy Society; and participates in a number of church activities.

"I have never had enough time to do all the reading and other things I like to do," Mr. Elwell said. "I spend a good deal of time working with organizations I belong to, and my teaching is a full time job, but I still hope to be able to find time to travel."

SPACECRAFT STERILIZATION Advisory Committee of the National Aeronautics and Space Administration met at Sandia Laboratory recently for briefings on studies underway in Planetary Quarantine Department 2570. Before the meeting started (l to r) R. W. Henderson, vice president 2000; H. D. Sivinski, manager of Planetary Quarantine Department; and Lawrence B. Hall, planetary quarantine officer, Bioscience Programs, Office of Space Science Applications, NASA, met for a brief discussion. The 10-member committee of eminent scientists and engineers was welcomed by Mr. Henderson, who discussed the history of the Laboratory and described Sandia's non-weapons programs.

HANK CRANSTON explains the fine points of the mechanical function of an automatic .45. For competition shooting, a standard .45 must be converted to a match weapon, a precision process which Hank has mastered over the past six years through trial and error. He has no formal machine shop training.

Considering Economics . . .

Sharpshooter Hank Cranston Learns Art Of Pistolsmith in Self Defense

Hank Cranston (2213) holds a Life Master ranking in pistol shooting with the National Rifle Association. This means that he maintains an average of 91 points (out of a possible 100) in target shooting competition.

He shoots a .45 automatic service pistol. This is a mean weapon, known more for its power than its accuracy.

To convert a .45 from its standard performance to a match weapon is a time consuming, expensive, precision job. In self-defense, Hank became a pistolsmith specializing in match conversions of .45s.

With an ordinary .45 bolted to a test stand and aimed at a target 50 yards away, the "spread" of a series of bullets is usually about 12 inches between the furthest impact holes. For one of Hank's converted pistols, the spread is about two inches. The series of bullets chew a ragged hole in the center of the bull's-eye.

In the six years Hank has been converting pistols, he has completely rebuilt 15 of his own .45s — experimenting, learning, perfecting the process. In addition, he has converted a number of pistols to match weapons for friends.

There are two areas of primary concern — the barrel and its bushings which hold it in the slide, and the trigger release mechanism.

In contrast to a revolver which has sights fixed to the frame and the barrel, a .45's sights are on the slide which moves back and forth on the barrel to allow ejection of the spent cartridge. When it returns to the firing position, the barrel and the sights are not in perfect alignment — there are a few millimeters of slack in the bushings. Hank takes out this slack with tighter bushings, precision alignment of the slide.

Also, he replaces the barrel with one with special "rifling" (the grooves inside the barrel which cause the bullet to spin during its trajectory). He buys the barrel blanks and machines them to fit.

For the complete conversion job, Hank spends as much as 40 hours in his "shop," a converted pump house adjacent to his house in the Sandias on north Highway 10. The shop is fitted with a 12-inch metal turning lathe, a 14-inch drill press, an acetylene torch, and a bench grinder in the way of power equipment; but most of the work is performed with a large variety of hand tools.

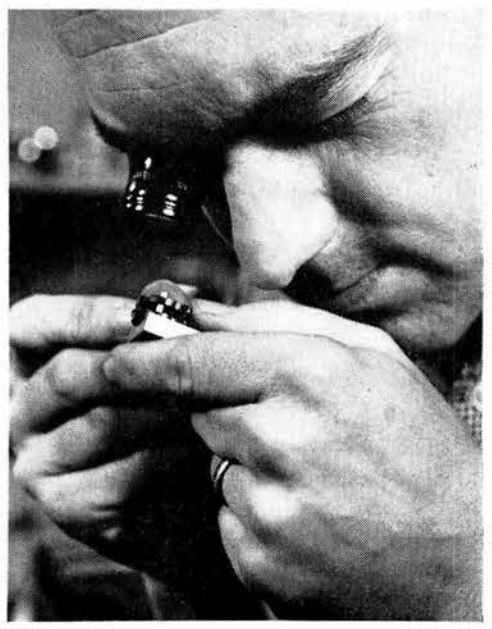
Each conversion is a custom job, with each of the interlocking parts matched individually.

The trigger mechanism is honed to give a perfect "let off," the trigger pressure which fires the weapon. This must be so slight that the shooter is not aware of and cannot anticipate the exact moment of release.

"Otherwise, the shooter spoils his aim," Hank says. "A target shooter must maintain absolute concentration. Much of this is controlling reflexes. If you flinch before you shoot, you've had it."

In six years of competition shooting, Hank has won an impressive array of medals and trophies. He has picked them up with top scores in local, district, state, and national competitions. He's most proud of the one he earned in 1965 for scoring among the top five percent of the 2800 shooters competing in the National Trophy Match at Camp Perry, Ohio.

"I get a double kick out of shooting high scores," Hank says. "First, there's the thrill of winning, and second, I get the satisfaction of knowing that part of the accuracy results from the work I did on the .45."



CLOSEUP SCRUTINY of a trigger release mechanism gives Hank guidance for the delicate adjustment of the release pressure. This operation alone can require up to eight hours in the conversion of a .45 to a match weapon.

TROPHY CASE bears witness to Hank's prowess as a pistol sharpshooter. He holds the rank of Life Master in National Rifle Association competitions.

PLASTIC DROP UNIT, used by the Air Force in training exercises, was the project recently reviewed by a Value Engineering Workshop team. The group recommended design changes which will save some $700,000 in production costs. From left are C. J. Curtis (7251), P. A. Liguori (2212), P. R. Wilkes (9327), team leader B. C. Moore (7256), W. D. Jones (2542), and Lt. Col. E. P. Mazak (FC/DASA).

Recent $700,000 Savings Idea Illustrates VE Workshop Goals

Outstanding ideas emerge from each of the Value Engineering Workshops conducted by Sandia Laboratory, according to Elmer Devor, supervisor of Value Engineering and Cost Improvement Division 2563.

These result from applying value engineering techniques to a project and analyzing it in terms of design function compared to costs. Teams of engineers with different technical specialities examine every aspect of the project with the goal of reducing production or operational costs without sacrificing quality, safety, or reliability.

From the Value Engineering Workshop team, the recommendations are presented to the responsible organization for implementation. In the three years the Workshops have been conducted by Division 2563, more than $3 million has been accrued in cost improvements.

From the most recent VE Workshop, conducted Jan. 9-18, 1967, an Air Force training weapon device was examined that serves as a typical example.

A six-man team was assigned a project submitted by the Air Force Weapons Laboratory, Kirtland Air Force Base. It was a practice drop unit used in development testing and Air Force training exercises.

B. C. Moore (7256) was the VE project team leader. Most familiar with the project was P. R. Wilkes (9327), a member of the Air Force Reserve who had worked on the unit as part of his Reserve duty. Other members of the team were C. J. Curtis (7251), P. A. Liguori (2212), W. D. Jones (2542), and Lt. Col. E. P. Mazek (Field Command/DASA).

In analyzing the design of the AFWL practice drop unit, the team found several areas where changes would result in reducing production costs for other applications.

They recommended changing the material used in the unit's case from a plastic to a nylon which would allow a faster molding rate.

Also recommended was a change from a one-piece case to a two-part construction method, that included molding the ballast section of the unit as part of the front core section. This reduced the weight and cost considerably by eliminating 50 percent of the parts. Also, snap joint construction was recommended for more rapid assembly.

In essence, the VE workshop team's evaluation resulted in the proposed design of a completely new practice drop unit. Should the design idea be implemented, the team estimates that more than $700,000 could be saved over the production costs of the present drop unit. This figure is based on a production run of 200,000 units.

Eventual goal of the VE workshop program is to make the VE technique part of the design methods used by all Sandia engineers. To date, the workshops have been attended by more than 600 Sandians.

In addition, Division 2563 has conducted workshops for five AEC offices and AEC integrated contractors. These were attended by 168 persons.

To attend a Value Engineering Workshop, contact Division 2563, tel. 264-5973.

W. M. O'Neill Serves As IMRD Reviewer

William M. O'Neill, manager of Materials & Process Department II 1120, recently served as representative on the review committee of a symposium presented by Inorganic Materials Research Division, Lawrence Radiation Laboratory.

The IMRD is a fundamental research organization operated by the University of California at LRL Berkeley and supported by the AEC. The Jan. 23-25 symposium was an annual report of the organization to the AEC.

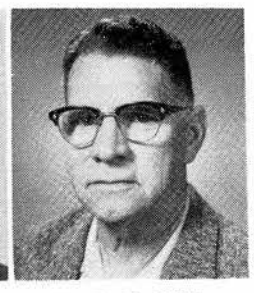
In serving on the review committee, Mr. O'Neill joined a distinguished seven-man board of academic and industrial authorities in chemistry and metallurgy-ceramics fields. The committee served as catalysts for discussion of the symposium subjects and as evaluators of the work performed.

Mr. O'Neill is familiar with IMRD research through Sandia recruiting trips to the Berkeley campus, and through association with two of the IMRD staff who are Sandia consultants and who have worked summers at Sandia in the Inorganic Materials Science areas.

Deaths

Mrs. Terry

A. M. Fellows



R. B. DeWitt

Marie H. Terry, a retired Sandia employee, died Jan. 4 after a lengthy illness. She was 71.

She retired from Sandia in January 1961 after working here eight years as a secretarial typist.

Survivors include three sons.

* * *

A. Milton Fellows, a retired Sandia employee, died Jan. 29 in Albuquerque after a long illness. He was 71.

He retired from Sandia in March 1961 after 10 years as a staff member in Sandia Personnel organizations.

Survivors include his widow, a daughter, and a grandson.

* * *

Reuel B. DeWitt, a staff assistant in Stockpile Sampling Division B 2125, died Jan. 23 after a long illness. He was 63.

He had worked at Sandia since November 1950.

Survivors include his widow, four daughters, and two sons.

Take Note

The 37th annual membership campaign for the Albuquerque Community Concert Association will be conducted Feb. 13-16. Among attractions already booked for the 1967-68 season are Robert Merrill, baritone, and the Washington (D.C.) National Symphony with violin soloist Michael Rabin. Other artists will be announced later.

Further information about the concert series or regarding memberships may be obtained from Cherry Lou Burns, tel. 242-2407.

* * *

C. D. Taylor and C. W. Harrison, Jr. (both 1425) were lecturers at a colloquium held Feb. 7 at New Mexico State University, University Park. Attendees were from the university's Physical Science Laboratory, Department of Electrical Engineering, and Department of Physics.

Mr. Taylor discussed electromagnetic wave scattering from inhomogeneous imperfectly conducting cylinders, resistive antennas, and missiles with plumes (ionized trails). Mr. Harrison's talk was devoted mainly to the subjects of the DC pulse handling capabilities of several classes of wave launchers and collectors, and on electromagnetic shielding for DC pulse incident fields. Some of the applied physics problems in electrodynamics currently being worked on in Division 1425 were mentioned.

* * *

C. J. McGarr (4600) and H. L. Crumley (4362) led a panel discussion on inventory control by computer and an automated purchasing system at the Laboratory last week. Attending the meeting were personnel from Los Alamos Scientific Laboratory, Atomic Energy Commission, and National Aeronautics and Space Administration's Cape Kennedy facility.

* * *

"Parachute Development at Sandia," an 11-minute color motion picture with sound, is now available for employee and public showings. The film opens with a brief sequence on the history of parachutes. It then portrays the problems of using parachutes at supersonic speeds and some of the solutions.

The film ends with the success of a large parachute tested at speeds nearing Mach 3 and cites some future goals of Sandia's parachute lab. Additional information on the availability of the film may be obtained by calling Bill Pepper (9324) at 264-7358.

C. H. Karnes Presents 'Rockets and Jets' to Third Grade Classes

Eight-year-old Reagan Karnes was the proudest boy in the Comanche Elementary School recently. His father, Charles H. Karnes (1115), talked to the combined third grade classes on "Rockets and Jets" and did a good job, too. They were still talking about it later at Cub Scout meeting.

Charles said, "You can never start too early to introduce complex subjects to children. The introduction is reinforced continually throughout the educational process and learning comes easier, through this familiarity, in later years."

Charles demonstrated the principles of rocket and jet propulsion through the use of balloons.

"I released a few in the classroom and that was great fun," he said. "Then I placed one on the end of a flask with a little water in it and heated the flask with a match. This demonstrated the expansion of gas under temperature."

He also prepared some simplified drawings of the internal mechanisms of jet and rocket motors. Highpoint of the talk was a movie of a Sandia rocket sled stopped with a water brake. The movie was taken with a high speed camera and was projected in "slow motion," a dramatic effect.

"The children seemed receptive," Charles said, "but I got the impression that I didn't tell them anything they didn't already know. The important thing was to demonstrate an adult interest in their education, and to indicate the importance of science in today's world—and tomorrow's."

Charles' talk was the first of a series to be presented by fathers of children in the class. The fathers will discuss scientific topics appropriate for the class studies in progress.

VOLUNTEER WORK designing the revolving stage for Tingley Coliseum earned a plaque of appreciation for T. J. Williams (1431), left, from the New Mexico State Fair Commission. The plaque is presented by G. T. Hennessee, commission chairman.

* * *

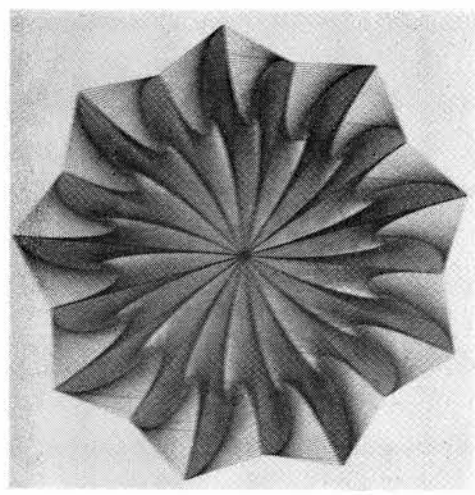
An Industrial Fund Fashion Show will be presented Tuesday, Feb. 21, at 8 p.m. at the Civic Auditorium. The $1 admission will go directly to the Albuquerque Industrial Fund. Sponsoring organization is the Bernalillo County Young Republicans. Earl Chapman (2422) is president, and Dick Bemis (2451) is vice president.

* * *

The Free Lance Orators, an informal group which meets Wednesdays at noon to study public speaking skills, invites any interested Sandian to join them on the mezzanine of Bldg. 841.

On Wednesday Feb. 15, Oletha Cox (4211) will discuss "Jeanne Dixon Says . . ."

* * *



Donald K. Robbins (9424) received honorable mention for his entry in COMPUTERS AND AUTOMATION magazine's 1966 computer art contest. Entitled "Rosette," Don's entry (above) represents a modification of a solution to a problem in calculus. The figure was drawn on a CalComp plotter made by California Computer Products.

* * *

Nick V. Tarnawsky, supervisor of Mail Services Section 3415-2, will be a guest speaker at an American Management Association seminar in Dallas, Feb. 20-24. Subject of the seminar is "Managing the Modern Office Services Organization."

Nick will present information on domestic and international postal regulations, newest techniques for packing and bulk-forwarding mail and material, and cost control and reporting procedures.

* * *

D. Jack Rider, an inspector in Field Quality Control and Extension Laboratories Division 2431 stationed at Sidney, N.Y., was recognized recently by the community as an outstanding courteous driver.

He received a courteous driver award from Freedom Lodge No. 324, A.F.&A.M. The award was for "individual acts of courtesy." Purpose of the awards program is to promote courteous and safe driving.

* * *

An article and photographs by Don Graham (3432) appear in the current issue of U. S. CAMERA. Title is "The Road to Significance."

Service Awards

15 Years


J. A. Armijo
4513


A. A. Barrett
3313


Bernice Beeson
3321


J. M. Benavidez
4514


D. L. Berry
2234


Mary Catallo
4574


J. E. Chavez
2552


Jerry Cole
4213


Fleta Forsman
4632


C. N. Giles
4615


M. E. Grant
2431


R. W. Griffin
4252


Nathan Knapp
2555


J. E. Marquis
2212


F. I. Martin
6021


Monico Martinez
4574


R. E. McClure
2452


Ann McIntyre
9323


R. R. Murray
1415


R. A. Poe
7262


L. P. Robertson
1415


Vera Romero
2540

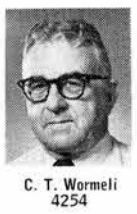

C. J. Ruttle
7215


E. W. Shepherd
5590


S. L. Smith
4514


JoAnn Urevitch
7510


Q. L. Vandi
2223


C. T. Wormeli
4254

10 Years

Feb. 10-23

M. M. Plugge 1521, M. J. Roach 2211, R. C. Anderson 2213, J. B. Meland 2443, C. Wolfinbarger 4631, R. K. Bump 2131, R. J. Niebel 2213, E. Jean Shaffer 1310, R. E. Sanders 4611, J. R. Cejka 7263.

Geraldine M. Becker 2234, H. L. MacPherson 3242, R. L. Stinson 4253, M. G. Gregory 8112, W. E. Watson 9221, R. B. Hosley 9414, J. P. Darginis 8133, Theresa F. Phelps 4152.

C. T. Schafer 9212, E. N. Villella 9322, H. B. Young 2114, R. R. Carlson 2452, G. W. McClure 4512, J. E. Edwards 1512, N. A. Herbst 4253, M. E. Bush 7226, Wanda M. Stevenson 7334, and B. T. Fox 9427.

Sandia Speakers

D. F. McVey (9326), "Reentry Vehicle Thermal Heat Shields," ASME student section, University of Wyoming, Jan. 18, Laramie, Wyo.

C. H. Purdue (2442), "Reliability Aspects of Active Circuit Analysis Programs," Tutorial Symposium on Circuit Design by Computer, Feb. 1, New York University.

P. J. Chen (5261), "On the Attenuation of Acceleration Waves of Arbitrary Form in Isotopic Finite Linear Viscolastic Materials," Department of Metallurgy, Mechanics, and Materials Science, Michigan State University, Jan. 24, Lansing, Mich.

R. R. Eaton (9326), "Three-Dimensional Flow Around Blunt Bodies," Fifth AIAA Aerospace Science Meeting, Jan. 26, New York City.

Albert Narath (5150), "Nuclear Magnetic Resonance in Transition Metals and Alloys," Department of Physics Seminar, University of Pittsburgh, Jan. 20, Pittsburgh.

G. J. Simmons (5612), "Some Properties of Cyclical Binomial Coefficients," New Mexico IM&T Conference on Pure and Applied Mathematics, Feb. 25, Socorro.

R. S. Wilson (2220), "Some New Engineering Uses for Computers," ASTE, Jan. 19, Albuquerque.

R. N. Rogers (5151), "Electron Paramagnetic Resonance and the Study of Magnetic Exchange," University of New Mexico Department of Physics Seminar, Jan. 13.

F. H. Mathews (7343), "Blast Testing at the Sandia Corporation Thunder Range," Institute of Environmental Sciences, Jan. 9 at the San Fernando (Calif.) Valley Chapter and Jan. 16 at the Dayton (Ohio) Chapter.

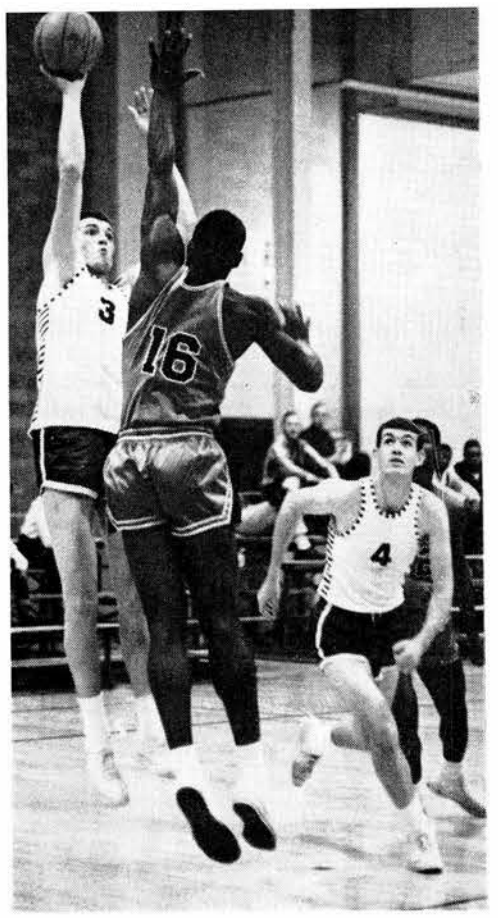
C. J. Fisk (9424), "Computer Layout of Printed Circuits," Fifth National Electronic Packaging/Production Conference, Jan. 31-Feb. 2, Long Beach, Calif.

Congratulations

To Mr. and Mrs. Richard E. Holben (2212), a son, Richard Rettinger, Jan. 22.

Mr. and Mrs. D. E. Bishop (7322), a daughter, Jennifer Lynn, Jan. 15.

Mr. and Mrs. R. G. Mosteller (7262), a daughter, Aleta Rae, Jan. 20.



HIGH-FLYING action marked the opening All-Star tournament game between Sandia Laboratory and Sandia Base. Art Sharpe (No. 3) prepares to sink one while Tom Guess (No. 4) moves into position.

Lab All-Stars Take Third in Base Tourney

The Sandia Laboratory All-Star basketball team won two and lost two to end up in third place in the recent All-Star tournament between the Laboratory, Sandia Base, Manzano Base, Kirtland Air Force Base, and ACF Industries, Inc.

The Lab team played Sandia Base to open the tournament and lost 80-60. The Lab All-Stars then took two in a row, defeating Manzano, 86-43, and ACF, 55-54.

In the final game, Sandia Base won, 76-74.

Members of the Lab team are Leo Chavez (4611), Jim Sanchez (4611), Tom Guess (1114), Art Sharpe (7335), Bob Gardner (2232), Jim Hudson (3132), Dave Preston (7344), Dale McLachlan (5142), Martin Kodlick (2212), Gil Baca (4517), Dan Giessing (AEC), Ron Zottnick (2432), Ken Flynn (8136), and John Brane (2211).

Gene Long (2551) was team manager assisted by Joe Gallegos (AEC).

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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 ads are now grouped in three categories — Real Estate, Cars and Trucks, and Miscellaneous. Employees will be limited to one For Sale ad per issue in only one of the categories. For example, an automobile may not be combined with a house for sale or with "miscellaneous" items. When submitting ads, please mark the category.

FOR SALE

CARS AND TRUCKS

'58 FORD, 4-dr., 6-cyl., ST. 2920 Alcazar NE, Ward, 298-7230.

'66 VOLKSWAGEN, best offer. Trujillo, 877-5260.

'60 THUNDERBIRD, all power and air. Fjelseth, 299-8642.

'53 CHRYSLER Windsor, 6-cyl. sedan, make offer. Magee, 256-1358.

'60 CORVETTE, two tops, 4-spd., new paint, 38,400 original miles, 283 cu. in. engine. Moore, 268-1683 or 256-0529 after 5.

'64 RENAULT Dauphine, 4-spd. box. Randle, Placitas, N. Mex.

'55 CHEV. ½-ton pickup, 3-spd., 6-cyl., R&H, rebuilt engine, '67 license, wood cover. Kutarnia, 298-6660.

'65 BUICK sportswagen, AT, factory air, PB, PS, R&H, 31,000 miles, $1995. Schmierer, 299-2352.

'55 GMC ½-ton pickup, 3-spd., $325. Louie, 243-1846.

'64 CORVAIR, best offer over $950. Griego, 842-8041 or 243-3696 after 5:30.

'60 FORD ½-ton pickup, $775 or will trade for VW economy car of equivalent value. Everett, 264-6877

'60 FORD ½-ton pickup, 4-spd., 6-cyl., R&H. Sanchez, 298-3130.

'60 FORD pickup w/Gemtop camper, Rees, 299-0939, after 6.

'65 VOLKSWAGEN sedan, $1200. McMullen, 877-1935, after 5:30.

'54 FORD 2-dr., 6-cyl., Fordomatic, PS, $62. Tiefa, 299-2763.

'57 FORD station wagon, R&H, standard shift, w/OD, $100. Bahr, 256-7452.

'51 CHEVROLET 4-dr. sedan, w/'55 Chev. engine. Hurst, 265-0893, after 5:30.

'65 MUSTANG, GT, equipped, 4-spd. trans., radio w/reverberator, disc brakes, $1850. Rogers, 898-2364.

'50 FORD ½-ton pickup, 4-spd., R&H, $250. Harvey, 12708 Turquoise NE, 299-0769.

'65 FORD Custom, will sell at $200 below book. Brown, 242-8406.

'57 PONTIAC Star Chief, 4-dr. HT, AT, PS, PB, R&H, $295. Harker, 282-3435.

'55 FORD V8 station wagon, R&H, original owner, $160. Hart, 299-8832.

'57 PONTIAC Star Chief, 4-dr. R&H, AC, recent tuneup, fender damaged, $275. Johnson, 255-2846.

'62 CORVAIR convertible, R&H, ww, 4-spd. ST, $650. Nickelson, 296-2945.

'49 FORD 4-dr. sedan, R&H, OD. Barber, 299-4287.

'54 CHEV. ½-ton pickup. Toya, 125 El Pueblo Rd. NW, 898-0491.

'58 DODGE ½-ton pickup, needs work, $90. Bauhs, 282-3497.

REAL ESTATE

3-BDR. frame stucco house, hwf, fp, AC, new carpet, complete mature landscape, 329 Morningside Dr. NE, $13,900. Nelson, 255-2364.

2-BDR. TRAILER, tandem w/tandem axles. Schiess, 255-3252.

2-BDR., carpet, hwf, fp, garage, grass, cfa, AC, $275 and take over payments, 1114 Princeton NE. Campbell, 256-3214.

3-BDR., 1¾ baths, FR, fp in LR, drapes, carpeting, cfa, AC, covered patio, sprinklers, front & back, dbl. garage, dbl. carport, corner lot. Savage, 299-7130 after 6.

3-BDR., den, fp, carpet, lg. kitchen, patio, lg. lot, AC, GI loan, near school Comm. kindergarten, shopping center. Holesinger, 898-2296.

MISCELLANEOUS

SHRINE PIN, 12 diamonds, $135. Magee, 256-1358.

'62 14' FIBERGLASS runabout w/62 40hp Evinrude, 2-wheel trailer, $950 or best offer; lawn mower, rakes, hedgecutters, hose, Rees, 299-0939 after 6.

MALL portable electric plane, $90; 2 heavy-duty skill-saws, $25 ea. Kavet, 299-1793.

TRICYCLE, $3; bicycle, $6; 2 baby strollers, $3 ea.; 2½hp reel type lawnmower, $40; small wood burning cast iron stove, $20. 2832 Dakota NE, Glenn, 265-0647.

HI FI equipment cabinet: oak, separate compartments for tuner, tape deck, record player and storage, $25. Fite, 255-6943.

2-WHEEL TRAILER, H-36", W-54", L-84", plywood frame, canvas button-down cover. Bernyk, 9313 Marron Circle NE, 296-2109.

TWO 5:60x15 snow tires, some tread remaining, both for $5. Souder, 282-3121.

SCHWINN 10-spd., needs front brake, $30. Haskins, 282-3748.

35 MM Sawyers slide projector; 5000 BTU tent heater; 44,100 BTU floor furnace (complete); 7'x8' garage door w/hardware, will trade. Aaron, 282-3803.

SWIMMING POOL, portable, 3' deep x 12' dia., w/ladder and slide, used one season, $50; sleeping bags (2), children size, $10. Barber, 299-1752.

DINETTE SET, 36"x60", tan wood grained formica top w/leaf, 4 upholstered chairs, $35. Wilde, 344-6079.

'65 DUCATE 90cc, $125. Trujillo, 877-5260.

17 CU. FT. deep freeze, chest type, $50; washer and dryer, $35 ea. Ward, 2920 Alcazar NE, 298-7230.

15" WESTERN riding saddle, ¾ rig rawhide tree, $40; 1½hp 4-cycle gasoline engine, $10. Bassett, 898-1840.

STEREO TAPE DECK, fits 12v auto; bow and arrows, 60-lb. pull; .22 rifle; weights, barbells; golf clubs; FM tuner. Slesinger, 299-4626.

SCOTT 72-watt dual channel stereo amplifier; antique victrola, RCA; Oster massage vibrator; Sear's reel-type power mower. Jones, 268-5236.

BOAT, 14', 16 hp motor, trailer, $250. Spencer, 268-2914.

SOLID MAPLE twin bed, $20; Rotobroil rotisserie, $10; utility table, $2; baby jump chair, $2. Bader, 299-9459.

HI FI: Knightkit stereo amplifier, $15; Webcor stereo changer, $10. Giddings, 298-6221.

WASHING MACHINE, 2-spd. Hotpoint. 5 yrs. old, white, overhauled last year, cost $200 new, want $80. Cano, 255-0211.

MAGNUS chord organ, 37 keys, $20; boy's bicycle, 26", $15; Mororola radio phonograph w/10" speaker, needs work, $25. Stathis, 268-4037.

WEDDING GOWN, $40; pink formal, $15; both size 10, or will trade. Stubben, 298-6116.

WOLVERINE electro-voice LS12 speaker in 16½x24x32 cabinet, $20. Saffle, 268-0682.

HARLEY-DAVIDSON "74" morercycle, completely overhauled, make offer. Dennis, 299-2157.

MARLIN Levermatic .22 caliber rifle, lever action, eight-shot clip, $50. Talley, 344-6838.

STEREO HEATHKIT preamp AA-141A, 28-watt preamp. AA-111. Sullivan, 268-5130.

BABY GRAND piano, Linderman, new strings, pins, dampers. Foster, 296-1162 or 282-3220.

BASENJI puppies, barkless, odorless, short hair. Cole, 236 Conchas, NE.

YOUTH BED, $15; baby crib, $10; mattress for both. Hart, 256-2811.

21" MOTOROLA TV w/stand & some replacement tubes, $65. Reinman, 256-9737.

21" RCA TV, floor model w/casters, $45; ¾-size student violin w/case, $50. Hughes, 299-6674.

HO GAUGE MODEL railroad on 4x8 board, 2 engines, 9 cars, 5 switches, 9 buildings, make offer. Mikkelsen, 3421 Dakota NE, 268-1485.

10X SMALLBORE jacket, size 44, new, $10; portable electric oven w/stand, $11. Schiess, 255-3252.

LIFETIME EDITION Photo-Lab Index, completely up to date as of Jan. 1966, cost $25, sell for $15. Goodwin, 256-2216.

'61 TRIUMPH Tiger Cub, motorcycle trailer. Campbell, 256-3214.

GIRL'S bicycle, 24", $12. Kingsley, 299-1226.

GARRARD record changer; Heathkit 20-watt amp.; Dynakit 60-watt amp.; Knight stereo preamp.; 12" speaker w/tweeter; 2 speaker cabinets, $80. Oravecz, 282-3667.

DRAPES, 2pr., short; 6-yr. maple crib; Peterson stroller; car seat, can be used as stroller rumble seat. Bartlett, 299-4861.

DEN SALE: Haviland, linens, glassware, china, drapes, silver, some furniture, misc. Williams, 6106 Bellamah NE, 256-6008.

GARRARD record changer, 4-spd., $25; RCA 24" TV, limed oak console w/doors, new picture tube, $45. Reynolds, 299-5157.

'66 HONDA motorcycle 90cc, 900 miles, must sell, $250 or best offer. Shanfeldt, 296-3154.

BLACK mouton jacket. Corlis, 344-1137.

RIDING GARDEN TRACTOR w/blade. Cafferty, 898-3102.

TWO AQHA registered mares, one granddaughter of King, $450; one granddaughter of Hard Twist, $400. Garrison, 344-2023 after 5:30.

DINING ROOM table, "Extensole," limed oak, desk size, expands to seat 12, $60. Fortman, 256-2105.

EARLY AMERICAN wing-back tweed sofa, reversible foam cushions, pleated skirt, $80. Newman, 256-3295.

POST EARRINGS for pierced ears, 14-karat gold, cost $5.20, sell for $2.50. Matlack, 256-7371.

SNOW TIRES, 5:20x13, tubeless, 4-ply nylon, whitewalls, two for $14. Beegle, 298-8254.

WALNUT bedroom suite, and springs. Kelley, 1517 Rita Dr. NE, 255-6531.

IGNITION TIMING LIGHT, Sear's 110v AC powered, $10. Corey, 299-5168.

DINING ROOM SET, table, 8 chairs, china cabinet, buffet, American of Martinsville, $375. Harvey, 299-5209.

'66 HONDA 160cc Scrambler, 3500 miles, $430. Cobb, 268-3151.

BOY'S 24" bike, $7.50; 2 tricycles, $2 ea.; child's rocketeer, $6; and chain drive tractor, $5 Baxter, 298-1567.

GAS REFRIGERATOR, $15. Bauhs, 282-3497.

.22 PELLET RIFLE. Toya, 125 El Pueblo Rd. NW. 898-0491.

WANTED

PLAYER PIANO, working condition, any model, any price. Reynolds, 299-5157.

METRONOME, good enough for beginning piano student. Coleman, 299-2377.

EXCHANGE or pay for ride from Los Padillas to vicinity of Bldg. 840. Patterson, 877-6037.

WINCHESTER lever action 30-30. Patterson, 877-3158.

RECORD PLAYER, portable, 3-spd., for AC. Roberts, 256-3901.

TRAVEL trailer, sleeps six. Scott, 298-7133.

WOMAN wants a few hours of housework per week. Wilhelm, 242-4319.

8 or 8½' PICKUP camper, reasonable. Sanchez, 298-3130.

ROPING HORSE, must be registered stock, about 15 hands, age 5 through 10, good natured, must be sound. Pena, 898-0197.

RIDE from vicinity Menaul & Quincy NE (3 blocks west of San Mateo) to Bldg. 806. Will share expenses. Buccheri, 255-8028.

TRADE 12 gauge pump shotgun for saddle. Johnson, 255-5427.

PLUG-IN STRIP. Baxter, 344-7601.

'54 DODGE SHOP MANUAL; safety belts, manufactured by Beams or Rose. Stuart, 299-9190.

FOR RENT

2-BDR. luxury apartment, $120, near Sandia, brand-new furniture, AC, launderette, carpeted all electric kitchen. Kitzinger, 299-1046.

3-BDR. ROBERSON HOME, very clean, carpeting, drapes, landscaped large yard, near Eubank and Candelaria. Clark, 299-6410.

2-BDR., brick, electric kitchen, fully carpeted, pool, near Eastdale shopping center, off street parking. Bell 299-4643.

LOST AND FOUND

LOST — Prescription glasses, black plastic glove, yellow cluster of flowers earring, wallet, Polaroid glasses, black ski cap, bracelet, 3-strand pearls, safety glasses, sun glasses w/black plastic frames, silver & turquoise earring, Case pocket knife. LOST AND FOUND, tel. 264-2757, Bldg. 610.

FOUND — Lady's grey gloves, tobacco pouch, man's hat, Gruen watch, boot key-case w/keys. LOST AND FOUND, tel. 264-2757, Bldg. 610.

Coronado Club Theater Night Feb. 18 Will Feature Old-Time Melodrama

Emphasis is on entertainment at the Coronado Club's "Theater Night" scheduled Saturday, Feb. 18. The Sandia Showmakers will present a swinging old-fashioned melodrama called "Curfew Jack Dalton." This hiss-the-villian-cheer-the-hero opus will follow a prime rib dinner. The New Mexichords, a vocal group, is also on the entertainment bill.

The evening's social hour starts at 6 p.m., dinner will be served at 7, and showtime is at 7:45. Following the show, dancing to the Phil Graham orchestra starts at 9 p.m.

Cost to members is $3.50, guests $4. Tickets must be picked up by 9 p.m., Feb. 17.

* * *

Teenage sons and daughters of Club members will hold their monthly go-go dance Saturday, Feb. 25. The Jeremy Bentham Four will be on the bandstand from 7:30 until 10:30 p.m. Members must pick up tickets by 5 p.m., Feb. 25.

* * *

Social Hours

Tonight Max Apodaca will make the happy music. The chuckwagon beef and shrimp creole buffet will be served. The buffet costs $1.75 for adults, $1.50 for kids.

On Friday, Feb. 17, Sol Chavez and the Bernalillo Brass will brighten the bandstand. The popular Mexican food buffet will be served, and the price for adults is $1.25, $1 for kids.

On Friday, Feb. 24, Rex Elder's guitar and combo will provide the music. The seafood buffet will be served.

El Toro Nights

El Toro Nights at the Coronado Club, an innovation of the new concessionaire—Szabo Food Service, Inc., are proving popular with Sandians.

From 5 until 7 p.m. Mondays through Thursdays, the main lounge of the Club features a solo entertainer (currently Betty Mayo at the piano) and social hour prices for ladies.

An intimate dining area has been created adjoining the lounge, and menu service, featuring a daily special, is available. Examples of the specials are spaghetti and meat sauce at $1.25, roast round of beef and French dipped roll at 95 cents, and deep fried chicken with cranberry sauce, salad, and French fried potatoes at $1.35.

The regular menu features steaks, seafood, and sandwiches.

Bridge

The team-of-four open championship competition will be held Monday, Feb. 13. Preceding the night's play, dinner will be served at 6 p.m. For reservations, call 344-0731.

ACF Bridge meets at 7 p.m. Wednesday, Feb. 15. Ladies Bridge meets Thursday, Feb. 16, at 1:15 p.m. On Monday, Feb. 20, the duplicate bridge group will meet at 7 p.m.

Ski Club

Coronado Ski Club members will meet at 7:30 p.m., Tuesday, Feb. 14, to lament the local weather, think snow, and watch movies.

Holiday

The Club will be closed Wednesday, Feb. 22, to observe Washington's birthday.

THEATER NIGHT at the Coronado Club Feb. 18 will feature an old-time melodrama for entertainment. The villain is Searle Woods; the heroine, Donna Bashaw; and the hero, Daryl Petrig. The Sandia Showmakers will present the production at 8:15 p.m. following a prime rib dinner at 7.

EL TORO NIGHTS at the Coronado Club Mondays through Thursdays from 5 p.m. feature pianist Betty Mayo and a full menu service with special prices. At right are Mr. and Mrs. R. A. Kavet (1525); at the near table, Mr. and Mrs. J. H. Kelly (3112); and at the far table, Mr. and Mrs. O. B. Tjeltweed (5732).

Continued from Page One

ECP Awards Presented

surance Department 2110 received their third silver plaque award during the meeting. Three departments (Compensation 3110, Public Relations 3430, and Field Force 7530), which had received gold certificates for the 1964 campaign, were awarded their second silver plaque. Second silver plaques were presented to 18 other organizations.

Organizations with 100 percent participation and their fair share participation (shown in parentheses) are Special Devices Department 1310 (.77); Systems Engineering Department 1520 (.76); Systems Test Equipment Development Department 2440 (.83); Planetary Quarantine Department 2570 (.83); Organization & Manpower Development Department 3130 (.87); Labor Relations Department 3220 (1.17); Medical Services Department 3340 (.99); Advanced Systems Research Department III 5530 (1.22); Patent Manager 6010 (1.29); Weaponry Training Department 7510 (.89); and Field Force Department 7530 (1.03).

Also receiving awards were the following organizations, with their percentage of participation and fair share equivalent: Electromechanical & Power Supplies Department 1320, 96.8% (.83); Nucleonic Devices Department 1410, 89.8% (.75); Systems Engineering 1500, 96% (.76); Systems Development Department 1510, 95.2% (.76); Engineering Analysis Department 1540, 92.4% (.78); Quality Assurance 2100, 94.7% (.81); Quality Assurance Department 2110, 97.9% (.95); Systems QA Department 2120, 95.8% (.76); Reliability Department 2150, 96.6% (.90); and Component Test Equipment Development Department 2450, 98.2% (.76).

Compensation Department 3110, 96.7% (.95); Employment & Personnel Department 3150, 96.7% (.91); Safety Engineering Department 3210, 92.3% (1.00%); Public Relations Department 3430, 88.2% (.86); Administrative Assistant Department 3450, 94.4% (.97); Auditing Department 4120, 96.2% (.87); Purchasing Department I 4310, 96.8% (.76); Purchasing Department II 4370, 90% (.81); Molecular & Plasma Physics Research 5120, 81.8% (.89); Military Liaison 7500, 92.2% (.86); and Space Isotope Power Department 9330, 96.4% (.75).

Accepting the awards for the organizations were Bob Rieden, Hugh Bivens, Jim Taggart, Joe Losinski, Larry Platt, Dave Bushmire, Marion Jacot, Charlie Hines, Roy Hunter, Bob Lassiter, Bill Stevens, Gene Newlin, Jim McClure, and Ken Cole.

Send this form with your check (no cash, please) to

I. F. of Albuquerque, Inc.
P. O. Box 502
Albuquerque, N.M.

or

Division 3126
Rm. 3, Bldg. 610

To help provide funds for the industrial development and expansion of Albuquerque, I hereby contribute the sum of _____ dollars to Industrial Foundation of Albuquerque, Inc., a non-profit organization.

Name_____

Address_____

(make checks payable to I.F. of Albuquerque, Inc.)

Shirley McCall (7335)

Take A Memo, Please

The more you hear about safety, the less you hear about accidents.

Sandia's Safety Scoreboard

Sandia Laboratory:

33 DAYS
1,155,000 MAN HOURS
WITHOUT A
DISABLING INJURY

Livermore Laboratory:

106 DAYS
524,400 MAN HOURS
WITHOUT A
DISABLING INJURY