



THE SMILE OF VICTORY came when these runners learned they had taken a first in the Business Women's Relay of the Corporate Cup. The Labs' 45 competitors went on to win the 12-event Corporate Cup, handily beating out PNM, LASL, and other entrants. From left, Carolyn Hart (4744), Sandra Green (4733), Ruth Hawley (3531), and Dale Zurawski (2523). Other photos and story on Corporate Cup appear on page 6.

LAB NEWS

VOL. 32, NO. 12

JUNE 13, 1980

SANDIA NATIONAL LABORATORIES • ALBUQUERQUE NEW MEXICO • LIVERMORE CALIFORNIA • TONOPAH NEVADA

Films Fuel Pin Motion

New CAIS Instrument 'Sees' Into Reactor Core

An instrument that can take motion pictures of nuclear fuel movement inside a reactor core during a simulated accident has been developed and successfully tested by John Kelly and Terry Stalker, both of Radiation Physics and Diagnostics Division 4426.

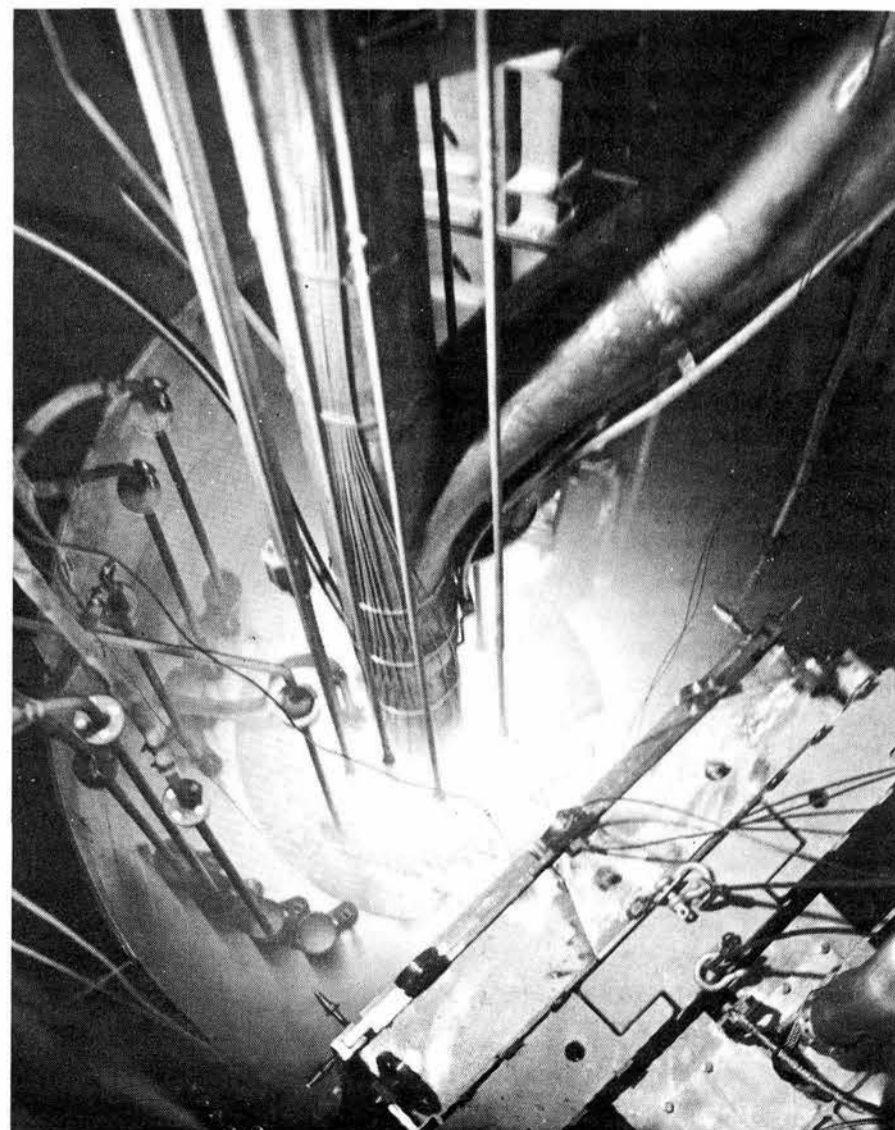
The image information is transported through the heavy steel and nickel containment structure as well as through a circulating medium of liquid coolant by gamma rays emitted from the fuel during the fissioning process.

Called the Coded Aperture Imaging System (CAIS), the instrument fits snugly inside the 30-ft.-deep shielding pool of Sandia's Annular Core Research Reactor. The 8000-lb. CAIS is positioned beside the reactor and "looks" directly into the central test chamber of the core.

Advanced Reactor Research Department 4420, under Nuclear Regulatory Commission sponsorship, is studying the behavior of power reactor fuel assemblies under simulated accident conditions. The movement of the fuel—as little as a fraction of a gram of fuel moving a few millimetres in less than a thousandth of a second—must be precisely measured in these experiments. This is an extremely difficult task in the high radiation flux, high temperature environment of the reactor.

Dave McArthur (4423) first suggested using the two-step coded aperture imaging technique for studying the dynamics of fuel failure under simulated accident conditions. The method was first used by astronomers to image weak x-ray stars and was later used in diagnostic procedures in nuclear medicine. Although gamma rays cannot be focused with lenses in the same manner as visible light, the information they contain can be determined or encoded by modulating the gamma ray beam. (The resulting image has similarities to an optical hologram.) This technique uses a code plate made up of spaced regions which either transmit or attenuate the beam.

Two code plates made from a high density platinum and gold alloy are used in the present CAIS instrument. They are one dimensional linear adaptations of a Fresnel zone plate. The collimated gamma ray beams are modulated by the code plates and produce a visible light



CODED APERTURE IMAGING SYSTEM (CAIS) films experiments underway in Sandia's Annular Core Research Reactor. The CAIS is in position (at lower right) adjacent to the core of the reactor.

[Continued on Page Four]



DAVE GOMEZ (3423-3), JOE APODACA (3417-2) and HERB FLOYD (2332)



JULIAN LOVATO (2455) and JIM DAVIS (3423-1)

Supervisory Appointments

HERB FLOYD to supervisor of Timers, Programmers and Security Applications Division 2332, effective June 1.

Since coming to the Labs 22 years ago, Herb has been concerned with electronic component development, thin film hybrids, radiation effects and large scale integrated circuits. For the past four years he has been with Unique Signal Generators Division 2331. He was an electronic technician for nine years before coming to Sandia.

Herb earned a BEE (five-year program) from Ohio State University. His MS, also in EE, was awarded from UNM under Sandia's Educational Aids Program. He has completed some post graduate studies at Stanford. Herb served four years in the U.S. Marine Corps; his tour included combat in Korea. He is a member of the Civil Air Patrol and the NM Mountain Club. He enjoys hiking, swimming and flying, especially flying to Mexico to fish in the Sea of Cortez.

* * *

JIM DAVIS to supervisor of Transportation Section 3423-1, effective June 1.

Jim has been at the Labs for 23 years, working most of that time in the ad-

ministrative area of the explosives group—storage, issue and receipt of explosives. His organization has also handled the loading and unloading of Ross aircraft engaged by the Labs.

During the Korean conflict Jim served in the Navy. He is a native of Indiana and has lived in Albuquerque since 1956. Leisure activities include Little League baseball, the Youth Basketball League, hunting, and fishing. He and his wife Joanne have two children and live in the SE heights.

* * *

JULIAN LOVATO to supervisor of Project Design Definition Division IV 2455, effective June 1.

Julian first joined the Labs in 1957 as a trainee draftsman—an in-house program of drafting and design. In 1962 he left Sandia and worked for North American Aviation as a senior designer for six years. He then returned to Sandia as a senior designer. Under Sandia's Educational Aids Program, Julian earned his BBS from the U of A in 1972. He transferred to the accounts payable organization and became an administrative assistant analyst. From 1976 until his present promotion, Julian has worked in personnel where he has focused on minority and female engineer recruiting as well as other college and technical institute recruiting.

He is an associate member of the Mexican-American Engineering Association and the Society of Hispanic Professional Engineers. He served five years on the Coronado Club board of directors and is a past president of the Coronado Club aquatic club. Off the job he enjoys competitive sports, camping and gardening. Julian and his wife Margie have three children.

* * *

DAVE GOMEZ to supervisor of Storage Section 3423-3, effective June 1. Since coming to Sandia in September 1950 as a security guard, Dave has worked in classification, production scheduling and statistics, field testing and, most recently, as administrative coordinator in Field Support and Logistics Section 1135-1. Dave

worked in the field test organization for about 18 years, including several assignments in Hawaii.

He earned his business administration degree from Regis College in Denver and served three years in the Navy during WWII. Off the job he enjoys camping and fishing. Dave and his wife Emma have four sons and four grandchildren.

* * *

JOE APODACA to supervisor of Receiving and Processing Section 3417-2, effective June 1.

Since joining Sandia in July 1949, Joe has worked in various activities relating to receiving and processing. "The buildings and the organization numbers have changed, but the system for receiving and processing materials has been basically the same," he says.

Before moving to Albuquerque, Joe was a machinist in Oakland, Calif., where he attended vocational school. He has also completed several courses at T-VI. His primary interest off the job is golfing. Joe has one daughter and a grandson.

Events Calendar

June 13-14, 20-21, *27-*28 — Modified stock car races; *Jon Balster Benefit—sprints, super modified & super stock, 7:30 p.m., Valley Raceway (1 mile south of Rio Bravo on Broadway).

June 13-15*, 20-22*, 27-28—"The King and I," Albuquerque Civic Light Opera, Popejoy, 8:15 p.m., *matinee 2:15 p.m.

June 14-15—Pueblo Pottery Exhibit, Indian Pueblo Cultural Center, 10 a.m.-5 p.m., 12th & Menaul NW.

June 15—Art-in-the-Parks—mime, puppetry, dance, music, magic; 2-5 p.m., Roosevelt Park; June 22—Bataan Park.

June 24—Annual San Juan Feast Day, Buffalo and Comanche dances, arts & crafts booths (San Juan Pueblo); corn dance (Taos Pueblo).

June 26-July 13—"The Glass Menagerie," Adobe Theatre, 8:30 p.m., 898-3323.

June 27-29—19th Annual NM Arts & Crafts Fair, \$1, 10-10 (Fri. & Sat.), 10-6 (Sun.), State Fairgrounds.

LAB NEWS

Published every other Friday

SANDIA NATIONAL LABORATORIES

An Equal Opportunity Employer

ALBUQUERQUE, NEW MEXICO

LIVERMORE, CALIFORNIA

TONOPAH, NEVADA

Editorial offices in Albuquerque, N.M.

Area 505 844-1053

FTS 844-1053

ZIP 87185

In Livermore Area 415 422-2447

FTS 532-2447

john shunny is editor

&

don graham ass't. editor

chuck cockelreas & norma taylor write

louis erne does picture work

aided by gerse martinez

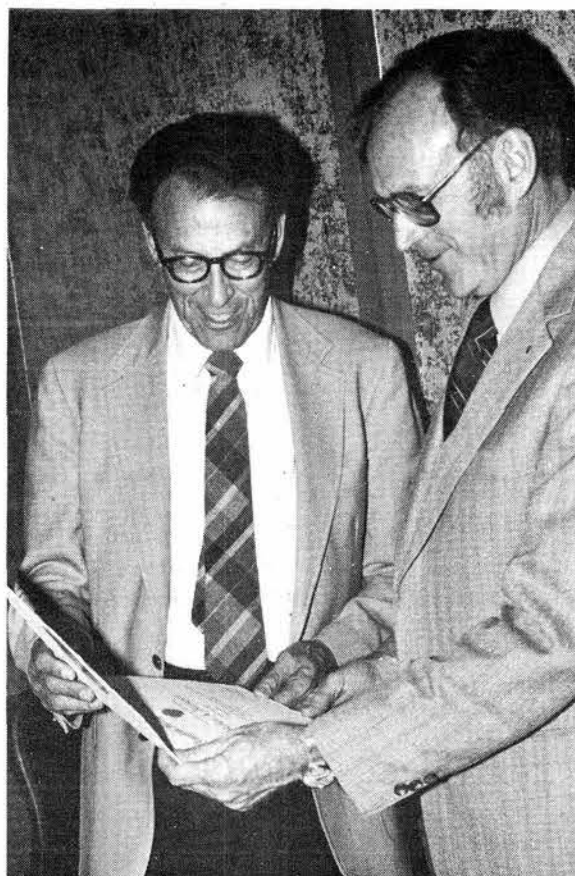
barry schrader & lorena schneider report livermore.

LIVERMORE NEWS

VOL. 32, NO. 12

LIVERMORE LABORATORIES

JUNE 13, 1980



RECEIVING THE ASME Fellow honor is Arlyn Blackwell (8200, at right) from ASME Region IX VP-elect Richard Pefley.

Arlyn Blackwell Elected Fellow

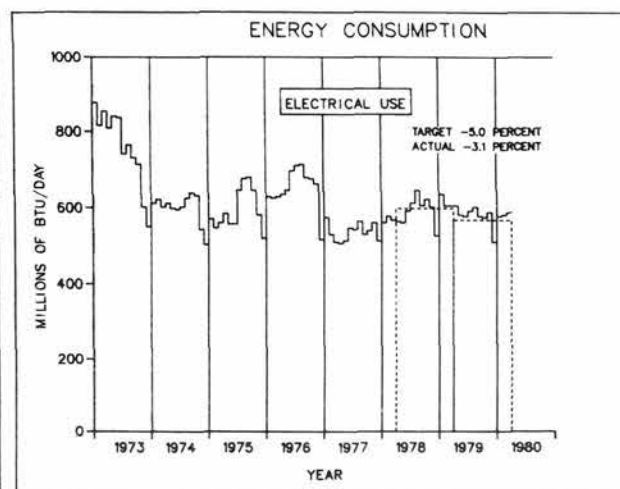
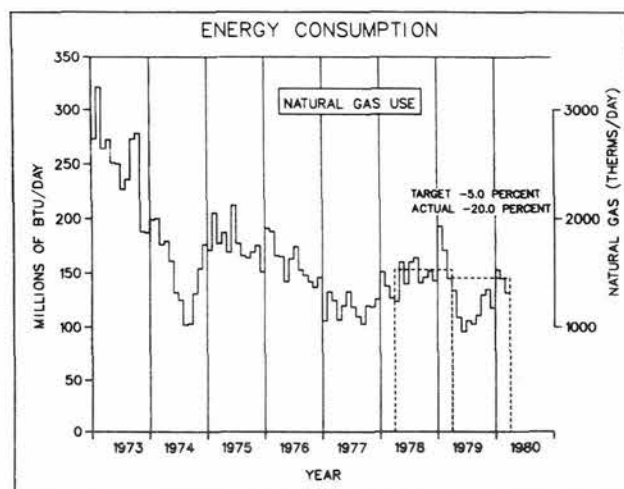
The American Society of Mechanical Engineers recently elected Arlyn Blackwell (8200) to the grade of Fellow.

He was given the honor at a recent meeting of the Mt. Diablo Section in Livermore. Presentation of the certificate and pin was made by Prof. Richard Pefley, chairman of the Mechanical Engineering Department at the University of Santa Clara and VP-elect for Region IX of ASME.

Arlyn has been with Sandia since 1959 in a number of staff and management positions. He has been active in both weapon and energy programs and helped to establish the research program in combustion processes that led to the Combustion Research Facility. He has held his present position as Director of Operations since 1978.



DOE VISITOR—Sandia National Laboratories Livermore recently hosted John Hewitt, DOE's chief financial officer, on a tour of the facilities. Looking over some briefing materials from left to right are Hewitt, President Morgan Sparks, VP Tom Cook and Joe LaGrone, manager of DOE/San office.



DOTTED LINES show President Carter's guidelines for energy use. April 1978 to March 1979 is the base period; April 1979 to March 1980 is our first year under the guidelines for conservation.

Energy Belt Tightened at Livermore

Following President Carter's edict last year to reduce energy consumption, the Department of Energy issued guidelines mandating reductions in electrical and natural gas usage of 5% and in gasoline consumption of 10%.

Overall, SNLL has surpassed federal

Take Note

Sandia employees donated a record 146 pints of blood during the recent Blood Bank drive at Sandia Livermore. Seventy-four pints went to the Sandia Blood Bank and 72 to the Kaiser Health Care Plan.

Jim Henderson, Benefits Division 8214, states that the next Blood Bank date is Nov. 13.

Congratulations

To Mrs. and Mrs. Sig Schneider (8347), a daughter, Katherine Angelika, April 2.

requirements. By March 31 of this year, energy consumption was down by 6.5%, a figure that reflects these individual usages: electricity, down by 3%; natural gas, down by 20%; gasoline, down by 5.2%; and fuel oil, down by 49.1%.

The successful conservation effort derives in part from the efforts of the Energy Conservation Committee, set up last fall to look at Labs facilities with an eye to cutting back on energy usage. Formed by Arlyn Blackwell (8200), the committee now includes Bill Alzheimer (8120), Lee Davies (8250), Walt Bauer (8340), and Don Gregson (8440). After touring most of the Labs' offices, labs and shops, the group called for these measures: (1) reduce lighting by one-third, (2) equip thermostats with a "deadband" between 68° and 78°—air continues to circulate but there is no heating or cooling, (3) eliminate portable electric heaters, (4) perform more preventive maintenance on energy-using equipment, (5) insure that equipment is turned off nights and weekends except where continuous operation is required, and (6) study the energy implications of equipment being considered for purchase and use here.

While gasoline usage is down (5.2%), the goal of 10% has not yet been met, and increased program activity at Livermore is believed to be the principal factor. The Labs has asked DOE for more fuel-efficient vehicles as older ones are replaced.

Plant Engineering's Dick Wilhite describes one innovation that has brought significant savings. This is the recent installation of an automatic shutoff on the 15-ton air conditioning and heating unit for Bldg. 911 so that it operates only during work hours. (A 5-ton cooling unit now handles the Communications Ctr. in Bldg. 911 nights and weekends.)

DOE's goal, set for 1985, is a 20% reduction overall. That's with existing facilities. All new facilities must use 45% less energy than comparable facilities built before the energy crunch.

Blood—Still Needed

Vern Henning from Benefits (3543) dropped by the LAB NEWS office to observe that there may be several hundred Sandians out there not yet aware of the Sandia Blood Donor Program. He reasons that these are relatively new employees, and the word just hasn't filtered down yet.

We agree. There's hardly a more personal way that you can help a fellow human being than by giving that person your blood. Under the Sandia program it's simple. You show up, with or without appointment, any Tuesday at Medical between 9 and 3 and the people from United Blood Services take out a pint. It's one of those things that's painless for you and vital for the recipient.

Vern suggests you send him the form below so that your donation can be scheduled, thus avoiding a wait.

To: Vern Henning - 3543

I wish to participate in the Sandia Blood Donor Program as a Volunteer Blood Donor.

NAME (please print)

ORG. EXT. DATE

I am already in the program but wish to increase my participation to _____ times per year. (Maximum participation is every 8 weeks.)

NAME (please print)

ORG. EXT. DATE

Congratulations

To Carter (3154) and Theodora Kidd, a son, Matthew Theodore, May 14. (Grandfather is Dick Kidd—5623).

To Joyce (formerly 5800) and Jim Caruthers (2331), a son, James Wilson, May 27.

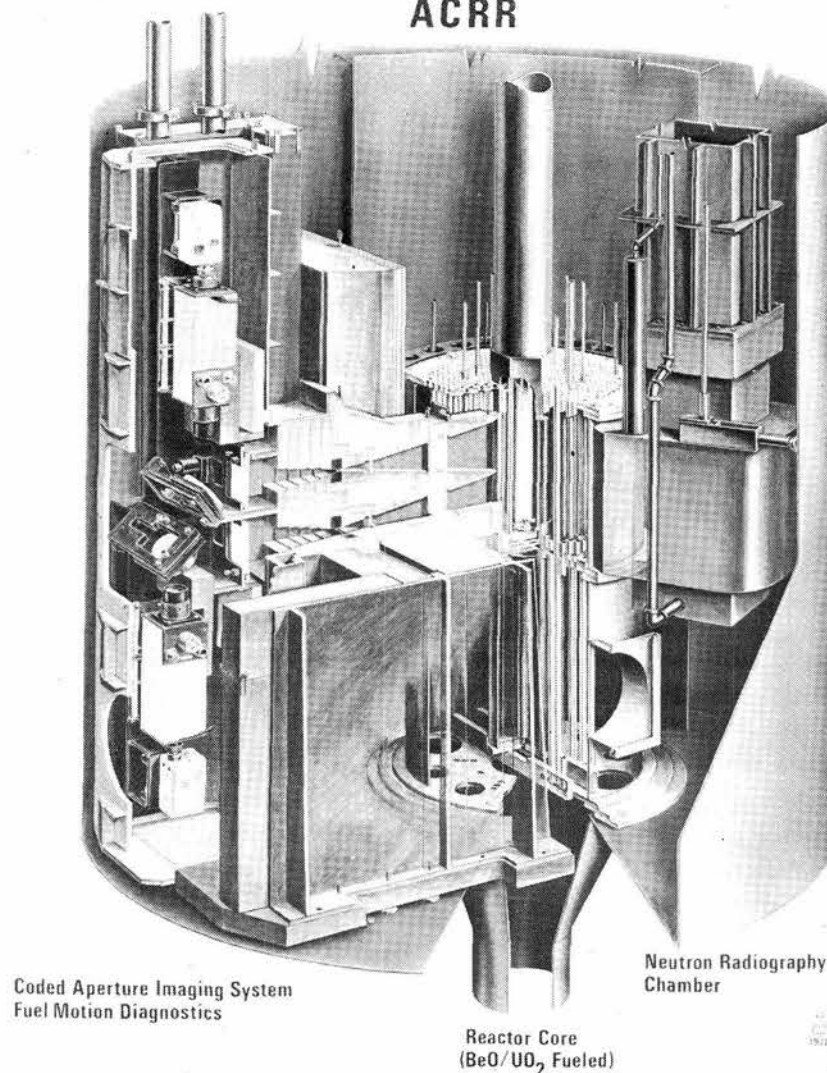
To Joyce and Craig Furry (2534), a daughter, Melanie Sue, May 18.

To Mr. and Mrs. Steve Wilcoxon (2331), a son, Scott, June 1.



Here's a little item that would have drawn a line from The Bard, something like "More's the pity!" In a recent issue of Archives of Sexual Behavior, a University of Guelph, Ontario, professor reported: "To investigate the claim that vitamin E can affect human sexual functioning, 100-IU vitamin E capsules were administered daily for 28 days in a double-blind placebo study. No differences in sexual arousal or behavior were found between the two groups."

Annular Core Research Reactor Facility
ACRR



CAIS AND ITS COMPONENTS — Note the wedge-shaped collimators which fit into a slot in the core. Gamma rays from the fuel pins located in the reactor test section travel through the collimators and through coded aperture plates which either transmit or attenuate the beam, forming a "shadowgram" on scintillator screens. This image is intensified up to a million times by optical intensifiers and photographed by high speed motion picture cameras. The image of the fuel pins is either reconstructed by computer processing of the digitized film exposures or by using coherent light from a laser. The instrument is a valuable new tool in Sandia's advanced reactor safety research studies sponsored by NRC.

Continued from Page One

New CAIS Instrument

coded image (or pseudohologram) in a thin scintillator. This coded image is amplified from ten thousand to one million times in a four-state optical image intensifier. The amplified image is then recorded on film by two high-speed motion picture cameras, both focused on the output phosphor of the image intensifier tubes.

After the film is developed, the fuel pin images can be optically reconstructed in three dimensional space by using a coherent light beam from a laser or reconstructed by computer. The computer has the advantage of more flexibility and accuracy in the data reduction process.

"Both optical and digital reconstructions are real and physically meaningful," John Kelly says. "Both are governed by the same equations. Although laser reconstruction is easier to follow conceptually and produces a continuous image, digital reconstruction is more amenable to analysis. Both forms are complementary and are useful for interpretation."

In development tests, the CAIS has successfully recorded on x-ray film high resolution images of fuel pins during nondestructive steady state operation of the reactor. In another test it also recorded fuel movement on motion picture film.

John and Terry are preparing a technical report of their five-year development effort on the CAIS.

"We now have a usable instrument, and we want nuclear researchers who need such a device to know about it," Terry says. "In the Advanced Reactor Safety Research Program here at Sandia, we have a



SCIENTISTS Terry Stalker and John Kelly (both 4426) ready CAIS for a reactor experiment. The 8000-lb. instrument must be raised from the 30-ft. deep reactor shielding pool to remove film after each experiment.

number of immediate applications."

"And we know the direction of future efforts on the CAIS," John concludes. "We still have some background and noise problems to overcome and improvements must still be made. Although the system is operational, the technology will continue to evolve as we use it."

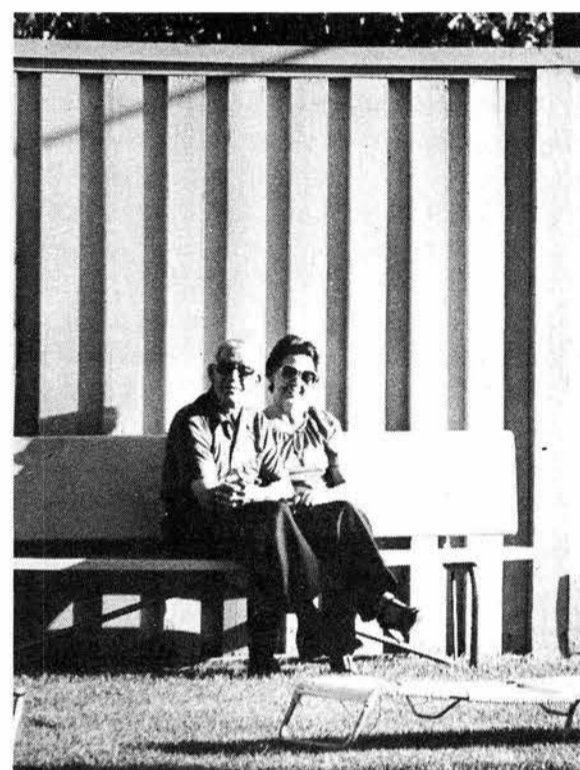


THEY CAME from all over, more than a thousand, for the annual retirees' picnic. Benefit's Eleanor Kelly handled the thousand-and-one details and took steps to insure good weather. She even rounded up this special group—couples, both of whom are Sandia retirees. How many do you recognize? (names are at bottom of page).

Retiree Picnic 1980



Recent LAB NEWS retiree Bill Laskar wants more picnics, like one a month.



Nice thing about retirement—you do what you want.



Henry and Mildred Sellers with strolling accordionist Mike Michnovicz (2432).



President Sparks listens attentively.

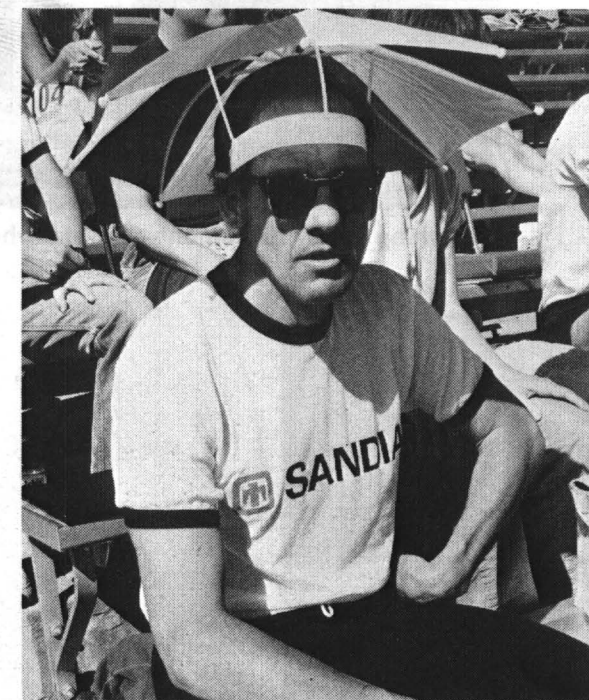
Couples' names: 1. Frank, Ruth Batchelor 2. Ed, Violet Bernard 3. Ken, Erma Campbell, 4. Joe, Mary Catallo 5. Robert, Helen Culley 6. Lavern, Bernice Dumond 7. Carl, Marjorie Endres 9. Harry, Helen Gelwicks 10. Jim, Jo Gibbons 11. Carl, Ann Hawk 13. Richard, Lillian Jackson 17. Don, Velma Metheny 18. Bill, Ferne Moffat 19. Glenn, Charlotte Morter 20. James, Dorothy Pinkerton 21. Henry, Frances Schroer 22. Wilbur, Frances Sheaffer 23. Severn, Gloria Starzynski 24. Robert, Colletta Thomas, 25. Donald, Neta Tyler, 26. Henry, Eulita Welch.

Labs Takes Corporate Cup

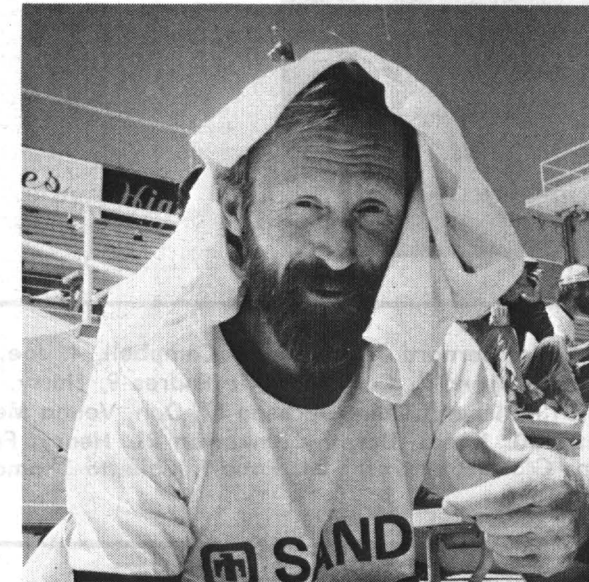
The weekend was sunny and warm and so crackling dry that runners returned from events hacking and wheezing. (We learned later that the humidity had been 2%.) And if you read the *Albuquerque Journal* Monday morning, you probably figured the Public Service Co. took the Corporate Cup—"Milne Track Brightened By PNM" the headline read.

But no, decidedly no. The 45 athletes from Sandia were there and they whopped the opposition, winning six of the 12 events outright and scoring additional points in most of the remainder. The final ranking (AJ, take note): Sandia - 148 points; PNM - 86; LASL - 85. Other firms competing included Digital, Albuquerque Testing Lab, GE, GTE Lenkurt, IBM, Kirtland Credit Union, NM Dept. of Corrections, OHIO, Penn Mutual, Powdrell's, and Xerox.

Initiated by *Runner's World* magazine several years ago, the Corporate Cup pits running teams from various companies against each other in events as short as 400 meters and as long as five kilometers. This was the first time for the Corporate Cup in New Mexico and, noting the enthusiasm of the 500 or so people who took part, it's clear that the competition will be staged again next year. Runner and coach Henry Dodd (4744) put Sandia's 26 teams together, doing so with such skill that he may just succeed himself next year.



DAVE SAYLORS (5531) & JOE MALONEY (2626) coping with sun.



SPRINTER Dale Zurawski (2523) gives large rival run for his money in Equal Opportunity Relay which Dale's team went on to win.

WITH just-won Corporate Cup and individual team trophies, a portion of Sandia's entry posed in the Milne Stadium infield. From left, first row, Juan Griego (3521), Ruth Hawley (3531), Becky Hunter (1734), Dale Zurawski (2523), Carolyn Hart (4744), Kathie Hiebert (5642), Kathe Korak (5822), Linda Riddle (4743). Second row, Bob Nellums (4715), Earl Gruer (3652), Jim Muntz (2625), Keith Hartman (2164), Don Love (3222), Bill Kass (2531) and Andy Brito (1474). Third row, John Shunny (3162), John Taylor (5633), Tom Steuber (1535), Terry Bisbee (2613), Pete Richards (5132), Jim Harrison (4311), Marcella Madsen (5531), Mark Sears (5533), Mike Coltrin (4211) and Henry Dodd (4744).



TEX RITTERBUSH (3321) gives all as he crosses finish line.



COACH DODD (4744) with Becky Hunter (1734), Linda Riddle (4743) and Kathe Korak (5822).



HANDOFF by Bill Kass (2531) to Becky Hunter (1734). Most events involved relay.

Fun & Games

Golfing—Paul House (3150) reports that 76 Sandia golfers played in the May 30 Tanoan Country Club tournament with A. C. Carter (1472) coming away low net winner with a score of 65. Leon Chapman (4416) was low gross with a 74. On June 14 and 15, city courses Arroyo del Oso and Ladera will be the sites for the annual SGA Open; over 90 golfers are expected. SGA with 220 members has 10 more tournaments scheduled this year. Want to join? Call Paul on 4-6941.

Photography—The Arts & Crafts Center on Base is now accepting entries for the Interservice Photo Contest. Since Sandians may use the facility, they are eligible to enter the contest. Rules and entry forms are available at the Center. Entries must be in by Aug. 15.

Running—With the great success of the Corporate Cup, consideration is being given to a mini-Corporate Cup which would pit teams from different vice presidencies against each other. The events would all be scheduled for one day, Saturday or Sunday. More on this later as plans develop.

LAB NEWS has entry forms for the June 21 7K Fun Run at Kit Carson Park and the July 4 5 & 20K races at Los Alamos.

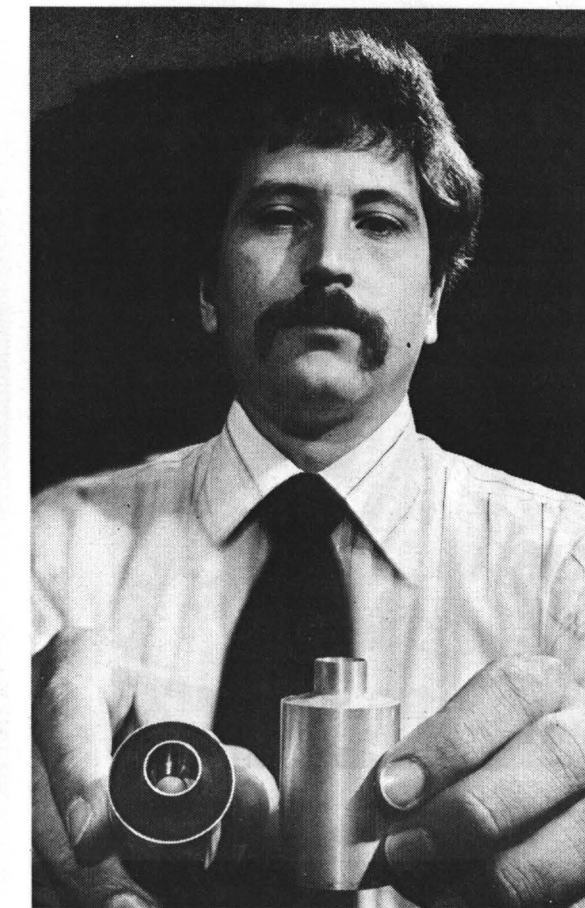
Archery—Sandia Archers host a "combat shoot" Sunday, June 15, at their range at the south end of Wyoming just east of the Trestle site. Registration starts at 1:30 p.m. Entrants shoot five arrows at each of 28 targets. Entry fee is \$3 for adults, \$1.50 for those under 16. Prizes will be awarded.

The group also meets Tuesday, June 17, at 7 p.m. at the Breakaway Center on Base. For more info, call Dean Pershall (1261), 4-7528.

Horseshoes—The C-Club Horseshoe Assn. is sending a team to the Albuquerque City Championships on June 21-22. The Club holds its own doubles tournament on July 4—call Bob Schuch, 4-2676, or Leo Bressan, 4-7933, for entry information.

Volleyball—Sandia volleyballers completed the season last month with a double elimination tournament in which Team 1, league leader during the season, took the championship. The winning team includes Bill Kampfe (1535), Jan Wallner (3154), Keith Matzen (4211), Barry Marder (2646), Bob Marion (5846), Nestor Ortiz (4413), Bruce Clendenin, Jim Ellison, and Bob Axline (2344).

Tennis Memberships are available at the Coronado Club for use of the courts west of the building. After paying an initiation fee, dues are \$25 annually for families, \$20 for individuals. Call the Club office or Gary Snow (2531), 4-8648.



JIM WILDER (5845) dispals new glass material that bonds to aluminum, matching its thermal expansion coefficient. Application is in vacuum tube technology. The material is here used to provide a seal between cylinders of aluminum.

New Glass Bonds to Aluminum

A glass material which bonds to aluminum and can be used as a hermetic seal has been patented by DOE. Inventor is Jim Wilder of Ceramics Development Division 5845.

"Previously," Jim says, "the only way to bond glass to aluminum was to use very thin castings of glass, thin and flexible enough to accommodate the thermal expansion and contraction of aluminum."

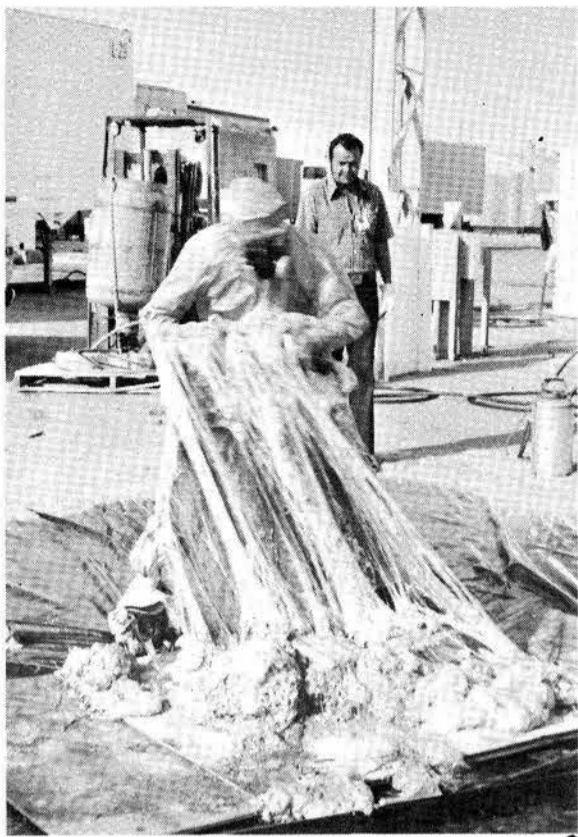
Jim's new glass material can be custom formulated to match exactly the thermal expansion coefficient of aluminum or its many alloys. Also, extended temperature vs. time treatment cycles can convert the glass to a crystalline substance or glass ceramic. This gives higher strength and stress resistant seals.

Primary use of the new material at Sandia is in vacuum tube applications. Jim feels that the material may find many uses in other areas, possibly in cable connectors where weight reduction could be achieved by using aluminum and glass instead of stainless steel and glass.

Jim came to Sandia in 1977 after earning a PhD in materials science from Catholic University of America, in Washington, D.C. He holds one other patent in fiber optics that resulted from his thesis work.



Though expressed poetically, this excerpt from a *Reader's Digest* article by Ron Schiller strikes us as a bit overstated: "Just as the moonshot changed the astronauts' lives, Apollo 11 and five subsequent US moon landings have altered ours. What is engraved in our memories is the impact on our spirits, imagination and morale. It opened a badly needed window in the crowded cell of Earth, providing psychological elbow room."



THE DIFFICULTY of movement while enmeshed in the sticky stuff is here demonstrated. An intruder has triggered the release of the foam, can barely move around, finally needs help in removing the canister stuck to his coveralls.



NOT THE HANDFUL FROM THE LAGOON, it's sticky goop invented by Pete Rand (5813) for use in the Safeguards program.

Pete Rand's Sticky Foam Gets Patent

DOE was recently awarded a patent for a sticky goop invented by Pete Rand of Physical Properties of Polymers Division 5813.

Sticky goop?

"Actually," Pete says, "it's a very carefully formulated resin base foam. And it's sticky, and it stays sticky for a very long time."

Why, Pete, why?

"Look at it this way. Suppose you were one of the bad guys, a really heavy dude, and you wanted to steal some nuclear material from a security area. So you force your way in and then—pow!—the security area is suddenly filled with my sticky goop. Man, you are going to be slowed down. You will barely be able to move. By this time, the good guys are there and you are in terrible trouble. It's one part of the integrated approach to designing total Safeguards systems, just one of the many ways we fix the bad guys."

Pete's material is stored in a pressure vessel intermixed with a low boiling-point solvent. Pressurized gas forces the material out of the vessel when triggered and it instantly foams to fill a volume 30 times its storage size.

Who cleans up the mess, Pete?

"Well, we could use some solvent. But it will take a while."



Tom Gavin of the *Denver Post* is adept at swinging a double-edged sword. In a recent article, he commented: "If people in the East hear about New Mexico, they will wish to move there, for in eight cases out of ten, New Mexico will be nicer than where they now reside. This should not fill New Mexicans with overweening pride, however, for the average leper colony is a better place to live than eight out of ten places in the East."

Wanted: New People For Worthy Cause

The patrons of the South Highway 14 Village Project, all three of them, have a smallish problem: they're running out of steam. Since the mid-60s, Julian Sanchez (3510), Norma Taylor and John Shunny (both LAB NEWS) have been guiding this project whose aim is to help poor families living on South Highway 14 in the villages of Escabosa, Chilili, Tajique, Torreon, Manzano, and Punta.

Each Christmas season, the project selects about 30 families from its file of a hundred, buys \$2000 worth of groceries and other items, packages these into boxes and, on the Saturday before Christmas, delivers the goodies to the families. It's a considerable task but one that is rewarding. Dealing with the families on a person-to-person basis is more meaningful than computerized philanthropy.

Julian, Norma and John raise the money by divers means. The sale of used books is one. The sale of Sandia Labs caps and of color prints of the Tech Area is another. And donations are regularly received from a small but faithful group of project supporters.

What they offer to interested participants is the following: (a) an on-going, established charity project with assets in excess of \$1500, (b) a data file with records on a hundred needy families, (c) their continued support and guidance through the next Christmas season, (d) their continued efforts in fund raising and (e) LAB NEWS support of the project.

Julian, Norma and John emphasize that they're not bowing out. But after 15 years, it's time to pass the reins on. If you or your organization is interested, call LAB NEWS on 4-1053 for the date and time of a meeting to more fully explain the South Highway 14 Village Project.



CERTIFIED LEGAL ASSISTANT—Betty Worley (6000) has been so named by the National Association of Legal Assistants following successful completion of a two-day exam covering many aspects of the field of law. Betty prepared for the test through UNM course work and completion of home study courses. Joining the Labs in 1962, Betty is secretary to Charles Ross (6000), Sandia's General Attorney, Secretary and Treasurer. She is the Labs' first CLA.

feed **li**back

Q. I wish Sandia would enforce the seat belt law in the tech area. Almost all seat belts have slipped into the space between the seat and back—they can't protect you in that position.

A. Although comprehensive daily inspection for loan vehicles is not feasible, an inspection for proper seat belt position and alignment will be observed henceforth on all loan vehicles before they are issued.

D. S. Tarbox—3400

Q. Several laboratories have converted their motor vehicles to LPG operation. I have operated a 1971 pickup for 50,000 miles on LPG and I can highly recommend LPG operation. It is almost pollution free and significantly reduces maintenance—especially when a good synthetic motor oil is also used. The conversion is expensive, but the equipment can be moved to another vehicle when the first vehicle is worn out.

A. A number of years ago the Motor Pool converted several types of equipment to LP gas to determine the feasibility of such a project. After several months of operation, we decided that the cost of conversion was not an economical move.

A recent check with a local supplier on the cost of conversion indicates that it would cost in excess of \$600,000 to convert the Sandia fleet. This does not include the installation of three refueling stations that would be required.

In view of these cost figures, we do not feel that it would be economical to convert the Sandia fleet even though vehicles operated on LP gas create less pollution and have longer engine life.

D. S. Tarbox—3400

Q. A suggestion to save energy: eliminate most of the wall clocks. Assuming 1000 clocks each rated at three watts, 24 hrs./day, 365/yr., I calculate a saving of 26 MWH.

A. Your suggestion that the removal of 1000 clocks would save 26 MWH of electricity per year is very interesting. We have recognized that enough small electric loads operating continuously can add up to a significant total. On the other hand, employee cooperation is necessary to make the overall conservation effort work, and we are concerned that we not take actions which would antagonize people. I really don't know if removing most of the clocks would upset our people or not.

We have made a decision not to provide but a few clocks in new buildings and modified areas. This will reduce the number of clocks over a longer period of time.

Thank you for this suggestion. I will keep it in mind.

R. W. Hunnicutt—3600



BLACK community leaders visited Sandia in late May for briefings on recruiting and employment at the Labs as well as on education and training opportunities. They were welcomed by Bob Garcia, Director of Personnel, later toured energy facilities (above, at Photovoltaics with tour guide Willie Garcia, 3163), and concluded with a luncheon and discussions with VP Ray Powell (3000) and other members of Sandia management.



ASH from Mt. St. Helens has spread over a wide area of Washington and Oregon. This sample, enlarged 100x (left) and 3000x by the electron scanning microscope, was sent to Bob Weaver (1472) by the manager of his wheat farm near Pomeroy, Wash., some 220 miles from the eruption. The sample was of interest to Geo Energy Technology Department 4740. Analysis showed the material is plagioclase feldspar—a mixture of sodium, calcium and silicon with a variety of trace elements. It registered 6 on the hardness scale. Average particle size is about 20 microns in diameter. Bob isn't worried about his farm—only 1/8-in. of ash fell there. He inherited the farm (and shares it with others) from his grandfather, who homesteaded the land. Bob once climbed Mt. St. Helens, regrets that all that beautiful scenery is gone.



LEAVING — Though not widely known by Sandians, J. S. Herbert has figured prominently in the affairs of the Labs since 1972, when he came to Sandia's Board of Directors. An executive vice president of WE, Mr. Herbert is retiring this month. Artist Jim Walston (3155) prepared this drawing of him and of Sandia's Small Staff as a memento. Its inscription reads: "To Jim Herbert, in recognition of exceptional service to Sandia Laboratories, 1972-1980, Morgan Sparks."

MILEPOSTS

LAB NEWS

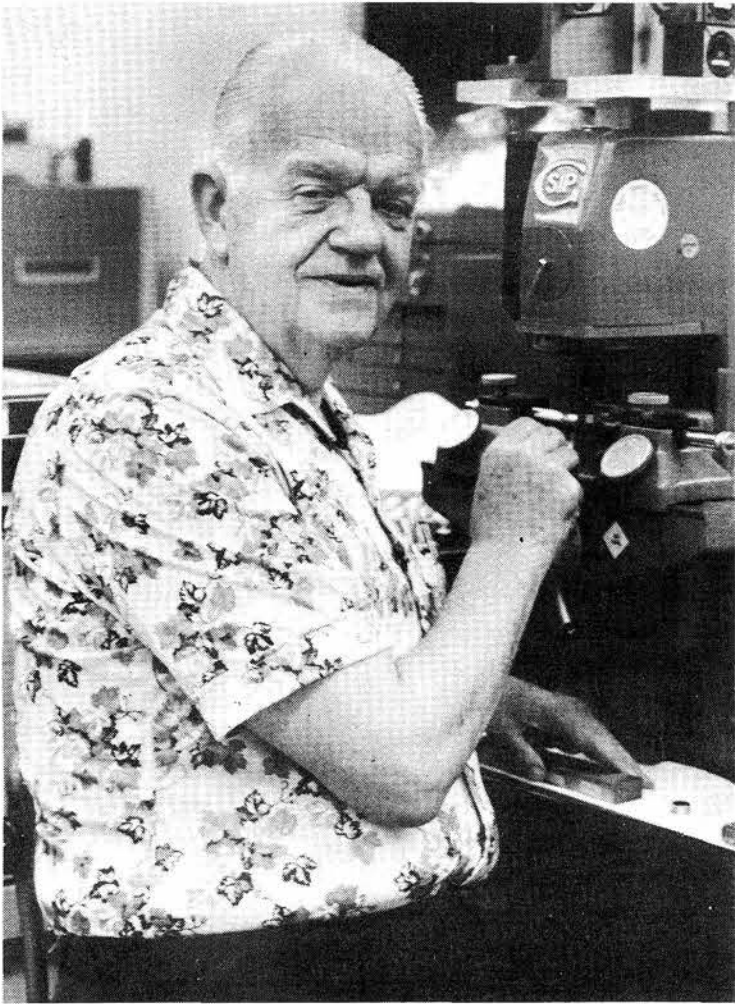
JUNE 1980



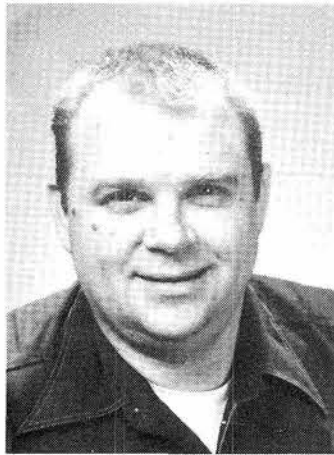
Roberta Chinn - 3532 10



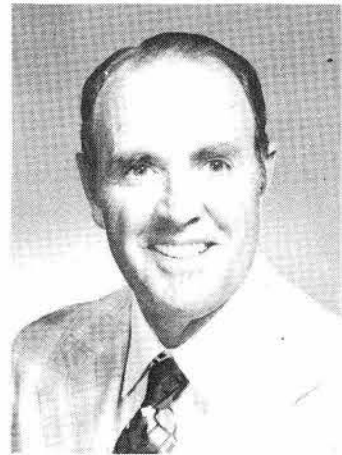
Dean Irvin - 3543 30



Frank Anderson - 2551 30



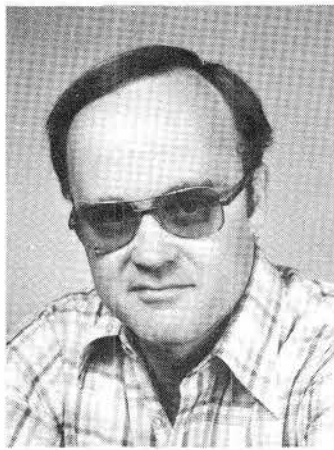
Richard Roy - 8151 15



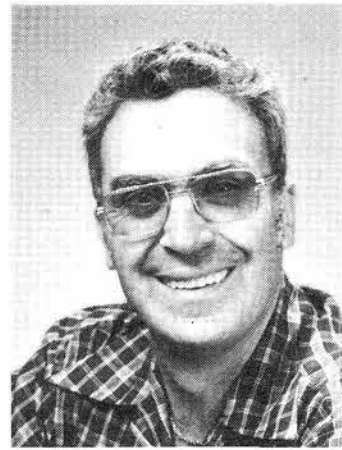
Ward Hunnicutt - 3600 30



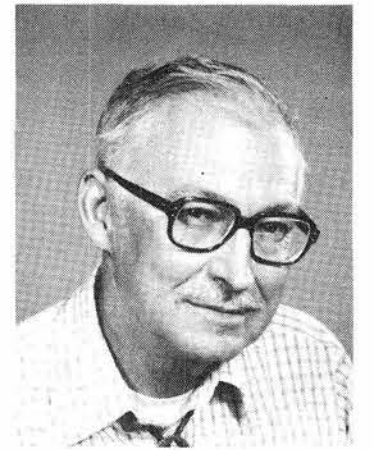
Shannon Houk - 8333 15



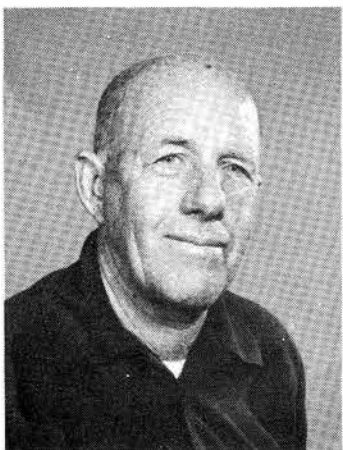
Bill Hoover - 8312 10



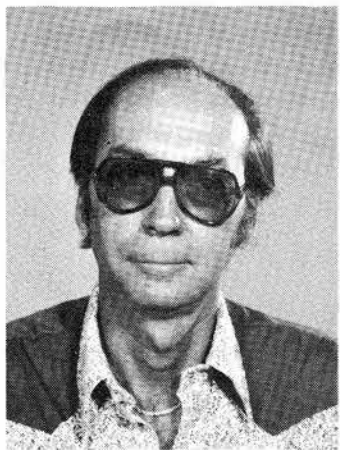
Clarence Rogers - 8257 20



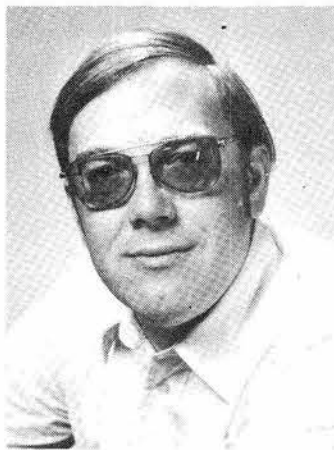
Robert Parks - 3211 25



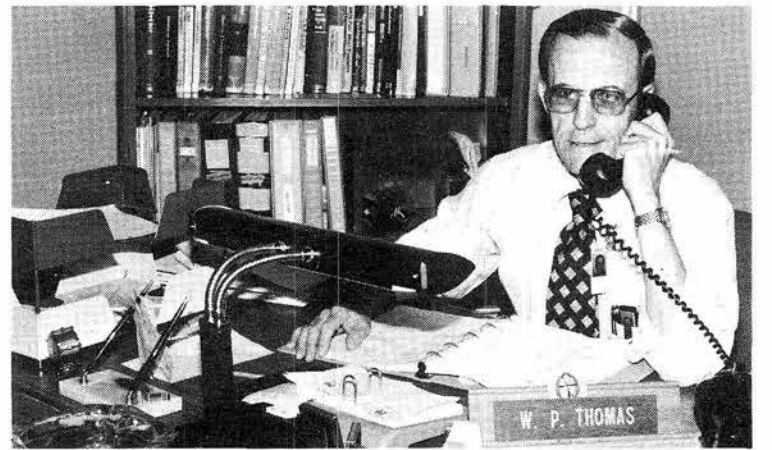
Delmar Gronseth - 3611 20



Ken Ream - 1765 20



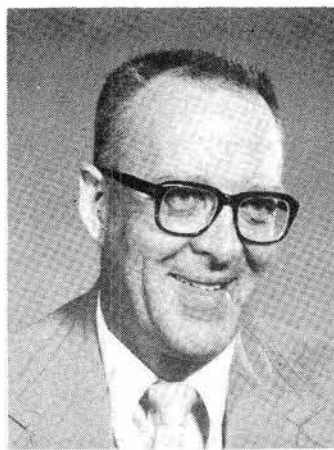
Ronald Gorniak - 8316 10



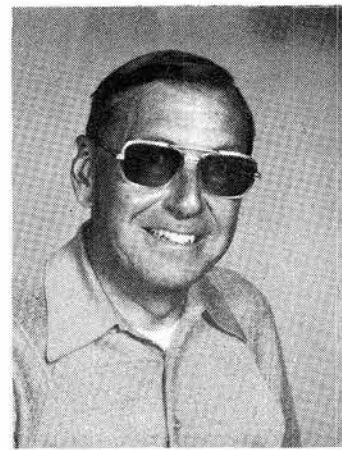
Bill Thomas - 1411 35



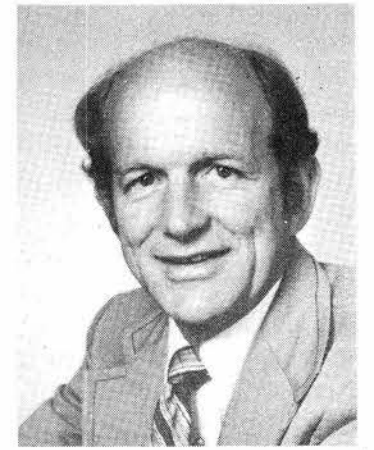
Ruth Barth - 3155 20



Frank Tuffs - 3650 25



Dave Bickel - 1535 20



Dave Bray - 8461 20

Hard Line Adopted on Commercial Ads

At LAB NEWS we're coming to the conclusion that every other Sandian owns apartments. And the ones that don't are pushing land. The volume of ads in both these categories seems to be increasing exponentially.

"No commercial ads" says one of the rules listed at the head of the LAB NEWS classified ads. That particular rule wasn't adopted arbitrarily: LAB NEWS is printed with federal funds, and we're not in the business of supporting someone's private business, whether it be apartments, land, used cars, worms, dance lessons, sewer service or whatever.



Cigaretts, it seems, are not only dangerous to your health in the long run. A John Hopkins professor investigated all home fires in Maryland for five years and discovered that 45 percent of all deaths occurred in fires started by cigarets. Nationwide that means 2000 deaths each year can be attributed solely to the fire-making potential of cigarets.

Henceforth, any ad which has even a hint of commercial flavor will not be printed. If the ad-submitter believes he or she is being treated unjustly, the matter should be taken up with the editor.

Does this mean you can't advertise your house or apartment or condo when you take a leave of absence or go on vacation? Not at all. Such an ad does not represent a recurring real estate offering of the type that characterizes a commercial operation.

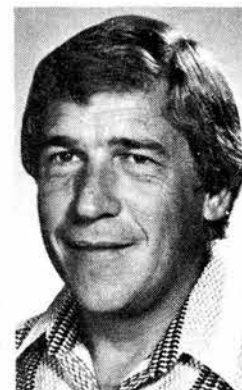
We recognize that our hard line policy on commercial ads will get us into sometimes murky waters about what constitutes a business. With respect to inclusion or non-inclusion of an ad, LAB NEWS will remain the final arbiter in this area. (The same policy—no commercial ads—applies as well to Sandia bulletin boards.)

Deaths

Don Habin, supervisor of Custom MOSICS Division 2116, died suddenly May 31. He was 45.

He had worked at the Labs almost 19 years.

Survivors include his widow, two daughters and two sons.



* * *

Eleanor Vavro, secretary assigned to Organization 3001, died June 3 after a long illness. She was 61.

She had worked at the Labs for 21 years.

She is survived by her husband Ed (1471).



JUNK • GOODIES • TRASH • ANTIQUES • KLUNKERS • CREAM PUFFS • HOUSES • HOVELS • LOST • FOUND • WANTED • & THINGS

CLASSIFIED ADVERTISING

Deadline: Friday noon prior to week of publication unless changed by holiday. Mail to: Div. 3162 (M0125).

RULES

1. Limit 20 words.
2. One ad per issue per category.
3. Submit in writing. No phone-ins.
4. Use home telephone numbers.
5. For active and retired Sandians and DOE employees.
6. No commercial ads, please.
7. No more than two insertions of same ad.
8. Include name & organization.
9. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

MISCELLANEOUS

- CAMPER SHELL, fits long bed trucks, new, \$350. Chavez, 242-9285.
- WROUGHT IRON furnishings, Mexican: sconce, 5-bulb, blown glass shades, \$75; wall-hung entry table, 2 legs, marble top, 1'x4', \$50. Stevens, 299-6086.
- GARAGE SALE: hand-made dolls; typewriter; headboard; clothes; books; records; misc. 3107 Florida NE, June 13-14. Irwin, 881-3985.
- EVAPORATIVE air conditioner, mobile home size, \$25. Peterson, 256-7514.
- BICYCLE TRAINING WHEELS, \$3. Hall, 298-8617.
- SCOTT FM receiver & stereo amplifier, model 344C w/service manual, 30-watt, \$75. Gregory, 268-2022.
- ALMOST NEW brown shag rug w/pad, 10-6x12; 2 clothesline poles; 2 alum. slide windows, 2x5'. Derbenwick, 255-9359.
- FREEZER, 17 cu. ft. upright, \$125. Ashworth, 296-9126.
- BLACK naugahyde couch, 7'; complete set leather working tools. Ward, 296-2207.
- ROUND 42" marble-top coffee table, brass legs, \$30. Beck, 256-3350.
- ELECTRONICS LAB: scope, VTVM, sine-square wave gen., R-F gen., RC bridge, \$250 takes all or \$60/item. Rice, 884-5472.
- TI-58 programmable calculator, re-charger, library module, manual, \$70. Benavides, 299-0929.
- POOL TABLE, 96", slate top, leather pockets, \$500. Stephenson, 299-3914.
- VITO alto saxophone made by Le Blanc, student model, case. Lawrence, 268-5479.
- BRUNSWICK pool table, 8', cost \$650, sell for \$350. Ramsey, 294-3985.
- MAYTAG WASHER & DRYER, washer needs work, \$75/pr. or best offer, will separate. Fuller, 294-3089.
- PIANO, upright, \$150. McCarty, 298-2919.
- RECORD-A-CALL, model 60A auto. telephone answering set, \$125; 42" copperstone stove hood & back panel, works, \$15. Schuback, 294-5666.

- TRAILER HITCH for '69 Ford SW & other, \$15; 1969 Ford-Lincoln-Mercury service manuals, \$10. Putz, 298-7009.
- BUMPER POOL TABLE, \$50; complete set factory springs & HD shocks for Scout II, 12,000 miles, \$175. Brooks, 299-1884.
- OLD MIRROR, 36x28; love seat, antique gold, \$75; gerbils, black, healthy. Strance, 298-0258.
- RADIO SHACK TRS-80 home computer, level 1 basic, 16K memory, w/o monitor, some software, \$400 or best offer. Cave, 822-0375.
- VIDEOCASSETTE, Sony Betamax recorder & timer, 1 1/2 hr. recording time, \$400. Hanna, 293-1450.
- BUNK BEDS, both \$75, separate, \$50, includes mattress & box spring. Arana, 299-1214.
- TWIN BED, complete; king-size headboard; 20" Schwinn girls' bike; misc. garage sale items, Sat. June 14, 3406 Dakota NE. Benham, 881-2593.
- DONNER hiking boots, size 11, \$40; Fababi rock climbing boots, size 11, \$35; Sears sewing machine w/attachments, \$100. Downs, 293-9320.
- 2-MAN RAFT w/oars & air pump, used twice, \$60. Alvis, 298-3906.
- EVAPORATIVE ROOM air conditioner, Hotpoint, 5000 BTU, 5-position thermostat, \$100. Esterly, 881-1973.
- 40" GE electric range, \$75, w/clock, timer, single oven, 2 storage drawers. Houston, 299-4118.
- KING SIZE BED: frame, box springs, mattress, \$195; sheets, bedspread, etc., available. Monette, 884-9240.
- PHOTO ENLARGER & accessories; GE 40-channel CB; digital desk calculator; 2-program generators; Underwood port. typewriter, others. Owens, 881-0815.
- WATER BED w/mirrored headboard, solid-state heater, used one week, make offer. Rightley, 268-4673.
- EXERCISE BIKE, Walton w/speedometer & tension control, \$40. Schooley, 266-6706.
- CAMPING trailer, tent type, sleeps 4 adults, tows easily, \$150. Woodall, 299-6729.
- STORAGE SHED, 7x10, new, \$100; upholstered chair, \$5; child's bike seat, \$9; 5-hole, 16" Ford tire rim w/used tire, \$4. Hall, 298-8617.
- BABY ITEMS: Strollee stroller; Bobby Mae carseat; Mothercare highchair; Gerry Carrier; rocking horse. Thahammer, 298-8521.
- DRILL PRESS, 4-spd. Craftsman, 1/2" chuck w/1/2 HP motor, \$200. Bickel, 266-3187.
- AKC cocker spaniels, born 5/1/80, 6 females, 1 male, red & buff colors, can see parents. Riggan, 268-1961.
- GARAGE SALE: 6/13-14, 9-5, furnishings; appliances; misc. items including 2-spd. elec. motor. 441 Val Verde Dr. SE. Thorne, 255-4875.
- 36" ALUMINUM screen door; high chair; changing table; stroller; Swing-a-Matic; coffee table. Bona-hoom, 296-4450.
- GARAGE SALE: Friday & Sat., 9-5;

- Wards power mower, Christmas decorations; misc. household & yard items; 10-spd. bike. Marrs, 821-5144.
- 25" HEATHKIT color TV w/construction manual, \$50; 15,000 BTU gas space heater w/insulated vent pipe, \$50. Ottinger, 242-7935.
- POOL, 15'x30'x4', w/gas heater, filters, ladder, deck, pool cover & misc. items, \$500. Salmi, 294-3022.
- DOUBLE kitchen sink, rimless; charcoal B-Q, both for \$10. Sherwood, 299-2169.
- CRAFTSMAN 9" radial arm saw, stand, dados, cutters; 4'x18' diameter pool w/all accessories, \$200 ea. Stinnett, 298-5085.

TRANSPORTATION

- 73 CHEVY Nova hatchback, 58,000 miles, \$1400, will negotiate. Gwinn, 299-7167.
- 78 YAMAHA motocross bike, YZ-250, pro-ported, Luft reservoir, Al-Baker front fork kit, \$750. Navratil, 293-5527.
- BICYCLE, girls' Schwinn 20" hi-rise, \$45. Andes, 268-8951.
- SUZUKI DS 100, needs handlebars, front wheel & forks—otherwise good condition, \$200 or best offer. Guth, 821-4704.
- 74 OLDS Cutlass stn. wgn, fully equipped, 58,000 miles, below book. Braasch, 268-8416.
- '67 MUSTANG, new tires, mag rims, air shocks, 18,000 on complete overhaul, black interior, 6-cyl., 3-spd., best offer over \$1995. Jaramillo, 864-8491.
- BICYCLE, 20" girls' bike, \$10. Maloney, 821-6661.
- 74 TOYOTA Corolla 2-dr. coupe, 5-spd.-ST, AC, \$1950. Barrows, 296-9775.
- 75 CVCC HONDA, 29,500 miles, 4-spd., radio, \$2600. Conklin, 298-8217.
- 76 MONTEGO 2-dr., wrecked, glass-engine-interior still OK, \$400. Stephenson, 299-3914.
- 74 MUSTANG II, 4-cyl., AT, 71,000 miles, newly rebuilt trans. & convertor, \$1700. Mattox, 821-3945.
- ASSUME C.U. loan on motor home (see picture at Credit Union). Hubbs, 892-5070.
- 23" PARAMOUNT Track bike, complete, \$500. Downs, 293-9320.
- 11' SAILBOAT, fiberglass, single sail, self-bailing cockpit, \$400. Horton, 883-7504.
- '63 FORD Galaxy XL 500, 2-dr. HT, 8-cyl., AT, AC. Miller, 299-3583.
- '69 MUSTANG, AM-FM-cassette, mag wheels, make offer. Rightley, 268-4673.
- 74 CHEVY Nova, \$1000 or best offer. Cosden, 881-1412.
- 73 MUSTANG, new paint & vinyl roof, AT, PS, AC, chrome rims, \$2000. Esterly, 881-1973.
- 73 MALIBU 4-dr., \$900. Morgan, 256-7994.

- '68 CAMARO, 327, AT, 2-spd., needs painting. Harris, 299-4559.
- 71 VW BUG, \$1295. Yoder, 265-9276.
- '80 SUZUKI 850 GS-GT, black w/ fairing, 500 miles, 2 helmets, \$3600. Ray, 299-9248.
- 77 FORD window van, 350 6-cyl., 3-spd., 6000 miles, PS, PB, AC, white. Slater, 294-5858.
- 77 DATSUN B10, 4-dr., full power & air, AM/FM stereo, vinyl top, less than 27,000 miles. Henderson, 294-5164.
- BICYCLE, girl's Schwinn, 20", T.P. tubes, banana seat, basket, \$65. Brooks, 881-4319.

REAL ESTATE

- LARGE HOUSE, pool, landscaped, new AC, appliances & rugs; new paint & roof; negotiable, reasonable down, terms. Craven, 881-4587.
- CUSTOM HOUSE, 3-bdr., den w/fp, LR, DR, office, finished basement, 2 1/2 car garage/shop, \$79,500. Sutherland, 266-1734.
- 10.03 ACRES near Canyon north of Jemez Pueblo, \$3500/acre, 10% down, 15-yr. contract. Stuart, 299-9190.
- 4-BDR. HOUSE, less than 4 yrs. old, 1900 sq. ft., 2-car garage, near Chelwood School, 9 1/4% assumable loan, \$15,000 down. Miller, 293-9206.
- NE HTS., 3-bdr., fp, ac; new roof, interior paint & trim, reduced to FHA appraisal. Wicke, 268-8263.
- MOBILE HOME, 12'x64', 2-bdr., 1 1/2 baths, patio, lt. wood interior, carpet, cement block shed, many extras, AC serviced. Miller, 299-3583.
- SHARE in cabin in tall pines near Lemon & Vallecitos Lakes, completely furnished, Franklin stove, water, electricity. James, 294-6981.
- 1979 LIBERTY 12x60 mobile home near base, 13% financing, payments \$133.63, \$1600 down, set up in adult park. Romero, 294-2194 after 5.
- 1973 REVERE 14'x70' mobile home, 3-bdr., skirted, w/hookups, in Moriarity, \$12,000, will consider trade for smaller mobile home. Randall, 299-3935.
- 2 1/2 ACRES in Rancho de Placitas, mountain view, \$20,000; paved access, community water system, underground power available. Stanley, 821-9258.
- 3-BDR. BRICK, den, side yard access, \$85,000, negotiable down w/REC. Barth, 299-2668.

WANTED

- FABRIC BOAT COVER, about 14' long. Baxter, 344-7601.
- ABOVE GROUND swimming pool. O'Neil, 898-5753 after 5.
- BASEBALL & FOOTBALL CARDS, call for prices on cards & other old baseball items. Keck, 294-5593.

- HEAVY DUTY lawn mower; heavy duty salt water fishing poles, reels, lures, etc. Holton, 844-7853.
- WEIGHT-LIFTING BELT; CJ-5 Jeep back seat; roll-bar. Arana, 299-1214.
- ADJUSTABLE drawing board or small drafting table. Bisbee, 293-0356.
- GERMAN SHEPHERD DOGS, male or female, 2 to 5 yrs. old, problem dogs OK. Martinez, 821-8692.
- 1960 VALLEY HIGH SCHOOL CLASS REUNION: looking for people who graduated in 1960 for 20-yr. class reunion. Contact Shelby Copeland, 294-7559.
- EXERCISE BIKE w/speedometer & odometer; twin-size box spring, both must be in good condition. For, 298-4980.
- 2 OR 3 BDR. house for rental, unfurnished, garage, start July 1. Burns, (213) 396-2565 or 2412-B 4th St., Santa Monica, CA, 90405.

SHARE-A-RIDE

- START car pool 500 block Georgia SE to Bldg. 880, work hrs. 8 to 4:30. Valdez, 265-2457 after 5.

WORK WANTED (Students/Retirees)

- YARD maintenance, cleaning, painting, experienced teenagers working for Coronado Aquatic Club travel expenses, references. Atkins, 298-5762.
- HOUSE and/or pet sitting, reference, daily or weekly rates. Jackson, 294-6644.
- SANDIA retired grandmother wants to care for baby or toddler, evenings or weekends in my home. Weiss, 266-2278.
- YARD JOBS, good work at reasonable price, ask for Paul. Prew, 296-3815.
- SWIMMING LESSONS: student instructor, lg. heated, backyard pool, Sandia HS area, 2-week session to begin on June 30. Joe Hanna, 299-1126.
- PAINTING by experienced UNM junior, reasonable price, free estimates, hourly rates or firm quotes. Stixrud, 292-5002 or 298-0478.

LOST AND FOUND

- LOST—Sandia blue briefcase, sunglasses w/gold wire frames, gold clip earrings, glasses w/square brown frames.
- FOUND—Padlock, gold triangle pierced earring, 1 GM key, sunglasses w/dark brown on top & white on bottom, silver "schlacc" key. LOST AND FOUND, Bldg. 814, 844-5677.

Take Note

"Cambridge Geotechnical Centrifuge Operations" is the title of next Wednesday's (June 18) colloquium, and the speaker is Prof. A. N. Scholfield of Cambridge Univ. in England. Al Narath (VP-4000) is host. The colloquium starts at 10 a.m.

* * *

Ann Michele (3100) is the subject of the cover article in the May issue of *Secretary*, the official publication of the National Secretaries Association. Ann is NSA President this year (LN, July 13, '79), and the article is a profile of her as a person, a secretary and a president. During her association with NSA, she has also been president of the Albuquerque Chapter and the New Mexico Division. Ann has served on the NSA International Board of Directors for five years.

* * *

The public is invited to an open house in honor of Flag Day at the Elks Lodge, 1042 University NE, Saturday, June 14, starting at 2 p.m. Floyd Elder (3653) is one of the speakers for the event.

* * *

Retiree Felix Padilla took third place in the professional class in a recent national art show sponsored by the Fine Arts League of LaJunta, Colo. Felix entered a large acrylic painting of a landscape called "Near Taos."

* * *

The grand prize winner in the Credit Union drawing came away with a grand sum—\$5000. He is Ernie Gurule (1543). The second prize (\$2500) went to John Wiggins (1254) and third (\$1500) to Lucia Trujillo (wife of Amado—4552). The Board of Directors reports that the contest was a success and that the Credit Union again has ample funds to support members' loans.

BLOOD

A matter of Life & Death

Give yours
any Tuesday
between 9 and 3
at
Sandia Medical



HAWAII NEI is the name of the performing troupe booked for the Club's Luau on Saturday, June 21. Keala Kalehuawehe and Sharon Ford are two of the featured dancers. Reservations deadline is tomorrow.

Coronado Club Activities

Luau Set June 21

TONIGHT at Happy Hour a group called "Fame" is plugged into the bandstand, Gary Waters and guitar entertain in the lounge, and "Surf 'n Turf" tops the buffet menu. Next Friday, June 20, Happy Hour features lobster Newburg or pepper steak, Jeanne Rich and Friends playing for dancing, and Gary again in the lounge. To reserve buffet tickets, call the Club office, 265-6791, by mid-week. Remember that the pool snack bar stays open until 9 p.m. on Fridays in case you want to stash the kids for a swim session while you enjoy Happy Hour.

A POLYNESIAN DELIGHT is what Frank Gallegos (3510), Club PR man, is calling the luau scheduled Saturday, June 21. Frank is too young to remember the good old days when it was the Club's biggest affair and was called the "Beachcombers Ball." But within a few years, *now* will be the good old days. Take advantage of an outstanding menu—roast pig, sweet and sour chicken, teriyaki beef, baked fish, fried rice, Polynesian mixed vegetables and assorted papayas, mangos, sliced pineapples, watermelon, etc. All this and dancing girls (see photo). And guys doing the flaming sword bit, and other guys beating on drums and blowing conch shells and all that. It all goes for \$8.75 for members (\$11.25 guests), and the tickets must be reserved by tomorrow. Do it.

TEENAGERS take note: Midnight Illusion plays for dancing from 8 to 11 p.m., Wednesday, June 25. Member parents should pick up tickets for their youngsters.

TRAVEL DIRECTOR Frank Biggs (4231) announced a new trip this week over the Christmas holidays, Dec. 28-Jan. 4. Leave Albuquerque by charter bus, stop overnight at the Riverside Casino in Laughton, Nev., spend five nights in Anaheim, Calif., and stop overnight at the Grand Canyon on the return trip. The package includes reserved grandstand seats at the Rose Bowl parade, tours of the Wild Animal Safari, Universal Studios and the Queen Mary. There's ample opportunity to visit Disneyland (pick up your free Magic Kingdom discount card at the Club office). The tour includes transportation, lodging, food and drinks on the bus, and all admissions except Disneyland. If Rose Bowl game tickets become available at reasonable prices, they will be offered as an option. The total package costs \$315.

Frank also has a deal to raft down the Dolores River in Colorado for \$152 but you have to sign up right away. The trip is scheduled June 19-22.

Still available are two trips to Mazatlan in November, a tour of Washington, D.C., in October, and discounts to Hawaii. See Frank in the lobby tonight between 6 and 7 for details.