

# A Resounding Endorsement

The federal laboratories as a whole would better meet their potentials and overcome their deficiencies if they followed Sandia's example.

That statement sounds self-serving. Perhaps it is. But most of the changes in the operation of federal labs recommended by a review panel reporting to the White House Science Council are not changes at all at Sandia. They are rather the way in which we operate.

The panel was headed by David Packard of Hewlett-Packard and included Edward Teller among its half dozen members, most of them from universities. The panel studied some 700 labs, ranging from small — a couple of scientists doing research for the government in a university — to large — like Sandia. Panelists visited eight DOE labs, four DOD labs, and one each operated by or for the Departments of Agriculture, Commerce, and Health and Human Services; one NASA lab was also visited.

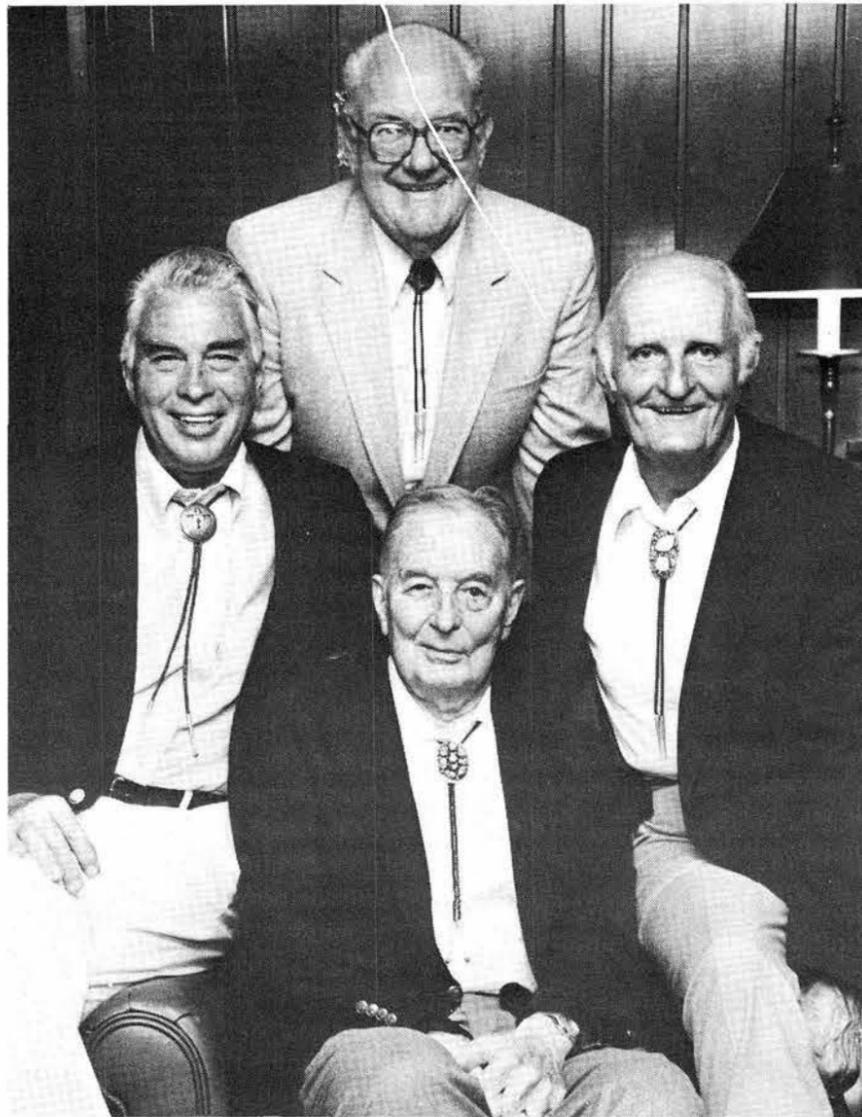
The panel's report focused on five major aspects of these federal labs — mission; personnel; funding; management; and interaction with universities, industry, and users of research results. As Sandia President George Dacey points out, some of the panel's most important recommendations, if carried out, would result in other labs' coming closer to the Sandia pattern.

For example, the panel found that many labs lack clearly defined, carefully considered missions and thus lack a basis for defining their performance. Sandia, in contrast, has "a very clearly defined mission in nuclear weapons and an ancillary mission in energy," says Dacey. He goes on to note that our work in energy has been integrated with work in weapons to achieve a kind of synergism that "at least to some measure, has been responsible for the technical excellence that we have been able to offer the nation."

Another major recommendation in the report was that the labs ought to have salary structures and administrative procedures separate from those of Civil Service. Again, Sandia, with a contract that calls for us to operate in the mode of Western Electric and Bell Labs, has a separate salary structure that is competitive with, and compatible with, industrial practice. The same is true of some other GOCOs (government-owned, contractor-operated labs) but not of the GOGOs (government-owned, government-operated labs). Many of the GOGOs are locked into a salary schedule with little room for performance evaluation or coupling of reward with performance. The result is that talented people leave for positions in which their skills are rewarded for performance rather than for longevity.

The report also called for increased interaction between the labs on the one hand and the universities/industries/users of research on the other. Here again, says Dacey, "Sandia's present performance is already exemplary. We have many interactions with universities — visiting professorships, research grants, shared re-

*(Continued on Page Four)*



SANDIA'S FINE SHOWING, in terms of the White House Science Council's recent report, is not the result of one person's effort — or even of four. But these men, Sandia's presidents over the past 23 years, deserve a major share of the credit for Sandia's achievements: (clockwise from top) George Dacey (1981-present), Morgan Sparks (1972-81), S.P. "Monk" Schwartz (1960-66), and John Hornbeck (1966-72). (Photo by Laskar)

 **LAB NEWS**

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## Harry Saxton Named Director 2500

Harry Saxton has been named Director of Components and Standards 2500, effective Aug. 16.

He joined Sandia at Livermore in March 1971, working in a metallurgy and electroplating division. He transferred to the materials characterization group and, in April 1974, was promoted to supervisor of that division. He remained at Livermore until 1976 when he was promoted to manager of the Materials Properties Department in Albuquerque. Harry moved from research into the components directorate in 1979 when he became manager of Power Sources Department 2520, a position he's held until his current promotion.

Before joining Sandia, Harry was a systems analyst with the Center of Naval Analysis in Washington, D.C. He received his MS and PhD in materials science from Stanford University. He is a member of the American Electrochemical Society, American Society for Metals, and the American Ceramic Society. Harry is a member of a local Civitan Club; he is a licensed pilot and enjoys fishing, skiing, and backpacking. He and his daughter live in Sandia Heights.



HARRY SAXTON - 2500

# Antojitos

A couple of years ago, some of my fellow teachers and I were celebrating a colleague's birthday on a Friday night, rather than the following Tuesday--her actual natal date. None of us, including the birthday celebrator, had other commitments for Tuesday. Midway through the evening, we realized that we seldom made any plans for weeknights, even if they allowed getting home early. All job-holders understand the merit in not overextending themselves when work looms the following morning. But, for many teachers, doing anything else when you should be grading papers is the ultimate heresy.

Consequently, I set out to prove that there is life in the middle of the week. Maybe even life outside the classroom in the middle of the day! Part of that experiment was to come to work at Sandia for the summer to see how the other half lives.

Before I extend my observations about life out here in the real world, let me make it clear that I'm not a sociologist. Closeted away in the LAB NEWS office most of the summer, I haven't mingled extensively. So these are only generalized impressions:

First, I've lived in Albuquerque all my life, but until I came to work here, my path had crossed that of very few Sandians--and then only briefly. Since I'm hardly a recluse (except on weeknights), and there are thousands of nice people out here, I wondered why. I suppose any large corporation grows somewhat introverted with time. Friendships form among people who share the commonalities of working together. That's certainly true of education, as implied above. However, it seems that the tendency toward being almost a self-contained community is accentuated at Sandia, perhaps because of the physical isolation of the facility and the nature of the work. Company-related opportunities for socialization and recreation are provided. Most needs are met. It's a very comfortable, secure situation, allowing for contact with the larger community through volunteer work or choice, while retaining a paradoxical high-tech/small-town atmosphere.

Lest that sound critical, let me assure you it's said with a touch of envy. As is the fact that the word I choose to characterize Sandia is "civilized," despite what the black-hooded demonstrators at the gates would have us believe.

This is not to imply that education is an uncivilized profession (again contrary to what many think). It implies only that Sandia has impressed me as a basically rational place. I've been accorded a generous degree of courtesy. I've been refreshed by the respect for and demonstration of intelligence. I've admired the sincere attempts at communication I've seen. These factors have extended my perception of what civilization in action means.

It has been pleasant to again hold a job that didn't require paper grading on Tuesday nights (although I didn't use the time as well as I might have to prove my hypothesis about life existing then). I'll return to the papers with the hope that my activity with them may help produce some worthy additions to your community or others like it.

•Nancy Ellis-Neel

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The names are familiar — GE, GM, Sunbeam, Hughes, RCA, Baldwin — all firms from the Fortune 500 list of successful US enterprises. But this isn't the US, it's Mexico, and the towns carry such names as Matamoros, Nuevo Laredo, Tijuana, Nogales, Ciudad Juárez. The workers, too, are young Mexicans, even though the plants they work in are US companies. The phenomenon is called *maquiladora* or in-bond or drawback industries in English. It provides US companies with a valuable new edge in competing with lower-priced foreign imports. And it offers jobs and new skills for Mexican workers in areas which, in the past, have suffered from heavy underemployment. Today, 650 in-bond plants operate along Mexico's northern border zone, a tract some 20 kilometers from coast to coast. The industries employ more than 130,000 Mexicans — mostly young women — in basic assembly jobs.

— Laurie Kassman Garcia in *R&D Mexico*



WINNERS IN MARKSPERSONSHIP were these members of the Wells Fargo Guard Service at Sandia. They took part in the recent 12th annual DOE/SAN Regional Pistol Tournament and returned with nine trophies. Winners in the front row (left to right) are Major Dave Claire, who took first in sharpshooter class, and Lt. Carl Feighner, who won second place in the expert class competition. Second row: Mark Dougherty with a third place in novice class, Lt. Bob Sater with a third in master, and Jan Hebebrand with a third in expert. Back row: Todd Keck with a fourth place in expert class, Lt. Bill Hayes with a fourth in novice, and Lt. Mary Froemke with a fourth place in marksman competition. Not present was Scott Overby who took a first in the marksman class. Also taking part was Ken Bennett (8251), a National Rifle Association-certified instructor and supervisor of the guard force, who once again served as range-master.

## Livermore Take Note

Al McDonald (8132) and his wife Sue recently won first place in Channel 5 Evening Magazine's contest by writing the best 100-word statement on "Why I Would Enjoy a Fantasy Weekend at a Dude Ranch." As a result they were interviewed on the program, then flown by helicopter to a dude ranch in the Napa Valley where they enjoyed a weekend that, as promised, met their fantasies.

\* \* \*

Doug Hanson (8271), Tom Jones (8322), Jim Sheley (8161), Don Benthusen, and Ron Gorniak (both 8512) were called out to assist with radio communications at the big brushfire near Del Valle Regional Park recently. All are members of the Radio Amateur Civil Emergency Services (RACES) group.

\* \* \*

Sandians swept top honors in the Masters Division (over-40) of the Brentwood Firecracker 5-mile road race held July 4th. Len Hiles (8113) took first with a time of 30:06 which was good enough for a 10th place overall in the run. Fellow runners Barry Bolden (8161) took second and John Martin (also 8161) placed third. Barry was 14th overall with a time of 31:56, and John was 23rd with a 34:05 clocking.

## Sympathy

To Roger Barody (8410) on the death of his father in Hollywood, Fla., July 14.

To Del Houser (8414) on the death of his father in Livermore, July 5.

To Barry Schrader (8212) on the death of his mother in Bradenton, Fla., July 26.

# Laser System Heart of CRF

*Answer:* Do it with mirrors.

*Question:* How do you make the output from a large, complex, expensive, high-power, laser system available on demand to 14 separate laboratories?

This was the problem when the Combustion Research Facility (CRF) was built to house some of the most advanced, sophisticated experimental work being done today in combustion science. In principle, the solution was as simple as a child's toy periscope. In execution, it demanded the most painstaking engineering. Why? Because two centralized laser systems (later named Diana and Sirius) were to be the heart of the entire laboratory complex. Also, because we live in an unstable world. The earth itself and the structures on it, while they appear to be immobile, are really a mass of quivering, shaking, bouncing, vibrating components.

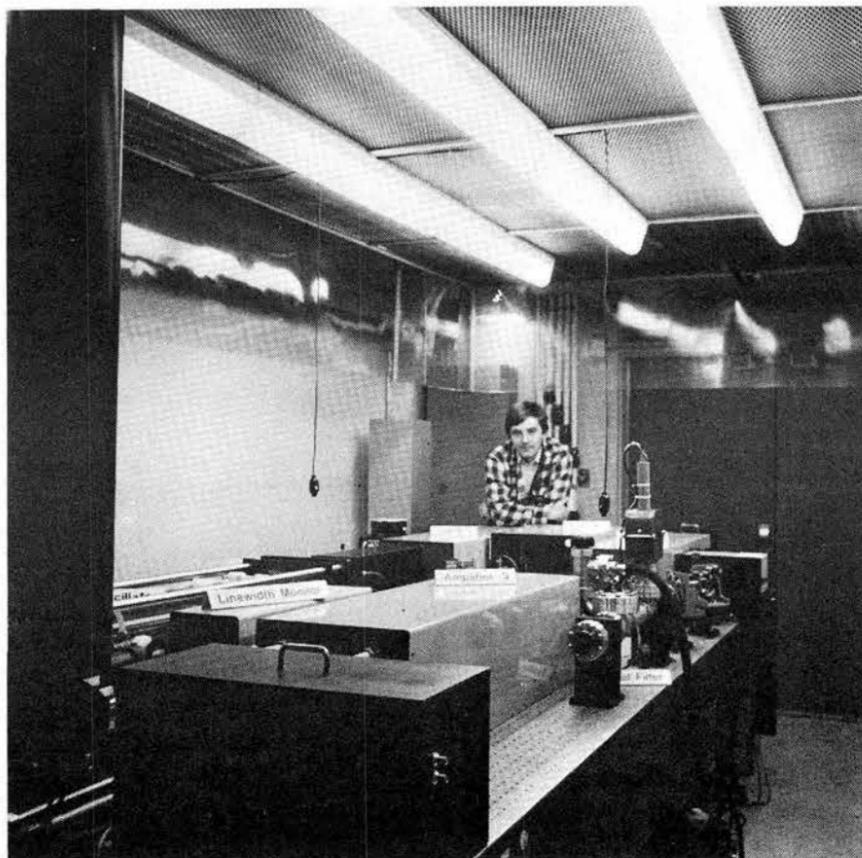
Put a laser on an ordinary table in an ordinary building and the beam will wobble noticeably if it travels any substantial distance. In the CRF world of high-resolution laser-optical diagnostics, where the beam can be as long as 60 meters, beam stability is a prime requisite. Then further complicate the problem with dust and air motion and density differences that degrade beam quality; add to all that the necessary safety provisions, and the problem becomes truly formidable.

So why not get around the problem by putting a specially designed, high-power, multiple-laser system in every laboratory, or by hauling one around on a cart? Not feasible. Laser systems are too expensive, too large, and too hard to align; and they demand far too much highly skilled adjustment and maintenance for experimenters to devote time to.

The solution: design optimum laser systems specially adapted to the needs of combustion research, engineer a precision scheme to distribute the beams, then design a laboratory building around these central systems. This is exactly what was done for the Combustion Research Facility — from the ground up.

The building slab is extra thick and built in jointed sections to help isolate vibrations. The walls do not rest on the slab but on their own foundations for the same reason. Furthermore, all heavy machinery is isolated in a separate building 50 feet away. The laser systems themselves and their periscopes (which send the beams to the various experiments throughout the building) are mounted on damped optical tables. To keep dust and air turbulence from degrading the laser beams on route, and to prevent people from coming in contact with these high-power beams, the beams travel from transmitting to receiving periscopes through closed ducts attached to the periscopes by soft joints.

In operation, the laser beam is reflected up the transmitting periscope to a rotatable mirror looking down the duct. This mirror directs the beam to a receiving periscope in a selected user laboratory, and through that periscope onto the user's optical table. "The system makes expensive, state-of-the-art



IN THE HEART of Diana, the high-energy laser distribution system at the CRF, is Clyde Layne (8512). From here, laser beams can be delivered to any of 14 research laboratories in the building. In the left foreground is the transmitting periscope up through which the laser beam is transmitted. A system of ducts and reflecting mirrors in the ceiling delivers the beam where it is needed.



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lasers available to a number of researchers, one at a time," says Clyde Layne of Combustion Engineering Division 8512 "It makes for efficient use of the lasers and also permits separate responsibility for their maintenance."

With the system now in operation, the CRF lasers can send a beam to the most distant user laboratory, some 60 meters away,

### Why Diana And Sirius?

Diana is the ancient Roman goddess of the moon. Often pictured as a huntress with a bow and quiver of arrows, she's a good choice for a name for a laser system that shoots rays of light at targets.

At the CRF, the original companion laser system was named after Orion, Diana's (platonic) lover. In the myth, she accidentally killed him. In the CRF, Orion has been "killed" too — the replacement is known as Sirius, after the dog that follows Orion's constellation across the skies.

and hold jitter to 1 millimeter or less — a stability quite acceptable for experimental applications.

On line now are two such laser systems specially designed and configured for combustion experiments. One is Diana, produc-

ing 1.5-micro-second pulses which are tunable throughout the visible spectrum and have a 10-hertz pulse rate, which matches the revolution rate of experimental engines used in the CRF, permits rapid accumulation of data from inside operating engines. Diana's high pulse energy also permits accurate single-shot temperature measurements in turbulent diffusion flames and makes it possible to measure trace gases or radicals that would otherwise lie below the detection limit in practical combustion environments. Diana was designed and built for the CRF by the SNLA Laser Technology Division.

A second CRF laser system, Sirius, is mainly intended for nonlinear techniques such as coherent anti-Stokes Raman and inverse Raman scattering, which require multiple beams. The system consists of an Nd:YAG (Neodymium: Yttrium Aluminum Garnet) laser and a dye laser. Soon, an argon-pumped, pulse-amplified ring dye laser will be added to the Sirius system to serve high-resolution, nonlinear experiments.

These CRF systems are not, of course, the whole complement of lasers at the CRF. Many smaller, lower-power, off-the-shelf lasers are also installed in individual laboratories for use with experiments that do not need the special capabilities of Diana or Sirius.

"New applications are evolving all the time as researchers from industry and the universities join with the Sandia staff in using Diana and Sirius to study a variety of combustion problems," says Clyde.

## A Resounding Endorsement

search programs, etc. — and we have an enviable record of technology transferred to the private sector.”

The report also aimed some recommendations toward the federal agencies that oversee the various labs. Among the changes proposed is a reduction in or elimination of “micromanagement,” the “excessively detailed direction of lab R&D activities from agency headquarters [that] has seriously impaired R&D performance in some labs . . . [and] is most serious at the DOE labs.” Dacey feels that the micromanagement problem is less acute at Sandia than at other labs, “at least in R&D for defense programs where historically we have been managed in a very broad way.” The concern, however, is more valid in regard to our energy programs “where we have many more program managers.” Perhaps a greater cause for concern, he said, is “DOE directives that attempt to substitute rules for local management of R&D.”

The report also calls for funding “on a predictable multiyear basis so that staffing levels and research activities can be properly planned” and for “at least five percent, and up to 10 percent, of the annual funding to be devoted to programs of independent R&D at the lab directors’ discretion.” As Dacey puts it, “Both changes would be most welcome — but whether or not it’s reasonable to expect them to occur is another matter.”

Still another proposal aimed primarily at the agencies is that accountability should be strengthened. Currently, “the review mechanism often focuses on evaluation of proposed work rather than actual performance. Review processes also emphasize the more easily measurable criteria (e.g., time and cost) rather than the more difficult but important criteria of excellence, relevance to national needs, and appropriateness.”

Dacey’s response is again positive — “Funding frequently tends to look forward to new initiatives, and rarely is a new initiative judged against ‘How did they do last time? We just gave them \$200 million to invent fire and the wheel. Did they succeed? Or are we still cold and immobile?’ Yes, I believe it’s wise to look at track records and thus improve accountability. At Sandia we have in place methods of reviewing performance, including peer reviews where appropriate, that, I think, get at the concerns expressed in the report.”

Will the panel’s recommendations be acted upon? According to *Science News* (July 7), President Reagan “was obviously impressed with the analysis and the series of corrective measures it recommended . . . and authorized the Office of Management and Budget, together with the Office of Science and Technology Policy, to immediately begin implementing recommendations contained in the report.”

As President Dacey puts it, “If some of these proposals are accepted, it could have a very positive effect on R&D in this country. We will have to wait and see.” BH



METAL TRADES COUNCIL officers urge Sandians to deposit food donations at the National Guard truck on Aug. 26 at the Coronado Club parking lot. From left, Fidel Perez (7481), secretary-treasurer and executive officer for United Way; Conrado Otero (7482), president; and George Paul (3613), vice president.

## Metal Trades Council Sponsors Food Drive

Conrado Otero (7482), president of the Metal Trades Council, is asking Sandians for help with a food drive on Aug. 26 and 27.

The food drive is for unemployed workers who have exhausted their unemployment benefits and for other unemployed people such as those in the construction trades; many are desperately in need and reluctant to request assistance. Sponsored by the Community Services Committee of the Central Labor Council and the United Way of Greater Albuquerque, the state-wide drive is supported by the Governor who has arranged for National Guard personnel and vehicles to help with the food

collection. Safeway stores, Coronado Center and Winrock Center are making available their parking lots; on Aug. 27 National Guard trucks will be at these locations where donations can be delivered from 9-5.

Sandians can deposit their donations at the National Guard truck at the Coronado Club parking lot (parking lane nearest the street) on Friday, Aug. 26.

Community agencies will distribute the food. Anyone wishing to assist at the shopping centers and at the central warehouse to collect, sort, and box donated food can contact Conrado (4-7081).

## Vacation Country — No Vacation

Earlier this summer a crew of Sandians and others visited some fantastic vacation/hunting country in northern New Mexico. But they weren’t there to relax or for sport. They were volunteers helping to make Valle Vidal accessible to the public and safe for its elk herd (the largest in the state).

Valle Vidal, 100,000 acres in size, was donated to the U.S. Forest Service last year by the Pennzoil Oil Company. The land is high mountain country near the Colorado border west of Raton. It has large meadows, spruce and aspen forest, streams, springs, manmade lakes, and an abundance of wildlife — in addition to several thousand elk, Valle Vidal is home to bear, deer, turkey, and many other species.

The elk herd represents a major reintroduction of that animal to the state. Native elk were eradicated by unlicensed hunters some years ago. (No type of wildlife has been eradicated — or even made the endangered species list — once it has been includ-

ed in regulated hunting.) The elk at Valle Vidal were brought in from Yellowstone National Park.

The group spent a weekend dismantling a 12-strand barbed wire fence and coiling the wire, thus removing an eyesore and a potential danger to the elk and other animals. The fence enclosed the elk’s first home in New Mexico, which was later used to enclose Pennzoil’s buffalo herd.

It was hard work — and done with haste because of frequent rainstorms. But, according to Ed Machin (2154), the group had such a good time that another volunteer effort is planned for September. Again sponsored by the Sandia Mountain Wildlife Conservation Association and the Albuquerque Wildlife Federation and performed for the Forest Service and the NM Department of Game and Fish, the September outing will likely involve installing signs to designate roads open to traffic. If enough people volunteer, work can begin on the three campsites that Valle Vidal will someday contain.



PHOTOGRAPHER FIGHTS ELK for attention of this volunteer work crew at Valle Vidal. Kneeling: Ken Bauhs (7521), Ian Stearns, two campfollowers of the canine flavor, Vi Bauhs, Wilbur Stearns, and Ed Machin (2154). Standing: Jeff Bauhs, Cliff Mendel (1264), Barbara Stearns (3311), Joyce Mendel (pointing to a nearby herd of 40 elk), Don Bush (2525), Jerry Gates (NM Game & Fish Dept.), Carol Bush, Delbert Griego (Forest Service), Don Morrow (3522), Scott Morrow, Julie Morrow, Andre Morrow, Tony Romero (DOE retiree), and Bill Montoya (NM Game & Fish Dept.) Anyone interested in a work project at Valle Vidal in September can call Ken on 6-0969.

## Computer Model Duplicates Flight Test, Leads to Successful Design Change

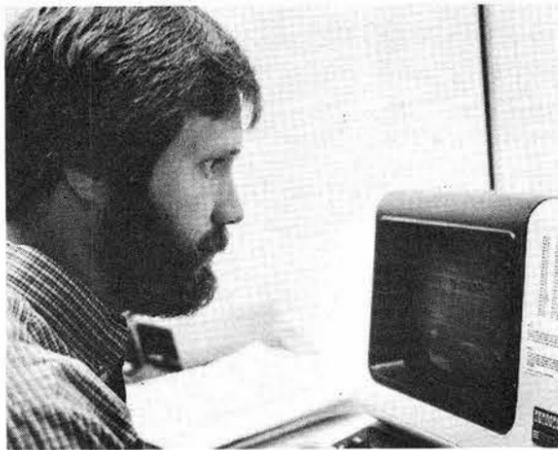
"I was surprised," aerodynamicist Jim Purvis (1632) remembers, "when I first ran the computer program, looked at the graphics, and compared it with the photo data from the actual test. They matched."

Jim created a model of a B83 release and parachute deployment from an F-111 fighter bomber flying at low altitude at 1.28 times the speed of sound. The model closely duplicated the events that led to an unsatisfactory parachute deployment — the impact velocity was too high; the B83 weapon could not survive this "lay down" delivery.

The numerical model was used to investigate a problem and indicated a solution. The new design was successfully "flown" on the computer before a new flight test of the B83. The subsequent flight test verified the simulation predictions, and the B83 now has a cluster of three small pilot chutes, increasing by four times the drag area of the original single pilot chute.

"The problem was a phenomenon known as line sail or 'fish hooking,'" Jim explains. "This refers to loops of the parachute suspension lines that deploy around and temporarily flow behind the deployment bag which contains the main canopy. In the first F-111 flight test, the system experienced severe line sail. This led to the unsatisfactory deployment and inflation of the main 46-foot-diameter ribbon parachute — with resulting canopy damage and undesirable high velocity impact."

During that first test, the 2400-pound B83 test unit was dropped from the F-111's internal bomb bay. Flowfield interference from the aircraft caused the test unit to exit the bomb bay at a 20-degree angle to the line of flight. This high angle, combined with high



JIM PURVIS (1632) studies computer screen as he programs a problem in parachute deployment and inflation.

dynamic pressure, caused problems during the suspension line deployment.

Jim's computer model contained all of the important aerodynamic characteristics of the test unit, the main parachute, its suspension lines, the pilot parachute, and the deployment bag. He accounted for tangential and perpendicular aerodynamic forces, including the effects of twisting and grouping of the parachute lines and the extraction of the deployment bag. Equations representing all the essential factors were prepared from both experimental data and theory and entered into the computer simulation.

"The nice part," Jim says, "is that computer testing is much less expensive than flight testing. It costs about \$70,000 per test to fly the F-111 for a drop at Tonopah Test Range. And the computer doesn't depend on weather to get good data."

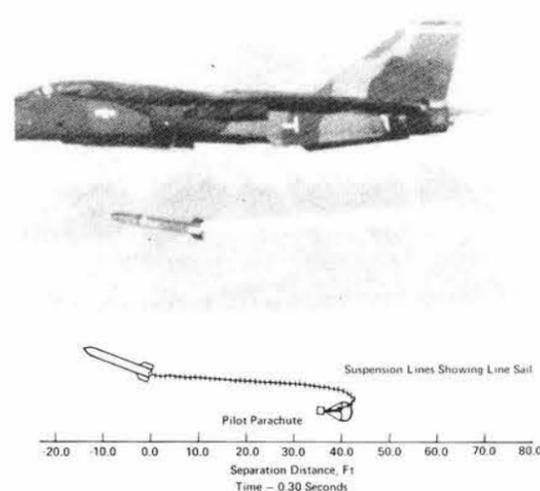
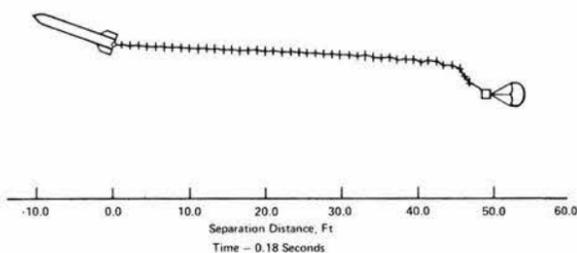


PHOTO of flight test shows severe line sail as B83 test unit drops from bomb bay of an F-111 fighter bomber. Computer graphic prepared by Jim Purvis (1632) simulates the event exactly.



COMPUTER PROGRAM predicts a second flight test that, again, matches the actual event and suggests a solution to the line sail problem.

## Retiree Roundup

By Ted Sherwin (Ret.)

### The Picnic

For retirees, one of the social highlights of the year has to be the annual picnic on the Coronado Club patio and lawn. As the recent photo-essay in the LAB NEWS indicated, this year's bash was one of the biggest and best. The 1300 or so retirees and spouses or guests who attended had a great time, renewing acquaintances and catching up on what's going on at the old shop or lab or office by talking with members of Large Staff who always attend (and who seem to enjoy it as much as the retirees).

Although you hear a lot of clichés like "I don't know how I ever had time to go to work," and "Now that I'm retired I'm so busy I'm going to hire an assistant," you never hear people say they are sorry they retired. Maybe part of that is just human nature — your thoughts and actions tend to reinforce a decision, once made — but the enthusiasm of those attending the picnic was unquestionable.

Almost all the comments one hears about the retirement income plan(s) are favorable, and appreciative, but there are those who are less enthusiastic about the health insurance situation, particularly those who must file claims first with Medicare, and then seek secondary help from

Equitable. It's not Sandia's fault, but the Medicare system is awkward and takes a lot of time. There are two different offices handling local Medicare claims, depending upon whether it's hospital care or treatment by a physician or other professional provider.

### The Economy and Your Retirement Plans

Some employees thinking about retirement are probably looking at the stock market trend and wondering whether or not this is the right time to "cash out." As I have said in some previous columns, the tax consequences of taking a lump-sum settlement at a time of retirement are significant and can be affected by a number of things other than the way you elect to report to IRS your various types of income upon retirement. Professional advice would be beneficial in many cases, especially if the amounts are quite large and you don't know for sure how you want to re-invest your lump-sum funds. Try to find a financial advisor who isn't selling something, if you can. One thing you should be doing now, however, is getting your money into the best investment option available under the Savings Plan. Again, your choice will be affected by your post-re-

tirement financial plans.

If you receive AT&T shares as part of your distribution, you may wish to retain rather than sell them. If this is the case, you must still determine and report your tax liability, if any, on the distribution. If AT&T shares are involved, you must use the market value on date of transfer to determine your tax liability. Once a year, Sandia Benefits furnishes all retirees who receive distributions a list of market values and related issue and transfer dates; or you may call AT&T on the toll free number (800/631-3311) to obtain this information. If you keep AT&T shares received in a lump sum distribution and use the dividend income to supplement your retirement, you have no further tax liability on the distribution itself until you sell the shares. At the time of sale, your "cost" will be the market price on the date the shares were transferred to you.

The advice from here is: Don't try to out-guess the market. Make your retirement plans on the basis of other factors, and then get the best advice you can to make the wisest financial decisions with what you have to work with at retirement.

And the second bit of advice: Retire as early as you can. (And that's a lot sooner than most working people think.)

## Take Note

Karen Anderson (8100), who is observing her 15th year at Sandia (see Mileposts), is a third generation Sandian. Her grandfather, Charles Anderson, began at Sandia Albuquerque in 1949 as a machinist, then left that job to work for Kirtland Air Force Base, retiring in 1960. Her father, Charles Anderson, Jr., started with the AEC in Albuquerque in 1947, moved to Sandia in 1950, transferred to Livermore in 1958, and retired in 1980. All that time he worked in Purchasing. Karen's late great-uncle worked at Sandia many years, and her grandnephew, Mike Spencer (2341) is still at SNLA.

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There's something for everyone at the 4th annual Labor Day Celebration, presented by Kirtland's Morale, Welfare, and Recreation. See a professional rodeo Sept. 2-4 at the riding stables arena, and then enjoy an after-rodeo barbeque on the NCO Club patio. On Sept. 5, lots of entertainment is planned, including clowns, gunfighter shootouts, and a flea market. In the evening, catch the Hank Thompson Show following a big chicken dinner. Tickets for the rodeo (\$2 daily, \$5 for a three-day pass), dinner (\$2), and barbeque (\$6) are on sale at open messes, recreation center, youth center, and recreation services offices. With beer selling for 25¢, soft drinks for 10¢, and armadillo races to boot, it promises to be a great long weekend.

\* \* \*

Retirees, please note: The Western Electric telephone display and sales location is now in the Benefits office (Bldg. 832). Order forms may be obtained and submitted there between 1:30 and 2:30 each day. George Wayland (3543) is the administrator of the sales program, which will continue until Dec. 2.

\* \* \*

Bill Snyder (6400), director of nuclear fuel cycle programs at Sandia, was appointed by Governor Toney Anaya to the new Science and Technology Advisory Committee on July 20. The nine-member committee, created by the 1983 Legislature, will advise the new Economic Development and Tourism Department on scientific and high-technology programs related to economic and small business development.

\* \* \*

The Medical Department will host three lectures on the topic "The Chemically Dependent Female (Alcohol/Drugs)". The guest lecturer will be Sue Cusack of Veritas Villa, an alcoholism treatment facility in New York. Mrs. Cusack will address her presentations to the following audiences:

Aug. 22, 9-11 a.m. — For all interested supervisors, particularly supervisors of women; personnel representatives; Bldg. 632, Auditorium;

Aug. 22, 1:30-3:30 p.m. — For all interested female employees; Bldg. 632, Auditorium;

Aug. 23, 11 a.m. to 1 p.m. — For all interested employees; Bldg. 815 (outside the area).

\* \* \*

Ron Iman (7223) has been elected to a three year term on the Board of Directors of the American Statistical Association in a balloting of the general membership of the



PETAL PROJECT VOLUNTEERS — (l to r) Ruth Birdseye (2431), Eunice Simpson (140), Natalie Vytlačil (2611), and Nita Ward (7251) are volunteers who responded when Plant Engineering called for help in tending flower beds around Area I. They cut fresh flowers and distributed them to various offices, and they removed faded blooms and foliage, giving the plants a chance to bloom again. Other gardeners, not available when the photo was taken, are Danny Brown (3140) and Gila Yaniv (2621).

ASA. Ron will be one of eight elected district representatives on the board. He will represent District 6 which consists of 14 mid- and southwestern states and three Canadian provinces.

\* \* \*

The Sandians Wives' club holds an informal potluck dinner at the Coronado Club pool and patio on Aug. 26 from 5:30 - 8. Past, present, and prospective members are invited (membership is open to all wives of Sandia employees, female employees, and wives of associated contractors and consulting firms; Coronado Club membership is not required). Please call Suzanne Stalker (293-5392) or Connie Molecke (296-5850) for details.

\* \* \*

John Jewell (2527) knows the thrill of victory. He coached/managed his son's Roadrunner Little League All-Star team to first place in the State Little League Tournament in Clovis, July 25-28. The 13-year-olds scored a whopping 16-0 success over Lovington in the final game and distinguished themselves and their coach by going undefeated at the meet. Although they didn't sweep regionals in Scottsdale, winning the state championship certainly marks a high point in John's five-year coaching career.

\* \* \*

James Agee's *A Death in the Family* and Gabriel Garcia Marquez's *One Hundred Years of Solitude* are among the books on the agenda for Family Fictions, a reading and discussion program sponsored by the Albuquerque Public Library at the beginning of its centennial year. On alternate Saturday mornings starting Sept. 10 at the Main Library, scholars and volunteers will lead small group discussions examining different perspectives on the family unit. Any community member may participate in the free program by registering at either the Main Library (5th and Copper, downtown) or the Wyoming Regional Branch (8205 Apache N.E.). Books are provided, and a children's activity program is scheduled concurrently with the book discussions.

The library also announces an exhibit commemorating the late Senator Dennis Chavez's 27 years in public service. Awards, photos, and mementos from his term of office will be on display through Aug. 26.

\* \* \*

The Beginning Experience, a weekend designed to help people who have recently been divorced, separated, or widowed deal with the psychological aspects of these separation events, will be held Sept. 9-11 at Hummingbird Music Camp near Jemez. Open to persons of all faiths, the weekend will cost \$50 with some partial scholarships available. Enrollment is limited, and the deadline for application is Sept. 1. Contact Patricia Martin (3723) at 298-7035 for more information.

\* \* \*

*The South 14 Bookstand* — A new cookbook, *Comida Sabrosa*, (subtitled "Home-Style Southwestern Cooking") focuses on recipes from New Mexico and includes a bunch of desserts — natilla, empanadas, buñuelos, compechananas, bollitas, and more. With instructions and drawings, the book shows how to roast and peel green chilies and how to string a ristra of red chiles. And it includes all the traditional favorites, even a recipe for Indian bread. Published recently by the UNM Press, *Comida Sabrosa* (\$9.95) is available at LAB NEWS in Bldg. 814.

\* \* \*

A course in Intermediate Japanese I will be offered at UNM this fall. Meeting Monday-Wednesday-Friday from 3 to 3:50, the class begins Aug. 22. Anyone interested may call 277-4032 for more information.

\* \* \*

Or maybe you'd prefer Chinese. The Chinese Language Class is offering three non-credit courses at UNM this fall for beginning, intermediate, and advanced students. The classes are held on Sundays from 2 to 4 p.m. in Ortega Hall. Registration and the first class will be at 2 p.m. on Aug. 28. For information, contact one of the instructors, Margaret Chu (6413) on 4-9931.



SENATOR JEFF BINGAMAN visited the Labs last week. Here he signs in at the Particle Beam Fusion Facility where he heard presentations on arms control and verification (including verification technology), basic research, and conventional weapons. One of his hosts, Al Narath (10), discussed basic research. Another host, President Dacey (background), had earlier discussed Labs/university/industry interactions, the governor's committee on technical excellence, and technology transfer and spinoff with the Senator.

**EXPERTISE REVISITED**



"X-rays are a hoax." (Lord Kelvin, 1824-1907)

Quoted in Norman Augustine, *Augustine's Laws* (New York: American Institute of Aeronautics and Astronautics, 1982).

**TVI Instructor**

**Back to the Drawing Boards**

Twenty-four students labor industriously over drawings of bolts at their drafting tables. They include a mother of grown children and a young man who missed a class session to practice for his own high school graduation. The atmosphere is relaxed, but intense concentration predominates. Obviously, these students are motivated to learn all they can.

This is the scene in Charles Arning's electromechanical drafting class at Albuquerque Technical-Vocational Institute's

**Materials Science Lecture Series Starts Aug. 25**

"Frontiers in Materials Technologies," a distinguished lecture series by internationally known scientists, begins next Thursday, Aug. 25, at 3 p.m. in Sandia's Theater Bldg. 815 (outside the area). Allan Gilman of Standard Oil will discuss metallic glasses. The following Thursday, Sept. 1, A.J. Heeger, University of California at Santa Barbara, will discuss conductive polymers. The lectures will continue each Thursday afternoon through Jan. 12, 1984. LAB NEWS will publish further details next issue. The series is funded by Sandia National Laboratories, Los Alamos National Laboratory, and the Air Force Weapons Laboratory. The lectures are sponsored by the Joint Center for Materials Science of New Mexico. The lecture series is available for university credit from New Mexico Institute of Mining and Technology and the University of New Mexico. Call Jim Schirber (1150), 4-8134, for additional information.

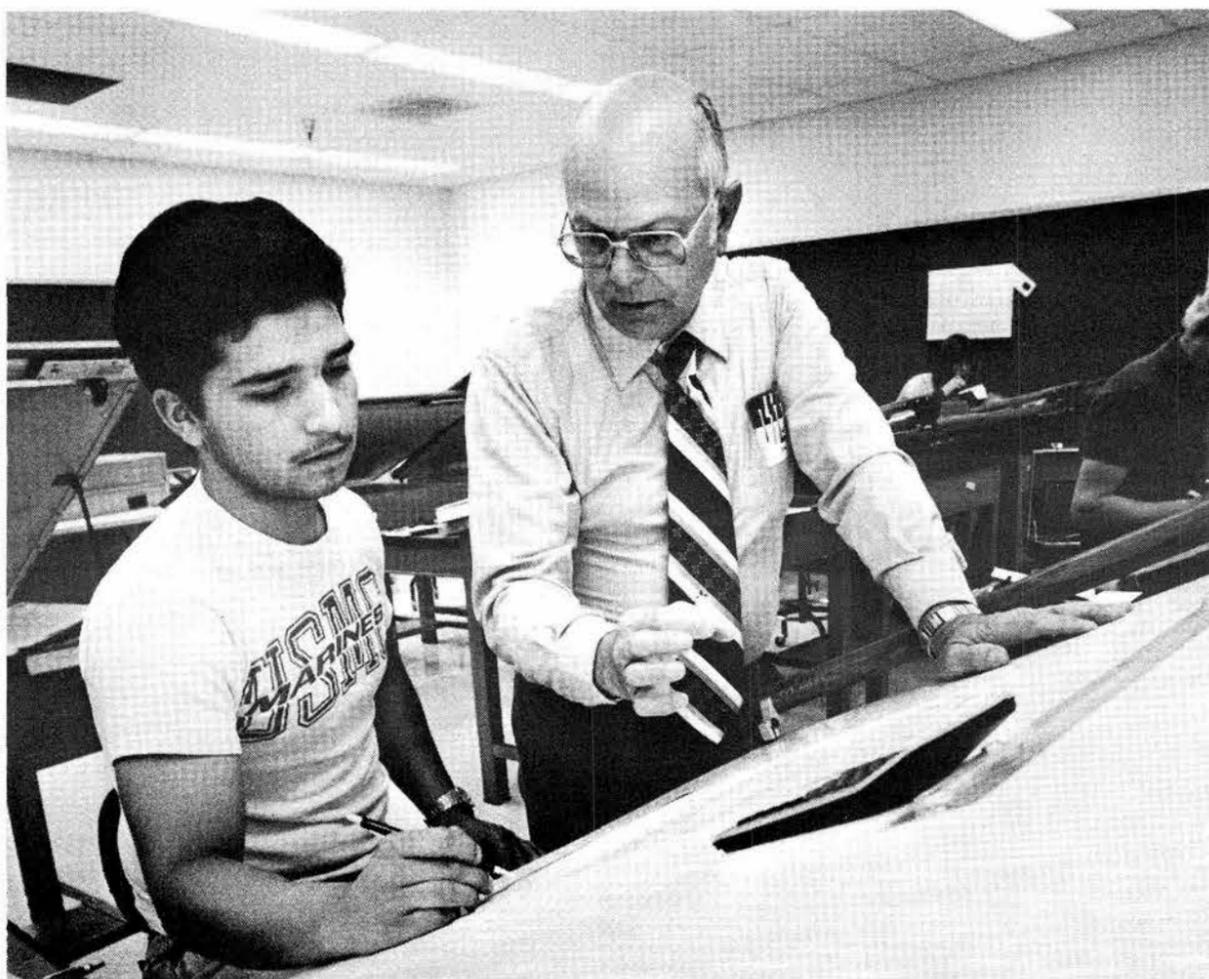
Montoya Campus. Charles (7651), a design drafter with Sandia for 25 years, is in a unique situation as an "executive-on-loan" to TVI this trimester. He teaches from 7 to 11 a.m. before returning to his regular job at Sandia. Although he has taught this course part-time in the evening division for 12 years and has participated in several exchange programs with TVI during that time, this is his first experience with a full daily class schedule.

Charles, who holds an associate degree in drafting from Oklahoma State, has actually been involved with TVI since 1968, when he did practice teaching there before receiving his bachelor's degree in industrial arts education from UNM. His commitment to TVI stems from his conviction that traditional university programs are not for everyone. He also believes that his course and others like it meet a need for Sandia and other industries by providing them with a pool of in-state employment candidates.

The current TVI program requires potential electromechanical drafters to spend two trimesters in the classroom and the third as an apprentice at Sandia or elsewhere. In addition, they complete eight hours of Sandia in-hours course credit in order to be certified for work in the drafting field.

Since the cooperative program began, Sandia has hired about 30 of Charles's former students. Many others have found jobs in Los Alamos. Charles has kept in touch with some of the graduates and says, "It's interesting to see them grow at Sandia."

Charles's students describe him as patient and efficient. One says, "His class is among the best run at TVI." Rosemarie Dobbins (7655), a 1980 graduate of the course, says the program prepared her well. In fact, she still uses the notes she took in the class.



HOLDING DOWN two jobs doesn't keep executive-on-loan Charles Arning (2451) from individualizing instruction in the class he teaches. Here he's explaining a fine point about electromechanical drafting to TVI student Manuel Garcia.



MOST OF THE 65 YOTs (Youth Opportunity Trainees) who spent the summer working at Sandia showed up for this photo (lured, doubtless, by the luncheon in their honor that preceded the shot). The YOT program was coordinated by Soila Brewer (3533).

## Fun & Games

**Volleyball** — The Sandia fall volleyball season will begin during the first week of October with both recreational (B-league) and competitive (A-league) divisions for the 8-10 week season. Team rosters should be mailed to Larry Azevedo (1152); his phone is 6-2529. The deadline for rosters and payment of fees is Sept. 9. Teams are coed; spouses and dependents are eligible to play. Certain contractors and DOE employees are also eligible if they pay an additional fee (\$9.15). The fees will again be \$8, payable to Sandia Volleyball Association.

\* \* \*

**Racquetball** — A new racquetball facility will be opening its doors in the Northeast Heights in September or October. If you're a racquetball enthusiast, you may want to look closely at this 16-court complex — membership rates are considerably less expensive than at most facilities. Call Sandia Employee Recreation Program manager Tom Lenz at 266-7557 for more information.

\* \* \*

**Dance Lessons** — Beginning tap, jazz, and ballet lessons continue to be offered at a discount through the Sandia Employee Recreation Program at a local dance academy. Classes start Aug. 29; more information from Tom Lenz at 4-8486. All classes begin between 5 and 5:30. Why not think about getting involved in a fun activity right after work?

\* \* \*

**Golf** — Golfers can obtain a Golf Privilege Card from the American Lung Association for a \$5 donation. The card will enable them to play one free round of golf (18 holes) at three different golf courses: the UNM golf course (site of the 1983 Charley Pride Fiesta), Cochiti Lake golf course, and Angel Fire golf course (one night's free lodging included). There are some course restrictions that will be listed on the card. The Golf Privilege Card can be obtained by calling the American Lung Association at 265-0732 or can be picked up at their office at 216 Truman N.E.

**Cute & Cuddly Convention** — The Albuquerque Museum Foundation is seeking entrants for its 6th Annual Doll, Miniature, & Antique Toy Show and Sale on Oct. 8 and 9. This event will be held in the Agricultural Exhibit building on the Fairgrounds. The exhibit area will feature many kinds of dolls with special attention to the Doll House Village. The Museum Foundation is especially interested in including those people who have a special doll, doll collection, or doll house, furnished or unfurnished. This year antique toys will be exhibited and sold. Entry forms can be procured by writing to the Albuquerque Museum Foundation, P.O. Box 7006, Albuquerque 87194.

\* \* \*

**Biking** — The 8th Annual Bike Tour from Crested Butte to Aspen (via Pearl Pass) is Sept. 17-18. The 40-mile ride offers great

scenery, sagwagon service, transportation of food (provided) and gear for the Saturday night camp-out, a ride back to the start on Sunday, and challenging elevation gain. Cost last year was \$50; 150 bikers participated — in the rain. Sept. 16 is a 28-mile off-road race for mountain bikes. Lots of prizes. And the preceding four days include guided tours of the Crested Butte area and an exhibit of the latest mountain bike equipment. Not all plans are firm yet, but those interested can call Tom Mayer (5313) on 294-3368 for all the info as it becomes available.

\* \* \*

**Horseshoes** — The Sandia Labs Horseshoe Club will hold its annual tournament at Los Altos Park at 9 a.m., Aug. 27. For more information, contact Lyle Davis (2113), 298-1957.

### "Passive 83"

## Insight into Sunlight

One of the dreams that many Sandians share is to someday build a solar home. That dream can move lightyears toward reality at "Passive 83," the 8th National Passive Solar Conference & Exhibit, next month. It will provide those who attend with a concentration of insight into sunlight (and how to tap it) that would be difficult to match anywhere else.

Sponsored by the Passive Systems Division of the American Solar Energy Society (and including Sandia and DOE as two of a dozen co-sponsors), the conference offers 19 workshops — from greenhouses to photovoltaics — and five tours of passive solar buildings in Santa Fe, Los Alamos, Rio Rancho, Taos, and other locations.

In addition, more than 30 technical programs presented by and for members of

ASES will meet the needs of those interested in hard data on a wide variety of passive solar projects.

The conference will take place at the Glorietta Conference Center on Sept. 5-11 with the workshops on Monday and Tuesday, the technical program on Wednesday through Friday, and the tours on Saturday.

Exhibits are available all week and are open to the public (50¢ admission) on Saturday. Workshops cost \$25 to \$80, tours \$10 to \$40, technical program \$160 for ASES members and \$200 for non-members. Bob Stromberg (400) is workshop coordinator and can provide forms for advance registration — or register on-site. More information from Bob or 303/492-6017 (the conference), 505/827-5878 (workshops and tours), 262-2247 (exhibits).

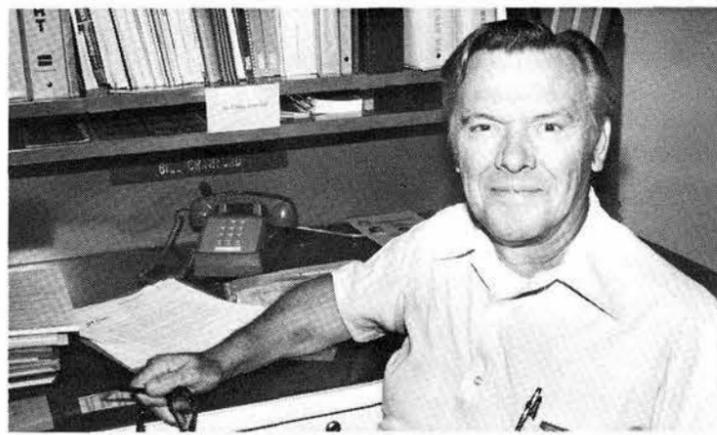
# MILEPOSTS

## LAB NEWS

AUGUST 1983

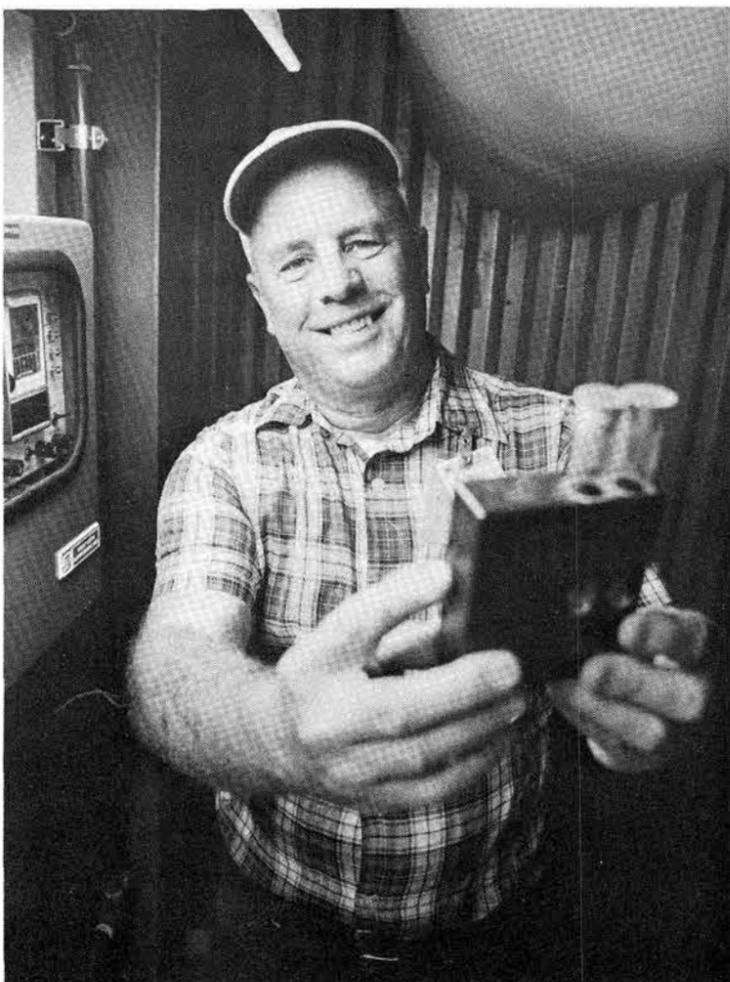


Karen Anderson (8100) 15



Bill Crawford (5122)

25



Dick Starkey (3612)

35



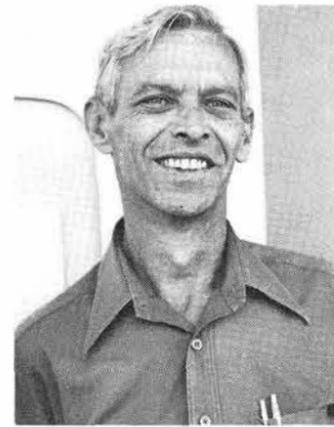
Roy Lee (8334)

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Norm Toly (8271)

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James Van Meter (7172)

25



Alfred Riedel (2562)

25



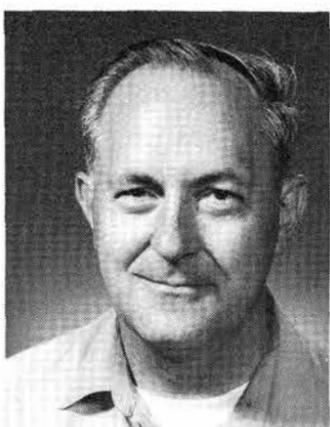
Gene Simpson (8132)

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Leonard Parsons (7264)

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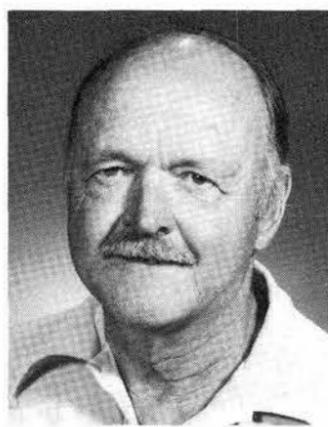
Glen Knauss (2147)

25



Edna Harper (5122)

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Jim Cocke (5125)

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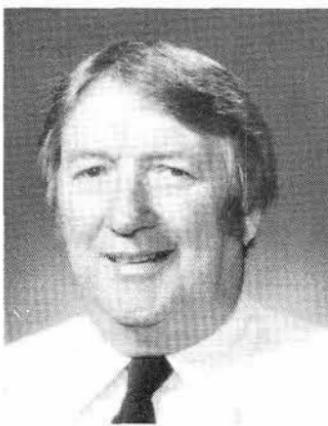
Gary Miller (7124)

20



Frank Chavez (7474)

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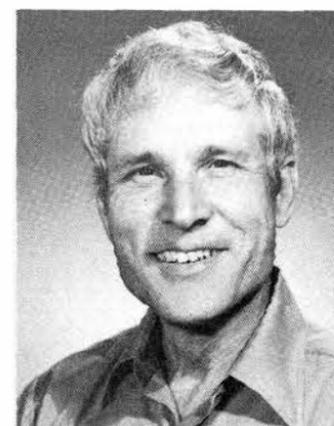
George Merren (7222)

25



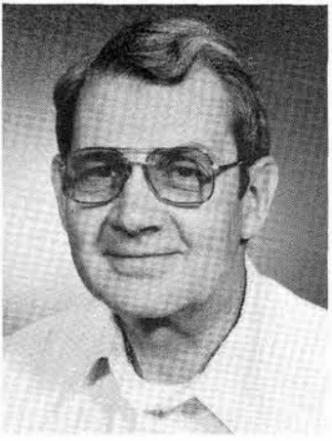
Gladys Pettiford (3154)

10

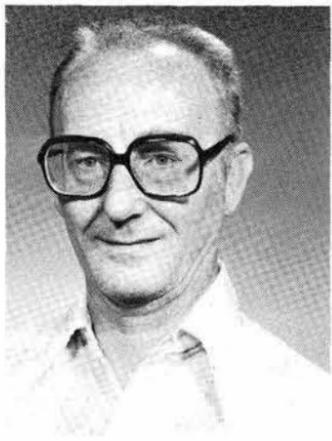


Grover Hughes (5323)

30



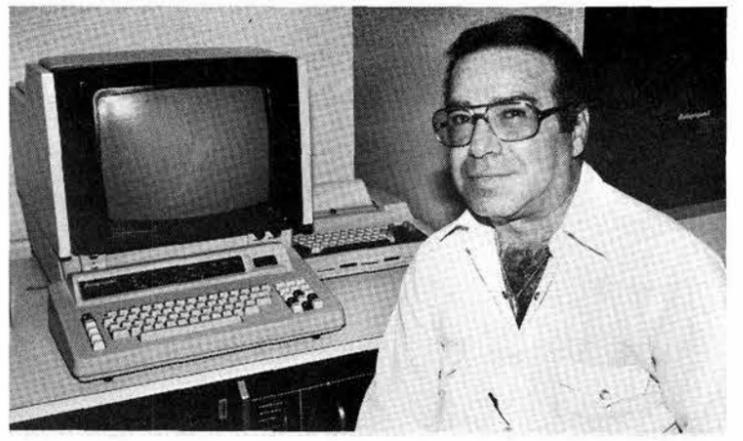
Jack Burkhardt (5111) 25



Bob Hughes (7556) 25



Paul Jesse (3715) 25



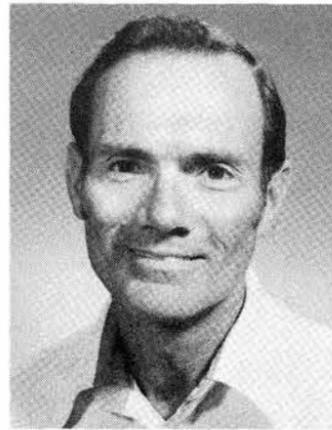
Pat Sanchez (2631) 25



Leo Brady (7131) 25



Ted Bryant (2561) 25



Richard Precit (7546) 25



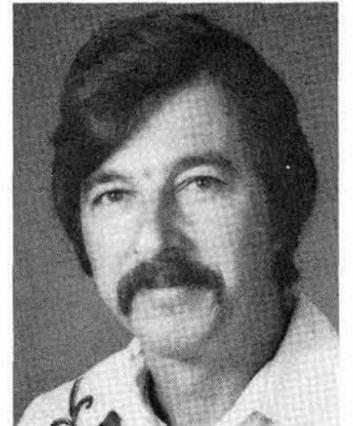
Marlene Cody (8412) 15



Abel Lovato (3423) 35



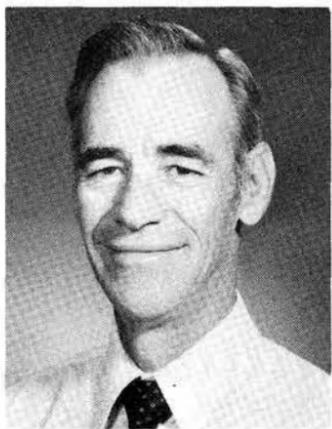
Charles Grassham (7542) 35



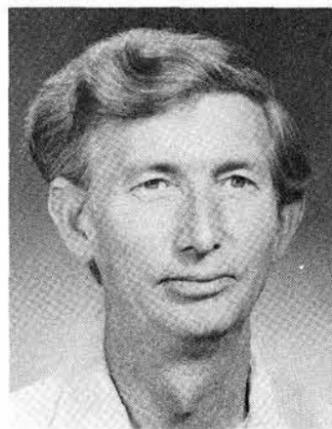
Joe Brazil (8336) 15



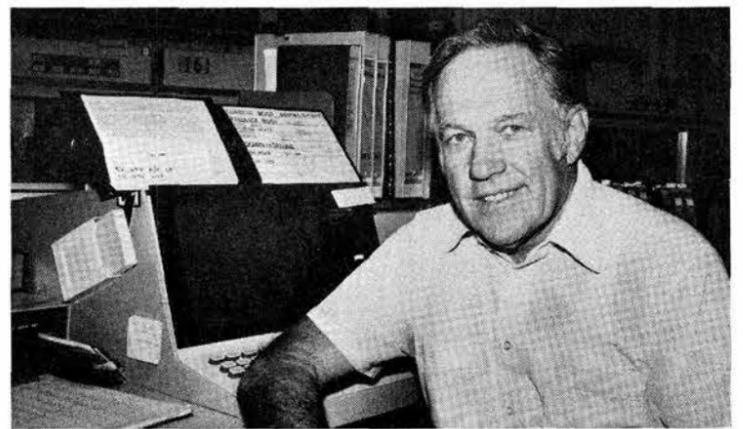
Bob Schowers (7213) 35



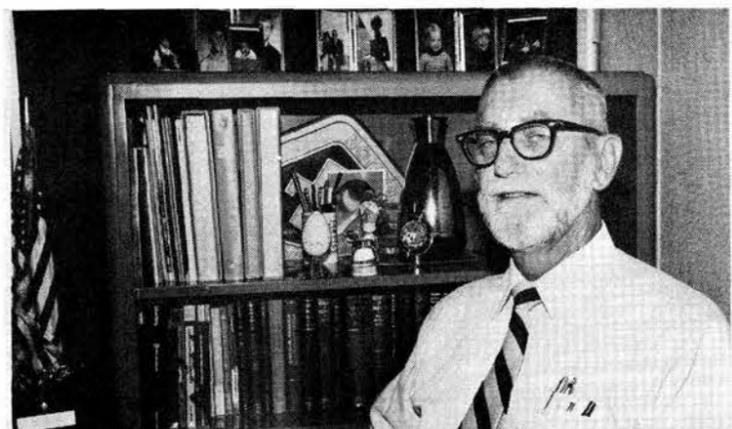
Jim Robinson (2561) 30



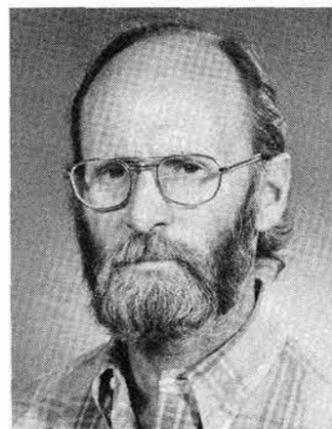
Edward Ratliff (1221) 15



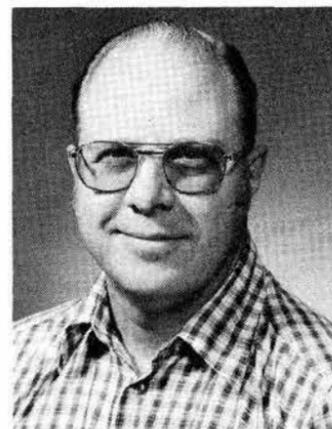
Roger Campbell (2632) 30



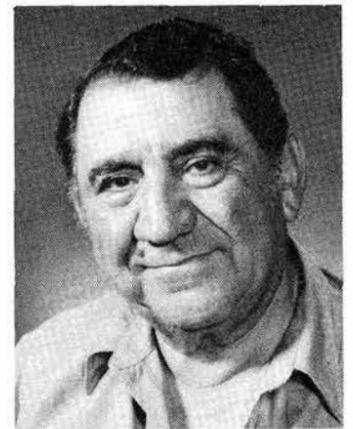
Art Roth (7261) 35



Eddy Jacobs (2564) 25



John Erni (3425) 20



Paul Silva (3618) 35

## Congratulations

Dennis (3662) and Un-Hee Kirson, a daughter, Dawn, July 27.

Mitch (Coronado Club manager) and Catherine Griffin, a son, Erin Patrick, Aug. 12.



**GUARDIAN OF SPANISH**  
In yet another blow to latent Francoism, the Royal Academy of the Spanish Language is sanctioning slang and some obscenities under its new director, Pedro Lain Entralgo. "Some such words are firmly established in society and literature and should have entered the diction-

ary," he says. The former physician and educator advocates younger membership to rejuvenate the 269-year-old Academy and recognition of Spain's unofficial languages, such as Catalán. "The teaching of the contributions of Catalonia to Spanish culture is severely deficient," he says.

— World Press Review

## UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

### CLASSIFIED ADVERTISING

**Deadline: Friday noon before week of publication unless changed by holiday. Mail to: Div. 3162.**

### 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 and organization.
9. Housing listed here for sale is available for occupancy without regard to race, creed, color, or national origin.

### MISCELLANEOUS

SELMER trumpet and case, appraised \$350, asking \$275 OBO. McCarthy, 298-9931.

PUMP, submersible or open air, circulating, fountains, waterfalls, hot tubs, \$100; "Little Giant" model 3E-34N, stainless steel-shaft. Stevens, 299-6086.

GIRLS bdr. furniture, yellow, 6-piece, 5 yrs. old, \$175. Buck, 296-2890.

GIUITAR, Gibson Grabber bass w/hardwood case, \$250. Gutierrez, 344-6304.

DARK oak dinette set: table, 4-chairs, \$100. Smith, 268-1758 after 5.

Glass door fireplace screen, insulated w/mesh screen behind, fits openings 25" to 28" high x 40" to 44" wide, \$25. Byers, 294-6676.

DESKS w/matching chairs for home or office. Avila, 294-2020 after 5.

Tires, steel belted radials, 3 185-75-R-13, \$25 ea; one 185-80-R-13, \$35. Low mileage. Carlyon, 299-2318.

Crib, white Simmons w/mattress, sturdy construction, \$75. Mueller, 294-0023 after 5.

VW parts, heater boxes, mufflers, heads, various engine parts. Edmund, 881-7974 after 6.

HOSPITAL bed, fully adjustable, manual controls, side rails & mattress, \$500. Weaver, 294-6138.

ELECTRIC Varmint call, runs on D batteries, tapes included, \$50; 12-gauge Winchester pump shotgun, vent rib, brand new, \$150. Gonzales, 247-9406.

CHAIN saw, Homelite XL-2, 12" sprocket bar w/oregon chain, automatic oiler, spark arrestor, \$75. Cox, 268-5629.

TV, Quasar 12" B/W, light weight portable, \$50. Blaydes, 266-1743.

FULL set of left-handed Jack Nicklaus-MacGregor golf clubs w/bag, \$250; B/W golf shoes, size 11-D, \$10. Wahlenmaier, 256-7909.

SOFA, green velvet, traditional. Harris, 299-4559.

NIKKOR, 28mm wide angle, 28 to 85 zoom; Nikkormat body and case; 16mm B&H movie camera, make offer. Laskar, 299-1024.

HAMMOND organ, electronic, bleached mahogany, bench, additional speaker cabinet, misc. estate items, old glass, utensils, furniture, books. Adams, 256-7265.

GARAGE SALE, Friday and Saturday. Collectibles, contemporary pottery and pillows, household items, king-size bed linens, some baby items. 2105 Chelwood Park Blvd., NE. Strauss, 299-5501.

PING-PONG table, Sears, 60" x 108" x 5/8", playback feature, separates into 2 tables, net, paddles included,

\$50. Crowther, 821-0172.

CUSTOM TV cart, walnut finish w/casters, 19" x 14" x 27", \$10. Rauch, 821-6992.

TRUMPET, Conn, new, w/case, \$200. Arana, 299-1214.

STUDIO Couch, \$30; studio bed, \$25; SCR sp. controller for electric car, \$175. Bassett, 898-1840.

MINI scope, NLS, MS-15, 15 M-Hz osc.-scope, \$150; Winchester 370, 12-gauge, \$50; WT bench w/leg access, \$30. Bell, 292-5203.

YAMAHA trumpet, \$100; Conn alto saxophone, \$200. Ferguson, 266-4769.

STEREO, Sanyo, AM/FM cassette deck, turn table, 8 in. speakers, 2-yrs. old, \$150. Holmes, 292-0898.

TRUNDLE bed w/oak frame and custom bolsters, \$200. Jeffrey, 294-4676 after 6.

OPERA ticket, Santa Fe Opera, Saturday, Aug. 27, "Orpheus in The Underworld"; Balcony, \$25. Finerman, 266-5811 days, 292-6640 evenings.

SOFA & chair, 1920s, recently reupholstered; 1920s kitchen cupboard w/flour bin; antique trunk. Harmon, 292-7061.

PORTABLE B/W Philco TV w/stand, 16-inch, \$40. Smith, 299-7151.

TWO Sony SLO-323 Betamax video recorders, new, best offer. Garcia, 884-4425.

CONN Trombone w/case, \$100; Doberman pups, black, male or female, \$40, available Sept. 1. Dalton, 873-2644.

SEARS Craftsman, 20" rotary mower w/bag, \$60. White, 293-2219.

USED equipment for Apple II Plus or E, TRS-80 computers. Chernoff, 821-0693.

YAESU FT-101 ZD, transceiver w/desk, mike and fan \$600. Nogle, 299-3863.

YUCCAS, \$5 to \$15. Pope, 255-6702.

RABBITS, 3 does, 1 buck, does are bred. Navalesi, 344-0598.

BABY bed & bureau, \$125; SCM manual typewriter, \$35; Corningware counter-top range, \$45; child's desk, \$10. Van Devender, 821-9435.

QTR Horse Colt, \$2000; qtr horse mare, 5-yrs. old, \$2000; 1-barn stall available for boarding, Sandia Heights area. Baker, 294-3334.

CLARINETS, Yamaha, 2-yrs. old, w/case, \$175. Reda, 821-3817.

COUCH & loveseat, \$600; 7-piece dinette set, \$150; 6-ft. patio door; E-flat Alto saxophone, \$575. Pitts, 299-0271.

WIDE angle lens, Vivitar Pentax "K" Mount, F 2.8, 28mm, brand new in factory-sealed package, \$75. Moore, 345-4030.

RUGER Number 1B single shot rifle, cal 257, Roberts, \$59 under wholesale at \$250. Curzi, 296-5386.

CONN Trumpet w/case and mutes, \$150. Crompton, 299-5569.

RADIO for runners/bikers, Sears version of Walkman, AM/FM, earphones, batteries, cost \$27, sell for \$15. Shunnya, 265-1620.

WILL RENT following house furnishings: 3-pc. bdr. suite, sofa & chair, 21" TV, desk, misc. cooking utensils, \$110/month. Adams, 256-7265.

RV BIKE rack, Ogen water purifier and tap, heavy duty transformers, 4-24V, Craig stereo cassette player, pressure gauges, electric meters. Cundiff, 256-0043.

BABY CRIB, dark wood, dbl. drop sides; includes mattress, mattress pad & bumper pad, \$90. Noack, 821-4494.

SEARS canister style vacuum cleaner w/beater bar, assorted aluminum frame window screens. Linnerooth, 299-6558.

CARPETING, 14' x 16', gold-toned sculptured. Strom, 821-3792.

MOVING SALE: Aug. 20 only, after 8 a.m. Some furniture, china, dishes, glassware, misc. 1113 California, SE (off Gibson). Silva, 268-4008.

QUEEN SIZE waveless water bed w/heater, \$130; Eureka upright vacuum w/attachments, \$60; Mayfair stereo w/8 track, \$40. Siemers, 296-0651.

LARGE wooden desk, \$100; toilet, \$15; lavatory, \$15; corrugated aluminum panels, \$5; street or yard lights, \$20; houseplants. Mozley, 884-3453 or 884-5225.

UTILITY Trailer, 14' x 6', all enclosed, single axle, hydraulic brakes, indoor-outdoor carpet, easy pulling. \$900. DeSantis, 892-5135.

DOLL HOUSES; push lawn mower, \$10; 32" alum. screen door; antique inside door w/glass, old paint stripped. Peterson, 256-7514.

ENGINE, 6-cylinder Fiat, w/dual carburetor manifold. Make offer. Mayer, 294-3368.

PIANO upright, \$150; twin bed mattresses and springs, 4 pieces, \$30. Craft, 831-5234.

EQUALIZER hitch receiver, Reece tow bar kit, number 35269 for Chev, Buick, Olds, Cadillac, 1979-81, \$100. Ashmore, 881-4653.

DINING TABLE, 40" x 60", 6-chairs, maple finish, \$125. Foster, 268-1260 after 5:30 p.m.

COUCH & Loveseat, \$350; end table, \$50; wedding dress, size 12, \$200. Hicks, 294-8011.

COMPLETE Dungeons & dragons set; 4 books; dice, DM's screen, 2 modules, value \$70, will take \$35. Vince, 821-6759.

SHAG CARPET, 25-yds., sea-foam blue, w/rubber padding, \$30; 20-yds, purple, \$25. Randall, 299-3935.

DESK, \$45; bureau, \$25; white shutters, \$5; blue, lined, drapes for sliding glass door, \$20. Purcell, 296-4986.

GOODYEAR tires, 10x15LT, all terrain, almost new, \$50 ea. Reif, 299-2665.

STAR WARS figures w/all accessories, \$1 ea.; Slave-1, \$10; Taun-Taun, \$5; Droid factory, \$7. Norwood, 266-2717.

4 FAMILY garage sale, Sat. Aug. 20, 9-3, toys; clothes, all sizes; misc. housewares, dbl. sink. 9209 Bellehaven NE. Moss, 298-6523.

FREEZER, Ward's upright, about 15 cu. ft., avocado color. Kass, 268-5922.

### TRANSPORTATION

'74 HONDA CB 360, low mileage, windscreen, \$550. McCarthy, 298-9931.

VW Chassis w/roll bars, 5 ft. bar, stereo console. Padilla, 296-5048 after 5.

'79 MAZDA RX-7, AM/FM cassette, AC, 49K miles, \$6200. Lucero, 293-2678.

'73 MAVERICK, AT, 4-DR, 6-cyl., 63K miles, \$1300 OBO; '71 Dodge Demon, AC, 2-DR, 6-cyl., new tires, 95K miles, \$1100 OBO. Villa, 298-0435.

'73 CITROEN-SM, 5-spd., engine & hydraulic system, recently reconditioned, AC, power windows, leather interior. Yaniv, 294-4490.

'75 HONDA Civic, AM/FM radio & cassette. Avila, 294-2020 after 5.

VW Superbeetle, w/sunroof & AM/FM cassette. Smith, 299-5060 after 5.

'79 CVCC Honda Hatchback, new radials, AM/FM tape radio, \$2750. Bliss, 296-3752.

'78 HONDA Hawk 400 & full face helmet, \$650. Garcia, 242-1305 or 345-5426.

'79 HONDA XL 500 Enduro, 4000 miles, includes helmet and cover,

\$1000. Ruppert, 296-2562.

'77 BUICK Skylark V-6, recently painted. McCampbell, 294-8238.

'82 CHEV Cavalier, 4-dr., \$6000. Smith, 268-1758 after 5 p.m.

'73 TR6, new paint, low miles on rebuilt engine, new battery, \$2500. Horner, 292-6345 or 821-0099.

'80 HARLEY-DAVIDSON, wide glide, less than 7000 miles, \$5000 OBO. McGovern, 293-7310.

'73 PLYMOUTH Fury, 360 engine, PB, PS, AC, 4-dr., 60K miles. Reger, 268-9358.

'78 PONTIAC Grand Prix, V-8, air, AT, PS, tilt wheel, AM radio, 8-track tape, power windows, vinyl top, \$3450. Traver, 294-2138.

'76 DATSUN Pickup, long bed, 4-spd., \$1995. Bell, 294-2094.

SCHWINN Letour bicycle, xtra-lite frame, alloy crank, stem & handlebars, \$200. Williams, 299-8986.

'80 CITATION, 2-dr., V-6, PS, PB, AT, AC, AM/FM w/cassette tape deck. Miller, 268-5992.

'64 CHEV Impala, 4-dr., hardtop, rebuilt engine, \$700; Honda CT-90 w/spare parts & manual, needs final assembly \$200. Pitts, 299-0271.

HONDA 250XL w/900-plus miles. Consider trade for sailboat or canoe. Rose, 299-9333.

'70 BUICK LeSabre, white, 4-dr., PS, PB, AC, radio, \$650. Vand, 255-0685 or 265-4378.

'79 DODGE Colt, 35-40 mpg, \$2800. Pryor, 344-2931.

'78 HONDA Hawk, 400 cc, windshield, 10K miles, \$895. Coalson, 298-0061.

'81 MAZDA B2000 P/U, 4-spd., AM/FM, bed liner, low mileage, \$3950. Sisneros, 898-0156.

'80 SUBARU 1600 GLC, SW, 5-spd., AM/FM, AC, 30K miles, \$4500. Lackey, 898-6638.

'76 FIAT, big 131 wagon, 5-spd., AC, new upholstery, \$1400. Barton, 268-7349.

'83 VW Rabbit, white camel interior, AM/FM cassette, hatchback; take over payments. Sanchez, 266-8864.

'81 HONDA XR 500R, \$1400. Cunningham, 268-1635.

'75 HARLEY-DAVIDSON FLH 1200, full dress, 19K miles, new tires. Bloomquist, 821-3018.

'78 FORD Fairmont station wagon, red, 6-cyl., \$2350. Onell, 892-6754.

'79 CUTLASS Supreme Broughm, 2-dr., AT, AC, PB, PS, AM/FM, wirewheels, cruise, 2-tone blue/blue, \$5200. Curzi, 296-5386.

'81 YAMAHA 750 Seca, '69 Yamaha 125 Enduro, '65 Datsun PU, trade for 3/4 ton truck. Goekler, 296-4162.

'67 FIAT 850, w/903 engine, \$1500. Crompton, 299-5569.

SAILBOAT, Sea Spray catamaran, 2 yrs. old, blue w/multicolor sails, complete w/trailer & spares, \$2100. Ginley, 296-0005.

'80 KAWASAKI KZ650, low mileage, crash bars, & luggage rack. Below book. Vonderheide, 842-9568.

'73 HONDA CB450, faring, other odds & ends included, \$450 OBO. Dreike, 299-6670.

'75 MOTORCYCLE, 750 Honda Super-sport, 3600 miles, orange, metal-flake. Ortega, 296-7090.

'72 PINTO Hatchback, AT, AM/FM, \$800. Cesarano, 256-0521.

'77 SCIROCCO Sport, economy, air conditioned, stereo w/equalizer, 2-speakers, tapeplayer, new tires, 43K miles, \$3995. Steele, 877-1225.

STUMPJUMPER Mountain bike, dbl. butted chrome-moly lugged frame, \$775 new, \$550 or best offer. Mayer, 294-3368.

'80 KAWASAKI 250 KMX Enduro, 4-stroke, low mileage. Drebing, 916

Chama NE, 266-6688.

'66 FORD Galaxie 500 w/289 V8, \$450. Smathers, 298-0163.

### REAL ESTATE

1.3 ACRES, "El Pinar" Estates, 14 miles east off frontage road, wooded, electricity, phone, solar home location, \$8000. Perryman, 281-3020.

HOUSE — S.W. Valley, 2500 sq. ft., custom features, 2.16 acres for horses or gardening, fenced, wells, city utilities, terms. Baldwin, 877-2901 or 292-3962.

TWO Lots, 75' x 150', South Valley. Chavez, 242-6078.

MOBILE home, dbl-wide 3-bdr., storm windows, window patio, car port, awnings, Four Hills Park. Dennis, 292-8400 or Ella Mayer, 296-4659.

2-BDR in wildflower area NE, FP, 1 1/4 bath, 1100 sq. ft., 1-car garage, energy efficient, 12% FHA assumable, \$15,000 equity. Will negotiate. Romero, 897-1009.

COUNTRY adobe home, Encino, NM, 2-br., bath, detached garage w/workshed, \$35,000 or best offer. Gonzales, 296-9055.

4-BR, 3-bath house, Wyoming-Osuna area, dbl. garage, wood-burning FP, lrg. private yard, access, sprinklers, garden, \$100K, \$30K dn., assume 9.75% mtg., REC. Mead, 294-2298.

MOBILE Home lot, utilities available, city sewage, propane gas, approx. 55' x 140', cash only, \$5000. Elephant Butte. Stephenson, 836-4260 after 6.

3-BDR HOUSE, large lot in quiet valley location, lrg. den, custom cabinets in kitchen, detached building with carport, \$57,000. Reich, 877-2846.

MOBILE HOME, 1977 Detroit, 14 x 52, 2-br., washer/dryer, new refrig., covered porch, carport, fenced, near base. Carl, 298-4167 or 884-0840.

### WANTED

TO RENT 2 or 3 bedroom house in Los Lunas area. Gravning, 299-0117.

OVERLOAD springs for Ford F250 truck, 1976. Eaton, 299-7271.

FREEZER, upright, about 14 cubic ft. capacity, running condition and reasonably priced. Adams, 831-3764.

TO RENT single garage in NE Heights for storing wood sculpture materials, outside lockable access, lights, minimum heat. Garner, 292-3859.

REMINGTON 1100 shotgun, .410 gauge. Beall, 298-2206.

CAMPER shell, '79 Chevy Luv., cab high, or a little more, 76 x 61 inches. Osborn, 298-0354.

BOOK, new or used, *An Introduction to Poetry*, by X.J. Kennedy, 5th edition. Allen, 268-3654.

SET of men's golf clubs, beginner. Onell, 892-6754.

APPLE PEELER, crank type, in good condition. Adams, 256-7265.

STURDY metal pole for basketball goal. Linnerooth, 299-6558.

ROCK & ROLLER's to form garage band to play for fun once or twice a week. ZEP, Stones, Mac, Floyd, Beatles. Stone, 296-8546.

### SHARE-A-RIDE

RIDER to share gas, driving & expenses to Chicago. Leaving Aug. 25 (firm date). Winter, 294-1369.

# Open House Sept. 27

TONIGHT at Happy Hour, the dining room special is stuffed pork chops for \$5.95. Country Dan and his western crew play for dancing. Karen Edwards instructs free western dance lessons from 7:30 until 8:30. Happy Hour prices are in effect starting at 4:30 and continue until 8:30. The dining room serves from 6 to 8 p.m. In addition to the special, the Club's standard menu is available. Next Friday, Aug. 26, Bluegrass Overdrive is on the bandstand while prime rib at \$7.95 is the dining room special.

NEXT TUESDAY is a Western Hoedown with barbecued beef ribs for \$9.95 for two. More free dance lessons from Karen Edwards are scheduled from 7:30 until 8:30 when Jim Meek and the Country Showmen take over and play until midnight so you can practice all those steps you've learned.

AN OPEN HOUSE PARTY for everyone who works on KAFB is scheduled Saturday, Aug. 27. It's a shirmp peel special at \$11.95 for two. Western Flyer is on the bandstand playing country western music from 8:30 until 11:30. All Sandia, DOE, civil service, and military people are invited. Call 265-6791 for reservations.

LABOR DAY, Sept. 5, sees the end of swim season celebrated with a giant party in the Club's pool and patio area. Starting at 11 a.m., fun and games for kids and adults are scheduled all afternoon. There'll be a dunking machine where for a mere 50 cents you can throw a baseball, hit the target, and automatically dunk your favorite board members. President Bob Manhart (3151) says he's planning to be out of town. A western band called W.D.C. plays on the patio from 2 until 6. There'll be 50 cent beer and a barbecued ham lunch for \$3. Members show cards for admission; guests pay \$1. Plans



CORONADO CLUB lifeguards enjoy their work at the Club's twin pools, but they're anticipating the end of swim season and the giant party for the troops on Labor Day, Sept. 5. Then it's back to school. From left are John Atkins, Lee Ellen Banks, Tim Snyder, Tanya Payne, Carol Pavelko, Carol Plugge, Joda Biggs, and Tom Lenz, who is not going back to school but returning to full-time Sandia recreation manager duties.

are underway to make this a memorable occasion to mark the end of summer.

**POOL HOURS** — From Aug. 22 through 26 and Aug. 29 through Sept. 2, the toddler pool and lap swimming pool will be open from 11 a.m. to 1 p.m. and between 5 and 6 p.m. On Fridays, the pools will be open at 4 p.m. and remain open until 6. Weekend hours are unchanged — Saturdays and Sundays from 11 a.m. until 6 p.m.

**THE WOLFPACK** kicks off the 1983 Lobo football season with a social on Aug. 26 at 7 p.m. Herb (7242) and Linda Filusch, 2701 Camino Don Diego, are hosts. Lobo football coach Joe Lee Dunn will discuss the coming season. Call Bill Minser (ret), 299-1364, or Walt Kopp (ret), 268-4048, to let them know you're on your way.

**VARIETY NIGHT** returns the first Saturday of each month with the movie *Peter Pan* scheduled Sept. 3. Kids love this one. We know a bachelor who was too embarrassed to see it alone — so he'd borrow a kid to take to the movie to see this Walt Disney classic every time it hit town. It's OK to come by yourself or bring a passel of kids to the Club. Admission is 50 cents and there are super sandwiches and goodies available starting at 5:30. The movie starts at 7.

**TRAVEL** — Mazatlán travelers, take note: \$150 deposit is due in the Club office by Sept. 15. Pre-trip meetings will be held in early September to discuss details of the trip. Go Oct. 31-Nov. 7 with TransGlobe Travel (Chet Fornero) for \$299 or Nov. 7-14 with Academy Travel for \$297 (does not include Mexican tax).

The Club announces an overnight trip to Canyon de Chelly by charter bus Oct. 30-31. Stay at the Thunderbird Lodge in Chinle and tour the canyon by jeep. Snacks and refreshments on the bus. Price is \$90 per person, double occupancy.

Other Club trips include *Durango-Silverton*, Sept. 24-25, \$95; *Las Vegas* by bus, Sept. 11-14, \$124, or by air Sept. 11-13 for \$146; and *Caribbean cruise*, Oct. 28-Nov. 6, \$1095.

See Shirley McKinzie (2432) in the lobby tonight between 5 and 6 for details.

CORONADO CLUB Jr. Bowlers organize a new season tomorrow at 1 p.m. at San Mateo Lanes. There's openings for youngsters age 7 through high school. Trophies will also be presented to 1983 state tournament winners. For more information, call Cis Kelly (3552), 255-8011.

## Events Calendar

Aug. 19-21, 26-28, Sept. 1-2 — Albuquerque Civic Light Opera Assoc., "Anything Goes," 8:15 p.m., Sun. matinee at 2:15 p.m., Popejoy.

Aug. 20-21 — 62nd Annual Indian Market; more than 500 craft artists: jewelry, pottery, sculpture, painting, weaving, Indian dances; Plaza, Santa Fe, 1-983-5220.

Aug. 24-27 — Zuni Pueblo Tribal Fair: parade, rodeo, dances, contact pueblo.

Aug. 26-28 — La Compañia presents "Death Comes for Willa Cather," KiMo, 243-0591 for times and information. Aug. 26-Sept. 4 — "The Life of Padre Martinez," English, 8 p.m. Fri. & Sat., 3 p.m., Sun., KiMo, 256-7164.

Aug. 27 — Chamber Orchestra of Albuquerque concert with piano soloist Mimi Tung, 8:15 p.m., Albuquerque Little Theatre, 247-0262.

Aug. 27-28 — Feria Artesana: live entertainment, films on Hispanic tradition and culture, over 150 Hispanic artists and authors, outdoor folk Mass; garden level of the Convention Center, 8 a.m. - 6 p.m. Sat., 9 a.m. - 5 p.m. Sun., 766-7660.

Aug. 28 — San Augustin Fiesta, Spanish fiesta, carnival, concessions, Isleta Pueblo, contact pueblo.



### SCIENCE DEFINITIONS FOR OUR TIME (Cont'd)

**GENIUS** *n.* Person clever enough to be born in the right place at the right time of the right sex and to follow up this advantage by saying all the right things to all the right people.

**HARD** *a.* The quality of your own data; also how it is to believe those of other people.

**INNOVATE** *v.i.* Annoy people.

**KNOWLEDGE** *n.* Things you believe

**LASER** *n.* Failed death-ray.

**LIFE** *n.* A whim of several billion cells to be you for a while.

**METEOROLOGIST** *n.* One who doubts the established fact that it is bound to rain if you forget your umbrella.

**OMNISCIENCE** *n.* Talking only about things you know about.

**PARANOIA** *n.* A healthy understanding of the nature of the universe.

**QUARK** *n.* The sound made by a well-bred duck.

**ROBOT** *n.* University administrator.

**SERENDIPITY** *n.* The process by which human knowledge is advanced.

**THEORY** *n.* System of ideas meant to explain something, chosen with a view to originality, controversialism, incomprehensibility, and how good it will look in print.

**UNIVERSE** *n.* The problem.

**UNIVERSITY** *n.* Institution where people incapacitated by an intellectual disposition can be put out of society's way.

**VACUUM** *n.* A state abhorred by nature.

**WEAPON** *n.* An index of the lack of development of a culture.

— New Scientist quoted in World Press Review