

Technology Transfer Center Dedicated

DESIGN AND CONSTRUCTION FUNDS for the TTC came through DOE's Office of Energy Research, headed by Alvin Trivelpiece, one of the speakers at the TTC dedication. This funding was supported by Senator Pete Domenici, shown here; he's a member of the Energy and Natural Resources Committee, the Senate's authorizing group for energy research funding. Support was also provided by Representatives Manuel Lujan and Joe Skeen, both members of the Science and Technology Committee, the corresponding committee in the House.



In a ceremony punctuated by praise, inspiration, and wit, Sandia's new Technology Transfer Center was dedicated last Monday.

The stage was filled with some of the many people who played a role in making the TTC a reality as well as some who came to recognize the value of technology transfer to Sandia, Albuquerque, New Mexico, and the nation. President George Dacey introduced USAF Col. Bryan Strickland, vice-commander of the 1606th Air Base Wing, KAFB; Harry Kinney, mayor of Albuquerque; John Perovich, president of UNM; Ray Romatowski, manager of DOE/AL; Alvin Trivelpiece, director of energy research, DOE; and New Mexico's senior senator, Pete Domenici.

Collectively, the dignitaries commented on Sandia's vital role in transferring the technologies developed at Sandia to the public and private sectors. The comments included Sandia's close relationship with the Air Force; Sandia's part in making Albuquerque an attractive site for high-tech industry; Sandia's ongoing collaboration with New Mexico's schools of engineering; and Sandia's earlier successes in transferring technologies, a process that the new Center should make even more efficient.

Trivelpiece provided a DOE-Washington look at the complex political realities of moving technologies from the laboratories to the factories and homes of the nation. And Senator Domenici thanked Sandia for the impressive work done thus far both in defense and in technology transfer and pledged to continue supporting those efforts on the Washington level. "I see our university systems and our national laboratories making technology transfer in New Mexico an example for the rest of the world," Domenici concluded.

President Dacey ended the formal ceremonies with warm thanks to all those who worked to create the TTC, especially to Trivelpiece and Domenici and the other members of the New Mexico congressional delegation.

He then reviewed the history of the TTC construction and gave the crowd of 500 an exhibition of the electronic display and convenience capabilities of the TTC.

(See also DOE Secretary Hodel's letter, page 5)



LAB NEWS

VOL. 36 NO. 19 SANDIA NATIONAL LABORATORIES SEPTEMBER 14, 1984

Countdown to Hoedown

Shine up your boots and shape up your cowboy hat for the ECP Country Western Hoedown on Oct. 3. The ECP committee has lined up some down home entertainment that promises a toe-tapping (boot stomping?) good time.

If you haven't entered your favorite recipe in the Salsa Contest, do it before Sept. 21. It's easy — just bring a quart of your salsa. Each entry will be judged, and prizes will be awarded. Then those attending the Hoedown are invited to sample the chips and salsa.

Judges for the Salsa Contest are Dr. Edward Cazzola (3330), Paul Fleming (3441), Al Otero (3435) and Don Parker (3311). (Does the fact that the judges represent Medical, Safety, Security, and Environmental Health mean that they expect some of the entries to be HOT, as in Hazardous on Tongue?) Prizes for the top three entries will be a dinner for two at Sea Gull Street, The Mayfair, or the Cooperage.

Call Jan Clarke (3418) on 4-5387 for information on the contest.

A Note on This Issue . . .

We may be late. We may have some typos. We likely won't meet our usual standards for layout. And we're sorry.

Blame it on our printer's computerized typesetter downtown. It crashed on Monday so we couldn't proofread the copy. On Tuesday we were rescued by Divs. 3152-1 and 2613, but in spite of their professional skills, some errors may creep in.

Even so, we hope you'll agree that what you have in hand is preferable to no LAB NEWS at all. Our sincere thanks to all who helped us do as well as we did!

Take Note

The South 14 Bookstand — Every newcomer to New Mexico steps on one sooner or later and quickly retreats, near mortally wounded. There it is, sticking to the bottom of the quivering foot (they'll penetrate a thin sole), *tribulus terrestris*, more commonly known as goathead. In *Wildflowers Along Forest and Mesa Trails* author Nelson Bernard notes that "the stiff, clinging spines of this plant will puncture a bicycle tire but not a car tire" — rather scant comfort. The volume describes and illustrates 80 species of flowering plants that grow wild in the Albuquerque area and in the New Mexico Uplands. Some are poisonous, others are edible. Find out for \$9.95, UNM Press, at the LAB NEWS office, Bldg. 814.

Parentcraft has a fall schedule of workshops and groups for parents of infants and young children. Workshops are held at the Parentcraft Center, 114 Carlisle SE, from September through December. Childcare is available. To receive a schedule or to obtain registration information, call Parentcraft at 256-1191.

Some of the fall exhibitions at the Albuquerque Museum are now in place; others will go up later this month.

The NM Quilter's Association has provided an exhibit of New Mexico quilts, including an unusual "Balloon Quilt." This exhibit, in the Mezzanine Hall, runs through Nov. 4.

The works of two New Mexico artists will hang in the East Gallery from Sept. 23 through Jan 2. Eleanor Williams (died 1979) lived in Quemado and painted portraits of the residents of Catron County. Carl Redin (died 1944) came from Sweden and lived in Albuquerque. He was recognized for his landscapes. His "Enchanted Mesa" is part of the Museum's permanent collection.

The second in the Museum's "Creative Process" series (the first featured Wilson Hurley) features Janusz and Nancy Kozikowski, internationally known weavers. This series includes a video interview with the artists and an example of their work. The Kozikowskis now reside in Albuquerque. The Creative Process is a continu-

Antojitos

I'm Due for a Great Raise This Year, Right, Boss?

<p>We know your work shows high potential. We also find your dedication exemplary with</p>	<p>your high promise</p>	<p>of major future contribution. You're a real comer. However..</p>
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* * *

Just the Good News, Please Okay. A letter from one of our visiting summer faculty members deserves sharing with the troops. He's Kinney Kim, he's from the University of North Carolina at Durham, and he worked in Dept. 1260. He reports that he arrived here with "no small amount of apprehension about the (admittedly remote) possibility of encountering wild scenes with frontier fighting men." (Well, Kinney, there is this place in Algodones) But he discovered that "Albuquerque is one of the most charming and friendly places in the US." He goes on to note that what impressed him most was "the people of Sandia community. They are informal and utterly without pretension. This is indeed an unspoiled Land of Enchantment, and I take with me many pleasant experiences and memories and, above all, the pride of being associated with one of our foremost national laboratories and its many friendly people." Thanks, Kinney. ●BH

* * *

Quae nocent docent. (Latin: What pains us trains us.)

ing show. It opens in the East Banco on Sept. 15.

The history exhibition in the West Gallery is "The Balloon: A Bicentennial exhibit," opening Sept. 29 and closing Nov. 25. This exhibit features a collection of prints and drawings from the early days of ballooning — 1783 until 1815 — that was organized by the University of Minnesota Art Museum. The exhibit is supplemented by artifacts from the collection of the late Maxie Anderson.

The Museum is open Tuesday through Friday from 10 to 5, and Saturday and Sunday from 1 to 5 (closed on Mondays and holidays).

A new chapter of OWL (Older Women's League) is being formed in Albuquerque. Aim of the organization is to work for benefits for older women. There is no age requirement for membership. Monthly meetings are held at 6:30 p.m. on the first Wednesday of each month at the Senior Citizen's Center, 5221 Palo Duro NE. For more information contact Betty Mhoon, 293-4481, or Virginia O'Neil (3152), 892-6754.

Boating safety classes, sponsored by the Coast Guard Auxiliary, are being held each Wednesday (started Sept. 12) at 7 p.m. in the Armed Forces Reserve building, 400 Wyoming NE. The safety instruction, for both power boating and sailing, will meet the needs of boaters of all levels of experience. The course will be completed in approximately 13 weeks; a small fee will be charged to cover the cost of course material. Topics to be covered include navigational regulations, safety equipment, boat handling, trailering, weather, and more. For more information, call Ben Gardiner (7475), 298-0116.

flex niback

Q. We appreciate the many food vending machines and microwaves at Sandia. Would it be possible to get ice machines in these same areas since so many people are health conscious (to Sandia's benefit) and bring diet drinks (e.g., club soda) from home?

A. We asked Don Parker, Supervisor of Industrial Hygiene Toxicology 3311, to advise us on the use of ice dispensers or ice maker/dispensers. He said that any dispenser that includes leaving the ice in the open (e.g., the units used at motels) is not acceptable from the standpoint of sanitation. Then we requested his advice on the use of ice maker/dispensers with an enclosed area where the ice is made. The ice is dispensed into a cup when a lever is pushed. These units need thorough cleaning of the drain daily, and they need to be disassembled regularly for sterilization of the area in which the ice is made.

We also contacted users of the ice maker/dispensers, and they said that they need to be checked daily for temperature control, they require more maintenance than most equipment in the food service area, and they require regular janitorial service as the ice falls to the floor and melts.

So, at this time, we do not plan to add ice maker/dispensers; however, we will discuss it at our next Food Committee meeting.

J.R. Garcia - 3500

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Southern California Edison Takes Over Solar One



TAKING PART in the Solar One ceremonies were (from left) Southern California Edison board chairman William Gould, Jim Bartel, Duncan Tanner, and Al Skinroad (all 8452), DOE Undersecretary Pat Collins, and Dick Claassen (8000). [SCE photo]

Following the successful completion of a two-year test and evaluation period by Sandia Livermore, the Department of Energy has turned the Solar One pilot plant over to Southern California Edison for fulltime commercial operation.

During ceremonies on Aug. 21 marking the transition for the world's largest solar central receiver facility, Southern California Edison presented awards to Al Skinroad, Jim Bartel, and Duncan Tanner (all 8452) for their part in the design and technical management of the project from its inception in 1975.

Al pointed out that the certificates of appreciation represent not only the work of the three recipients but the contributions of many Sandia staffers who have been a part of the pilot plant effort over the past nine years.

Sandia's role began with the original conceptual design studies for the DOE, followed by component testing, much of which was done at the Central Receiver Test Facility at Albuquerque. After the selection of the plant configuration and the contractors, the construction phase began in 1979 and continued until 1982. At that point the DOE appointed Sandia as technical manager for the completion of checkout and the two-year Test and Evaluation Phase, requiring fulltime site managers, Jim the first year and Duncan the second.

Al said the power goals of the plant have been met. The plant has produced 10 MWe

(megawatts electrical) using steam from the receiver, 7 MWe, from steam generated by the storage subsystem, and 12 MWe using combined storage and receiver steam. "However, we have not yet demonstrated high power generation for sustained periods," Al adds. "The plant is designed to generate 10 MWe for 7.8 hours on the longest clear summer day and at least 4 hours on the shortest clear winter day. The output power has been reduced by several factors: the insolation (solar radiation) is often lower than the design value, the heliostats don't remain clean, and the absorptivity of the receiver is about 90 percent, a reduction of 4 percent from the initial value."

During the next three years Sandia will continue to evaluate performance from the power production phase using data from computer tapes that Edison will provide weekly. Liver-

more staffers also have the responsibility for correcting any "nonroutine" problems in the system on behalf of DOE. All of the computerization and software for the controls is completed and functioning at this point.

Looking ahead three years, Al said that Solar One could become a large-scale test facility for the molten salt central receiver concept; a report on the feasibility of such a conversion will go through DOE to Congress in November.

In addition to Sandia and DOE awards, other companies recognized for major roles in the project's success include McDonnell Douglas, Martin Marietta, Rocketdyne, and Stearns Catalytic.

The joint DOE-Southern California Edison venture produced a \$141 million plant that is capable of providing the electricity needs for a community of 5000 people.



SANDIA LIVERMORE NEWS

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Live-Fire Range Transferred to DOE Control

In its short and colorful history under Sandia National Laboratories, the Live-Fire Range (LFR) saw more than a half-million rounds from small arms and automatic weapons fired at the site without a mishap or accident.

With the development of the LFR completed, Sandia transferred control of the range to DOE last week. The LFR, located in a remote area near Coyote Canyon, will now be an integral part of DOE's Central Training Academy, responsible for the training of DOE security forces.

Roy Crouch, DOE's director of the Central Training Academy, accepted the facility from Sandia. "The LFR will play a very important role in the overall mission of the CTA," he said. The first DOE-wide use of the LFR is as the site for DOE's 12th Annual Small Arms Tournament for its contractor and agency security forces on Oct. 15-19.

Initiated in early 1981 by Bill Myre, Director of Nuclear Security Systems 5200, at the request of DOE/AL, the LFR was designed by Security Forces Experimentation and Evaluation Division 5216 under Bob Wilde. Wayne Ebaugh was project leader; team members included Ron Malpass, Jerry Davis, John Lavasek, Jerry Meloche (all 5216), and Bobby Schmedeman (ret.).

Principal design goals in the creation of the LFR were:

- Low-cost automation — application of the latest electronic target technology (by acoustic sensors that read the shock wave from bullets



TRANSFER of the Live-Fire Range from Sandia National Laboratories to DOE took place at a ceremony last week. Roy Crouch, director of DOE's Central Training Academy (CTA), right, signs the transfer document with Orval Jones (5000). The Live-Fire Range will be used by the CTA in training programs for DOE security forces. Standing are (from left) Wayne Ebaugh, who headed the LFR project for Sandia, with John Lavasek, Ron Malpass, and Jerry Meloche (all 5216).

and a computer that triangulates the data to determine precise impact points);

- Simultaneous use of multiple ranges — the LFR can accommodate a wide variety of weapons, from small sidearms and shotguns to automatic weapons, on its several ranges; and

- Mobile firing capability — users can fire at pop-up targets from moving vehicles.

Construction started in March 1982 and was completed in March 1983. Vern Easley and Elwin Schaefer handled the Plant Engineering tasks.

Science Center Proposed for NM

Science is fun. That's the premise underlying the push toward a Science Center for New Mexico.

The NM Academy of Science is currently beginning to enlist support, both monetary and moral, for creation of a Science Center with several goals — "but the main one is to convince people, adults as well as children, that learning about science can be exciting," says Marvin Moss (1824), the Academy's legislative action committee chairman and one member of an *ad hoc* Academy committee pursuing the Science Center vision.

Another member is Jim Schirber (1150), the official Sandia representative on the committee. "We're not talking about a museum, with static displays that you walk up to and look at," says Jim. "We envision a hands-on center like the Exploratorium in San Francisco, a place where a visitor interacts with each scientific phenomenon — sound, light, perspective, and so forth. That way, each person becomes involved in, and excited by, the experience."

"The Academy has been working with the concept of the Center for three years," Marvin continues, "and it has done some research. For example, more people visit science museums than any other single type of museum. A science center is a place where families or groups of friends can learn together. And people are curious today about science, thanks to debates on saccharin, genetic engineering, nuclear reactors, solar energy, air pollution, acid rain, etc., etc. A science center is a peculiarly appropriate place to

learn about — and perhaps change attitudes toward — such issues."

The committee is chaired by Marcus Price, head of UNM's Department of Physics and Astronomy and president of the Academy. In addition to Marvin and Jim, Nick Estes (formerly with the City's legal department) is a member. Currently, the group is seeking a planning grant to ascertain the feasibility of a Science Center. And it's interesting the state's movers and shakers.

Toward that end, the committee invited the assistant director of the Exploratorium, Sally Duensing, to visit Albuquerque and Santa Fe and to give a colloquium at Sandia a few days ago. The committee has also arranged for a special showing of the NOVA presentation on the Exploratorium to be shown locally — see box. So far, the committee is not making any recommendations about where the Science Center would be located: "That's a question we're not ready to worry about yet," says Marvin.

The proposed Science Center would not only be a place to learn science by doing science. It would also serve as a training center for science teachers, be the focal point for outreach programs — a sort of traveling scientific roadshow — to enrich science education programs in schools throughout the state, offer a science education/appreciation program for the public, and provide a meeting site for professional science and engineering societies. As such, the Science Center would provide a common ground for regular contacts between government, the uni-

Explore the Exploratorium

"Palace of Delights" is the title of the NOVA presentation on San Francisco's famous hands-on science-learning place called the Exploratorium, the inspiration for the proposed Science Center in New Mexico. The show is on Saturday, Sept. 22, at 2 p.m. on Channel 5. NOVA calls it "a spontaneous, insightful, and sometimes hilarious look at the unique museum's inner workings."

versities, the national labs, and high-tech industry.

The Science Center concept already has won support from the state's universities, its national labs, and many of its industrial and political organizations.

"New Mexico may be a small state in terms of population," Marvin points out. "But we are unique in our scientific and technical excellence. The Science Center would symbolize our commitment to even higher achievements for all our cultures and age levels."

"It's an exciting project," concludes Jim. "We are not yet ready to seek volunteers, but we are interested in creative ideas for moving the concept ahead."

Join the Fiestivities

Balloon Fiesta Needs Volunteers

Albuquerque hosts its 13th annual Balloon Fiesta Oct. 6-14. The nine-day program includes the spectacular weekend mass ascensions, the Navy Leapfrogs and Army Golden Knights precision parachutists, fourth annual gas balloon race, Air Force Thunderbirds, band concerts, Morgan horse dressage demonstration, a kite-flying contest, Fiesta parade, radio controlled aircraft, and more.

Volunteers are needed to set up the field and launch and retrieve about 450 hot air balloons. Call Fiesta headquarters (883-0932) if you can help. Copies of the Fiesta program are available at the LAB NEWS office and in Finance. Call Ruth Birdseye (ret.) on 255-6328 for information on hot air and gas balloon pins and patches, balloon calendars, folders, or other questions.

The Fiesta is accepting entries for the opening day parade on Saturday, Oct. 6, from 1 to 3 p.m. in downtown Albuquerque. Theme for the Fiesta is "The Really Big One" and entries are restricted only by a suggestion to use as many balloons as possible and to consider this theme. The parade committee is seeking bands, marching units, walking units, floats, cars, mini floats, or even appropriate individual entries.

The Fiesta office, 3300 Princeton NE S-24 (883-0932), has parade application forms. Deadline for entries is Sept. 28.

Events Calendar

Sept. 14 — Deborah Blanche in "Women of the West" — histories of six 19th century women, from suffragettes to stagecoach robbers, 8 p.m., KiMo, 243-1673.

Sept. 15-16 — Mexican Independence Day and National Hispanic Heritage Week Celebration: artists' reception in the Gallery at 7 p.m., entertainment at 8; Sept. 16 at 2 p.m., KiMo, 766-7816.

Sept. 19 — Annual St. Joseph's Feast Day, various dances, Laguna Pueblo, 1-552-6654.

Sept. 20-22 — NM Quilters Association Show and Demonstration. Held in conjunction with the NM State Fair, Home Arts Center, State Fairgrounds, 265-1791.

Sept. 21 — 40th Anniversary Celebration of NM Boys Ranch, 11 a.m. - 4 p.m., NM Boys Ranch, Belen, 864-2177.

Sept. 21-22 — NM Symphony Orchestra, Hugh Wolff, guest conductor, Benita Valente, soprano, 8:15 p.m., Popejoy.

Sept. 22-Oct. 28 — "Spanish Painters: In Search of Light." National tour from the Spanish Embassy, UNM Fine Arts Center, 277-4001.

Sept. 23 — Movies by Great Directors: "North by Northwest," Alfred Hitchcock (1959), 7 p.m., KiMo.

Sept. 24 — "Black Light Theatre of Prague," comedy and drama through mime, magic, and music, 8:15 p.m., Popejoy, 277-3121.

Sympathy

To Margaret Lucas (5000/6000A) on the recent death of her mother in Albuquerque.

To Bobbi Voelker (3151) on the death of her mother, Aug. 30, in Albuquerque.



THE SECRETARY OF ENERGY
WASHINGTON, D. C. 20585

September 6, 1984

Dr. George C. Dacey
Sandia National Laboratories
P. O. Box 5800
Albuquerque, New Mexico 87185

Dear George:

I regret that I am unable to participate in the dedication of the Technology Transfer Center, but I did want to share some thoughts with you on this momentous occasion.

I believe that in my lifetime we will see a scientific or technological "breakthrough" which will change the way in which energy is produced, consumed, and priced.

For those who might be skeptical about this prediction, let me say that it takes a far greater leap of faith to say that science and technology have come to a halt than to believe that somewhere -- in someone's garage, or backyard, or laboratory -- something is going on which will change the way we produce and use energy. In the face of the fantastic growth in scientific knowledge and research, it is just not credible to claim that the history of discovery and invention has finally come to an end.

The Reagan Administration has fostered the expansion of scientific and technological frontiers to increase economic opportunities and to ensure the preservation of our industrial leadership.

More than three years ago we set out to reestablish incentives for entrepreneurship and economic growth. Our approach recognizes that the great technological innovations of the past for which our Nation is famous came about because of the genius of our people -- people like you.

We believe that basic or fundamental long-range research that seeks to expand our knowledge in areas vital to the technological base of our economy must continue to receive public and private support.

We must maintain a program of basic research that strives for excellence, provides needed opportunities for our youth to excel in various scientific disciplines, and ensures we have the technical talent to challenge the scientific and technological frontiers.

I believe that this Nation will continue to grow, prosper and provide a better quality of life for our people and the rest of the world -- if we continue to foster American ingenuity and innovation. The Sandia National Laboratories Technology Transfer Center will play a key role in contributing to our quality of life.

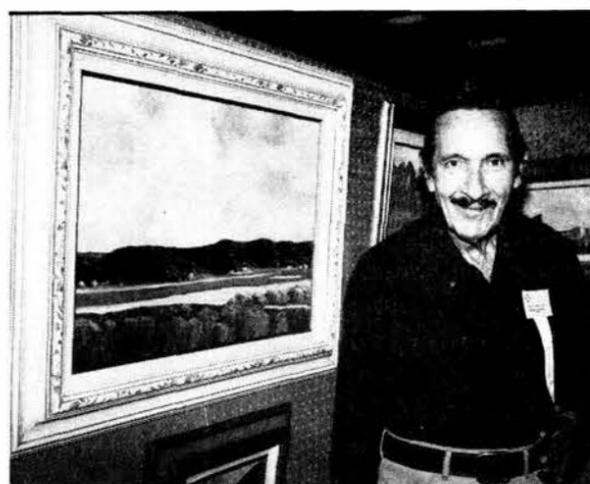
In order to ensure that our economy will continue to benefit from technical achievements, the Reagan Administration strongly emphasizes transferring technology to the private sector.

We have again in this country an atmosphere for ingenuity, innovation and challenge. If we will simply turn loose the tremendous machine that is America, there is no limit to what we can and will do.

Please accept my best wishes for a successful dedication and a successful technology transfer program.

Sincerely,

DONALD PAUL HODEL



ARTISANS participating in the recent Feria Artesana event at the Convention Center included Felix Padilla (ret.), left, who showed an impressive collection of new acrylic paintings of Southwest landscapes. Elizabeth Gonzales-Pimentel (7251) assisted her husband Robert at the booth showing hand-crafted Pimentel guitars.

Checking the Stockpile Barometer

Albuquerque, Livermore, Tonopah, and Pantex. Pantex?

Yes, Pantex. A corner of that sprawling nuclear weapon assembly plant, operated by Mason and Hanger, 20 miles northeast of Amarillo is where 19 Sandians report for work every day.

But theirs is not assembly line work. It's rather a thorough functional testing of the random samples taken annually of each weapon type in the nation's nuclear stockpile. A part of Quality Assurance-Weapon Evaluation Department 7260, Systems Test Lab 7264 is unique in the DOE complex — nowhere else are such tests performed on all DOE systems.

Like the systems test programs and the test equipment designed by their sister divisions in Albuquerque, the Pantex people take a systems approach in their evaluation tasks. "We look for problems in the stockpile," says Earl Morris, one of the two section supervisors in the division, "and we're constantly helping to develop better ways to find them."

"Our reward for finding a problem on a weapon is that we're sent more of these same weapons to test," adds fellow supervisor Bill Peters. "Working here's a real challenge — that's what keeps it interesting. We demand a high level of individual responsibility. It often takes days to tailor the equipment for a particular test that takes only seconds to run. It has to work perfectly. We have to know our equipment well — and trust it. We all feel the responsibility."

"And each of us must know what result is expected from each test," continues Earl. "We have to know whether it's significant when a result is, say, on the high side of the tolerance band when it's usually on the low side."

Both Earl and Bill are relatively new as supervisors, but they both have long experience in the Systems Test Lab. They've seen some changes — the amount and form of data, for example. "It's mushroomed," says Bill. "And it can be on disks or plots or photos these days. If we find an anomaly, we document it completely."

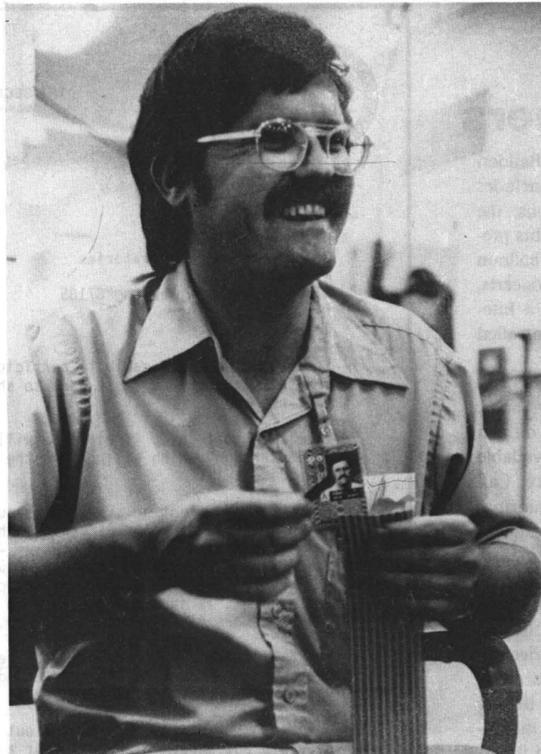
Another change is the result of the evolution in weapons. "As weapons have become more sophisticated, our test equipment must be sophisticated beyond it," notes Earl. "State-of-the-art is not an empty term around here."

The division tests all the new weapon systems that the Mason and Hanger people assemble; that's why it's located at Pantex. But it also tests randomly selected weapons from the US stockpile worldwide. The data gathered serve as one of the major means of assessing the health of the nation's nuclear stockpile.

It's a highly responsible task — performed by highly responsible people. Good Sandians all.

Meet Some Pantex Sandians

NOT SHOWN: Division supervisor Leonard Parsons, Ted Frederiksen, Robert Morris, and Bob Pacheco, who were absent on the day these photos were taken.



ROBERT CONNELL attaches a connector to a flat cable.



HERK TERWILLIGER resets the mechanical timer for the B54 rear case.



MARILYN HIGLEY disassembles the centrifuge test equipment for the B61.



BILL PETERS, section supervisor, gives new life to an old piece of test equipment.



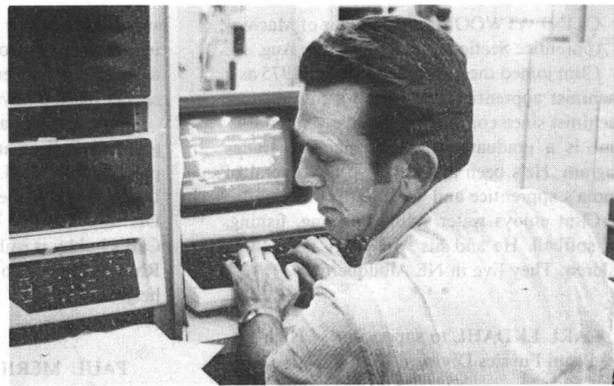
GARY KOEPP replaces a module on a STATS (stand-alone test system).



JIM HAWKINS enjoys the push-button capability of the CRT on the B28 system tester.



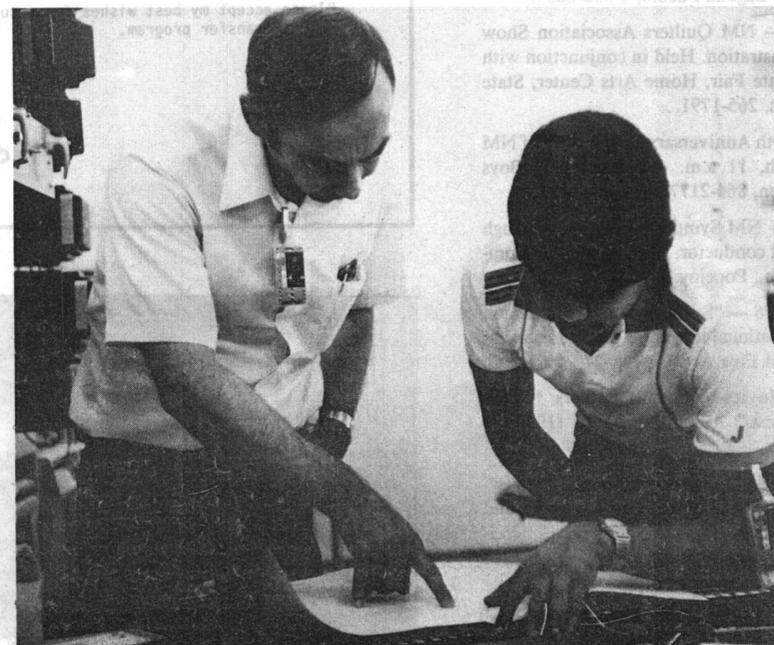
HUGH CARTER & CHUCK COLLIER solve a pin connector problem on the centrifuge controller.



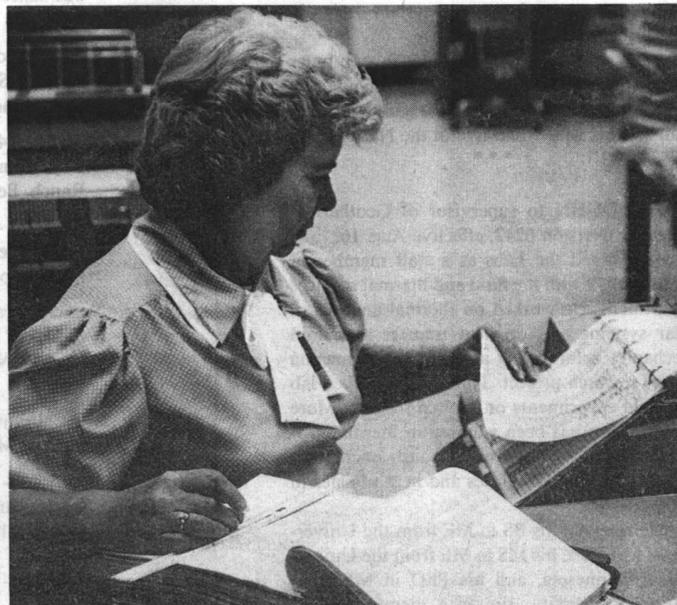
JESSE PFRIMMER has learned the benefits of a computer for data storage.



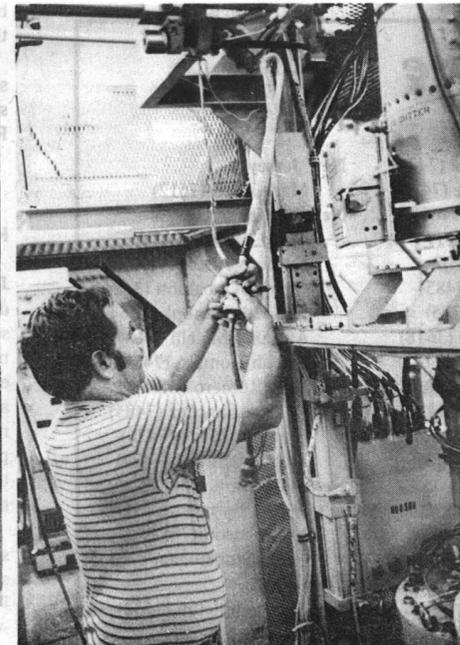
CHERIE HANEY prepares to communicate a batch of data to Albuquerque.



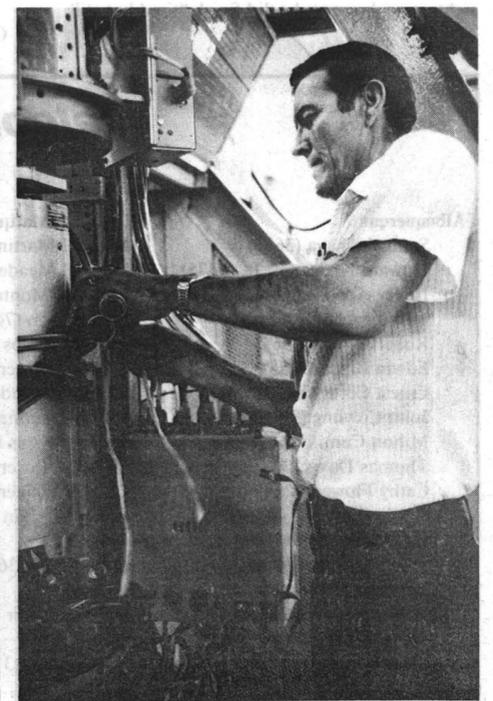
EARL MORRIS & MARIO GARCIA trace cable routing on oscilloscopes for the W69 system test equipment.



DOROTHY MARKLIN compares a tab run with her original records.



LARRY HILL finds disassembly of the B61 test system a task for tall people.



JIM GODFREY keeps bumping his head during disassembly of the B61 test system.

Fun & Games

Horseshoes — The Horseshoe Pitching Club's 25th annual tournament was held last month at Los Altos Courts. For the first time, the event was held in the evening; the darkness brought out almost 40 contestants, far more than ever before. Singles winners were:

Class A — Tom Towne (4th consecutive year; seven time winner); runners-up — Leo Bressan and Wayne Sly.

Class B — Steve Mahnesmith; runners-up — Paul Sanchez and Dan Padilla.

Class C — Jim Sanchez; runners-up — David Sealey and Tommy Barreras.

Women's — Marcie Sly; runners-up — Carnella Towne and Lupe Massoth. (Close contest here; both Marcie and Lupe were newcomers but great competitors like the others in the class.)

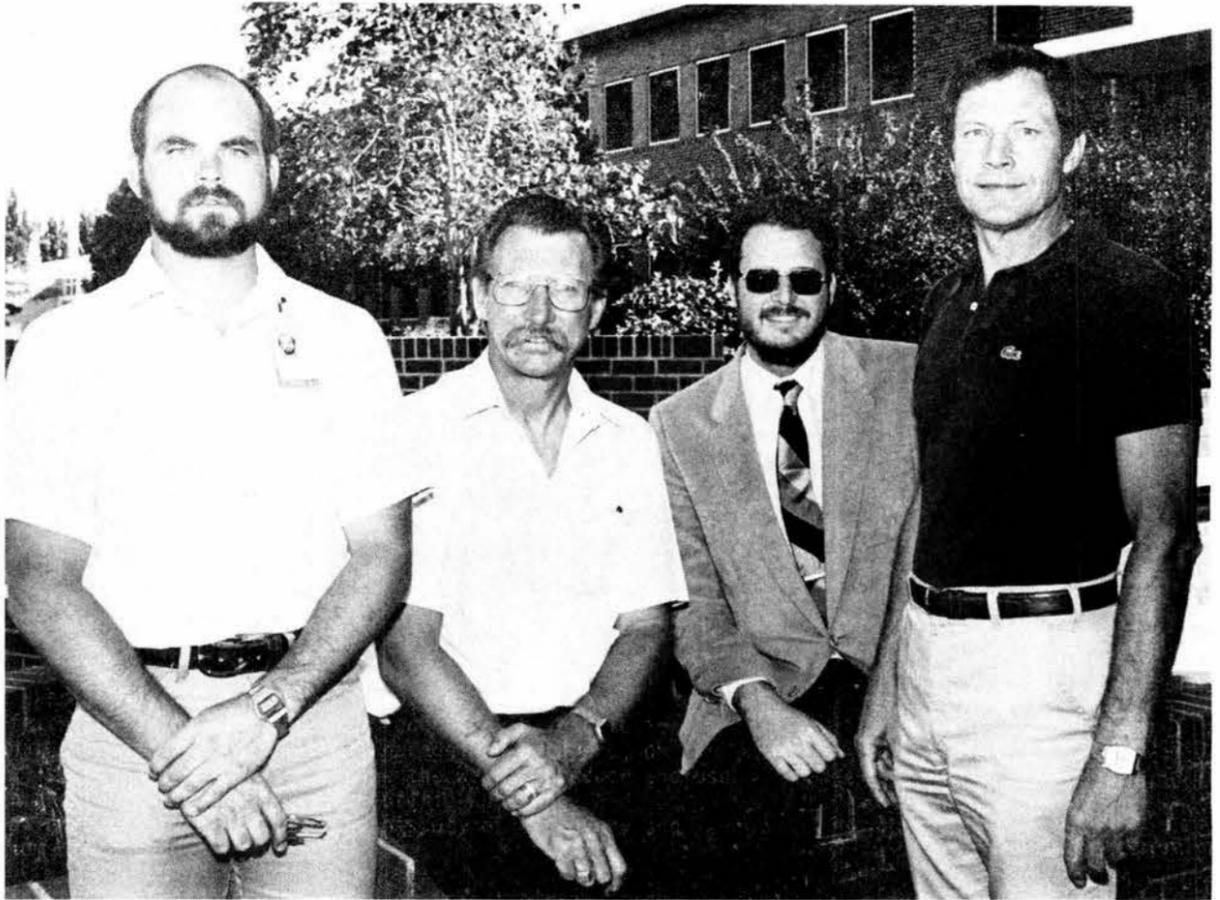
The doubles class was won by Jim Sanchez and Jim Fisher; Paul Sanchez and Bill Kolb were runners-up. All except Fisher are new pitchers.

The tournament and the upcoming awards ceremony (Oct. 25 at 5 p.m.) are sponsored by the Coronado Club's Sandia Employees Recreation Program.

Another tournament, this one for retirees only, will be held at a later date. Leo Bressan and Dan Padilla have the particulars.

Table Tennis — The Sandia Table Tennis Association announces the second annual Carl Duimstra Memorial Tournament. It's at Monroe Jr. Hi gymnasium on Sept. 29 from 8 to 5 (or whenever the last ball has been slammed). To get more info or to register, call Dave Sealey on 4-4475, Jim Sanchez on 4-1908, or Vic Smith on 4-0161.

Running — Paul Page (3511) ran the San Francisco Marathon while on vacation last month. The event started at Golden Gate Park, wound through Chinatown, Fisherman's Wharf, the Presidio, and the base of the Golden Gate Bridge, then finished at City Hall. Paul did little sightseeing; however he did finish "tired but still mobile."



CLINT ATWOOD (7485-2), CARL EKDAHL (1272), PAUL MERILLAT (5255), and JIM DUNN (6242)

Supervisory Appointments

CLINT ATWOOD to supervisor of Machinist Apprentice Section 7485-2, effective Aug. 17.

Clint joined the Labs in September 1975 as a machinist apprentice. He's been a journeyman machinist since completing the five-year course. Clint is a graduate of TVI's machine trades program. He's been an instructor for several of Sandia's apprentice and TIE classes.

Clint enjoys water skiing, hunting, fishing, and softball. He and his wife Patty have three children. They live in NE Albuquerque.

CARL EKDAHL to supervisor of High Energy Beam Physics Division 1272, effective Aug. 6.

Since coming to Sandia in February 1983, Carl has worked in the division that he now

supervises. Before joining the Labs, he worked in LANL's controlled thermonuclear research division on high energy beam physics and high energy plasma physics.

Carl received a BS in physics from San Diego State College and his MS and PhD, also in physics, from the University of California at San Diego. He is a member of the Plasma Physics Division of the American Physical Society. Carl's hobby is sailplane racing. He and his wife Rhonda have two sons. They live in the NE heights.

PAUL MERILLAT to supervisor of Advanced Systems Development Division 5255, effective Sept. 1.

Since joining the Labs in 1978, Paul has been working on software and system design in the safeguards and security group.

Paul received a BS and MS in computer science from NMIMT. His hobbies include personal computers, bridge, and the game of "Go." Paul and his wife Susan live in the NE heights.

JIM DUNN to supervisor of Geothermal Research Division 6242, effective Aug. 16.

Jim joined the Labs as a staff member in January 1977 with the fluid and thermal sciences department. He worked on thermal analysis of solar systems and on heat transfer and fluid mechanics before being assigned to the magma energy research project. This work involved lab and field experiments on molten magma. More recently, Jim has been working in thermal geophysics on the development of instrumentation to measure fluid flow rates and heat transfer in the earth.

He received his BS in ME from the University of Missouri, his MS in ME from the University of Minnesota, and his PhD in ME from Rutgers University. Jim is a member of the American Union of Geophysicists. He enjoys skiing, backpacking, and handball. He and his wife Ellen and their four sons live in the NE heights.

Welcome

Albuquerque

Samuel Anaya (3613)
Howard Anderson, Jr. (7475)
Henry Apodaca (7485)
Marion Armijo (3612)
Robert Armijo (3613)
Edwin Bryce (7485)
Ernest Cordova (7485)
John Cowling (3618)
Milton Cumiford (7485)
Thomas Davis (7475)
Cathy Flowers (7485)
Curtis Gibson (7485)
Lyle Golightly (3618)
Mabel Gomez (7474)
Lorraine Herrera (7475)
David Jones (7475)
Gregg Jones (7485)
Lorraine Kleifgen (7475)
Christopher Knight (3618)
Frank Lucero (7475)

Clarence Marquez (7474)
Michael Martinez (7475)
Michael Meade (7485)
Anthony Montoya (7474)
Brian Pardo (7485)
Anthony Pulos (7485)
Howard Sanger (315)
Steven Schneider (3618)
Donald Schofield (7485)
Leonard Stans (2645)
Michael Vickers (3618)
Charles Walker (7475)
Dale Shamblin (7533)

Colorado

James Snell (3632)

Illinois

Stephen Doerr (7533)

Maryland

Robert Duff (3180)

Michigan

Robert Washington (3618)

New Jersey

Mark Allen (7612)

New Mexico

Mark Aguilar (7474)
Katherine Becker (7485)
Charles Gabaldon (3426)
Kenneth Konopka (2641)
Anthony Micelli (7474)
Joseph Romero (7474)
Juan Romero (7475)
Andrew Sanchez (7485)
Frederico Silva (3426)
Karl Sultemeier (7474)

Pennsylvania

Daniel Borneo (3631)
Joy Johnson (7653)
Cathy Stonebraker (7653)

Texas

Kent Pendleton (7533)

MILEPOSTS

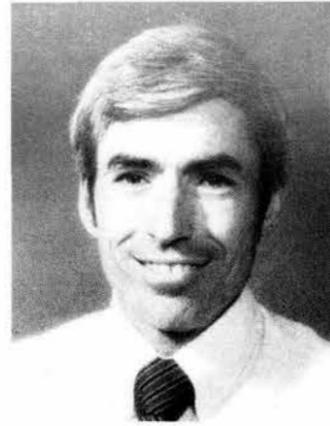
LAB NEWS

SEPTEMBER 1984



Pete Thoma (7633)

25



Tom Picraux (1111)

15



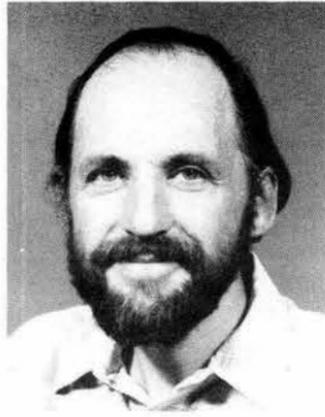
Arlyn Blackwell (8200)

25



Jim Porter (2634)

35



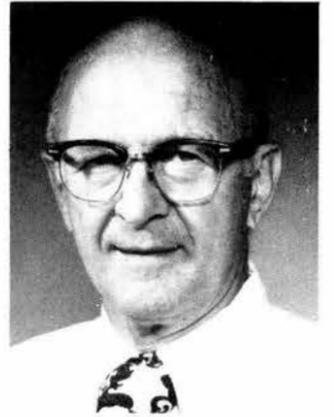
Peter Feibelman (1151)

10



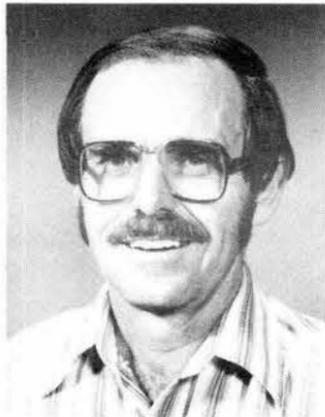
Ed English (8274)

20



Jesse Rehberg (5313)

35



Larry Lane (2124)

25



Joe Treml (8176)

25



Ed Sisneros (3153)

20



Ollie Rohrback (8186)

20



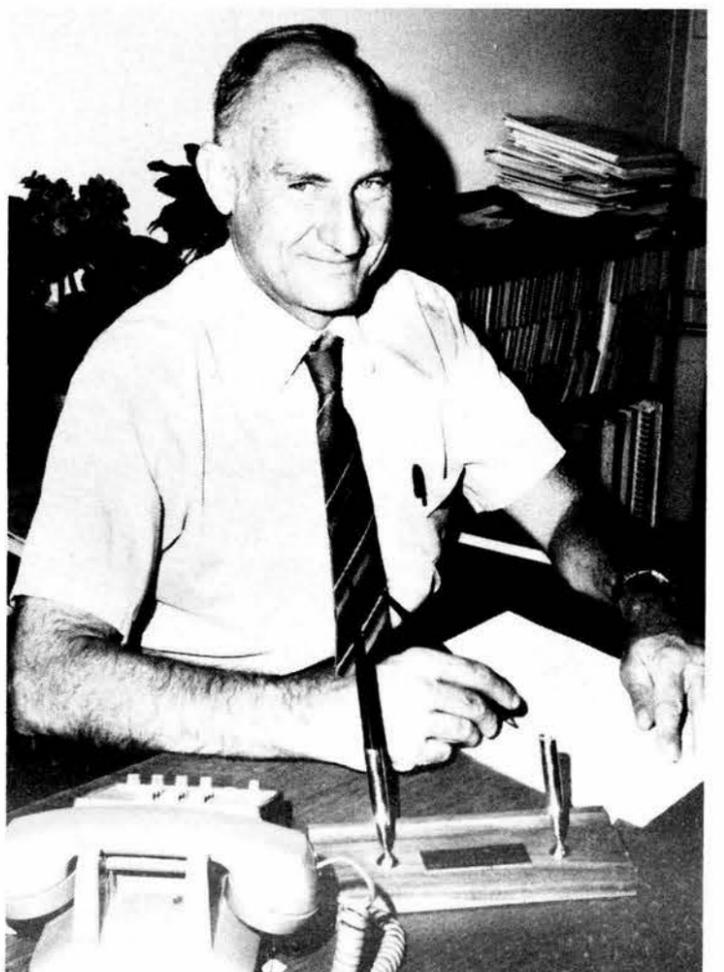
Larry Clark (8271)

15



Ron Sorley (7481)

15



Walter Hermann (1500)

20



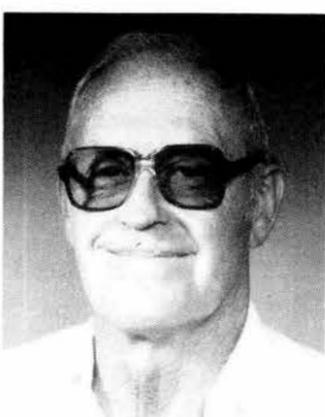
Marv Loll (8152)

20



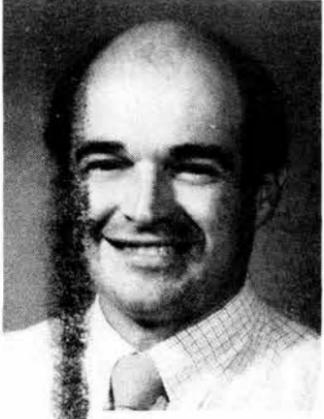
Galen Puls (5121)

15



Pat Brinkley (7541)

20



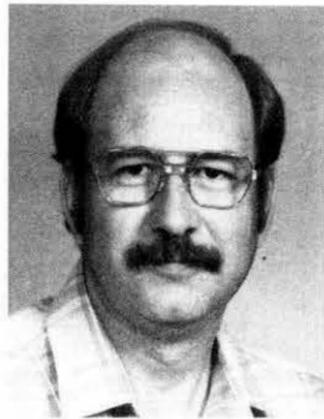
Frank Gerstle (1845)

15



Lee Radosevich (8452)

15



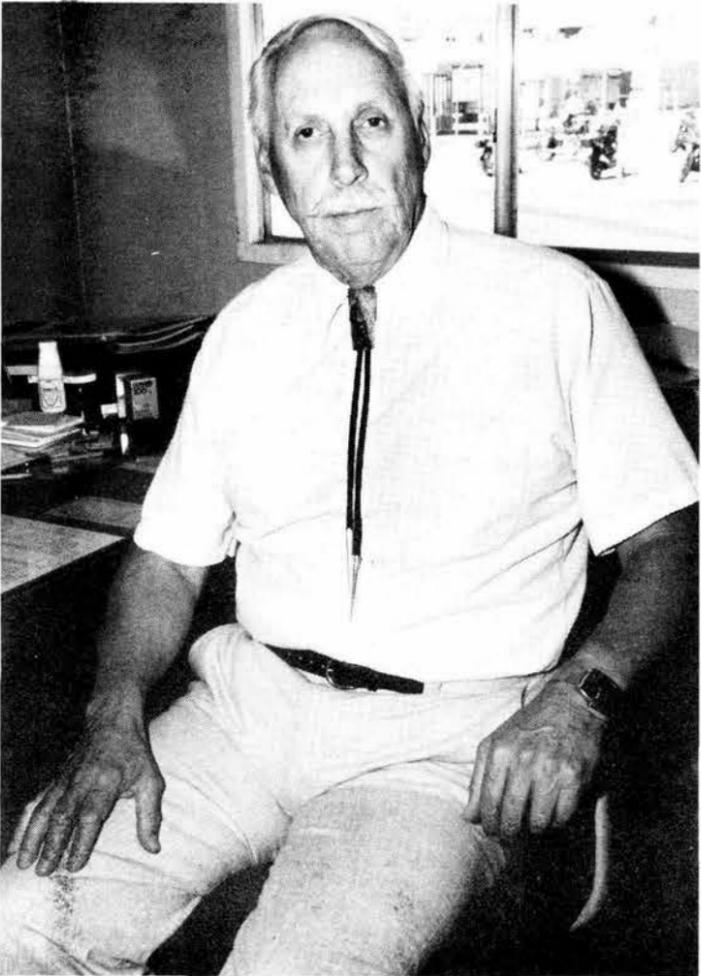
Ed Diemer (8173)

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Wayne Ebaugh (5216)

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Paul Mossman (3300)

15



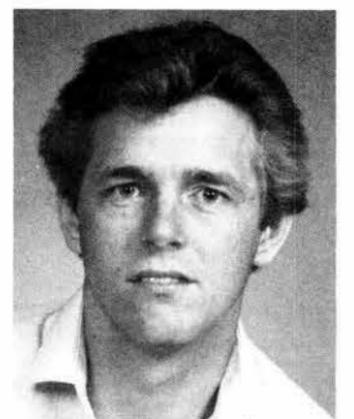
Jim Martin (8262)

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Leon Chapman (6432)

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John Wheeler (8443)

10



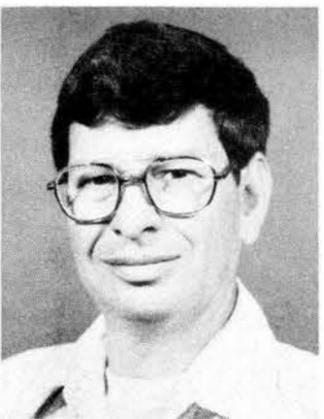
Jimmie Searcy (2523)

10



Frank Speakman (7481)

35



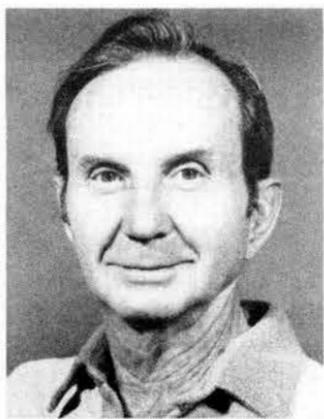
Roger Goode (7544)

15



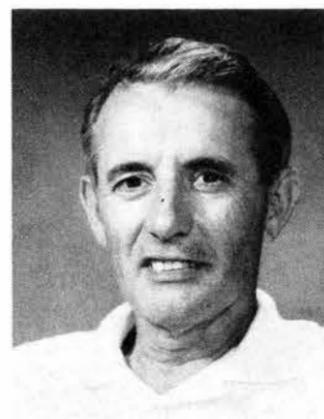
John Molitor (8184)

15



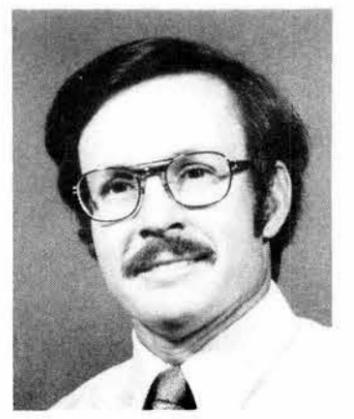
Bob Roberts (7241)

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Larry Miller (2542)

25



Rich Anderson (2142)

10



David Werme (3435)

30



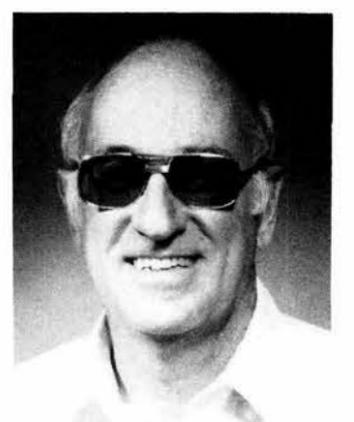
Al Ducharme (8254)

15



Bob Wayland (6256)

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Al Switendick (1151)

20

Volunteers in Action News

Here are a few current volunteer opportunities for employees, retirees, and family members. If you would like more information, call Karen Shane (4-3268).

CONTACT, a telephone counseling, crisis intervention, and referral hotline, needs volunteers. Extensive training is provided.

CONSUMER CREDIT COUNSELING SERVICE OF ALBUQUERQUE, a nonprofit agency that assists families in acquiring money-management skills, needs weekday clerical help.

NEW MEXICO CHILDREN'S PSYCHIATRIC HOSPITAL needs three volunteers: cake decorator, visual aid developer, and reception aide.



AMONG THE 120 employees attending the Org. 3700 Educational Opportunities Fair recently at the Coronado Club were Yolanda Chavez, Larry Verzi, and Marybelle Romero (all 3741-2). They talk with Marguerite Kaminski (3732), right, who coordinated the affair with Education and Training Department 3520. Ten booths representing various educational agencies and organizations offered literature and counseling, ranging from specific procurement training courses and professional opportunities to graduate degrees.

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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

TAPE RECORDER, Akai reel-to-reel w/speakers, \$30; window awnings, alum., white, \$5 ea. Hudson, 255-8385.

REFRIGERATOR, Sears 14.5 cu. ft., top freezer, brown, \$300. Coalson, 293-9179.

REFRIGERATOR, 20 cu. ft., 10-15 yrs. old, works, best offer. Jarrell, 293-9671.

FURNITURE: sleeper sofa & matching chair, \$250; long sofa, chair, & ottoman, \$200; lg. Spanish carved armchair, \$100. Stevens, 299-6086.

GAS GRILL, portable, \$95; bar re-frig., \$100. Childers, 344-9281.

ZENITH color TV, reconditioned, portable, 17" screen, \$150; tent, 10 x 12', \$50. Perea, 898-8328.

HP-85 computer, lots of extras. Thrower, 298-2531 after 5:30.

TWO sets of Look ski poles, never used, 48 & 52 cm, \$16/pr. OBO. Hinkel, 298-8226.

REFRIGERATOR, GE, 16 cu. ft., over & under, freezer on bottom, avocado, \$150 & you haul. Shoaf, 296-6166.

HEATILATOR fp, zero clearance, mounts on wall, w/chimney & cap, \$160. Smith, 281-3814.

TWO 8' x 7' metal overhead garage doors, including hardware, \$100. Manzanares, 298-1240.

RIFLE scope, Redfield 2-7 Acutrac, \$130. Overmier, 268-4992.

ARTLEY B-flat flute w/case, \$150; Yamaha trumpet w/case & music stand, \$150. Stomp, 298-3824.

ORGAN, Hammond electric, blond mahogany w/separate speaker, \$800. Adams, 256-7265.

FLUTE w/stand, \$150; child's Hollar bag, \$15; Broyhill chair, \$20; double roll-a-way, \$25; pinball, free. Dupree, 294-1835.

TYPEWRITER, electric, portable Royal Medallion II, \$95. Garcia, 298-7340.

SEARS 24" bug zapper, \$25; radial tire chains, \$20. Taylor, 869-2934.

LEAF MULCHER, Sears, gas

powered, cost \$160, sell for \$95. Shipley, 298-2433.

MICROWAVE, Sears Kenmore solid state 0.85cf, \$250; exercise bicycle, \$75. Greene, 299-2091.

VIDEO cassette cabinet, holds 14 VHS or Beta cassettes, walnut finish wood base w/smoke plastic hinged dust cover, \$15. Burkhardt, 256-3310.

SCHNAUZERS: 3 silver female miniature, 8 wks., AKC reg., champion lines. Lenhart, 293-7223.

AKC English Springer Spaniels, black & white, liver & white. Jones, 294-7908.

FIREPLACE, Preway zero clearance, model B136B, w/glass doors & assembly instructions, delivery available. Richards, 281-9471.

SEWING machine, Sears Kenmore free arm zig zag, all attachments, mahogany cabinet & hassock, never used, \$300. Cope, 255-8063.

MGA PARTS: block, tranny, heads, more; 3rd seat for Blazer or Suburban, \$125. Schaub, 821-7242.

TRS-80 color computer, disk drive, Graphic printer, all \$400. McDaniel, 299-6189.

VIOLIN, full size, bow, case, appraised \$450. Moss, 298-2643.

ACME Supreme Juicerator w/citrus juicer attachment, \$125. Hunter, 256-0160.

PANASONIC AM/FM stereo radio w/cassette tape recorder & record changer, \$60; oboe, Signet, \$350. Blottner, 298-9459.

SOFA & matching loveseat, \$400; HiFi TV & turntable, walnut cabinet, other assorted furniture, make offer. Reynolds, 821-8779.

BETHANY camper, deluxe, sleeps 6, 3-way refig., dbl. sink, heater, range, oven, potti, converter, awning, spare, \$3250. Payne, 266-3418.

BICYCLE, girl's 16" w/training wheels, \$25; geodesic climbing dome, \$25. Abel, 296-6089.

TWO captains' chairs, 360 degree swivel, \$100 OBO; 2 seats F250 truck/van, \$50 OBO. Jewell, 892-6373.

BAR STOOLS, four, 25" high, sturdy metal legs, fabric cushions, used 6 mos., \$110. Daniel, 292-9281.

D-41 Martin guitar w/hard case, left handed, \$1400. Perryman, 281-3020.

TRS 80 Model 1, 48K expansion interface, green monitor, 5 1/4" floppy disk drive, RS cassette & Radio Shack computer table, \$590. Mason, 299-2836.

WARDS 5.5 cu. ft. chest freezer, less than 1 yr. old, \$150. Smith, 296-0586.

CABOVER camper, 8.5 ft. Mitchell, sleeps 4, stove, range, icebox, heater, toilet, jacks, \$1500. Cummings, 292-0524.

VIOLIN, 3/4 size, German made for violin shop, \$220; Kenmore under-counter dishwasher, coppertone, \$100. Mendel, 265-3840.

COUCH, black, brown, beige, 85", w/2 matching chairs, \$150; Sanyo AM/FM cassette stereo, portable, \$80. Nissen, 823-2574.

TIRES, 4 ea. Michelin FR 78-14, \$50; 875 x 16.5 mounted on 8-hole wheel, \$50. Hole, 255-1444.

BENTWOOD Rocking chair; child's car seat; child's bicycle seat. Shortencarier, 292-3575.

DINETTE, wooden, 4 chairs, \$70; tire chains, 165R-15, \$10; fluorescent kitchen light, new, 2 48" bulbs, \$15. Attermeier, 293-2505.

DRAPES, wall-to-wall, custom pleated, washable woven gold polyester, 1 pr. 180 x 96" \$40; 1 pr. 120 x 96", \$30. Burstein, 821-6688.

REFRIG., Hotpoint, coppertone, w/ icemaker, \$275. Schueler, 298-6124.

SEWING machine, Sears Kenmore, w/90 day warranty, zig-zag, buttonholes, stitches for knits, more, \$100. Hass, 299-3506.

ANTIQUUE wooden trunk, domed top w/inner tray, restored, \$100; antique battery powered radios from 1920s, most working. VanDenAvyle, 898-6474.

REFRIG., dorm size, \$50; dining room table, \$40. Garcia, 293-3937.

DINETTE: TV-stereo stand; chairs; Sansui 771 stereo receiver. Mastin, 292-2086 after 5.

WOOD floor for dome, gazebo; 24' dia., 2 x 6 & 3/4 ply const., 10 pie shapes bolt together, \$400 OBO. Mooney, 299-1774.

HAMMOND J412 spinet organ, \$550. Anderson, 268-5008.

TRANSPORTATION

'77 DATSUN 200SX, 4-cyl., 59K miles, AC, AM/FM, new tires, \$2400. Clements, 293-5618.

'76 DATSUN pickup, king cab, fiberglass shell, 18K on rebuilt engine, new paint, \$2300. Blossom, 299-6709.

'78 SUZUKI RM-125, dirt bike, new piston (top end), needs crank, \$125. Robb, 821-2999.

'82 HONDA Nighthawk, 3200 miles, Trujillo, 292-1929.

'77 TOYOTA Chinook poptop, garageable RV, AC, refig., furnace, sleeps 4, 21 mpg hwy., w/air, 53K miles, \$5995. Rainhart, 821-3690.

'81 FORD 4 x 4 F250, LWB, PS, PB, 2 tanks, new tires, \$7400; '81 Yamaha TT250; '80 Suzuki RM50. Moss, 294-7372 day, 888-4955 eve.

'41 WILLYS Jeep, \$2200 OBO. Avila, 881-1606 day, 294-2020 eve.

'75 HONDA 360, fairing, crash bars, \$450 OBO. Robles, 298-2456.

'79 HONDA Trail 90, 12K miles, 45 mph, 100 mpg, locking trunk, \$450 firm. Holmes, 292-0898.

'72 SUBARU FF-1 2-dr. sedan, \$550; '76 Subaru 4-dr. sedan, AM-FM tape player, new tires,

\$1100. Kavet, 299-1793.

10-SPD. Centurion bike, low mileage. Luna, 296-5123 after 6.

'83 GOLDWING, 2200 miles, naked. Edwards, 262-0890.

'77 OLDS Cutlass, PS, PB, AT, AC & more, \$2500. Stang, 299-8688 after 5.

'79 CHEV. Chevette, 4 spd., 55K miles, \$2000. Smith, 268-1758.

'84 PONTIAC Fiero SE, 3900 miles, PW, AC, sunroof, Alpine AM/FM/cass., white, \$13K new, \$11,950. Mertens, 298-1302.

'60 DODGE Dart, slant-6, AT, orig. paint & upholstery, 29K miles, \$1800. Heckes, 299-6022.

'82 PACE ARROW, 31', 13K miles, island bed, loaded. sell or trade on house. Kaddy, 299-2884, 10804 Central SE, #25.

BICYCLE, woman's 27" 12-spd., 19" frame, upright handlebars, \$50. Roseberg, 296-1346, 888-4736.

'82 CHEVY 1/2 ton, 4-wd, 4-spd., diesel, 21 mpg, shell, loaded, under 15K miles, \$9395/offer. Syroid, 292-6379, 299-8256.

'70 FORD pickup, 360 engine, LWB, \$950. Jeys, 298-8989.

'81 DATSUN, king cab, 5-spd., AC, rear seats, AM/FM cass., new tires, w/camper shell, \$5300. Follstaedt, 299-5941.

'74 MUSTANG II, loaded, 3-dr. hatchback, reg. gas, 4-cyl. Schaub, 821-7242.

'79 YAMAHA XS1100, extras, fairing, one owner, garaged, \$1850 OBO. Kimberling, 298-1765.

'81 YAMAHA IT465, less than 200 miles, \$1500. Larsen, 292-7301.

'82 RABBIT, LS diesel, 30K miles, AM/FM, AC, new tires, \$4900. Brower, 298-2254.

'68 VW bug, completely reconditioned, rebuilt 1600 engine, new tires, paint & interior, \$1850 OBO. Rutz, 296-9590.

'78 HONDA Goldwing, 21K miles, Vetter fairing & bags, \$2600. Perryman, 281-3020.

'78 YAMAHA XS750, Vetter fairing, bags, \$995; '72 Kawasaki H-2, 750, \$595; Mongoose BMX bike, \$115. Healer, 298-6967.

'74 SUBARU, 4-spd., 4-dr., canary yellow, \$800. Trancosa, 877-8173.

'75 DODGE Dart, 79K miles, AT, AC, PS, 2-dr., \$1600 OBO. Shirley, 821-0480.

'78 FORD LTD, one owner, less than 49K miles, V8, power, AT, AC, many factory extras, \$3000. Woody, 831-6321.

'75 YAMAHA, enduro model, \$200. Schueler, 298-6124.

'81 BUICK Century, V6, AT, PS, PB, AC, CC, \$400 under retail at \$5600. Eckelmeyer, 296-2148.

'74 CADILLAC, Coupe DeVille, white, white leather interior, AM-FM stereo, 8-track, normal Cad. accessories, garaged, \$500 below Book, \$2200. Trump, 299-5162.

'81 MAZDA GLC Custom L, 4-dr., 5-

spd., sun roof, AM/FM cass., cruise. Rexroth, 293-6025.

'72 PINTO 3-dr. runabout, 4-spd. std. trans., AM-FM radio, 8-track, new brakes & fairly new upholstery, tires, & battery, one owner, \$375. Almaraz, 299-9654.

'83 HONDA 1100 (V-65 motorcycle), 6K miles, \$3249. Ulibarri, 883-2848.

'82 KAWASAKI GPZ-550, 2500 miles, warranty, eclipse tank bag, extras. Ritchey, 268-7620.

REAL ESTATE

RIO RANCHO, 2-bdr., lg. fenced yard, single garage, NMFA 11.5% fixed rate/\$362 payments. Johnson, 892-6847.

MT. HOUSE, 15 mins. to Winrock, 3-bdr., 2 baths, adjacent to National Forest, lease to purchase or sale, \$61K, terms. Zimmerman, 296-1058 after 7.

1800 SQ. FT., 3-bdr., 1 1/4 bath, Great Rm., fp, DR, corner lot, 3 yrs. old, Four Hills Addition, assume 12.75% FHA, \$89,500/make offer. Davey, 294-8097.

LG. 3-bdr., NE, fireplaces, landscaping, storm windows, more, \$96K, \$20K down, 8.5% FHA, 11.5% REC. Kimberling, 298-1765.

LARGE cul-de-sac lot, Rebonito upper division, \$23,500. Stein, 299-8875.

HERITAGE HILLS, 4-bdr., tri-level, 2453 sq. ft., in-ground pool, solar amenities (Feb. space heating \$26), city-mountain views, \$114,700. Kerschen, 821-2848.

WANTED

POOL TABLE, 6 or 7', \$75-\$125 depending on condition. Cook, 293-5747.

RESIDENTIAL building site in NE heights, zoned R1. Martinez, 299-8204 after 5.

MATH tutor for 6th grader, prefer HS Sr. or college student; NW Albuquerque near Ladera shopping center. Padilla, 831-0330.

TWO season tickets for '84-85 Lobo basketball, parking pass also. Maxam, 898-2435.

METAL extension ladder, at least 26' high. Kerr, 299-7527.

COMMODORE 64, disk drive, printer. Adams, 256-7265.

LAWN MOWER, unmotorized reel type, inexpensive. Daniel, 292-9281.

ROOM MATE to share house in Tijeras Canyon, 12 mins. from work, non-smoker. Boslough, 294-3907.

JUNIOR size water skis. Cordova, 268-6496.

LOST

GERMAN Shepherd, tan, black muzzle, x-lg. ears, lost Eubank-Menaul area 8/21, reward offered. Sippio, 293-9720, 823-2217.

Coronado Club Activities

Isleta Poor Boys Play Tonight

NEW BOARD MEMBERS elected to two-year terms at the recent annual meeting are Tom Mehlhorn (1265), Gil Weigand (1511), Leo Klammerus (2154), and Claire Evans (3523). Those elected to one-year terms are Terry Holovka (1260), Marv Plugge (5171), and John Otts (6222).

AT HAPPY HOUR tonight, one of the Club's favorite country and western groups holds the bandstand while two-for-one prime rib is the dining room special. The price for two is \$12.95. Karen Edwards instructs free western dance lessons from 7:30 to 8:30. Special prices (very reasonable) are in effect from 4:30 until 8:30 when the music starts.

Next Friday, Sept. 21, surf and turf is the dining room special feature. The Golden Eagle Band is booked to play for dancing.

SKI FAIR VII, annual extravaganza of the Coronado Ski Club, is set for Tuesday, Sept. 18, at 5 p.m. There'll be equipment and apparel displays, ski area reps, a talk by Jarrett Galbreth, M.D. (a jock doc — sports medicine — with 20 years of skiing experience), special prices on hot dogs, hamburgers, green chile, and beverages. Everyone is invited to learn about Ski Club travel and discounts planned for the coming season. Only Ski Club members are eligible for the fabulous door prizes.

A FINANCIAL PLANNING SEMINAR is scheduled in the El Dorado Room also on Tuesday, Sept. 18, at 7 p.m. Investment strategies appropriate for tax and retirement planning will be discussed by Guy Trujillo and Ken Lersten of American First Financial.

Anti-Noise Headphones

 "Several European research teams are experimenting with equipment that actively suppresses unwanted sound by using the original noise signal to construct a sound wave that is its acoustic negative. Heard by itself, the cancellation wave is as noisy as the other sound, but put the two together, and you theoretically hear nothing at all. Researchers at a laboratory in Marseilles, at the Conseil Natl. de la Recherche Scientifique, performed a simple experiment that illustrates reasonably well the principle that sound waves can cancel each other out. Using laboratory conditions, they electronically generated a pure 50-cycle-per-second tone and ran it out of a loudspeaker placed at one end of a piece of metal air conditioning duct. Then, along the inside of the duct, they placed other loudspeakers reproducing the same 50-cycle tone but in the opposed phase — the cancellation wave. In these ideal laboratory conditions, the researchers were able to achieve a drop of up to 50 decibels in sound intensity, suppressing the tone to a point barely perceptible to the human ear. . . . To bring the technique to individuals, [several British teams] are working on anti-sound headphones which work on the cancellation principle. Both the technical problems and the power requirements are minimal since the amount of air to be set vibrating with the cancellation wave is so small — just that between the phones and the eardrum. Claims have been made of noise level reductions of up to 40 decibels — very close to complete cancellation."

James Hansen in *Science* 84



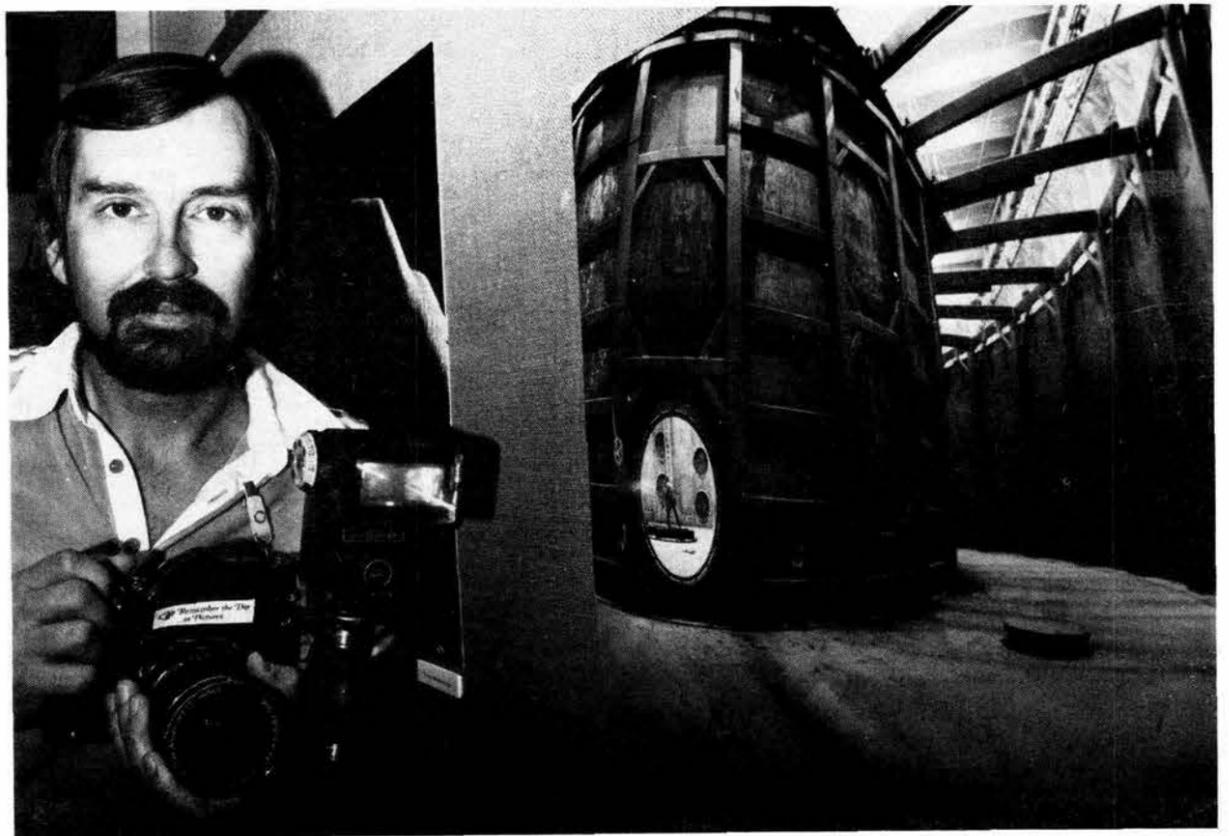
THINK SNOW — Snow? Sharon Fletcher (7601) and Max Sandoval (314) may be a little early, but they're convinced snow is on its way. In the meantime, snow and skiing are the subjects of the Coronado Ski Clubs's annual Ski Fair extravaganza scheduled Tuesday, Sept. 18, at 5 p.m. on the Coronado Club patio. Everyone is invited. Lots of information, equipment and apparel displays, a program, refreshments, and renowned Ski Club door prizes.

THE "FUN" GOLF TOURNAMENT, a Coronado Club annual event, is named the "fun" tournament because, considering the rules, there's no other name that fits. The rules include making a shot with a pool cue, another with a baseball bat, and one shot from a chair. There has never been a casualty in the history of the tourney (unless you consider that one couple got married, another divorced, then remarried as a result of the event). It's scheduled Wednesday, Sept. 26, starting at 11:30 at the Tijeras Arroyo course. A party on the Club patio follows tournament play with prize distribution, refreshments, and other good things. All Club members are eligible, men and women, and obviously your golf handicap has nothing to do with it. Entry fee is \$5 plus green fees. Deadline for sign up is noon on Monday, Sept. 24, at the Club

office.

THURSDAY, Sept. 27, is family seafood night. It's an all-you-can-eat fish and chips special for \$4.95. Other seafood entrees are available. Reservations help; call 265-6791.

TRAVEL — You might still be able to sign up for the Cumbres-Toltec bus and railroad excursion scheduled Sept. 30 for \$48 if you call the Club office right away. That also goes for the Aspencade tour to Silverton and Ouray Sept. 26-30 for \$220. Time is also running out to sign up for the Club-sponsored Mazatlan trip Nov. 13-20. The package costs \$399 and includes airfare, transfers, seven nights at the luxurious Playa Mazatlan, a cocktail party, a Fiesta party, and bellman tips.



PHOTOGRAPHER Russ Smith (3155) has taken thousands of photographs during his years at Sandia. Some of his best color shots are currently on display in the Bldg. 802 lobby. The display runs through September.