



IT WAS FAMILY DAY '81 and all creatures great and small, 15,000 of them, descended upon Sandia to look, to touch, to walk, to listen and to have a good time at the place where Dad/Mom/sister/brother works. Over in Bldg. 892,

Tom Bozone (1423) explains the mysterious object to a young scientist. LAB NEWS centerfold has other pictures of the event, taken by retiree Bill Laskar as he made the rounds.

LAB NEWS

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OCTOBER 30, 1981

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

High Temperature Diodes, Transistors Developed at Labs

Gallium phosphide diodes and transistors designed to operate for long periods at high temperatures are being developed and tested at Sandia National Laboratories.

The Sandia devices now operate reliably between 300°C and 400°C and are being improved to operate at 500°C. Conventional silicon semiconductors and gallium arsenide devices generally do not function above 300°C.

"There is a growing need for active electronics—transistors, diodes, resistors, thyristors, etc.—which can operate between 200°C and 500°C for periods from 100 hours to many years," says Roger Chaffin, supervisor of Solid State Device Physics Division 5133.

"They can be used in geothermal well logging tools, fossil-fuel plants, jet engine control systems, planetary and solar probes, underground coal gasification projects, and nuclear reactor safety equipment."

During recent tests, a prototype bipolar

junction transistor produced a current gain of six to ten between 20°C and 440°C, while a simple amplifier constructed from the new transistor produced power gains of 16dB at 20°C to 350°C, 12.5dB at 400°C, and 2.2dB at 440°C. Further improvements in device design will increase performance above these levels.

Unencapsulated gallium phosphide junction diodes showed excellent rectification characteristics and extremely low reverse leakage current densities in oven tests for 2000 hours at 300°C.

The transistor and diode are all epitaxial devices. Active regions are crystalline layers grown on a gallium phosphide substrate using a Sandia-developed technique which grows magnesium-doped crystalline layers on a substrate by liquid phase epitaxy. Magnesium is used as a low-vapor-pressure and slowly diffusing dopant to prevent cross contamination of the layers in the growth furnace and in service at high temperature.

Second generation gallium phosphide

transistors and diodes, designed for 500°C operation, will have electrodes made of non-crystalline amorphous metals such as nickel-niobium and silicon-tungsten instead of gold or aluminum.

"Our research indicates that high temperature failures in semiconductor metalizations are caused by diffusion at grain boundaries in present systems," Chaffin says. "So if we use amorphous metals, this failure mechanism will be eliminated because there are no grain boundaries."

Work on the new devices is centered in Sandia's Compound Semiconductor Laboratory, which has been established to produce specialized electronics needed by the Labs for its high technology weapons and energy programs.

Besides high-temperature electronics, the CSL is developing radiation-hardened optoelectronics, microwave devices for radar fuzes, and multijunction photovoltaic devices.

Afterthoughts

Crime & punishment--A dozen or so Sandia bicyclists were recently ticketed by the Air Police for running the Stop sign at Club Road and Wyoming. Because I ride a bike and promote bike riding, several called to express sentiments on their citations ranging from amusement to rancor. I don't often find myself on the side of the military, but in this instance my reaction is Right on! Both the Air Force and our own safety people periodically ask LAB NEWS to lecture bikers on their traffic derelictions. My response has been that shaking a warning finger in print will accomplish little unless the Air Police and our own Security Inspectors hand out a few tickets. Then the word will quickly get around. The Air Police tickets, incidentally, are not the type that result in a fine but, rather, cause the assignment of a certain number of points. If you persist in getting tickets, you'll ultimately qualify for the distinction of not being able to drive (or bike) upon KAFB.

* * *

Do diesels burn snake oil?--Because that's what we're seeing lots of in ad copy aimed at a gullible public. The purported advantage of a diesel is illusory--the things are noisy, smokey, smelly, hard starting in cold weather, and sluggish. For this you pay a premium that nullifies savings from better mileage and carry around a lot of extra weight besides. And you may not be able to get fuel when you run out in Polecat, Wyo. If we'd been driving diesels all along and Mr. Ford came out with a new engine, quiet, with little smoke and smell, easy starting in any weather and featuring blazing acceleration, he'd be turning away customers at any price. When this new engine, realizing economies of mass production, began to undersell the diesels, then these would return to their proper station in life--pushing tractors on highway and farm. The new engine, incidentally, burns a wonder fuel--gasoline--and you can get gallons of it in Polecat, Wyo.

* * *

We are indebted to Herb Floyd (2314) for this bit of all purpose wisdom, an old Spanish proverb:

Nunca trate de enseñarle a un marrano a cantar--

Perderá su tiempo y se molestará el marrano.

(Never try to teach a pig to sing--it wastes your time and it annoys the pig.) *js

Supervisory Appointment

TOBY TOBYAS to supervisor of Fabrication and Liaison Section 3715-1 (in the Purchasing organization), effective Oct. 1.

Joining the Labs in June 1967, Toby worked as a machinist for three years and

then became an engineering science assistant in his current organization. He has held various purchasing responsibilities for the past seven years.

Toby earned a BS/BA from the U of Albuquerque and has completed several purchasing and procurement courses in hours at Sandia and UNM. His interests off the job include boating and scuba diving. Toby is constructing a summer home at Elephant Butte Lake. He and his wife Ruth have three children and live in the SW valley.

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BTUs ARE WHERE YOU FIND 'EM--

Tastefully appointed in every respect, the DeMoss-Durdan Garden Chapel funeral home in Corvallis, Oregon, includes one design feature that, admits (mortuary chain owner) Ellsworth D. Purdy, "as far as we know is unique in the funeral home business." Specifically, the entire 5000-sq.-ft. complex--chapel, administrative offices, working spaces, viewing rooms--is heated by a \$30,000 system that reclaims waste heat from the natural gas-fired crematory. "Oh, we know what some will say, 'They're burning up Granny to heat their building,'" says Purdy a bit defensively, "but that's not it at all." No, indeed. Purdy's chain, the Uniservice Corporation, wanted to build a funeral home for the future in Corvallis, Purdy explains. The public increasingly prefers cremation as a means of disposition, and with energy costs skyrocketing, he notes, any efficiencies that hold down costs make good business sense. Besides, Oregon businesses receive a sizable tax credit for spending money on innovative energy projects.

William Boly in New West

Payroll Figures Announced

The Sandia National Laboratories payroll for fiscal 1981, which ended Sept. 30, amounted to \$187.4 million at Albuquerque, and \$30.4 million at Livermore. For FY '80, these figures were \$165.5 million for Albuquerque, \$26.8 million for Livermore. Salaries of some 80 Sandia employees at Nevada Test Site and Tonopah Test Range are included in the Albuquerque figures.

At the end of FY '81 there were 8018 on roll, including 1083 at Livermore. The total is about 170 more than at the end of FY '80.

Assets of the Department of Energy's installations operated by Sandia totaled \$522.6 million at the end of FY '81, compared to \$472.8 million in FY '80. These figures represent undepreciated value of buildings and facilities at Albuquerque, Livermore and Tonopah Test Range. All assets are the property of DOE and are used and operated by Sandia in research and development for DOE.

Purchases by Sandia in New Mexico amounted to \$102.5 million for FY '81. About 97.6 percent of the amount, or \$100 million, went to Albuquerque firms. Purchases from other DOE contractors are not included. Purchases by Sandia Livermore were \$48.2 million in FY '81. More than \$20.3 million was spent in California, including \$15.9 million with commercial firms in the Bay Area.

Making It

Purchasing's Jay Hughes (3731) had recent occasion to recount for LAB NEWS a success story, American style, sub-category rags-to-riches.

The occasion was the presentation by Jack Strassel (3700) of the NM Minority Supplier Development Council's award as Minority Supplier of the Year to Jose Lopez, owner of the El Paso-based International Electronics Company. The company, which has branches in Albuquerque, Dallas and Denver, took first place in "Class II--sales of up to \$10 million annually."

Mr. Lopez' early background is not one to offer hopeful portent of worldly success. Born in Zacatecas, Mexico, he came to this country in 1959 and, at age 15, started work as a delivery boy in an electronic distributing house. Over the next 12 years, he progressed through jobs in shipping and receiving and counter sales and later became an outside salesman. In 1973, with \$500 in the treasury, he started his own firm and gained sales amounting to \$59,000 in the first year. Last year, International Electronics sales were \$2.6 million, \$214,000 of which represents business with Sandia.

Since receiving the local Council's award here, Mr. Lopez has travelled to Atlanta for the presentation of his national award during the National Minority Supplier Development Council's annual conference. Jack Strassel is chairman of the New Mexico Council for 1981.

They Bike, They Carpool, They Bus

Eleven Sandians were winners in the Ridesharing Week contests in October. The first contest was to select a "Ridesharer of the Year" in bicycling, carpooling and bus riding. The second contest required participants to keep a travel diary for one week showing how they avoided driving alone in a car.

Named Ridesharer of the Year for his bicycling was Carl Lundbom (8273), who has been riding to work for more than 20 years, even in inclement weather. Top carpooler was Glenn Smith (8272) who has logged more than 100,000 miles in a five-person carpool operating since June 1960 from Stockton to Livermore. Wes Estill (8425) won bus rider honors for using the Rideo city bus system since its inception for his daily ride to work. (He also walks three blocks to catch the bus each morning.) The three winners will receive Sandia T-shirts.

Second- and third-place winners, who each receive a T-shirt transfer, included Al Reichmuth (8442) and Don Osbourn (8271) for biking, Curt Specht (8272) and Hans Birnbaum (8443) for carpooling, and Mac Spivey (8168) plus Ed Holbrook (8411) for bus riding.

The other contest, which required entrants to keep a daily log of their methods of travel for a one-week period, helped to point up means of transportation other than driving alone in a car. In the family category, Jack Swearngen (8316) took first-place honors for his efforts in fuel conservation. His family rode bikes for 110 miles, carpooled for 122 miles and drove alone only 50 miles over the seven days measured. Awarded second place in that category was Theresa Smith (8116) who drove only 62 miles during the week, in addition to her daily commute from Tracy. She commented, "This exercise has made me more aware of how close I am to places—with slightly more planning I can reduce the number of trips to the market . . . It seems silly to get up Saturday morning and have to run to the store for something for breakfast. This, of course, entails better meal planning."

In the individual participant category, the top winner was Al Reichmuth who bikes 14 miles to work daily and pedals another nine miles for exercise at noon. He biked 133 miles in one week and carpooled another 132 miles, driving alone only two miles all week. Second place went to Don Osbourn who has been biking to work since 1973, driving to work solo just 30 times in the past two years. For the week logged, he accumulated 62.5 miles by bike and drove another 63 miles.

First- and second-place winners in the week-long travel logging contest received 15-pound turkeys plus T-shirts with the Sandia logo. The competition was held to increase employee awareness of ways to conserve fuel and to reward those who have made the most notable efforts over the years to utilize alternate means of getting to work.



RIDESHARING contest winners from left are Theresa Smith (8116), Jack Swearngen (8316), Al Reichmuth (8442), Wes Estill (8425), Carl Lundbom (8273), Don Osbourn (8271) and Glenn Smith (8272).



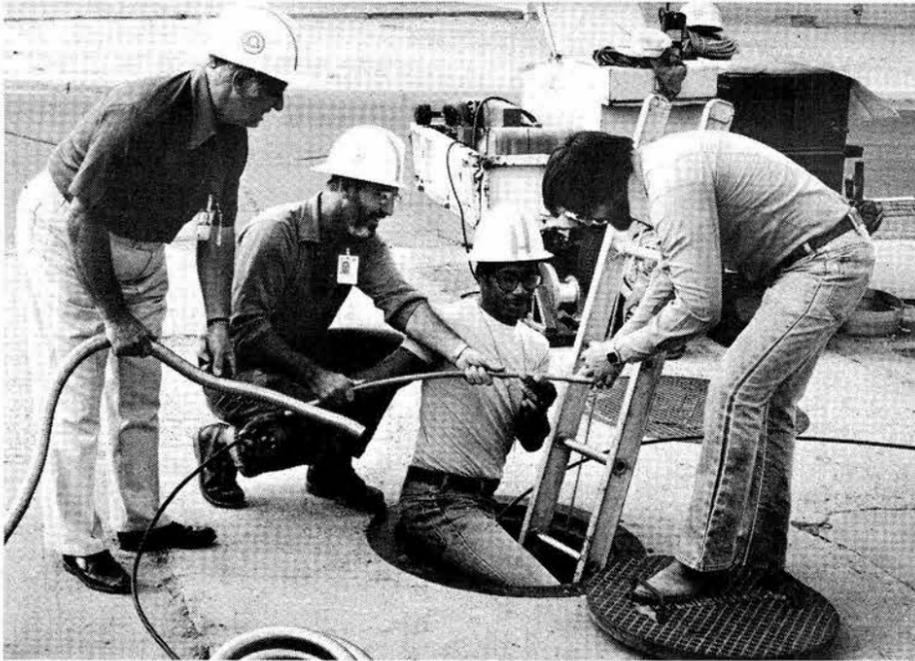
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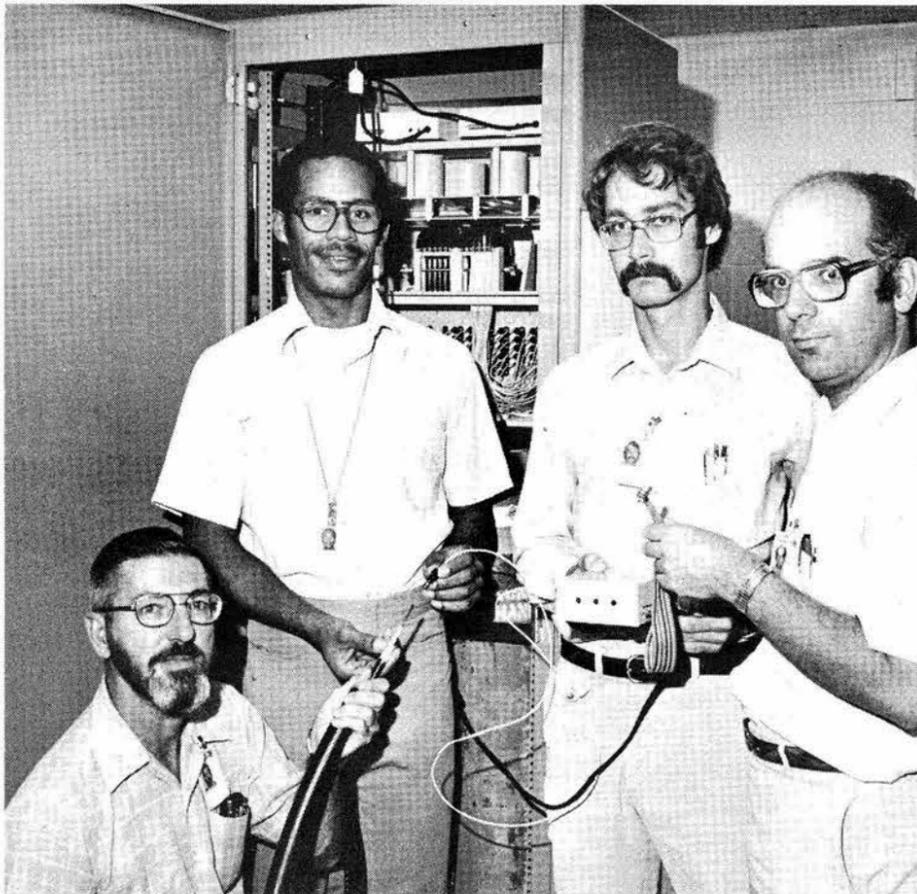
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DREAM HOME, a passive solar house in Colorado, has reached the model stage for Michael Schalit (8214), at left, when John Teodoro (8441) completed a scale model of it at home for Michael. Design includes a pebble bed heat storage system, heated indirectly by sunlight coming through the front windows on both floors. The 1800-square-foot house is planned for a lot near Evergreen where the Schalits plan to retire. Meanwhile, the home would be used as a rental and vacation retreat.



PREPARING OPTICAL FIBER cable with its steelflex protective cover for insertion into the underground conduit system are Jerry DeRose (WE), Tom Schultheis (2612), Ivory Alexander (2648) and Mark Wilkens (2612). In photo at right, Schultheis, Alexander, Steve Gossage (2648) and Dean Gibson (2648) complete the link at the optical-to-electronic interface in Bldg. 802. The project was the first phase of an effort that will eventually link computer facilities in major buildings in Areas I, III, IV and V to the central computing facilities in Bldg. 880 with optical fiber cable.



Congratulations

Lorina (2001) and R. C. Chavez (3740), a son, Oct. 11.

Edward (on LOA from 2116) and Lisa Powell, a son, Nathaniel Edward.

Gary (2513) and Kim Denison, a son, Kyle Edward, Sept. 25.

Joe (2513) and Donna Shepherd, a son, Douglas Parker, Oct. 19.

Louise (1223) and Mike Weston, a son, Steven Paul, Sept. 26.



Still more memorable country lyrics . . .
 "She stepped on my heart, and stomped that sucker flat."
 "When the phone don't ring, you'll know it's me."
 "Flushed from the bathroom of your heart."
 "Drop-kick me, Jesus, through the goal posts of life."

—Houston City Magazine

New Fiber Optic Computer Link Installed

The first phase of the SNLA Long Range Communications Plan was completed recently with the installation of an optical fiber cable between Bldgs. 880 and 802. The 144-fiber cable was pulled through underground conduits beneath Tech Area I streets. It will provide higher data transmission rates and better security for data transmission with ample reserve capacity for future growth.

Western Electric Government Systems Division, Greensboro, N.C., furnished and installed the cable, connections and interface equipment.

The Optical Fiber Experimental Project (OFEP) at SNLA is designed to demonstrate the feasibility of using optical fiber to meet Sandia's growing data communication requirements. The OFEP is the first phase of a plan to eventually link computer

terminals and computer systems in major buildings in Areas I, III, IV and V with the central computing facility in Bldg. 880. This modern data communications network will meet present and future requirements for secure data transmission, terminal-to-multiple host access, computer-to-computer access, base and broadband video and megabit per second bandwidth.

Following the successful evaluation of the OFEP, expansion of the link into a loop network is anticipated, thus making the optical fibers the backbone of a flexible and modernized data communications facility.

The OFEP is the responsibility of Don Schroeder's Computer Communications Design Division 2648.

Gary Malin Takes DOE Pistol Shoot

Twenty-six-year-old Gary Malin is a bit young to be the top pistol shooter within all the security forces associated with DOE and its contractor agencies, but some guys are just born with the knack.

Last month, the security people had a "shoot-out" at the Savannah River Operations Office in South Carolina. All the DOE security agencies sent their top teams to attend a training conference (concentrating on thwarting terrorism) and to participate in a pistol tournament.

Our man Gary won hands down. Using a stock Colt Python, a .357 magnum, he shot a 1481 out of a possible 1500—the highest ever racked in this competition. It was a standard police competition course with timed firing and targets at various distances up to 50 yards, shooting from various positions.

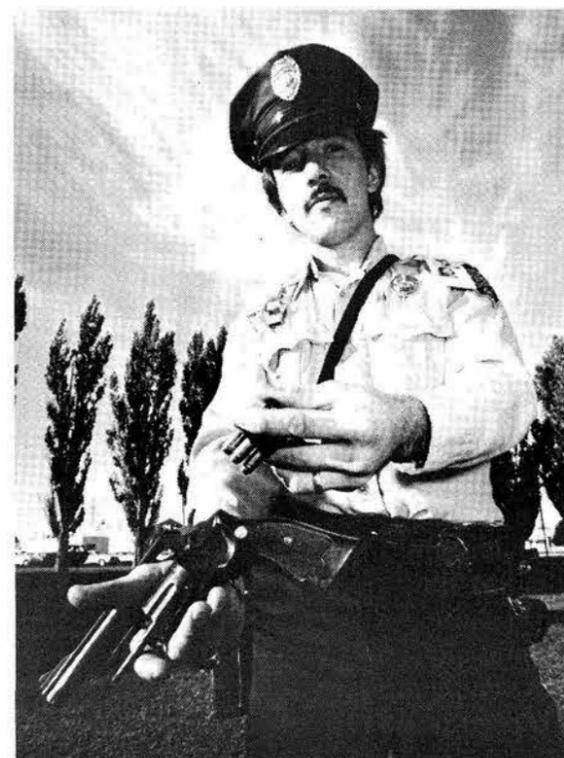
In a second competition, using a .38 pistol with a two-inch barrel, Gary was again the top gun. He shot a 471 out of a possible 480. As the big winner, Gary was awarded a .357 Model 19 Smith and Wesson.

Earlier this year in the state pistol tournament at Raton, Gary again came in as the top gun. He's now ranked 15th in New Mexico and is competing against veterans using pistols modified for target shooting.

Gary started pistol competition as a teenage Boy Scout with the Law Enforcement Post 911 in Albuquerque. He didn't become a serious competitor until he joined Sandia in October 1975.

"Part of a security guard's job is skill with a pistol," Gary says, "so I started practicing. I didn't think I was very good—until this last tournament. Then I was surprised and very pleased."

Sandia's two-man team at the DOE tourney—Dave Stout and Joe Yambrovich—came in second with a score of 1153 out of a possible 1200. Celso Montano took second place in the sharpshooter 2-inch barrel match with a 460 out of 480. Harold Garcia took third place in the expert class. Sandia's four-man team—Malin, Garcia, Montano and Grant Aguirre—came in sixth in the tournament.



TOP GUN among DOE security forces is Gary Malin (3435) who scored 1481 out of a possible 1500 in a recent DOE-wide pistol tournament. Here he demonstrates his "fastloader" technique. The shooting is timed, so that rapid reloading is important to allow more time for aiming and firing.

Fun & Games

Skiing—There's been a hint of snow in the air and, though hints are tough to ski on, here are a few ski events coming up: Nov. 27 to 29, the Ski Patrol's annual Ski Swap at the State Fairgrounds; Nov. 10 at 7:30 p.m., the Coronado Ski Club's equipment clinic; Nov. 17 at 7 p.m., also at the C-Club, one E. Blake discusses Taos; and Nov. 12 at 7:30 p.m., general meeting of the Ski Touring Club at 2633 California NE. CSC has a bunch of out-of-town trips planned—Wolf Creek, Utah, Purgatory, Telluride, Sun Valley, Crested Butte and more. CSC has also provided a rundown on lift ticket prices. Take a deep breath and try these: Sandia Peak, \$14; Taos, \$18; Alta, still only \$10; Park City, \$18; Purgatory, \$16; Telluride, \$16; Vail, \$20; and Crested Butte, \$17. Mighty Aspen plans to keep out the riffraff—\$22.

We fulminate yearly about the greed of the operators and about the Forest Service not protecting our interests, but for some reason or other the rates continue to go up. And we still like our notion of offering the public a punch-type lift ticket—take a lift ride and your ten- or twenty-ride ticket is punched. If the skiing is marginal or the weather turns sour, you don't feel driven to getting in as many runs as possible.

* * *

Running—In last week's Albuquerque Marathon, Henry Dodd (4752) with a 2:53 was the first Sandian across the line. Larry Johnson (4323) also turned in a notable performance, taking the 60-plus bracket with a 3:33. Other Sandians crossing the 26-mile line: Al Spencer (3611), Irv Hall (1223), Terry Bisbee (2613), Ken Grant (3643), Bob Rieden (2116), Mike Coltrin (4211), Jerry Quinlan (2636), Roque Feliciano (1551), Russ Haushalter (1556), and Jerry Gallegos (3615).

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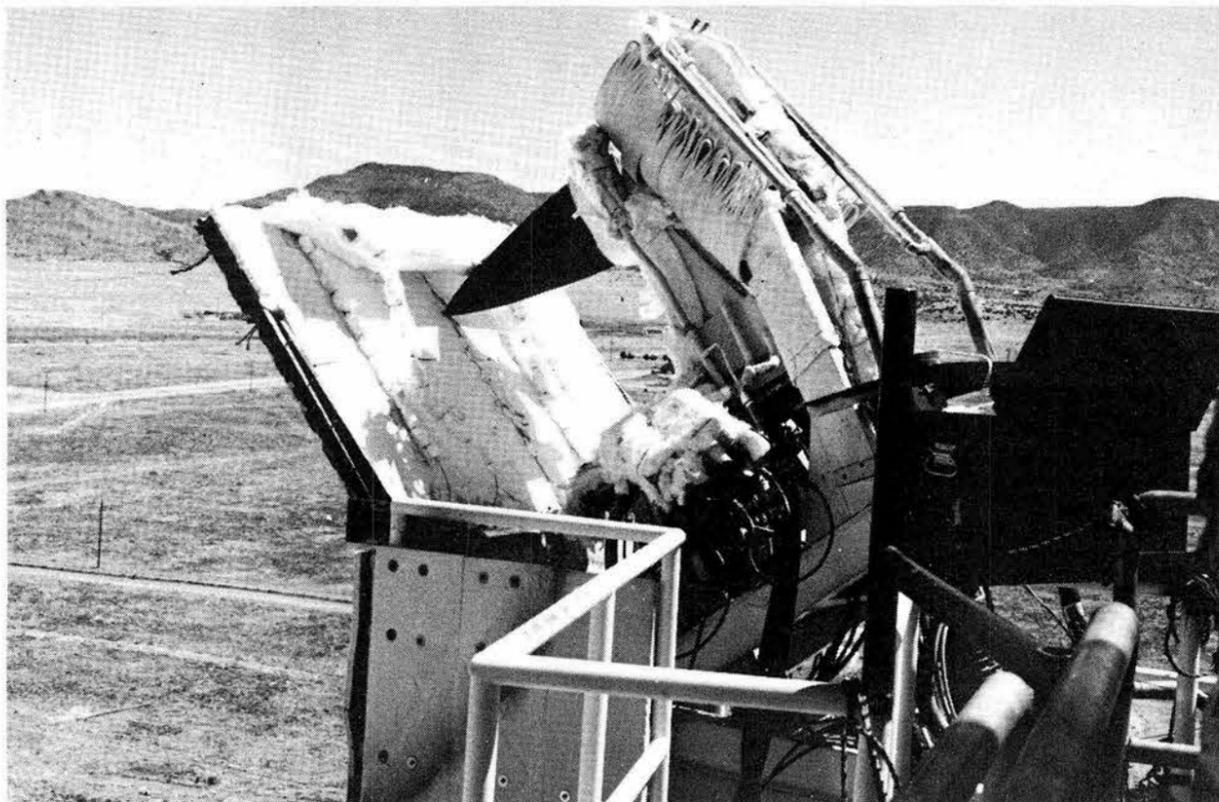
Triathlon—It's five miles of running, ten of biking and a quarter-mile swim, back to back, and the event takes place Sunday, Nov. 15, here on Base. LAB NEWS has entry forms.

* * *

Sandia Women's Golf Association—At the SWGA annual awards banquet, these officers were named: Peggy Burrell (3542), president; Ruth Wright (2145), VP; Laurene Dubuque (DOE), secretary; Betty Rodes (3642), treasurer; Mary Gonzales (1585), tournament chairman; Tina Ward (DOE), league chairman; and Margaret Lucas (4000), handicap chairman. The association Cup for '81 low gross went to Molly Ellis (4441), and the President's Cup for '81 low net went to Ree Gerchow (3222). The '81 short course low gross winner is Nellie Gerchow, while the '81 short course low net winner is Yolanda Sandoval (DOE). Most improved SWGA golfers this year are Mary Gonzales and Yolanda Sandoval.

* * *

Women's Basketball—An informational meeting for all interested women will be



MISSILE RADOME (the black, pointed object) mounted on the Power Tower, ready to be subjected to concentrated sunlight from the heliostats. Test results have led to new radome designs that will minimize radar signal distortion from atmospheric heating.

Power Tower Used To Test Radome

The Labs' familiar Power Tower, the Central Receiver Test Facility that looms over its array of heliostats a few miles south of Tech Area I, has completed an unlikely mission for a solar facility. The mission: a series of missile radome tests for the Navy, conducted by the Applied Physics Lab of Johns Hopkins University. Test results have provided designers with a new prescription for the shape and thickness of the radome to minimize radar signal distortion due to atmospheric heating.

The radome is made of ceramic material and is similar to a lens in that it bends the radar signals passing through. At a missile's high flight speeds, this signal distortion (called boresight error) is aggravated by aerodynamic heating and missile performance may be affected. Concentrated solar energy provided by the CRTF was used to simulate the aerodynamic heating of the radome.

Tests were carried out by installing the radome at the top of the CRTF tower where it could be rotated at varying speeds about several axes while being subjected to

concentrated sunlight from the CRTF heliostats. Concurrently, a device called a null seeker, placed on one of the heliostat pads, sought to lock on the center—or null—of the radar beam. As heat distorted the radome and, indirectly, the radar beam, the null seeker measured the boresight error.

Says John Holmes of Central Receiver Test Facility Division 4713: "The test results, accomplished without launching a lot of expensive missiles, have helped the Navy come up with a nose cone design that will give their missiles greater accuracy. The CRTF costs are minimal by comparison. Note also that our fuel source is cheap, too—the sun.

"Testing like this can't be done in a wind tunnel or radiant heat facility because the surrounding structures and electronic equipment would interfere with the radar signals. So the CRTF has demonstrated its unique capability to inexpensively carry out critical heating tests on military components."

held at the C-Club Tuesday, Nov. 3, 4:45 to 6 p.m. League play starts in late November. Rec manager Tom Lenz emphasizes that this league is recreational, so you don't have to be a jockette to participate. Sandians, DOEans, spouses and dependents are all eligible. Contact: Sandy Lappin, 4-3258.

* * *

Men's Basketball—This starts its winter league in late November. Pres. Dennis Gutierrez, 4-5409, and VP Joe Malz, 4-8939, are now accepting team rosters. Individual players may elect to be placed on an "A" (competitive) or "B" (recreational) team. Deadline for submission of rosters is Nov. 20. Sandians, DOEans, spouses and dependents are all eligible.

* * *

Would-be Marathoners—Tom Lenz at the C-Club, 4-8486, has copies of the

Runner's World seven-page article, "Running Your First Marathon." Call him if you'd like a copy.

* * *

Warren Miller (4511) won the New Mexico chess championship in Santa Fe recently in a contest with 87 nationally ranked players. Warren is ranked as an "expert" by the U.S. Chess Federation. This marked the sixth time that Warren has taken the New Mexico title since 1960—he's been playing chess for 30 years.

* * *

A wheelchair basketball game, pitting the Sunrise Civitans against the Wheeling Zias, is set for Nov. 15, 7:30 p.m., in Johnson Gym at UNM. Tickets are on sale at Ticketmaster locations, \$2.50/adult and \$1.50/student/senior. Proceeds are earmarked to help the handicapped.



Family Day '81

It's no secret that staging Family Day '81 was a monumental task. How do you prepare for 15,000 visitors? For starters, ask Ted Sherwin and Joe Magruder (both 3160) who were the chief arrangers. Then ask Tech Art (3155), the Photo Lab (3155), Micrographics (2432) and a bunch of other people and organizations who contributed.

A special thanks goes to Sandia's Security Inspectors who worked like beavers before, during and after Family Day. First of all, they secured and sealed all safes, vaults and classified areas in preparation for the event. Then they put in a 12-hour shift during Family Day, guiding visitors, controlling traffic and generally being helpful to everyone. Then they performed a security sweep of all areas in preparation for return to normal operations. The success of Family Day in no small measure was a result of their efforts.



Take Note

Visiting Tonopah Test Range last week were Raymond Romatowski, recently appointed manager of DOE's Albuquerque Operations Office, and Gil Cordova, manager of the Sandia Area Office. Their host was Sam Moore, head of TTR Department 1170, as well as Glenn Fowler (VP-1000) and Carter Broyles (1100). Don Schueler, head of Solar Energy Projects Dept. 4720, accompanied the group.

* * *

Norm Richardson (1551) invites all music lovers at Sandia to a concert of Latin rock and classical Flamenco music by the Muses at 7 p.m. Sunday, Nov. 8. The concert, sponsored by Parents Without Partners, will be held at the group's chapter house at 425 San Mateo NE. Tickets are \$3.50 at the door.

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Karen Shane of Community Relations Division is the author of an article appearing in the current issue of *New Mexico Historical Review*. "New Mexico: Salubrious El Dorado" is the title.

* * *

"Drug Abuse in Albuquerque and the Public Schools" is the next topic in Medical's Go For Health series. Rick Miera, Program Coordinator, Counseling Services, Bernalillo County Medical Center, is the speaker. Mr. Miera will discuss the local drug scene including names of drugs and their effects; how parents can tell if their children are using drugs; and what parents can do if their children are using drugs. The program is set for Tuesday, Nov. 10, 12-12:30 p.m., in Bldg. 815 (outside the Tech Area).

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The Chamber Orchestra of Albuquerque is playing at a new location for its 1981-82 season—the Albuquerque Little Theatre. Six concerts are offered, running from November 1981 until August of next year. David Oberg is music director and conductor. Tickets run \$32.50 for all six concerts, or you can subscribe to the three-concert winter and summer seasons at \$18 each. Contact: 247-0262.

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They say public speaking is second only to childbirth in pain and anxiety. Most men endure only one of these, but both men and women can allay their problems with public speaking by working with Toastmasters, a group that meets Wednesdays at noon at the Coronado Club. Says their flyer: "Toastmasters provides a program of speaking opportunities, including prepared and impromptu speaking, speech evaluation . . . There is no pressure to join or speak." For more information, call Al Marshall (4423), 4-0338 or 281-5821.

* * *

Sanado Woman's Club is staging its fall fashion show on Tuesday, Nov. 10, at the NCO Club East. "Three Cultures in Fashion" is the theme, and clothes from



KEEP SMILING—Mayor David Rusk wasn't too keen about the election but he did find DOE's electric car to his liking as he proceeds from City Hall to the Convention Center for a recent exhibition. Electric-car man Dick Bassett (2564), who has two of his own, has TLC assignment for the vehicle, insures that it gets maximum exposure at state fairs, technology exhibits and the like.

Sunbird of Old Town, Charlotte's Boutique and Jeannette's Southwest Originals will be modeled. Reservations, due by Nov. 4: Carolyn Hermanson, 266-9927, or Maurine Romme, 299-8765. The affair starts at 12:45 p.m.

Another Sanado activity, the Sanado Art Group, is displaying and selling its art work at the Winrock Mall this weekend. Drawings and paintings in a variety of media will be on display at the north end of the Mall from 10 a.m. to 9 p.m., Friday through Sunday.

* * *

We have here a number of items that fall in the self-improvement category. If you'd like to learn the kind of printing it takes to make greeting cards, Arts & Crafts is offering a workshop, Nov. 15, 1-3:30 p.m. Cost for parent and child is \$7. And, if you're all tied up in knots, then unwind by learning macrame at the A&C Center, starting Nov. 11 and running for four weeks from 6:30 to 8:30 p.m. Cost is \$7. "In this class, you learn the square knot until . . . you have made at least one hanger, if not more (sic)." Contact for printing and macrame: 4-8486 (Tom Lenz). Que Pasa is holding four consumer workshops for free: Nov. 11, An Introduction to Consumerism; Nov. 17, Personal & Family Budgeting; Nov. 24, Consumer Frauds; and Dec. 1, Consumer Protection. All workshops begin at 7:30 p.m. and you sign up by calling 4-5420. In an auto mechanics class here on Base, students will cover their cars' major mechanical systems in a six-week course starting Nov. 10 and running from 6 to 10 p.m. Tom Lenz is also the contact on this one, 4-8486. Finally, if you're doing all these and want more, then go to the Solar Water Heater Workshop at UNM, Nov. 6 & 7 or Dec. 4 & 5. Cost is \$75. "This two-day workshop will guide participants step by step through the installation process of solar water heater units."

Register by calling 277-6542.

* * *

The Mike Miller Band is performing at the Que Pasa Rec Center on Wednesday, Nov. 4, from 7 to 11 p.m. The release states that the concert is aimed at country music lovers and ". . . the dance and show is FREE and open to all Kirtlanders."

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The 22nd annual CQ-We amateur radio contest will be held on Nov. 14 and 15. This contest is open to all radio amateurs employed at or retired from Sandia, Western Electric, AT&T, Bell Labs, and the Bell System operating companies. For information, call Pete Havey (5824), 4-1273. Pete also has copies of a directory listing licensed radio amateurs within WE & Bell Labs.

* * *

Peggy Van Hulsteyn, Santa Fe author and businesswoman, will speak on time management on Friday, Nov. 6, 12-12:30 p.m., in Bldg. 815 (outside the Tech Area) as part of Medical's continuing "Superwoman" series. Following this lecture, Ms. Van Hulsteyn will conduct two workshops on time management. The same workshop will be presented twice: on Wednesday, Nov. 11, 4:45-6:45 p.m. and on Thursday, Nov. 12, 7-9 p.m. The workshops will be conducted in Bldg. 815. Enrollment in the workshops is limited to 30 people per workshop. To enroll, send your name, organization, and phone number to Susan Harris, Org. 3330.

Sympathy

To Bill Bedwell (3435) on the death of his father in Missouri, Sept. 30.

To Albert Angel (3435) on the death of his brother in Amarillo, Oct. 10.

To Merton Robertson (2152) on the death of his mother in Montana, Oct. 13.

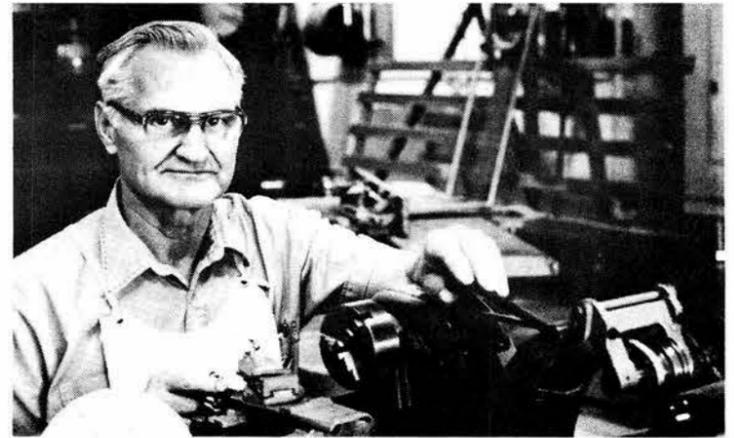
MILEPOSTS

LAB NEWS

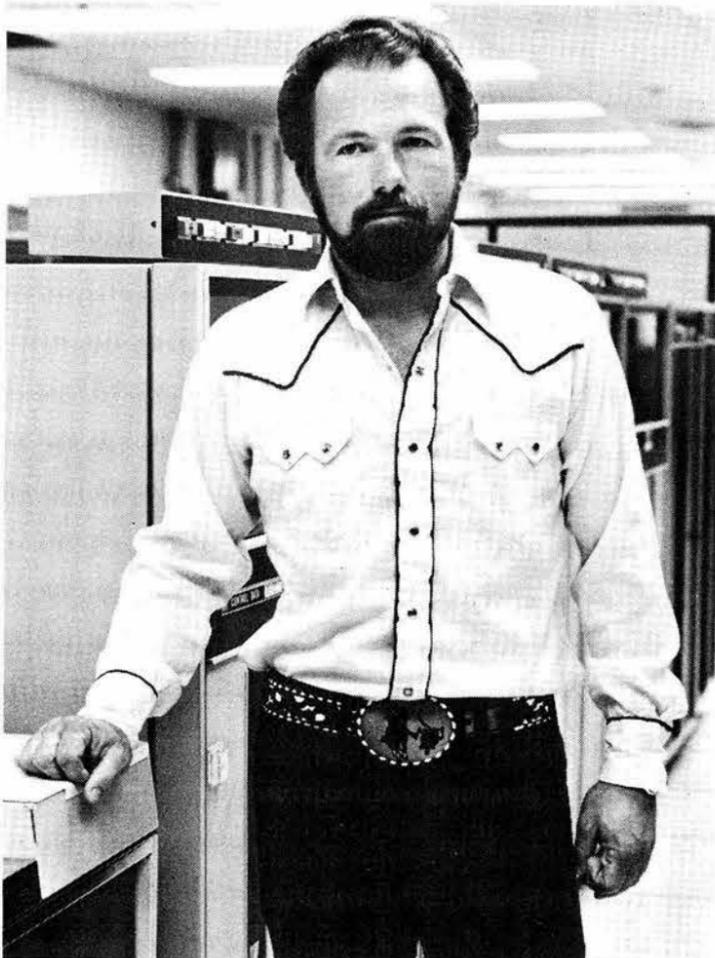
OCTOBER 1981



John Hill - 3615 10



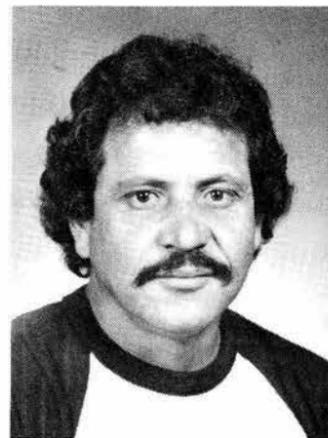
Jim Reed - 1473 25



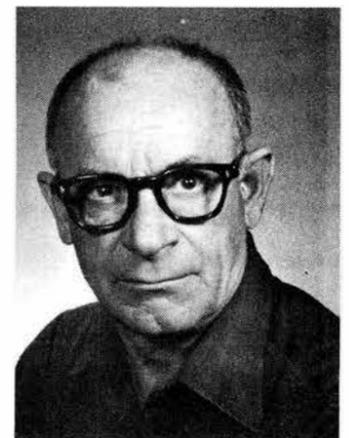
Archie Gibson - 2631 15



Dale Moritz - 4754 30



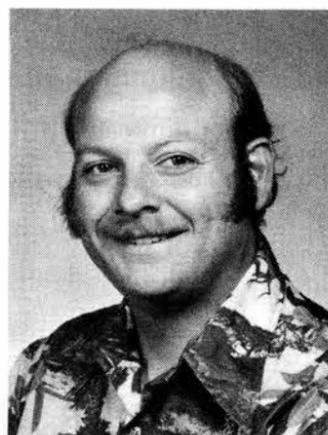
Max McCoy - 1481 10



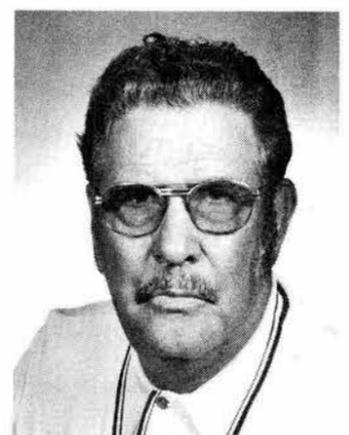
Marion Drago - 5651 30



Bill Rowe - 3425 15



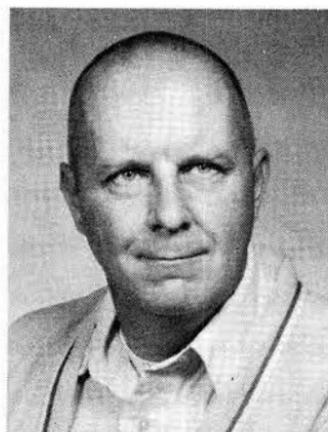
Geoffrey Mueller - 2341 15



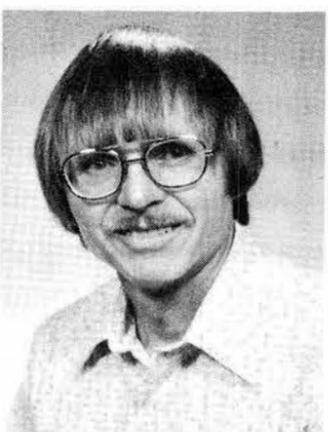
Poinciano Barela - 3417 20



Murray Silverman - 1759 25



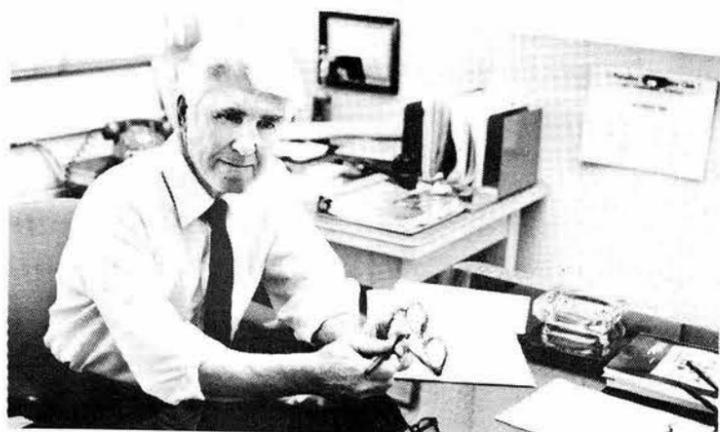
John Phelan - 5621 20



Don Stuart - 5133 15



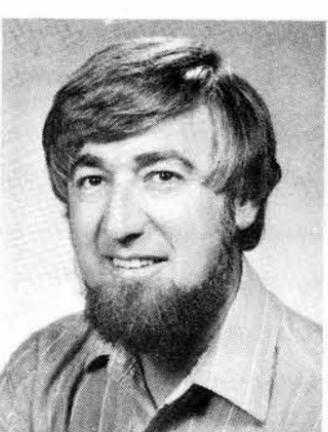
Anne Felsen - 3733 20



Sam Johnson - 3651 35



Cel Gabaldon - 3154 15



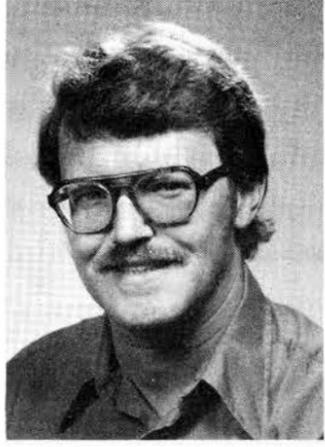
Richard Kromer - 1262 15



Shirley Wallace - 3213 10



Glenda Tenbroeck - 3321 15



Stephen Stronach - 1254 10



Harvey Miller - 1123 25



Polly Kasscieh - 3152 25



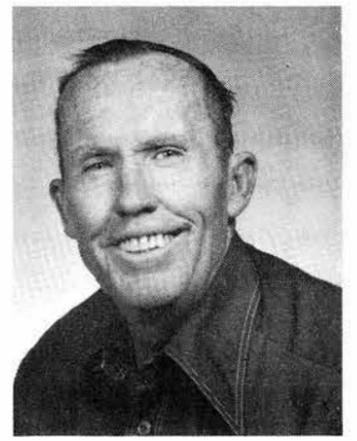
Phil Contreras - 3742 30



Sam Sena - 3532 15



Johnny Biffle - 5521 15



Eldon Upchurch - 1716 30



Jim Courtin - 2426 30



Harold Gregory - 4321 25



Al Foster - 5621 25



Charles Joerg - 2527 15



Larry Williams - 1485 25



William Hahn - 3255 25



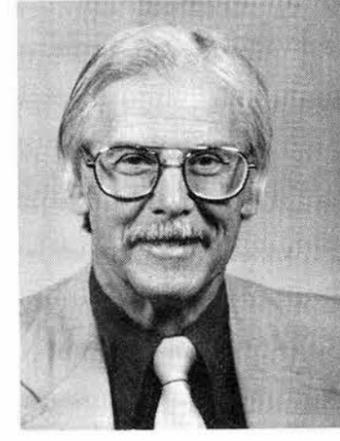
Mannie Silva - 3642 20



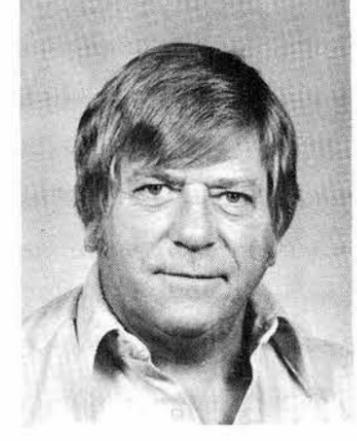
Morris Goebel - 4325 30



Alan Netz - 5836 25



Don Rost - 3442 30



John Biesterveld - 1725 25



RETIRING—Julia Polito (3152), Fred Gonzales (1471) and Ken Butler (1482).

feed back

Q. Recently I entered the Base through the Eubank gate for the first time. Inside, after passing through the gate, is a 15 mph sign. I slowed to 15 mph and three cars nearly rammed me, while others honked and sped by at over 30 mph. Please explain.

A. East G Street inside the Eubank gate is Air Force jurisdiction. The Air Force Traffic Engineer feels that the speed limit should be 15 mph because this street splits into three streets about 300 yards inside the Eubank gate. We think that the speed limit could be 25-30 mph and still be safe and we will try to persuade the Air Force to increase the speed limit.

R. W. Hunnicutt—3600

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

CLASSIFIED ADVERTISING

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

RULES

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

MISCELLANEOUS

- VOLKSWAGEN PARTS, '67 square-back, make offer. Schultz, 881-7588.
- MINIATURE German Schnauzer puppies, AKC reg., 2 mos. old, \$195. O'Neal, 821-0566.
- 11' TEARDROP CAMPER, elec./gas refrig., range/oven, sleeps 4, \$995; cream color, long-sleeved Guinness formal gown, size 7, worn once, \$60. Craven, 298-0978.
- BABY CRIB & mattress, \$55; stroller, \$10; 1971-72 Chevy pickup grille assembly, \$75. Aragon, 294-0225.
- FREE KITTEN, solid gray, male, about 6 mos. old. Ebinger, 883-9324.
- FIREPLACE, large, freestanding w/12" stovepipe, 45" wide by 36" deep, \$150. Higgins, 268-6886.
- SCHWINN L'il Chick girls' bike, \$70; three 10"x15" tracker tires for Jeep, \$60; custom drapes, gold brocade & green/gold velvet. Cole, 266-4371, 821-2463.
- MATCHING sofa & chair, \$125. Garrison, 293-8633.
- MEXICAN quarry marble table on wrought iron base, w/4 matching chairs; 5-light wrought iron chandelier. Curtis, 881-2440.
- MICROMETER, Lufkin, 0-1 inch, \$15; Hex key wrenches, 3/32 to 3/8, 10 cents each, \$1 set. Henry, 266-6467.
- INFANT'S GM loveseat, \$25; toddler's bed, fits crib mattress, new, \$20; Sears semi-auto .22 cal. w/4X scope, \$55. Stephenson, 296-9330.
- ANTIQUA RCA Victrola, elec., w/old 78 RPM records, \$225; 24" 10-spd. boys' bike, AMF w/acc., \$45. Garcia, 256-7606 after 5:30.
- ZIP SLED for water skiing, \$33; swinging bar doors, slatted, stained wood, pair, \$7. Marchi, 299-3653.

- LEROY lettering set, size 100-500, \$50; exercise treadmill, \$35. Chorley, 296-1454.
- CRAFTSMAN mechanic's flat top tool box, \$20. Webb, 294-8341 after 5.
- COUCHES, one new, \$125; one used loveseat, \$75. Wilson, 298-6427.
- 7' CHRISTMAS TREE, flame resistant, w/lights, \$25; 4 tires, 1.55x13, 13,000 miles, \$10 ea. Gorney, 821-9623.
- GOLF SET, youth size, \$25; stereo, compact, w/auto. changer, no radio, \$30. Holmes, 292-0898.
- ELECTRONIC COMPUTER; electronic parts & O'meters; make offer. Lake, 268-4882 after 5:30.
- AREA RUGS: 9'x12' beige; 8'x8' moss green; brown variegated oval, make offer; 8' bamboo shade, \$5. Hale, 881-9414.
- CEMETERY LOTS, Sandia Memory Gardens, 2 spaces, No. 3 & 4, \$300. Miller, 266-0939.
- DISHWASHER, 1963 GE, free, doesn't run, motor replaced 4 yrs. ago, you deliver. Trump, 299-5162.
- WURLITZER spinet piano & bench, \$1100. Bozone, 294-1127 after 5:30.
- HIGH STD. trophy .22 match pistol, Colt Trooper .22 pistol 6" blue; Savage 110 .30/06 w/scope. Haaker, 293-1077.
- COUCH, blue cut velvet, \$100. Samuelson, 821-5243.
- GREAT DANE PUPS, whelped 9/7, AKC reg., nicely marked blacks, males & females available, dam & sire avail. for inspection. Holt, 299-5943.
- STD. POODLE puppies, AKC champion sired, born 9/17. Baca, 294-5249.
- SOFA, cut velvet, green/gold stripe w/Italian provincial wood accents, almost new, cost \$1000, sell for \$295 or best offer. Burstein, 821-6688.
- AUDIOVOX, 8-track stereo player w/AM-FM stereo radio, fits most US cars & trucks. Moyer, 881-0754.
- MICROSCOPE, all metal, 4 objectives (4x/10x/40x), retractable, 10x eyepiece, specimens, slides, \$100. Reynolds, 884-5148.
- 13' COLEMAN canoe, light weight, easily car-topped, \$200. Baxter, 344-7601.
- DORM-SIZE refrigerator, 1 1/2 cubic feet, \$50. Robinson, 255-0114 after 5.
- BROILMASTER elec. portable oven/broiler, 11"x11"x15 1/2", self cleaning, \$30; vibrator foot bath tub, used twice, \$10. Arnold, 898-1467.
- GERMAN SHEPHERD PUPPIES, males, 3 1/2 mos. old, w/shots, \$200. Kramm, 281-5379.
- ELEC. OVEN, 40", self cleaning, w/range, 6 yrs. old, avocado, \$175; dual turntable, \$25. Hommert, 883-3682.
- 7MM MAGNUM, Monti Carlo custom stock, 3X-9X scope, case, hand carved sling; skis, ski boots, warm-up pants, poles for youth. Arana, 299-1214.
- REMINGTON elec. typewriter, \$135; Argus 35mm slide projector, \$25; Sears cartop carrier, \$55; cabinet for stereo, speakers, \$15. Schubeck, 255-0289.

- AREA CARPET & PAD, 12'x12', earth tones; 3 counter stools, \$100. Novicki, 294-6572.
- CONN TRUMPET, \$65; basketball backboard, goal & roof mounts, \$25; 2 trailer hitches, \$20 ea. Riggin, 299-7778.
- MOVING SALE OCT. 31: bookcase, dining room set, clothes, records, small appliances, vacuum cleaner, etc. 9720 Lona Lane. Shear, 821-7846.
- TIRE CHAINS for VW Bug, American made: "Weed," York PA, stock No. 1217, type P, \$25. O'Bryant, 268-9049.
- LOBO basketball season tickets, 2 seats, \$140. Okeson, 897-4621.
- CHILD'S SKI GEAR: 120cm Sarner Hop, Look bindings, Nordica boots, poles, \$55 set or individual. Dobecki, 293-9748.
- GIRLS' 20" bike, \$25; hi-fi electro voice speaker, \$10; port. stereo, \$25; felt for crafts; girls' clothes. Boling, 298-8141.
- AUTOMATIC baby swing, runs 20 mins., \$20. Pitti, 256-1629.
- HIDE-A-BED, 7' queen-size bed, \$175. Ronan, 268-0726.
- NEW Magic Chef powerhouse built-in dishwasher, \$200. Woody, 831-6321.
- DIAMOND earrings, 1/2 ct. T.W., \$475; solid gold chain, 15", \$22.50, both new. Schmidt, 299-7305.
- TIRES & WHEELS, Uniroyal P205/70R14, mag-type rally wheels for '80 Chevy, \$150. Minnema, 898-1604.
- HEAT circulating fireplace, new, includes chimney, fan motors, boxes, ductwork, grills, pipe & hardware, still in boxes, \$650. Nava, 299-3017.
- PATCHWORK tied comforter, 96" x 96". Turpin, 883-8042.
- STEREO power amplifiers, Crown model D150A, \$275; Audio Research model Dual 75, \$475. Clement, 299-1501.
- GOLF CLUBS w/folding cart; hand-made, sturdy children's tables, redwood, quintuple camera tripod; car carrier; children's encyclopedias, complete. Atkins, 298-5762.
- FREE KITTENS to good homes, 1 female calico, 2 male tan w/white markings. Hamilton, 293-3825.
- OVAL swimming pool, 15x25x4 w/5' depth on one end, \$350 w/accessories. Shaut, 299-8569.
- BUNDY FLUTE w/case & music stand, \$75. Keizur, 884-8357.
- DOUBLE MATTRESS & box springs, \$30. Gwinn, 299-7167.
- TIRE CHAINS, "V" bar reinforced lugs, fit up to L78-15 tires, \$25 or trade for smaller set; 48" Hi-Lift bumper jack, \$30. Brooks, 256-3686.
- FERRETS, male & female sables, \$40 ea. Garcia, 255-0556.
- '77 CHEROKEE CHIEF Jeep, PS, PB, tilt wheel, new wheels & tires, \$5500. Barber, 884-4969.
- '67 OLDS 98 convertible, 75,000 miles, AC, PS, PB, AM/FM/8 TR, extra (new) top available, \$4750. Hughes, 299-6674.

TRANSPORTATION

- '71 JEEP Wagoneer, 4-wd. AT, V8 engine. Hymes, 266-6436.
- '77 DATSUN pickup w/camper shell, 5-spd., AC, sliding window. Padilla, 831-3500 after 5:30.
- '77 PINTO wagon, 4-spd., AM-FM, steel radials, complete service record, just tuned, bright yellow, \$2100. Geer, 298-7914.
- '81 TOYOTA Corolla str. wgn., white w/tan interior, loaded. King, 884-7975.
- '77 DATSUN 200SX, AM-FM stereo radio, 5-spd., 42,000 miles, make offer. Zucuskie, 881-4086.
- '74 CADILLAC sedan, full power options, relatively low mileage, \$2000 or best offer, metallic blue, white vinyl top. Tapia, 294-4139.
- BMW R100/7 motorcycle, fairing, Krauser saddlebags, luggage rack, mags, Pirelli tires, electronic ignition, cyberlight, deep oil pan, more. Hesch, 294-3298.
- '81 KAWASAKI KX 420 motocrosser, used 4 times, never raced, \$1195. Lifke, 296-3814 after 5.
- '58 STUDEBAKER Silver Hawk, 289 engine, \$2500. Quinlan, 873-2563.
- '76 INDIAN 75cc Enduro, \$250. Hammons, 281-1205.
- '74 EXPLORER motorhome, 20', AC, AT, PS, PB, AM-FM-8 TR, \$7500. Russell, 298-4949.
- '78 SUZUKI GS750, windjammer, mag wheels, disc brakes, \$1650; Peugeot PRN-10 bicycle, 25" frame, Reynolds 531, Stronglight crank, \$275. Wright, 296-3850.
- '65 PLYMOUTH Sport Fury convertible, 383 V8, 73,000 miles, PS, best offer over \$1000. Davis, 281-1248.
- '76 DATSUN pickup, new tires, Craig AM-FM-8 TR, Roto-Master turbo-charger, \$3500. Woody, 831-6321.
- '66 INTERNATIONAL Scout, 4-wd, AM-FM-8 TR w/Pioneer speakers, rebuilt 8 cyl. engine, luggage rack, new battery & cables, shocks & more. Bell, 293-6948 after Sat. eve.
- 1900 sq. ft., 3-bdr., great room, fp, utility, garage, custom drapes, decorator wallpaper, 15x30 covered patio, barbeque, high 70s, non-escalating REC. Spradling, 7304 Winans NE, 821-4777.
- 80 ACRES in Datil Mtns., Catron County, 2 miles NE of White House Ranch via primitive road. Harrington, 822-0660.
- DUPLEX, \$8000 down, assume 11 1/2% mortgage. Altwies, 292-3884.
- 3 ACRES near Tome, cultivated, irrigated, off route 47, 6.6 miles south of Valencia Y, \$31,500. Burton, 869-2541.
- ASSUME 11 1/2% FHA, approx. 1250 sq. ft., 700 Florida SE, 2-bdr., plus

REAL ESTATE

WORK WANTED

LEAF RAKING or any other yardwork. Paul or Tom Holt, 294-6928 or 881-2395.

LOST & FOUND

LOST—earring, opal, amethyst & pearl, Family Day casualty, disappeared at PBFF, rocket sled test or power tower. Bassett, 898-1840.

\$50 REWARD: female black & white cocker spaniel cross. Lost near koa on Highway 66, Tijeras. Walker, 281-5640 or 281-1702.

Coronado Club Activities

How About a Talking Duck?

TONIGHT at Happy Hour a group called Together holds the bandstand while Gary Waters and guitar entertain in the lounge. Dining is *a la carte*—a selection of fine steaks and seafood plus a chef's special, and the dining room is open until 9 p.m. Prices are special all evening.

SAY GOODBYE to Saturday night menu service at the Club. This idea goes by the wayside as more and more conflicts in scheduling come up. Which reminds us of the holiday party season coming up around Christmas. If your group wants to schedule a private part at the Club, call the office, 265-6791.

IN THE MEANTIME, the Thursday night Beef 'n Burgundy buffets are gaining momentum. More and more folk are enjoying the generously served steamship round of roast beef, the spectacular salad bar and the variety of desserts plus a carafe of wine. The tab is \$6.75 for adults, \$3.25 for kids.

SOMETHING NEW is announced for Monday nights: a little action to match the NFL football action on the tube. Join your friends in the main lounge, watch the game and try a new super sandwich available at 6:30. There's a selection at \$2.75 which includes a couple of beers—either draft or cans. A good group could gather . . .

AT VARIETY NIGHT on Saturday, Nov. 7, the movie will be *Million Dollar Duck*, a convoluted Disney tale about a duck that lays golden eggs and quacks a lot. Kids love this kind of stuff. They also love the hot dogs and hamburgers available at 5. The movie starts at 5:30. Admission is free to members and families.

CASINO NIGHT when the Club ballroom is turned into Las Vegas on the Rio Grande is set for Saturday, Nov. 21. You



RUTH BITSUI, a recent arrival at the Labs, is a Navajo/Omaha Indian from Chinle, Arizona, who, having completed her MBA, has joined Affirmative Action Division 3511. Ruth will be active on the Indian Outreach Committee, contacting high schoolers to stimulate interest in technical careers. She is also available to counsel American Indians in career development and to discuss other matters relating to employment at the Labs. Her phone number is 4-9482.

trade \$1 real money for a bundle of play money and try your luck all evening at craps, blackjack, roulette and the wheel of fortune. A comedy act called "Breeding" will perform. Elton Travis and the Westernaires will play for dancing. Of course, there will be some door prizes. Mark your calendar now.

SKI CORONADO—You can save more than the cost of membership in lift ticket discounts and ski trips by joining the Coronado Ski Club before Nov. 30. The Ski Club has scheduled six Colorado trips, two to Utah, one to Idaho, a five-day trip to Taos and several other one- to two-day trips. Join now for the best bargains. Call the Club office or Wes Pfarner (1261), 6-2447.

TRAVEL DIRECTOR Frank Biggs (4231) announces a new eight-day escorted tour of the Washington, D.C., area for April 3-10 of next year. "Price of the package is \$300 plus airfare," Frank says. "The ground package includes all ground transportation and lodging, the Washington Monument, Smithsonian, Mt. Vernon, Monticello, Charlottesville, Richmond, Williamsburg, Yorktown, Jamestown, Civil War monuments and more."

Check with the Club office on the availability of space on the two Mazatlan trips (Nov. 2-9 and Nov. 9-16, \$369) and on the Caribbean cruise (Dec. 13-20, \$1031).

"We still need more people on the Dallas

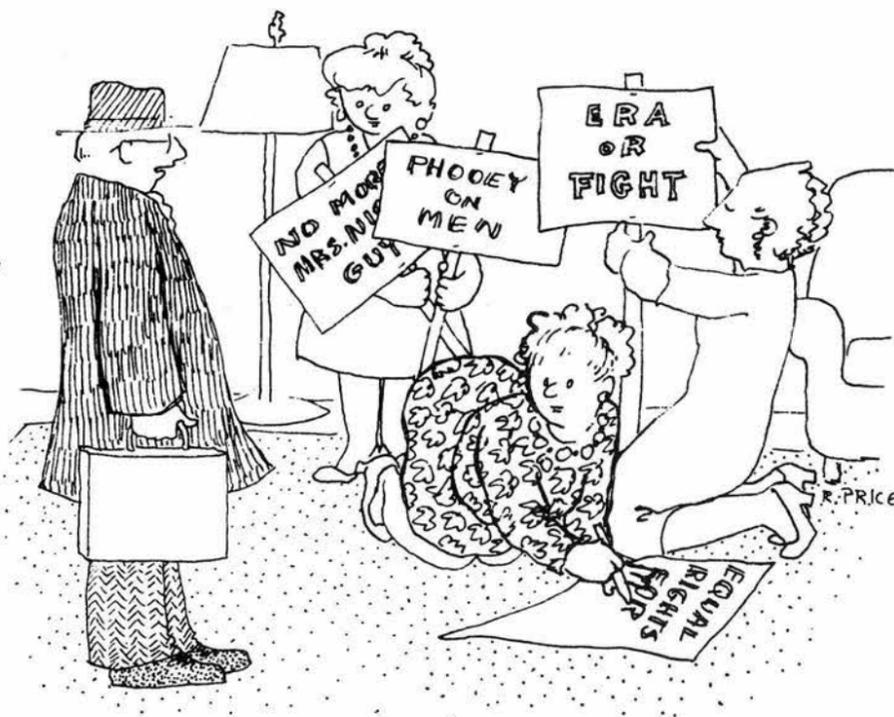
Cowboys-Six Flags Over Texas trip," Frank says. "The dates are Nov. 25-29 and the package includes all transportation with two lunches and other treats on the bus, tickets to the classic turkey day game and to Six Flags Over Texas plus Thanksgiving dinner atop the 70-story Hyatt Regency Tower. Cost is \$226."

There's still space on both Coronado Club holiday tours—the Las Vegas trip (Dec. 27-30, \$137) includes transportation with lunch and other treats on the bus, lodging at the luxurious Maxim Hotel and more. The Rosebowl Parade-Disneyland trip (Dec. 26-Jan. 2, 1368) includes transportation with treats on the bus, reserved seats at the Rosebowl parade, all lodging, admissions to Disneyland, Catalina Island cruise, Queen Mary, San Diego Wild Animal Park, a casino by the Colorado River and more.

Pick up trip literature and talk with Frank in the lobby tonight between 5 and 7 p.m.

Events Calendar

- Oct. 31—Bach-a-thon 1981, continuous performance of Bach's organ works, 12 noon to 12 midnight, admission \$3, students with ID, \$1.50, Keller Hall, UNM.
- Nov. 1—Albuquerque Youth Symphony Concert, 3 p.m., Popejoy.
- Nov. 1—Buffet & Art Auction benefit for the NM Ballet Company; Woman's Club of Albuquerque (4600 Copper NE, 265-6114); buffet 5:30 p.m., auction 7.
- Nov. 2—Travel Adventure Film, "America's Secret Places," 7:30 p.m., Popejoy.
- Nov. 3—Audubon Wildlife Film, "Superior—Land of the Woodland Drummer," 7:30 p.m., Popejoy.
- Nov. 5—"Mummenschanz," Swiss Mimes, 8:15 p.m., Popejoy.
- Nov. 7—NM Symphony Orchestra with Victor Borge, 8:15 p.m., Popejoy.
- Nov. 8—Parthenon—Folk Festival of Greece; 40 artists of Athens in a program of dance, song and music, 8:15 p.m., Popejoy.
- Nov. 10—Nickolais Dance Theater, 3 & 8:15 p.m., Popejoy.
- Nov. 11—"Sugar Babies," burlesque musical, 8:15 p.m., Popejoy.
- Nov. 11—Chamber Orchestra of Albuquerque, 8:15 p.m., Albuquerque Little Theatre, 224 San Pasquale SW.



"This is not a pretty sight."