

# Western Governors Visit Sandia

— See Page Five

# LAB NEWS

VOL. 26, NO. 16

AUGUST 2, 1974

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

## Labs, Unions Negotiate

Current labor agreements between Sandia Labs and the Metal Trades Council and Office and Professional Employees International Union, Local 251, were effective July 6, 1973 and run until July 6, 1976.

The Labs initiated discussions with the unions in June, offering further wage increases in addition to those already called for in the union contracts and granted last month (July 6). The Labs' wage offer to the Albuquerque unions would result in a combined increase of 8.2% for 1974. For the Office Union the additional wage increase would be as follows:

Grade	Amount	Grade	Amount
31	\$3.00	36	\$4.50
32	3.00	37	4.75
33	3.50	38	5.00
34	3.50	39	5.00
35	4.00	40	5.00

For MTC:

Grade	Amount	Grade	Amount
1	\$.09	6	\$.11
2	.09	7	.11
3	.09	T1	.12
4	.10	T2	.12
5	.10	T3	.12

A number of other items are also under discussion, including a Labs proposal for shutdown during the Christmas weeks of '74, '75, and '76, in anticipation of a continued energy shortage. The shutdown would normally entail the scheduling of 3-1/2 days of an employee's vacation. Provisions relating to overtime payments and training programs in both O&PE and MTC are being considered as well.

## Staff Aids Program

### Sandia Laboratories Announces New ESA/EDA Career Plan

A new career opportunity plan goes into effect at Sandia Laboratories this month. The program provides an opportunity for interested employees to move into a career path leading to classification as Engineering Science Ass't. (ESA) or Engineering Design Ass't. (EDA). Selected employees will complete extensive on-the-job training as well as out-of-hours academic work equivalent to that required to earn a technical institute certificate.

Candidates are designated Grade 85 trainees and work toward a specific job within a technical division. Although candidates will be reclassified to the Grade 85 trainee level when accepted for the program, employees in all grade classifications are eligible to apply. Those whose salaries are above Grade 85 will be reduced, while those whose salaries are below Grade 85 will be increased to that rate. It is anticipated that some 20 divisions will be participating by Sept. 1.

Entrance into the program is through normal posting and bidding procedure. Employees may nominate themselves for the program by contacting their personnel rep. Selections are made by the division supervisor

after consultation with personnel representatives.

A number of progression and salary steps are included in the program. As the trainee progresses, he or she is upgraded accordingly.

Candidates may enter the program with accumulated on-the-job experience and academic credits, and their program completion date will be correspondingly sooner than the five years projected for trainees without applicable experience or credits beyond high school.

Employees interested but who do not have any relevant or recent education and technical experience are encouraged to enroll in Math, Ma 110A and Physics, Ph 120A in the out-of-hours program before applying for the program. This program is not intended to replace other avenues of progression into the staff aide classification. It is an additional way to prepare employees as TI equivalent staff assistants.

If you are interested in the program, watch the official bulletin boards for position openings or contact your personnel representative for additional information.

# Supervisory Appointment



BACK IN '66 LAB NEWS used this photo of Dottie Mohart (3131) and Dennis Hayes (new supervisor of Division 2513) to illustrate an article on Sandia's Educational Aids Program. Today, Dottie (below) considers Dennis her star performer. He earned BS, MS, and PhD degrees in physics through educational programs offered by Sandia.



DENNIS HAYES to supervisor of Detonating Components Division 2513 effective July 16.

Dennis joined the Labs in March 1957, age 18, as a file clerk in the drawings vault in the basement of Bldg. 802. He transferred to the print shop night shift and took his first courses at UNM in the fall of '58 under Sandia's Educational Aids Program. In those days electrical engineering was his goal.

Somewhere in the grind of the next eight years, Dennis switched to physics and earned his BS in 1965. By this time he had married Jan, his daughter and son were born, and he was working as a staff assistant in an underground physics division. He was promoted to staff member in 1965 and continued course work at UNM, earning his MS in physics in 1968. The following fall, he qualified for Sandia's Doctoral Study Program and spent almost three years at Washington State University working on his Phd. The degree was awarded in 1972. Title of his dissertation was "Experimental Determination of Phase Transformation Rates in Shocked Potassium Chloride."

Returning to Sandia Dennis continued work in his thesis area — phase changes in material undergoing shock — and worked on code applications.

Now 35, Dennis has time to enjoy activities with his family — hiking, camping, fishing. He also plays chess and is a member of a Sandia slow pitch team — he's a pitcher and catcher.

"I was fortunate," Dennis says, "to work for a company that encourages employees to continue their education. Without this encouragement and the constant and continuing support of Jan, I wouldn't have made it."

## Know Your Car From the Inside Out

A UNM engineering group needs data on your vehicle's exhaust emissions to get a pass/fail level suitable for Albuquerque. The group is especially interested in very old and in very new vehicles. And no one will be cited for excess emissions.

Sponsored by the Environmental Health Department, the test centers are open from 10 to 6 and are located as follows:

Thro' Aug. 6

Miller Enterprises	5409 Gibson SE
Globe	300 Menaul NW
Piggly Wiggly	12th & Candelaria

Aug. 7 - 13

Coronado Center	Louisiana & Menaul
Furr's	San Pedro & Central
Northdale Foodway	6600 4th NW

Aug. 8 - 20

Manzano Center	Juan Tabo & Lomas
Foodhills Safeway	Juan Tabo & Menaul

## Congratulations

Mr. and Mrs. Terry Nordstrom (5832), a daughter, Susan Christina, July 14.

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## Old Prescription Glasses

Those old specs you no longer use aren't of much use, except to the poor person who has an eye problem like yours. So the Lions Club collects old glasses and turns them over to eye specialists who can match the glasses to the individual with the eye problem. For the next two weeks you can drop your old glasses in one of the boxes at the Tech Area gates (including Area III). Incidentally, the glasses don't have to be in one piece — the Lions can use frames and other parts as well.

## New English Course Offered

Remember the English grammar you took in school? For most of us grammar was a grind, and we hurried through those dull and difficult sessions as quickly as possible. Now something new and different is available.

Practical English and the Command of Words, a new self-teaching course stressing clear thinking, organization and presentation, is available from Education and Training Division II, Bldg. 892, Rm. 202. The course concentrates on correct perception of ideas, precise thinking, fluent speech, clear and easy-to-read writing and greater personal effectiveness.

Just added to Sandia's self-study program, the package is available at no cost from Wilma Salisbury (3132).

## Advice to the Poolorn

by Otto Miles Shorter, Exp.

Dear Otto:

The Democrat in our car pool makes rude remarks about the politics of the rest of us and even makes fun of my Whippet when it's my turn to drive to work. What do you suggest?

RIGHT IS RIGHT

Dear Right:

Why don't you make him ride in the rumble seat?

\*\*\*\*

Dear Otto:

I didn't fill out a form to get a listing of prospective car poolers from my area. Is it too late to get one now?

A PROFESSIONAL PROCRASTINATOR  
Dear Pro:

Never too late. Call 4-RIDE and ask one of the ding-a-lings there to send you a form. Fill it out and wait a bit and you'll get a list.

\*\*\*\*

Dear Otto:

Our car pool has an argument going which transcends inflation, Watergate, and crime in the streets. It's "If we have a flat tire, should we all help change it, or just the driver?"

DISSENSION ON HARMONY LANE  
Dear Dissension:

If the tire tread is at least 1/16" deep, everyone should help. If the tire (not the driver) is bald, the driver should change it alone.

## LAB NEWS

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&

lorena schneider reports on livermore

## Take Note

A recently published third edition of the book, "Modern Electroplating," contains a chapter by Jack Dini of Metallurgy Division 8312. The book is one of two principal reference books used in the electroplating industry. Titled "Copper Pyrophosphate Plating," the chapter is based on Jack's printed circuit studies and related work at Sandia/Livermore.

\*\*\*\*

Gordon Ross (8212) was installed recently as president of the Pleasanton Rotary Club for the upcoming year. A member of Rotary for the past ten years, he has been in the Pleasanton chapter for five years, serving as secretary and on the board of directors for one-year terms. Gordon has also been active with the Livermore Club and is past president of the Bernalillo, New Mex., club.

\*\*\*\*

Bob Coates (8412) and his wife Betty, members of the Eagle Squares square dance club in Livermore for the past 12 years, are the newly elected co-presidents of the Northern California Square Dancers Association. The association includes over 100 clubs scattered from the Santa Clara line to Clear Lake.

## Congratulations

Mr. and Mrs. Rand German (8312), a son, Garth Thomas, June 10.

Mr. and Mrs. Ralph Clark (8362), a son, Tyson Andrew, July 10.

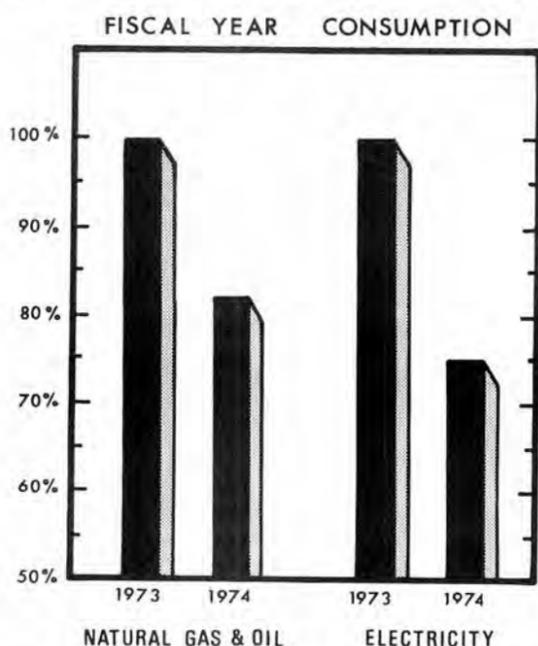
Lee Radosevich (8321) and Catherine Mills, married in Menlo Park, June 22.

Charlie Landram (8111) and Pamela Koetz, married in Pleasanton, July 6.

## Sympathy

To Carl Furnberg (8156) on the death of his father in Portland, Ore., June 27.

## THE LIVERMORE ENERGY PICTURE



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COLLAPSED ALUMINUM BEER CAN is examined by Art Van Hook (8156), right, and Gene Neau (8416) after the can was used in the fast shutter system they developed to eliminate rewrite problems inherent in high speed cameras.

## Mr. Coors Approves

## Beer Cans Prevent High Speed Camera Rewrite

A fast shutter system capable of closing a large aperture provides a new method of preventing rewrite (in effect, double exposure) on high speed drum and synchronous turbine-type cameras. The shutter system was developed by Art Van Hook (8156) and Gene Neau (8416) for the study of exploding foil phenomena. A patent for the device has been assigned to the AEC.

With recording times from a few milliseconds to less than a microsecond, these cameras have inherent rewrite problems when light from the event persists through second and subsequent passes of the viewing window. The new shutter system eliminates rewrite by closing the aperture immediately after the event, using a magnetically driven, deep-drawn aluminum beverage can as the closure device. Beverage cans were chosen because they are inexpensive and have little can-to-can dimensional variation.

With ends removed, the can is placed within a three-turn coil such that the camera looks down the longitudinal axis of the can. On command, a capacitor is discharged through the coil, generating a magnetic field. Current induced into the wall of the can creates an opposing field; this brings about a radial collapse of the can, thereby preventing light from entering the camera optics.

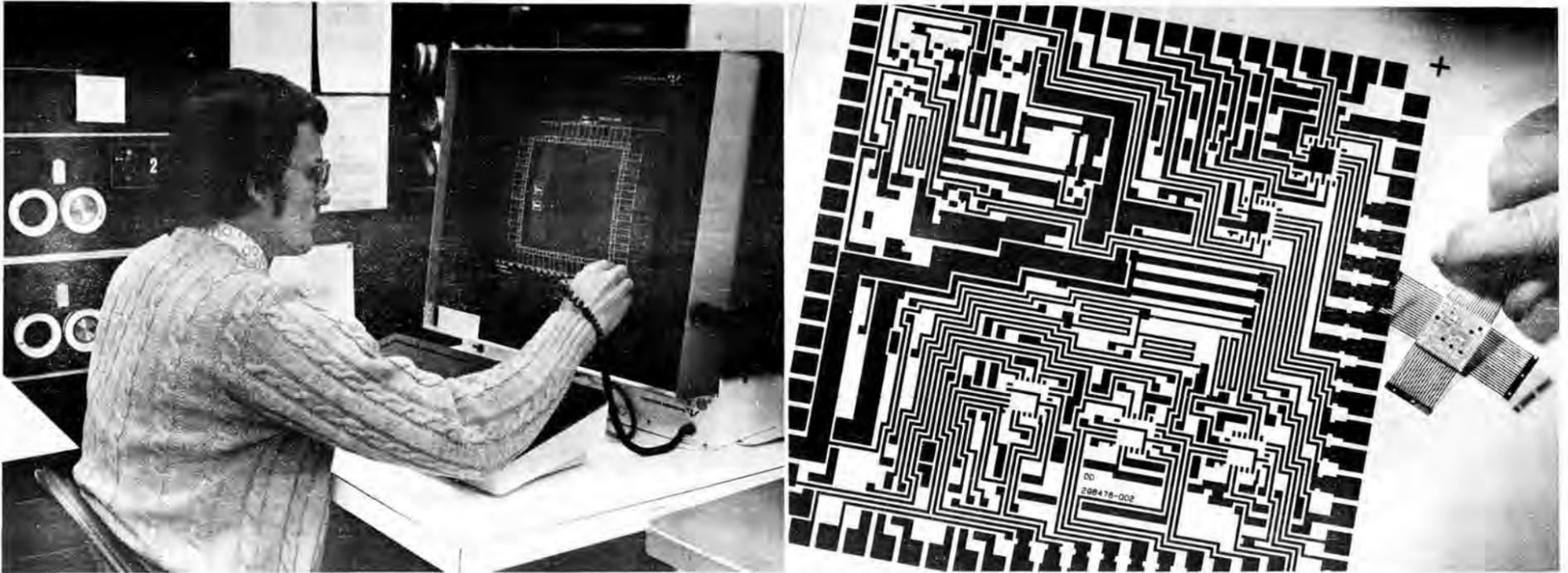
The optimum shutter design was found to have an opening five centimeters in diameter which could be closed in 100 microseconds or

less, since it could be located in almost any position along the optical axis of the camera. Subsequently, a device designed to close an aperture 10 mils high and two inches wide in less than three microseconds was developed by Gerry Rohwein (8416) to prevent blow-off fragments from travelling back into the camera optics. In this case, the shutter blocks the light as well as high velocity metal particles.

Previous devices for preventing rewrite had light loss and resolution problems, while those employing explosives must be handled under special protective environments. • Is



NEVER LET IT BE SAID that division supervisors don't face up to their responsibilities. At a recent organizational picnic Jerry Maloney's Division (8432) lost a tug-of-war to Bill McGuire's Division (8431). The creaming of Maloney was McGuire's prize.



DAN BLAZEK (9624) uses an interactive graphic terminal in Bldg. 836 to initiate a microcircuit design. Upon completion, the captured design information is electronically transmitted via two computers to the Precision Graphics facilities in

Bldg. 892 where verification and photoplots (above) are produced within one day. The photoplots are then sent to the process shops to produce the final product (above right).

## Creativity Enhancement

# CADS: Dealing in Imagery

"Whatever the R & D problem, the process by which we solve it is creativity. Whatever we can do to encourage that creativity, to make the task less tedious, is worth doing. That's why we're concentrating on the engineers, the analysts, whoever is at the front end of the creative process."

That task, according to Gino Carli, the speaker above and the supervisor of Computer Aided Systems Design Division 9624, is to devise systems for technical designers in which they furnish the creativity and computers handle the drudgery.

Behind the scenes there's an impressive amount of hardware and software. But the designer doesn't need an intimate knowledge of the mechanisms. He can use his own language to deal with the system and, in many cases, he doesn't have to travel far from his work location to do it.

"It's common knowledge," says Gino, "that machines can make drawings. We help the designer tell the machines what needs doing and then help both designer and machine analyze the design — the aim being a final product definition."

That job, known as CADs (or Computer Aided Design System), involves translating the designer's requirements into language compatible with that of analysis programs and with info already in the Engineering Data Bank as well as with that in the Computer-Aided Manufacturing and Computer-Aided Graphics sub-systems. The computers store the functional characteristics of all components and can predict what happens when they interact.

"CADs is built on the capabilities of computers, but that doesn't mean that the designer is inundated with tab runs. We deal in imagery instead. A designer gets pictures — graphs or curves to show the performance of a part at each point of interest. And he gets them in minutes, not weeks.

"CADs," adds Gino, "is designed for the worst case situation — a circuit that simply won't work, for example. The system generates an iterative sequencing that's very

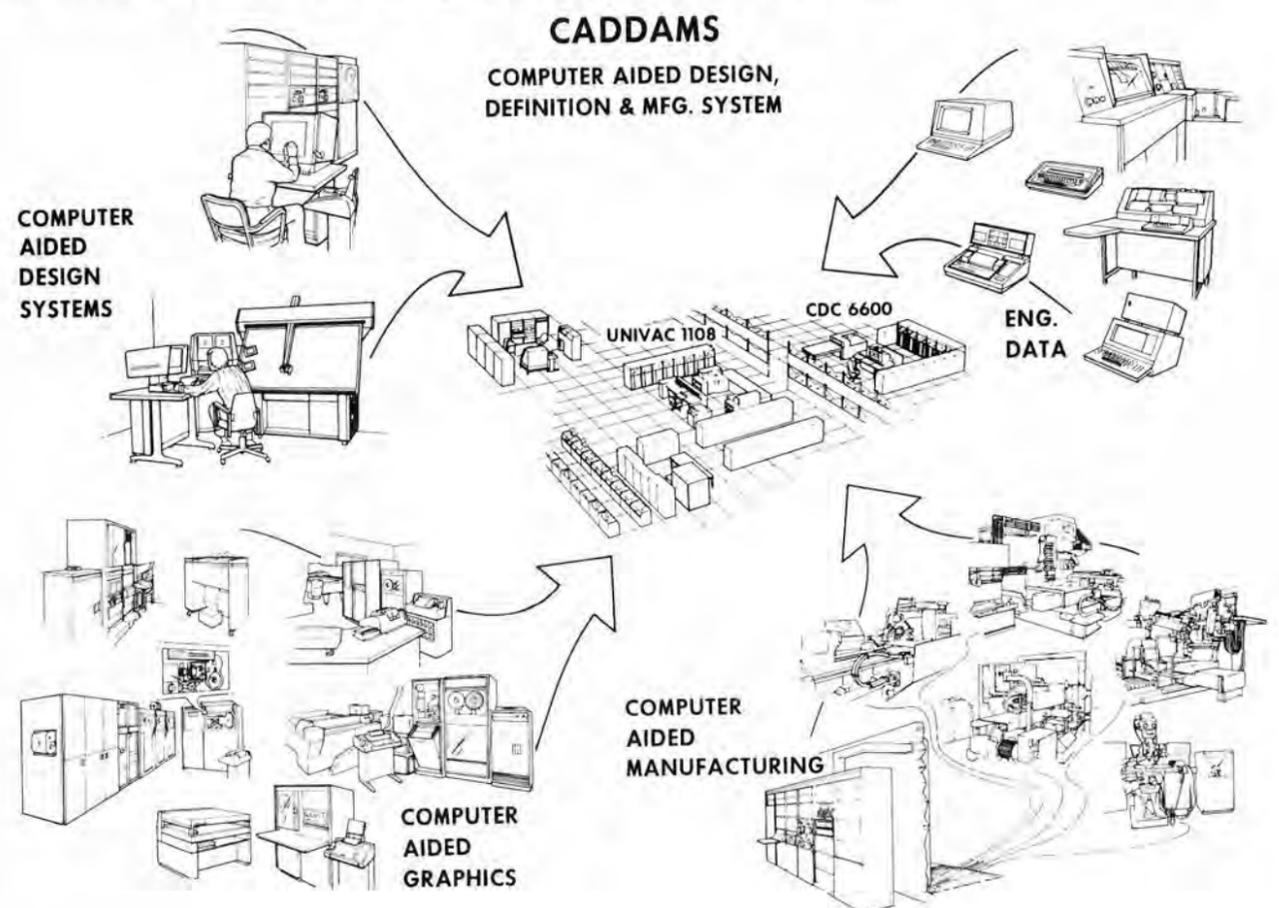
compatible with thought continuity. The designer can try a minor change, get a quick picture of how it affects the whole circuit, try a slightly more major change, get another picture, and so on. It happens fast enough so that his train of thought isn't interrupted, and the system remembers for him what each change was; no trial is destroyed until it's purposely erased."

The designer exercises the computer by several means. There's a keyboard, of course, but since most designers think graphically (and not all of them type) the cathode ray tube and light pen and the data tablet (a drawing board with pressure pen) are more popular.

"CADs is simply a tool, but it's an important tool. For the class of problems it solves, CADs can cut the time down from weeks to two or three days for a final product definition. CADs allows the designer to do

what he's always done — but with a different medium and a faster payoff."

Gino points out that other groups share in the credit for CADs. Chuck Gwyn's Computer-Aided Design and Analysis Division 2114 has played a key role in developing CADs; Larry Bertholt's (5162) and Sam Key's (1541) divisions have helped shape CADs to meet the needs of users. Two divisions in the Applied Computer Science Department 2640, Tom Fox's (2643) and Al Iacoletti's (2644), have made major hardware and software contributions. People like Bud Winker (2326) and Harold Spohi (5625) have designed CADs programs for their own organizations. And Paul Plomp's Computer Aided Machining and Processing Division 3646 has helped to ensure that product definitions out of CADs are compatible with automated tooling, milling and fabricating machinery. • bh





GOVERNORS from seven western states are briefed by President Sparks concerning Sandia Labs. In the audience were Governors Hathaway of Wyoming, O'Callaghan of Nevada, Vanderhoof of Colorado, Williams of Arizona, Hayden of American Samoa, Evans

of Washington and New Mexico's Bruce King. Orval Jones (1700), Don Shuster (4700), and Everet Beckner (5200) were featured speakers to the group.

# Western Governors Visit Sandia



LABS HOSTED luncheon for Western Governors and other visitors, some of whom are pictured here. Above, Govs. Vanderhoof and King exchange greetings while President Sparks and Rear Admiral Swanson look on. Below, Arizona's Gov. Williams talks with VP Dick Bice (center), and Pan Am's David Taylor (left). Below left, Gov. Vanderhoof is shown with AEC/ALO Manager Sam Donnelly.



## Call Me A Cop

# Okay, You're A Cop

It's not quite that simple, but a new program does lead to a commission as a Reserve Officer in the Albuquerque Police Department.

Their new Reserve Officer program, accepting applications through August, will provide APD with a source of trained men and women. Just as important, it offers a means for citizens to do something positive about law enforcement. Greater understanding of local police work results, and this rubs off on the reservist's friends and co-workers.

Before you apply, note that reservists:

(1) volunteer their time; they don't get paid; (2) train two nights a week and every Saturday for 15 weeks (a total of 225 hours of academic training), followed by 80 hours of on-the-job training (two 8-hour shifts a week for five weeks); (3) purchase their own uniforms and weapons; other gear is provided; (4) once commissioned, work under a regular police officer at least eight hours and train at least eight more every month; and (5) have the same law enforcement authority and responsibilities (while on duty) as do regular police officers.

Still sound good? Are you: (1) 21-50 years old; (2) a high school graduate or the equivalent; (3) endowed with at least 20/40 vision (correctable to 20/20) and no color blindness; (4) at least 5'6" if male, 5'3" if female; (5) a licensed driver; (6) a U.S. citizen

and a resident of Albuquerque or its environs; and (7) in good health?

Still yes? Then call Officer Allan Norlander at 766-4693 for further information on just how to apply. Deadline is August 30.



## Payroll, Other \$ Figures For FY '74 Released

Sandia Labs payroll for FY '74 amounted to \$88.8 million at Albuquerque, and \$14.2 at Livermore. For FY '73, these figures were \$95.1 million for Albuquerque and \$14.9 million for Livermore. Salaries of 55 Sandians at Tonopah Test Range in Nevada are included in the Albuquerque figures. About 6475 were on roll at the Labs, including 870 at Livermore. The total is about 50 more than at the end of FY '73.

Assets of the AEC's installations operated by Sandia totaled \$319.4 million at the end of FY '74, compared to \$317.9 million in FY '73. These figures represent undepreciated value of buildings and facilities at Albuquerque, Livermore and Tonopah.

Purchases by Sandia in New Mexico amounted to \$30.7 million for FY '74. More than 99 percent, or \$30.5 million, went to Albuquerque firms. Purchases in the state in FY '73 amounted to \$26.2 million.

## Letter to the Editor

Re: Afterthoughts, LAB NEWS, July 19, "Where are the reformers of yesteryear?"

I suspect that it is not the "firebrands" that have burned out but that their causes have been for the most part satisfied. The major problems of the early 60's — racial and sex discrimination, problems of the poor and Vietnam were emphasized by the firebrands and at least partial solutions have been found.

The "sound and fury" of Kent State, Watts, Selma, and the welfare and women's lib marches have had their effect. Whatever one's opinion is, we are out of Vietnam, we have large scale OEO programs, and some form of welfare is available to almost anyone in need.

The social changes in the country have also affected Sandia. Witness the increased awareness of the individual, the equal opportunity programs, Feedback, increased informality and the less reverent attitudes towards supervisors.

Whether one agrees with the changes or not, major social changes have been made in the last 10 years and a lot of these changes were started by the "sound and the fury" of people with a cause, not by the tales of idiots.

Harold Rarrick - 9411

## Death

Paul Blaylock of A & F Systems Division 1132 died on July 18 following an accident in a camping trailer. He was 55. He is survived by his wife, two sons, and a daughter.

He had worked at Sandia since July 1956.

In the account of the accident, Paul and Mrs.



Blaylock awoke early and, finding the trailer cold, Paul arose, lit two burners on the stove, and returned to bed. Shortly the flame in the two burners went out. Paul got up to check the stove and, thinking his supply was low, decided to check the butane bottle. For this purpose he had to light the camping lantern and, when a match was struck, an explosion followed. Paul died several days later from burns suffered in the explosion.

# feed liback

To get a response to your comments and questions about Sandia Labs, complete a Feedback form (available near bulletin boards) and return it to the Feedback administrator. The substance of questions and responses of wide interest is published in LAB NEWS.

*Q. Our recycling program for tab run paper and tab cards has been in operation for quite a while now. How are we doing?*

A. Our paper recycling program has compiled an impressive record since it began in Sept. 1973. Here are the statistics as of July 1:

### Sold & Shipped

	Tons	Value
Tab Paper	74.4	\$2393
Tab Cards	24.1	1622
Mixed Paper	1.7	14
Cardboard	50.9	555
Totals	151.1	\$4584

In addition, some 42 tons remain on hand awaiting sale and shipment. Over and above the monetary values in this program are considerations of the number of trees saved. Using one estimate, that the recycling of one ton of paper saves 17 trees, the Labs program accounts for over 3000 trees. It is clear that the effort involved in the program is amply justified.

R. J. Hansen - 4800

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*Q. I've noticed that new vehicles for use by Sandia have automatic transmissions. Why purchase vehicles with automatic rather than standard transmissions? It has been proven that a vehicle with an automatic transmission uses more fuel than a standard transmission.*

A. It is true that we specify automatic transmissions in our vehicular requests to GSA.

We prefer automatic transmissions for economies in maintenance. Large fleet operators have found that automatic transmissions are more dependable and require less maintenance than standard transmissions when numerous people drive the vehicles. Further, most gas economy tests utilize expert drivers, many of whom are also automotive engineers, who understand the optimum time to shift gears. I question whether the average driver could achieve significant gasoline savings with a standard transmission under driving conditions similar to those encountered under normal motor pool operations.

R. E. Hopper - 9700

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*Q. Dr. Bliss recently said, "Those who find smoking objectionable should discuss this fact with their coworkers who do smoke for the purpose of arriving at a mutually satisfactory solution." The reason we write to Feedback is that we have tried this and the smokers have refused to stop.*

*I suggest that No Smoking signs be put up throughout the laboratories and let the smokers reach a satisfactory solution.*

A. The mores of our society allow smoking even though it has been clearly recognized that smoking is injurious to health. It is therefore not reasonable for Sandia Laboratories to enforce a "no smoking" rule in certain work areas unless the work in that area clearly precludes the presence of smoking.

R. J. Edelman - 4200

## FUN & GAMES

*Grand Canyon Express* — It's been run in 3 hours, 56 minutes — the 24 colorful miles from the North to the South Rim of the Grand Canyon. Now Mark Percival (2411), certified long distance freak, wants to round up a crew willing to make the traverse in about 12 hours. Or shorter, according to taste. Half the crew would depart the North Rim, half the South, they'd meet on the trail, breathlessly exchange car keys, and forge on. Fun? Give Mark a call if this turns you on. He's planning for a 3-day weekend in late September or early October.

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*Copper Canyon Cruise* — If the above is a little tame, then consider this 9-day expedition proposed by Don Mattox (5834) for mid-September. Copper Canyon is Mexico's Grand Canyon. After driving/railroading/hiking the party arrives at the river at canyon bottom, then "hikes/floats/paddles to Urique" some 45 miles downstream. Don's notice points out that only one other group has made this trip and "there are no large rapids — only rock gardens — and most of the river can be hiked by rock hopping (I think)." Bring short wet suit, life jacket, air mattress (for floating) and the like. Don is on ext. 7777.

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*And Now, LeSoccer* — This noble game has been catching on among the kiddy set around Albuquerque, and now a group of adult teams is being organized. On Base, Rudy Simek on ext. 1818 and 1413 is putting things together (he works at the Base gym). Give Rudy a call if you're interested.

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*Horseshoes* — The Sandia Horseshoe Pitchers Ass'n. will hold its annual singles/doubles tournaments on Aug. 17 & 24 at the Los Altos Courts; play starts at 9:30 a.m. All active and retired employees of Sandia and AEC are eligible. Membership costs a buck, and the tournaments are for free. Contact Jim Fisher (9623) for membership and Jim Reed (3647) for tournament registration.

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*Sandia Golf Ass'n.* — In the women's division Belen Tournament last month, Pat Anderson (9415) was low gross, while Betty Chappel (ret'd) was low gross runner-up. Joan Gillon (5700) had low net and Sybil Milligan (ret'd) was runner-up. Gloria Martinez (AEC) took the low putt event.

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*Sandia Runners Ass'n.* — About La Luz and the faint-of heart: this 7½-mile jaunt up to Sandia Crest (coming Aug. 25) was completed in a practice run by O.J. Foster two weeks ago. O.J. retired from Sandia a year or two ago and is 55 plus. He runs daily. There're just a few entry blanks left — call LAB NEWS on ext. 1053.

The Road Runners will be meeting on Tuesday, Aug. 6, at 6:30 p.m. at Western Skies and again on August 13 at 6:15 p.m. at Highland High. Go run with them — there're half a dozen events at each meet, short and long, men and women.



264-2465 is the number to call to bid on entry-level SAT (Staff Assistant Technical) and SAD (Staff Assistant Drafting) jobs. These jobs, along with those for SAL (Staff Assistant Laboratories) openings, are now announced on bulletin boards for self-nomination by any qualified and interested employee. Here, Roberta Chinn (4256) operates the phone recording device which tapes each self-nomination.



CAPT. JOHN GORDON, center, is the second military officer, the first from the Air Force, to join Sandia for a two-year assignment as a member of the Technical Staff. His current assignment is with Heinz Schmitt (1538), left, where he works on the W78 Mk 12A program. John holds a master's degree in physics and has been with the Air Force's Weapons Lab at Kirtland. Glenn Fowler, 1000, makes John's welcome to Sandia official.

*Sandia Bicycle Ass'n.* — What are you doing wrong? An expert cyclist would observe that most of us maintain too low a spin a rate, that is, we don't pedal fast enough. Aim at a spin rate (rpm) of 75 or 80 minimum (per leg); if there's too much resistance, then down shift. In the long run, it's less taxing to pedal quickly than slowly.

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*Sandia Tennis Ass'n.* — Pat Freeman (9515) and Sandy Blose (1712) would like to set up a mixed doubles tournament if enough people express an interest. Call Pat on 2273 or Sandy on 1725 for details.

### C U Bulletin Board

*Audit* — As part of its normal audit procedure, the Supervisory Committee of the Credit Union recently mailed statements to members with account numbers from 3,000 to 3,999 and from 12,000 to 12,999. If your account number is in either of these series and you have not received your statement, please notify Otis Cox (4273), committee chairman.

## Take Note

Leonard Beavis (2413), a Lt. Col. in the Air Force Reserve, recently finished a five-day stint as a seminar leader for the Civil Air Patrol's National Staff College. In addition to his Air Force Reserve assignment to the CAP's Reserve Assistance Program, he is special advisor to the wing commander, CAP New Mexico Wing.

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Dennis Schalles and Doug Cox (both 3647) invite anyone interested in learning scuba diving to join their class Monday Aug. 12, at 7 p.m. at the Base Olympic Pool. The Sandians will instruct on the fine points, but first the students have to pass a 200 yd. swim test. A small fee is charged for equipment rental.

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Aging parents living in the homes of their children are the concern of Carl Hawk (3155). He is seeking to organize an old-timers group to share activities and interests. The First Presbyterian Church has offered sponsorship for such a group. If interested, contact Carl at 265-2228.



# MILEPOSTS

## LAB NEWS

August, 1974



Joanna West - 2633

15



Howard Seltzer - 9654

10



M. N. Orrell - 9551

25



Eunice Wyer - 1500

20



Thomas Starr - 9526

20



Roy Fitzgerald - 5713

15



Juan Jose Tafoya - 4821

25



Anthony Veneruso - 5721

10



Morgan Kramm - 5720

20



Norman Baker - 1514

15



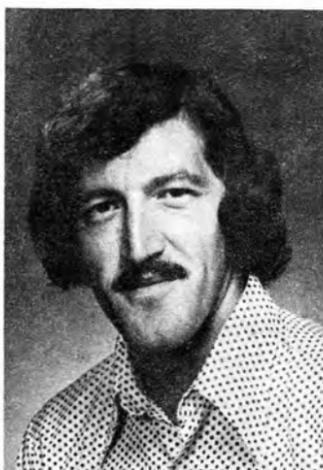
John Allen - 1124

15



Ned Keltner - 9331

10



Arthur Sharp - 5245

10



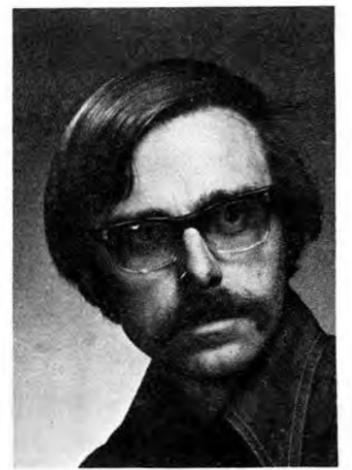
Bob Pace - 2316

15



Deaudin Griego - 4821

25



Lawrence Lane - 2644

15



Max Richter - 4811

25



June Moore -3141

25



Bobby Vaughn - 3148

10



Kenneth Ludwick - 9712

15



David Barham - 5151

15



Michael Ryanczak - 9712

20



Leslie Minnear - 9474

25



Stanley Spray - 1652

20



Michael McLaughlin - 2340

20



Julian Perea - 4812

25



Robert Gray - 2415

20



Jack Mortley - 9344

15



James Renken - 5223

10



Paul O'Brien - 2334

15



Richard Adams - 2341

10



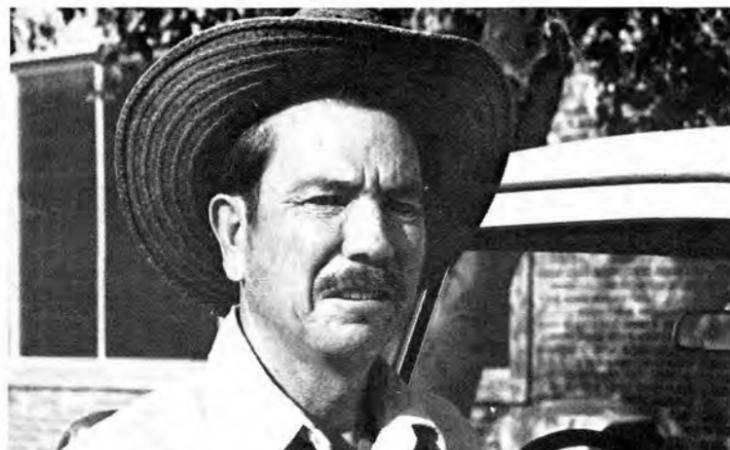
Yolanda Adent - 4810

15



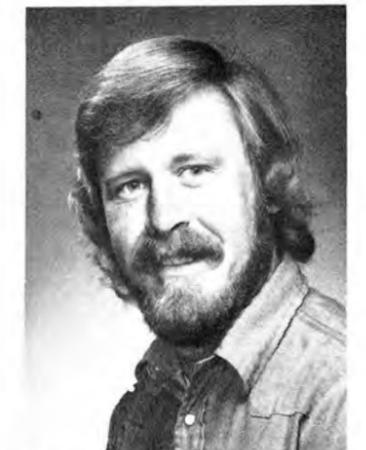
James Anastasio - 2133

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Fedelino Edwell - 9713

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David Zagar - 5213

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Roy Tackett - 8362 20



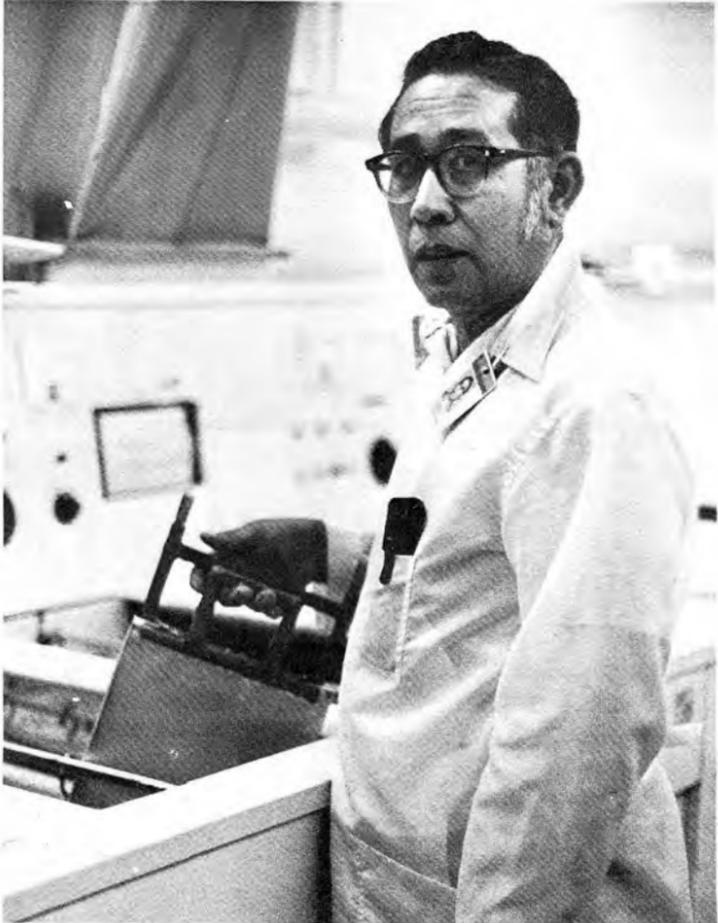
Donald Roelle - 1244 15



Nettie Jones - 9632 10



Tommie Bryant - 8312 15



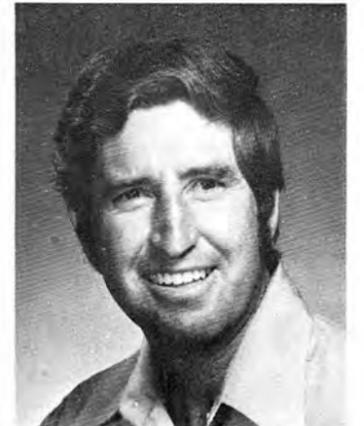
Herman Kaneshiro - 3623 10



William Poole - 9414 20



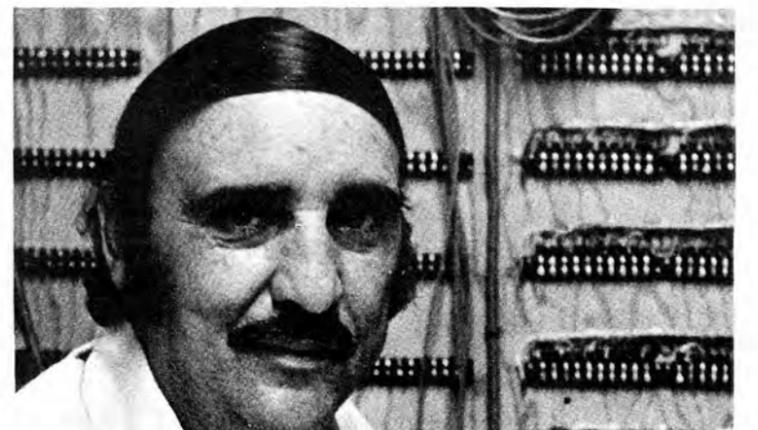
Robert Cover - 1233 10



Frank Comiskey - 4812 20



Lillian Bowers - 4152 20



Louie Armijo - 3645 25



Jay Jost - 8421 15



Verlan Gabrielson - 8441 15



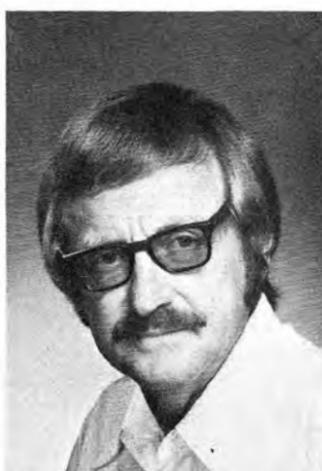
Chuck Hoyle - 8113 15



Dave Dean - 8415 15



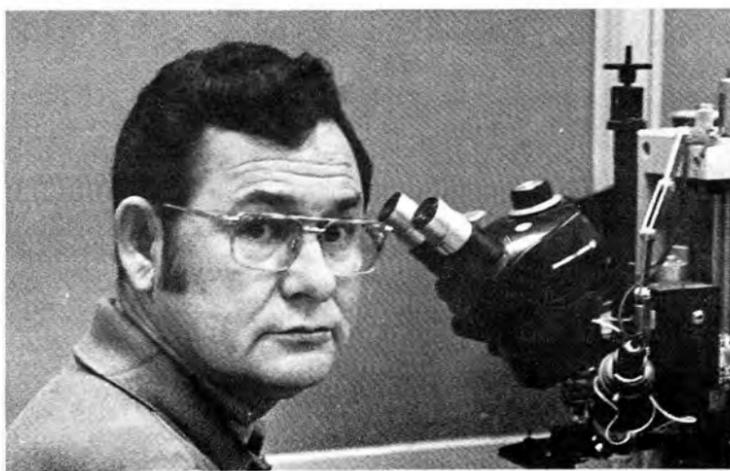
Mel Rushing - 9633 20



Charles Williams - 2124 20



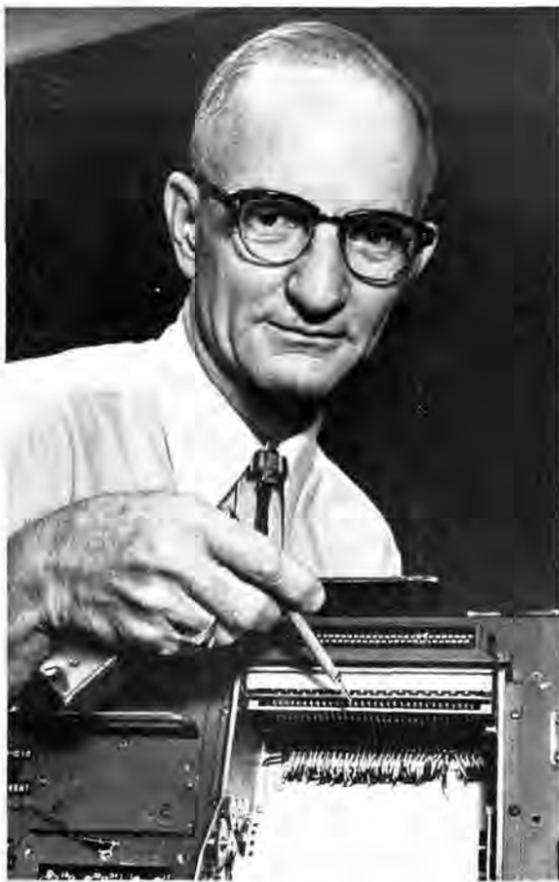
Irv Pytlík - 8431 20



Eliseo Chavez - 2432 25



Neal Nelson - 9334 15



HARRY MASON (1732) points to his invention of a piezoelectric stylus, recently patented by the AEC. The portable recorder uses 32 of the devices to record signals from remote seismic sensors.

## Patent Awarded for Piezoelectric Stylus

The AEC was awarded a patent recently for a piezoelectric stylus, part of a portable recording system, invented by Harry Mason, staff associate in Sensor Development Division 1732. The recorder, hand carried or mounted in a vehicle, is used to record signals from remote seismic sensor units.

Requirements for the recorder were stringent — light but rugged construction, use low power yet display up to 32 channels of information. Mechanical design of the system was performed by Marcel Schiess (1233).

Harry came up with the multilayer piezoelectric stylus to meet the small size, weight and power requirements of the system. The 32 writing units are sequentially activated as the remote sensors transmit data.

Harry joined Sandia 20 years ago this month. He worked at Los Alamos Scientific Laboratory for four years before he came to Sandia.

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LAB NEWS  
AUGUST 2, 1974



## Events Calendar

- Aug. 2 — Old Pecos Bull Dance, including former Pecos Pueblo Celebration, Jemez Pueblo.
- Aug. 2-4, 8-11 — Adobe Theater, Corrales, "Night of the Iguana," 8:30 p.m.
- Aug. 2, 13, 17 — Santa Fe Opera, "La Boheme."
- Aug. 3 — Oak Ridge Laboratories Exhibits, Winrock Shopping Center.
- Aug. 7 — Albuquerque Children's Theater, Three Farces, 2 p.m. KAFB Breakaway Rec. Center.
- Aug. 8 — Edgar Winter Concert, 8 p.m., Civic Auditorium.
- Aug. 8-11 — 4-H Club Fair & Rodeo, Horse Arena & Coliseum Fairgrounds.
- Aug. 8-14 — Santa Fe Opera, "The Magic Flute" (English).
- Aug. 15 — Green Corn Dance, Zia Pueblo.
- Aug. 16-18 — Albuquerque Civic Light Opera, "Damn Yankees," 8:15 p.m. Fri. & Sat., 2 p.m. Sunday, Popejoy Hall.
- Through Aug. 25 — Barn Dinner Theater, "Prisoner of 2nd Avenue."
- Through Sept. 22 — Museum of Albuquerque, Taos paintings, N.M. wood carvings of Patrocino Barelvas; Bosque del Rio Grande photo competition.

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.  
A maximum of 125 ads will be accepted for each issue.

**RULES:**

1. Limit 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Laboratories and AEC employees only
6. No commercial ads please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin

### MISCELLANEOUS

- CASE TRACTOR, large Wheatland model, gasoline, no hydraulic or lift, \$1250. Donaldson, 255-4024.
- AKC registered German Shepherd, spayed female, gentle disposition, fine watch dog, will sell for \$20 to good home. Caskey, 265-6523.
- LATE MODEL 3 hp Craftsman reel mower w/catcher, owner's manual included. Swayze, 268-5222.
- '72 CHEV. service manuals, \$9. Sandlin, 299-8786.
- CALCULATOR, pocket, electronic, 8 digits, 8 functions including squares, square-root, reciprocals, %, one memory, w/charger, \$70. Drake, 299-1209.
- AIR COOLER, portable, 3-spd., floor model, nice cabinet, \$50; saddle, hand tooled, matching bridle & breast collar, \$150. Morris, 877-3782 after 5:30.
- '73 GRUMMAN Shoekeel alum. canoe, \$275; new Sanyo AM/FM comb. receiver/recorder player, 8-track, cassette, turntable & 4 speakers. Silva, 255-1710 or 298-2796.
- COLOR TV, Heathkit model GR-53A, \$100. James, 294-6837.
- EAGLE CAMPER shell, insulated & paneled, will fit short wide or short narrow pickup bed, \$125; kitchen sink w/faucet, \$18. Snelling, 268-5895.

- RABBITS, guinea pigs, adults & babies, Dutch & New Zealand. Hickman, 298-3804.
- 1 FULL-SIZE rose-beige chenille bedspread, \$10; 2 twin-size beige chenille bedspreads, \$5 ea.; 1 b-flat student clarinet, case & stand, \$50. Schuster, 255-5970.
- BAR CHAIRS, upholstered back & seat, \$4 ea.; Japanese Naval Officer's sword, \$55; Topflight skis, \$9. Smitha, 293-1177.
- PICKUP side view mirrors, reasonable. Gonzales, 265-2671.
- 12' ALUM. fishing boat, 7 hp motor w/accessories, never used; 18' camper, fully contained, like new, used twice. Gelwicks, 299-3909.
- 15' TRAVEL trailer, sleeps six, new battery, jacks & '74 license, \$1095. Rodriguez, 345-0961.
- ALASKAN Malamutes, Panda's packing pups, AKC registered, excellent pedigree. Volk, 842-0923.
- DOLBY SYSTEM stereo unit w/cal/tape; solid state stereopre-amplifier; mag. cart. (RIAA) & mag tape head (NARTB) inputs, all new, \$75. Browning, 299-6384.
- BICYCLE, 12" w/training wheels, \$13; submersible pump, Little Giant, 300 gph, \$11. Bouton, 898-3562.
- NEW modern black vinyl couch, 2 matching swivel chairs, chrome pedestal bases, \$140; 1 hairpiece a-fall, light brown, 1 wiglet, light brown, beauticians roll-around stand. Paul, 299-6387.
- TWO matching Barca-Loungers, need repair, \$15; Admiral 18" B&W TV, needs repair, \$15. Hobbbs, 268-6461.
- GERBILS, jeopardized by crowded quarters, singles & pairs free to good home. MacCallum, 842-0233.
- FOR sale or trade: shotgun, 20 ga. Remington, 870-SA, skeet barrel, \$125; full choke barrel for above, new, \$50; both for \$170. MacDougall, 299-8496.

- CHROME dinette set, extra leaf, 4 chairs, \$50. Hay, 242-8663.
- OUTDOOR clothesline w/welded steel pipe frame, 4'x8', \$10. Treadwell, 296-4626.
- MARS SWB2 twin light bar, 2 extra domes & inserts for red & blue, great for ACRA/AECT., \$120. Clark, 298-4913.
- SONY TC-222A 5" tape recorder, mike & tapes, \$80; also rock singles & albums. Hughes, 299-6674.
- MODERN design wall clock (windup), baby bassinet w/matress & skirt, living room wing chair, gold. Lang, 299-8934.
- CABLE Nelson piano, blond spinet, make offer; VW car-top covered luggage carrier, \$10. Mason, 299-2836.
- PENCREST custom 15 cu. ft. freezer, used 9 months, \$175; Craftsman 12" band saw w/attachments, \$140. Klafke, 298-9202.
- GIRL'S vanity & gold wire chair; NMMI uniforms; ski poles, extra long, medium metal skis. Stixrud, 298-0478.
- HOMEBUILT cab-over camper, butane heater, stove, \$200; 16' alum. boat, 20 hp Mercury trailer, \$600; 15' trailer chassis, \$100. Shock, 877-3728.
- MULTI-COLOR Cappell braided rug, 12'x15'; imported modern storage unit; window mount air conditioner (refrigerated-220). Jones, 299-2889.
- 16 1/2' TRAILER, not self-contained, sleeps 6, refrigerator, furnace, gravel shield, spare, canopy, electric brakes, trunk, \$1395. Luikens, 256-0437.
- PORTABLE sewing machine w/case, \$40; portable washing machine, \$30; rabbits, \$3 & \$4; washing machine as is, \$18. Bassett, 898-1840.
- PART WEIMARANER, 1 yr. old, housebroken, loves kids, free to good home. Tremba, 293-1942 or 266-8488.
- DOBRO GUITAR, \$125; Zenith B&W TV; portable Panasonic tape recorder; photo light bar,

\$5. Gendreau, 268-3436.

### TRANSPORTATION

- GIRL'S 26" bike, single spd., \$15. Richardson, 298-6527.
- '71 DATSUN 510, station wagon, 4-spd., air, AM/FM, new tires, \$1200. Clem, 296-5204.
- '70 OPEL wagon, new radials, \$595. Schaefer, 281-3271.
- '68 DODGE pickup, 4-spd., 1/2-ton, 318 V-8, \$850. Perea, 242-2362.
- '67 TOYOTA Corona Deluxe, 4-dr., 4-cyl., 3-spd., \$645. Bronson, 855-9966.
- '65 PONTIAC Bonneville, all power w/AC, radio, new tires. Garcia, 256-7606.
- '71 AMBASSADOR Brougham, 4-dr., disc brakes, PS, AC, clean, \$1500. Baxter, 344-7601.
- '72 PINTO 2-dr., 15,000 miles, std. trans., 2000 engine, \$1800. Varga, 242-2484 week days after 5.
- '72 HONDA CL-100, \$250. Adams, 256-7565.
- '73 SUZUKI GT-250 st. bike, 4200 mi., \$50 plus take over payment (14) of \$50/mo. Mitchell, 265-5155 or 255-8632.
- '62 VW, \$450; 4'x7' utility trailer, \$80. Hansche, 281-5350.
- '68 CHEV. BISCYANE, AC, fair condition, \$500. West, 281-3460.
- '70 FIAT 850 sport convertible, 35 mi. per gallon. Kavet, 299-1793.
- '64 CHEVY, 1/2-ton, 3-spd., V8, 56,000 miles, one owner, AC & shell, \$925. Bushmire, 298-1675.
- '72 KAWASAKI 500, \$700. 308 Gen. Bradley NE. Galloway, 255-0262.

### REAL ESTATE

- 5-10 ACRES of pinon and pine in San Pedro Mountains, off NM 14 near Golden, view of Estancia Valley East, Rio Grande Valley West. Wright, 296-7670.
- 3-BDR., Mossman, large lot, close to schools & shopping, \$34,500. Sabre, 255-2568.

### FOR RENT

- LARGE 2-bdr. furnished apt., enclosed lawned yard, AC, water & gas paid, near base, no pets, \$135. Aragon, 266-8597.
- DELUXE Hoffman all brick 3-bdr. house, convenient NE location, landscaped. Holder, 299-5248.

### WANTED

- WITNESS who saw dog bite me on Susan St. July 29, Percival, 299-0535
- TENT trailer. Hymer, 298-2232.
- MOUNTAIN cabin in Pecos area, partly finished cabin preferred National Forest or private land or finished cabin or vacant lot. Summers, 299-4710.
- HP calculator, all functions must operate. Budlong, 298-1060.
- SEARS gear drive chain saw, blue model; alum. canoe. Souder, 281-3121.
- JOIN me on a wholesale order for Evinrude oil; Bass fishing equipment; & electric motors, depth sounders, etc. Westman, 255-6048.
- INEXPENSIVE (cheap) oscilloscope. Schroeder, 344-1011.
- MIXER, concrete, electric, good, cheap. Hawkinson, 281-5239.
- 35MM slide trays for TDC or similar type projector; owner's shop manual for '66 Ford 3/4-ton pickup. Nelson, 255-2364.
- AMERICAN Ephemeris & Nautical Almanacs for the yrs. '73, '69, '67, '63, '42 and '41. Olson, 344-3870.

### LOST AND FOUND

- LOST — Eyeglasses, bi-focals dark frame, name engraved on side; man's ring, old silver and turquoise, dark green, 3/4" long, high dome; military sunglasses; man's gray and clear RX sunglasses w/straight earpieces; green FFC manual. LOST AND FOUND, Bldg. 832, tel. 264-3441.



## Where's Lasagna Romana?

NOT in the head chair. He's scoring at the C-Club's Italian buffet tonight. With Sausage Italiano, Italiano Meatballs, and all the rest. Lasagna's girl friend Tomato Aspic is flanked by a couple of his associates — Chicken Cacciatore and Beef

Scallopini. The other heavies are sulking, but sulking is their idea of a good time. Join Lasagna at the Club for a fun-&-garlic-filled evening.

**SMOKE-FILLED** — rooms and party caucuses are not the means by which C-Club's Board of Directors is chosen. An open election is. Attend the Annual Meeting, meet old friends, vote for new officers. At 7:30 on the 5th.

**SUPERSUPPER** — That's the Buffet on the 9th. Roast beef *and* ham *and* chicken *and* more. Miss it and weep.

**BADGER DOG** — an unsightly one at that, is the hero of the Disney movie at Family Vaudeville on the 10th. It's the *Ugly Dachshund* and it's in addition to three comely females who sing, dance, mime, and call themselves the Sofistikits.

**TRAINING** — is now underway for the Junior Olympics on the 17th from 9 to 6. If your kids would find relaxation in a football toss, swim and foot races, broadjump, beanbag toss, balloon race, and obstacle course, then get entry forms and rules at the Club or Pool Office and return the forms by the 15th. Trophy, medals, and ribbons go to winners in each age category: 7 - 9, 10 - 12, 13 - 15. Free to members.

**BOWL** — with Sanado, whether you're new or experienced. More info at the orientation/membership party at Tommie Gustafson's, 7200 Delmar NE at 9:30 a.m. on the 7th.

**BARN** — with Sanado on the 13th. That's the dinner theatre where members, husbands, and guests will gather for dinner at 7. At 8:30, it's Neil Simon's newest, *Prisoner of Second Avenue*, with Herb Carter and Sheila Paige in lead roles. For reservations, call Mrs. Charles Tapp at 821-0644 or Mrs. Jon Reuscher at 821-0378 *immediately*.

SEASON TICKETS — for UNM football

are still available and still discounted. Call George Horne at 296-1416 for info on this one.

**GOOD GREECE!** — A two-week air-sea cruise with 5 days in Athens and a 7-day cruise to Istanbul, Delos, Myconos, Rhodes, Crete, *et al.* DC-8 to Athens, stay at the Nina Palace Hotel, cruise on the TTS Atlas (swim, dance, play cards, and eat often). Package starts at \$799 (double), trip starts April 23, 1975. \$100 deposit due now for members and guests.

**RESERVATIONS** — now being taken for trips to the Caribbean and to Mexico City. And the waiting list for Mazatlan is mercifully short.

MORE INFO — 265-6791.



FRIDAY	SATURDAY
2 — HAPPY HOUR ITALIAN BUFFET Adults \$2.65 Under 12 1.65 SOL CHAVEZ Lounge Barbara	3 — REST AND RECUPERATION (Mandatory)
9 — HAPPY HOUR SUPPER BUFFET Adults \$2.95 Under 12 1.95 COUNTRY SATISFACTION Lounge Denny	10 — FAMILY VAUDEVILLE Sofistikits and Ugly Dachshund Starts at 7 FREE TO MEMBERS