

## John Crawford Appointed Director 2500

John Crawford was recently appointed Director of Electrochemical Components and Measurement Systems 2500. Since June 1971 he has headed Vacuum Tube Department 2350.

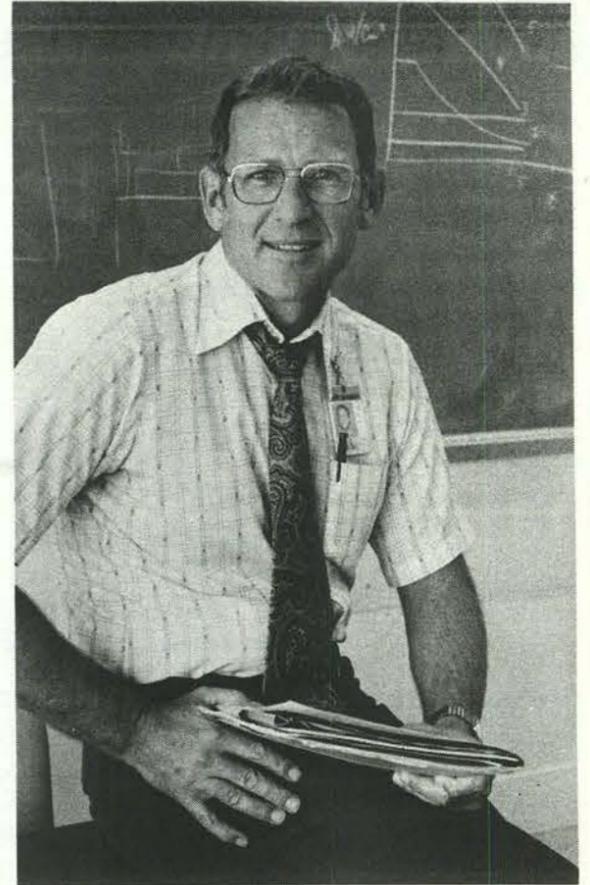
He joined the Labs in June 1962 and worked in physics research on explosively driven high energy generators and plasma experiments. In June 1967 he was pro-

moted to supervisor of Solid State Electronics Division.

He received BS degrees in physics and mathematics from Phillips University and MS and PhD degrees in physics from Kansas State University.

John is a Senior Member of IEEE. He enjoys skiing, tennis and bluegrass banjo playing.

He and his wife Mary Ann have two teenage daughters.



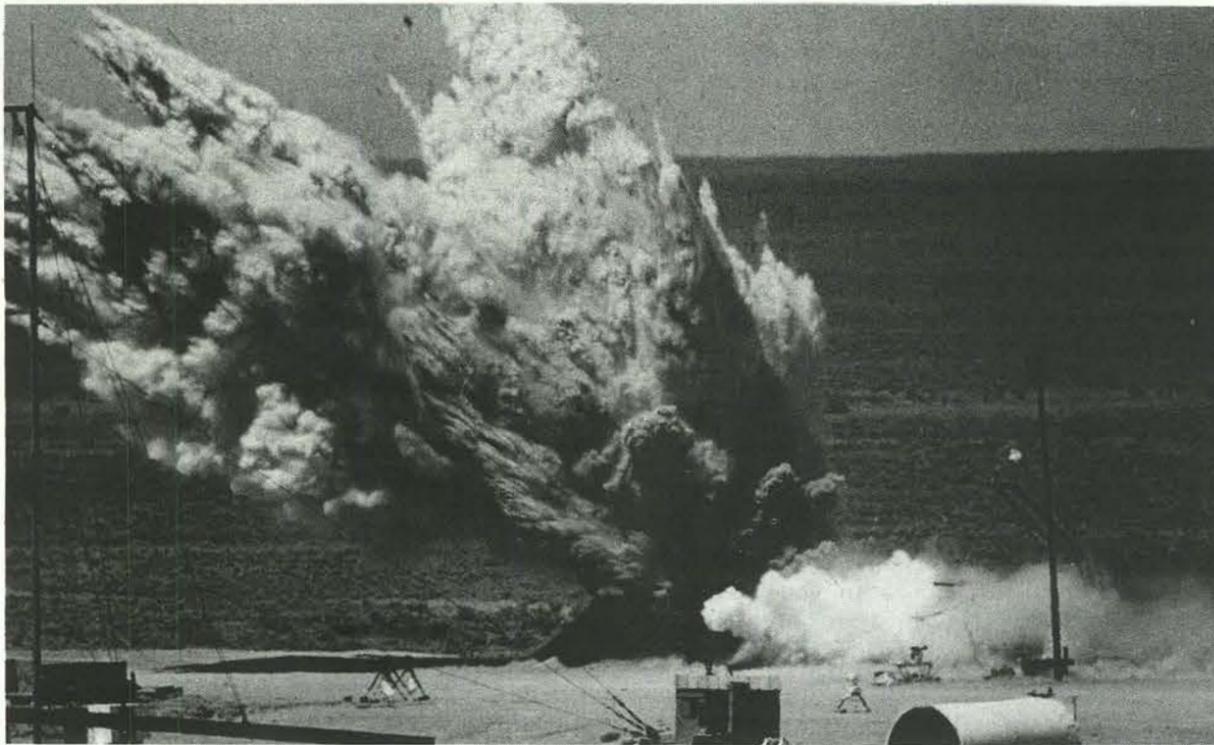
John Crawford (2500)

# LAB NEWS

VOL. 29, NO. 16

AUGUST 12, 1977

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



## Pershing II Earth Penetrators Tested at Track

Two tons of sandstone propelled at 1980 feet per second slammed into this Pershing II earth penetrator at Sandia's rocket sled track facility in Area III recently. The event, one of a series of four, is a test to evaluate structural loading and response within the penetrator of Sandia and Lawrence Livermore Laboratory components from impact into a hard target.

Computer predictions were compared with test data to further develop analytical techniques.

Don McCoy (4342), Pershing II mechanical project leader, explains that the unit contained 70 instrumentation channels recording acceleration, strain and other impact forces within the test unit. "Moving two tons of rock by sled is doing a test the hard way," he says, "but it would be more difficult to get the kind of data needed if the penetrator were fired down the track and RF links were used for data transmission."

Six earth penetrators will be flight tested on Pershing missiles starting in November from McGregor Range, New Mexico, impacting on the White Sands Missile Range. These tests are part



of the Sandia/Army Pershing II Weapon Advanced Development Program which is centered in Division 4342 under Ray Reynolds, project leader.

## Non-Employee ID Cards Coming

To minimize delays that could be caused by the tightened security at KAFB gates, Sandia Security is now working on a new non-employee identification card program. Sandians will have ample opportunity to secure cards for those who need them before Security Police enforce the new access regulations stringently.

Although detailed procedures and precise dates have not been set, the program has been accepted in principle by both Sandia management and Base authorities. Essentially, Sandia employees (or retirees) will assume responsibility for non-employees who need frequent access to the Base.

Tentatively, blank "Authorized Identification for Non-Employees" forms will be available in department offices (in Benefits for retirees). An employee will fill one out for each 10-years-old-or-older person—dependent or not—whom he or she wishes to have Base access. Filling out the form means that the employee accepts full responsibility for informing the non-employee about traffic rules, Base regulations, restricted areas, and the like. Essentially, the employee is responsible for the non-employee's behavior while on Base.

After the form is completed, the employee will give it to the non-employee. The latter will then take it to a photography location (to be specified later) where his or her photo will be taken and a laminated ID card made. Security retains part of the form as its non-employee ID file.

Three related items: 1) Employees themselves will not need new ID cards; the current ones or Tech Area badges are valid

[Continued Next Page]



R. W. HENDERSON (right), retired Sandia Vice President, is congratulated by S. P. Schwartz, retired Sandia President, and President Sparks. Mr. Henderson received the Secretary of Defense Medal for Outstanding Public Service.

## R. W. Henderson Honored with Medal

The Secretary of Defense Medal for Outstanding Public Service was presented to R. W. Henderson, retired Sandia Vice President, at ceremonies at the Coronado Club recently. The medal and citation from Secretary of Defense Harold Brown was presented by Don Cotter, former Sandian now Assistant to the Secretary of Defense (Atomic Energy), and Vice Admiral Robert Monroe, Director of DNA, Washington, D.C.

The citation reads, "for exceptionally outstanding public service to the United States in successive positions of great responsibility as Senior Engineer for the University of California, as Director of Weapon Engineering Activities at Sandia Branch, Los Alamos Scientific Laboratory, and Vice President, Sandia Laboratories,

Albuquerque, from November 1942 to January 1974.

During this period, Mr. Henderson's distinguished achievements and his dynamic leadership resulted in many scientific and engineering advances which significantly strengthened the capability of the Department of Defense. His contributions ranged from aiding in the achievement of separation of uranium-235 in the MANHATTAN PROJECT, through leadership of engineering efforts in the TRINITY SHOT proof test of the first atomic bomb, and the later tests at Bikini and Eniwetok. Mr. Henderson was personally responsible for direct and vital ordnance engineering contributions to provide a viable thermo-nuclear capability on an accelerated basis to the Strategic Air Command. He performed at Sandia Laboratories in a variety of vice-presidential capacities associated with all major U.S. nuclear weapons programs and served with distinction on numerous Department of Defense scientific and technical advisory panels and committees. The singularly distinguished accomplishments of Mr. Henderson reflect the highest credit upon himself and upon the organizations with which he has been associated."

*Continued from Page One*

### ID CARDS

at the gates; 2) Access procedures for company-sponsored non-employees (consultants, vendors, contractors, and the like) will be announced later; and 3) Bumper decal problems are handled by Billie Jojola in 801 South.

As soon as details have been worked out, a Bulletin will provide precise procedures.

## Take Note

Two retired Sandians—Victor Gabaldon and Pete Olguin—were recently appointed cochairmen of the Disabled American Veterans Hospital Committee. They are responsible for coordinating the volunteers who assist the patients in the local VA hospital. If you would like to volunteer, please call 255-8274.

\* \* \*

Attention musicians, instrumental and vocal—The New Mexico Symphony Orchestra is auditioning talent. Anyone interested is asked to audition (a solo prepared by the musician plus sight reading selections) in UNM's Fine Arts Center, room B-117. Instrumentalists on Aug. 27-28; singers on Aug. 28-29. Call 265-3689 for an appointment.

\* \* \*

Human Factors Specialist Alan Swain (1222) recently conducted two University of Wisconsin Extension Workshops on "How to Reduce Human Error in Production Systems."

\* \* \*

ERDA News has an item concerning the largest windmill in history—a 300-foot span that will be built by Boeing. The 2500 kilowatt windmill and generating system will cost about \$10 million. Construction is scheduled for late 1979 at a site to be selected by ERDA.

\* \* \*

The Man at DNA Field Command is now BG Grayson Tate, USA, who relieved BG Thomas Lacy, USAF on July 29.

\* \* \*

A big ten oh-oh: The U.S. Consumer Product Safety Commission reports that 92 deaths and 156 injuries were reported in 1976 in connection with do-it-yourself installations of base station citizen's band antennas. Most of the accidents occurred when the antennas touched power lines.

## Retiring



Clarence Himes (9572)

### LAB NEWS

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Area 505 264-1053

FTS 475-1053

ZIP 87115

In Livermore Area 415 455-2952

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john shunny is editor

&

don graham ass't. editor

bruce hawkinson & norma taylor write

bill laskar does picture work

so does russ smith

&

lorena schneider reports on livermore



Doralene Janssen

## Youth Opportunity Employee Awarded Scholarships

Youth Opportunity Trainee Doralene Janssen, a laboratory helper in Metallurgy and Electroplating Division 8312 this summer, is the recipient of two scholarships toward her college education. One \$300 scholarship was awarded by the Livermore Chapter of the American Business Women's Association, the other for \$400 was presented by the Alameda/Contra Costa Medical Association Auxiliary.

Beginning this fall, Doralene will attend California Polytechnic State University at San Luis Obispo where she plans to major in dietetics and food administration. A June graduate from Livermore High School, she played the lead role of Maria in "Sound of Music," the drama department's spring musical.

Doralene is one of 12 young people working at SLL this summer under Sandia's Youth Opportunity Program.

## Supervisory Appointment

Pete Mattern to supervisor of Applied Physics Division 8342, effective July 16.

Joining Sandia's Physical Research Division in 1971, Pete did experimental research on the properties of amorphous materials for more than four years. In 1976 he transferred to Systems Analysis Division where he has been working on an ERDA-sponsored study involving the uses of computers within DMA and, most recently, in coordinating Sandia research activities on hydrogen embrittlement.

Pete received a BS from Yale University in 1961 and a PhD from Cornell University in 1965, both in physics. For two years he did post-doctorate work at Brookhaven National Laboratory where he became a member of the staff for four years. He is a member of the American Physical Society and the American Ceramic Society.

Off the job, Pete enjoys tennis, photography, badminton and skiing. He, his wife Nancy, and their three daughters reside on Florence Road in Livermore.

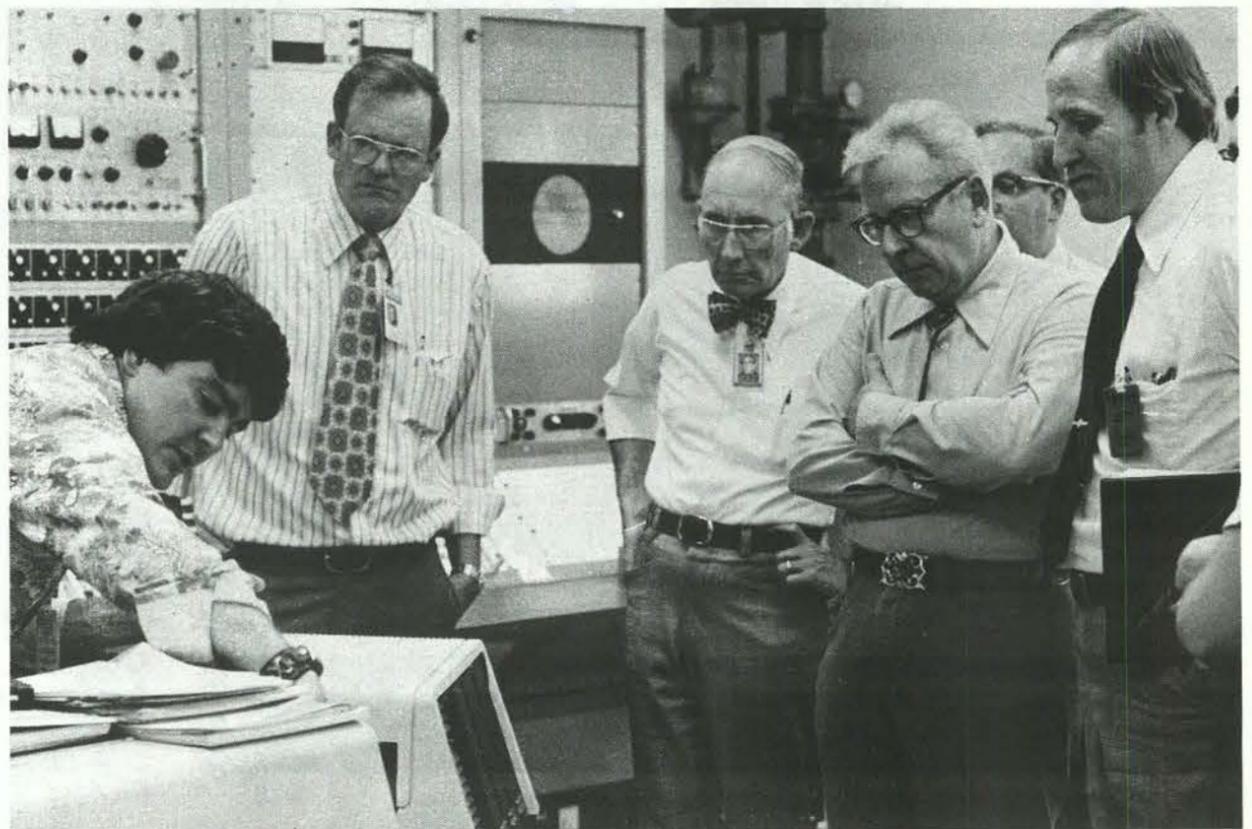


# LIVERMORE NEWS

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LIVERMORE LABORATORIES

AUGUST 12, 1977



MOTOR VEHICLE MANUFACTURER'S ASSOCIATION ad hoc Committee on Combustion Research convened recently at Sandia/Livermore. Pete Witze and Bill Robinson (both 8352) explain the data collection and processing system in the engine velocity and turbulence laboratory to (from right) Larry Slimak, Assistant Director, Engineering Division MVMA; Joe Bidwell, Executive Director, General Motors Research Labs; and Duke Nowlin, Director of Special Programs Division, ERDA/ALO.

## Engine Combustion

## Industry Co-Sponsors Sandia Research

As part of ERDA's Combustion and Fuels Technology Branch program, Sandia has responsibility for conducting research on combustion problems for current and future engines.

Now, as the result of a recent agreement, a portion of the research is being co-sponsored by industry through the

Motor Vehicle Manufacturer's Association (MVMA). Funded by contributions from most US automobile, trucking, and farm equipment manufacturers, MVMA supports research of common interest to participating members.

The Sandia work, supported by industry under the joint effort, is development of diagnostics for engine research. It encompasses four specific areas—engine velocity and turbulence measurements using laser Doppler velocimetry; concentration and temperature measurements in engines using laser Raman spectroscopy; stratified charge combustion experiments in a combustion bomb; and pulsed laser development.

All of the activities involve new techniques for measuring what happens inside a combustion engine—such things as how air and fuel enter, mixing processes inside the engine, and factors affecting efficient burn and pollutant formation.

According to Bill Robinson, supervisor of Combustion Applications Division 8352, this is one of the few times funding has been made available by industry for Sandia research. "We're pleased that MVMA is willing to provide money to accelerate our program," he comments. "Their support and the added interaction with industry will help assure that our work is focused on areas with real potential for solving the energy problem."

## Congratulations

Mr. and Mrs. Ike Davis (8256), a daughter, Farrah Jene, June 25.

Thora Yung (8324) and Art Van Hook (8156), married in Lake Lotawana, Mo., July 1.

Ed Yaste (8432) and Karen Jurgenson, married in Corte Madera, Calif., June 5.

Ferd Thome (8261) and Nancy Wiltrout, married in Walnut Creek, Calif., July 30.

## Sympathy

To Roberta (8265) and Bill Cole (8213) on the death of her sister in Ridgecrest, Calif., July 12.

To Art Hayes (8431) on the death of his father in Stockton, Calif., June 10.

To Betty Pajari (8430) on the death of her mother in Pomeroy, County Tyrone, N. Ireland, May 21.

# sandia PEOPLE Report



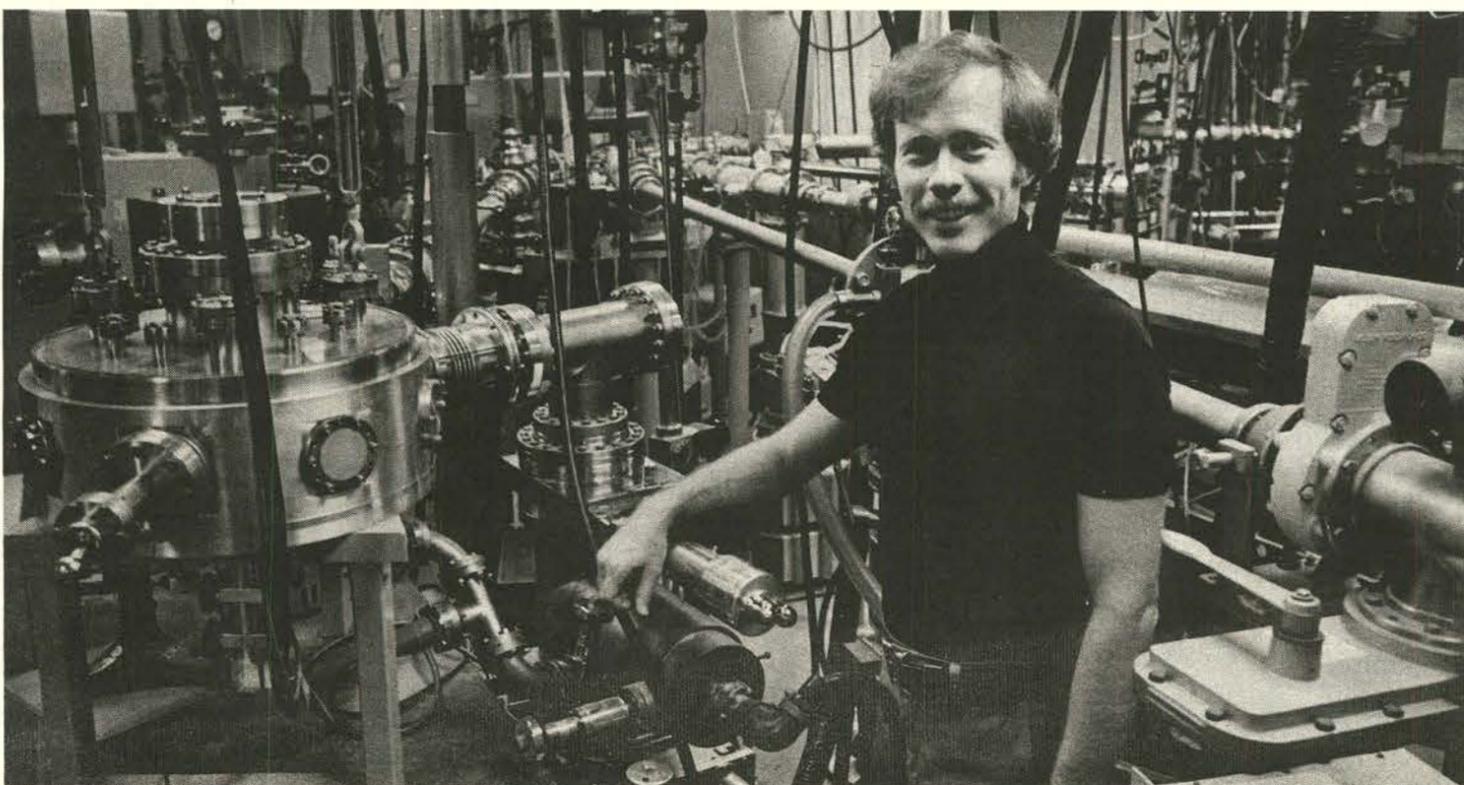
IN 10 YEARS of SportsCar Club of America competition driving Corvettes in the B Production class, Dave Preston (9335) has picked up some 67 trophies, several of them for the Midwestern Division championship. Last year he placed sixth in the national finals in Atlanta, hopes to do better there in October for the 1977 finals. "The thrill of competing is intense," Dave says. "The satisfaction comes in knowing that you race as close to your limits as a driver and your car's limits as a machine as you possibly can."



JOE SILVA (2152) took top honors at the recent Magdalena Old Timers Rodeo winning the calf roping contest and being named "All Around Cowboy." He's competed in 15 other rodeos this summer in cities throughout the state. "I win a few, lose a few," Joe says, "but I have fun. My horse makes me look good."



BARRY SEIDNER (2514) is organizing a Motorcycle Trails Club. Object: weekend outings and camping trips in the New Mexico boondocks. If interested, call 298-4685 after 5.



BOB BLEWER of Applied Physics Division 2353 will be spending a year, starting Sept. 1, as a guest scientist of the Max Planck Institut for Plasma Physics in West Germany. He will be performing research on particle-surface interactions, work related to the first wall and other components of a fusion reactor. The research is applicable to Sandia neutron generator programs. Bob's temporary assignment is sponsored jointly by ERDA's Division of Magnetic Fusion Energy, Sandia and the Institut.

## Fun & Games

**Women's Bowling**—The Sandia Labs Women's Bowling League now has openings for additional teams and for individuals who wish to bowl regularly or as a substitute. Active and retired Sandians, ERDAans, and wives of employees are eligible. For more information contact Bonnie Vigil, 4-2704.

\* \* \*

**Biking**—Don Argyle (9481) sends us a clipping from the *Miami Herald* reporting the adventure of one Phil Barrett who "... was riding his 10-speed on a dirt road when he heard a noise in the shrubs. A 5-foot alligator darted from the shrubs and across the road . . . he ran into the beast and flipped over. He said the alligator was . . . 'making a hissing kind of sound, with his mouth open [and] heading right for me. He lunged for me and almost got my foot.'" So Phil took off, running, and there was this critter, right on his heels. "I didn't stop running until I was well out of range." Sound like a crock?

\* \* \*

**Golf**—Edwina Kiro (5241) and William Lutgen (5243) took low gross honors in the recent Scotch Foursome Tournament sponsored by the Sandia Golf Association (Women). Runners-up were Betty Chappell (ret.) and Errol Davis (ERDA). Low net winners were Clara Gearhart (3141) and Ralph Campbell (3172). Runners-up were Earlene Brinegar (3532) and Brian Finley (1223). Scoring low putts were Barbra Ford (2151) and Ed Machin (2151).

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REX ROZELLE, Sandia retiree, displays his Kentucky Long Rifle. He spent more than 800 hours building it. The stock is handcarved with brass inlays.

## Rex Rozelle Builds Long Rifles

Rex Rozelle, who retired last month from Sandia after spending 23 years as a machinist, doesn't ordinarily go leaping around the Sandia foothills in a coonskin hat and a fringed buckskin suit. Only when he's on an outing with the Yucca Muzzle Loading Club. That Kentucky long rifle he's holding is for real. He made it himself. He spent about 800 hours of precision machining, grinding, cutting, polishing and perfecting it. Look at the stock gleam. How about that intricate brass inlay work? You don't see that kind of stuff come off the production line these days.

Now that he's retired Rex is spending more time with his gunmaking hobby—an activity that he's pursued for 35 years. He's made 10 of the Kentucky Long Rifles, a

flintlock pistol modeled on the 1776 design which was used during the Revolutionary War, plus rebuilding, repairing and improving literally hundreds of other rifles and pistols.

Rex is also an accomplished silversmith, woodworker, and leather crafter.

But he has more fun with the Muzzle Loading Club.

"We get together about once a month for a shoot out," Rex says. "These rifles are accurate—less than a four inch deviation at 100 yards. We have target shooting contests, talk about historical weapons and burn a lot of black powder. There's 75 members in the group. Ken Johnson (3425) is president. If you're interested in muzzle loaders, give me a call, 898-5387."

### Our Town

## The Fountain, Civic Plaza

Special events scheduled at the Civic Plaza during the next couple of weeks include:

- Aug. 13—Free Concert by The Top Hats, "big band era" music, concert and dance, 7 to 9:30 p.m.
- Aug. 17—Campus time fashion show, styles for teenagers and adults, noon to 1 p.m.
- Aug. 18—Civic Plaza dance contest, noon to 1 p.m.
- Aug. 19—Performance by Venezuelan Theatre Troupe (in English), noon to 1 p.m.
- Aug. 23—Back-to-school dance, dance contest finals, 11:30 a.m. to 1:30 p.m.
- Aug. 24—Karate demonstration, noon to 1 p.m.
- Aug. 27—Gospel music concert, 7 to 9 p.m.
- Aug. 28—Labor Fair, sponsored by Labor Coalition and Albuquerque Equal Rights Council, 2 to 8 p.m.





ON BOARD the Coast Guard ship "White Pine" in the Gulf of Mexico are Eric Reece (1327), Lou Feltz (1324) and Dave Ryerson (1327). In right foreground is the Sandia Acoustic Telemetry System which successfully transmitted and received high data rate signals through sea water.

## Sandia Acoustic Telemetry System Successfully Tested in Gulf of Mexico

A Sandia-developed acoustic telemetry system which transmits data via sound waves from the ocean floor was successfully tested recently in the Gulf of Mexico. The system is part of a project to develop instrumentation systems for exploration and characterization of the outer-continental shelf which is important in developing offshore petroleum resources. The new system performed "better than expected," according to Eric Reece of Instrumentation Systems Division 1327.

"Our test was the first time that acoustic transmission of data signals at a high rate of speed was accurately effected through sea water," Eric says. "Target rate was 1000 bits per second. Tested at 300 ft. and 600 ft. depths, our system successfully transmitted 2400 bits per second. Errors were less than one bit per 1000."

For the experiment, a three part system was used—a "bottom package" containing seismic, pressure, and temperature sensors, a microcomputer with solid state memory, analog to digital converters, power amplifiers, and acoustic transducers. Data from the bottom sensors can be transmitted real-time, or can be stored in the bottom package for later transmission to the surface upon command.

Three different conical pattern transducers were tested—one broadcasting at 45°, one at 90°, and one at 135°. The wider transducer beam width means that the receiving hydrophone on the surface does not have to be directly over the transmitter, which will give greater flexibility in the design of the final system.

The second part of the test system is a "smart" surface buoy which contains acoustic transducers, a microcomputer, and the RF transceiver for retransmission of data and commands between the

bottom package and a shipboard receiving station.

The third part is the command and recording station which, for the Gulf of Mexico tests, was located on a Coast Guard ship, the 133' "White Pine." The command station is portable for either surface-ship or aircraft location.

For the tests, "real" data were transmitted from the ocean floor, but to check the system, a preprogrammed data pattern was also used. This gave an accurate check of the signals received.

A second test of the current system is scheduled in the Gulf of Alaska next month. "We want to evaluate the system in a more hostile environment and for a longer period of time," Eric says.

The Coast Guard provided logistics and support for the recent experiment. The National Oceanographic and Atmospheric Administration's National Data Buoy Office provided the buoy mooring system. The Sandians operated out of Mobile Bay, Alabama. The tests were conducted about 80 miles south of Mobile Bay.

Sandians fielding the project were Lou Feltz (1324), Dave Ryerson, Dan Miko, Mike Bukaty, and Eric (all 1327). Other Sandians involved in the project are John Johnson and Bruno Niewinski (also 1327).

"In spite of some seasickness," Eric says, "we were extremely pleased with the results of the test."

### Sympathy

To Walter Wyant (1244) on the death of his mother in Iowa, July 14.

To William Wacek (1247) on the death of his mother-in-law in Minnesota, July 31.

To Harold Riley (9561) on the death of his brother in California, Aug. 1.

## Speakers

J. M. Hueter (3521), "Creativity in Public Works," American Public Works Assoc. convention, May 26, Albuquerque; "Creativity—Choice or Chance?" Civitan Youth Conference, June 8, Albuquerque.

A. W. Snyder (5400), "Technical Alternatives for Nuclear Waste Management," Energy, Environment, Economics Institute, June 15, Dallas.

J. W. Reed (5443), "Dice Throw—Off-Site Blast Predictions and Measurements," DNA-Dice Throw Symposium, June 21-23, Aberdeen Proving Ground, Md.

R. W. Rohde (5832) and J. C. Swearingen (5846), "Mechanical Equation of State—Application to Pure Aluminum," Gordon Conference on Physical Metallurgy, June 21 - July 1, Plymouth, N.H.

S. T. Picraux (5111), "Ion Implantation Studies of Hydrogen and Helium in Metals," U.S. - U.S.S.R. Seminar on Ion Implantation, July 4-7, State Univ. of N.Y., Albany.

J. W. Reed (5443), "An American Standards Draft for Explosion Airblast Waves," 9th International Congress on Acoustics, July 4-8, Madrid, Spain.

R. C. Hughes (5814), "High Field and Breakdown Effects in SiO<sub>2</sub>," invited presentation at International Conference on Hot Electrons and Semiconductors, July 6-8, Denton, Texas.

H. P. Stephens (5842), "The Enthalpy of Strontium from 298 to 1200 K," annual Calorimetry Conference, July 6-8, Sherbrooke, Canada.

A. R. DuCharme (5413), "Environmental Impacts of Transporting Radioactive Materials in Urban Areas," Sixth Campus Radiation Safety Officer Conference, July 11-13, University of Houston.

C. W. Gwyn (2142), "An Integrated Set of Computer Aids for Custom IC Design," Conference on Computer-Aided Design of Electronic & Microwave Circuits and Systems, July 12-14, The University of Hull, Hull, England.

D. E. Munson (5163), "Constitutive Relationships for Oil Shale"; D. M. Haaland (5825), "Development of a Solid-Electrolyte Oxygen Sensor for In Situ Oil Shale Experiments," Oil Shale Conference, July 14-15, Laramie, Wyo.

B. Stiefeld (5715), "Wind Energy Research," Los Altos Kiwanis Club, June 3.

G. W. Hughes (1243), "The Metric System and the Citizen," Host Lions Club, June 7.

D. P. Peterson (9624), "Artificial Intelligence," Albuquerque Breakfast Civitan Club, June 7.

H. C. Monteith (5411), "UFO's and Their Mission to Earth," Old Town Optimist Club, June 8; Northwest Optimist Club, June 23.

L. P. Robertson (1756), "Hawaii," Northwest Optimist Club, June 9.

G. H. Miller (5216), "From Metric Units—A Backward Look," Los Altos Kiwanis Club, June 10.

E. C. Boes (5719), "Solar Energy," Los Altos Kiwanis Club, June 17.

G. C. McDonald (9636), "Backpacking Made Easy for Sedentary Citizens," Albuquerque Breakfast Civitan Club, June 21.

R. M. Jefferson (5430), "Our Powerless Society," Sertoma Club, June 23.

T. F. Marker (6010), "The Oil Industry: Fact and Fiction," Host Lions Club, June 28.

L. D. Chapman (5741) and V. L. Dugan (5740), "A Structure for the Decomposition of Safeguards Responsibilities"; A. E. Winblad, W. C. Finning, R. P. McKnight and B. R. Benchel (all 1751), "Design of an Engineered Safeguards System for a Mixed-Oxide Fuel Fabrication Facility"; C. S. Sonnier (1751), "Closed-Loop Safeguards Control of Plutonium Transfer and Sampling Operations"; M. N. Cravens (1750A) and A. E. Winblad, "Safeguards System Design Methodology"; E. A. Bernard (1756), D. S. Miyoshi (9425) and F. D. Gutierrez (9424), "Summary—Sandia Laboratories Plutonium Protection System"; H. A. Bennett (5741), "EASI—An Evaluation Method for Physical Security Systems"; D. E. Barnes, J. P. Watterberg, H. O. Jeske and N. E. Corlis (all 9421), "Self Energized Credential System"; J. F. Ney and J. W. Campbell (both 1754), "Surveillance and Containment Instrumentation for International Safeguards"; M. J. Eaton (1737), J. Jacobs and D. E. McGovern (both 1738), "Perimeter Intrusion Detection and Assessment System—Perimeter Intrusion Sensors; System Control and Display; Alarm Assessment," 1977 annual meeting of the Institute of Nuclear Materials Management, June 29 - July 1, Washington, D.C.

E. F. Hartman and D. C. Evans (both 4312), "Theoretical and Measured Replacement Currents in Multilayered Structures Irradiated by Photons"; R. E. Jones (2642), J. M. McKenzie (5433) and L. A. Romero (2642), "Differential Neutron Spectra Unfolding from Foil Activation Data"; J. M. McKenzie, "Techniques for the Measurement of Short-Term Annealing in Semiconductor Devices"; G. W. Brown (2142), "The Role of Computer Aided Analysis in Radiation Hardened CMOS MSI/LSI Design"; F. N. Coppage and R. W. Martin (both 4312), "Gamma-Induced Voltage Breakdown

Anomaly in a Schottky Diode"; F. N. Coppage and D. C. Evans (both 4312), "Characteristics of Destruction From Latch-Up in CMOS"; M. B. Murphy (2121) and E. F. Hartman (4312), "Measurement of IEMP Currents Using Magnetic Thin Film Sensors"; J. A. Halbleib, Sr. (5231) and M. M. Widner (5241), "Field Enhanced REB Deposition and Bremsstrahlung Production"; K. W. Mitchell (5133), "Optimized Photodetectors in Radiation Environments"; G. F. Derbenwick and H. H. Sander (both 2144), "CMOS Hardness Prediction for Low Dose Rate Environments"; C. E. Barnes (5133), "Development of Efficient, Radiation Insensitive BaAs:Zn LEDs"; J. M. McKenzie (5433), "A Method to Calculate the Simulator Equivalence of a Neutron Threat Spectrum"; J. R. Adams, W. R. Dawes (both 2144), and T. J. Sanders (Harris Semiconductor), "A Radiation Hardened Field Oxide," 1977 IEEE annual Conference on Nuclear and Space Radiation Effects, July 12-15, Williamsburg, Va.

R. D. Griffith and S. Parks (both 1739), "Electric Field Sensor Studies"; A. L. McMullen (1739), "Simulation of Intruders for Exterior Bistatic Microwave Sensors"; F. Ezell (1739) and R. Madsen (1734), "Comparison of Magnetic and Seismic Response of Magnetic Intrusion Line Sensor (MILES)"; C. E. Smith (1739), "Electronic Simulation of Intruders for Interior Monostatic Ultrasonic Sensors"; D. L. Mangan and J. D. Williams (both 1739), "Intrusion Detection Systems Handbook"; G. R. Elliott (1734), "Selective Digital Filtering," Sensor Technology For Battlefield and Physical Security Applications, U.S. Army Mobility Equipment Research and Development Command, July 13-15, Fort Belvoir, Va.

L. C. Bartel and L. W. Beckham (both 5732), "Electrical and Seismic-Acoustic Results from the Second Hanna In Situ Coal Gasification Experiment"; P. J. Hommert and S. G. Beard (both 5732), "Thermal Instrumentation and Data Analysis for Underground Coal Gasification," The Third Annual Underground Coal Conversion Symposium, June 6-9, Fallen Leaf Lake, Calif.

J. W. Munford (5832), "Stress Corrosion Cracking of HP 9-4-20 Steel," invited paper, Material Review, Selection and Use of HP 9-4-20 Steel for the B-1 Horizontal/Vertical Stabilizer Support Fitting, June 30, Los Angeles.

P. D. Thacher (2552) and B. J. Peterson (5712), "Pyranometer Calibration: Leveling Errors and Cosine Effect," Solar Data Users Workshop, July 7, Albuquerque.

A. L. Stevens (5734), "In Situ Bed Preparation and Fundamental Rock Mechanics," Second Annual In Situ Short Course, UNM, July 11-12.

J. A. Borders (5111), "Quantitative Analysis and Depth Profiling of Light Elements Using Ion-Induced Nuclear Reactions," Sandia Livermore Internal Seminar, July 12, SLL.

T. M. Gerlach (5831), "The Composition of a Basalt Magmatic Gas Phase at 1200°C and Pressures to 1 Kilobar," Gordon Conference on Inorganic Geochemistry, July 14, Proctor Academy, N.H.

K. J. Touryan (1260), "Thermal Modeling and Analysis"; S. T. Picraux (5111), "Instrumentation and Diagnostics"; F. L. Vook (5110), "Particle/Material Interactions," Tokamak Materials Workshop, July 18-19, Albuquerque.

W. B. Jones (5835), et al., "Omega Phase Precipitation in (Ti<sub>x</sub>Zr<sub>1-x</sub>)<sub>70</sub>Nb<sub>30</sub> Ternary Alloys," 10th Annual International Metallographic Convention, July 17-20, Houston.

W. H. Curry (1336), "An Evaluation of a Correction Method for Digital Computer Lag in Hybrid Systems," Summer Computer Simulation Conference, July 18-20, Chicago.

B. W. Marshall (5719), "Solar Photovoltaic Power Systems," IEEE PES Summer Meeting, July 17-22, Mexico City, Mexico.

J. L. Irwin (1323), "Effect of Substrate Fiber Orientation on Chemical Vapor Deposited (CVD) Needled Felt Carbon-Carbon Composites"; R. H. Marion (5846) and C. H. Karnes (5835), "Fabrication of Graphite Matrix Fuels for Pulsed Reactors," Thirteenth Biennial Conference on Carbon, July 18-22, Irvine, Calif.

R. F. Puk (2644), "Interface Group Report," fourth Annual Conference on Computer Graphics and Interactive Techniques, July 20-22, San Jose, Calif.

P. S. Peercy (5112), invited paper, "Pressure Dependence of Raman Scattering in Ferroelectrics"; G. A. Samara (5130), invited paper, "High Pressure Study of Soft Mode Transitions in Solids"; J. E. Schirber (5150), "The Role of Pressure in the Study of the Fermi Surface," International Conference on Low Temperature and High Pressure Physics, July 22-24, Cleveland, Ohio.

G. Yonas (5240), "Recent Results in Sandia's Particle Beam Fusion Program"; E. J. T. Burns (5242), S. A. Goldstein and J. N. Olsen (both 5244), "High Intensity Focused REB Discharges into Flat Gold Targets," N. C. Christophilos International Summer School and Conference in Plasma Physics, July 20-30, Island of Spetses, Greece.

R. D. Griffith and S. Parks (both 1739), "Electric Field Sensor Studies"; A. L. McMullen (1739), "Simulation of Intruders for Exterior Bistatic Microwave Sensors"; F. Ezell (1739) and R. Madsen (1734), "Comparison of Magnetic and Seismic Response of Magnetic Intrusion Line Sensor (MILES)"; C. E. Smith (1739), "Electronic Simulation of Intruders for Interior Monostatic Ultrasonic Sensors"; D. L. Mangan and J. D. Williams (both 1739), "Intrusion Detection Systems Handbook"; G. R. Elliott (1734), "Selective Digital Filtering," Sensor Technology For Battlefield and Physical Security Applications, U.S. Army Mobility Equipment Research and Development Command, July 13-15, Fort Belvoir, Va.

L. C. Bartel and L. W. Beckham (both 5732), "Electrical and Seismic-Acoustic Results from the Second Hanna In Situ Coal Gasification Experiment"; P. J. Hommert and S. G. Beard (both 5732), "Thermal Instrumentation and Data Analysis for Underground Coal Gasification," The Third Annual Underground Coal Conversion Symposium, June 6-9, Fallen Leaf Lake, Calif.

J. W. Munford (5832), "Stress Corrosion Cracking of HP 9-4-20 Steel," invited paper, Material Review, Selection and Use of HP 9-4-20 Steel for the B-1 Horizontal/Vertical Stabilizer Support Fitting, June 30, Los Angeles.

P. D. Thacher (2552) and B. J. Peterson (5712), "Pyranometer Calibration: Leveling Errors and Cosine Effect," Solar Data Users Workshop, July 7, Albuquerque.

A. L. Stevens (5734), "In Situ Bed Preparation and Fundamental Rock Mechanics," Second Annual In Situ Short Course, UNM, July 11-12.

J. A. Borders (5111), "Quantitative Analysis and Depth Profiling of Light Elements Using Ion-Induced Nuclear Reactions," Sandia Livermore Internal Seminar, July 12, SLL.

T. M. Gerlach (5831), "The Composition of a Basalt Magmatic Gas Phase at 1200°C and Pressures to 1 Kilobar," Gordon Conference on Inorganic Geochemistry, July 14, Proctor Academy, N.H.

K. J. Touryan (1260), "Thermal Modeling and Analysis"; S. T. Picraux (5111), "Instrumentation and Diagnostics"; F. L. Vook (5110), "Particle/Material Interactions," Tokamak Materials Workshop, July 18-19, Albuquerque.

W. B. Jones (5835), et al., "Omega Phase Precipitation in (Ti<sub>x</sub>Zr<sub>1-x</sub>)<sub>70</sub>Nb<sub>30</sub> Ternary Alloys," 10th Annual International Metallographic Convention, July 17-20, Houston.

W. H. Curry (1336), "An Evaluation of a Correction Method for Digital Computer Lag in Hybrid Systems," Summer Computer Simulation Conference, July 18-20, Chicago.

B. W. Marshall (5719), "Solar Photovoltaic Power Systems," IEEE PES Summer Meeting, July 17-22, Mexico City, Mexico.

J. L. Irwin (1323), "Effect of Substrate Fiber Orientation on Chemical Vapor Deposited (CVD) Needled Felt Carbon-Carbon Composites"; R. H. Marion (5846) and C. H. Karnes (5835), "Fabrication of Graphite Matrix Fuels for Pulsed Reactors," Thirteenth Biennial Conference on Carbon, July 18-22, Irvine, Calif.

R. F. Puk (2644), "Interface Group Report," fourth Annual Conference on Computer Graphics and Interactive Techniques, July 20-22, San Jose, Calif.

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SHIPPING CASK for spent nuclear fuel weighing 67 tons was moved recently to the Area III rocket sled track in preparation for a "worst-kind" accident test scheduled about Oct. 1. The cask and railroad flat-car will be propelled down the track by rockets to impact at 70 to 80 mph into a massive concrete barrier. The test will culminate a portion of the program to demonstrate the capability for predicting the damage that would be incurred by large, massive spent fuel shipping casks involved in extra severe transportation accidents. The test will be conducted by Sandia's Systems Environmental Testing Department 9330. Dave Bickel (9335) is test engineer. Richard Yoshimura (5433) is the project engineer.



KEVLAR PARACHUTE TEST on the rocket sled track facility in Area III was witnessed recently by the Army's Maj. Gen. Milton Key, Deputy Assistant to the Secretary of Defense for Atomic Energy, second from right. The new parachute material, stronger than nylon with less bulk, allows a greater diameter parachute to be used on the B61 laydown weapon. From left are John Duncan (4312), test engineer; Bob Puerifoy (4300); Maj. Gen. Key; and President Sparks.

# MILEPOSTS

## LAB NEWS

AUGUST 1977



Thelma Carpenter - 9631 20



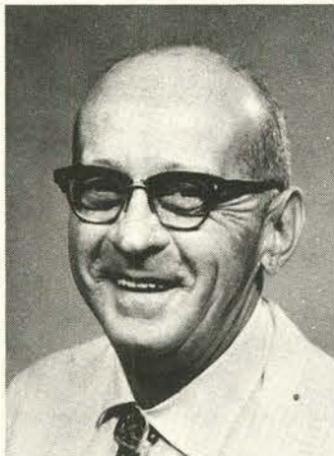
Don Wader - 9562

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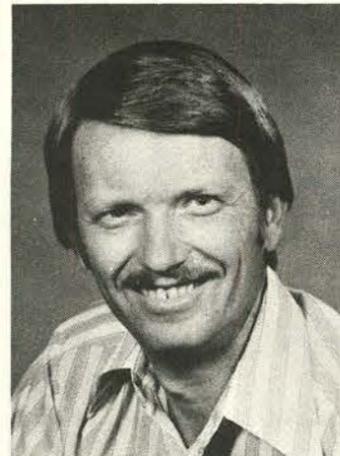
Frank Baros - 9581

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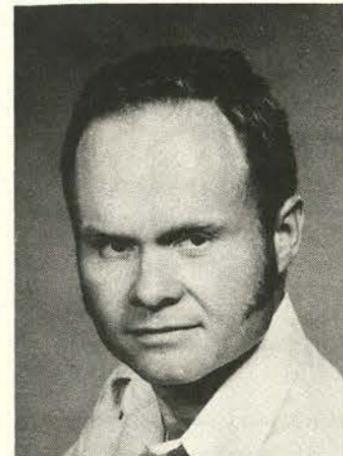
Russell Leahy - 3413

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Lewis Bartel - 5732

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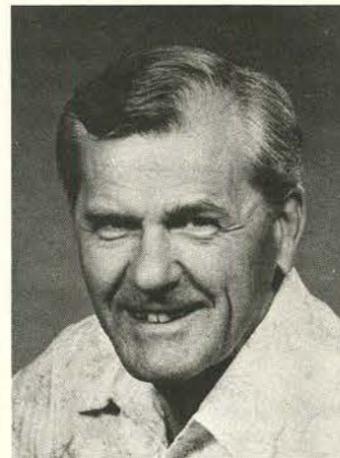
Mike Kittredge - 9481

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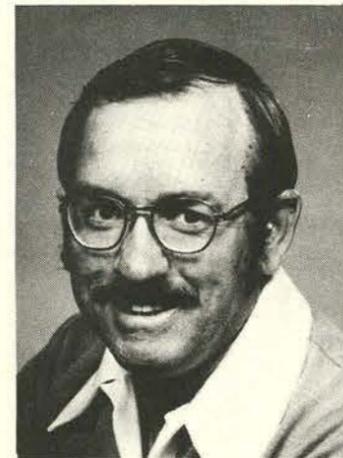
Gordon Miller - 8322

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Charles Jennings - 2153

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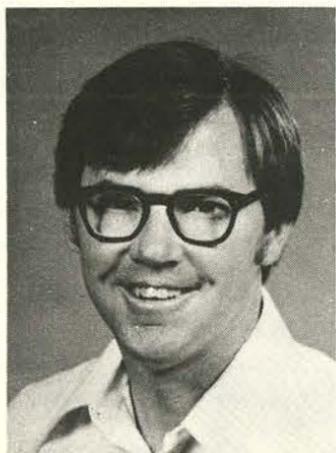
Alton Shaut - 9425

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Betty Gatto - 4113

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Alfred Watts - 1322

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Jack Hickman - 5412

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Willie McCabe - 2144

20



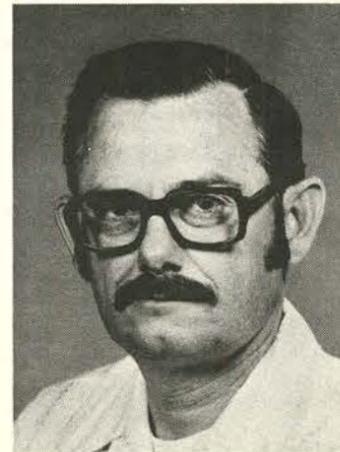
Don Hinman - 3723

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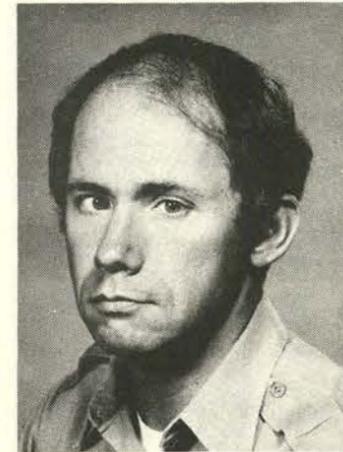
Lasiter Spivey - 8158

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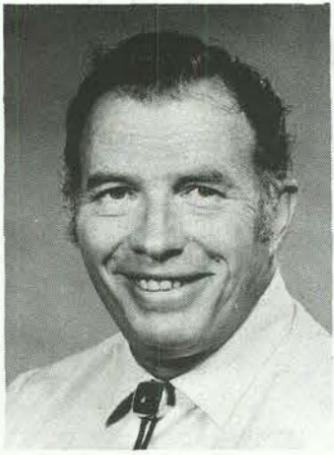
Trevor Looney - 9483

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John Finger - 9484

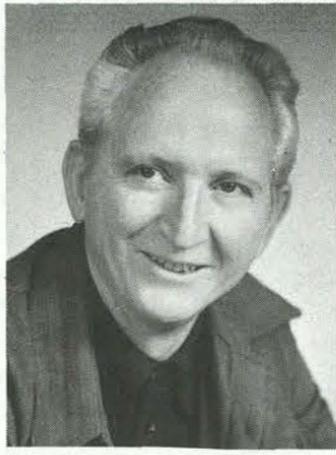
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Donald Hurt - 1213 20



R. D. Christopher - 4335 25



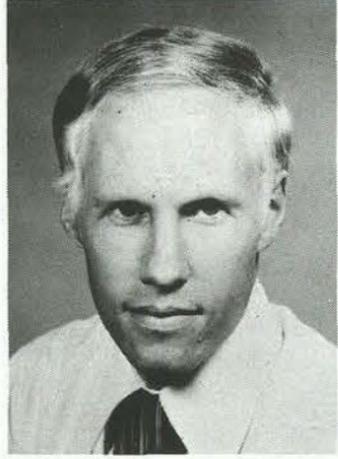
Bill Morehouse - 8254 25



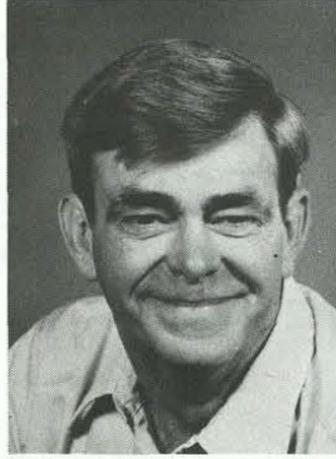
Art Eiffert - 9650 30



Louie Bryant - 3430 25



Keith Treece - 2314 15



Lawrence Allen - 2515 10



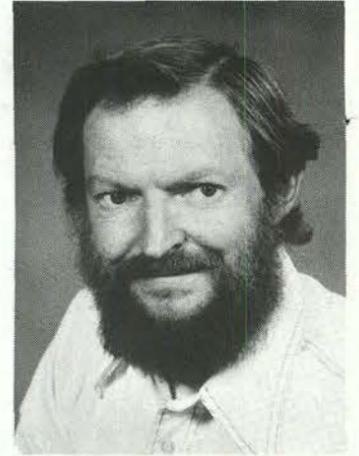
John Richardson - 4322 20



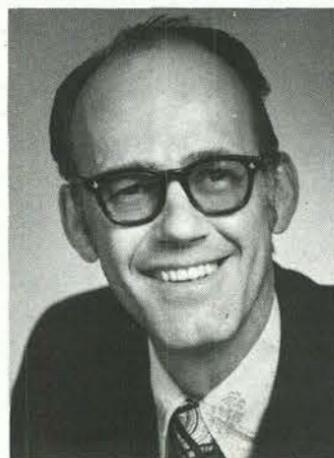
Don Adolphson - 8312 20



Howard Jones - 4337 20



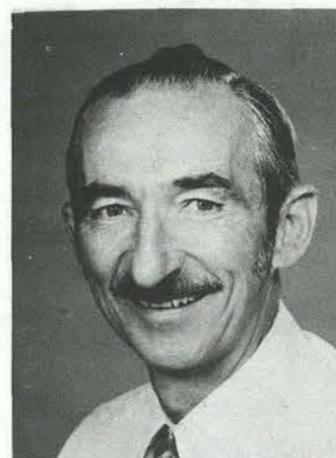
Irv Hall - 1223 10



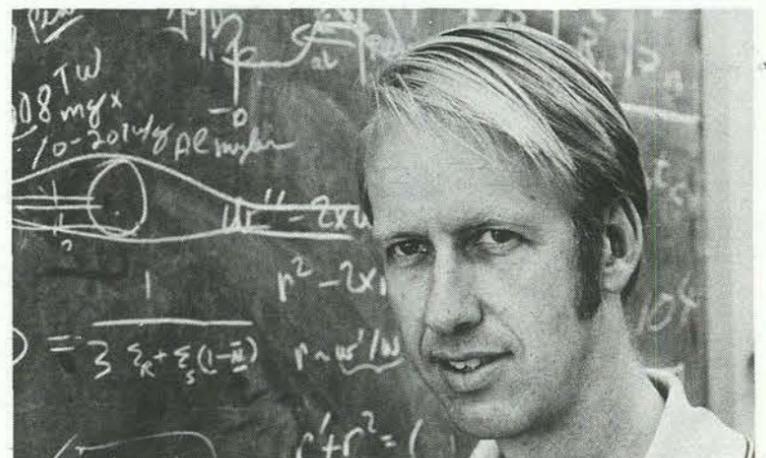
Otto Schreiber - 8346 20



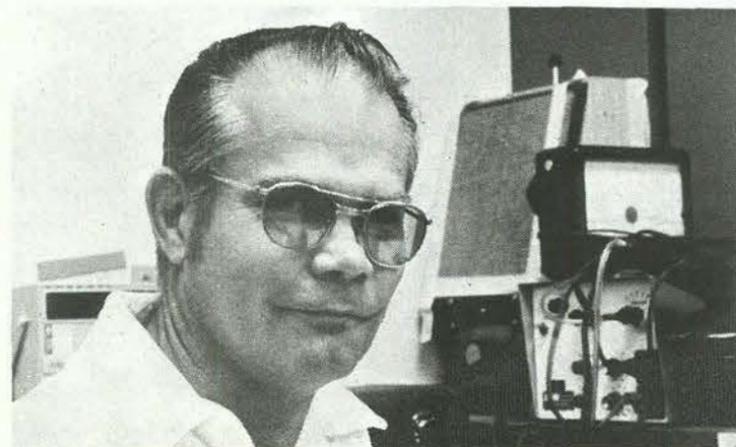
Jim Scheibner - 1732 20



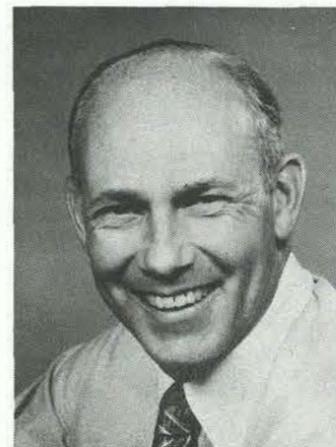
Ben Petterson - 5712 25



Milton Clauser - 5241 10



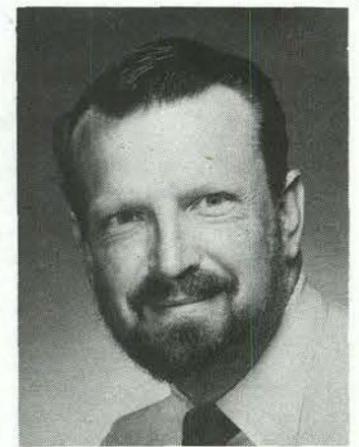
Ken Shrock - 9483 20



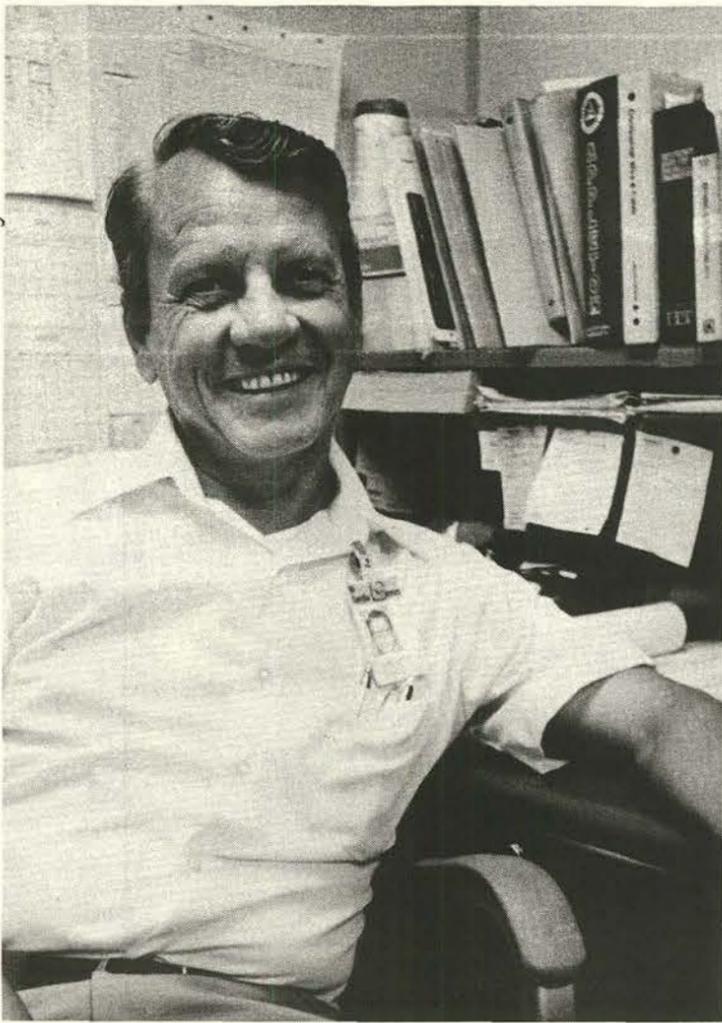
Dale Buchanan - 4312 20



Doris Pouard - 8266 15



Jeffery Lawrence - 5162 10



Bob Martin - 1713 20



Harlan Richardson - 9342 25



Robert Nelson - 2154 25



Sam Gaeto - 4123 20



Walter Joseph - 1713 25



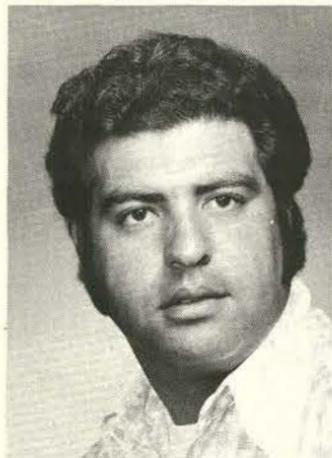
Duane Randall - 5715 20



Mary Gonzales - 3152 20



Edward Peterson - 9583 25



Frank Padilla - 9712 10



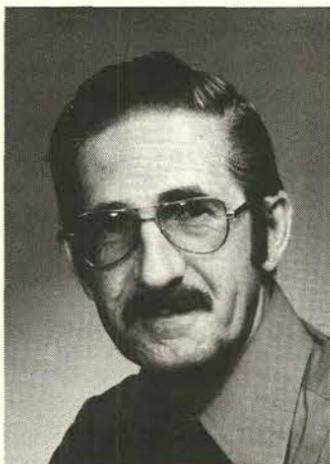
Steve Chester - 1752 20



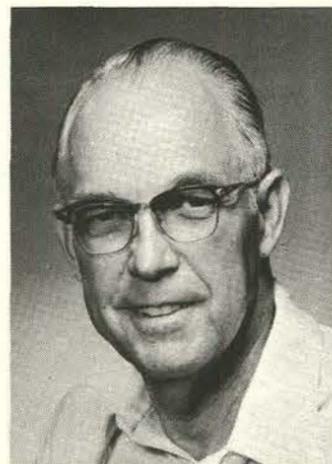
Jim Rea - 1115 15



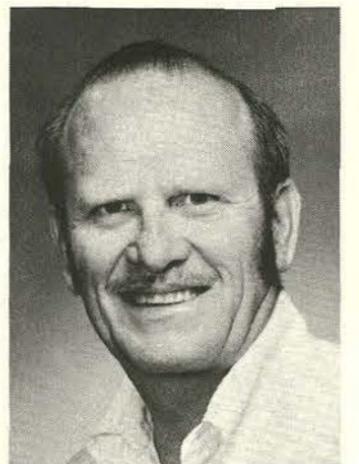
Marcus Bunting - 1312 10



David Miller - 5844 25



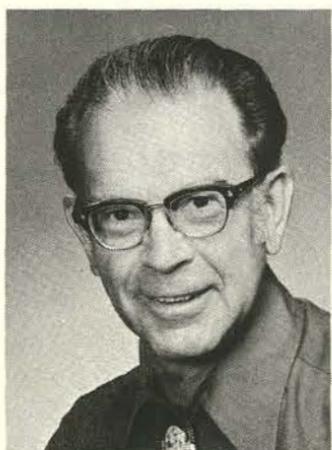
Gene Nielsen - 2627 25



Robert Peet - 1756 25



John Cunningham - 2553 25



Kenneth Harrington 9512 30



John Watterberg - 9421 25



Adelia Littleton - 3001 10

# feed **feedback**

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. There must be some coherent explanation of the seemingly meaningless stopping, for prolonged periods of time, of Sandia employee traffic attempting to exit the base. This has happened a number of times, at the same time of day, within the last couple of months.*

*Questions that should be answered are:—will this continue?*

*—will the Base Commander's proud energy conservation reports reflect his organization's contribution to the increase in vehicle fuel consumption by hundreds of automobiles?*

A. Kirtland Air Force Base has a number of electronic alarms on safes and other sensitive facilities such as gun repositories. When one of these alarms is activated, an emergency is signaled and "Operation Sure Fire" is set in motion. This requires the closing of perimeter gates to outbound traffic, and tighter control of incoming traffic, until the alarm can be cleared.

On the 20th of July, a thunderstorm struck the base about the time Sandia employees were leaving, and many of them were detained on base when the storm triggered one or more alarms. This time of year such afternoon storms are quite

common and apparently the alarm devices are susceptible to surges caused by lightning. Unfortunately, the Sure Fire routine must be handled the same way in all cases, until the alarm is cleared.

The reason Sandia employees are affected more often than military personnel is that the alarms are not "set" until the end of duty hours for the military, and since they leave earlier than Sandia employees, most of them are off the base before an alarm occurs.

Sandia is working constantly with the military authorities to minimize the problems that occur as a result of our sharing a tract of land with them. Base access controls must remain the responsibility of the Air Force, however, as it would be impractical to attempt a complete physical separation of Sandia-ERDA buildings and facilities from those of the military. Nevertheless, efforts will be continued to work out the best possible arrangement for Sandia employees to get to and from work with the least inconvenience.

Responsibility for liaison with the military authorities on KAFB rests with Plant Security. Employees who wish to report a matter they believe should be the basis of official action should call 4-3155.

D. S. Tarbox - 3400

## Events Calendar

Aug. 12-28—"Effect of Gamma Rays on Man-in-the-Moon Marigolds," Corrales Adobe Theatre, 898-3323 (Thurs-Sun).

Aug. 12-14, 19-21—"You're A Good Man, Charlie Brown," Vortex Theatre, 106A Vassar SE, 8 p.m.

Aug. 19-21, 26-28—"Caberet," Albuquerque Civic Light Opera, Popejoy Hall, 277-3121.

Aug. 21—La Luz Trail Race.

## Congratulations

Mr. and Mrs. Peter Feibelman (5151), a son, Alexander Rogers, July 29.

## 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 (814/6).

**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 ERDA employees.
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**

TRASH BAGS, city-approved, \$4, South Hwy. 14 Project, LAB NEWS office, Bldg. 814.

McQUE Quarter Horse, name is "Iron Mike," 10-yr-old gelding, highly spirited, super riding horse, old line of large McCue stock. Wright, 281-5828.

14" STEEL WHEEL, fits Ford Mustang & others, \$6; tire, F 70-14 4-ply nylon tubeless, good tread, \$4. Daut, 255-2529.

COLOR TV, Zenith 19" portable, new picture tube w/full guarantee, \$150. Kraft, 299-2157.

BABY GRAND PIANO, 40 yrs. old, \$1500; 3-spd. bicycle, \$25. Ripi, 298-5170 after 5.

RIFLE, square-breech Mauser 280 cal., extra features, extra barrel (original), MOA performance, \$450. Stevens, 299-6086.

GAS LIGHT, 2 mantle, complete w/post, \$15. Roberts, 265-3281.

MOBILE HOME, '69 Ranchette, 12x51, all appliances, new carpet, located in Four Hills, Oct. 1 occupancy, \$3700. Stafford, 294-7072.

THERMO FAX # 108 & 3-M copy machine w/paper. Browne, 881-3772.

BEDROOM SET, blond oak, dbl. bed, dresser, chest, \$150; orange swivel chairs, \$20 ea.; coffee table, \$8. Claghorn, 298-2043.

TRAVEL TRAILER, '77 Nomad, 20', self-contained, used 3 times, \$4500 including equalizer hitch; steel sash window, 3x5' w/crank out section,

\$15. Collier, 265-6873.

WOOD CLARINET, \$55; twin bed-spreads, flowered, \$6 ea. Trujillo, 299-2590 after 4:30.

SLIDING GLASS DOOR, 6' wide x 80", \$65; 5-spd. 26" bike, \$32; 26" single speed, \$15. Bartlett, 299-4861.

1974 14x66 MOBILE HOME, low equity, take over payment, carpet throughout, wet bar. Padilla, 873-0667.

UTILITY TRAILER w/spare, \$200 or best offer. Armijo, 268-7645.

METAL KITCHEN CABINETS, counter top, cast iron sink, make offer. Laskar, 299-1024.

73 8' deluxe MITCHELL Fishing Hut, w/AC, DC & propane lights, furnace, cook top, sink, ice box, 20 gal. water tank & La Jaga Jacks, \$1200. Robertson, 298-0578.

GEESE, ducks & chickens; will consider trade of feed or other types. Lackey, 898-6638.

PACKING CARTONS, free, 7800 Northridge NE. Easterling, 298-7083.

AIRCRAFT quality plywood, mahogany, birch, spruce spar material; Heath O-400VDC power supply, \$90, kit #1P2717 volt/ohm meter, \$25. Jensen, 821-6178.

TWO 15" chrome rims, 5-hole, wide, \$15 ea. Keith, 265-1620.

ELEC. hedge trimmer, new, \$25; 3-prong HD cord, 50', new, \$12; pruning shears, \$3; hand hedge shears, \$4. Mueller, 299-1079.

FENDER Musicmaster bass guitar, \$125; Harmony hollowbody elec. guitar, \$150; pistol targets, NRA 50-yd. slow fire, 35¢ doz. Floyd, 292-2160.

BOW, Bear Grizzly, 58", 45-lb. draw, \$60 or will negotiate. Rose, 298-4849.

ELECTRIC RANGE, \$40; air compressor w/spray gun, \$40; mobile home air cooler, \$35; trailer gas furnace, \$80. Bentz, 299-3448.

PERSIAN CATS: white male, 13 months; black female, 10 mos. \$100 takes both. Christensen, 294-7138.

HP-97 Programmable calculator, \$600; HP-25 Programmable calculator, \$75; Sony B/W TV-520 5", battery pack, \$125. Madrid, 293-5954 after 5.

CAMPING TRAILER, Dayco-Thrush, crank-up, sleeps 6, stove, refrigerator, \$1950. Davis, 296-4044 after 5 or weekend.

**TRANSPORTATION**

BICYCLE, 3-spd. Sears Free Spirit, mans frame, rear coaster & front caliper brakes, thorn-proof tubes, \$35. Holmes, 292-0898.

76 VW Rabbit, 13,000 miles, \$2950 or best offer. Johnston, 296-8459.

74 PINTO, 3-dr., AT, AC, 32,000 miles, \$1995. Polallis, 296-9391.

75 CAMARO, 12,000 miles, metallic silver, 6-cyl., PS, AM/FM radio w/rear speaker, std. trans., tinted glass, below book, \$3350. Hickey, 296-5139.

74 MUSTANG 2+2, AT, AC, PS, center console, tach, gauges, 44,000 miles, 4-cyl., below book at \$2600. Ashworth, 296-9126.

'69 YAMAHA DTIC 250CC, \$300. Preble, 294-0497.

75 SUZUKI TS-250, no off-road use, 4500 miles, \$650 firm. Williams, 299-4005.

73 MOTOR HOME, 18 1/2', 9 mpg, 22,000 miles, AT, AC, PS, PB, sleeps 6, \$7500. Eckhart, 256-7665.

10-SPD. MEN'S bicycle, centerfull caliper brakes, Suntour/Shimano derailleurs, rattrap alloy pedals, racing saddle, alloy kickstand, \$75. Joseph, 299-6989.

76 GRAND PRIX SJ, loaded, EPA 20 mpg, low miles, air, vinyl top, rally wheels, near wholesale. Nielson, 296-7076.

BICYCLE, Schwinn 3-spd. Kroth, 293-9565.

SUPERIOR MOTOR HOME, 22', 440 Dodge, 14,500 miles, generator, CB, control panel, Cruisamatic, storage, all extras, self-contained. Selph, 821-5281.

76 MOTO GUZZI 850 T3, windjammer, fairing, Bates bags & trunk, AM-FM-8 track & helmets. Armijo, 268-7645.

71 BUICK LeSabre, 4-dr., HT, AC, AT, PS, PB, radio, 61,400 miles, one owner, \$1095. Schwarz, 256-0416.

'67 VW BUS, 85K total miles, 35K engine/trans., new paint, upholstery. Williams, 864-3617.

73 WINNEBAGO Brave, loaded, air, aux. generator, heddors, AM-FM stereo, new tires, sleeps 6, \$8300. Baack, 296-2312.

77 DODGE MAXI-Van, 360 V-8, fiberglass extended top, front air & over-

head air for AC plug in, CB, other extras, radials. Reyelts, 299-0932.

76 TOYOTA, 5-spd. pickup, new radials, AM-FM cassette, deluxe insulated camper shell w/lights, storage cabinets. Roth, 867-3296 or 867-2815.

72 FORD Courier pickup, \$1350 or best offer. Madsen, 344-9970.

77 IMPALA, 7500 miles, Buckskin metallic color, air, cruise control, tilt steering, tinted glass, rear speaker, sticker price \$6711, sell for \$5550. Shipley, 298-2433.

76 FIREBIRD Esprit, PS, PB, AT, AC, AM/FM/8-track, 6-cyl., below book. Curtis, 255-7186.

73 FIAT sedan, model 128A, steel belted radial tires, bucket seats, overhead cam, front-wheel drive, \$1185, will trade. Smitha, 881-1001.

75 PORSCHE 914, 2.0 litre, trim group, new tires. Hipps, 298-3939 after 5:30.

'66 CHEV. Bel Air, 4-dr., AC, PS, new upholstery, 75,000 miles. Schwobel, 298-4295.

71 CHEVY Camaro, red w/white interior, sell or trade. Castellano, 255-1604.

**REAL ESTATE**

BOSQUE AREA, new solar heated & cooled, fully insulated 3-bdr., 2 baths, 1 acre, well, septic tank. Geisinger, 242-4177.

ONE ACRE lot in North Albuquerque Acres addition, electricity at lot, \$6500. Schallert, 298-8942.

3-BDR., 1 1/2 bath, rock fp, custom drapes, Eldorado school district, FHA appraisal \$53,000, multiple terms. Young, 881-1852 or 293-3398 after 7.

FROST RD. off No. 14, new 3-bdr. "Smart Home," 2 baths, fp, dbl. garage, pantry, appliances, 3 acres, 2 wells, \$65,000 at 8 1/2%, no qualifying. Browne, 881-3772.

MOUNTAIN LOT, Deer Lake Estates 9 miles east of Cuba, unrestricted views, electricity, approx. 1/4 acre, accessible year round. Wilson, 299-1721.

UNM-NETHERWOOD PARK, 4-bdr., DR, LR, den, game rm., fp, some h/w floors, near park, 2440 sq. ft., upper 50's. Blackwell, 265-4242.

**FOR RENT**

RENT OR LEASE: 2-bdr. house w/den, 5405 Granite NE, available Sept. 1, \$200/mo. plus utilities. Chavez, 255-2981.

THE PINES, 2-bdr. apt., 825 sq. ft., unfurnished, SE location, carpeted, drapes, disposal, AC. Newman, 256-9174.

LAKE FRONT CABIN, Vallecito Lake near Durango, modern, 3-bdr., fp, reserve for weekend/week, Sept. or Oct. Croll, 881-7235.

NEW 4-plex, 1 bdr. apts., adults only, private balconies, kitchen built-ins, lots of closet space, carpeting, custom drapes. Sebrell, 821-4227.

**WANTED**

20-GAUGE, single-shot, youth-size shotgun. Edrington, 881-2395.

PROPANE camping stove, 2-burner, separate controls. Barnaby, 265-4353.

ELEC. GUITAR: Gibson, Fender, Gretsch, Ovation, Epiphone, Ibanez, or any hollowbody w/humbucking pickups. Floyd, 292-2160.

COCKAPOO PUPPY. Hymer, 294-4495.

4x5 VIEW CAMERA w/lens & holders. Laskar, 299-1024.

SMALL outboard motor, 1-5 hp, any condition. Kraft, 299-2157.

USED refrigerator in good condition, reasonable. Schubeck, 294-5666.

BABY BED and playpen. Fewell, 298-5335 after 5.

ENLARGING TIMER for darkroom. Graham, 293-8823.

**LOST AND FOUND**

LOST—2"-long black-handled Craftsman (Sears) pocketknife, 10 keys on silver ring w/leather flap, silver necklace w/lg. turquoise & black stone, leather arch support for left foot, Rx safety glasses w/gold rims, Rx glasses w/dk. brown rims, man's silver Waltham watch w/blue face.

FOUND—Toyota key on silver ring, dark brass key w/letter "c", badge clip w/plain gold band attached, man's Timex watch w/stretch band, round white clip-on earring; box of colored slides: D74-2702, D74-2703 and D74-2704, can be claimed in Bldg. 632, Rm. 3 (org. 3521).

LOST & FOUND, Bldg. 832, 264-6245.

FRIDAY	SATURDAY
12—HAPPY HOUR BEEF/SHRIMP BUFFET Adults \$3.50 Under 12 1.92 SMOOTHIE	13—OPEN
19—HAPPY HOUR STEAK FRY V Adults \$4.75 (Snack Bar Open) SHALAKO	20—SPINNING WHEEL SPECTACULAR Cocktails 6 Prime Rib 6:30 Concert 8:30 Dance 9:30 Mbrs \$6 Guests \$8 Ticketholders Only

I'M—sorry to tell you that tickets for the Spinning Wheel Spectacular on the 20th are probably sold out. But check with the Office—there still may be a place for you in the group attending (if you want to be a groupie).

A—beef stroganoff and shrimp creole buffet teams two terrific taste tantalizers tonight. Later, tantalize your torso with the music of *Smoothie*. It's Friday and it's Happy Hour after Hour.

GREAT—eating next Friday too. It's Steak Fry V, and it means 10-ounce NY-cut, charcoal-broiled, neutered steaks (that is, fixed the way you like them). *Shalako* is inside where dancing is easier to make dancing easy.

BELIEVER—in two-bit draft beer that I am, I am making plans already for the big Labor Day Pool Closing Party-Picnic. Nickel dives for the kiddies, Denny Gallegos (one of our finest fretters) for young and old. And, of course, last chance swimming all day.

IN—case you skiers (and hope-to-be-skiers) hadn't heard, it's going to be a cold, snowy winter. In fact, the sled track in Area III will for the first time be opened for Flexible Flyers. I know because where I live in the Canyon the caterpillars are

scurrying madly in all directions, and that's a sure sign of a hard winter. (Of course, these are D-8 caterpillars.) Anyway, come out for the swim party at 5 on the 16th, wet your interior during social conditioning at 7, then get inspired by skiing movies and skiers like Ben Abruzzo and Walt Westman. Grand door prize is a season lift ticket for a junior (or dollars toward an adult) at Sandia Peak. Ski Club membership is only \$7; see Fred Schkade (4-5385) to join so you're eligible for swimming, door prizes, matrimony, whatever.

THRIFT—is easy with discount movie tickets. \$2.15 gets you into any movie at Cinema I II III and the Wyoming Mall.

BUT—pick up those tickets early, parents, or buy them at the door. Else your teens will miss *Young Blood*, an aptly named band for the pre-Geritol set. Fifty cents for members, a buck for guests. Last Teen Dance of the summer is Aug. 26.

ONLY—a few more Wednesdays left for Picnic Nights featuring food fixed as you like it—because you fix it.

AS—the sun sinks slowly in the west on the 17th, our little band of faithful back page readers will be found gazing raptly at the silver screen as urbane Paul Robertson (who lived there) thrills them with slide sights of exotic Rio de Janeiro. Postpone your other commitments and attend.

PRACTICED—your Lobo cheers diligently all summer have you? Then you're ready for Wolfpack travel. The Pack now has three Lobo game trips going in September. They're open to non-Wolfpackers for a slight extra fee. Shirley Dean has the details, but the basics are these: 1. Sept. 5-12 Hawaii—\$499\*, 2. Sept. 17-18 Texas Tech—\$48 (+ \$10 non-members), 3. Sept. 23-26 U. of Colo. and Broncos—\$86 (+ \$10 non-members). \*All prices based on double occupancy. Deadline is the 15th for the first two, act fast (even if you're not).

BY—now, I suppose you've frittered away all your vacation time this year making hushpuppies or something. Resolve now not to waste next year's allotment. Resolve now to spend two weeks (Nov. 18—Dec. 4) in Hong Kong. It's easy, fun and cheaper than you might have thought—\$909 for the whole package.



THE GOOD SHIP SANADO sails at 10:30 a.m. on the 31st from 809 Sagebrush Trail SE. If you're a female member of the C-Club, you're welcome aboard. And, if you're interested in any of Sanado's 18 interest groups, ranging from gourmet cooking to horseback riding, you'll be glad you signed on for the voyage. Crew members here are Donna Urish, President Jo Crumley, and Pat Dumas. Get more information from Carol Larson (881-5293) or Judy Williamson (293-2572).

MY—aspen-loving friends are autumnally ecstatic. This year the Club will commandeer the Cumbres and Toltec for a Sept. 24 Aspencade in the High Country. As in July, 20% discounts on fares make it easy (\$12.80 adults, \$4.80 under 12). The first 200 to sign up get to go. *Don't miss* the Aspencade movies at the Club at 7:30 on the 15th.

ANCESTORS—came over on the boat from Mexico? Whatever your origin, you'll find Mexico a tonic. Spaces are filling fast on both the Manzanillo and Mazatlan trips, but it's not too late to try.

MORE INFO—265-6791.

## TVI/Sandia Trainees Complete Program

Twelve members of an electromechanical drafting class, members of a joint TVI/Sandia cooperative program, will be completing 52 weeks of training Aug. 19. For the past 15 weeks the trainees have worked full time in Design Definition Department 9650.

The current class is the third group to complete the program. Of the previous 18 graduates, 12 now work at Sandia.

In addition to work on drawings under the supervision of Sandia employees, the trainees complete two trimesters of aca-

demic requirements at TVI. A new class will be at Sandia in January.

Members of the graduating class are Rolland Baca, Tommy Barreras, Peter Chauvet, Anthony Garduno, Ruth Garnett, Kay Gray, Patrick Horton, Merri Olive, Charles Pettitt, Harriette Scott, William Serna and Priscilla White.

Art Eiffert (9650) is director of the program at Sandia. Responsible organization is Division 9651 under Tom Meyer. Wayne Trump (3521) is program coordinator; Charles Arning (9651) is instructor.

