

Our Town
—page six



LAB NEWS

VOL. 32, NO. 13

JUNE 27, 1980

SANDIA NATIONAL LABORATORIES • ALBUQUERQUE NM • LIVERMORE CALIF • TONOPAH NEV

HCL: Where Researchers Handle Radioactive Materials

An argon-atmosphere glove-box laboratory, designed for weapons and energy-related radioactive experiments, is now in operation at Sandia.

"This lab, the only one of its kind in the country, prevents contamination of test samples by atmospheric gases," says Willis Whitfield, head of Isotopic Source and Hot Cell Applications Division 4453.

"There is evidence that atmospheric gases—hydrogen, nitrogen, oxygen, for example—may affect results of tests of certain items such as advanced reactor fuel candidates," Whitfield says. "Preparing or analyzing experiments in an inert argon atmosphere should solve this problem."

The glove-box lab, part of the 10,000-square-foot Hot Cell Laboratory (HCL), consists of two shielded, manipulator- and glove-operated boxes and nine unshielded boxes of various sizes. The controlled atmosphere in the shielded boxes, with 16-inch steel walls and eight-inch shielding windows, contains less than 15 parts per million of oxygen, nitrogen, and water. Radioactive materials with up to 300 curies of activity are examined here.

The atmosphere in the unshielded boxes, in which samples are handled with gloves, is less than 10 parts per million of

[Continued on Page Four]



HOT CELL LAB supervisor Frank Gonzales uses manipulator to perform experiment with radioactive materials. Argon atmosphere in chamber behind eight-inch shielding window prevents atmospheric contamination.

Afterthoughts

Energy and young adults--Young adults generally have convictions about different aspects of the energy problem but, generally, don't know what they're talking about. This appears to be the salient finding of a survey, conducted under sponsorship of Ohio State Univ., of 1300 adults, aged 26 through 35. More than half of those surveyed had some education beyond high school. A few of the knowledge gaps:

- only 14% knew that coal is the primary energy source used to produce the largest portion of our electrical energy. (Thirty percent thought falling water was the primary source.)
- thirty-three percent thought that keeping tires slightly underinflated for better traction either saves gasoline or has no effect on the amount of gasoline consumed (neither is correct).
- only 19% knew that fission is the process currently used as a means of generating nuclear power.

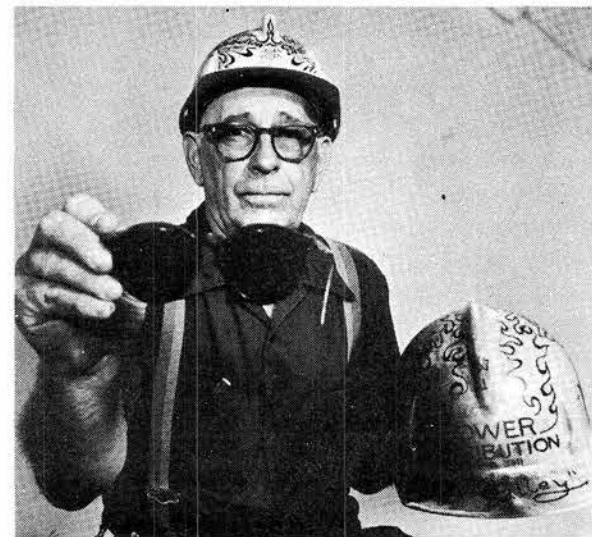
Some 90% agreed that "declining environmental quality" poses a serious threat, and, when asked to identify which of eight types of energy producers they would be willing to have within 25 miles of their homes, the young adults marked only large windmills and large solar energy collectors as acceptable. Nuclear power plants received more "no" responses than any of the other seven (windmills and solar, dam/hydroelectric, geothermal, coal-burning plant, coal gasification plant, oil shale plant). In fact, nuclear power plants were viewed as posing the greatest environmental problem, greater even than the environmental problem associated with the use of coal.

The report carrying the survey concludes with some not-so-happy comments: "There are contradictions in perceptions about the seriousness of the problem. Young Americans are pessimistic in their attitudes toward the seriousness of the energy problem but they are naively optimistic about potential solutions. Their attitude may be translated as 'through technology, scientists will solve everything.' Apparently, the less young adults know about energy technology, the more optimistic they tend to be about it.... They show little evidence of being prepared to select practical energy options for the future."

(Ed. Note: With a school system that permits a student to choose between Introduction to Flickerball and Introduction to Physics, one can hardly be surprised by the survey findings.)

* * *

What you call a memorable dinner--At the La Tour restaurant in Indianapolis, a couple was finishing off a gala dinner with bananas flambé, a concoction which involves igniting white rum poured over a mix of bananas, sugar, butter, orange juice and an orange liqueur. The waiter trainee was doing his thing, when poom! The stuff exploded, burning the couple's faces. They sued, for \$1.3 million. Their lawyer explained: "The waiter had put a small amount of rum on the dessert and properly ignited it. But then he decided to put on a really big show, poured on more rum and that's when the fireworks started."
*js



DAVE BAILEY (3611) displays blackened safety glasses and helmet destroyed by an accidental arc and flash in a 4000-volt oil switch at a substation in Area III last January. Although he suffered a broken wrist, Dave's eyesight remained intact. He has since had heart surgery, but he's happily back at work "without restrictions."

Dave Bailey Back On Job After Accident, Surgery

Dave Bailey, an electrician in Plant Utility Systems Division 3611, earned his membership in the Wise Owl Club last January when he barely escaped eye injury by wearing safety glasses.

Dave was repairing an oil switch at one of the Area III substations when the switch arced and flashed into his face. He fell backward off a six-ft. platform and landed on his left wrist, breaking it. That was the beginning of a six-month ordeal that, luckily, has a happy ending.

It is worth noting that Dave was also wearing his high voltage safety gloves which protected him from the 4000 volts in the oil switch as well as his helmet which protected part of his face and his head when the switch flashed.

Dave was rushed to Bataan Hospital for emergency treatment and was treated for first degree burns on his face; the broken wrist was set in a cast.

Three weeks later he returned to work half-days and, in another three weeks, the cast came off the wrist. He was undergoing a physical at Sandia Medical when he told nurse practitioner Nancy Jeffery about what he suspected was arthritis in his shoulders.

Nancy suspected an angina condition. This was confirmed by Dr. Judy Ewing and, after further testing and diagnosis by local physicians, Dave underwent heart surgery. That was last March.

"I feel great now," Dave says. "It worked out fine. I'm back on the job--no restrictions--and I'm walking and jogging three miles a day. I want to thank all the people who helped. It's wonderful having friends who care."

Sympathy

To Ed Neidel (2166) on the death of his mother in San Jose, Calif., June 4.

To Robert Jones (1541) on the death of his father-in-law in Albuquerque, June 8.

To Jose Jojola (1482) on the death of his brother, June 12.

Fun & Games

Running--By the time this appears, we're hopeful that the trophies and photos from the Corporate Cup will be set up in the foyer in Bldg. 802. Later on, the display will be briefly exhibited in the cafeteria.

Runs coming up: June 28, 10K Capitol Runaround, Santa Fe; July 4, 5 and 20K races at Los Alamos; July 20, 5 and 10K races at San Juan Pueblo (north of Espanola); Aug. 24, La Luz Trail plus 2; Oct. 19, Albuquerque Marathon; Nov. 2, 4th annual Triathlon of Albuquerque, the Jay Benson Memorial.

* * *

Arts & Crafts--This facility's hours of operation have been changed: Sundays - 12:30 to 5, Mondays - closed, Tuesdays through Thursdays - 1:30 to 9, Fridays - 9 to 1, and Saturdays - 9 to 5.

LAB NEWS

Published every other Friday

SANDIA NATIONAL LABORATORIES

An Equal Opportunity Employer

ALBUQUERQUE, NEW MEXICO

LIVERMORE, CALIFORNIA

TONOPAH, NEVADA

Editorial offices in Albuquerque, N.M.

Area 505 844-1053

FTS 844-1053

ZIP 87185

In Livermore Area 415 422-2447

FTS 532-2447

john shunny is editor

&

don graham ass't. editor

chuck cockelrears & norma taylor write

louis erne does picture work

aided by gerse martinez

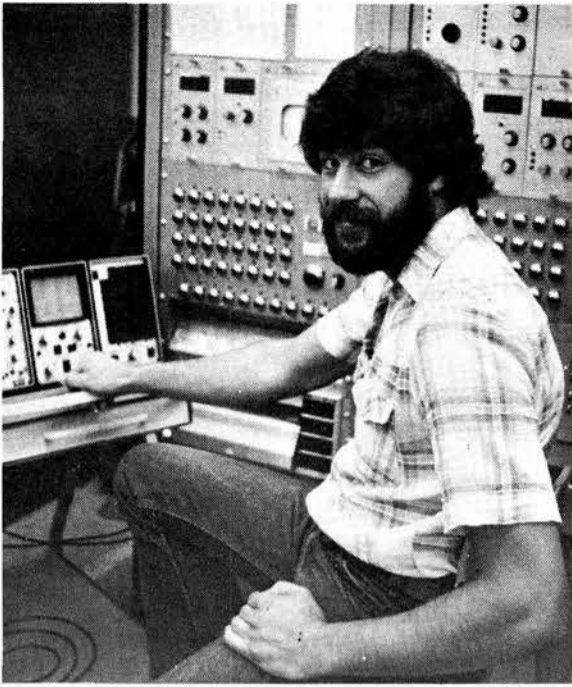
barry schrader & lorena schneider report livermore.

LIVERMORE NEWS

VOL. 32, NO. 13

LIVERMORE LABORATORIES

JUNE 27, 1980



JOHN LIPPOLD (8316), winner of the American Welding Society's William Spraragen Award, is shown with SNLL's new Gleeble 1500, a thermo-mechanical, high-speed tester used for investigation of weld-metal properties.

Sandian Receives Research Paper Award

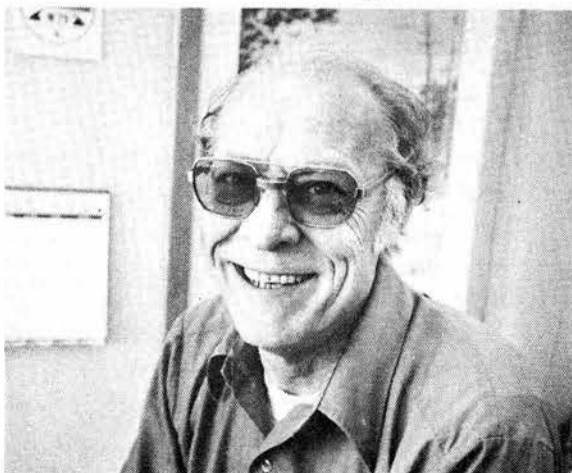
A research paper on austenitic stainless steel weldments has earned John Lippold (8316) the American Welding Society's William Spraragen Award for 1979. The award was made at the AWS annual meeting in Los Angeles in April.

A staff member in SNLL's Materials Science Division, John was recognized for the best research paper published in the *Welding Journal* during the year 1979. The winning paper, "Solidification of Austenitic Stainless Steel Weldments," presented at the previous AWS annual meeting, was based on work done as part of John's PhD thesis while a graduate student at Rensselaer Polytechnic Institute. The paper was co-authored with Warren Savage, Professor of Metallurgy at RPI, John's graduate advisor.

At Sandia, John continues research into austenitic stainless steels with the aim of developing alloys more crack resistant and reliable.

John earlier gained the 1977 Charles Jennings Memorial Award, presented by AWS for the best research work published from a college or university. His paper, "An Investigation of Hot Cracking in 5083-0 Aluminum Alloy Weldments," was based on his master's degree work. John earned BS, MS and PhD degrees in materials engineering from RPI.

Retiring



Ken Helmstadter (8111)

Sandia Poet Publishes Book

Engineer and poet Jim Fish (8452) has just published a collection of his latest poems in a book called *Jim and I*.

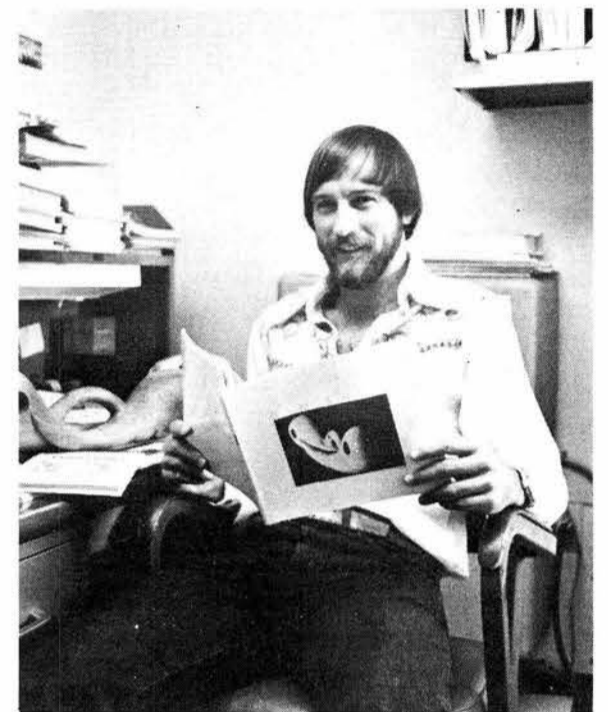
Jim was raised on a ranch in west Texas where he spent most of his time on a horse, working stock and building fences. His inclination to science led him to Rice University for a Master's degree and to Princeton for a PhD, both in chemical engineering. He then spent a year in Cuernavaca, Mexico, on a National Science Foundation post-doctoral fellowship before joining Sandia Livermore's solar program.

While at Princeton, short articles of his appeared in the *Wraparound* section of *Harper's Magazine* and in the short-lived revival of *Harper's Weekly*. In 1975, he published "Firemiles," a collection of poems written over the previous five years.

A recurring theme in both of his books is west Texas, but mountains and outdoor activities are playing a stronger role in his poetry as his interest in mountain climbing and cross country skiing develops.

Jim is also a woodcarver, and a photo of one of his works of sculpture appears on the cover of his new book. The sculpture is Jim's first major woodcarving effort. Previously, he concentrated on building furniture that he designed with his wife Mim, also a member of SNLL's technical staff (8326).

Carved from maple with hand tools, the sculpture depicts two figures—one smooth, the other still rough. "I feel there are at least two sides to everyone," Jim explains. "You may conduct yourself professionally differently from the way you conduct



JIM FISH (8452) with his newly published collection of poems and the wood sculpture which wife Mim (8326) photographed for the book's cover.

yourself outside of work. Then, too, people will have interests different from those of their profession so that they live in two worlds. My two worlds happen to be engineering and writing."

Poetry doesn't come easy, states Jim. "Seldom does a poem fall out of the sky in a complete form. Starting with an idea, I usually work through many revisions before showing the poem to anyone. Ideas come at random—the revisions I do evenings. Typically, I spend two to three hours at my desk several evenings a week."

Take Note

J. W. Bautista Vidal, former Secretary of Industrial Technology to the federal government of Brazil, recently visited Sandia Livermore. Mr. Vidal, who is in this country on an Eisenhower fellowship, toured engine and coal combustion experiments and was briefed on the new Combustion Research Facility. He was hosted by John Marion (8201) and Robert DeWitt, director of the DOE NOVA project office at LLNL.

Sympathy

To Connie Visbeck (8153) on the death of his father-in-law in Livermore, May 4.

To Jack Renaud (8213) on the death of his brother in Colorado Springs, June 1.

To Val Black (8441) on the death of his mother-in-law in Logan, Utah, May 27.

To George Smith (8322) on the death of his father-in-law in Springfield, Mo., June 2.

To Henry Hanser (8445) on the death of his father-in-law in Arcadia, June 8.

PLEASURES

I take delight
In sharpening knives
For the mathematics
That dance along the edge

Two planes of steel
Converging
To a line

Perfection
That slides thru the whole
Spreading the two halves
Magically

I take delight
In building fires
For the poetry
That dances in the flames

Colorless gases
Exploding
Into light

I take delight
In loving you

Take Note

Bill Burnett, manager of Environmental Health Dept. 3310, has sent us an interesting booklet entitled "Radiation Risks for Nuclear Workers." Published by the Atomic Industrial Forum, the booklet is a no-nonsense, no-melodrama survey of radiation covering natural and man-made sources, standards for occupational exposure, the biological effects of radiation, and related material. If you want one, you can call on 4-5655 or send your name and organization to "Radiation," Dept. 3310.

* * *

Red Cross 1st aid instructor Dale Buchanan (4314) reports that he plans to offer the advanced course (54 hours) starting July 14 and continuing through Aug. 22 at the Red Cross building on Monroe and Copper NE. Classes will meet Monday, Wednesday and Friday evenings from 7 to 10. The \$9 fee includes cost of the text. You can reach Dale on 4-3451.

* * *

Accidents have taken a toll of Sandians during the last month. Ray Brin (1540) and his wife Pat are recovering from injuries suffered in a head-on collision near Springfield, Mo. The driver of the other car apparently suffered a heart attack and lost control of his car; he subsequently died. Ray and Pat—both in casts and both in traction—are sharing a Springfield hospital room. Ray's staff reports that although their injuries were severe, they are improving and hope to be returning to a local hospital within a few days.

Bob Woods (4533) was crossing Central at Moon on his bike when a car apparently ran the light, broadsiding Bob. He went over the hood into the windshield, smashing it with his (fortunately) helmeted head. He spent a few days in intensive care and is now recuperating at home. Readers may remember Bob for his bike trip through Greece last year, which was written up in LAB NEWS.

* * *

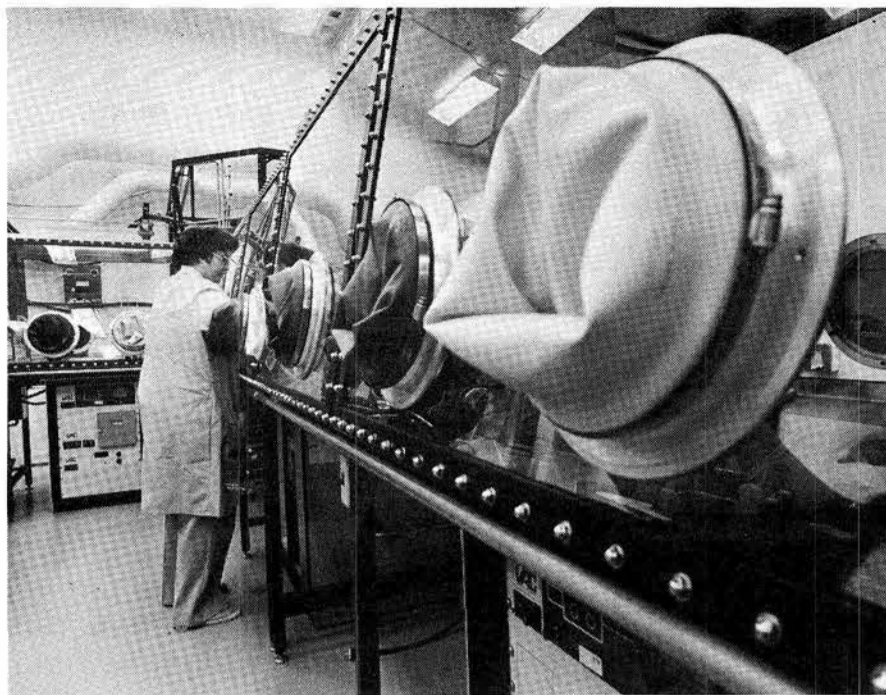
Not Exercising: What's Your Excuse? is the title of Medical's next Go For Health program, set for Tuesday, July 8, in Bldg. 815 (outside the Tech Area) from 12 to 12:30 p.m. Larry Clevenger, MD, and Gwen Gorman, nurse practitioner, will present the program, which deals with the role of exercise in good health. Brown baggers are welcomed.

Speakers

J. M. Hueter (3521), "Creativity—Choice or Chance?"
Duke City Civitan Club, May 20, and Association of Credit Unions, May 29, Albuquerque.



Here's an item you'd best tuck in your billfold in case you run into trouble on a California highway. It won't do you any good to call for an emergency vehicle, because the state Department of Transportation, so we're told, has changed its name to "major incident response unit." In a real emergency, who could think of a name like that?



GLOVE BOX, one of eleven in the Hot Cell Lab, is used by chemist Ellen Edge. The HCL facility is the only one of its kind in the country.

Continued from Page One

Hot Cell Laboratory

oxygen and water. Materials with low levels of radioactivity (less than 100 millicuries) may be processed in these boxes.

Another room of the HCL houses three steel containment boxes, ranging in length from 7½ up to 15 feet. These six-foot-wide, eight-foot-high boxes accommodate materials having up to 18,000 curies of activity. Located behind 42-inch concrete walls and shielding windows almost 22 inches thick, the boxes operate with a 95 percent nitrogen/five percent oxygen atmosphere to insure safety when work is being done with volatile or reactive materials.

The HCL also contains a separate analysis area with a scanning electron microscope and transmission electron microscope, generally used for examination of test sample cross sections. Other analytical tools include a microprobe for study of types and locations of elements in test samples, and an x-ray diffractometer for identification of test sample crystalline structure.

A major advantage of the HCL is its proximity to Sandia research reactors, says Dan Sasmor of the hot cell division. "We can begin analysis of some experiments almost immediately. This enables us to observe transitory phenomena," he adds.

In the first use of the HCL, in the glove-box lab, scientists cut a reactor fuel

pin into one-inch sections, packaging them into experiment containers. The containers were inserted within Sandia's Annular Core Research Reactor and exposed to neutron pulses to cause the pin sections to fission and behave as if a fuel disruption incident had occurred.

HCL will also be used for analysis of reactor safety experiments, dealing with questions on post-accident heat removal and fuel/coolant interaction and with investigations of nuclear waste. Investigations of weapon fissile materials subjected to intense neutron environments are also planned.

Development and construction of HCL was sponsored by DOE and NRC.

The facility, operated by Department 4450, was several years in development and construction. Many Sandia organizations helped:

Department 4420 initiated the project; Department 5820 provided design assistance and suggestions relating to the facility's technical capabilities; Department 3310 monitored safety aspects and installed various safety equipment in HCL; and Division 1767 (formerly part of Department 1130) served as the design engineering organization and assisted in equipment installation. Plant Engineering 3600 had overall responsibility for construction.

Events Calendar

June 27-28—"The King and I," Albuquerque Civic Light Opera, 8:15 p.m., Popejoy.

June 27-29—NM Arts & Crafts Fair, State Fairgrounds.

June 27-July 13 [weekends]—"The Glass Menagerie," Adobe Theatre, 8:30 p.m.

June 28—Day Lily Show, 2-6 p.m., Albuquerque Garden Center, 10201 Lomas NE.

June 28, July 2, 5, 10—"La Traviata," Santa Fe Opera, 9 p.m. Tickets: 982-3855 in Santa Fe, The Broadway, Albuquerque.

June 29—Chamber Orchestra of Albuquerque, 4 p.m., Keller Hall.

June 29—First United Presbyterian

Church: Chancel choir/band, Independence Day Celebration, 10 a.m., I-25 & Grand Ave.

June 29—San Pedro Feast Day: Rooster Pull, Acoma Pueblo; Grab Day, San Felipe Pueblo, no dances.

July 4-5—Rocky Mt. Midget Racing Assn., Speedway Park, 8:30 p.m., South Eubank.

July 4-6—Indian Pueblo Cultural Center: Third annual Arts & Crafts Fair, 8 a.m.-5 p.m.; dances, craft demonstrations; 12th & Menaul NW.

July 4, 9, 12—"The Magic Flute," Santa Fe Opera.

July 11, 16, 19—"Eugene Onegin," Santa Fe Opera.

TM System Monitors Coal & Oil Shale Burn

TM Advanced Development Division 1584 under Milo Navratil has developed and successfully tested an underground telemetry system for use in coal gasification and oil shale retorting zones. The system transmits information from thermocouple strings to a nearby underground receiver.

It consists of a very-low-frequency FM transmitter located below a coal seam or shale bed and attached to thermocouples positioned within the coal or shale, a buried receiver located outside the resource recovery area, and a data processor on the surface connected by cable to the receiver.

Optimally, the wireless TM system is used in combination with a conventional thermocouple string, linked by wire to the surface. The combination should lead to better understanding of the process in which air is injected down a well into a coal seam or shale bed, a fire is started and coal gases or shale oil are freed and returned to the surface. The new data link has been used during a coal gasification operation, and plans are being made for a field test with oil shale.

In coal gasification, the combustion front advances slowly along the bottom of the seam toward a recovery well where the gases are extracted. Instrumentation wells are drilled into the seam between injection and recovery wells so that thermocouples (and other instrumentation) can be strung through the seam to provide data about the extent and position of the combustion zone.

When the hot combustion front (up to 1100°C) progresses along the seam with its leading edge at the bottom, wires above the burn front connecting thermocouples to the surface remain intact. But when the combustion front moves across the top of the seam (in an action called a thermal override), the wires are damaged.

When this occurs, temperature data from the damaged thermocouple string are lost. Sandia researchers believe this problem is overcome by using a second thermocouple string connected to a telemetry package beneath the seam. The thermocouples and telemetry package are emplaced in a drill hole.

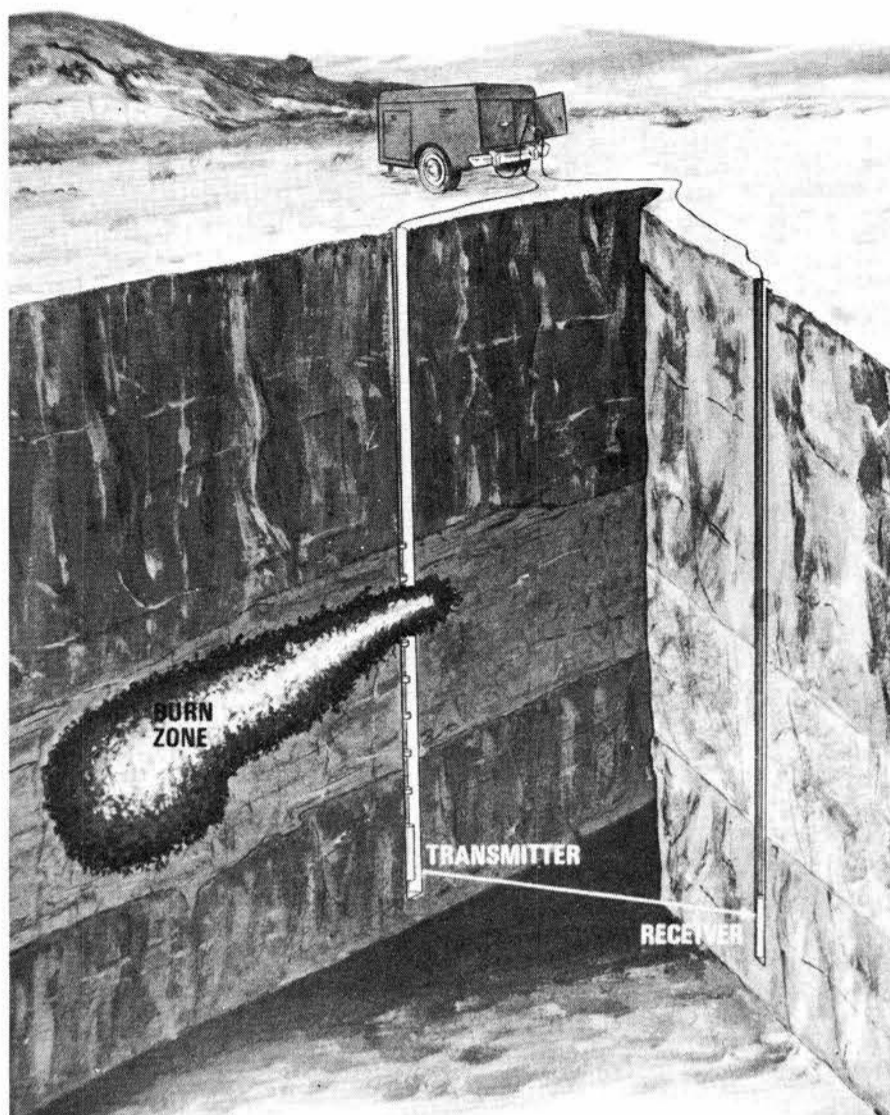
The dual system should help guarantee temperature data regardless of how the reaction front progresses.

The Sandia system includes a measurement-transmitter unit (four inches in diameter and 146 inches long) attached to the bottom of a thermocouple string and controlled by a crystal clock. Power is provided by lithium sulfur dioxide batteries with a design lifetime of 180 days.

The clock activates the unit hourly for temperature measurements and every six hours for transmission of stored data to the receiver. Data are transmitted in digital form. Tests indicate that the 14.5 kHz frequency used is satisfactory in highly conductive soils.

The receiver, four inches in diameter and 63 inches long, can be located up to 150 feet from the transmitter. It is powered from the surface via cable.

The system has been used in two coal gasification experiments and is being



NEW telemetry system to monitor underground burns, transmits temperature data by wireless link to underground receiver. Thermocouples above burn, which damages equipment, continue to transmit data to surface via conventional wire link. Use of both systems gives more complete data on combustion process.

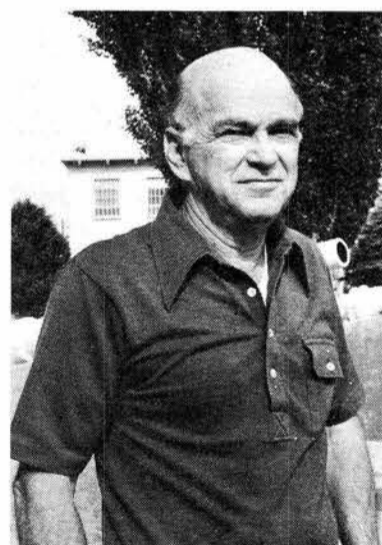
emplaced in an oil shale bed scheduled for retorting later this year. The most recent test was in the Hoe Creek coal gasification experiment being conducted by LLNL near Gillette, Wyo.

A future version of the system will include a two-way, very-low-frequency link between the receiver and transmitter so that the system can be controlled from the surface as well as by the crystal clock.

Retiring



James Reck (1474)



Armand Fink (4733)



Wesley Johnson (3417)



Adolfo Sanchez (3423)



Robert Williams (3612)



Donald Wade (3426)

The Martineztown House of Neighborly Service

For almost 50 years the House of Neighborly Service has been a part of the Martineztown-Santa Barbara neighborhoods. A United Way Agency and recipient of Sandians' ECP funds, the House is also supported by the United Presbyterian Church. The first activity of the House—a boys' recreation program—was started by the Second Presbyterian Church in the 1930s. Today the House, located in buildings adjacent to the church, has a staff of 13 part- and full-time members to provide a variety of services for the neighborhood.

George Mercer is executive director. A former Peace Corps volunteer, George says he discovered that he liked working in Spanish-speaking neighborhoods. After returning from Central America, he earned a Master's degree in social work and moved to Albuquerque. He has been director of the House for three years. Policies for the House of Neighborly Service are established by a 24-member board of directors. Sandians Jay Hughes (3731) and Richard Gutierrez (5523) are board members; Doris Harrison (wife of Tom, 4721) is board president.

"Activities of the House," George says, "have been designed for the neighborhood and, in some cases, we have three generations of a family participating." The formal programs include:

- Informal Adult Education—classes for ages 21 and over in ceramics, doll-making, basketry, crocheting, cooking and sewing, providing a chance to learn new skills and to come together for social gatherings.

- Recreation—activities for youth ages 5-17 and persons 55 and over include: summer day camp, field trips, arts and crafts, swimming at city pools, game room activities, ice and roller skating, and organized team sports. Informal counseling is provided as well.

- Camping—weekend and week-long camping experiences for all ages.

- Social Development—learning how to be part of a social group and how to adapt to group behavior and decision making. Groups are established according to interests and include Cub Scouts, a Junior Optimist Club, a Senior Citizen Billiards Team, a Girl's Teen Club and Senior Citizen Chorus.

- Counseling—services to all age groups in establishing eligibility for social services such as food stamps, financial assistance, social security, etc.

House staffers also transport older persons and assist in the translation and interpretation of documents from English to Spanish.

"We're providing genuinely useful services in this neighborhood," George says. "We're flexible, and this enables us to meet important needs that usually aren't considered when budgets are being discussed. For example, a blind lady recently called. She'd purchased a table and it was delivered unassembled. So we sent someone to her home and put it together for her. Sometimes we just replace a lightbulb for an elderly person who is hesitant about heights. Occasionally we'll handle minor repairs or check out an air conditioner.



AFTER a wade and a swim in the Civic Plaza fountain (see cover photo), these young people were happy to assemble for a photo. Other activities sponsored by the Martineztown House include arts and crafts, educational field trips, and camping in the Sandias.

There is a cohesive feeling in this neighborhood—they think of us when they have problems.

"In the three years I've been here, we've concentrated on working with parents whose kids have problems. I can see a definite improvement. We cover the neighborhood to let people know about us. It's paid off—we often have a full house.

"We use volunteers, too, and, once in a while, we have an emergency situation where we need furniture—sofas, chairs, refrigerators." If you can help occasionally, call George on 242-4333.

Credit Union Reporter

Good News For Credit Union Members

by Red Turner,
Credit Union Manager

Reflecting changing economic conditions, the Board of Directors is pleased to announce that credit restraints have been removed, and a number of changes have been made to our loan policy, effective June 23.

Here are new rates and maximum terms:

Collateral	Interest Rate (APR)	Maximum Term (Months)
AIRCRAFT		
a. New	14.00%	60
b. Used	15.00%	60
AUTOMOBILES		
a. New	12.00%	48
b. Used	13.00%	36
BOATS, MOTORS & TRAILERS		
a. New	13.00%	36
b. Used	14.00%	36
LIFE INSURANCE	12.00%	60
MOBILE HOMES		
a. New	13.00%	60
b. Used	14.00%	60
MOTORCYCLES		
a. New	12.00%	36
b. Used	13.00%	36

PASSBOOKS & CERTIFICATES OF DEPOSIT	13.00%	48
REAL ESTATE***		
a. First Mortgage	12.00%	60
b. Second Mortgage	13.00%	60
c. FHA Title I Home Improvement	13.00%	60
RECREATION VEHICLES (MOTORHOMES)		
a. New	13.00%	48
b. Used	14.00%	48
REGULAR SHARES (SLFCU)	9.00%	60
SHARE CERTIFICATES (SLFCU)	+2.00%*	**
SIGNATURE	15.00%	36
STOCKS, ETC.		
a. Stocks, Bonds, Mutual Funds regularly listed in Wall Street Journal	12.00%	36
b. Bank Stocks & Securities	12.00%	36
c. All Other Securities	14.00%	36
STUDENT LOANS	12.00%	60
TRAVEL TRAILERS & CAMPERS		
a. New	13.00%	36
b. Used	14.00%	36

*Interest rates on loans secured by share certificates will be determined by adding 2.00% to the dividend rate we are paying on a particular certificate and then rounding the answer upward to the nearest even percent.

**The maturity date of the loan cannot go beyond the maturity date of the certificate being used as collateral.

***Loans using real estate as collateral will be restricted to a maximum amount of \$15,000.

The Board of Directors is also pleased to announce that a dividend at an annual rate of 6% plus a bonus dividend of 1% per annum has been declared on regular share accounts for the second quarter, payable on July 1. Also, effective July 1, the dividends on regular share accounts will earn from the day of deposit to the day of withdrawal. Dividends will be compounded daily and posted to the account on the first day following each calendar month. It is anticipated that the dividend rate will continue to be 7% per annum for an effective yield of 7.25%.

Also effective July 1, dividends on share draft accounts will be compounded daily so that the 5.50% rate currently being paid will be an effective yield of 5.65%. While it is anticipated that sufficient funds for the specified dividends will always be available, federal regulations prohibit payment of dividends in excess of available earnings. Each member account is now insured to \$100,000 by the Administrator of the National Credit Union Administration.

Supervisory Appointments

EDDY McCLAIN to supervisor of Custodial Section V 3426-5, effective June 1. After coming to Sandia in March 1977, Eddy worked as a custodian for two years and, for the past year, has been a service clerk in the receiving organization. Eddy, a retired Air Force tech sergeant, served 13 years as a supply NCO and eight as a computer operator. His active duty included tours in Okinawa, Japan, Alaska, Puerto Rico, Turkey and Argentina.

Eddy completed the carpentry course at T-VI, attended Browning Business College for two years and is now enrolled at the U of A. He is a senior in the adult education program and will graduate in January with a degree in business administration. Off the job Eddy enjoys fishing and gardening. He and his wife Marzil have four children and live in NE Albuquerque.

* * *

TOM CUTCHEN to supervisor of Applied Physics Division 2353, effective June 16. Following graduation from Auburn University with a BS in engineering physics and an MS in physics, Tom joined the Labs as a staff member working in ferroelectric transducer technology. He took an educational leave of absence in 1965 to attend graduate school at the University of Virginia, where he earned a PhD in physics. Returning to the Labs, Tom worked in a number of electro-optic device programs that made use of PLZT materials. His primary responsibility was development of flash blindness protection goggles for Air Force pilots.

Tom is a member of the American Physical Society, the Optical Society of America and a senior member of IEEE. He also serves on the IEEE Committee on Ferroelectrics. Off the job he enjoys gardening and woodworking. Tom has worked with Boy Scouts for many years and is a holder of scouting's Silver Beaver Award. He and his wife Glenda have five children and live in the NE heights.

* * *

PHIL VOUTERIN to supervisor of Custodial Section IV 3426-4, effective June 1.

Since coming to Sandia in April 1957, Phil has been a messenger, stockkeeper, plant property clerk and investigator and service clerk. He was a motor pool dispatcher for 10 years and, more recently, has been a control analyst for the motor pool. Phil attended UNM for one year and has completed a number of T-VI courses. Before coming to Sandia he was with the postal service.

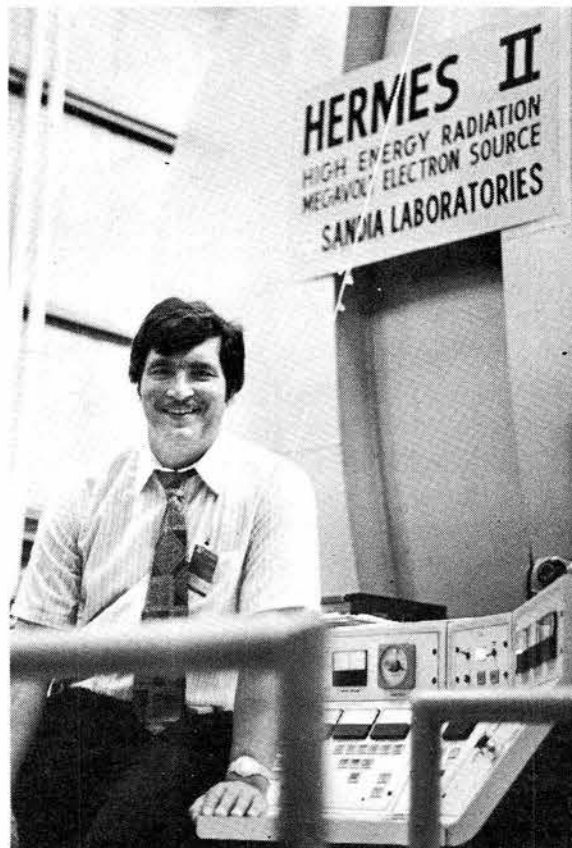
Phil served in the Air Force during the Korean conflict in the Strategic Air Command and the Alaskan Air Command. Interests off the job include gardening. Phil lives in NE Albuquerque.

* * *

JERRY ZAWADZKAS to supervisor of Simulation Operations Division 4233, ef-



PHIL VOUTERIN (3426-4), EDDY McCLAIN (3426-5) and TOM CUTCHEN (2353)



JERRY ZAWADZKAS (4233)

fective June 16. A security classification analyst since joining Sandia last November, Jerry was formerly operations supervisor for the Zeta Laser System at the University of Rochester's Laboratory for Laser Energetics. Before his work at the University he was a laser research specialist in the development of new fusion laser systems at the Exxon Research and Engineering Center in New Jersey.

Jerry earned his BS in physics from Columbia and his MS, also in physics, from City College in New York. He is a member of the American Physical Society. His leisure time activities include rugby and squash and playing the piano. During the '60s he played professional football for three years as a tight-end with the Detroit Lions and the New York Jets. He and his wife Katharina have four children and live in the NE heights.

feed back

Q. Currently, Sandia requires that first names on all documents, reports, and memos be abbreviated to initials. I find this practice cumbersome:

1. It is easier to remember a person's full name rather than initials and last name.

2. Using the telephone book to correlate initials with names is time consuming and often too much bother to do with any frequency.

3. When calling an abbreviated name on the telephone, one often resorts to addressing the person by his/her last name. This formality is unnecessary between fellow Sandians and is not conducive to friendly conversations.

4. Abbreviated first names give no clue of an individual's gender. Asking to speak with Mr. J. Doe can be embarrassing if "J" stands for Janet.

A. You state that "currently Sandia requires that first names on all documents, reports and memos be abbreviated to initials." That's not true.

Sandia does not require that only initials be used on documents, reports and memos. Personal preference of the author is the guiding authority. A review of various reports and documents in the Technical Information Department revealed that they were fairly equally divided between first name/middle initial and initials. A review of memoranda indicated a majority of them showed "initials only" had been used by the secretaries mainly for uniformity and as a means of saving time and space.

Inasmuch as personal preference is apparently the present policy, no change is warranted.

C. R. Barncord—3200

Remodeling Includes Passive Solar System

[Ed. Note—This is another in our series on residential solar systems built by employees. If you have a working system, tell us about it. Call 4-1053.]

* * *

"At night it's really great. We can see the moon and stars through the glass roof. We started sleeping up here last December before the new addition was complete," says expectant mother Chris Morgan (2614). She's standing in the new upstairs bedroom, part of an extensive remodeling project which incorporates a passive solar space heating system into her home near UNM.

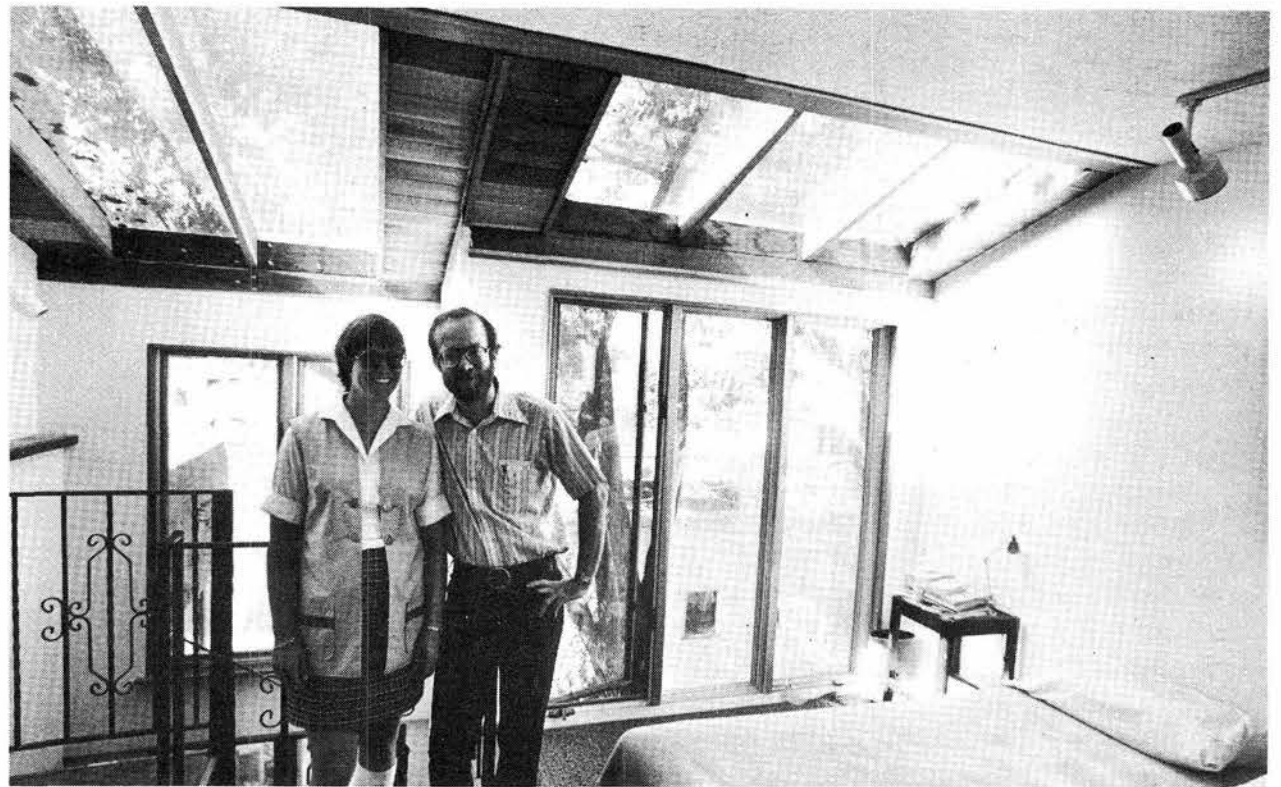
"Harold and I were faced with a modern dilemma," Chris says, "shared by many of our friends—young couples starting families and needing larger houses. We simply can't afford today's prices and mortgages. Or, in our case, we liked our little house, the established neighborhood and the convenience of the location. We didn't want to move."

Chris and Harold were married while both were college students. They moved into their two-bedroom home as renters in February 1971, managed to purchase it in July 1972—the price was right, \$15,000.

Harold finished his bachelor's degree in journalism and went to work for Modern Press. Chris completed her master's degree in computing and joined Sandia three and a half years ago. Harold went back to school to earn a master's in business. Now he edits the *New Mexico Business Journal*.

"So we decided to remodel," Chris says, "and do it to the extent we could with a passive solar system."

Key elements in the system are a double glazed south-facing glass wall on the new enlarged dining area and greenhouse. Water-filled fiberglass cylinders—eight of them 12 inches in diameter, four to six feet high, containing some 280 gallons of water—are integrated into the shelving for the plants in the greenhouse. This area is not complete yet but the thermal mass of the cylinders retains heat in winter months. Also, a brick floor in the dayroom of the



GLASS ROOF which partially covers the upstairs bedroom is enjoyed by Chris and Harold Morgan in their extensively remodeled home near UNM.

new two-story addition absorbs and holds heat.

"Natural convection brings this heat from the greenhouse and dayroom into the rest of the house and vents it out the upstairs bedroom window. We open a small window on the north side," Chris says. "Last winter, we used the auxiliary wall heater only twice up here, and the thermostat was set three degrees lower in the old part of the house than in previous years. Our fuel bills, even with the increase in prices, were slightly lower than before."

The extensive remodeling project includes a new carport, new entryway, a new room that used to be the front porch, a second bathroom, a new utility-pantry-storage room, new cabinets and appliances in the kitchen plus the two-story addition at the back of the house with the dayroom and upstairs bedroom. A fireplace with a Mexican tile front and hearth is in the bedroom. A wrought iron circular staircase is an attractive architectural feature, and it saves space. South wall of the two-story addition is double-glazed thermal glass.

"What we did," Harold says, "is open up a basic 1939 stucco box and stack some

new elements in back. We wanted a feeling of openness and space. John Bland, an old high school buddy who now heads Architectural Concepts, took our ideas, improved them, and made them work. We've got the plumbing installed for a solar hot water heater but that will have to wait for a while. The collector will be on the roof."

Chris and Harold, who did much of the "grunt" work themselves, are now painting the interior. They ripped out walls and plaster and used a 16-lb. sledge to break up the old patio and driveway.

"We're not finished," Chris says, "and we keep learning about the ventilation—which windows to open and which to close. We have to get some styrofoam panels for some of the glass areas and we're thinking about drapes. What we have works—it's just a matter of fine tuning now."

The couple is happy with the additional space and expanded living area. And they're satisfied with the new mortgage.

"The project cost \$35,000," Chris says, "but we added a greater value to our home—and we didn't have to move."

Chris will take a leave of absence in September when the baby is due and return to work in six weeks.



GLASS WALL on south side of two-story addition to the home of Harold and Chris (2614) Morgan is part of a passive solar space heating system.



QUIT SMOKING! That's the message of Phil and Arlene and they're prepared to help you quit in their next Quit Smoking Clinic. Sponsored by Medical, the Clinic will be held on Tuesday and Thursday afternoons from 3:30 to 5, starting July 8 and ending July 31. Phil is Phil Chero-miah, a counselor in Medical, and Arlene is Arlene Price, clinical psychologist in Medical. To sign up, call on 4-3993 or 6-0021. Their previous clinics have produced an impressive bunch of non-smokers. Why not give it a try?

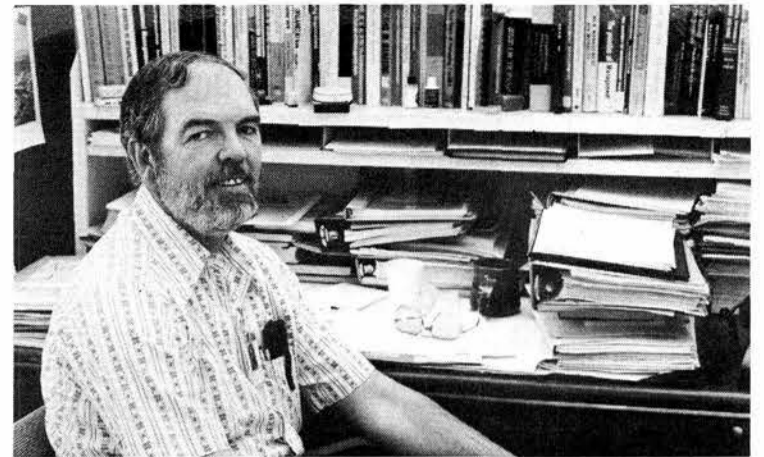
MILEPOSTS

LAB NEWS

JUNE 1980



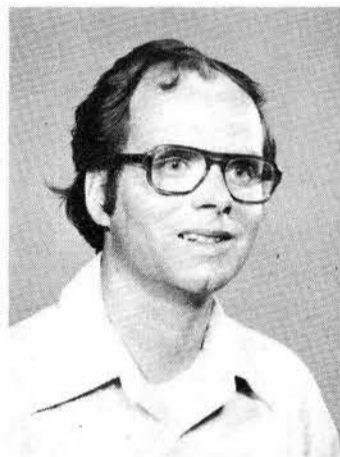
Edwina Kiro - 4250 10



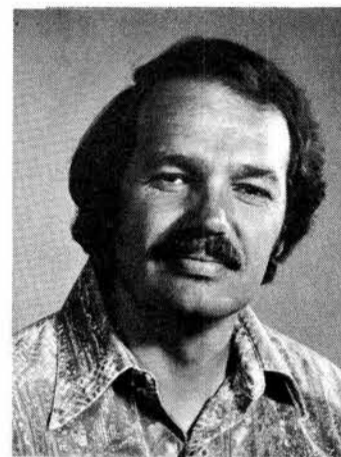
Joe Danclovic - 3521 25



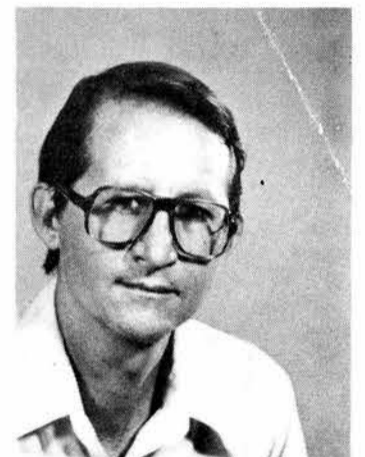
Ruth Jones - 1410 15



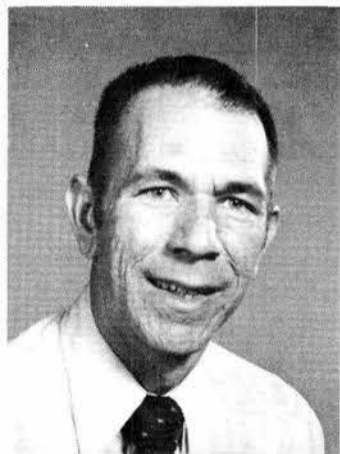
Gary Phipps - 1556 10



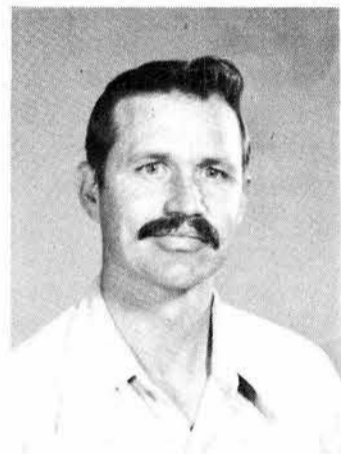
Don Lobitz - 5521 10



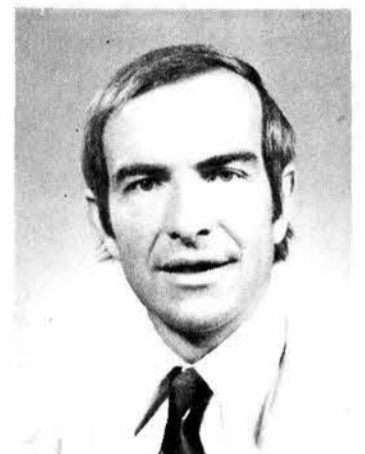
Herb Sutherland - 4732 10



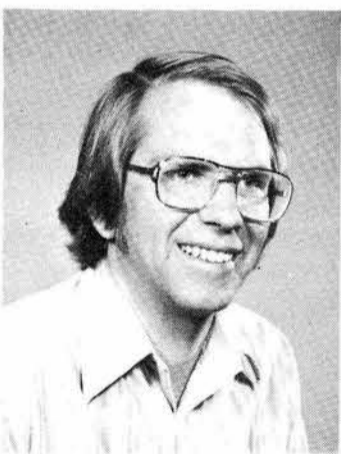
Dave Caskey - 4723 15



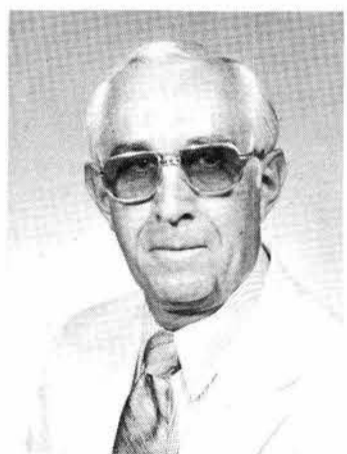
Wayne Miller - 2325 10



Dick Hay - 5627 15



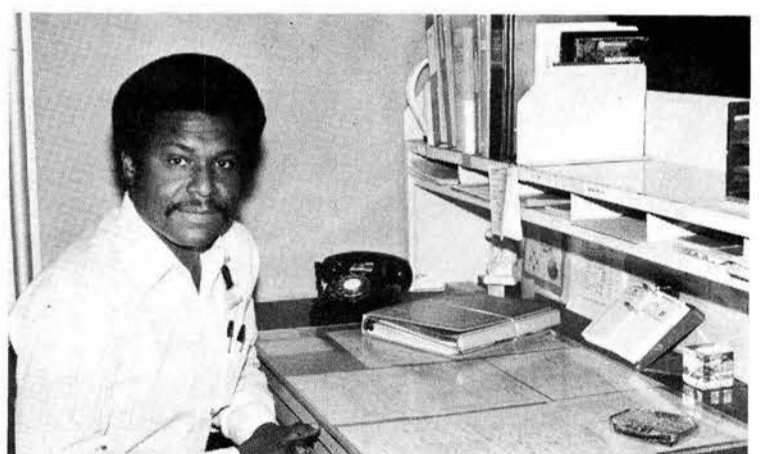
Wayne Sundberg - 5511 15



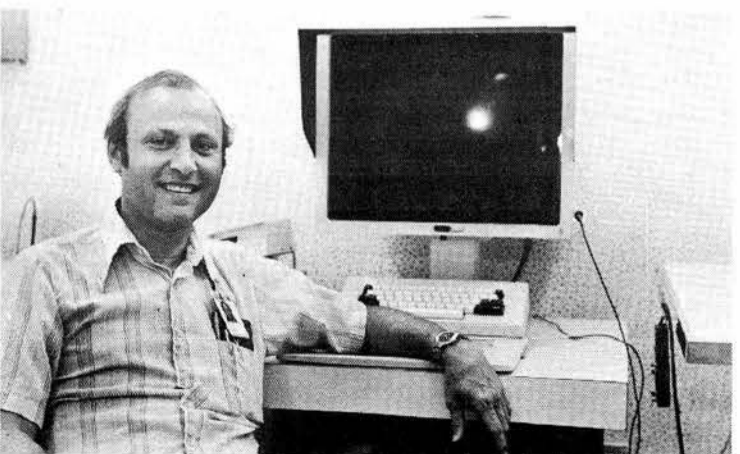
Eldon Frame - 1421 25



Dick Othmer - 5524 25



Art Hardeman - 2626 15



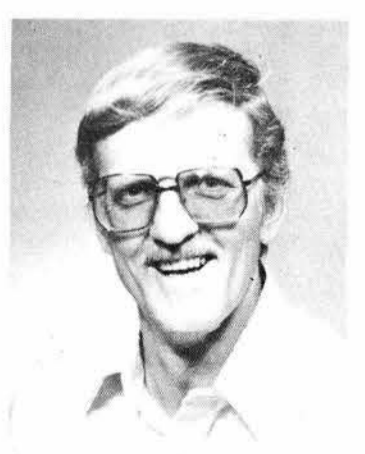
John Brane - 2454 20



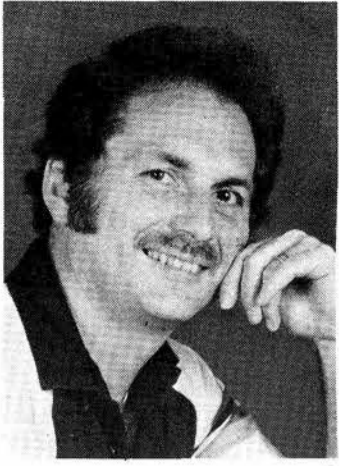
Leo Scully - 4541 20



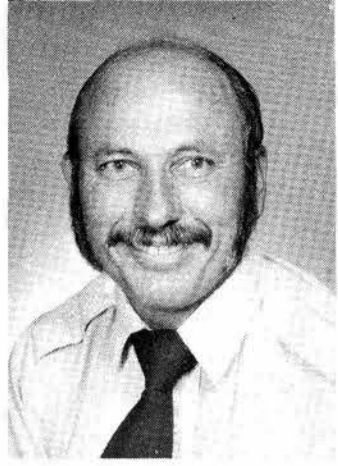
Duwayne Branscombe - 2335 20



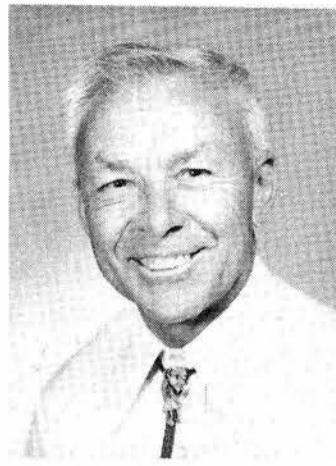
Arlo Nord - 1542 20



Jim Dremalas - 8152 20



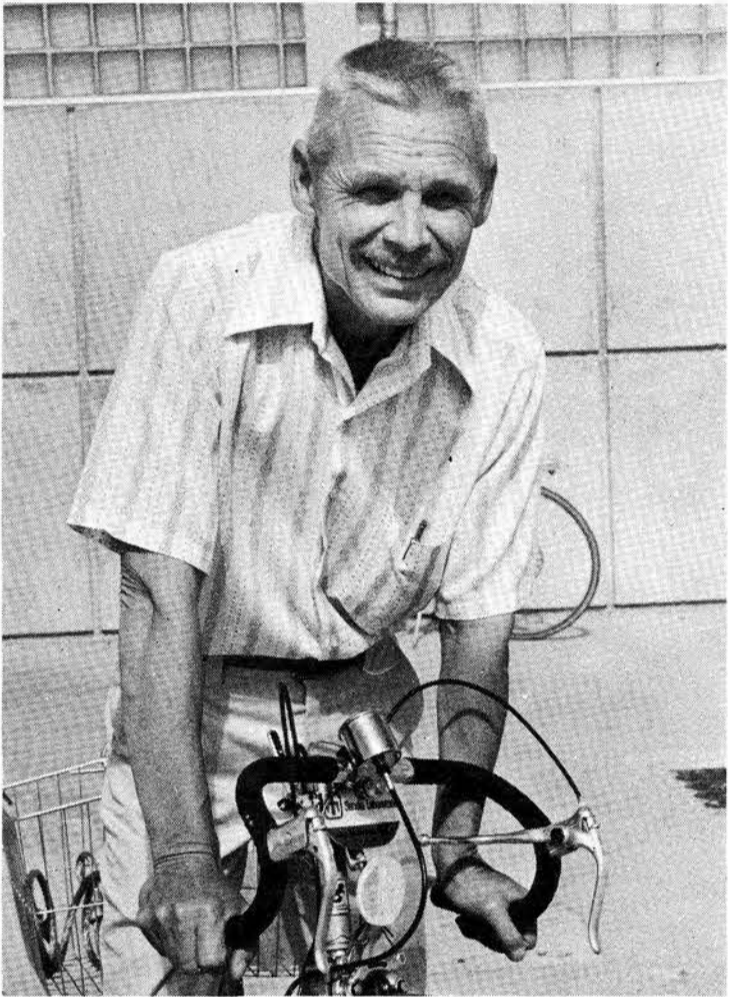
Jim McDowell - 4719 20



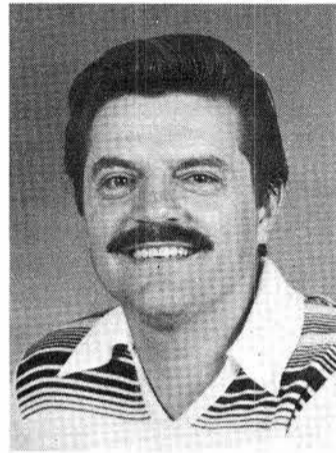
George Voda - 2522 25



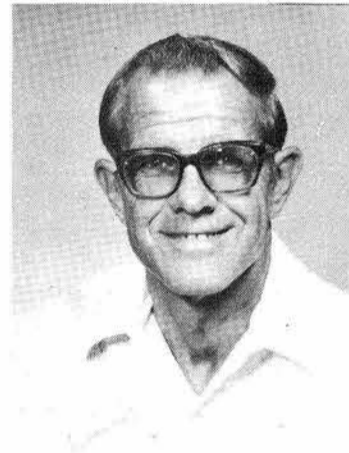
Curt Franklin - 8153 20



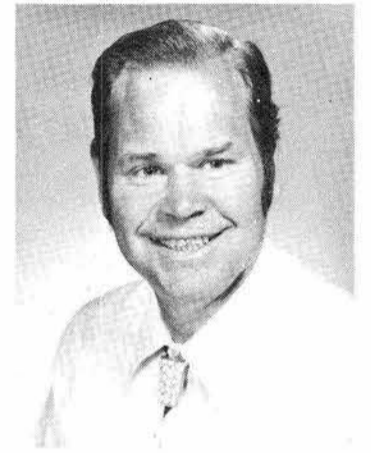
Vic Sirwinski - 1426 25



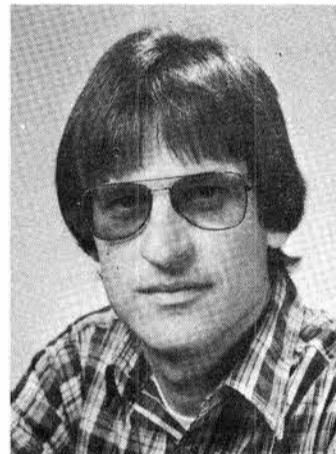
Jim Reitz - 8424 15



Billie Pierce - 1556 30



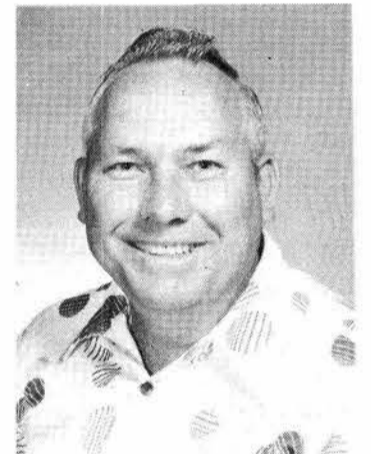
Bill Myre - 1700 30



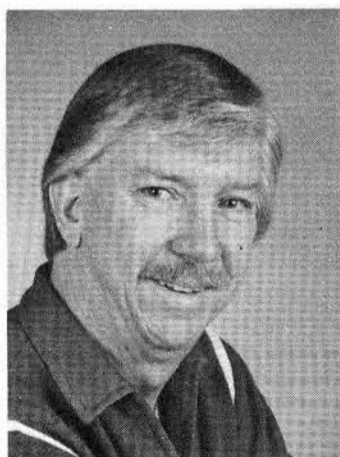
Bill Ashurst - 8354 15



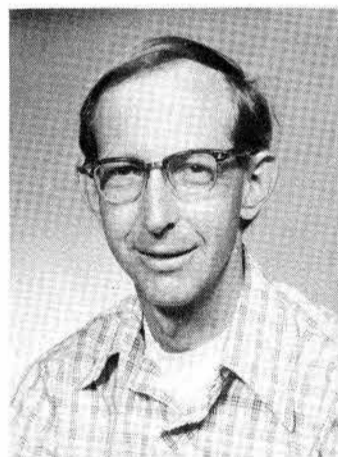
Leo Klamerus - 4442 20



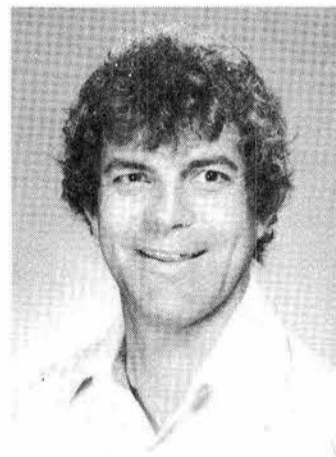
Leroy Gibson - 1483 25



Glenn Smith - 8272 20



John Freeman - 4241 15



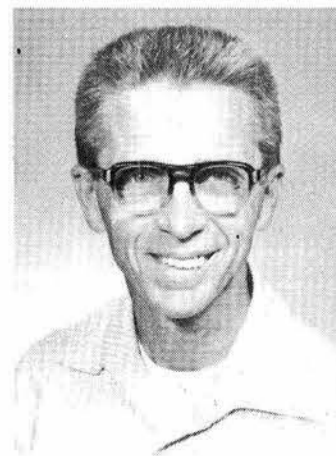
Paul Beck - 1244 15



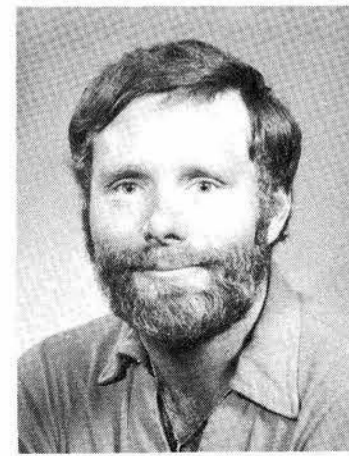
Les Baumann - 3432 30



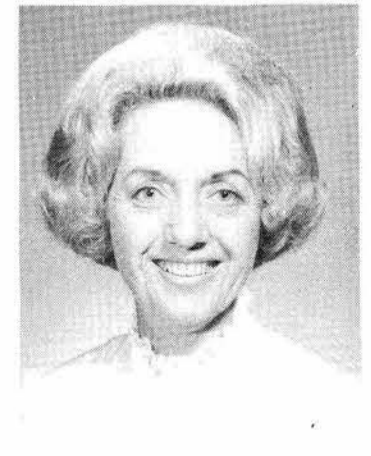
Doyle Morgan - 2164 20



Gene Cnare - 4221 25

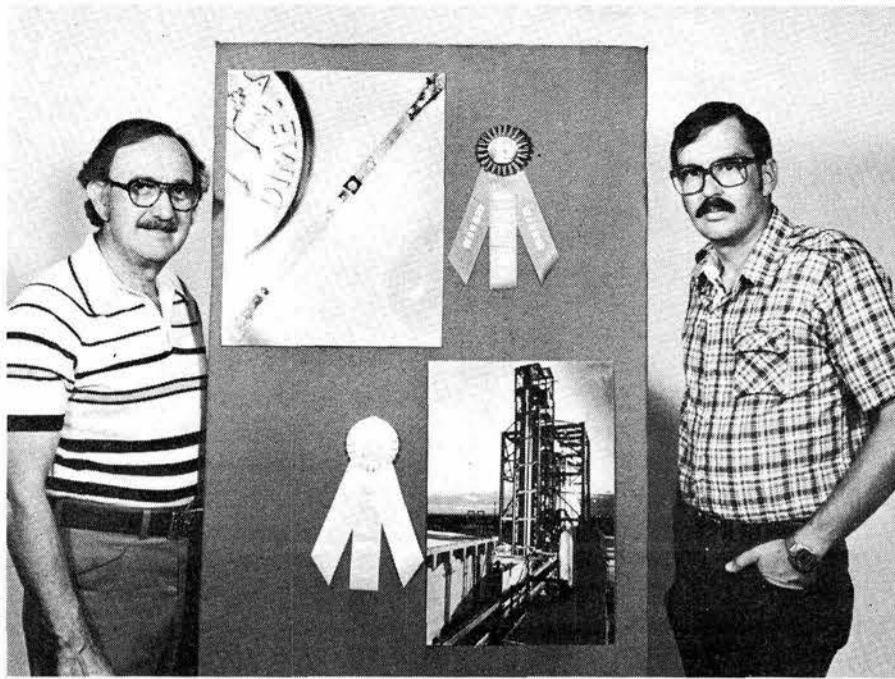


Bill Shurtleff - 1521 15



Freddie Weber - 3150 20

LAB NEWS photographer Louis Erne (at left) and photographer Russell Smith of Still Photo Section 3155 took second and third prizes, respectively, in the recent Industrial Photographers of the Southwest conference and competition. Their entries, shown here, were in the On-The-Job-Color category.

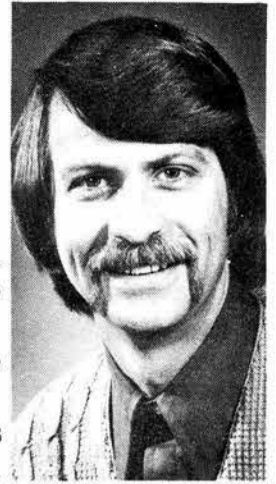


Death

Hugh Taylor of Motion Picture-Video Services Division 3153 died suddenly June 15. He was 42.

He had worked at the Labs for 17 years.

Survivors include his widow and a daughter.



A junior college journalism teacher in California recently received a student paper that included the following: "I've always known I'd have a career in writing because my friends say there's this ora about me."

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

CLASSIFIED ADVERTISING

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

RULES

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

MISCELLANEOUS

- TI-58 programmable calculator, \$60; Paramount track bicycle, complete, \$500; 60-yr.-old German violin, \$600. Downs, 294-5283.
- CAR under-dash radio, Pioneer KP500 FM/cassette, Clarion 100EQBZ 5-band equalizer, Jensen coaxial & Clarion triaxial speakers, \$375. Hesch, 881-9874.
- SEARS chain saw, 4.9 c.i. gear drive, extra blades & chain, rings & seals just installed, \$85. Meikle, 299-4640.
- MATTRESS & box springs w/frame, twin size, vibrating mattress, \$95. Shaffer, 836-1610.
- BMW motorcycle rack, square tube Bates, \$20. Anthes, 884-3644.
- UTILITY POWER POLE for trailer, complete w/all hardware, \$125. Rody, 281-1187.
- TWIN BED, mattress & box spring, brass headboard; Craig stereo AM-FM w/8-track player. Salazar, 255-1301.
- SEARS apt. size refrigerator w/freezer compartment; can help deliver in my pickup, \$100. Wheelis, 298-2330.
- KELSEY-HAYES elec. brake controller; tune-up parts for older Dodge-Plymouth 6-cyl. engines. McGuckin, 299-1342.
- CAMPDOWN small camper for lwb, \$400, camper jacks, new, \$100. Quintana, 898-6718.
- CAR RADIO, AM, push-button Motorola, from '79 Ford, \$25. Tessler, 296-1025.
- TORO Carefree cordless elec. 16" mower, '79 model. Gonzales, 883-4431 after 5.
- KENMORE 36" elec. stove top, 5 yrs. old, 4 burners & grill, needs low switch & indicator light for 1 unit, harvest gold, \$75. Nogales, 247-1178.
- FEDERAL PA-100 siren 150w, \$150; Heathkit GD-18 siren & speaker 75w, \$75 ea., \$125 both; Lafayette micro-P100A monitor, \$20. Bukaty, 881-9551.
- SCUBA regulator & tank backpack, \$60; infant changer, white, \$35. Plunkett, 821-7757.
- LAWN MOWER, Sears elec., reel type, 20" w/catcher. Apodaca, 344-7592.
- MOTORCYCLE HELMET, small size; videotape game; sprinkler, covers lg. area. Tripp, 266-4626.

TRANSPORTATION

- PIONEER KP-500 car stereo, FM-cassette, \$130; 205/78x14 steel radial, \$15; Tappan dbl. oven, slide out burners, \$125. Martin, 294-0655.
- TOULOUSE GEESE, mated pair, \$35. Patton, 281-5209 after 7.
- MATCHING couch & chair. Noel, 884-4491.
- 13' CAMP TRAILER, '78 Roustabout, sleeps 4, stove, heater, ice-box, elec. brakes, spare, extras, \$2100. Brammer, 266-5158.
- 8' SEARS new aluminum patio cover w/uprights & all hardware, \$125; Sears elec. dryer, needs heating element, \$25. Fisher, 298-0626.
- USED 1/2 hp deep well submersible pump w/50' of 1" galvanized pipe & 82-gal. pressure tank. Weaver, 281-5140.
- TIRES: four 5.95x13 Fulda, from '77 VW, 3 w/good tread, \$8 total. Lambert, 344-9012.
- PHOTOGRAPHIC enlarger trays, developing tank, trimmer, tweezers, etc., \$20. Philgreen, 256-1956.
- FLOOR JACK, Walker 2-ton, make offer. Laskar, 299-1024.
- TWIN BED, 80" box spring, mattress, bed frame on casters, \$50; twin box spring, new, bed frame, \$25. Dalphin, 265-4029.
- LARGE tan/brown braided rug, \$15; white oval dinette table w/leaf, \$15; bamboo shade, 12", \$8. Peterson, 256-7514.
- SINGER Touch & Sew sewing machine w/walnut cabinet, button-hole attachment & decorative stitches, \$175. Mehlhorn, 294-5685.
- FRENCH-AMERICAN kittens, free for good home. Schwarz, 299-8709.
- FOUR RV tires, Continental 800x16.5 tubeless, 8-ply, good for 10,000 more miles, \$50 or best offer. Hochrein, 268-9204.
- COMPLETE woodworking shop, discount if you take it all. Calek, 281-3285.
- RIDING MOWER, used 2-3 hrs., 5 cutting heights, forward/reverse, vari-speed, \$385; trade guns, trolling motor, etc. Cook, 869-6921.
- WASHER, Sears Kenmore, 3-cycle, \$40. Eckelmeyer, 296-2148.
- KING SIZE hide-a-bed, Simmons Classic; wood table, 3'x5'; Char-broil grill rotisserie. Moore, 884-4064.
- TOW BAR, can pull vehicles over 5000 lbs., \$75. Stevenson, 242-7635.
- CHILDCRAFT, 15 volume set, 1961 edition, \$30. Moyer, 881-3879.
- REFRIGERATOR, approx. 12 cu. ft., Frigidaire, white, \$35. Ruminski, 256-0770.
- BED, single, wood headboard & footboard, \$20; stool, chrome, black vinyl swivel cushion, \$8. Blossom, 299-6709.
- PIGEONS: Green Shields & racing homers, \$5 and \$10 ea.; also cages. Puccini, 255-0568.
- DOBERMAN PINSCHER pups, AKC, new litter not yet weaned. Davies, 344-6222.
- STEREO amplifier-Kenwood, \$175. Babicz, 299-5938.
- QUEEN SIZE Sealy mattress & box spring, w/headboard, triple dresser w/mirror, & 2 night stands, dark wood, \$600. Santana, 294-0536.
- WATER BED, queen size mattress, liner, heater & frame. Lukens, 299-1271.
- ROTOTILLER, Sears 3.5hp, \$100; butane bottle, 5-gal., \$20. Singleton, 299-1613.
- 71 FORD sedan, 302 V8, \$350. Jeys, 293-4400.
- '79 SUZUKI motorcycle, GS550N, 3300 miles, plexiglas fairing, rack, Bates tote box, \$1800. Lovato, 299-1375.
- '69 BAJA BUG, new engine, clutch, brakes, plus extras, \$2300. Gray, 292-1673 or 265-1883.
- BICYCLE, women's Raleigh Sprite, 27", 5-spd., \$65. Dalphin, 265-4029.
- '74 MAVERICK 2-dr., 3-spd. manual, 20 mpg city, \$1900, will negotiate. Hirschbuehler, 299-8293.
- '79 GRAND SLAM self-contained mini-motor home, AM-FM-cassette, AT, PS, PB, AC, 380-V8, 6700 miles, extras. Sanchez, 344-6931.
- '76 HONDA 360 motorcycle, 3500 miles, blue, best offer over \$850. Herrera, 836-1768 after 5:30.
- BICYCLES: women's 27" & men's 26", both 10 spd., low mileage, \$65 ea. Rinssem 299-6700.
- '78 ZEPHYR 2-dr., 29,000 miles, PS, PB, AC, AM-FM stereo, \$3600, new Michelin steel radials, below Blue Book. Harland, 256-1289.
- '72 PLYMOUTH Duster 2-dr., 318 V8, std. trans. on floor, 83,000 miles, \$800. Moreno, 266-8498.
- '76 OLDS Starfire, 20 mpg, 34,000 miles, AT, AC, \$2800 or offer. Duvall, 881-4406.
- '64 CHEVY pickup w/3-spd. manual trans. in floor, sell for first reasonable offer. Dees, 865-6359.
- '77 HONDA ACCORD, 5-spd., AM-FM, 13,000 miles, new Michelin tires, reg. gas. Jones, 299-9032.

REAL ESTATE

- 14'x80' CHICKASHA, 3-bdr., walk-in closets, 2 bath, LR w/fp, carpeting, family section Four Hills, \$28,000. Tye, 293-6961.
- 1 1/2 ACRE cabin site, Jemez Mountains, between Hatchery & Fenton Lake. Heidrich, 345-7653 after 5.
- 2.51 ACRES Bosque Farms, paved access, utilities, off N. Loop, assume 8 1/2% REC w/substantial down. Quintana, 898-6718.
- '80 14'x60' MOBILE HOME, adult park in SE, walk to Sandia, completely furnished, washer, dryer, \$3400 down/contract. Johnson, 268-1757.
- BOSQUE FARMS, dbl. wide mobile home, 3-bdr., 1 1/2 bath, stove, refrig., dishwasher, freezer, washer & dryer, on 1/2 acre, fenced w/fruit trees & shop, \$30,000, terms. Newton, 869-2972.
- '69 NASHUA mobile home, 14'x64', appliances, carpet, drapes, AC, skirting, steps, 1 1/2 baths, 2-bdr., \$8495. Rody, 281-1187.
- MOBILE HOME, 24x56 Silvercrest, 2-bdr., 1 1/2 bath, patio & carport covered, lawn sprinklers, shed, adult section 4-Hills. Gruenoch, 299-2022 afternoons.
- MOBILE HOME, 12x60, washer & dryer included, located near Base in adult section of SE park. Mareda, 293-3905.
- 1 ACRE Corrales bosque building site, trees, well. Hansen, 898-7162.

FOR RENT

- LOOKING for half a house? There's mine in Ridgecrest area, furnished & nice, \$225/mo. Gonnson, 265-5379.

- HOUSE, 2000 sq. ft., NE, 3-bdr., 2 bath, den w/fp, modern kitchen, utility, lg. garage/workshop, fenced yard, avail. Sept. 1, \$450/mo. Allred, 294-1393.
- 3-BDR. HOUSE in Holiday Park, avail. Sept. 1, big yard, below market for good care. Baca, 292-3304.

WANTED

- SET of weights, preferably with dumbbell bars. Prevender, 299-5253.
- INSTRUCTION BOOK for Japanese 1HP TAS outboard model TOB-12. Horton, 883-7504.
- ZF Transaxle 5-speed, in good condition or rebuildable. Johnson, 268-1043 after 6.
- SNOW-SKI BINDINGS, step-in type suitable for adult male. Marrs, 822-0367.
- USED kayak & associated gear—flotation, paddle, life vest, helmet. Downs, 266-2883 after 5.
- USED baby carriage & stroller. Leisher, 281-5258.
- HOME for Morris' twin — cat not accustomed to outside world, all shots up-to-date. Huston, 345-9423.
- MOTORCYCLE TRAILER for sale or rent. Kidd, 299-0035.
- MOTORCYCLE, HONDA CB350, good condition. Bush, 281-3773.
- FILL DIRT WANTED, will haul out. Lanes, 294-7635.
- USED PLAYPEN. McFall, 299-3476.
- RENT a cabin for family vacation in NM or south Colo. Burton, 869-2541.

WORK WANTED (Students/Retirees)

- EXPERIENCED draftsman/architect, UNM senior, can work at home, have all equipment necessary. Burstein, 821-6688.
- PAINTING by experienced UNM junior, free estimates, hourly rates or firm quotes. Stixrud, 292-5002 or 298-0478.
- PAINTING, interior/exterior, experienced UNM student, estimates given. Peter Shunny, 265-1620.

SHARE-A-RIDE

- START OR JOIN car pool, Taylor Ranch area, near LaJoya/Golden to Bldg. 800, 8-4:30. Marquez, 898-1768.

LOST AND FOUND

- LOST—Medium size pocket knife w/four blades & brown handle, Schrade pocket knife w/3 blades & black handle.
- FOUND—No. 6812 padlock key, negatives inside brown wallet-size album, pierced silver earring, No. 523 key. LOST AND FOUND, Bldg. 814, 844-5677.

All-Day Pool Party Set for 4th of July

TONIGHT at Happy Hour, T-bone steaks top the buffet menu, Brazada plays for dancing and Gary Waters with guitar entertains in the lounge.

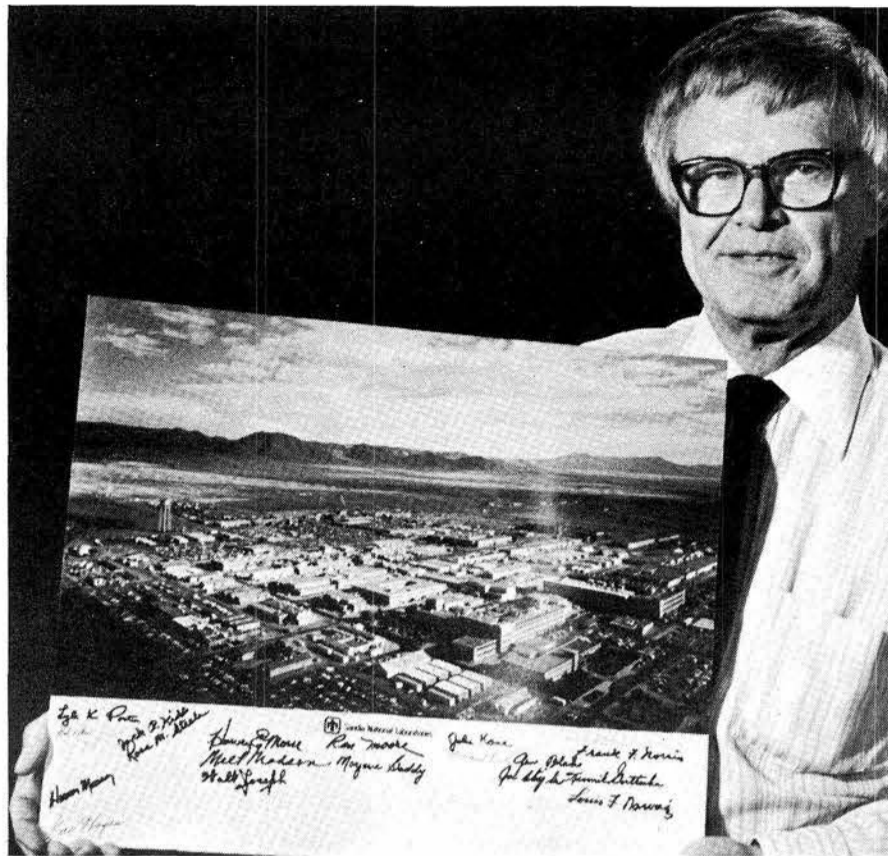
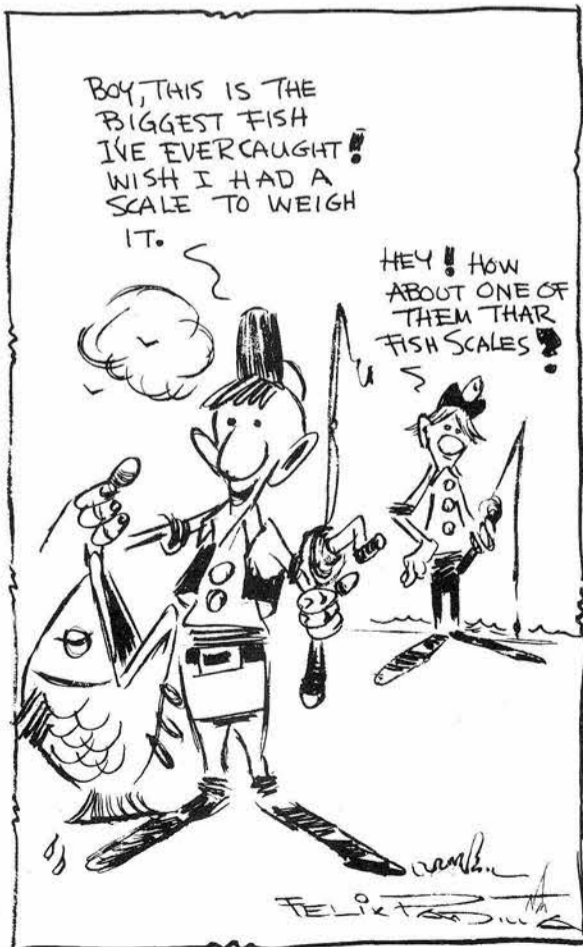
THE BIG ONE on the Club calendar next month is the annual Fourth of July celebration. It's an all-day affair in the pool and patio area—games for all ages, races, competitions plus hot dogs and goodies at the snack bar, two-bit beer and happy hour prices. The Albuquerque Municipal Band presents a concert from noon until 2 p.m. Admission is free to members and families.

VARIETY NIGHT on Saturday, July 5, features the Mike Haley dancers in various exhibitions and a collection of Mr. Magoo cartoons. Super sandwiches are available at 6, the show starts at 7. Admission is free.

HAPPY HOUR on Friday, July 18, is a big production—Spinning Wheel presents a super show and plays for dancing. The buffet is a special shrimp peel. Make your reservations early.

TEENAGERS take note: Wednesday, July 9, is your night at the Club with a dance featuring a group called Promise. Member parents must pick up tickets for their youngsters.

CALLIGRAPHY CLASSES for both beginners and advanced students start the week of July 14. Beginners meet on Mondays; advanced students on Wednesdays for six weeks. Instructor is Al Fine. Call the Club office, 265-6791, for registration info.



JOE CROMPTON (1721) is the first about-to-retire Sandian to have this 16" x 20" color photograph of the Tech Area. Space below photo carries signatures of friends. Mounted on pressboard, the photo is suitable for hanging with or without a frame, makes an ideal going-away present for retirees. It's \$12 at LAB NEWS office; proceeds go to the South Highway 14 Village Project, a charity project.

A SPECIAL CLASS in round dance waltzing starts Thursday, July 10, at 7 p.m. Round dancing is a form of ballroom dancing where all couples perform the same steps simultaneously in a circle under the guidance of a cuer. For more information or to register, call Fred or Kay Haury, 298-5050, or Chuck or Betty Clendenin, 299-2071.

TRAVEL DIRECTOR Frank Biggs announces several new travel packages—A Caribbean cruise Dec. 13-21, a bus trip to Chaco Canyon and Mesa Verde national monuments Aug. 30-Sept. 1, and a tour of Western Canada Sept. 25-Oct. 4.

The cruise is on the TSS Carnivale out of

Miami. Ports of call include Samana, Dominican Republic, San Juan and St. Croix. It's a luxury cruise ship with all the attractions including a casino. Price is \$780 per person.

The bus tour includes visits to Chaco Canyon, Aztec national monument, Mesa Verde and Canyon de Chelly. Lodging and lunches are included in the \$120 price.

The Western Canada tour includes air fare, lodging for nine nights at deluxe hotels, breakfast and dinner in Jasper and Banff plus motorcoach to other cities. The tours costs \$941.

Ed also has trips to Disneyland, Washington, D.C., and Mazatlan. See him in the lobby tonight between 6 and 7.

July 4th: Fiestas, Fireworks & Fun

If you're wondering how to spend the three-day holiday coming up, you might consider some of the 4th of July celebrations around the state:

July 2-4 **Las Vegas:** Annual 4th of July Fiesta. Parade, arts & crafts show, music, food booths, fireworks; 10-8, Short Park.

July 3-4 **Roswell:** Country Music Festival, \$2, 8 p.m., county amphitheater. Fireworks (4th), free, 8 p.m., Wool Bowl, UNM.

Clayton: Annual 4th of July Rodeo.

July 3-6 **Ruidoso:** Annual Mescalero Apache Maidens' Puberty Rites Ceremonial. Buckskin-clad young women, with bags of pollen (symbol of fertility), bless tribal members and chant with deer-hoof rattles in pre-dawn ceremony. Rodeo; Mountain God Dance at dusk.

July 4 **Cimarron:** 57th Annual Maverick Rodeo. Evening fireworks. **Santa Fe:** Annual Los Compadres Street Breakfast. Evening fireworks.

Albuquerque, Eunice, Gallup, Lordsburg & Santa Rosa: Evening fireworks.

July 4-5 **Tucumcari:** 5th Annual Lion's Club Rodeo.

July 4-6 **Deming:** Annual Butterfield Trail Days. Parade, fiddlers' contest, dances, trading post & barbecue, hosted by costumed villagers.

Red River: Annual 4th of July Celebration. Parade, shoot-out, tug-o-war, horseshoe contest & tennis tournament.

July 5 **Taos:** Taos School of Music Chamber Music Concert, free, 8:30 p.m., community auditorium.

July 5-6 **Aztec:** 20th Annual Aztec Fiesta Days. Parade, mariachi band, carnival, sidewalk sale & burning of Old Man Gloom.

Add locally, on July 3, the Old Town Optimist Club will present a fireworks extravaganza at Wilson Stadium. Sandia members of the club are Frank Gallegos (3510), Helen Gallegos (1761), Lanny Garcia (3432), Dorothy Garcia (3531) and Andy Jojola (1481). Les Dye (3212) is Governor of the New Mexico-West Texas district of Optimist International. Tickets—\$1.75 for adults and \$1 for children 14 and under—are available from any of the above members.