



TASK FORCE that solved an actuator corrosion problem received an award plaque, as did other recipients pictured below. L to R, President Dacey; Major General William Hoover, who presented the awards for the DOE; Ruth Whan

(5820); Don Sharp (5833); Jim Craig (2515); Tom Massis (2516); task force chairman Ed Kjeldgaard (2551); Dick Damerow (2561); and Fred Villa (2515).

Weapons Program Recognition

DOE Honors Sandians

Thirteen Sandians received DOE's Weapons Program Recognition Awards on May 7 in ceremonies at the Visitor Center. The awards were presented by Air Force Major General William Hoover, director of DOE's Office of Military Application. President Dacey introduced the recipients.

Seven employees receiving the award plaques were part of a Sandia-Mound Lab task force that solved an actuator corrosion problem that had shut down production of a missile warhead component.

Hal Vaughan and Al Hodapp (both 5631) were recognized for helping to develop an atomic projectile that has "ballistic similitude" with a conventional

artillery projectile.

Jack Marron (2511) and Larry Bertholf (8120) received awards for their computer simulation of a new component design midway in the development of the Tomahawk missile warhead.

Bob Thompson (5641) was recognized for his management of codes for Permissive Arming Links, the "electronic locks" that prevent the unauthorized use of a nuclear weapon.

Dick Brodie's (4731) award came for his recommendation about weapons in stockpile, for his role in a long-range resource planning group, and for his work in evaluating and formalizing weapon use controls.



Hal Vaughan



Al Hodapp



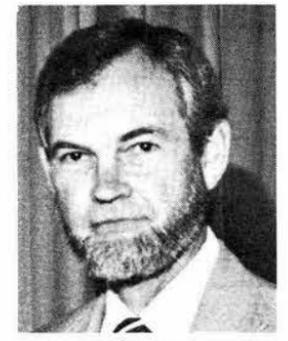
Jack Marron



Larry Bertholf



Bob Thompson



Dick Brodie

LAB NEWS

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SANDIA NATIONAL LABORATORIES
MAY 28, 1982

TRUPACT Will Allow Safe Transport of Nuclear Wastes

Sandia's Transportation Technology Center (TTC) has completed preliminary and conceptual design of a new package to transport transuranic (TRU) nuclear waste to federal storage sites or repositories. It is scheduled to begin limited use in mid-1984.

Called TRUPACT (Transuranic Package Transporter), it will fit on standard flatbed trailers and railcars.

"We've been working on TRUPACT design for three years," says task leader Vern Romesberg (4782). "We'll have a

quarter-scale model of the latest design concept in a month or so, and testing will continue with it and, later, with a full-scale prototype. We're also refining the computer models that predict TRUPACT's behavior in accidents." Final design work is being performed by General Atomic, a San Diego company under contract to the TTC.

Models of several TRUPACT designs have been subjected to drop, puncture, and thermal tests at Sandia to verify that the system will meet NRC and DOT

regulations and DOE orders, procedures and standards governing packaging and transport of nuclear materials.

The 25 by 8 by 9-foot TRUPACT will weigh about 33,000 pounds and will carry about 17,000 pounds of cargo. It is a box within a box, with the inner box separated from the outer by eight inches of rigid foam that serves as a shock absorber and puncture and thermal barrier.

The inner box, in which containers of

[Continued on Page Two]

Antojitos

Son of Flimsy--Somewhere out there is one who was taken aback by an affront in this space last issue. Although he considers himself a True Sandian, he knew not the meaning of "flimsy." Neither, his highly non-scientific poll of division-mates proved, did 75 percent of his group, or so his phone call indicated. That is a shameful statistic for all but a group of new-hires (defined as always as those who are not yet vested in the retirement plan).

Since the best interests of the Labs would seem to lie in bringing all new-hires into the Sandia Family as soon as they're mature enough to behave responsibly and to appreciate the accumulated insights underlying each of these terms, here is a very skimpy primer of Terms True Sandians Can't Remember Not Knowing:

flimsy--a personnel record, so-called because early versions were duplicated on flimsy paper.

floater--an employee, typically a secretary, who fills in for a regular employee who is absent, so-called because floaters float like Phillip Nolan from place to place without a division to call home.

small staff--this group, small in number but not in power, is made up of the president and all vice-presidents (large staff is the same plus all directors); neither small nor large staff is made up of staff level employees.

buck slip--Form SF 1805-A, also known as a routing slip; it's a buck slip because it's attached to a written problem in order to buck it to someone else or up your line.

your line--the person to whom you report plus the person to whom he/she reports plus all the people above them to, finally, President Dacey (who has doubtless noticed by now the accuracy of Truman's observation in regard to final stopping places of such bucks).

Enough. Memorize each one. Use each one whenever appropriate, or not totally inappropriate, and in less time than it takes to say, "Bell System Savings and Security Plan," you'll be a True Sandian too. BH

Events Calendar

May 28-30, June 3-6, 10-13—"You Know I Can't Hear You When the Water's Running," 8:30 p.m., Corrales Adobe Theatre, 898-3323.

May 28-29—Broadway Jazz Club hosts Charlie Summons Blues Band, Tamarind Restaurant, about 9 p.m., First Plaza Galeria on Second St.

May 28-30—Zapatitos Puppet Company, La Compañía de Teatro de Albuquerque, 8 p.m. and 3 p.m. Sunday, Nuestro Teatro (formerly Tiffany Playhouse), 256-7164 or 266-3770.

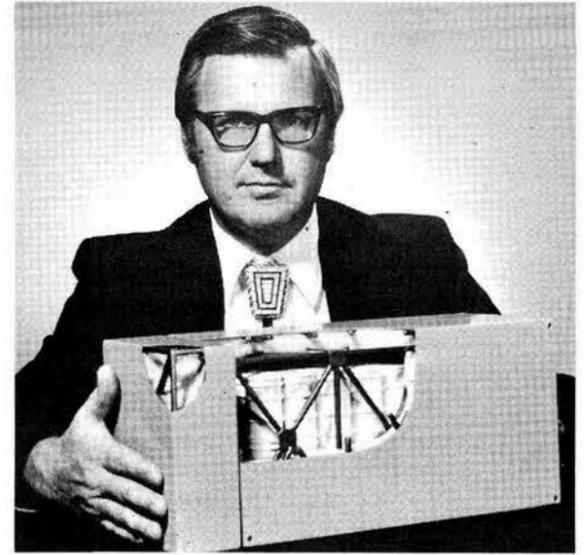
May 30—Chamber Orchestra of Albuquerque, Baroque Festival, 4 p.m., First United Methodist Church, 4th & Lead SW, 247-0262.

May 31—Heritage Day Celebration, Belen, arts & crafts show, sponsored by Optimist Club to raise funds for youth clubs & special causes, all day, Tierra del Sol Community Center.

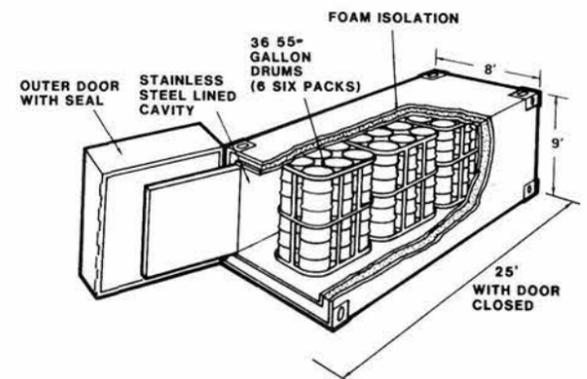
June—"The Wonderful Ice Cream Suit," and "Lola's Last Dance," La Compañía de Teatro de Albuquerque, Fridays & Saturdays 8 p.m., Sundays 3 p.m., Nuestro Teatro.

June 1, 3, 5, 7, 9, 11—June Music Festival, six concerts with the Guarneri Quartet, 8:15 p.m., Woodward Hall, UNM. Contact Ruth Ronan (1423).

June 6-Sept. 12—"The Transcendental Painting Group: New Mexico 1938-1941," major exhibit of works by nine artists who formed the Transcendental Painting Group in Taos, Albuquerque Museum, Hours: Tues.-Fri. 10 to 5, Sat. & Sun., 1-5, closed Mondays and holidays.



TRUPACT, a 1/16 scale model, with a full scale model of Vern Romesburg.



STEEL-FOAM-STEEL walls provide TRUPACT's protection to cargo.

Continued from Page One

TRUPACT

waste will be placed, will be fabricated of stainless steel sheet attached to the inner surface of a tubular steel frame. It will have a high-integrity door that uses multiple elastomeric seals.

The outer box will consist of a similar steel tube framework covered on the outer surface with high-strength carbon steel sheet. Inside the frame will be layers of Kevlar and stainless steel that will serve as a puncture shield. The outer door will be constructed like the walls and will bolt shut to form a weathertight seal.

The composite walls of the TRUPACT will provide the system's strength and will assure its overall performance by dissipating the forces experienced in accidents.

TRU wastes carried in the new packages will consist primarily of plutonium-contaminated paper, filters, rags, work gloves, metal scraps, sludge, and similar items associated with production of nuclear weapons and reprocessing of nuclear fuel.

The TRUPACT will accommodate many existing containers of "contact-handled" TRU waste—rectangular steel bins, fiberglass reinforced polyester/plywood boxes, corrugated sheet metal over-packs, and 55-gallon steel drums.

The TTC was established at Sandia in 1978 by the DOE to develop and test new radioactive material transport systems and to refine methods of designing such systems. Assisting the TTC in TRUPACT development are the development shops, the field test crews at the sled track and the cable site, the materials and analysis people in 5500 and 5800, and QA personnel.

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RESTO-ROD with owner-restorers Sherry (8265) and Dave Bowen.

Like Us

Old On The Outside, Young Inside

Sherry Bowen (8265) and husband Dave (LLNL) are the proud owners of a 1934 Deluxe Ford Tudor Sedan which they have completely restored and turned into a "resto-rod."

A resto-rod is basically an original car on the outside with all the latest technology and a new engine under the hood. The Bowens' car now has four-wheel disc brakes, three-speed manual transmission with overdrive, a 22-gallon stainless steel fuel tank, a 1968 Corvette engine, and, to make their ride more comfortable during the Livermore summers, air conditioning.

Antique car buffs may shudder at all those "modernizing" alterations under the hood and on the chassis, but the Bowens are quick to point out that they took considerable pains to restore and find original replacement parts for the outside. New rear fenders were needed so they travelled to swap meets until they found a pair of originals in Turlock. They also had to replace the old windshield and frame and all windows. The steering column couldn't be adapted to the new engine so Dave built a new one from scratch, even machining the upper section from solid aluminum. They spent more than a hundred hours just on restoring the chrome grill.

Why would a couple spend seven months of free time on a car that had to be rebuilt from the bare frame up? Both of them have been attracted to cars and motorcycles since their youth, and Dave admits

to a "second childhood, since it is a return to what I was fond of in my teen years—rebuilding old cars."

The nifty-looking car turns heads wherever they go, with several layers of Imron slate-gray paint on the body plus shiny black fenders so polished you can use them for mirrors. The idea of the car, however, was not just to keep it for shows, but as a second car for getting to work. They can count the times he has been caught out in the rain—three—and it nearly brought tears to Dave's eyes since he knew it would take better than four hours of rubbing and polishing to get the spots off—even the undercarriage has to be wiped clean.

They also are proud of its mileage—averaging 18 mpg—and claim it will get over 20 when the overdrive is finally wired up. The value of the car is about \$25,000, and that is what they figure they have put into it, not including labor. So they aren't doing it to make a profit and don't plan to offer it for sale.

What's next for this classic '34? A few shows and also some antique pre-1948 drag racing events; the first one was May 12 in Fremont. Sherry entered the women's class, and Dave the regular events. He explained that they won't be pushing the car to its maximum, though, as it is needed at home for a second vehicle—taking chances with it isn't in their plans.

Sherry has had no formal mechanic's training, although her father was in the

Supervisory Appointment



PAUL HEPPNER to supervisor of the W87 Electrical Systems Division 8131, effective April 15.

His career began with Rocketdyne in Los Angeles where he was an instrumentation engineer. He joined Sandia Livermore in 1961 as an MTS in the tool-made sampling section on Phase 4 programs. Paul next went to the W55 project group, then to the W62, and later to the LABRV program and Mark 500. He has also worked on the NEDS program and most recently on the W82.

Paul has a BS in EE from Purdue.

He and his wife Dorothy are Livermore residents and have three married daughters. Paul is a former member of the Livermore Air Pollution Control Committee and in 1969 served as chairman of the Livermore Centennial Committee.

Take Note

The next Valley Choral Society concert is Saturday, June 5, at 8:15 p.m. in the First Presbyterian Church, 4th and L Streets, Livermore. The following evening it will be repeated at the John Knox United Presbyterian Church, 7421 Amarillo Road, Dublin. Tickets are available at the door for both concerts.

* * *

The annual Art in the Vineyard is slated for Sunday, May 30, from 10 a.m. to 5 p.m. at Concannon Vineyards outside Livermore. The free open air exhibit and craft demonstrations are sponsored by the Livermore Art Association.

* * *

Emily Joiner (8215) recently graduated with a Bachelor of Science degree in business administration, industrial relations and personnel administration option, from California State University at Hayward. She was recognized by the university for graduating with highest honors.

Congratulations

Dee Wing (8213) and Darrel Buettner (8341), married in Livermore, March 27.

automotive business, so her learning has been by osmosis.

Not content now that they have their first resto-rod, the Bowens are building a 1927 Ford Roadster using a fiberglass body and a 425 hp motor. This will be "just a fun car," they say, and if it turns out well they may decide to go into the business of building cars as a sideline. This is, if Sherry is willing to part with the roadster once she gets behind the wheel . . .

Arc Remelting Process

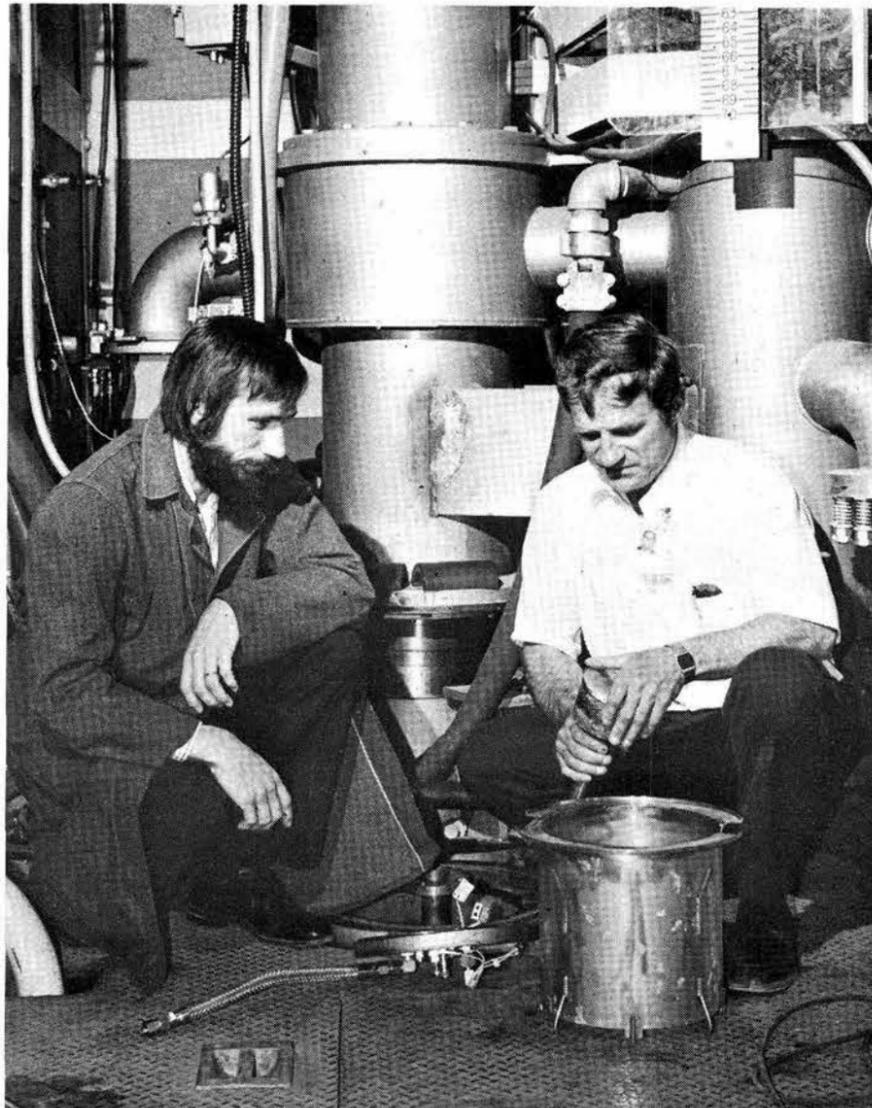
Homogenizing Metals

High quality alloys, which are metals composed of two or more elements, are used extensively in components for jet engines, aircraft landing gear, and spacecraft.

The initial alloy is made by blending the elements together while they are molten and pouring the molten solution into large iron molds and letting it solidify. When the alloy solidifies, it shrinks and the resulting ingot is left with many tiny holes inside. By remelting the alloy ingot under specially controlled conditions, the porosity can be eliminated.

The above remelting process, called "vacuum consumable arc remelting," has been in worldwide use for over 25 years. It utilizes a vacuum arc—a low voltage electrical discharge in vacuum—to slowly melt metal from the tip of a long electrode. This metal is deposited in a molten pool atop an ingot and the melting and solidification processes take place under vacuum in a copper crucible which is kept cool by circulating water around the outside. The temperature in the inside of the crucible in the region of the arc is about 6000°C. Although porosity is eliminated, the remelt allows macrosegregation which prevents the chemical homogeneity of metallic alloys made by this process. Frank Zanner of Pyrometallurgy Division 5836 and Lee Bertram of Applied Mathematic Division 2646 have long been interested in this problem.

"Our program goal is to control the fluid flow ahead of and within the partially solidified region atop the ingot," says Frank. "To achieve this goal, we must understand vacuum arc behavior as influenced by the furnace environment, how



EXAMINING an ingot that has been remelted in the copper chamber behind them are Lee Bertram (2646) and Frank Zanner (5836). Their work on the arc melting process is yielding valuable data that will help manufacturers make alloys with greater homogeneity.

metal is transferred to the molten pool, and the molten metal flow patterns in the ingot.

"To clarify our work, I like to use the metaphor of a fir forest. The forest floor represents the completely resolidified metal. The fir trees are those areas that have begun to solidify and solidification starts at the very top of the trees. The sky within the trees and above the tree tops represents the molten metal atop the ingot. Just as the wind is dissipated at the base of the trees near the forest floor, fast fluid flows don't occur in the lower regions between our fir trees in the molten pool. Wind still whips around the tops of the firs and its equivalent in our crucible is Lorentz and convective driven flows. Lorentz flows are magnetically induced circulations in the still molten spaces between the partially solidified areas—the tops of the fir trees, so to speak. Convective flows are driven by density differences caused by temperature gradients, just like air currents."

Frank explains they're trying to control these flows by inducing magnetic fields on the system to enable manufacturers to make the composition nearly the same in all regions of an ingot—in other words, to "homogenize" it.

"Say a part needs six percent of a certain element to prevent corrosion," Frank points out, "but in a certain region there is only two percent. We're trying to find the best way to even out the concentration distribution in an alloy by controlling the flow. For instance, in a uranium system, Lee's computer simulations and experiments have shown that if Lorentz flows slightly dominate the convection flows, then macrosegregation can be reduced."

Frank says the program is yielding valuable data on the crucial arc melting process: "We have applied for a patent on an electrode gap controller we've de-

veloped—the device controls the distance between the bottom of the electrode and the molten pool.

"We also have an ongoing technology transfer program. We put our instrumentation package on a semi and go to plants which have much bigger furnaces than ours. We work with ingots up to 10 inches in diameter by four feet long, while industrial furnaces handle ingots as large as 50 inches in diameter by 10 feet long. Industry pays for the experiments and Sandia pays for the analyses."

Other members of the group include Bob Fisher, James Maroone, Alan Netz (all 5836) and David Melgaard (J. and M. Systems, Inc.) who writes all the data acquisition computer software. Frank and Lee also work closely with Rocky Flats and Union Carbide at Oak Ridge.

If Cronin Says 'Swing,' Then Everybody Swings



A square dance caller is a special maestro for both music and dance. Recently, John Cronin (1473) called the do-si-do for more than 1600 dancers in Santa Fe attending the New Mexico State Square Dance Festival. On June 11-13, John will be in Alamosa, calling for the Colorado State Square Dance Festival.

In Albuquerque, John's home group is the Rio Ramblers Square Dance Club, which meets Sundays at the Rio Rancho City Hall building. A class for beginners starts in September. Anyone interested in joining the group is invited to stop by any Sunday at 6:30 p.m. Call Jack or Zita Haeser, 892-0812, for more information.



FORMER AEC HEAD and former governor of Washington Dixy Lee Ray spoke at a recent colloquium. She dismissed as simplistic the energy doomsayers and presented the case for "the stubborn diversity of science" (including nuclear power) as a vital part of the nation's energy future.



Retires Trophy

Sandia Takes Corporate Cup

For the third year in a row, the Sandia Labs track and field team won the Corporate Cup event, this year by only 10 points. Said Coach Henry Dodd (4752), "Competition was fierce, especially from a great Los Alamos team. And one of our key sprint people, Anthony Thornton, was injured last week in a softball game. But our people came through—almost literally with flying colors!"

The win marks Sandia's third triumph in the three years that the Corporate Cup event has been held in New Mexico, and the trophy will now be retired to a niche in the Coronado Club. The individual trophy will go to ex-LAB NEWS editor John Shunny, who played a key role in starting the competition in New Mexico.



READY FOR THE BATON is Otto Van Geet (3643) as Cheryl Walker (2629) finishes her leg of the Pyramid Relay. (Photos by Gerse Martinez, LAB NEWS.)



SWEATING OUT the last leg of the Pyramid Relay are Otto, Becky Hunter (1732), Cheryl, and (behind her), Jim Muntz (2626).



COACH DODD appraises the competition for the benefit of Masters' Relay team member Mark Percival (4516).

INTENT on the starter's gun is Juan Griego (3713), ready for the President's Relay, a special challenge from Los Alamos. Some contestants had to be members of the top three levels of management; that's Bob Gregory (2100) at the far left. Los Alamos won that one.



FUTURE CORP. CUP runner is Janese Hunter. Mother Becky is women's coach; she ran in last year's event and kept working out until Janese arrived in January. Two weeks later she was running again.

Retiree Roundup

by Ted Sherwin [retired]

From the number of comments I have received, in person and by mail, it's obvious that there is a good deal of interest in the subject of preparing for retirement and avoiding some mistakes afterward. For one thing, most of the printed material available—books, etc.—is very general. What I have tried to do so far is provide a few tips on things of particular interest to Sandians, although much of it is applicable to other retirees as well, such as those under Civil Service.

One interesting letter came from Dan Dewhirst, retired Sandian who lives in Lake Isabella, Calif. With 10 years experience in retirement, Dan agrees that there is no single guide to which you can turn to avoid mistakes. His advice is to talk to people who are doing the same things you want to do, and learn from their experience. Dan knows all the ins and outs of mobile home living and is willing to share his experiences. He has written down a number of suggestions and will be glad to talk with or correspond with anyone contemplating mobile home living in retirement. For a copy of his prepared comments, come to the LAB NEWS. You may write to Dan at P.O. Box 1222, Lake Isabella, CA 93240.

Dan's methodical approach to retirement, described in his comments, is certainly a good example for anyone to follow. He had already decided upon mobile home living, but he wanted to be sure he made the right decisions and got the best deal, etc. From sad experience he knew he wanted to buy, rather than rent, a lot to put his mobile home on, so he took some time to travel over the seven western states, looking for just the right location. He found it, finally, and bought a 50-foot by 12-foot trailer. Why that size, instead of a larger one? Well, get a copy of Dan's experiences and find out all about it.

* * *

Another reader had some comments on the April 2 column, in which I discussed "rollover" options for BSSP or other qualified savings which are to be reinvested in IRAs. I may not have made it clear that there is no income tax liability on that portion of the settlement which represents your own contributions. (You've already paid income tax on that amount.) And you don't have to wait until age 70 to start taking money out. Funds may be withdrawn from an IRA any time after age 59½, and that income is taxable, except as noted above. For retirees, of course, there is an obvious advantage to waiting until after age 65, when income tax rates are more favorable.

That same reader questioned my statement that retirees over 59½ who invest in IRAs at the Credit Union may have the certificate reissued without penalty if the interest rate goes higher. It's a fact. There is no IRS penalty or certificate penalty in such circumstances. The way interest rates have been dropping, the question may be academic now, but some are predicting another upward trend.

One thing I may not have emphasized



PERCHED on the tail section of an A7-D aircraft are a few of the 20 or so Sandians belonging to the New Mexico Air National Guard. Sandia recently received an award for being the Albuquerque firm with the most employees participating in the ANG. Counterclockwise from the top are M/Sgt. Bernard Alexander (3613), S/Sgt. Fernando Dominguez (3312), M/Sgt. Tom Kerley (4422), Capt. Wayne Burton (3631), M/Sgt. Rand Rozelle (2451), S/Sgt. John Garcia (4423), and Major Carol McAllister (3522).

enough is that IRA funds must be scheduled for immediate withdrawal in lump sum or in equal payments according to an actuarial schedule when you reach age 70½. If you don't the IRS imposes a 50% penalty. Whew!

* * *

Here's a reminder about preparing to apply for Social Security. (Go ahead, when it's time. SS isn't really going to be bankrupt.) You're going to have to present a birth certificate, or some equally valid legal evidence of your date of birth. If you don't have a birth certificate, you'd better find out what other evidence will be accepted. The Benefits Administration and Services Division 3542 (4-2663) has information about acceptable documentation in lieu of an unobtainable birth certificate. You'll need similar information to claim your retirement annuity. And don't forget that your spouse may also need the same kind of documentation.

Here's the good news: If you retire effective, say, the last day of May, your pension will be effective June 1. Because of the administrative actions involved, you

won't get that first check for three to four weeks, but the second check will be delivered to your home or your bank on or about the first of the following month, and each month thereafter.

* * *

Let me hear from you. Your interests are important, and your comments are solicited. •tbs

Sympathy

To Teresa Jordan (5635, OYOC at Stanford) on the death of her mother, May 9.

To Luz Kalaczik (5832) on the death of her mother in Albuquerque, April 22.

Authors

R. L. Iman (1223), "Graphs for use with the Lilliefors Test for Normal and Exponential Distributions," *The American Statistician*, 36(2).

J. C. Helton (4413) and R. L. Iman (1223), "Sensitivity Analysis of a Model for the Environmental Movement of Radionuclides," *Health Physics*, 42(5).

'The Culture Is Different'

[Ed. Note—This is another in the LAB NEWS series of articles about foreign scientists working in Jack Walker's Advanced Reactor Research Department 4420 under various international agreements.]

Katsuro Takahashi and Hiroshi Hiroi are nuclear engineers with Japan's Power Reactor and Nuclear Fuel Development Corporation, an agency financed jointly by the government and private enterprise. Both men are at Sandia under an agreement between this agency and NRC.

Takahashi holds a PhD from Osaka University, and has worked on reactor core safety engineering the 10 years he's been with the nuclear agency. For the past year and a half he has continued his work in Dick Coats' Postaccident Heat Removal Studies Division 4421 studying the coolability of rubblized core debris arising from a potential severe reactor accident. He designs post-accident heat removal experiments which are conducted on Sandia's Annular Core Research Reactor in Area V.

Takahashi seems an intense man as he searches his memory to find the English word he needs, but he finds it, and his smile comes quickly.

"The cultural systems—United States and Japan—are very different," he says. "Work procedures are different. In Japan, we work overtime and take short vacations. The work and the language can be frustrating for me."



KATSURO TAKAHASHI and HIROSHI HIROI from Japan's Power Reactor and Nuclear Fuel Development Corporation.

Still, Takahashi has used his vacation time to travel extensively in the US—from Niagara Falls to San Diego. His wife Machiko and two-year-old son accompanied him.

In Japan, he played baseball, so he signed up for a Sandia softball team last summer—"Too tough," he says. "The altitude and the heat are too tough." Now he plays golf.

Hiroi, who earned his masters degree in nuclear engineering at Tokyo University, has worked eight years in nuclear power plant safety with Japan's nuclear agency. For the past seven months, he has studied sodium/concrete interactions in Dana Power's Reactor Containment Safety Studies Division 4422. This area is currently a critical issue in fast breeder

reactor safety.

Hiroi also likes golf and travel in the Southwest. His wife Yoko and two sons, ages four and seven, are here with him. He is also taking classes at T-VI in conversational English.

Both men are proud of Japan's nuclear power industry, seeing nuclear energy and ultimately the fast breeder reactor as the primary energy source in Japan. Currently, Japan has 21 nuclear power stations operating, three undergoing licensing procedures and 11 more under construction.

"It is the main direction of the Japanese government to develop nuclear power," Hiroi says. "There is opposition to nuclear power, but the majority of Japanese understand that the living standard increases as more nuclear reactors are built."

Retiring



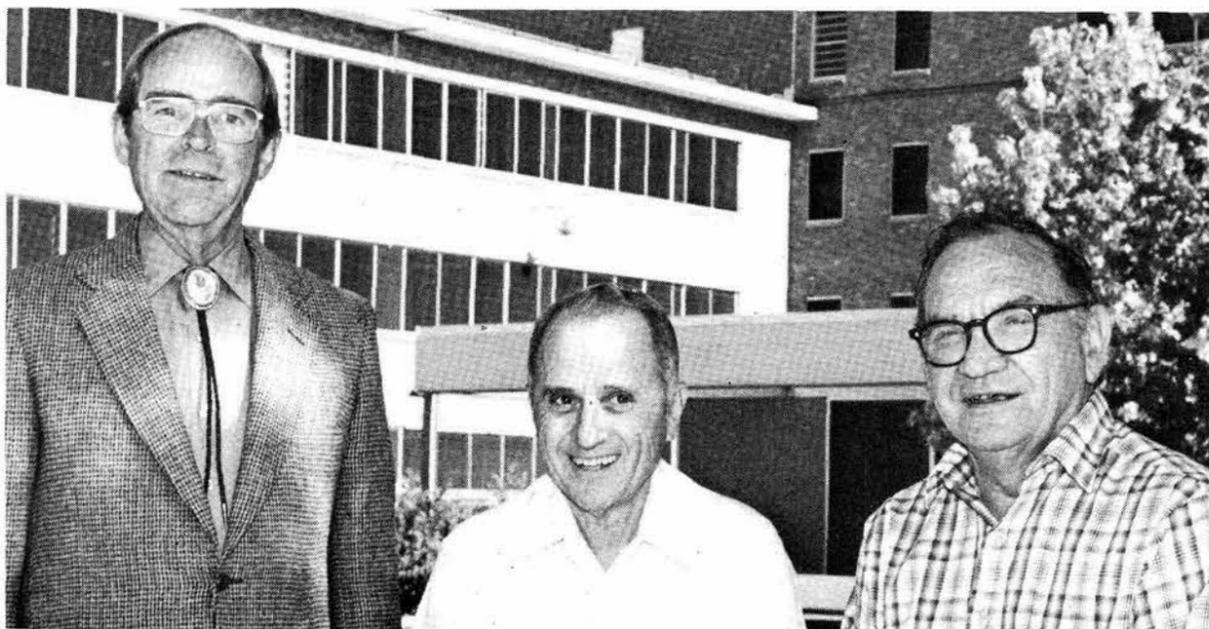
Milt Bailey (2363)



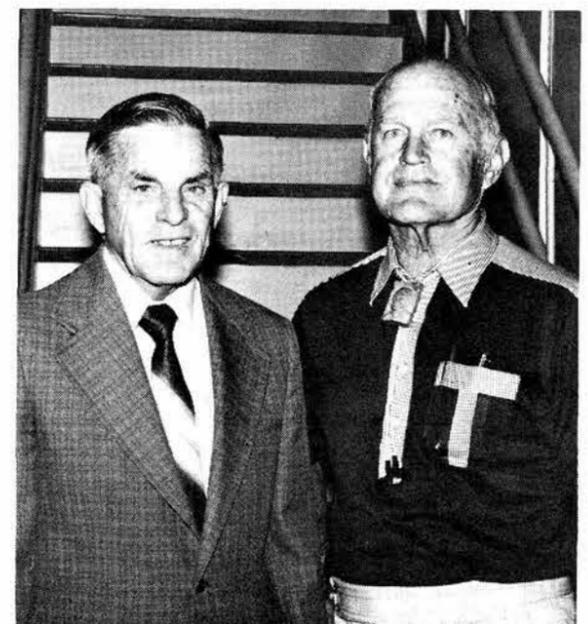
C. R. Barncord (3200)



Herbert Webster (2551), Henry Black (2154) and Jim Kane (1556)

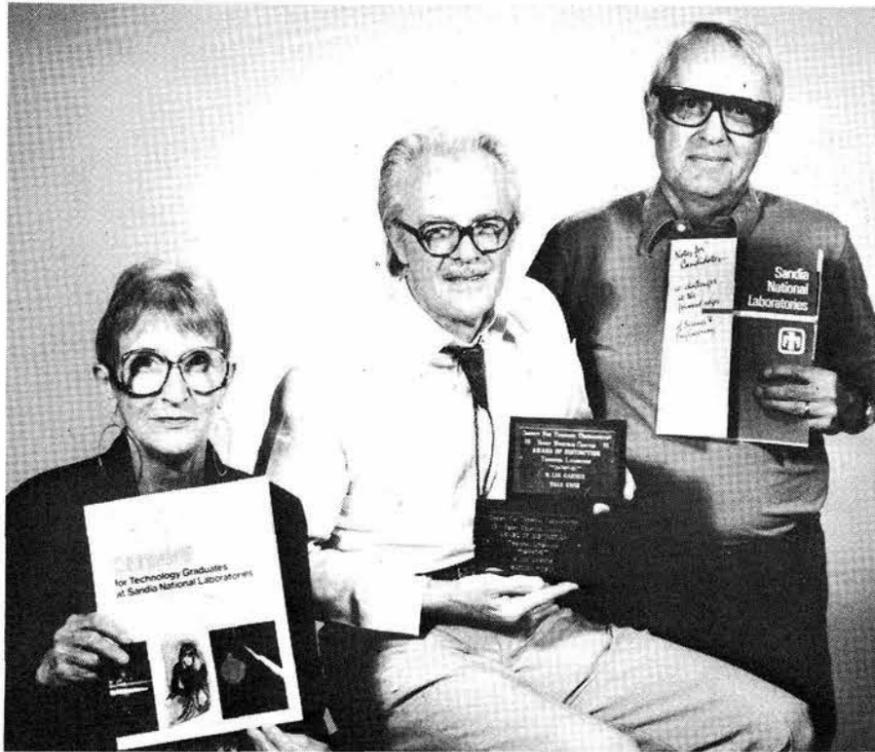


Wayne Wagoner (4365), Leo White (2541) and Mark Elick (1213)



Tom Meyer (5823) and Bob Nelson (2154)

WITH ARTISTRY, pride showeth before us all. Tillie Pierce (3155), Lee Garner (3151), and Yale Knox (3155) each received an Award of Distinction from the Rocky Mountain Chapter of the Society for Technical Communication for their work on two Sandia booklets—Lee as writer, Tillie and Yale for design and illustration.



WINNING PHOTOGRAPHERS—Russ Smith and Odessa West of Sandia's Photo Lab were elected to the board of directors of the Industrial Photographers of the Southwest at a recent convention in Santa Fe. In the print exhibition, Russ won awards in the color/commercial and color/on-the-job categories. Odessa won awards for her black and white photo of the Civic Plaza fountain and for two off-the-job color slides.



LYNN PETERS of Graphic Design Section 3155 was awarded first place for a design item in a public relations contest sponsored by the New Mexico Press Women. Lynn designed the brochure which was used as a hand-out at the Showcase for Technology held in Albuquerque last fall.



LOCATORS LOCATED—Joe Valencia (seated), Manuel Navarro, and Gloria de la Cruz from the Career Services for the Handicapped (a United Way agency) are employed by Sandia to handle the locator service. Their supervisor, Frank Gallegos (3533), is happy to report that "since last October when they took over the service, there has not been one complaint." The three work six-hour shifts, answering the average 150 calls each day and providing some clerical help. Calls to the locator can be placed from 8 a.m. to 4:30 p.m.

Take Note

Arlene Price (3330) will discuss "Work and The Family" at the June 16 meeting of the American Society of Women Accountants. The group will meet at the Tanoan Country Club at 6 p.m. Make reservations by June 2 with Denise Krupka (3211).

* * *

The Chamber Orchestra of Albuquerque is tuning up for its 1982 season of six concerts, starting June 26 in the Albuquerque Little Theatre with a program of Stravinsky and Bach compositions. Season tickets for six concerts at \$32.50 (\$27.50 for students and senior citizens) are available. Half season and single-performance tickets are also available. Brochures with details can be obtained from Glenn Kuswa (4240).

* * *

If you and/or your kids live in the far northwest, you may be interested in Summer Kaleidoscope, a day camp for 5-13-year-olds sponsored by Camp Fire and held at the Puesta del Sol school in Rio Rancho. Call 265-8786 between 9 and 4:30 for info.

* * *

Enhance your summer pleasure—hiking, swimming, tennis, whatever—and resolve to quit smoking so you can feel great as you engage in your favorite activities. Sign up now for Medical's next Quit Smoking class, June 1 through 24, noon to 1 p.m., Tuesdays and Thursdays in the Solar Conference Room, Building 832. To sign up, call Arlene Price at 6-0021.

* * *

Sandians retiring this week and not shown in our photos include Frank Oswalt (1471), Sam Tabet (3618), Bill Everhart (1583), Alfonse Jiron (3611) and Juliet Abeyta (3411).

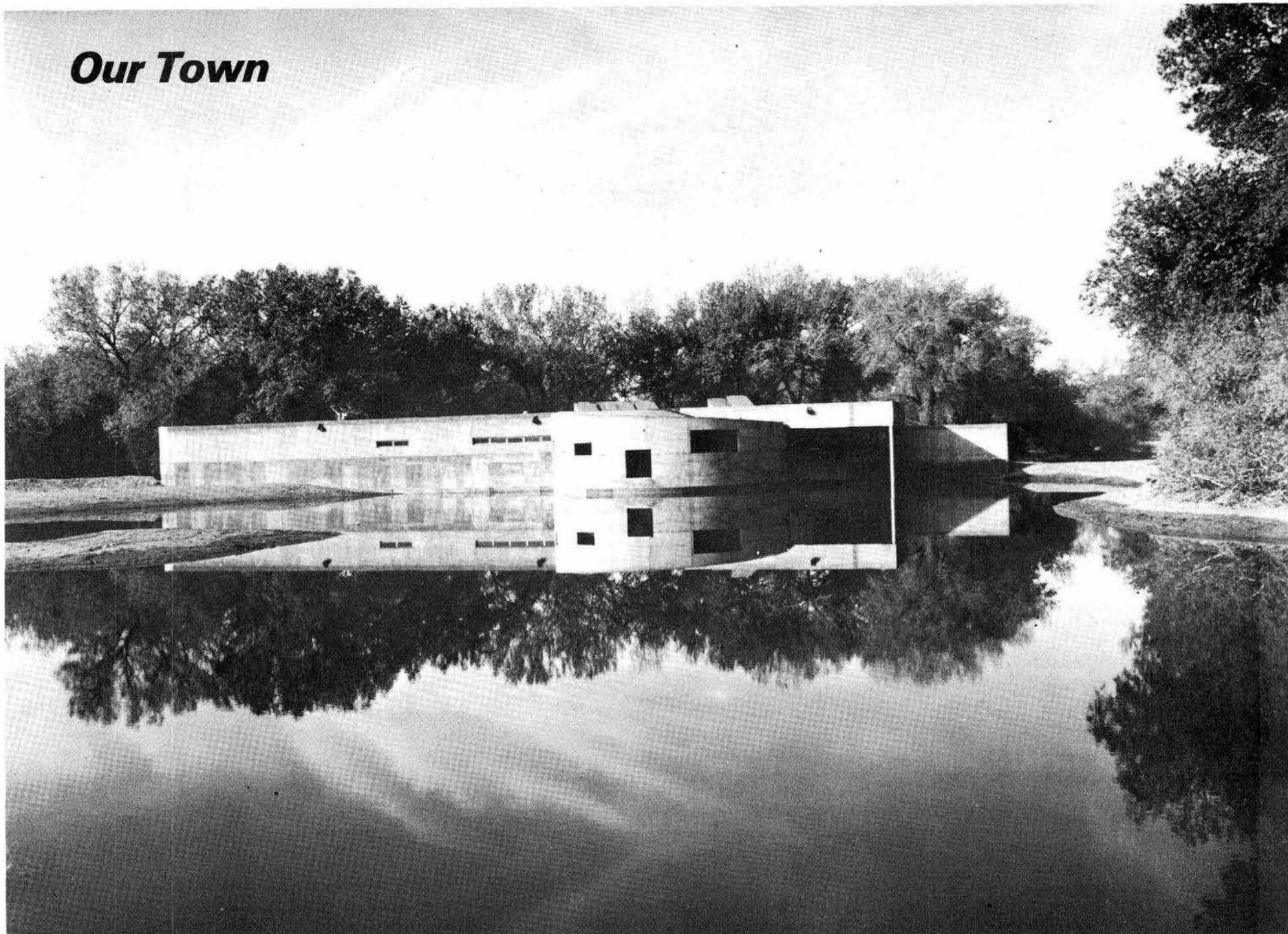
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International Atomic Energy Agency's advisory group on radiation degradation of organic materials used in nuclear reactors met here May 10-14. The group included members from Japan, France, West Germany, Switzerland, and IAEA headquarters in Vienna. They were hosted by group members Roger Clough (5811) and Ken Gillen (5813).

* * *

The New Mexico Business and Industrial Exposition, or "Business Expo '82," will be held June 7-8 at the Convention Center from 11:30 a.m. to 7:30 p.m. The emphasis of the show is on word processors and "the office of the future": mini- and microcomputers, peripheral equipment, and personal computing systems. Many of the exhibitors are major companies that will be displaying equipment new to New Mexico. Filling out an advance registration (pick up one at LAB NEWS) will eliminate a \$2 registration fee at the door. More info from 262-1712.

Our Town



RIO GRANDE NATURE CENTER, located at the west end of Candelaria Road as it reaches the river, is nearing completion. The State-financed project with city cooperation is part of the New Mexico State Park system, the first "urban park" to be built. The Center, tentatively scheduled to open June 29, houses an exhibit area, library, classrooms, office space, public facilities and staff work area. This is the north side of the building overlooking a man-made pond

where visitors may view aquatic ecosystems (river, drains and marshes), wildlife and (through an optical system) the underwater life in the pond. The Center is the culmination of a 12-year effort of the Bosque del Rio Grande Nature Preserve Society influencing legislation to establish a river park. Members of the Society have volunteered to help man the facility.

Alternative to Sunburn

Summer Students Soak Up Science

In the spring a young man's fancy lightly turns to thoughts of love. —Tennyson

In actuality, the fancy of some young men will turn to what some young ladies have been thinking about all winter—science. Again this year, the Labs will provide instructors for the Summer Science Program at Valley and Sandia High Schools and, for the first time, at Bernalillo High School as well.

The program, which runs from June 3 to July 15, is designed to attract bright students to careers in science and engineering by giving them a chance to learn more about those subjects from real scientists and engineers. Sixteen promising students were selected for each school from the entire Albuquerque/Bernalillo area.

Sandians participating in the program are:

Physics

Robert Sandoval - 4551
Barry Marder - 2646
Rick Flores - 1543
James Klarkowski - 1543

Math/Computers

Dan Arvizu - 4724
Nancy Freshour - 2629
Karen Haskell - 2646
Gary Shepherd - 2614
Larry Lane - 2631

Material Science

Gerda Krefft - 3511
Jesus Martinez - 1415
Julia Fu - 2146

Energy Resources

Don Gonzales - 4731
Tim Bartel - 4747
Jack Jackson - 4764

Electronics

Basil Steele - 1762
James Chapek - 1722
Charlie Blaine - 2336
Luis Martinez - 2336
Ron Jones - 2146
Paul Bolwahn - 2146

Ruth Bitsui (3511) is coordinator of the program. High school coordinators are Ken Falkenberg at Sandia, Robert Chavez at Valley, and Vincent Turietta at Bernalillo.

Fun & Games

The Sixth Annual Leroy Bearman Memorial Run is June 6 at 8:30 in Kit Carson Park. Registration for the five-mile event is at Gardenswartz Sportz (\$4.50); on race day it's \$5.50.

* * *

The Duke City Dashers Spring Classic Track Meet is tomorrow and Sunday at 9 a.m. in the University Stadium. It's quite a spectacle with athletes from all over the country and parts of Canada competing. Come watch—or, if you can, help with officiating chores (check in with Dave Sanchez on 266-8864).

Congratulations

Anna Marie (4001) and Dennis (3435) Carroll, a daughter, Theresa-Marie, May 1.

Jim (3618) and Ann Armijo, a daughter, May 8.

Mark (2629) and Tia Weber, a daughter, Jessica Ann, May 7.

Otto (2422) and Denise Simon, a son, Franz Josef Otto, May 19.

Robert (1754) and Anna Martinez, a daughter, April Rene, May 5.

MILEPOSTS

LAB NEWS

MAY 1982

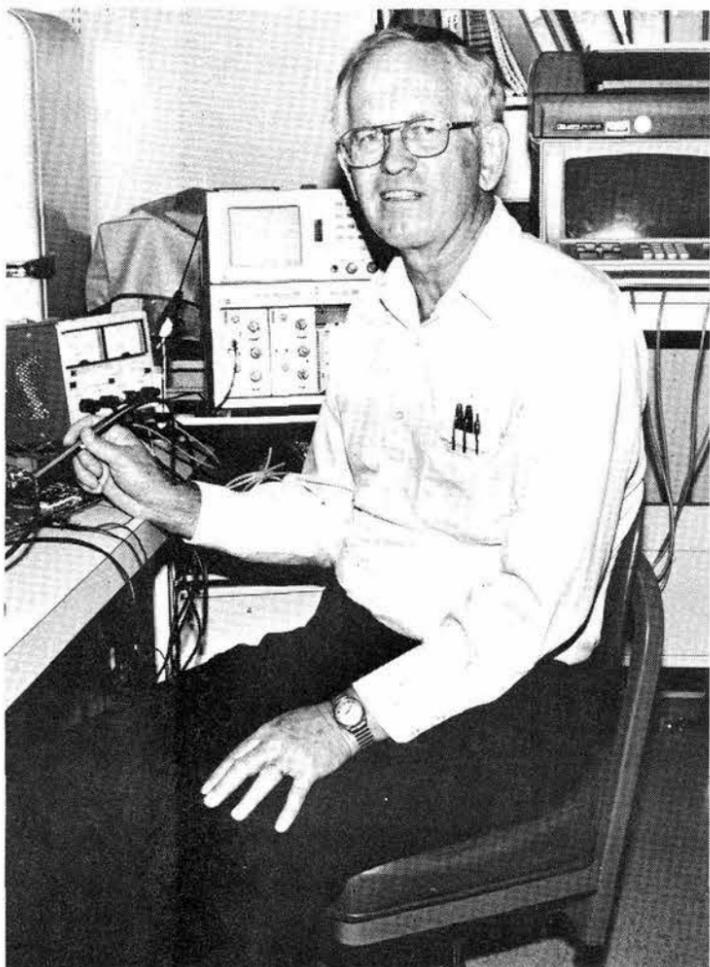


Gary Drummond - 8336 30



Ted Church - 1580

35



Jim Simpson - 1738

30



Fred Anderson - 2361 10



Joe Ashcraft - 2645 25



Lupe Martin - 8262 15



Al Chavez - 5000 25



Herbert Sisson - 1769 25



Merle Snyder - 8412 20



Lewis Sisneros - 3726 25



Robert Hole - 3741 25



Maurice Gilmer - 1126 25



C. F. Wilson - 1171

25

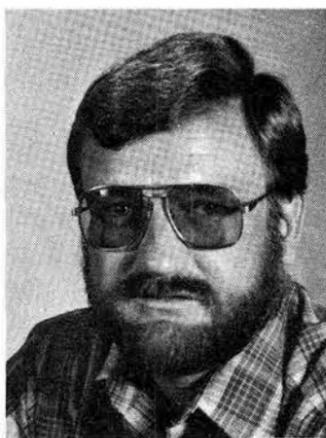


Bob Hepplewhite - 3650

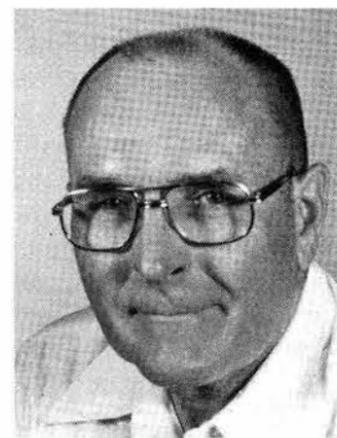
35



Joseph Black - 5522 25



Kurt Putz - 5633 15



Elmer Pitts - 1481 30

Flavors of the Southwest

The South Highway 14 Village Project at the LAB NEWS has added three Southwestern cookbooks to its book sale from the list published by the University of New Mexico Press: New Mexico Magazine's *The Best from New Mexico Kitchens* by Sheila MacNiven Cameron, *The Aficionado's Southwest Cooking* by Ronald Johnson, and *Mexican Cookbook* by Erna Fergusson. The first two are fine cookbooks; the third is fascinating reading.

The *Mexican Cookbook* was first published in 1934 and underwent its 16th printing in 1980. It combines a pinch of everyday life with 104 authentic recipes that were in common use when the province of New Mexico was a part of the Republic of Mexico.

The following quoted passage might lead one to wonder whether the cook had time for anything but cooking and whether the diners had time for anything but eating. Both appear to be full-time occupations. Remember the prevailing con-

ditions: no refrigeration, cooking over open fires in iron or copper pots or in outdoor ovens, great carcasses of freshly butchered meat and game, hand-ground corn and wheat, fruits that were dried in order to preserve them, markets two months' journey away.

"... Then eating was a serious matter, interfered with only by famine, war, or Lent. The day began with a preliminary breakfast in bed; coffee or chocolate and sweet rolls. At nine o'clock came the real breakfast which included eggs or meat and more bread and coffee.

"After that the *Señora* put in her heavy work of unlocking cupboards, storerooms, and chests; of dispensing food for the day; and of directing her servants. Naturally she felt fagged by eleven o'clock and ready for the *caldo colado* or clear soup, which came as a pick-me-up at that hour. Probably the gentlemen came in then from their business of ordering the outdoor work, and children escaped from tutors and gov-

ernesses.

"At noon formal dinner was served; a heavy soup, meats and vegetables, and desserts. . . . In a typical menu there were several meats and only one vegetable, various health rules not having been discovered. Beans and rice took the place of potatoes, which were neither raised nor imported. Salad was unusual. Wine or beer was served. Water was anathema—it was used for irrigation, washing, and religious purposes, never for drinking.

"After this meal, one could indulge in the *siesta*, and come up refreshed for chocolate and more sweet cakes at four o'clock. Supper, at half past six, was a simple meal: chicken or spare ribs, fresh or dried vegetables according to the season, and corn meal dishes at any time."

Strangely, there's no mention of bedtime snacks!

The books sell for \$4.95 each and are available at the LAB NEWS office, MO-125.

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 (M0126).

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

- 16' MOTORIZED curtain rod, push-button type, \$75 or best offer. Davis, 293-1287 after 5.
- LAWN MOWER, reel type, powered, 16", \$35; wall hung cast iron bathroom sink, \$5. Miller, 299-6067.
- 1 PAIR 5 1/4" Audio Vox speakers w/plastic enclosures, for car rear deck mounting, \$20. Martin, 869-2049.
- WHIRLPOOL washer; record player. Moulds, 247-8433.
- 3 METAL frame windows, crank type. Padilla, 296-5048 after 5.
- AKC 9 mo. old Irish setter, needs room to run, \$50. Bunckel, 255-4325.
- BRITTANY SPANIEL puppies, pure-bred, 15 wks., all shots, \$100 or best offer. Mozley, 884-3453.
- COLOR TV console, Sears 21", \$100. Kraft, 299-2157.
- BROILER-Rotisserie w/fry grill, bake unit, temp./time controls, all chrome and glass, \$30; tarp, 10 oz. canvas, 12'x10', brass grommets, \$18. Rainhart, 821-3690.
- EP exercycle, new, \$60; tape recorder, reel type, amp & mic., \$60. Howard, 255-7846.
- REG. Black Angus bull, \$1200; cow w/calf, \$600; redwood egg incubator, \$300; round metal egg incubator, \$50, will consider trade. Lackey, 898-6638.
- MAGNAVOX 19" port. B&W TV, \$50 or best offer. Richerson, 298-0005 after 6.
- ARGUS auto. 35mm slide projector w/11 36-slide magazines, \$40. Korbin, 821-9658.
- GUINEA pigs, Peruvians, Americans & Silkies, \$5 to \$10 ea. (some pedigrees). Stearns, 281-3872.
- SEARS 10" table saw w/motor, 220 VAC & stand, \$125. Snyder, 298-6576 after 5.

- AIR CONDITIONER, refrigerative, 30,000 BTU w/air duct heat exchanger, 220 volt, \$50. Philgreen, 256-1956.
- ANTIQUe oak buffet/sideboard, \$250 firm. Morris, 292-5112 after 5.
- 2 TWIN BEDS, box springs, mattresses & oak headboards. Heatherly, 294-4378 after 5:30.
- AMANA 14' freezer, \$75; white, has storage in door. Parker, 821-5999.
- EIGHT Big Band 8-track tapes and the head cleaner, barely used, \$20. McMaster, 884-8055.
- PLAYHOUSE, 6x8', if you can move it, you can have it. Easterling, 298-7083.
- GOLF SET, bag, 4 irons, 2 woods, putter, balls, tees, \$100; bowling balls, \$5 ea. Pinkerton, 255-2505.
- CAMPER SHELL, Smitty, 8x4x4, ladder, top luggage area, storage, built-ins, vented top, \$395. Foster, 265-0069.
- TV, 23" color RCA; sofa, L-shaped; recliner; console stereo, quad system, 8-TK, recorder/player, AM/FM, turntable. French, 821-6144.
- DOUBLE OVEN gas stove, \$275; port. dishwasher, \$75; porcelain kitchen sink, \$50; patio blocks, 25 cents ea. Biesterveld, 256-7983.
- CAMERA EQUIPMENT: 2x tele extender for Pentax camera, \$15; electronic flash for 35mm cameras, \$15. Lanes, 281-2369.
- GARAGE SALE, MAY 29, 9-3: twin bed, dbl. mattress & box springs, misc. items, 1041 Lawrence NE. Yost, 296-9109.
- MOWER, B&D 18" twin blade electric, side discharge, adjustable height, \$75. Stang, 256-7793 after 5.
- SKYWAY TUFFS BMX wheels, yellow, w/tires, \$45. Fisk, 294-7252.
- 8' CABOVER camper, 3-burner stove, ice box, AC outlet, CB antenna, sleeps 4. Sanchez, 831-4045 after 6.
- PROFESSIONAL clarinet, Selmer Paris 10. Myers, 294-7354.
- CHILDREN'S GYM-DANDY treehouse tower w/redwood platform & seats, canopy, ladder, & slide, assembled, \$35. Lang, 884-5288.
- AKC Collie puppies, sable & white, 8 wks. old, terms. James, 344-7854.
- AKC reg. Sheltie puppies, sable and tri's. Ruder, 298-0816.
- 1940s PHILCO radio, dk. wood console 38x22.5x11", complete except knobs, \$45; wheeled crib w/mattress, broken rail, \$10; play pen, \$10. Mead, 294-2298.
- ORGAN, Hammond church model C2, model JR-20 tone cabinet, \$1200; GE cooktop and hood, \$65. Biffle, 293-7043.
- FARBERWARE convection turbo-oven, 21x13x15, \$95. Davis, 255-1050.
- YARD SALE, Fri., Sat., Sun., May 2, 30, 9-5, 221 Tulane Dr. SE. Joseph, 268-5414.
- APPALOOSA HORSES, race, show or pleasure; will trade for? Ashbaugh, 268-7124.

- PUPPIES, male, born 3/1/82, will be very small dogs, mother part cocker. Gauerke, 281-5876.
- ELECTRIC hospital bed, \$225; 5-pc. setting Gorham Kingsbury china, \$42; GE color 25", \$50; misc., 1025 Calif. SE, May 27-28. Morgan, 256-7994.
- GARAGE SALE: household items, clothing, misc., Sat, May 29, 9-5, 3024 San Pablo NE. Sublett, 884-4426.
- HANDCRAFTED cherry table & 2 chairs, table is 35"x55" & chairs have leather seats & backs, \$120. Hertel, 255-0329.
- MISC. sewing aids; dress form; light fixtures; green shag rug w/pad; PU toolbox; bathroom sink; make offer. Luikens, 881-1382.
- GOLF EQUIPMENT: 3 sets men's right-hand woods, \$15-\$90; 2 Bagboy golf carts. Kaiser, 296-5215.
- FRIGIDAIRE refrig./bottom freezer, \$75; Kenmore washer, \$75; both white. Byrne, 869-6937.
- BUNDY tenor sax, \$300; Cohn trumpet, \$50. Graham, 821-7764.
- REFRIGERATOR, Coldspot frostless, 16.2 cu. ft., gold, \$125. Neal, 294-3088.

TRANSPORTATION

- '66 FORD Falcon, 2-dr., 6-cyl., low mileage. Barnes, 298-8432.
- '72 BUICK Skylark, power, AC, \$800. Cernosek, 299-2252 after 5:30.
- '77 KAWASAKI KZ400 motorcycle, 13,000 miles, many extras, \$975; boys' 24" Sears bicycle, 10-spd., \$35. Miller, 299-6067.
- '78 DODGE Omni, front wheel drive, 4-dr., 4-spd., radials, 30/35 mpg on reg. gas, \$200 below NADA wholesale. Martin, 869-2049.
- '81 FORD Fairmount Futura, AT, power, extras, 17,000 miles, white, red interior, \$5800. Tarbox, 255-6529.
- '77 HONDA XL75 motorcycle, licensed for street use, 4-spd., 80 mpg, 5000 miles, \$250. Ohrt, 292-1316.
- '77 KAWASAKI KZ400, 13,000 miles, windshield, luggage rack, saddle bags, crash bars, speed control, \$850. Salmi, 294-3022.
- '80 DODGE D150, SWB, camper shell, 6-cyl., 4-spd., dual gas tanks, radio, \$5100; '70 Ford, 4-dr., AT, PS, PB, AC, \$700. Mariman, 299-5195.
- '79 HONDA CM400T, low mileage, flexifairing, luggage rack, adult ridden, \$1200. Barr, 884-4582.
- '73 MOTOR COACH, 23' Traveline, International motor 345, 16,150 miles, self contained, extras, \$12,000. Marmon, 298-0238.
- '77 SCOUT Traveler 4x4, 304 engine, PS, PB, AC, AT, auto lock hubs, trailer pkg., 24K miles, \$5500. Widows, 298-7153.

- '67 PONTIAC Catalina/Ventura, 4-dr., deluxe pkg., elec. windows, new shocks, \$950. Arning, 296-7510, 256-9229.
- 10-SPEED BIKE, Schwinn Continental, new tires, cables, handle grips, brake pads recently adjusted, \$110. Anderson, 265-0403.
- CAMPER, 10 1/2' Chinook w/'72 Ford 390 V8, 3/4 ton pickup, complete, self-contained w/all extras, \$6600. Church, 898-5306.
- '79 MUSTANG, AT, PS, PB, AM-FM-8TK, \$3995. Carter, 296-8709.
- '80 KAWASAKI KZ650, 9500 miles, Vetter Q-Silver fairing, case, bars, luggage rack, misc. extras, \$1795. Foster, 265-0069 after 6.
- KAWASAKI MOTORCYCLES: '81 KZ-550, '78 KZ1000Z1R, '73 & '76 Bu-taco Alpinas. Bacak, 299-2036.
- '68 OLDSMOBILE, Delmont 88, 4-dr., HT, one owner, \$650. Blossom, 299-6709.
- '80 FORD Mustang, 4-cyl., AT, AM-FM-tape, 19,000 miles, retails \$5100, sell for \$4300. Stang, 256-7793 after 5.
- '77 VW RABBIT, 4-dr., deluxe interior, \$3500; '70 Honda trail bike, \$425. Willis, 281-2572.
- '79 SUZUKI RM-125 dirt bike, set up for fun or competition. Chimenti, 294-5644.
- '72 FORD Grand Torino Squire stn. wgn., AT, AC, \$995. Graham, 298-7005.
- '76 BUICK LeSabre, 56K miles, AT, AC, V6. Patton, 298-9987.
- '77 PIAGGIO Bravo moped, less than 2000 miles, \$295. Petterson, 299-0164.
- KAYAK, Phoenix Savage w/spray skirt kit, wet suit vest, helmet & float bags, all for \$350. Luikens, 881-1382.
- '75 IMPALA, AC, AT, radials, \$1500. Neal, 294-3088.

REAL ESTATE

- 3-BDR., lg. den, near UNM & Monte Vista school, owner will finance at low interest, \$85,000. Aronson, 898-8893.
- NE 3-bdr. w/single garage, assumable FHA, no qualifying, 11 1/2% mortgage, \$8600 cash to mortgage, monthly payment \$505. Bowers, 296-7847.
- '79 CENTURION mobile home, 2-bdr., 1 1/2 bath, fully skirted, set up in Meadowbrook Park. Jones, 881-1918.

WANTED

- 12 GAGE DOUBLE SHOTGUN, reasonable. Roth, 243-3283.

- WANT TO RENT pop-up camper trailer, must sleep at least 4, need for 3 days to week during first half of June. Thalhammer, 298-8521.
- USED kitchen cabinets, sink, stove (in working condition); down draft cooler at least 3000 cfm. Flores, 299-4971.
- PATIO sliding doors, five to eight feet wide, will assist in removal from house, price must be reasonable. Adams, 256-7265.
- DATSUN 510 w/bad engine. Preventer, 299-5253.
- GOOD PLEASURE HORSE, will board for riding priv.; truck tires 8:00x16.5; quality hay, firewood; Radio Shack computer Model I or III. Baker, 294-3334.
- LARGE SIZE Kitchen-Aide mixer, in working order. Pershall, 822-0814.
- RV or TRAVEL TRAILER to rent, or trailer to buy, if trailer, need light-weight w/refrigerator. Kwak, 294-2524.
- CAR SEAT for baby, good condition, will pay \$20-\$25. Parrish, 242-3569 after 5.
- USED filmstrip projector; used portable audio cassette player. Campbell, 298-9265.
- 3 TO 5 HP outboard motor, any condition, working or not. Lederer, 884-3837.
- ELECTRONIC REPAIR on reel to reel tape recorder. Baxter, 344-7601.
- 250 GAL. propane bottle, good condition only. Lente, 869-6393.
- BABYSITTER, mature woman one or two days/week in our home; 1 and 3 yr. old. NE hts. Tapp, 821-3843.
- BABYSITTER for 7-wk.-old baby, needed 9 hrs./day, Mon.-Fri., beginning the latter part of June, references required. Weber, 243-7650.
- SMALL, inexpensive record player; golf clubs for 10-yr.-old boy. O'Neill, 892-6754.
- BABY STROLLER, preferably collapsible & with sun shade. Kramer, 294-5453.
- SIM, KIM, or similar beginners' micro-processor based computer board or system, working or repairable; need repairable printer. Stixrud, 298-0478.

WORK WANTED

- HOUSE SITTING & animal care, college student, references, NW/SW area. Christine Lambert, 344-9012.

SHARE-A-RIDE

- WANT TO form carpool or obtain riders from area of Coors & Ouray NW. Bragg, 831-4500.

Coronado Club Activities

Rib Eye Steak Buffet Tonight

TONIGHT'S HAPPY HOUR features the swinging music of Youngblood from 5 until midnight. The buffet (from 5:30 until 9) is a rib eye steak special with fabulous salad bar, vegetables, potato, rolls and butter, assorted desserts and a special price—\$7.50. The twin pools and patio area are open tonight until 9.

GRAND OPENING celebration for swim season takes place on Memorial Day, May 31, from 11 to 6, with fun and games for kids and adults. The snack bar will sell hot dogs, hamburgers and other goodies all day while a temporary bar operates in the patio shade.

NEXT FRIDAY at Happy Hour is Single Mingle time at the Club (it's the first Friday every month), and the buffet features a western barbeque buffet—ribs and roast beef. Frankie and the Corvettes play western and variety tunes from 8 to 12 while special prices are in effect all evening.

THE BIG ONE—the really big one—next month is the Luau scheduled Saturday, June 26. The evening starts with cocktails at 6 p.m., a fantastic Polynesian buffet (featuring roast pork cooked on a spit in the patio) from 6:30 until 8, a super show with fire dancers and hula spectaculars from 8 until 9, then dancing inside and out to Spinning Wheel, and mai-tai coconuts and open bar all evening. It's a package deal—\$23 covers everything. Call 265-6791 and make reservations now.

VARIETY NIGHT on Saturday, June 5, features the Walt Disney classic animation treatment of *Cinderella*. Hot dogs, hamburgers, French dip sandwiches and pizza are available at 5, the movie starts at 6. Admission is 25 cents.



"TRUPACT has survived crash tests, explosions, fires . . . but now for the ultimate test."



A FIELD REVIEW of Sandia's FY 84 budget request included this tour of the foundry in Bldg. 841. Pat Conlon (1473) explained to DOE's Office of Military Application team and local DOE officials the need for new process development facilities. The tour included a visit to Area IV and presentations on several programs included in the budget request.

A BAR PROMOTION by the Miller Lite beer people is set for Thursday, June 3, starting at 4:30. Their brew sells for 50 cents a bottle, and prizes will be given away every half hour.

TRAVEL DIRECTOR Frank Biggs (4231) announced two travel packages to the Mexican resort city of Mazatlan on Nov. 1-8 and Nov. 8-15. Both packages include airfare, transfers, taxes, a cocktail party, and seven nights' lodging at the luxurious Playa Mazatlan, also known as the Coronado Club South since this excursion is the Club's most popular trip. Cost this year is \$357 (double occupancy). Deposit \$200 at sign-up in order to nail down airline tickets before any price increase.

Mazatlan and Puerto Vallarta are ports of call on the Mexican Pacific Coast Cruise set Oct. 23-30. The cruise includes a week on the MTS Daphne, airfare to and from Los Angeles, transfers, and taxes. Prices start at \$789. Deposit \$200 with sign-up at the Club office.

Las Vegas is the destination Sept. 12-15 either by air or by bus. Stay at the Maxim Hotel and tour Hoover Dam. Group rates for dinners and shows can be arranged. The air package costs \$185, bus \$130.

Frank reports that space is still available on either of the scenic railway trips. Take

the Cumbres-Toltec trip June 26 for \$42, adults, or \$30, children 11 and under. Or take a two-day vacation and ride the Silverton-Durango train, visit the Aztec ruins, Purgatory Alpine Slide, and stay overnight in Durango. This one costs \$88 for adults; children's rates vary depending on age and number staying in the room.

To talk travel, see Frank in the lobby tonight between 5 and 7.

CORONADO GRANDSQUARES plan an ice cream social on Monday, June 14, starting at 7:15. Visitors are welcome. The group's summer schedule calls for visiting the Church House Squares on the first, third and fifth Monday through August, meeting at the Coronado Club on the second and fourth Monday. For more info, call Bob Butler (1233), 4-4940.

Radiation Effects

Raising the Threshold?

A recent colloquium presented by biochemist Don Luckey of the University of Missouri suggested that not all radiation is necessarily harmful.

Luckey pointed out that scientists have long been concerned with the potential effects of ionizing radiation on people. His own experiments with plants and animals seem to indicate that "harmful agents in small amounts seem to be beneficial—they can stimulate higher birth and growth rates."

There is evidence that early life forms adapted to ionizing radiation several times stronger than it is at present. Luckey believes that the addition of low doses of radiation above ambient levels increases microbial growth and fermentation; improves plant germination, development, and yield; improves animal growth rates and fertility; and increase resistance to infection and tumor growth.

In response to a comment from the audience, Luckey agreed that no one knows the long-range effects, if any, on animals exposed to higher than ambient radiation levels. "More experimentation is needed—it's a very complex problem," he concluded.

Luckey has published a book that fully explains his work: *Homesis with Ionizing Radiation* (Boca Raton, Fla.: CRC Press, 1980).