

New Water Impact Test Facility

From the air, it looks like a colossal swimming pool sparkling blue on the beige valley floor. Next to it is what looks like the world's tallest diving tower. The pool, the Full-Scale Water Impact Target, is the newest tool in Sandia's giant Area III development testing laboratory. The 300-foot drop tower, built in 1956, is seeing new life as a sky-hook for the new facility.

Designed by John Russell of Track and Cables Division 7535, the new facility is modeled after the aerial cable facility in Coyote Canyon. A test unit hanging from the drop tower is attached to cables that run through pulleys on either side of the impact point — the water surface. The pulleys, tethered to a steel beam fixed in the concrete at the bottom of the pool, turn and guide the cables to a rocket sled. When the rockets are fired, the test unit impacts at a precise (and high) velocity at a precise point between the pulleys on the surface of the pool. Up to 50 channels of hard-wire data may be recorded during impact testing. High-speed motion pictures of an event may be taken above (and later, it is planned, below) the water surface.

Test units weighing up to 1000 pounds may be impacted onto the water surface at velocities up to 500 feet per second (330 mph) and at angles from 15 to 90 degrees.

"This facility offers a unique combination of impact speed and angle, and test ob-

ject weight," says Dave Bickel, Division 7535 supervisor. "Before we built this new water target, the only ways to subject large test units to 500-foot-a-second impacts were by air drops from aircraft or by a special procedure on our rocket sled track.

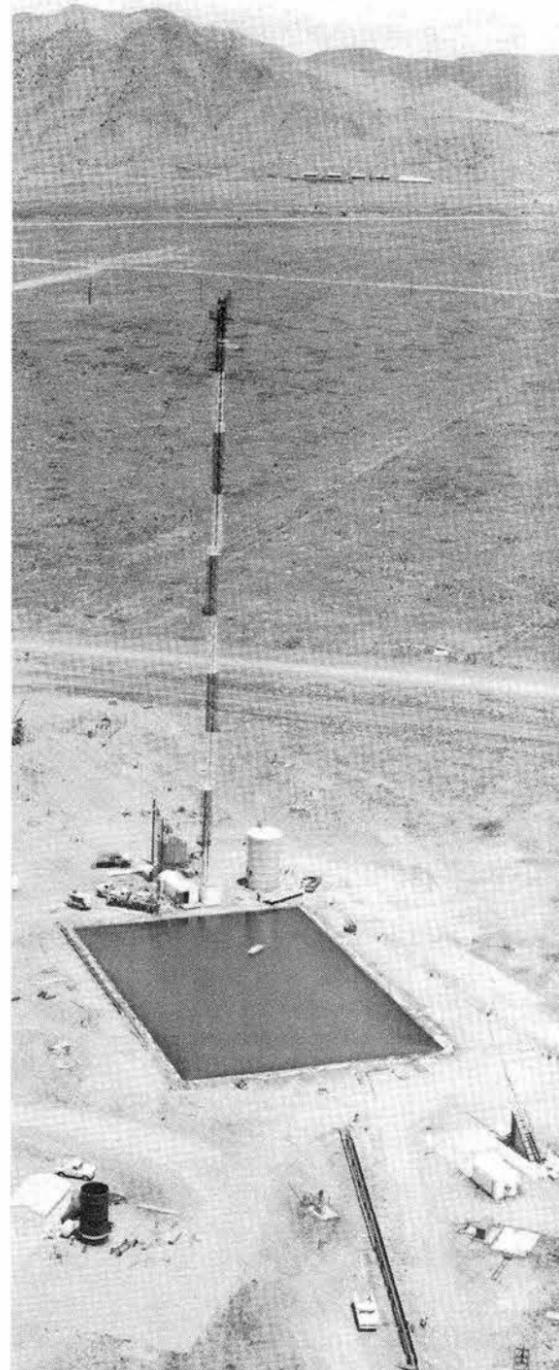
"Air drops, however, do not provide control over all test parameters, and instrumentation is more difficult," Dave continues. "The rocket sled technique — called reverse ballistics — involves securing an instrumented test object on one of the Labs' rocket sled tracks and propelling a water-filled tank covered with a membrane into it. Because of the membrane, the technique doesn't provide free surface impact, and the boundary conditions, caused by the tank walls, severely limit the test."

In August, the water impact facility was used to test the nose cone for the space shuttle's reusable, strap-on rocket boosters. The tests, conducted for NASA, involved impacting a 10-foot-tall booster nose cone into the water at 75 feet per second, accomplished by a free fall from 100 feet.

In January, the facility will be used in a series of tests of a sea ice penetrator, a device that fires a projectile from beneath the surface upwards through the ice.

Other test items may include:

- sonar devices that transmit underwater sound waves;
 - nuclear waste canisters that could be
- (Continued on Page Four)



FROM THE AIR, Sandia's new Water Impact Target resembles a swimming pool with the world's tallest diving tower. The facility allows precision control and full instrumentation coverage during high impact tests of large test units onto the surface of the 50-foot-deep pool.

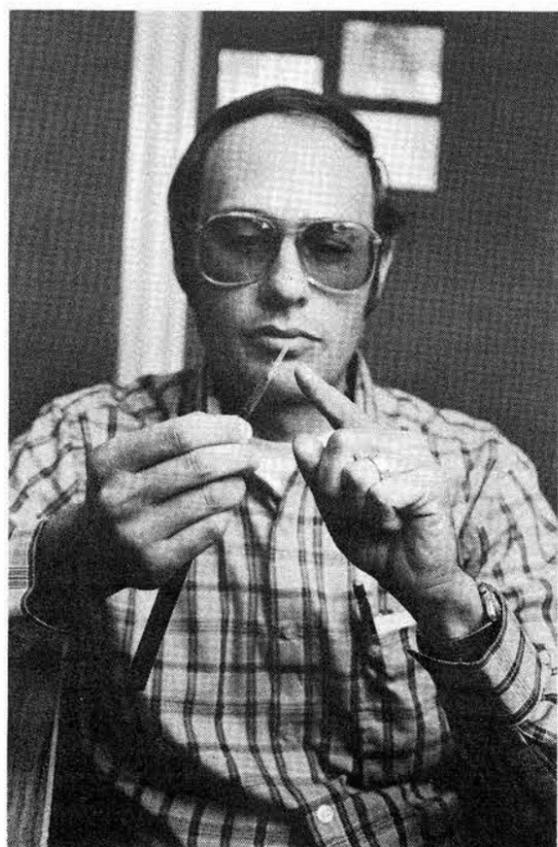


LAB NEWS

VOL. 35 NO. 23

SANDIA NATIONAL LABORATORIES

NOV. 11, 1983



HAIR-THIN optical fiber is too small to see here, but the half-inch cable held by Spencer Nelson (2633) contains twelve 12-fiber ribbons and can carry the equivalent of 250,000 telephone conversations simultaneously.

Optical Fiber Network

Linking Labs Locations

Optical fiber telecommunications cables now being laid at Sandia have two major advantages. One is the tremendous bandwidth available in a cable just a half inch in diameter — a single 144-fiber cable can carry the equivalent of 250,000 telephone circuits.

The second is that signals on one fiber do not interfere with signals on the other fibers. This characteristic is important for security and for obtaining error-free data.

The cable was developed by Bell Labs and is manufactured (and being installed at Sandia) by Western Electric.

Currently the Sandia communications divisions, with the assistance of Plant Engineering, are installing optical cable around and between the Tech Areas. This month a crew is installing the second part of an optical cable trunk route that will eventually circle Tech Area I and have spurs to Tech Areas III, IV, and V.

The first part of the Tech Area I loop was a 144-fiber cable from Bldg. 880 to Bldg. 802 with loops through Bldgs. 860 and 836. Ex-

perience with that first step has shown it to be technically and economically advantageous for use in Sandia's burgeoning computer communications network.

Installations in future years will close the Area I loop with links that go from Bldg. 802 to 807, 807 to 891, and 891 to 821. Areas III and V will be reached from Area IV.

The whole installation project is part of an overall communications plan that entails completing nine Tech Control Centers at Sandia — seven within Area I and one each in Area IV and Area III or V. Each center will have terminal switching equipment, center-to-center communications equipment, and diagnostic instruments. Conventional twisted-pair wiring will link each center to the labs and offices in the surrounding area — two or three major buildings and a few minor buildings. Tech Control Centers are currently operating in Bldgs. 880, 802, and 821; the 891 and 960 centers will be operational in the next year.

All of this work supports Sandia's ex-
(Continued on Page Two)

Antojitos

Armistice Day--If it happens that you're reading this at 11 a.m. on the date of issue, pause just a moment: 65 years ago today--on the 11th hour of the 11th day of the 11th month--World War I ended. The bugles sounded "cease firing," and the German Emperor Kaiser Wilhelm II formally surrendered. This Treaty of Versailles, negotiated by France's Premier Clemenceau, Britain's Prime Minister Lloyd George, Italy's Premier Orlando, and our President Wilson, ended one of the bloodiest wars in history, yet one without a single decisive battle (at least on the Western Front). As the "War to End All Wars," it failed miserably--WWII broke out in Europe less than 21 years later.

WWI was almost a lifetime ago--people born on Armistice Day are retiring now, if they haven't already. Yet the seeds of that war, especially the Russian Revolution that grew out of it, have flourished--for over three decades now America and Russia, uneasy "allies" in both world wars, have been the globe's two dominant, opposing powers. From that vantage point, perhaps it's wise not to celebrate Nov. 11 as a holiday--it was an armistice that rings pretty hollow today.

* * *

Carping About Cafeterias--No, not about the food. (Local gourmets do that far better than I. The quintessential exchange of quotes, overheard years ago by Bob Lassiter (5268)--One diner: "This cafeteria sure serves lousy food." Second diner: "Yeah . . . luckily they don't give you very much.") I complain about the new signs.

At the Sandia cafeteria is one of the few really handsome signs around here, one in which we could all take pride. Except that we got a bit schizophrenic about whether we're a civilian or a military establishment when it came to posting the hours of operation. I quote: "6:45 to 7:45 and 11:30 to 13:00." If we're going military (I hope not), it's 0645 to 0745 and 1130 to 1300, no colons. If we're civilian, and all indications save geographical suggest we are, then the last time listed must be 1:00.

At the Base (aka Kiva) cafeteria is a sign, admittedly temporary, that not only misspells a word but at the same time actually apologizes for planning to stay open longer:

-- Sorry --

Extendend Operating Hours

will be in effect

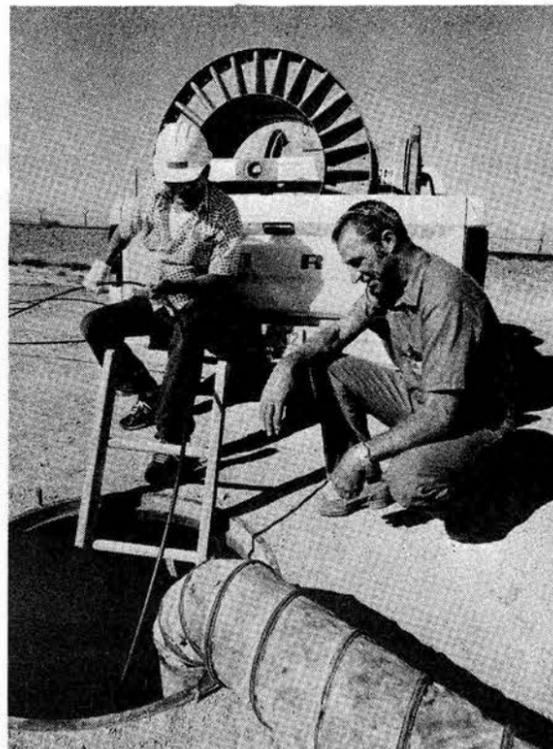
after our Renovation

Approx. 15 Nov 1983

●BH

* * *

Nous avons tous assez de force pour supporter les maux d'autrui.
(We all have enough strength to bear the sufferings of other people.)



PLANT ENGINEERING's Cliff Rudy (3631) watches the progress as optical cable is threaded (by Conrad Hollenbeck, Western Electric) between Bldg. 821 and Bldg. 960 in Area IV. The current phase will also link Bldgs. 880 and 821 and Bldgs. 960 and 980.

Continued from Page One

Linking Labs Locations

panding Central Computing Facility and the many VAX and other central processing unit sites around the Labs. Currently 35 different processors are connected to the terminal switching network. Requests for terminal connections and point-to-point computer links are coming in faster than Division 2634 can handle them.

But the pace is expected to get even more hectic. Some of the proposed Sandia computer systems that are sure to increase communications needs are the scientific Cray Time-Sharing System, and ADNET (administrative computer network), 15 more VAXs, additional office automation equipment, and computer-aided-engineering networks.

Optical cable, along with the capabilities of the Tech Control Centers, will let Sandia handle the increase.



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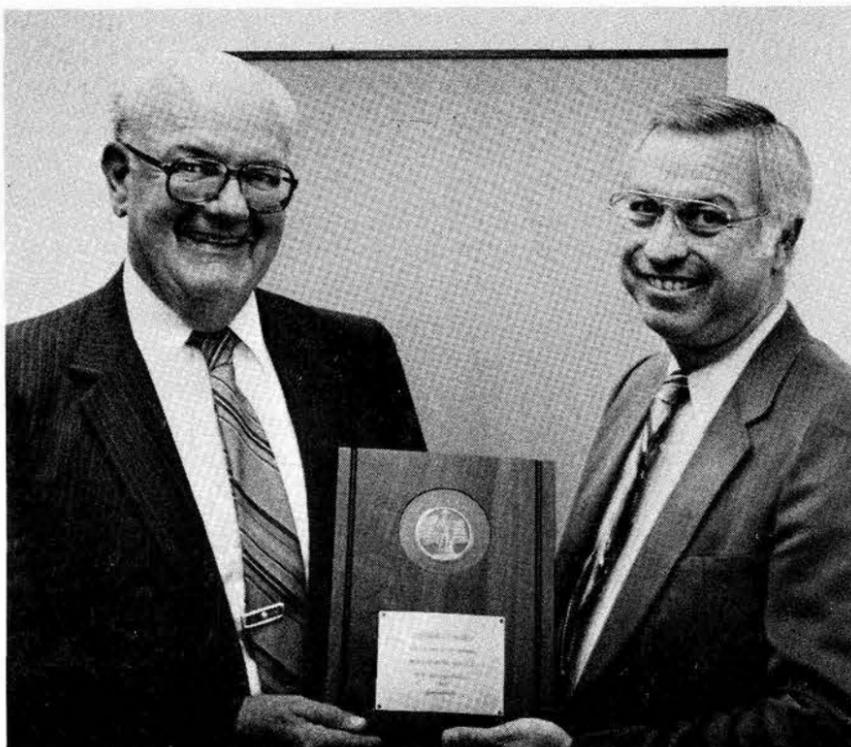
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RECOGNITION — The plaque reads "George Dacey, Chairman - Albuquerque, For Patriotic Service, US Savings Bonds 1983 Campaign" and was presented by Chet Caldwell, the New Mexico chairman of the bond drive. Dacey was quick to respond to the honor by commending all Sandians who support the Savings Bonds program. The award may not be the last one — Dacey has agreed to chair the 1984 Albuquerque campaign.

Q. Recently, an injury in my area required an ambulance. I called the number on the phone sticker (4-4357 or 4-HELP). My call was answered by a recording, informing me that this was not a working number. Thinking that I had misdialed, I tried again with the same result. I then looked up & called the number for the Medical Department, and someone there dispatched the ambulance.

During a life-threatening emergency, precious time is lost if we can't immediately reach help. If the emergency number has indeed been changed, then phone stickers are obsolete and should be revised. (I note that the phone book lists 144 as the emergency number; however the latest Security Assistance Index lists Emergency Ambulance Service as 4-4357.)

A. Your experience occurred at the time of a changeover, and we are sorry that we could not change all references to the old number simultaneously. The emergency number is now 144. This was publicized in the Sandia Labs Weekly Bulletin of July 14, 1983. It was followed by an Emergency Preparedness Booklet. Security is in the process of changing the Security Assistance Index at this time.

P.B. Mossman, 3300

Q. There is a bulletin board in Bldg. 880 that apparently is not on the rounds of the person who cleans off and polices the contents of such boards. I just removed a pile of commercial ads and notices for events that took place last month. Could the appropriate person or organization be asked to add this board to their rounds? (Please don't just take it down. The bulletin boards are some of the most pleasant entertainment we get around here.)

A. No, we don't intend to remove the Bldg. 880 bulletin board — or any other boards in major buildings. And yes, you're right that most major boards (the exception is the Bldg. 802 board) are seldom policed.

The difficulty is that, although approved announcements are posted by those in Mail Services Section 3154-4, the responsibility for removing outdated items lies in Employee Communications Division 3162. That organization does not have enough staff to monitor boards on a regular basis. I have asked all of the people in that division to make it a point to police the boards, especially those in major buildings, as they have occasion to pass through halls where the boards are located.

Nevertheless, any employee who sees outdated items — posters for events already past or want-ad cards more than five days old (or undated ones) — or notices of a political, religious, or commercial nature is encouraged to remove them. Problems arising from this "vigilante" approach should be referred to the 3162 supervisor.

H.H. Willis — 3100

October 1, 1983

To: Sandia National Laboratories Employees

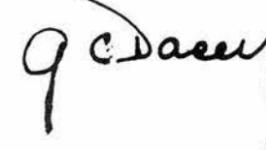
Re: Statement of Policy on Equal Opportunity and Affirmative Action

Once again I wish to reaffirm both my personal and Sandia National Laboratories' commitment to the principles of Equal Opportunity and Affirmative Action. In Fiscal Year 1984 we will continue our policy of conducting all activities including recruiting, employment, compensation, benefits and services, training, advancement, promotion, transfer, and termination without regard to race, color, religion, national origin or sex, and in accordance with the laws and regulations concerning age, physical or mental handicap and disabled or Vietnam Era veterans. Not only will we comply with the letter of the laws and regulations of federal and state governments but we will practice the true spirit of equal opportunity as a matter of Laboratories' policy.

The program of affirmative action to which we have pledged our efforts has produced positive results. We can be especially proud of the greater numbers of women and minorities on roll, of our handicapped program and of our positive image in the community. We must concentrate our efforts in the coming year on the advancement and promotion of women and minorities into higher job classifications, and into management.

I ask all employees to create a work environment that is free from discrimination and is supportive of women, minority, and handicapped employees and in which the full potential of all employees can be realized. Supervisors are expected to be familiar with the Affirmative Action Program, to discuss its contents with their employees and to take an active and positive role in fulfilling our equal opportunity commitment. The ultimate objective toward which we continue to strive is optimum use of our human resources.

I will look to the Vice Presidents to take the lead in implementing Sandia's Affirmative Action Program. J. R. Garcia, Director of Personnel, and staff will continue to monitor all equal opportunity activities and report to me on the effectiveness of our Affirmative Action Program, including recommendations for necessary action to ensure attainment of our objectives.



Sandians Now Eligible For AMC Car and Truck Discounts

As part of the AT&T system all active and retired Sandia employees are now eligible to buy new American Motors Corporation cars at four percent over AMC dealers' wholesale prices.

Depending on options selected, AMC's Alliance sedan, for instance, would cost an employee about \$1300 less than the retail price. Proportionate savings would apply to Concords, Spirits, Eagles, Wagoneers, Cherokees, and Jeep trucks, CJs, and Scramblers. AT&T emphasizes that the participation should not be interpreted as

an endorsement of AMC products — similar plans are available to many AMC suppliers.

The purchase plan is fully explained in an information package available by calling 1-800-AMC-CARS and furnishing the employee number of the employee or retiree or spouse. The package includes a form that is to be completed and presented to one of the participating dealers listed.

AMC has full responsibility for the administration of the program; there is no AT&T or Sandia coordinator. Direct all questions to the toll-free number listed above.

Take Note

If you enjoy bagpipe music and Scottish dances, don't miss the annual St. Andrew celebration on Nov. 19. The bagpipe music will be provided throughout the evening by three bands; two dance groups will perform both country style and traditional Scottish dances. Refreshments include hors d'oeuvres and a no-host bar. The celebration, sponsored by the St. Andrew Society, will begin at 7 p.m. at the Shalako Inn. Tickets (\$10 each) can be purchased at the door, or call James Muir (6255), 883-7933, for advance tickets.

* * *

Anyone who has experienced the death of someone close could benefit from the Bereavement Group sessions sponsored by the counseling department of Presbyterian Hospital. Each session — on Mondays from 5 to 6:15 p.m., Nov. 21, 28; Dec. 12, 19; Jan. 2 and 9 — will include a short educational presentation, followed by the opportunity to participate in small support groups. Persons may attend any or all of the sessions (\$20 for six meetings), to be held in Classroom B at Anna Kaseman Hospital. To register, call 291-2172.

* * *

Three distinctive Christmas Cards with a Southwestern theme are being offered for sale to the public by the Easter Seal Society of NM. Proceeds from sales support programs and services for the handicapped and elderly served by the Society.

The 1983 collection includes the reproduction of Walt Prythero's "Santuario de Chimayo," Patricia Loree's "Winter Light," and C.J. Buckner's "Condo Viejo." Available in full color, the cards are thirty-five cents each either with or without a Christmas verse. A color brochure and ordering information is available at the LAB NEWS office, Bldg. 814.

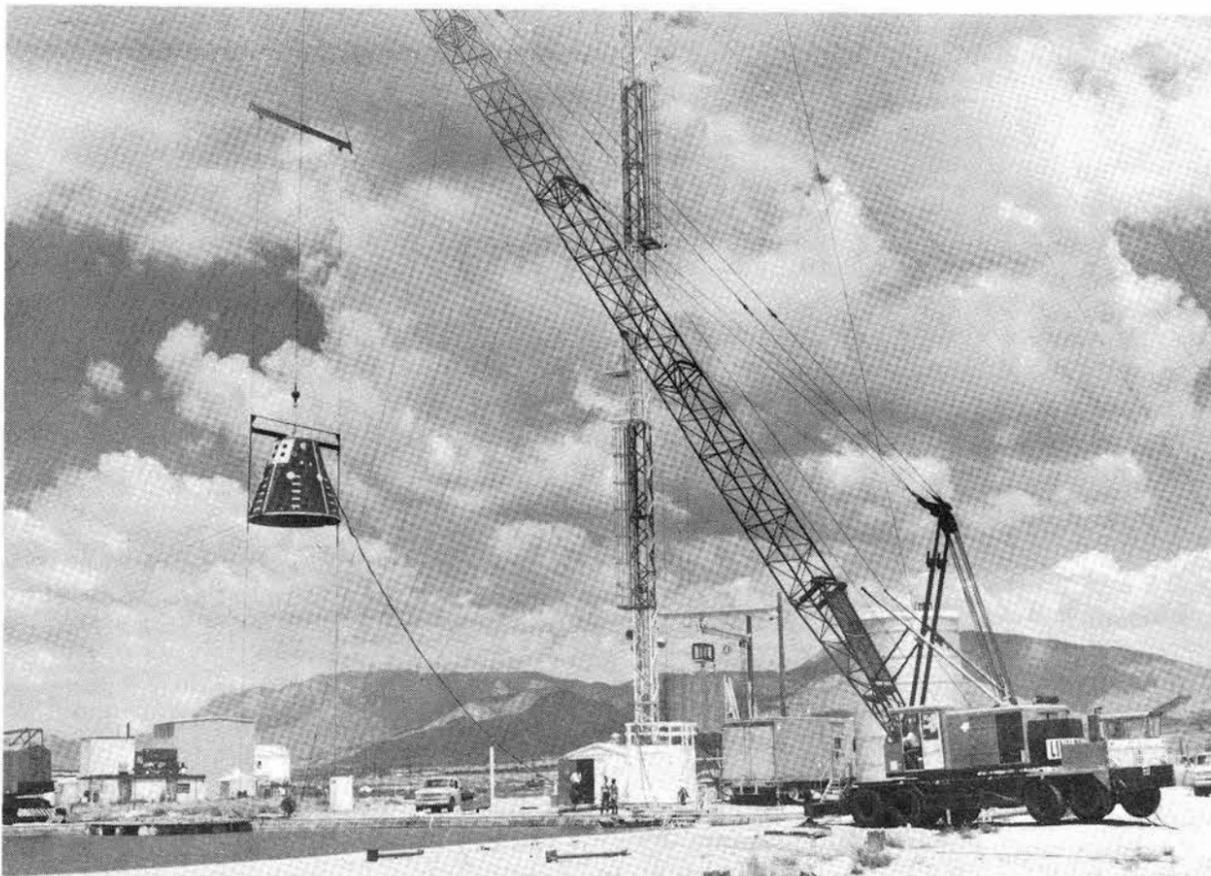
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Gary Shepherd (2614) and his kids in the Neighborhood Drama Project are working on the upcoming production of "The Magic Fountain." Written and directed by Gary, the show was first presented in 1977. The show, a musical fairytale for children, is being produced through a grant from the New Mexico Arts Division. Performances will be held at the Neighborhood Center, 1020 Edith SE, at 2:30 and 8 p.m. on Nov. 19, and at 8 p.m., Nov. 20.

* * *

Here's a reminder from John Saylor, manager of KAFB's Wood Hobby Shop. All on-roll Sandia employees and their dependents are eligible to use the facility. The shop is open Wednesday and Thursday from 1 to 9 p.m., Saturday from 9 a.m. to 5 p.m., and Sunday, 11 a.m. to 5 p.m. (closed Monday, Tuesday, and Friday). Bring your own materials and hardware. John has discount slips for two shops in the city for hardwoods and cabinet-grade materials. The wood hobby shop is equipped with major power tools, hand tools, portable power tools, safety gear, sandpapers, and adhesives. The cost: \$1 for the first hour, 60¢ for each additional hour. To find the shop, head south on Wyoming to M St. (one block past the museum), turn right and go to the last warehouse. The shop is just behind the warehouse in Bldg. 20440.

* * *



A NOSE CONE for the space shuttle's recoverable rocket boosters is readied for testing at Sandia's new Water Impact Target in Area III. The new facility is an extremely versatile tool for determining how objects survive high-speed impacts into water.

Continued from Page One

Water Impact Test Facility

placed beneath the ocean floor; and

— nuclear material transportation containers that must survive certain submersion conditions before they can be authorized for use.

Originally built to test anti-submarine weapons, the facility has also been used to check behavior of a parachute system as it

enters the water and to test Sandia's Instrumented Seabed Penetrator (ISP). (A five-foot-diameter hole in the pool's floor simulates the ocean bottom.)

The pond surface is 120 feet by 170 feet, and the water is 50 feet deep. From the surface, the walls slope 45 degrees inward, resulting in a 20-foot by 70-foot floor section.

Some time ago, LAB NEWS announced that children of Sandians are eligible for Western Electric Fund Merit Scholarships. That announcement was wrong. Sandians' children are eligible only for scholarships awarded directly by the National Merit Scholarship Corporation, not for those awarded by the WE Fund and earmarked for WE employees' children.

* * *

Handcrafted items will be on sale at Cleveland Middle School's Holiday Arts and Crafts Bazaar, Nov. 19 from 9 a.m. to 4 p.m. Proceeds from the event, sponsored by the school's Parent Advisory Group, will be used for school ground improvements. Cleveland is located at 6910 Natalie NE (corner of Louisiana and Montgomery).

* * *

The Amigos de las Americas, a non-profit organization that sends young people to Latin America in medical programs each summer, is sponsoring a fundraising wine and cheese tasting party Nov. 18 from 7 to 11 p.m. at the Classic Hotel. An auction of Latin American arts and crafts and of works of local artists will be held. Tickets (\$5) may be obtained by calling 296-8239, or may be purchased at the door. For more information, call Betty Tolman (3151), 4-9335.

* * *

Radio station KKJY (FM 100) will feature Sandia National Labs on Tuesday, Nov. 22 in its "Salute to Major Employers"

series. Facts and figures on the Labs will be included in station breaks about once every hour.

* * *

The third annual "Holiday Olé" Christmas Fair, sponsored by the Junior League of Albuquerque, will be held at the Agricultural Building, State Fairgrounds, Nov. 18 through Nov. 20. The major fund-raiser for the League, Holiday Olé is a shopping fair; merchants from New Mexico and from out of state will operate booths, and local artists and craftsmen will have a consignment area. Lunch and refreshments will be served daily in the Holiday Olé Tearoom. All proceeds will be returned to the community through Junior League projects. Some of their current projects include: The Ronald McDonald House, Nature Center for the Natural History Museum, Volunteer Albuquerque, The Story of Albuquerque, Albuquerque Community Foundation, KARE (Kids Alcohol Responsibility Education), and Child Watch.

The fair will be open from 10 a.m. to 9 p.m. Friday and Saturday and 10 to 5 on Sunday. Tickets are available from all League members or by calling 247-1800. Ticket prices are \$2 for adults and \$1 for children.

* * *

Apologies to Jim de Montmollin (5260). His picture appeared in the last issue on the Mileposts page and we reduced his years at Sandia by five. Sorry, Jim; it should have been 30 years.

Take a Day Off . . .

by Arlene Price (3330)

Yes, take a day off . . . from smoking. Join the Great American Smokeout on Thursday, Nov. 17.

On that day, millions of Americans across the country will make a fresh start and try not to smoke for 24 hours. How about you?

Or, if you don't smoke, adopt a smoker for the day and promise to help that friend get through the 24 hours without a cigarette.

The 1983 goal of the Smokeout, sponsored nationally by the American Cancer Society, is to get at least one in every five smokers to give up smoking for the day. Can you be that one? Could you do it with some help? Find someone to "adopt" you — per Larry Hagman's suggestion (he's the national chairman of the GAS as well as J.R. on "Dallas") — and you'll get moral support in steering clear of cigarettes.

At Sandia the GAS is sponsored by the Medical Department, assisted by the Friends of Health committee. Those groups will have pledge cards for quitters-for-a-day and adopt-a-smoker forms available in major buildings (802, 822, 836, 840, 880, and 892). Sign pledge cards by noon on Nov. 17

the Great American SMOKEOUT

and be eligible for the really cold (in fact, frozen) turkey drawing at noon in the Sandia Cafeteria. (Even if you don't win the drawing you can go "cold turkey" with the Cafeteria's sandwich special.)

Along with the pledge cards and adopt-a-smoker forms, each of the buildings listed will have tips on quitting and "survival kits" (gum, mints, nuts, raisins) donated by Servomation, the vending machine supplier, for the first 200 who take the pledge. And, for really professional help if you falter in your resolve to quit, Dr. Judy Ewing will be available in Bldg. 880 to hold your hand — in fact, she'll hold both hands if necessary to keep you from lighting up.

Once you've made it through Thursday, reinforce your success by viewing a quit-smoking film at noon on Friday in Bldg. 815. Members of the Medical staff will be there to help you with your brand-new nonsmoking habit.

Come join us!

Retiring



Levi Baca (3612)



EXPLOSION, FIRE, INJURIES — They were all simulated, but they were realistic enough to test Sandia's emergency response capabilities. The exercise last month included members of the Environmental Health 3310, Industrial Medicine 3330, and Security 3430 Departments. They responded to an explosion and fire that caused both acid and thermal burns as well as contusions to two "victims," Holly Dewhurst (on pavement) and Dixie Harvey (both 3311).

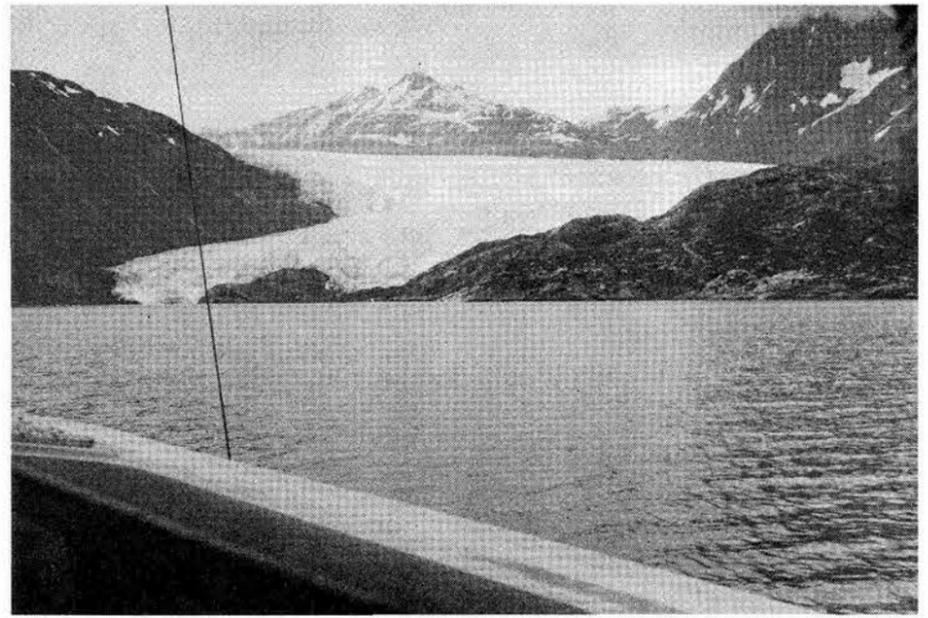


Favorite Old Photo

MY GRANDFATHER (standing, far right) and some other relatives when they were with a traveling medicine show in the Gay '90s era. One of his brothers (seated, far left) was a strong man in the show; his act included lifting a pony off the stage by using a harness that fitted under the pony and connected to a device that he placed in his mouth. Born in 1870, my grandfather served in the Spanish-American War and was stationed in the Philippines. He died in 1960. Ronald Diegle (1841)



GLACIER BAY National Park offers breathtaking scenery and free ice, by the berg, delivered to your boathail.



SAN LUCAS, at the tip of Baja California, is a great place to spend Januarys.

Retiree Roundup

Ho for the Life on the Rolling Sea!

Ken Cordes (retired March '78) hasn't let any grass grow under his feet. That's because his feet are usually in shoes gripping the deck of the Tuesday, the Cordes's sailboat.

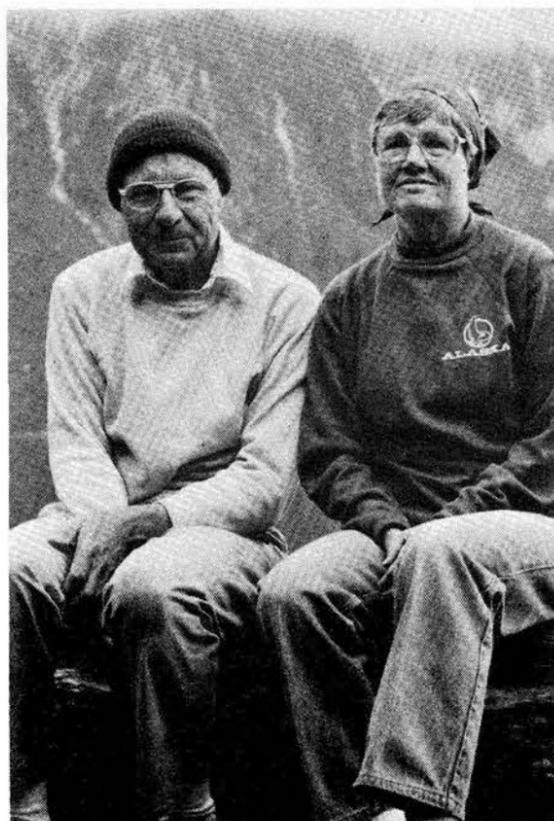
Some of Ken's words — and photos:

We have found in retirement a new challenge and many new experiences. The challenge was to change our style of living so that we could live on the reduced income that goes with retirement. We met that challenge by moving onto a sailboat. A year ago we thought that we were tired of boat life and accepted a job housesitting for the winter. It was a lovely home with all the luxuries of modern living: microwave oven, dishwasher, hot tub, etc. But by the end of winter we were glad to get back to the boat and the simple life.

New experiences: Surviving a storm off the Columbia River where we learned, as in most of life, that no storm lasts forever and the boat won't sink. Sailing under the



MOBILE HOME chosen by Ken Cordes for retirement living is considerably more mobile than most. She's a 30-foot sloop called *Tuesday*.



KEN & LIDA CORDES. Sometimes they go ashore.

Golden Gate bridge and into San Francisco Bay. Basking in the warm climate of Mexico during January. Being becalmed en route to Hawaii; without the boat rolling, it was a snap to take a salt water shower in the cockpit. (Knowing too that, while we were enjoying the cooling-off shower, those at Sandia are putting on overcoats for the trip home from work.) Seeing the green hills of Hawaii, thus confirming my celestial navigation. Living for 33 days using only 60 gallons of fresh water. Learning amateur radio so that I could keep in contact with old friends. Seeing the rugged peaks and the blue serpentine glaciers of southeastern Alaska. Sailing among icebergs and finding one small enough to haul on board to chip and cool the Pepsi. And when on the desolate Canadian coast with the wind piping up, being able to go behind some islands and find a small cove where the water was quiet. (We spent the night

there and fell asleep to the sound of rain on the deck; the next morning was the beginning of a beautiful clear-sky day.)

Sure, boat life isn't for everyone. Nor would I want all Sandia retirees on boats — it's too crowded on the waters already! Hardly a day went by that we didn't see at least one other pleasure boat on our Alaskan trip.

But for us — it's great!



WHY, THAT'S NOT CRICKET!

We wish to express our outrage at the appalling cacophony foisted upon the peaceful, cricket-loving patrons at the Melbourne Cricket Ground on Saturday. This assault on the senses was part of the operations of the new electronic scoreboard. The appreciation of first-class cricket requires a calm in which to consider the subtleties of the play. Removal of this electronic interloper is necessary to restore the unique atmosphere that should remain the proud heritage of all right-thinking Victorians.

Letter to *The Australian*, Sydney, quoted in *World Press Review*

Payroll Figures Announced

Sandia's payroll for fiscal year 1983, which ended Sept. 30, amounted to \$231.1 million at SNLA and \$37.7 million at SNLL. For FY '82, these figures were \$208.5 million for Albuquerque and \$34.2 million for Livermore. Salaries of some 80 Sandia employees at NTS and TTR are included in the Albuquerque figure.

At the end of FY'83 there were 8130 employees on roll including 1106 at Livermore. The total is 180 more than at the end of FY '82.

Assets of the DOE installations operated by Sandia totaled \$625.3 million at the end of FY'83, compared to \$591.8 million in FY '82. These figures represent undepreciated value of buildings and facilities at all Sandia locations.

Purchases by Sandia in New Mexico amounted to \$158.4 million for FY '83. About 98 percent of the amount, or \$155.2 million, went to Albuquerque firms. Purchases from other DOE contractors are not included. Purchases in the state in FY '82 amounted to \$115.7 million.



STAN MEYER (5162) and BILL STEPHENSON (2514-1), standing. Seated, B.D. SHAFER (2114) and SALLY LANDENBERGER (3141-2).

Events Calendar

- Nov. 12 — San Diego Feast Day: harvest and corn dances, Jemez Pueblo; flag, deer, buffalo dances, Tesuque Pueblo. Contact pueblos.
- Nov. 13 — Stars of the Lawrence Welk Show, 2:15 p.m., Popejoy.
- Nov. 13-17 — Smithsonian Institute Exhibition, "Image of Old Age," on the mall, Winrock Center.
- Nov. 18-20 — "Hansel and Gretel," Albuquerque Opera Theatre, 8:15 p.m., Fri., 2:15 p.m., Sat. & Sun.; KiMo.
- Nov. 19 — Ensemble Pro Musica with NMSO, 8:15 p.m., St. John's Cathedral.
- Nov. 19 — "Champagne Benefit Performance" by the NM Ballet Company, 8:15 p.m., Albuquerque Little Theatre.
- Nov. 21 — Chamber Orchestra of Albuquerque, 8:15 p.m., Albuquerque Little Theatre, 247-0262.
- Nov. 21 — Audubon Film, "Olympia National Park," 7:30 p.m., Popejoy.
- Nov. 22-23 — Albuquerque Ballet Company, "Sylvia," 7:30 p.m., KiMo, 766-7816.
- Nov. 25 — Poetry Series: Allen Ginsberg and Mikael Saunders; Reading, 8 p.m.; Workshop, 2-4 p.m. in gallery, KiMo.
- Nov. 25-27 — "The Nutcracker" with NM Symphony and Southwest Ballet Company, 7:30 p.m., Fri., 2 & 7:30 p.m., Sat., 2 p.m., Sun.; Popejoy, 277-3121.
- Nov. 26 — Isabel Lujan Flamenco Dance Company, 8 p.m., KiMo.
- Nov. 30 — "The Many Moods of Christmas" presented by the UNM chorus and the UNM Symphony Orchestra, 8:15 p.m., Popejoy, 277-4402.
- Through Dec. 4 — "Vista Del Puente," a bilingual adaptation of Arthur Miller's "A View from the Bridge." La Compañía de Teatro de Alburquerque, Fri. & Sat., 8 p.m., Sun., 3 p.m., Nuestro Teatro.

Supervisory Appointments

STAN MEYER to supervisor of Anti-Submarine Warfare / Stand-Off Weapon Division 5162, effective Oct. 17.

Stan joined the Labs in 1963 as a staff member with environmental testing. Three years later he transferred to an applied mechanics group, then into a weapons project group, and then back to applied mechanics.

He received his BS and MS in ME from the University of Toledo. He is a member of ASME. Stan has many hobbies — swimming, golf, skiing, tennis, fishing, and hunting — and not enough time for them all. He and his wife Patricia and their two children live in the NE heights.

BILL STEPHENSON to supervisor of Explosive Experimentation Section 2514-1, effective Oct. 14.

Bill joined the Labs in July 1957 as a technician in the neutron generator organization. During the 60s, Bill worked on neutron generator circuit development; during the early 70s, he was in charge of that organization's explosives and high pressure gas facilities. From 1976 until his present promotion, Bill was with the uranium borehole logging project.

A graduate of Valparaiso Technical Institute, Bill has attended UNM and has completed 43 Sandia courses, mostly out-of-hours. He enjoys fishing, hunting, and motorcycling. He and his wife Delphine have three children; they live in NE Albuquerque.

B.D. SHAFER to supervisor of Semi-Custom Integrated Circuit Division 2114, effective Oct. 28.

B.D. joined Sandia in 1963 as a member of the Technical Development Program. He has worked on hybrid microcircuits and radiation effects on electronic devices, and he

was part of the first integrated circuit design group at the Labs. He later worked for four years in photovoltaics and, for the past two years, has been back with the IC design group, working on large scale random access memories.

B.D. earned his BS in EE from Ohio State and MS in EE from UNM. He enjoys camping, sailing, and skiing. He and his wife Lou Ann and their two children live in Cedar Crest.

SALLY LANDENBERGER to supervisor of Library Books / Periodicals Processing Section 3141-2, effective Sept. 23.

Sally has been at Sandia since last February as a library resource analyst.

She received her BA in history from Penn State and her MS in library science from Wayne State University. Sally was a section supervisor in cataloging at the Wayne State Library, and assistant head of acquisitions at the Michigan State University Library. She is a member of the American Library Association and the NM Library Association. She is a potter, a reader, and a flute player. Sally and her husband Paul have a four-year-old son; they live in NE Albuquerque.

Sympathy

To Ken Jones (7654) on the death of his wife, Oct. 13.

To Dwight Johnson (1151) on the death of his mother, Oct. 30.

FIT BIT

Eat more bananas! We know that too much sodium (salt) may cause hypertension. Bananas are high in potassium. Potassium and sodium have a reciprocal relationship. As potassium goes up, your sodium (and maybe your blood pressure) will go down too!

Livermore VP Puts Programs in Perspective

Delivering his first "state of the lab" message since coming to Livermore 14 months ago, Dick Claassen (8000) told the employees they are all going to have to learn a lot more about using computers.

"I would say that applies to virtually everybody in the audience, regardless of what your job is," he said. "More and more, in order to do your job you'll have a continuing self-education job. We, for our part, will try to supply the kind of support and help that will allow you to do just that."

Looking at the immediate future, Dick explained that two major weapons programs — the B83 modern strategic bomb and W84 warhead for the ground-launched cruise missile — have just been completed at Livermore, leaving the Lab time and opportunity to do some advanced development work. "We have just come out of a period in which everyone was very busy with these two programs. Now we can take a look at such things as directed energy weapons. Then too, a program to develop a strategic penetrator looks promising and presents many challenges to the staff. In addition, there are 14 programs currently in preliminary design phases, including an air-to-surface missile (to replace the W69/SRAM), a small intercontinental ballistic missile, a vertical launch anti-submarine rocket, and a joint tactical missile," he said.

In his message, Dick highlighted the technological challenges of the four weapons systems under development at Livermore during the past fiscal year: the B83; the W84; the W82 artillery-fired atomic projectile; and the W87 warhead for Peacekeeper. He praised those who had worked so hard — and successfully — in developing the W84 and B83 under a tight deadline. "Meeting this challenge has done a great deal to add to Sandia's credibility — we have the kind of people who can get things done," Dick said. "That's just got to help us

in the future throughout the scientific and governmental communities we deal with."

Going to the creation of the Lab at this site, he said, "Our purpose originally was to do the weapons system engineering in conjunction with Lawrence Lab, and that is still our principal reason for being here." The number of employees rose rapidly in the early years and now has leveled off to just under 1100. FY '83 began with 1085 on-roll and ended with 1097. Retirements, transfers, and terminations left room for 66 new hires last year. For the next few years, employee numbers will remain essentially constant.

Even though 66 new people is not a large number, a tremendous effort was required to find the calibre of staff member wanted. Some 5000 inquiries were screened, 1600 applications processed, 317 candidates interviewed, and 94 job offers made.

Dick then listed future construction projects:

- Constructing the new Weapons Lab Building.
- Doubling the size of the Combustion Research Facility lab wing.
- Doubling the size of the Tritium Research Laboratory.
- Acquiring several parcels of surrounding land for a buffer zone to enhance security and to provide an access route to Tesla Road.
- Turning Building 966 into a high pressure gas laboratory.
- Renovating Building 927 so some present space of the Shipping and Receiving group can be turned into laboratories.

Discussing the laboratory's energy activities, Dick said he sees the combustion program as "moving along beautifully. Everybody who visits here has had compliments, and beyond that we have the opportunity to consider new programs of national importance: 1) acid rain — we could contribute to the understanding of the creation of that problem right at the time of combus-

tion, and 2) slagging and fouling in coal-fired boilers — we can make quite a contribution by determining the cause of that buildup." He also indicated that, to make an even greater impact, Sandia is going to implement a postdoctoral combustion program for visiting scientists.

In the solar field, he highlighted the solar central receiver program at Barstow — Sandia is continuing to meet its goals as technical manager there, will continue to do inhouse research on a solid particle receiver for the next generation of solar plant, and will work on a high-temperature science technology base.

Another energy program, magnetic fusion energy, has taken some of Sandia's scientists to the TEXTOR tokamak in West Germany. A Sandia-designed test limiter there controls and pumps impurities out of the plasma. This unit will be followed by another version, also designed and built by Sandia, that is creating considerable interest in the international scientific community.

Answering some questions at the conclusion of his talk, Dick said:

- Our salary increases are comparable to other R & D institutions nationwide.
- The small size of Sandia Livermore enables excellent communication, with people having a clearer picture of what is being done and what needs to be done. This means Livermore can be hard hitting and quick to respond to any problems presented to us.
- Sandia has a close working relationship with LLNL, and this relationship must be maintained. New joint projects such as the X-ray laser program will help to assure that continuation.
- There is a new push to develop defensive weapons systems.
- In the years ahead more attention will have to go to conventional (non-nuclear) weapons that will have to be improved enough to reduce the current reliance on nuclear warheads to protect Europe.
- A new five-year contract has just been signed with Western Electric to manage Sandia on a nonprofit, no-fee basis for the government, continuing a relationship that has existed since 1949.



ADDRESSING A FULL HOUSE, Dick Claassen (8000) gave his first "State of the Lab" message to Livermore Sandians.



AN INFORMATION FAIRE under the new grape arbors over the computing center heralded the start of this year's LEAP (Livermore Employees Assistance Plan) fundraising campaign, which has a \$96,000 goal. Fifteen Valley human service agencies plus the United Way of the Bay Area gave employees the opportunity to visit with representatives of each group and pick up their literature. All Sandians in attendance received hot dogs, soft drinks, and music.

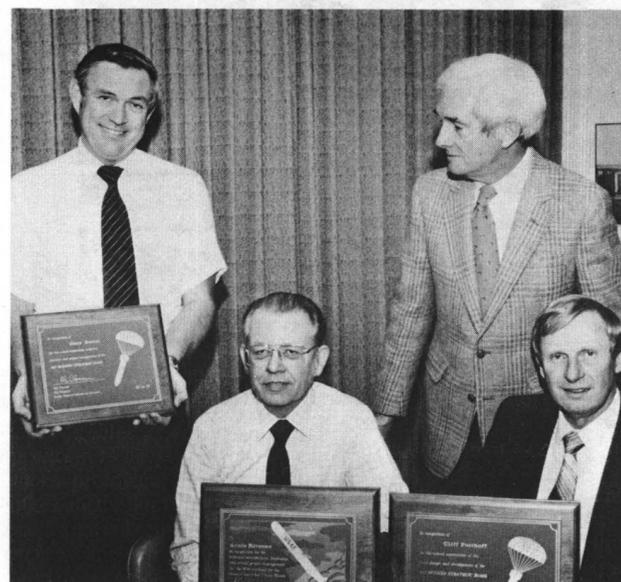


SANDIA LIVERMORE NEWS

VOL. 35 NO. 23

SANDIA NATIONAL LABORATORIES

NOV. 11, 1983



THREE DIVISION SUPERVISORS recently were presented with commendation plaques for their leadership, technical direction, and successful project management of two major weapons programs nearing completion at Sandia. Dick Claassen (8000), standing at right, made the presentations to (standing) Gary Beeler (8152) for the B83 modern strategic bomb, Arnie Rivenes (8162) seated at left, for the W84 warhead on the Ground-Launched Cruise Missile, and Cliff Potthoff (8153) also for the B83.



MASTERFUL BUNCH — Nine Sandians have completed the Livermore University Part Time (UPT) program at universities in Northern California, receiving masters' degrees in electrical or mechanical engineering. From left to right are Jon Knight (8465), Stanford; Andy Lutz (8445), UC Davis; Paul Zimmerman (8441), UC Davis; Doug Gehmlich (8465), UC Berkeley; Ayden Young (8113), UC Davis; and Kevin Carbiener (8163), Stanford. Not pictured are Henry Abeyta (now 5151), Stanford, Neal Lapetina (8152) and Scot Marburger (8415), both UC Berkeley.

feed back

Q. Today I was going out of Tech Area I by motor scooter just after 8 a.m. and started to follow a truck out Gate 1. The inspector stopped me and said the gate was closed until 8:15. She told me to exit via Gate 10. I vaguely recalled a Management News Brief of many months ago regarding Gate 1, but thought the closing was only until 8 a.m. A sign on the gate stating the hours of closure would be helpful to those of us who very seldom use Gate 1 at that time.

A. We realize that the closing of Gate 1 and also Gate 6 to specified vehicle traffic from 7:30 a.m. to 8:15 a.m. is an inconvenience to some employees. However, for the sake of safety and to allow us to better control Tech Area I traffic at that time of day, we believe the action is necessary. Your suggestion to post a sign is a good one, and we will issue a work order to accomplish that.

D.S. Tarbox — 3400

Q. Don't we have too many contractor automobiles inside Tech Area I? For example, there are typically four cars owned by one computer company parked west of Bldg. 880. I can understand the need for access to the Tech Area for people who routinely move a lot of equipment, but do they need four personal/company cars to do it? It really looks like the privilege is being abused.

A. Non-government vehicles inside Tech Area I fall into three categories:

1. Handicapped Sandia employees or employees who furnish transportation to handicapped employees. These are approved by the Medical organization.
2. Official vanpool operations, normally eight or more employees. These are approved by the Security organization.
3. Sandia contractors, which make up the largest group. Need for entry into the Tech Area by these vehicles is certified by Purchasing and the line organization. Periodically, Security verifies the continuing need for access.

D.S. Tarbox — 3400

Q. Many Sandians park in all sorts of places that are clearly not regular or designated parking spaces. I would like to park in some of these places myself on occasion, but I don't because I assume it is not permitted. However, I have never seen or heard of anyone's getting a ticket for improper parking within the Sandia parking lots. So, is it correct to assume that we are all free to park anywhere we want without regard to signs, yellow lines, bumpers, etc.? If not, why not enforce the rules?

A. The parking lots are patrolled as often as possible by personnel in the Security organization; however, other more pressing duties prevent these patrols on a full-time basis. Parking violators are frequently ticketed, with a total of 424 tickets having been issued since January 1, 1983. All employees are expected to comply with posted notices and curb markings or risk being ticketed and possibly losing base driving privileges. The policy on vehicle parking is fully explained in SLI 1904.

D.S. Tarbox - 3400

LEAP Campaign Goal Surpassed!

A preliminary report indicates that the LEAP total pledged to date is \$97,008, more than \$1000 over the goal. The LEAP committee, chaired this year by Don Nissen (8312), introduced some innovations into the drive, including a noontime Information Faire (see photo) and a videotape program showing how the LEAP (Livermore Employees Assistance Plan) monies will be spent.

Upcoming Ballet Features Sandian

While he doesn't aspire to be another Baryshnikov, Rob Rechar (1524) considers his involvement with New Mexico Ballet Company as important to his life as his job as an engineering analyst. And as important as his skiing. And his swimming.

Rob began ballet studies when he was a civil engineering student at the University of Wyoming. "They were just starting the dance department, and I was intrigued by the dancers I had seen all those years in 'The Nutcracker' for Ballet West," he explains.

Rob had done all the standard things in high school — he was in the band, on the ski team, and loved to swim. "College opened new avenues; I started ballet and interrupted my dance work only when I was working on my master's thesis at Wyoming and when I first moved to Albuquerque to join Sandia."

While he had a walk-on part in Civic Light Opera's *The King and I*, Rob decided to get back into ballet studies. Several dancers recommended Suzanne Johnston, who was just re-opening her classical ballet dance studio, and was in the process of bringing the New Mexico Ballet Company back to performance status.

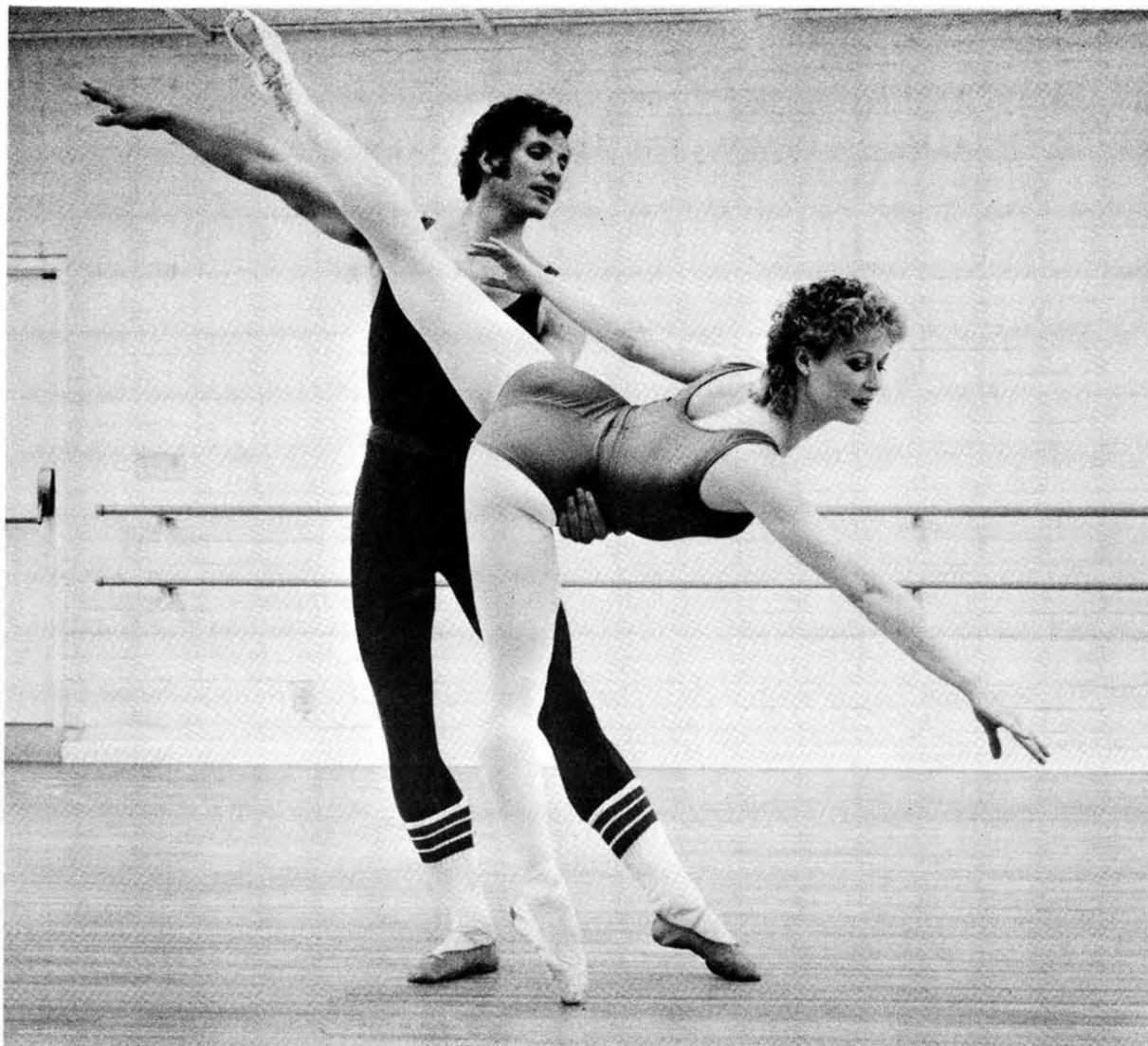
Mrs. Johnston had founded the New Mexico Ballet in 1972, and three years ago Rob was eager to be part of the company's colorful "Renaissance" performance.

His debut with the New Mexico Ballet gave Rob the rare opportunity to watch one of the ballet's superstars, Fernando Bujones. Bujones, the third-ranked male ballet dancer in the world, was guest artist for the Popejoy production, and Rob compares the chance to see him with that of attending a seminar featuring a top scientist or engineer. "The feeling is gratifying, because these people embody the art — or science — one is studying."

Rob finds that rehearsals and dancing are a perfect way to keep in shape for skiing, which he has done since he was three. But, if he slacks off on ballet classes, he can tell the difference when the push begins for a production. This past month has been like that, as Rob rehearses almost nightly for a champagne benefit performance that New Mexico Ballet is presenting at 8:15 p.m., Saturday, Nov. 19, at Albuquerque Little Theatre. (Tickets are available at ALT and World Wide Tickets at \$10 per person.)

During the evening, which will spotlight selections from well-known and popular ballets, Rob will be in two numbers. He and NM Ballet dancer Tracy Davis, who has danced professionally, will perform the *pas de deux* from "Don Quixote." Rob also will dance a *pas de trois*, with dancers Cynthia Romero and Candy Simmons, from "Swan Lake."

"This last selection was choreographed by the company's assistant director, Lorenzo Luckie, who once danced with Juliet Prowse. Dancing a number like this that has been choreographed especially for me, taking into consideration my strong



ROB RECHAR (1524) and Tracy Davis rehearse a *pas de deux* from the ballet "Don Quixote." Rob will also dance in a *pas de trois* from "Swan Lake" in the season opening of the New Mexico Ballet Company on Nov. 19.

points — and my weak ones — is exciting," says Rob.

Rob's instructors and the company's choreographers appreciate the 28-year-old civil engineer's ability to express the music, and they consider his ballet technique strong. Ballet also provides Rob with a sense of the theater, which he doesn't have time for.

Besides, the ballet gives him something more than theater or gymnastics, which he originally planned to go into before he discovered dance. "Ballet uses movement with music, and keeps me from feeling like a klutz — unless I've missed too many classes. And it's an art form — it seems to have a little more excitement. Unless you're really good, gymnastics ends with college. But ballet offers the opportunity to dance beyond those years of studying."

Ballet, as elegant and easy as it may look when Rob is onstage, is not without its perils, however. Rob laughs when he notes that not many of his coworkers at Sandia know he dances. But the Medical Department sees him pretty often when he shows up with a sprained ankle or a thumb that needs to be wrapped.

Too mature to consider ballet as a career, Rob nevertheless looks forward to the improvement he knows is still possible. And male dancers are always in demand in the field of ballet.

"I think this concert will be a lot of fun, because there's a lot of variety and a lot of the flashy *pas de deux* from the classical ballets. These are fun to dance because often they're the climax of a production — and they're short and exciting."



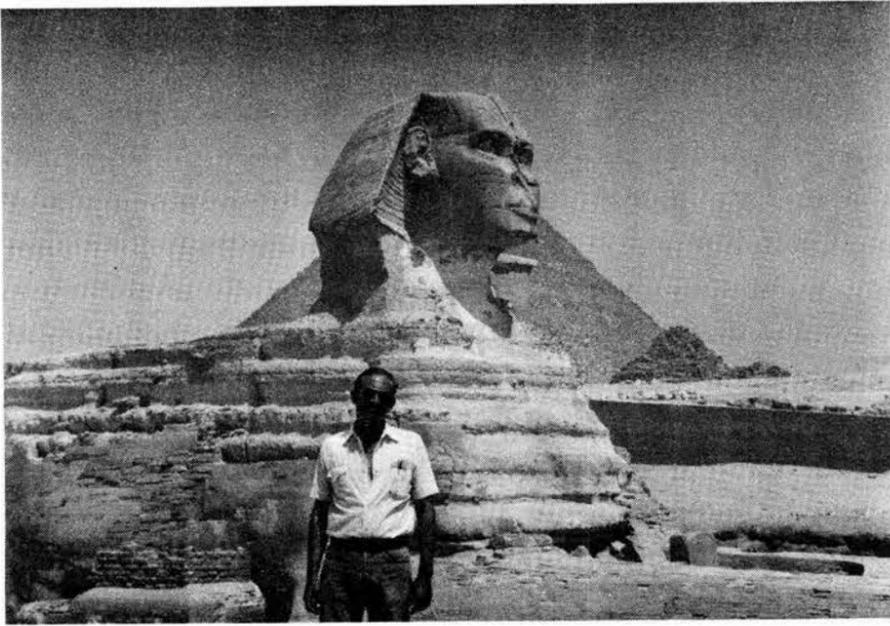
News

Here are some current volunteer opportunities for employees, retirees, and their families. If you are interested, call Karen Shane (4-3268).

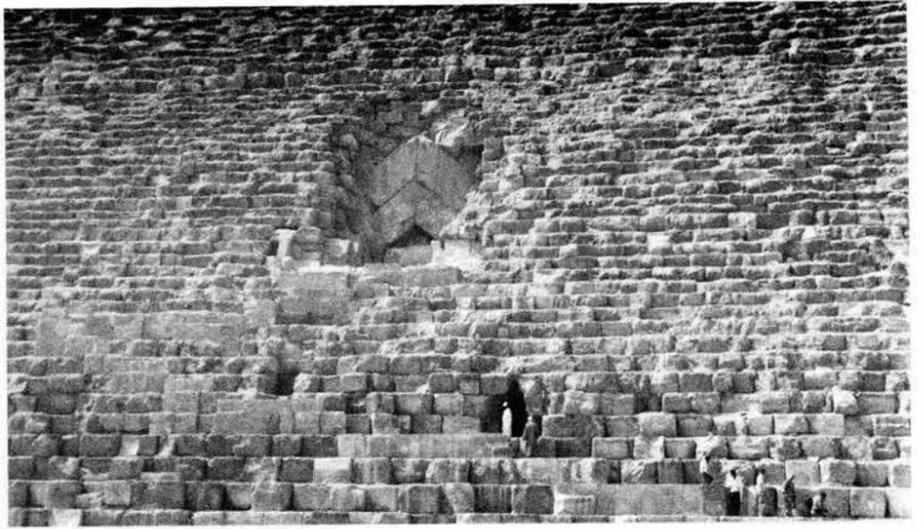
CHACO CENTER OF THE NATIONAL PARK SERVICE at UNM needs help in a number of areas: (1) research assistant to analyze and record artifacts; (2) curatorial assistant to inventory artifacts; (3) drafts-person to redraft field maps of archaeological excavations; (4) photographer to record artifacts; and (5) archival technician to search and catalog records.

CATHOLIC SOCIAL SERVICES OF ALBUQUERQUE provides counseling on a non-denominational basis. The agency is looking for a receptionist (ability to speak Spanish would be helpful, although not essential).

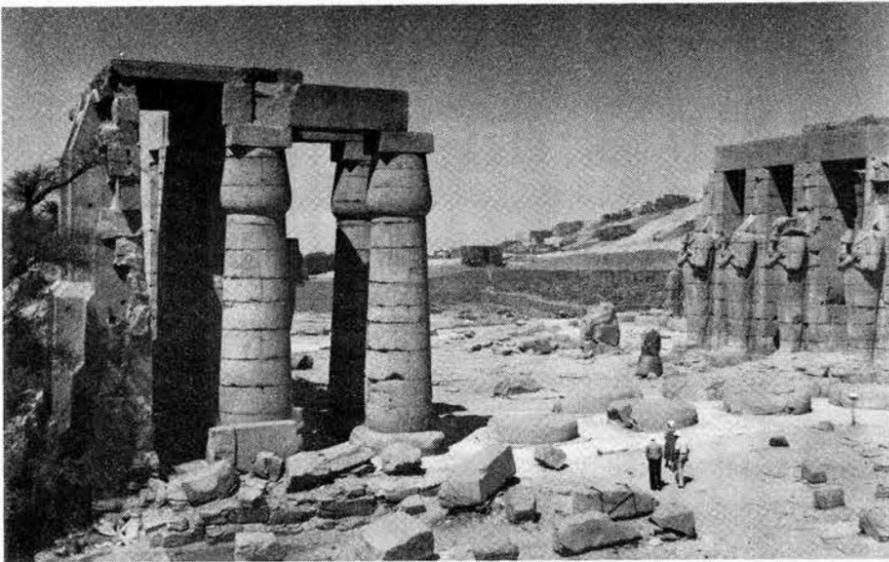
HOSPITAL HOME HEALTH CARE/HOSPICE CARE needs a fundraiser to plan events, write grant applications, and solicit foundations for funds. Individuals are also needed to assist bereaved families after a death.



LES HARRIS (5232) does the traditional pose in front of the massive sphinx on the outskirts of Cairo. In the background are the pyramids at Giza.



CHEOPS PYRAMID at Giza has lost its facing of smooth sandstone during the centuries of weathering since its construction in 2570 B.C. It contains 23 million stone blocks, some weighing up to 30 tons. The figure in the white robe is at an entrance cut into the pyramid in modern times. Above it is revealed the original entrance, sealed forever by its builders.



THE TEMPLE at Thebes, now in fragments, is still impressive, still an architectural and engineering marvel. It was built in the time of Ramses II, 3300 years ago.



MONUMENTAL FIGURES guard the entrance to the temple at Abu Simbel, now raised 300 feet above its original location on the valley floor. An international UNESCO team headed by a Swiss engineering firm moved the monument, which would have been flooded by the Aswan High Dam in 1968. More colossal figures are inside the temple.

Unusual Vacation

Les Harris Tours Egypt

Les Harris (5231) reviewed 7000 years of history during a 15-day tour of Egypt earlier this year. It was a dream come true for Les, who has been fascinated with Egyptology since he was a kid.

"I saw the movie 'The Mummy' and I guess I got all wrapped up in Egypt," Les says.

He was in England after finishing a Safeguards project at an RAF base when he decided to check out a tour to Egypt from London. He had planned a tour from Albuquerque earlier and had been saving his money. Departing from London saved a considerable amount.

"I took a Bales tour out of England," Les says, "and flew to Cairo. From all the reading I had done and from the pictures I had looked at, I thought I had a pretty good idea of what the Nile and the pyramids were like. But nothing I had read prepared me for the reality of it. The pyramids were awesome — simply mind-boggling."

Les tried to understand a religion so powerful that it motivated an entire population to build an edifice for a man, a pharaoh who was the embodiment of the gods, that was so monumental and massive that it would survive on the harsh desert for eternity. Five thousand years have passed since the first pyramid was built.

Ancient Egypt had many gods and several of them had multiple forms. *Horus*, the falcon-headed son of Isis and Osiris, was

the god of the sun. *Isis* was the goddess of heaven and earth, and *Osiris* was the god of the earth, judge of the dead, and lord of the hereafter. Others included the ram-headed *Khnum*, the crocodile-headed *Sobek*, the jackal-headed *Anubis*, and *Thoth*, the ibis-headed god of learning and wisdom. Still others had heads of a lion, hawk, cat, and falcon. The sphinx had the body of a lion with a human head.

"For two weeks, I visited temples, tombs, pyramids, restorations and ruins, and the great Cairo Museum, which houses artifacts some 7000 years old," says Les. "After spending three days there, I could return anytime and find new things to see. After seeing so much, naturally I became confused. Luckily the pictures I took came out well and they help me sort it all out and remember."

(Les discovered early in the tour that the meter on his camera was broken so he had to guess on his exposures. As the photos here testify, he made accurate guesses.)

"Some things remain vivid in my memory," Les continues. "I'll never forget the great pyramids at Giza and the sphinx, the Valley of the Kings, Luxor, Karnak, Thebes, and Abu Simbel and the grandeur of the temple there — now raised by UNESCO from its original location on the valley floor to the cliffs above the Nile. Then, of course, there were the treasures of King Tut, a minor king, in the Cairo

Museum — unforgettable, incredible, breath-taking.

"From the colossal statues to the tiny ones, from the stern god-like images to the lifelike, natural images of people, the paintings and statues reveal the craftsmanship and artistry of the ancient people. Marvelous. I splurged and bought a replica of the famous statue of Queen Nefertiti — a living image after 5000 years. And the hieroglyphics still tell us about their religion, their society, and culture.

"Modern Egypt is not for Americans. The heat in summer hangs around 120 degrees. Cairo is dirty and disorganized — you'd think that a people who could organize a gigantic undertaking like building a pyramid should be able to organize a street cleaning crew. Anyway, I visited the bazaars and some native restaurants. But I preferred the air-conditioned tourist facilities that the tour provided. Please don't misunderstand. The Egyptians I met were friendly and helpful. I'm not being critical. It's just that Americans like a degree of comfort and cleanliness."

Logistics: Les had checked out an Egyptian tour from Albuquerque and found that two weeks would cost about \$3500. The Bales tour from London cost \$1500 and covered everything but the extra \$100 that Les spent on the flight to Abu Simbel. Shopping and incidentals accounted for another \$200.

Fun & Games

CorpCup — The first annual Corporate Cup Cross Country meet was held Oct. 23, and 40 Sandians defended the honor of the Thunderbird. Finishing first as a team were the women in the 30-39 age class — Kathy Hiebert Dodd (315), Bonnie Roudabush (7223), Debbie Johnson (1530), Fran Stohl (6246), Susan Harris (3330), Sally Douglas (1846), Nancy Pruett (3144), and Chris Morgan (3142); and the A team chosen from among the 50-59 age men — Jim Schirber (1150), Roque Feliciano (7551), and Sam Stearns (7111). The 40-49 women took second, the other 50-59 men third; open men's team also took a third. Two teams from the 40-49 men took third and fourth place.

* * *

Softball — The women's team Hardtimes placed first in the Sandia Summer League, then went on to win the championship tournament. These are Hardtimes: Captain Pam Proctor (1821), Mary Anne Cunningham (155), Ree Gerchow (122), Laura Gartling (1200), Karen Robinson (6331), Mary Whiteley, Kathie Mitchell, Lin Ohrt, Edwina Kiro (1250), Sandy Lappin (1845), Elveta Roblyer (1201), Molly Ellis (6441), Chris Morgan (3142), Fran Stohl (6246), and Coaches Erv Copus (6422), Chris Robertson (5219), and Harold Thompson.

* * *

Preventive Medicine — You are the master of your fate, pure and simple. That's the message of a recent article in *Aerobics* that looks at the 10 leading causes of death in males and females in the US and shows how much control we actually have in how we live and when we die. Call 265-6791 for a copy.

* * *

Swimming — The Olympic Pool has now

Colloquium Report

Even Doctors Can Be Duped

"You too can be deceived." The wish to believe in the supernatural makes the believer vulnerable to deception and self-delusion.

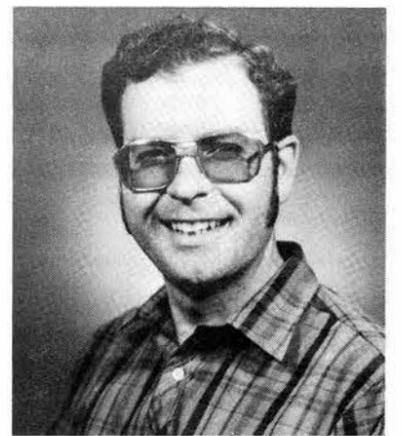
That was the essential message magician and psychic-claims-investigator James Randi drove home to a capacity audience at a Nov. 2 colloquium. Randi, with a full white beard, penetrating eyes, and a gift for illustrating the tricks of self-proclaimed "psychics," warned scientists and engineers that they are at least as vulnerable to deception by psychic claimants as laymen.

In fact, the scientifically trained person is frequently even more easily fooled than the less scientifically sophisticated person because the scientist mistakenly believes that intelligence and knowledge prevent such deception. So-called psychics can easily exploit this attitude.

Randi, a founding Fellow of the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), is internationally famed as one who can, and willingly does, expose the tricks and deceptions of psychics — and the ways the public and parapsychologists are continually being taken in by them. Part of the problem, he says, is that many people — especially



WALL SLIDE WINNERS — Showing off the quadricipital talents that led to their winning the endurance portion of last month's Wall Slide competition are Neil Davie (7541) and Pat Miller (3642). Neil attributes his phenomenal time — one hour! — to his bike riding (he used to race in the amateur class) and skiing. Pat's time was five minutes — she could have lasted longer if she'd have had some stronger competition; she's an amateur bodybuilder. Larry Suzuki (left), physical therapist in the Medical Department (that sponsored the event), notes that the competition involved *both* legs — Neil and Pat make it look too easy. At right is David Smith (1245), who won the grand prize drawing among the contestants — a weekend at Purgatory donated by the ski area. Other drawing winners: Faith Perry (6000) and Kazuo Oishi (5134), lift tickets at Purgatory; Rita Morning Gun (3417) and Sharon Daniel (6414), discount coupons for 20-lb. cuff weights.



reopened with winter hours in effect: 11-1 and 4-7 weekdays.

* * *

Music — Recorder players, beginners to experts, are solicited for an established con-

sort that has recently lost several members. The group's favorite composers are Mozart, Bach, Haydn, Beethoven, and Joplin, but the members will try any song, even "Melancholy Baby," once. More info from Regina Hunter (6413) at 294-2877.

parapsychologists — wish so strongly to believe in psychic, or paranormal, abilities (ESP, telepathy, precognition, clairvoyance, remote-viewing, etc.) that they unwittingly become a part of the misinformation process.

The parapsychologists, for example, fail to design properly controlled experiments to test for psychic claims, said Randi. They consistently decline to carry out experiments that could "falsify," or disprove, a given claim. Their data analysis is also often faulty.

"Parapsychologists will search data and search data," Randi said, to look for some way, any way, that it might be construed to support their paranormal hypothesis. "Psi-missing," for instance — a result exactly the opposite to the one hypothesized — is sometimes considered positive evidence. Or they seriously advance the "shyness effect" — the rationalization that "psychic events do not like to happen when they're being watched."

Worst of all, parapsychologists have refused to consult magicians in designing laboratory experiments that could guard against trickery.

Randi illustrated his points about the

ease of deception by a number of demonstrations. He made one spoon bend almost in half. Another oscillated like a pendulum before snapping in two. These, he emphasized, are tricks, just like the ones Israeli "psychic" Uri Geller used until Randi — in his books *The Truth About Uri Geller* and *Flim-Flam!* (which also deals with many other pseudoscience claims) — exposed them as trickery. Now, he says, no one any longer takes Geller seriously.

Such demonstrations have a serious purpose for Randi and his colleagues in CSICOP. They show that claims of psychic, occult, or supernatural abilities should not be accepted at face value. Neither the claims nor the reported evidence touted on their behalf, says Randi, are as they seem.

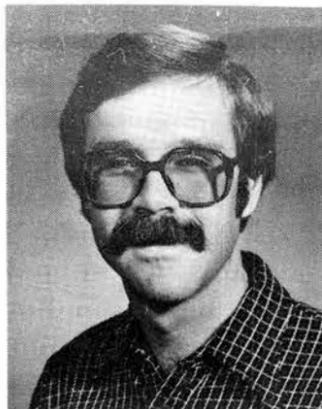
"Whenever a paranormal claim is made, the persons who offer it should be required to offer some evidence," he said. So far the evidence has not stood up when tested under controlled conditions. All that is left are stories. He agrees that there is a great deal of this anecdotal "evidence."

"But then," Randi said, "there is also a great deal of anecdotal evidence for the tooth fairy, the Easter bunny, and Santa Claus." (KF: 3161)

MILEPOSTS

LAB NEWS

NOVEMBER 1983



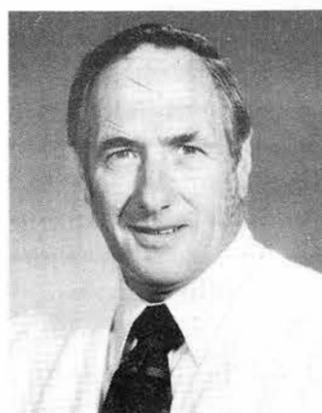
Scott Reed-7472 10



L.K. Renfro-3426 25



Billy McConnell-3612 35



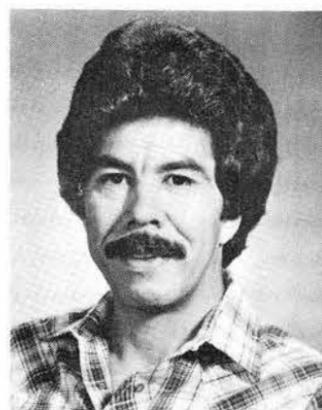
David Trapp-5332 25



Paul Tsutsumi-7481 10



Jerry Davis-5216 10



Eddie Barreras-7485 10



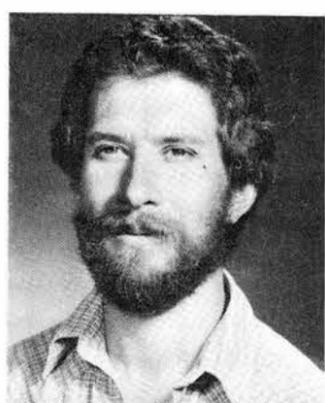
Jim Wolcott-7213 10



Howard Arris-7472 10



Cliff Mendel-1264 15



David Rogers-7483 10



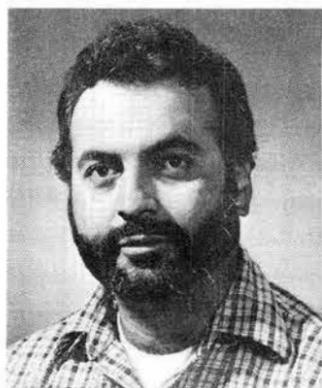
Mary Kolesar-7550 20



Tom Earp-7137 35



Luther Rivera-3734 BTL 20



Danny Baca-3613 10



Ed Jenkins-3424 25

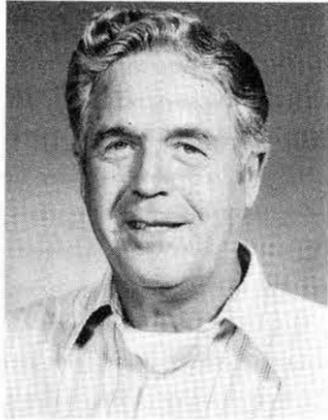


Bobby Little-2313 25

MILEPOSTS

LAB NEWS

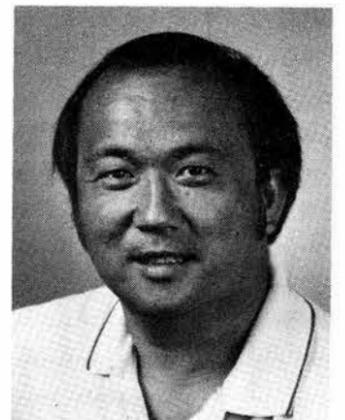
NOVEMBER 1983



Wayne Hancock-3153 35



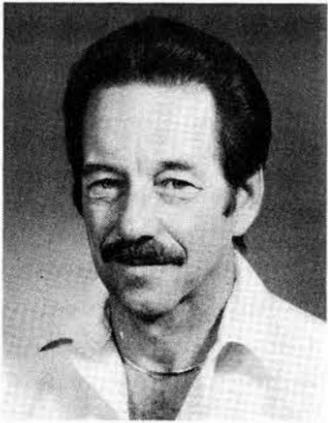
Colin Hackett-8124 10



John Teodoro-8441 15



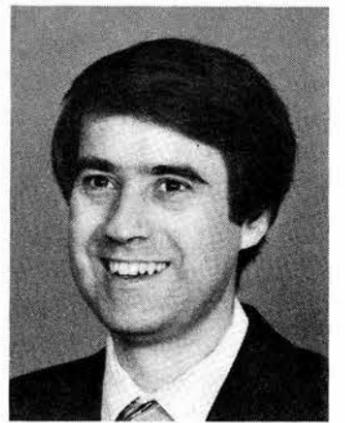
Rosalie Crawford-1 35



Art McCarthy-7556 25



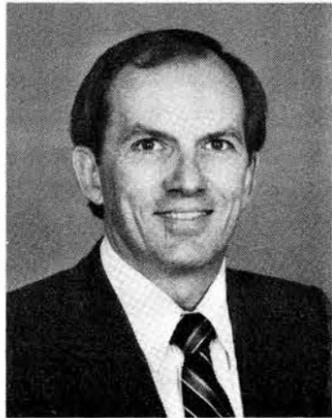
Don Fulton-7124 25



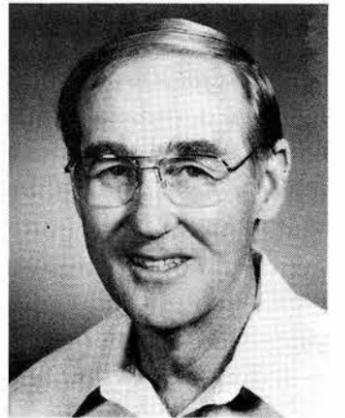
Art Hull-8466 15



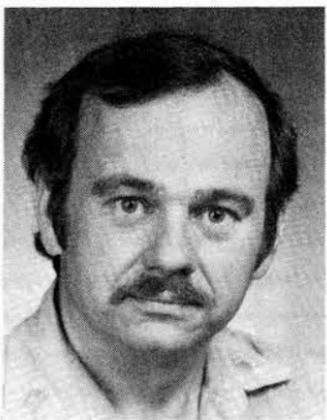
Virgil Erbert-0311 20



Dan Hartley-8300 15



Ed Ames-7116 35



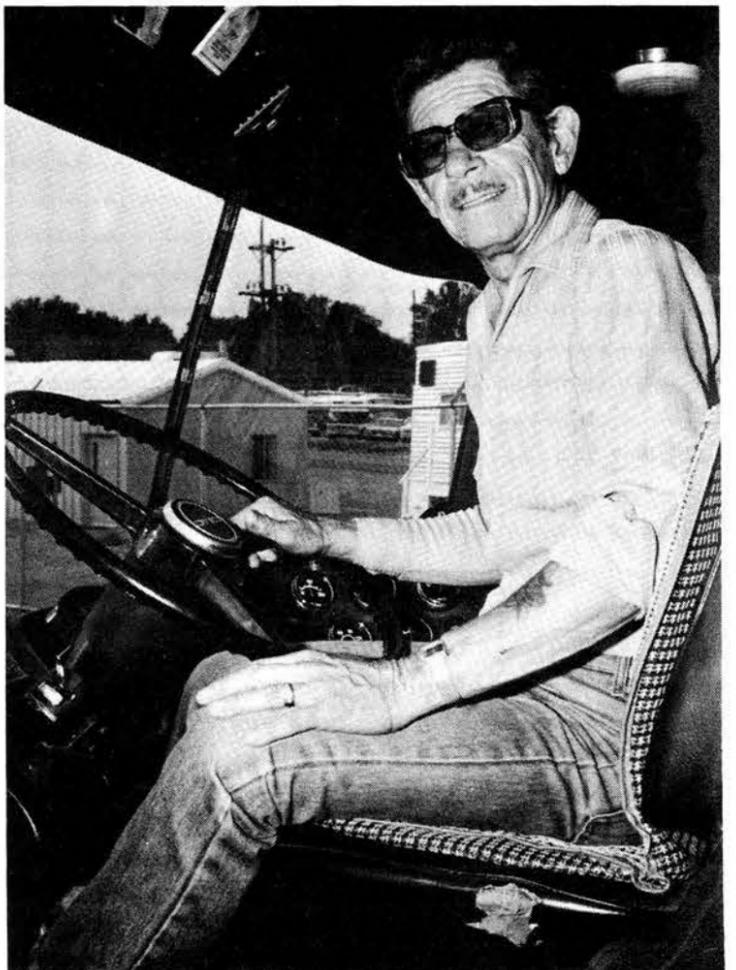
John O'Connor-8442 15



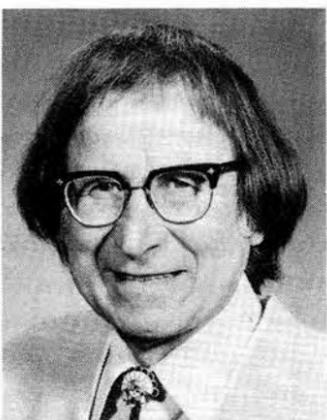
Lewis Clausen-8132 25



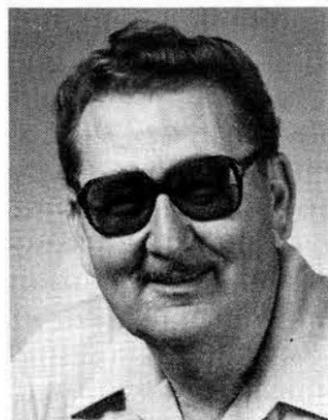
Guillermo Griego-3425 20



Charlie Monroe-3423 35



Ed Ehrman-2154 35



Lloyd Rothacker-8257 25



Dick Clarkson-8272 25

The Great American Smokeout



Take a day off from smoking • Nov. 17, 1983

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

CLASSIFIED ADVERTISING

Deadline: Friday noon before week of publication unless changed by holiday. Mail to: Div. 3162.

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 and organization.
9. Housing listed here for sale is available for occupancy without regard to race, creed, color, or national origin.

MISCELLANEOUS

FIREPLACE grate, Sears tube type w/blower, \$45. Schneider, 299-6243.

HIDE-A-BED: gym set, consider all offers. Schultheis, 881-7269.

CAMPER SHELL, high top, or trade for streamlined version. Moore, 294-5646.

MACGREGOR classic woods, \$100; leather golf bag, \$50; golf cart, \$25; Northwestern matched irons, \$100; misc. putters. Davies, 296-6905.

VIDEODISC player, 6 mos. old, \$150. Smith, 268-1758 after 5.

SOFA. Sedillo, 298-9411 after 6.

INSULATED camper shell, clearance lights, interior light, sliding windows, for LWB, \$250 OBO. Romero, 884-3263.

DANA catalytic gasoline heater, \$10; commercial oven, Litton Heat-N-Eat, \$30; Westinghouse roaster oven w/timer & cabinet, \$75. Butler, 299-1316.

MOVING SALE: podiatrist chair, \$190; piano, \$950; hide-a-bed couch, \$75; roll-top desk, \$170; redwood picnic table, \$50. Lowrey, 298-4288.

BELL Touch Tone telephone, new, teal blue, save \$6 & shipping costs. Stinnett, 298-5085.

CHAIN SAW, Sears, gas engine, extra chain, \$145. Madden, 296-1082.

MINI washer & dryer, make offer; Singer sewing machine w/wood cabinet. Sanchez, 831-0330.

T/C contender barrel in 30-30 cal; 30-30 reloading dies; some misc. bullets, all for \$35. Hufnagel, 294-5949.

DISHWASHER, built-in (already removed), Kitchenaid, \$20. Jackson, 265-4562.

TWO 20-gal. fish tanks, both w/gravel & under gravel filters, \$15 ea. or both for \$25. Gwinn, 299-7167.

ROVA-PHONE, \$60; 9x12 Karastan blue-green area rug, \$75; Mr. Coffee, \$20; gourmet cook books, 1/2 price. Blackledge, 294-6030.

RIFLE scope, Bushnell 3X-9X Banner II, new, \$50; 50', 4' high wire fencing, \$15; chains, fit F70-14 through G-78-15. Navratil, 293-5527.

CHOW-CHOW, red, female, AKC reg. Smith, 299-5060.

COFFEE TABLE, 21x64 w/doors; prism lamp; antique carved table; wooden headboard; antique ladder-back chairs; glassware. Strance, 298-0258.

DURST F-60 enlarger filter tray & condenser/lens for 225x225 film, will also take 35mm, \$100. Bailey, 268-8079.

VIDEO CAMERA, color, RCA CC-006, power zoom, macro & more, useable w/non-port. vers., \$400. Stoker, 821-3354.

15 VOL. SET "Childcraft, The How and Why Library," '64 edition, \$90. Howerton, 299-6409.

VIOLINS: 1/4 size Nagoya Suzuki, \$180; 1/2 size John Juzek, \$150; includes horsehair bows & cases. Wawersik, 884-7690.

SEARS Coldspot refrigerator, 12 cu. ft., \$75. Cave, 299-5066.

DIAMOND solitaire pendant, 1.01 ct., brilliant cut (round), yellow gold mounting, \$1850. Schmidt, 299-7305.

SPA membership, Cosmopolitan Lady, half price. Shumway, 865-7160.

COPIER, Pitney Bowes 258, good for parts, consider any offer, could be repaired. Liguori, 256-3613.

VACUUM, Kirby Classic, red, paid \$420 new, sell for \$200, w/all attachments, including shampooer. Jacobs, 292-6174.

LUGGAGE, Samsonite, ladies pullman case, hard sides, key lock, suitcase w/4 hangers, saddle tan. Easton, 256-7717.

SEARS best treadmill w/speedometer, odometer, timer, steel rollers w/ball-bearings, 15 mi total, \$80. Whan, 268-0687.

SET of maple bunk beds & crib; 6.50x16 snow tire w/tube, on Chev. wheel. Getz, 299-4865.

VERTICAL venetian blinds, 8' wide & 3' wide, 8' sliding glass door. Silverman, 298-1308.

PECANS, this year's crop, \$1.40/lb., grown in Las Cruces. Archuleta, 831-4515 after 6.

PORT, GE dishwasher w/butcher block top, \$90; carpet, green sculptured nylon, 29 sq. yds., padding, \$85. Pavelko, 296-3346.

PINE bunk beds, new, unfinished, w/mattresses. Bradford, 268-9084.

TIRES: 4 well used 155-14 Michelin tires, free. Smith, 242-9576.

GARAGE SALE: Nov. 12 & 13, 9 to 5, 3432 Glorieta NE. Baumann, 296-0978.

SKYLIGHT, 22"x35", translucent, \$50. Crowther, 821-0172.

GARAGE SALE: Nov. 19, 20; 280x telescope, orig. pkg.; electrostatic air purifier/humidifier; household items. 4208 Douglas MacArthur NE. Jones, 881-1918.

HEATILATOR fireplace w/10' of stove pipe, rain drip cover, and other misc. items, never used, \$400. Kolb, 822-1918 after 5.

PIANO, Everett, spinet, dark mahogany w/bench, \$950. Beatty, 299-3429.

GUITAR Amplifier, Acoustic model 120, 100 W per channel, 6 mos. old, \$350. Hole, 298-4104.

FIVE Firestone 721's, used 13K miles, P205-75R-15, \$125; Winchester 94, 30-30, never fired, \$120 OBO. Kureczko, 298-1577.

GLASS fireplace screen, tube grate & blower, \$50; Heathkit dual trace

scope, solid state, \$150. Matthews, 869-2370.

POOL TABLE, 4x8' w/all accessories, 1 piece marble bed, \$700. Bourgeois, 298-2346.

SOFA, 8', \$200; full box spring, mattress & frame, \$55. Baney, 294-8970.

RIFLE SCOPE w/mounts, Redfield 3X-9X, wide field, variable, \$100. Oberkampf, 292-4366.

CAMPER items for van or truck conversion: bed, seats, cabinets w/sink, icebox, closet. Garcia, 293-3937.

SOLID wood dbl. garage door; used gas furnace; ornamental iron window covers; arched operable windows. Dean, 299-3281.

PAIR oiled walnut bass reflex speaker enclosures, 28-1/2" h x 24" w x 18" deep. \$150. Jeske, 299-2810.

ELECTRIC dryer, Sears, w/permanent press cycle, \$80. Picraux, 345-2032.

KING-SIZE bed w/upholstered headboard, \$125; coffee & end table, \$85; elec. dryer; ojo; batik, \$55 ea. Caskey, 884-4838.

GOLF clubs: Lynx USA irons, 2 thru wedge; Lynx Predator woods: 1, 3, 4, 5; \$240. Ray, 298-0408.

TELEPHONE: Trimline, table model, rotary dial, beige, extra long cord, \$20. Fox, 266-6606.

MATCHED SET walnut coffee table, lamp table & octagonal table; green vinyl recliner; Craftsman table saw; misc. tools. Mozey, 822-0296.

DISHWASHER, Kitchenaid Imperial, 9 yrs. old, new seal, \$50. Johnston, 299-1830.

48K Radio Shack Model 1 w/EI 1/4" floppy & Centronics #779 5-line printer, \$595. Mason, 299-2836.

GOLD shag rug, approx. 11'x12', \$20; pine headboard, footboard for full bed, needs work, \$15. Vanderburg, 836-1169.

WATER softener, \$210; bicycles: men's 3-spd., \$35; ladies lt. wt., \$20; boy's 20" MX style, \$25; child's 12", \$15. Sciacca, 293-0633.

COCKTAIL & 2 matching end tables, \$100; '73 Comet trunk lid, \$25; 2 sets tire chains, 6.00-17 to 9.15-15, \$15 ea.; big wheels tricycle, \$12, more. Little, 883-9329.

CASE for clarinet, \$25; girl's 20" bike, \$20. Jones, 299-4776.

BUNK BEDS w/foam mattresses. Campbell, 294-6000.

BAR & 4 bar stools, \$250. Gallegos, 298-9235.

COMMODORE 64/VIC 20 Vicodem, terminal software VIC/64 included, value \$90, sell for \$60. Mora, 821-6759.

TRANSPORTATION

'76 FORD Custom 500, 57K miles, one owner, 351, AC, PS, PB, \$2000. Brinkley, 255-2783.

'79 CHRYSLER New Yorker, 5th Ave. edition, leather interior, AM-FM radio, CB. Davies, 296-6905.

'72 DATSUN 240Z, AT, \$2200. Clem, 296-5204.

'60 BUICK sedan, all power, \$450 cash. Butler, 299-1316.

'72 IH Travelall, 4-wd, AT, PB, PS, towing pkg., \$1300. Madden, 296-1082.

HONDA CT-70 trail bike, rebuilt engine, recent tune up, new seat cover,

\$250; Sears Kenmore dryer, 220V elec., new heating unit & blower belt, \$75. Morrow, 281-3417.

'57 PORSCHE Speedster 1600S, recent top & tonneau, factory hardtop, other extras, \$12K. Gruer, 296-8163.

'79 MALIBU, PS, PB, AC, AM-FM cass., orig. owner, \$2900. Vargas, 242-7097.

'67 BMW R695 motorcycle, \$1500. Gwinn, 299-7167.

'81 HONDA 750 Custom, full dress, low miles, \$2000. Brandon, 836-5621, 881-6698.

'78 MERCURY Marquis, AT, AC, PS, PB, tilt wheel, 36K miles, \$3400 firm. McMurtry, 881-8053.

'82 BMW R100RS, many extras, \$6K. Bailey, 268-8079.

'79 INT. Scout, 4-wd, V8, AT, AC, PS, PB, 35K miles. Heidrich, 345-7653.

BICYCLE, Motobecane, medium size frame, 10-spd., cotterless cranks, French manufacture, \$125. Shun-ny, 265-1620.

'80 VOLKSWAGEN Vanagon camper, refrig., stove, sink, AM-FM-cass, heater booster, sleeps 4, low miles. Dawson, 298-9508.

SEARS Free Spirit 26" 10-spd. bicycle, \$50. Whan, 268-0687.

'72 650 TRIUMPH Bonneville motorcycle, customized, \$2000 OBO; '65 250 Dream Honda, as is, \$100. Gonzales, 344-4933.

'67 KHARMAN-GHIA, 10K miles since overhaul; new paint, upholstery, headliner, brake pads, ball joints, axle boots; \$2500. de Montmollin, 299-4059.

'81 VOLVO DL, 4-dr., 4-spd. w/OD, AC, sunroof, beige, make reasonable offer. Hudson, 821-3968.

'65 CHEVROLET 3/4-ton pickup w/10' Dreamer camper, deluxe interior, 4-spd., R&H, big 6 motor. Meister, 344-4975.

'79 BMW 528i, 4-dr., 4-spd., lt. yellow, beige velour interior, every possible option, \$11,500. Freeman, 296-2977.

'79 MERCURY Zephyr, 4-dr., AC, PS, PB, 4-cyl., 4-spd., 35K miles, \$3000. Coleman, 884-5009.

BMX BICYCLES: Schwinn Phantom Scramblers, \$100, w/mag wheels; \$80 w/spoke wheels. Wright, 296-3850.

SEARS bicycle, ladies 5-spd., never used, \$60. Lewis, 296-3676.

'78 CUTLASS Supreme, 2-dr. sedan, lt. blue, V8, AC, AT, \$4195. Neal, 294-3088.

'79 KAWASAKI KZ750B, windjammer V, custom seat, sissy bar, 15K adult miles, \$16,000. Harwood, 881-1649, 299-1326.

10-SPD. BICYCLE: Motobecane Sprintour, w/Blackburn carrier, spare set of tires, \$175. Zeuch, 296-4969.

'68 VOLVO, 142S, new paint, radials, AC, FM radio, 4K miles on rebuilt engine, \$1650. Kuswa, 821-2315.

'81 SKYLARK Limited L4, 4-dr., MT, PS, AC, FWD, tilt wheel, low miles, below book \$5100; '72 Volvo, 144E, AT, fuel inj., low miles, \$5600. Church, 299-2175.

DIRT BIKE, chrome frame, dbl. goose-neck, pads, \$50; single shot .410, \$40; 2-wheeled scooter, \$10. Connor, 268-9497.

'71 F100 1/2 ton pickup, 390 V8, 4-spd., AC, PS, LWB, 78K miles, in-

sulated shell, boat rack, \$2950. Luikens, 881-1382.

BICYCLE built for two. Stixrud, 298-0478.

REAL ESTATE

4-BDR. brick veneer, formal DR, lg. den, 2 water heaters, refrig. air, lg. covered patio, landscaped, much more. Lowrey, 298-4288.

MH, 14x70 Nashua, 1978, 2-bdr., 2 bath, assumable loan, 12 3/4%. Jones, 281-1186.

ANGEL FIRE Timeshare condo, sleeps 6, includes all amenities, 1 week any season (13 yrs. remaining), exchangable world-wide. Arfman, 299-2347 or 256-3286.

10 ACRES, wooded, power & phone, title insured, surveyed, 25 mins. east, \$3800/acre. Silva, 255-3723.

ALL American MH, 14x70, 3-bdr., 2 bath, assume 14.5% loan, \$3000 down, set up in family park. Prusak, 821-2816 after 6.

6.5 ACRES 2.5 miles west of Edge-wood, 1/2 mile south of frontage road, \$5K/acre. Gallegos, 298-9235.

WANTED

USED skis approx. 170 cm, boots, size 10-10 1/2. Schueler, 298-6124.

HOUSE SITTER, Tijeras, 7 miles to Abq., Nov. 11 to Dec. 31. Ling, 281-5328.

CATALYTIC HEATER, adjustable 3 to 5K. O'Bryant, 268-9049.

'72-'77 CHEVY van 3.7:1 differential; have fuel efficient 3.07:1 for trade; need Class III hitch. Graham, 296-8163.

COLOR TV, 19 or 25", in good shape, console or port. O.K. Bailey, 268-8079.

SAILBOAT, 23' or 25' sloop or cutter, not too old. Hueter, 242-1620.

AQUARIUM, 50 gals. or larger. Fimple, 293-3911.

TO COPY instruction manual for 2-meter transceiver, NDI Model HC 1400. Day, 881-2664.

INEXPENSIVE electric eraser. Barber, 296-0462.

TRADE 2 14" 5-hole Ford rims for 2 14" 4-hole Ford rims. Riggins, 299-7778.

1965 through '67 VW bug, body, interior, pan condition not important. Brock, 865-4055.

COMPACT or mid-size car in good condition for about \$1000. Stoever, 296-3717.

USED computer, working or not, VIC 20, 64, Aim, Syn, Kim. Stixrud, 298-0478.

SHARE-A-RIDE

WINSTON-SALEM, N.C., by land, depart Dec. 21 or 22, return Dec. 30 or 31, \$150 per person. Bailey, 268-8079.

Lobster Tonight

TONIGHT is a biggie at ye olde Coronado Club. While on vacation in New England last September, Club manager Mitch Griffin made arrangements for whole Maine lobsters to be flown in for this occasion. The marvelous little beasts weigh in at a pound or more, and they'll be cooked in seaweed — the very best way. New Englander Griffin knows about this. He promises an outstanding buffet at \$12.95.

In the meantime, on the bandstand, is one of the Club's favorite bands — Chisum, a swinging country and western group. Karen Edwards will instruct free western dance lessons from 7:30 until 8:30.

Call the Club office, 265-6791, *right now* for reservations.

NEXT FRIDAY, Nov. 18, Deputy Dan holds the bandstand, Karen Edwards returns to instruct more free dance lessons, and steamship round of beef is the buffet special at \$5.95.

EVERYONE is invited to attend the Coronado Club's first Arts and Crafts Fair on Saturday, Nov. 19, from 10 a.m. to 5 p.m. Craftsmen and artists display an outstanding selection of handcrafted items offered in time for Christmas gift buying. (If you're a Club member and want a table — \$10 — call the office.) While browsing through the exhibits, you might like to try something from a selection of sandwiches, snacks, and goodies that will be available from the Club kitchen.

ON FRIDAY, Nov. 25 (the day after the Thanksgiving holiday) forget the turkey leftovers and splurge on crab legs. The Club serves these choice goodies in style. The buffet costs \$7.25. Southside, a big seven-piece variety band, plays for dancing. Call the Club office for reservations.

TWO-FOR-ONE TUESDAY is scheduled for Nov. 22 with two menu selections. Try the chicken teriyaki at \$9.95 for two or splurge on the shrimp peel at \$12.95 for two. Either way, the price is right. You are served at your table (after loading up at the soup and salad bar) in a quiet, candlelit atmosphere. Call 265-6791 for reservations.

MARK YOUR CALENDAR now for Saturday, Dec. 3, when the Club throws its annual Christmas party for kids. Ron and Mary Kay Day will appear with their original puppet show along with a special guest in a red and white suit. He will take time to talk to all the little ones about presents. Other plans are in the mill to make the morning another spectacular for children. The action starts at 9:30 a.m. and continues through the morning. Admission is a can of food to be donated to the South Highway 14 Village Project. Members and families only, please.



AWARD OF EXCELLENCE from the American Wind Energy Association was presented recently to Dick Braasch (right), supervisor of Wind Energy Research Division 6225, for "cost effective research and development and commercially important technology transfer." The citation read, "Sandia National Laboratories . . . has brought Darrieus-type wind turbine technology from a position of novelty in 1973 to commercial importance in 1983. Sandia has used less than \$14 million of DOE funds in that 10-year period but is responsible for six operating prototypes and, through the wind industry's most effective technology transfer program, has been instrumental in commercialization of VAWT technology by at least six companies." Presenting the award is Paul Vosburgh, president of VAWTPOWER INC., Albuquerque, and a member of the AWEA awards committee. The award was announced at the group's national convention last month in San Francisco.

HOLIDAY TRAVEL PACKAGES offered by the Club include Las Vegas by bus, Dec. 26-29, for \$99 or San Diego by air for \$399 on Dec. 26-31. The trip includes unlimited rides at Disneyland one day, admission to the San Diego Zoo, Sea World, and a ride on the San Diego Duck, a WWII amphibian.

Also scheduled is a trip to New Orleans at World Fair time, May 25-29 for \$568. The package includes air fare, four nights at the Marriott Hotel, dinner at the famous Andrew Jackson restaurant, admission to the fair, and a ride on a Mississippi river boat.

See Shirley McKenzie (7632), travel director, in the lobby tonight between 5 and 6 for additional information.

THE NOVEMBER MEETING of the Coronado Ski Club is on Tuesday, the 15th; social time at 6:30 and the meeting begins at 7 p.m. Theme for the evening is "Purgatory," and Paul (5134) and Kay Souder will discuss some of the recent changes and future plans for this popular ski area. Ten 4-Corners discount cards will be given away. Call Kaz Oishi (5152) on 6-0511 for more information.

New Book

Go Climb A Rock

The South 14 Bookstand — Those mountains to our east are the subject of *Hikers and Climbers Guide to the Sandias* by Mike Hill, who runs the Wilderness Center backpacker's store in Albuquerque. Published this year by the UNM Press, the Guide is exhaustive and covers every conceivable route in the Sandias, whether for hiking or for climbing. Because there are more rock formations than there are trails, the climbing section of the book is more extensive. The weather, and the flora and fauna are also covered in the appendices; these include birds of the Sandias as well as a list of mammals. The latter names the black bear, the badger, the wolf and the mountain lion among the mountains' creatures. In paperback with a fold-out map, it's \$9.95 at the LAB NEWS office, Bldg. 814.

Congratulations

To Robert Legalley (7137) and Joni Abeyta married in Albuquerque, Oct. 22.

Tom (6247) and Wendy Bickel, a daughter, Michelle Colleen, Sept. 27.

Mona (155) and Jim Nelson, a son, Richard Austin, Sept. 27.

Tim (5312) and Beverly Spears, a daughter, Marissa Kathleen, Nov. 1.

