

IN FRONT of the steaming 600-foot lava dome on the floor of the crater of Mount St. Helens are John Eichelberger of Geochemistry Division 1543 and Dennis Hayes, manager of Fluid and Thermal Sciences Department 1510. Their field and theoretical investigations at Mount St. Helens led to a technical paper, *Magmatic Model for the Mount St. Helens Blast of May 18, 1980*. The paper was published in the September issue of the *Journal of Geophysical Research*. The Sandians adapted analytical methods from a reentry body

problem to explain eruption phenomena of the Mount St. Helens volcano. They reported that the water content of the magma (in the form of both suspended high pressure steam bubbles and water dissolved in the molten rock itself) required to account for the devastating magmatic explosion is much less than previously suspected. The study will be helpful in predicting the effects of future volcanic eruptions and in understanding the behavior of magma beneath volcanoes.



BOB STROMBERG (0400) checks over a printout listing Sandia's technology transfer activities. Bob is Sandia's Technology Transfer Officer, and he's gaining knowledge of how technology transfer occurs.



LAB NEWS

VOL. 34, NO. 23 SANDIA NATIONAL LABORATORIES NOVEMBER 12, 1982

Direct Contact Important

Stromberg on Technology Transfer

Next to weapons work, technology transfer is one of Sandia's most important—and least understood—functions. As a federally funded national laboratory, Sandia is responsible for making available to industry any new and unclassified technologies growing out of our many research projects. These new technologies can range from more effective solar energy utilization techniques to a highly sophisticated insulin implant for diabetics. The "critical event" that leads to such transfer is not always predictable—it's often *not* the technical report generated after the project ends.

We recently spoke with Bob Stromberg

(0400), Sandia's Technology Transfer Officer, about why and how technology transfer occurs.

"My job was created by recent federal legislation, specifically the Stevenson-Wydler bill, that obligates the government and its contractors who operate laboratories, like Sandia, to make an effort to transfer any new technology they develop," Bob explains. "The bill also requires any national lab with a budget of over 200 million dollars a year to assign a person full time to technology transfer."

"Sandia, of course, has been making its

[Continued on Page Five]

Doomsday Not Around the Corner

Mother Earth is a tough old lady, and it'll take a lot more than a few oil spills or a dash of toxic waste to kabosh her. That, at least, was the message brought to us by geologist Tjeerd Van Andel of Stanford University.

Van Andel explains that during the last two decades, a pessimistic view of the future has become quite popular. He was once mistakenly quoted as having asserted that the world would end by 2050. When a radio station called Van Andel for a statement and learned he had said no such thing, they quickly lost interest in interviewing him.

"There's a typical human arrogance," says Van Andel, "that assumes everything bad that happens in the world is man's fault." But there's a "wonderful buffering and balancing effect" built into nature; life and the earth possess remarkable survival powers, and the world's history abounds in examples of major catastrophes that only led to greater diversification of life.

One such catastrophe is the "instantaneous" extinction of the dinosaurs about 65 million years ago. In geologic terms, 100,000 years is an instant, and the "rapid" extinction of the dinosaurs took about one million years. The data, concludes Van Andel, do not require a spectacular catastrophe such as a large asteroid colliding with the earth.

During the Paleozoic era 250 million years ago, the continents drifted together to form one supercontinent and one super ocean. Mountains ringed this huge land mass, making the central portion arid and causing climatic extremes. Yet life not only survived in this inhospitable milieu but actually thrived.

Van Andel refers to the coastal wetlands: "An important resource—they're the habitat of many animals and oceanic life, and they're important fisheries. Suppose we destroy them—the conse-

Antojitos

It's Homily Time--I've been sitting on several anonymous submissions for this space, and this is as good a time as any to publish a couple of them. They're useful not (I suspect) in making any of us "better" people but in letting us know how we're perceived by the people we work with.

1. Walk around the Tech Area and make a point of observing the greeting--more likely, the non-greeting--you receive from those you meet. If you say nothing, he or she will almost certainly say nothing. Even an attempt to look the oncoming person squarely in the eye typically elicits no reaction, at best a nod. If you are forward enough to say "hi" or "good morning," you may get a begrudging grunt. Sandians are a well-educated, courteous group of people. Why can't we greet each other in a friendly fashion?

2. I have been surprised to hear people using profanity in their regular course of conversation in the offices at Sandia. These are so-called white-collar workers who are intelligent, capable, and mostly pleasant. It seems they haven't considered the fact that some people might find their language offensive. I do, especially when they use the name of the deity irreverently.

Personally, I think that greeting everyone we meet would be counter-productive--greeting everyone is, in a sense, greeting no one. And, while casual profanity--the verbal crutch of the illiterate S.O.B.--is foolish (because it negates your psyche's safety valve so you're defenseless when something really goes wrong), I suspect that Sandians are collectively no worse, probably better, than most groups of 8000 people. And when it matters--when it comes to needing help from someone--my experience indicates that Sandians are not only friendly but bend-over-backward cooperative. That's got to be the bottom line. ●BH

Antes de hablar es bueno pensar. (Think before you talk.)

quences would be severe, but far from disastrous. The food chain would be altered but not destroyed.

"Twenty thousand years ago, the sea level was lower than it is today because of the ice age. For instance, the shoreline of the Gulf of Mexico extended 250 kilometers further out than it is today. Fifteen thousand years ago the earth was coming out of its ice age, glaciers were melting, and the sea level was rising very rapidly--several hundred feet per year for thousands of years."

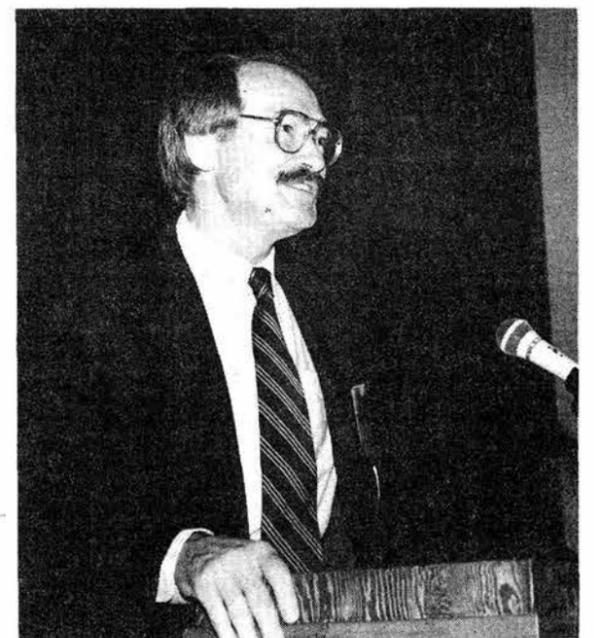
Some people fear the "greenhouse effect": increasing amounts of carbon dioxide being released into the atmosphere from the burning of fossil fuels and forests, causing the atmosphere to trap more of the sun's heat. It is estimated that since the beginning of the industrial age in the early 19th century, 150 billion tons of fossil fuel particulates and 40 to 200 billion tons of residue from burned forests have been discharged into the air. At current rates, by 2030 the mean global temperature will rise by 2°C to 2½°C; polar ice will melt causing an 8-meter rise in sea levels. This means that 15-20 percent of the world's population would be living below sea level "causing considerable technological problems." But, Van Andel reassures us, the greenhouse effect (if we create it) in time would be naturally reversed. Nature on its own undergoes large fluctuations.

The same applies to the oft-expressed fear that humans are polluting the ocean so extensively that marine life will be destroyed. "It's a sizable task to exterminate all life in the oceans," observes Van Andel. "The Pacific Ocean is four times as large as both North and South America,

and the Atlantic is twice the size of Europe and Africa together." Other observations by Van Andel:

"Saving the whales or the snail darter is not as important as establishing equilibrium in the world population. We have to arrive at a balance between ethical/aesthetic requirements and the real needs of a growing population."

"Acid rain is a stupid problem that could be easily solved with good will and money spent in the right places."



FORMER SANDIA DIRECTOR Bill Spencer was in town to address the CUBE (Computer Use By Engineers) Symposium last month. Now with Xerox Corporation, Bill spoke on "Electronic Technology Challenges." With over 450 people from Sandia, Los Alamos, and LLNL attending, the Fifth Biennial symposium was the biggest yet.

LAB NEWS

Published Fortnightly on Fridays

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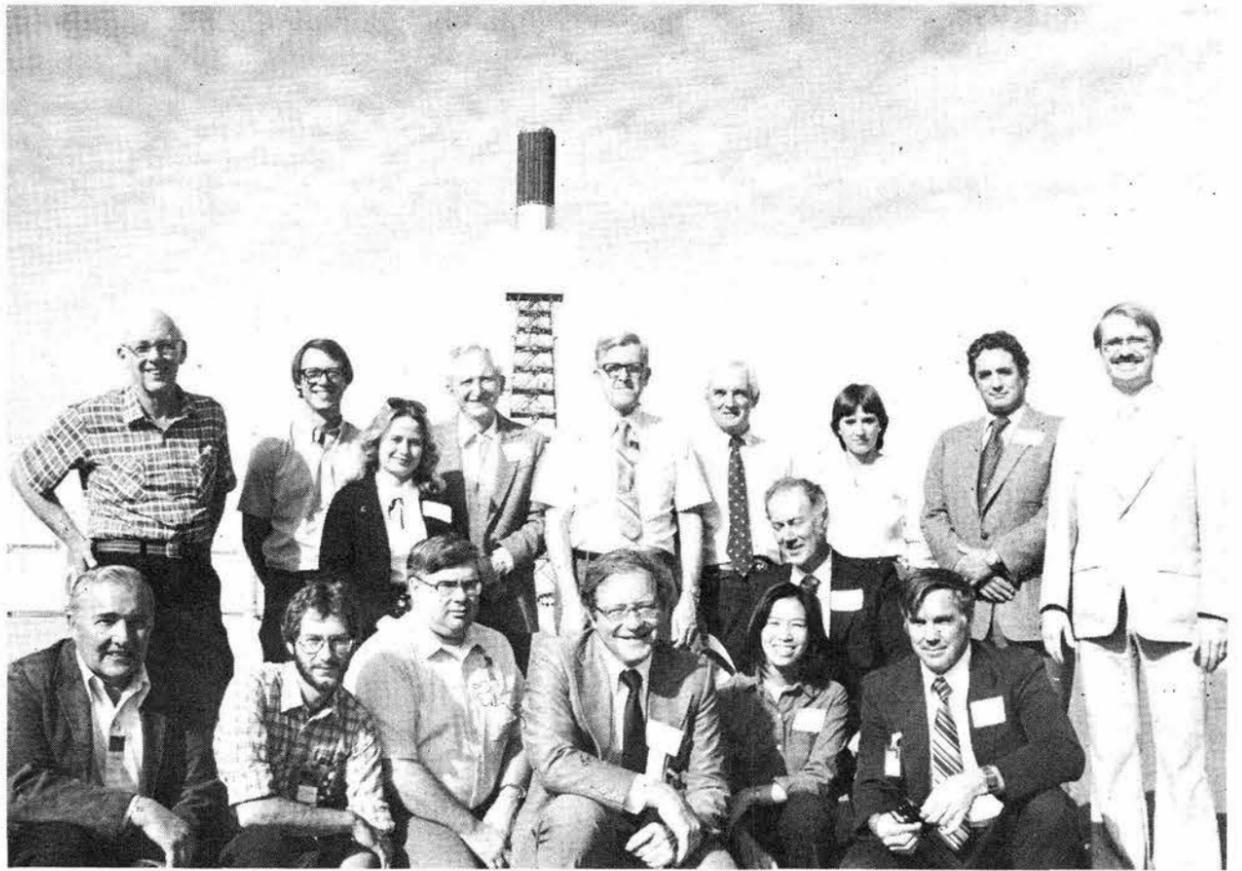
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SOLAR ONE, the world's largest commercial solar power plant, was dedicated Nov. 1. The 10-megawatt pilot plant near Daguerre, Calif., was completed last April and has successfully generated commercial power for Southern California Edison Co. Shown taking part in the dedication (from left to right) are William Gould, chairman of the board of Edison; Jan Mares, acting undersecretary of the U.S. Department of Energy; Dick Claassen (8000); and Larry Papay, vice-president of Edison. Two speakers not pictured were Congressman Jerry Lewis of the 37th District of California and Los Angeles councilwoman Joan Milke Flores. Sandia has been designated the technical manager of the project during its experimental test phase, taking over from the DOE San Francisco Construction Project Office.



AT THE SOLAR ONE dedication were these Sandians: (front row), Jim Smith, Scott Faas, Duncan Tanner, Jim Bartel (all 8452), Christine Yang, Tom Brumleve (both 8453), and Al Baker (8452). Standing, Chuck Pignolet (8163), Rick Wayne (8430), Cheryl Jenson (8450), Bill Morehouse (8162), Al Skinrod (8452), Dick Claassen (8000), Pat Smith (8265), Jim Wright (8450), and John Sharp (8431).

CONCHAS SPRAY Simulates Engine Designs

Sandia, Los Alamos Exchange Researchers

An exchange between Sandia Livermore and Los Alamos has successfully utilized both Labs' expertise to increase knowledge of combustion processes.

Stew Keeton of Combustion Applications Division 8522 went to Los Alamos on June 1, 1981, for a year and Larry Cloutman (Group T-3, Numerical Fluid Dynamics) arrived for a year at Sandia Livermore in late August of the same year.

Larry and others at Los Alamos had developed a two-dimensional hydrodynamics computer modeling code called CONCHAS SPRAY (Conchas is a lake near Tucumcari, N.M.). The program models chemical reactions, fluid motions, and motions of droplets in a fluid spray. At Sandia, Larry worked with the people who carry out the laser-based combustion experiments in internal-combustion engines.

"I was trying to model engine simulation experiments," Stew explains, "by using experimental data derived from laser optical techniques in engines. It became apparent that I'd need sophisticated fluid dynamics codes to accomplish this. The group at Los Alamos developed these codes, so it was a good place for me to be. Sandia, on the other hand, is the obvious place for Larry to be—so he could work with the experimentalists. I worked with Larry for three months at Los Alamos before he left for Sandia and I learned a great deal about computational fluid dynamics—it's a powerful technique to simulate internal-combustion engine experiments."

"We've built on the basic ALE [Arbitrary Lagrangian-Eulerian] technique originated in a very primitive form by the Air Force Weapons Lab 24 years ago," says Larry. "Each of these computer programs involves many man-years—they're large,

complicated, sophisticated programs."

"So Sandia wasn't about to spend that kind of time developing modeling programs," adds Stew, "especially since Los Alamos had already done it. No sense in us duplicating their work—so I went there to find out."

"The idea behind the program was to predict the results of experiments," explains Larry. "We wanted to develop a tool to help engineers design automobile engines. We hope to predict trends—if a design is changed, we want to know what effects it will have on fuel efficiency and pollution emission. Although the computer can never replace experience, it can give us an idea of what to change to improve the engine. Stew and I have been especially interested in the fluid turbulence patterns created by the bowl-shaped cylinder pistons that are used in both DISC [Direct Injection Stratified Charge] and diesel engines."

New techniques such as the CONCHAS SPRAY code are disseminated to researchers in industry, universities, and other national labs by means of three different engine research groups that meet informally every six months to exchange information. As a result of one such meeting, General Motors is now working with Larry's CONCHAS SPRAY program.

As to the temporary change of domicile, Larry says, "It's quite a change being in

Livermore—this is an urban area while Los Alamos is quite rural and isolated."

"I lived in Santa Fe because of the cultural benefits there," says Stew, "but I certainly enjoyed the scientific atmosphere of Los Alamos."

Take Note

Sandia is one of the industries featured in an exhibit on the history of science in the valley at the Amador-Livermore Valley Historical Society Museum at the Pleasanton fairgrounds through November. Other firms included in the exhibit are Clorox, General Electric Vallecitos, Coast Manufacturing & Supply Co. (now Hexcel), Foremost-McKesson, Kaiser Research Center, and Lawrence Livermore National Laboratory. The museum is open Tuesdays, Thursdays, and the first Saturday of the month from 1 to 4 p.m.

Congratulations

Gracie Caldera (8261-1) and Angel Louis Miranda, married in Fremont, Aug. 21.

Lezlie and Les Brown (8341), a daughter, Stephanie Joyce, Oct. 4.

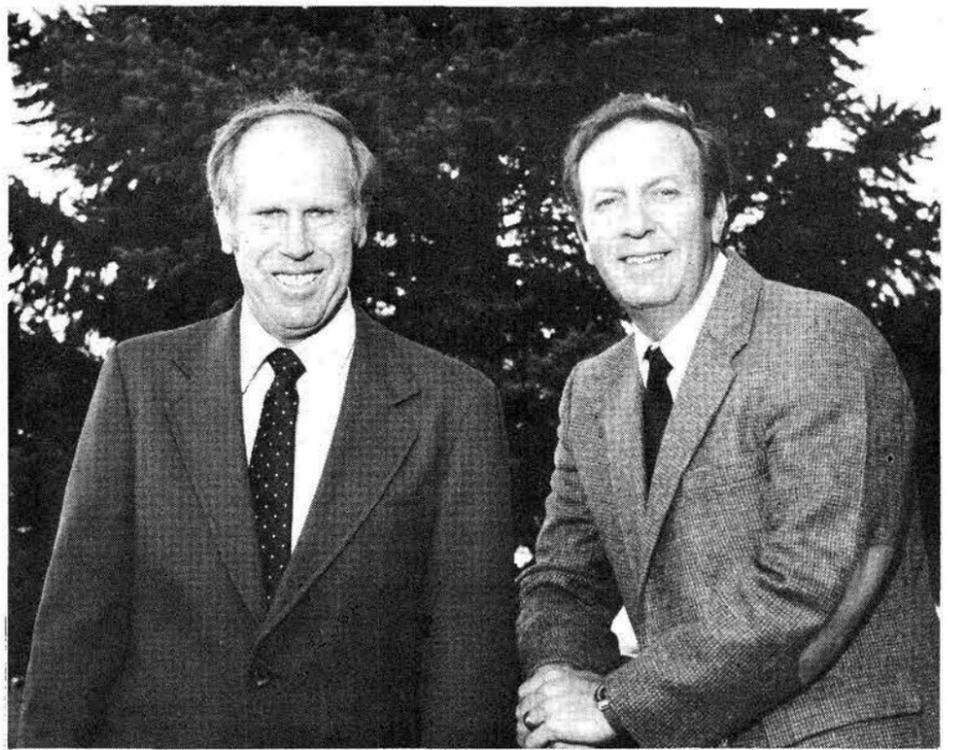


**SANDIA
LIVERMORE NEWS**

VOL. 34, NO. 23 SANDIA NATIONAL LABORATORIES NOVEMBER 12, 1982



RALPH DAWSON (1141) and TERRY GERLACH (1543)



KEN PRESTWICH (1240) and JERE HARLAN (2512)

Supervisory Appointments

RALPH DAWSON to supervisor of Device Research Division 1141, effective Oct. 1.

Ralph was employed by Bell Labs for eight years before coming to Sandia on a leave of absence in December 1976. His work at Sandia—growing crystals—is a continuation of the work he had done at Bell Labs.

Ralph earned his BS in EE from the California Institute of Technology and his MS and PhD, also in EE, from the University of Southern California. He is a member of the American Association for Crystal Growth. He describes himself as a novice astronomer; his other primary interest is working with his church. Ralph and his wife Linda have a daughter and live in SW Albuquerque.

* * *

TERRY GERLACH to supervisor of Geochemistry Division 1543, effective Nov. 1.

Since coming to the Labs in December 1975, Terry's primary research interest has been the study of thermal dynamics of volcanic gases and magmas. His initial assignment was with a metallurgy group concerned with a magma energy project. He joined his current division when it was formed about three years ago.

Terry received his BS and MS in geology from the University of Wisconsin and his PhD in geology and physical chemistry from the University of Arizona. He is a member of the American Geophysical Union. Terry says he is addicted to running; he also enjoys hiking and reading history. He and his wife Aniko live in NE Albuquerque.

* * *

JERE HARLAN to supervisor of Explosive Subsystems Division 2512, effective Nov. 1.

Since coming to Sandia in 1964 as an MTS with an explosive and firing systems group, Jere has worked on explosive

component design and conducted basic explosives studies. He served as project manager for a Navy missile reimbursable project and has worked on Phase I and Phase II studies.

Jere received his BS in mathematics and chemistry from Texas A&M. Off-the-job interests include motorcycles, golf, and hunting. Jere, his wife Charlene (9416), and family live in the NE heights.

* * *

KEN PRESTWICH to manager of Pulsed Power Applications Department 1240, effective Nov. 1.

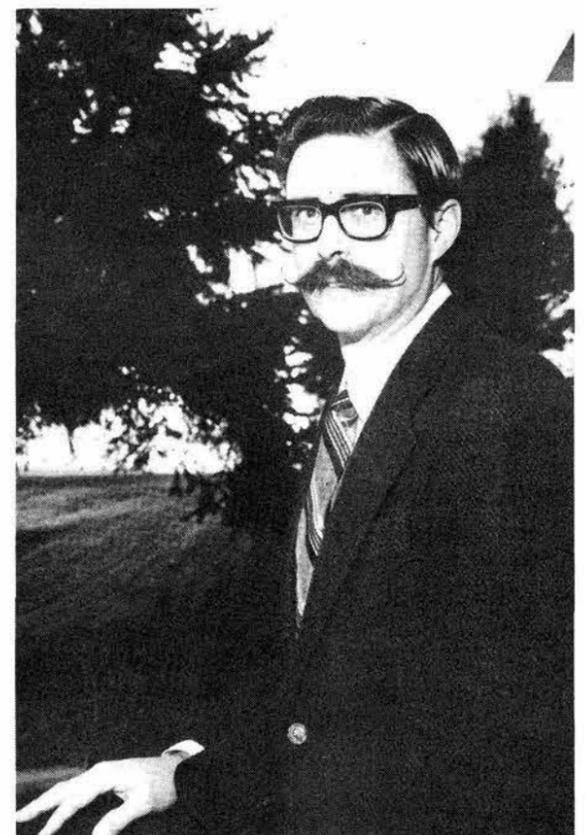
Ken joined the Labs in 1962 as a member of the Technical Development Program. He worked in a plasma physics group until 1965 when he joined a new organization concerned with pulsed power research. Working with this group, Ken helped develop the Hermes III accelerator. He was promoted to head the Pulsed Power Application and Operations Division in 1976.

Ken received a BS in EE from the University of Idaho and an MS in EE from UNM. He is a member of IEEE. His interests off the job include golf and officiating at basketball and football games; Ken is the official scorekeeper for Lobo basketball games. He and his wife Kathy have three children and two grandchildren. They live in NE Albuquerque.

* * *

LEE DAVISON to manager of Solid Dynamics Department 1530, effective Oct. 1.

Lee joined the Labs in 1966 as a staff member in the math department. In 1968 he was promoted to supervisor of the Shock Wave Physics Research Division; this group later became the Explosives Division. Since 1980, he has headed Applied Mechanics Division 1524. Just before coming to Sandia, Lee was a post-doctoral fellow at Johns Hopkins University and, from 1959-62, was with the electro-



LEE DAVISON (1530)

mechanical development department at Bell Labs in Whippany, N.J.

Lee received his BS in ME from the University of Idaho, his MS in engineering mechanics from New York University, and his PhD in applied mechanics from the California Institute of Technology. He is a member of ASME and the American Physical Society. Lee and his wife Helen live in the NE heights.

Congratulations

Peggy and James Dishman (1126), a daughter, Channon Alexandria, Oct. 7.

Chris (9254) and Larry (2648) Tolendino, a son, Erik Justin, Oct. 29.

Roger (0112) and Patty (0154) Shrouf, a daughter, Erin Kristin, Oct. 11.

Tom (7482) and Mickey Archuleta, a son, David Diego, Oct. 31.

Cathy Davis and David Hubbard (2153), married in Albuquerque, Sept. 25.

Sympathy

To Toni Garcia (2615) on the death of his father in Albuquerque, Oct. 30.

Continued from Page One

Technology Transfer

technology available all along, and I had been doing the same job in solar for five years. So the new legislation did not initiate technology transfer at Sandia—it just made it mandatory.

"Years ago, in fact, legislation was passed that led some people in the DoD labs to form a Federal Lab Consortium to exchange information between labs by means of semi-annual meetings, a program in which the AEC labs were very active. So the organization was there already. The law simply formalized it and required many other labs that hadn't been previously involved to participate. Also, the General Accounting Office audits Sandia and the other labs to make sure we're complying. The new bill is actually a shot in the arm for technology transfer."

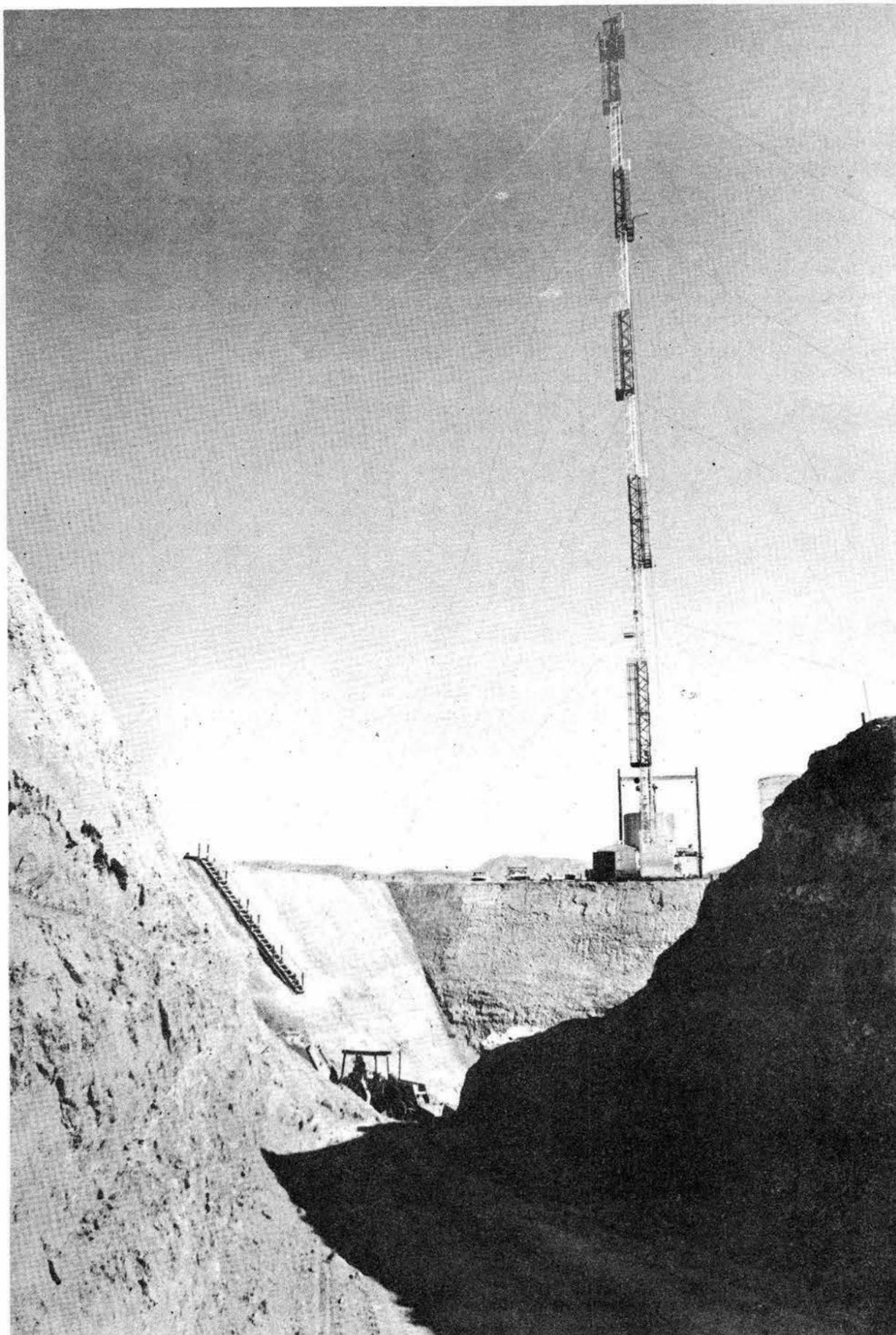
Bob's main concern now is in learning the best means for getting the information disseminated. First of all, he needs to know which Sandia developments have actually been transferred to industry, universities, or local governments.

"I've developed a Tech Transfer Data Sheet that I send to Sandians who have actual examples of such transfer," says Bob. "It's a questionnaire that tries to determine just how the transfer of technology took place. That's important because it helps us identify the 'critical event' that caused the transfer to occur."

"I take the data and store it in an Oak Ridge computer that has a very powerful retrieval program called RECON. In this way, we compile an up-to-date, detailed record of Sandia's technology transfer activities."

The data compilation suggests a high frequency of "word of mouth" occurrences as the critical event. "I'm convinced that in most cases transfer to industry takes place because, throughout the life of the project, we've developed close relationships with people on the outside who are working on the same thing," explains Bob. "Tech reports have been the traditional method of disseminating information, but quite often such reports are too slow. Industry prefers faster means for communications, such as scientific conferences, Sandia-sponsored presentations, and successful test results."

"For instance, when we developed a new ceramic material recently, the people responsible presented a paper at the meeting of the American Ceramic Society, thus delivering the development directly to members of the industry. In the micro-circuit area, after a firm has developed a process using our technology, we've often gone to their plant to help them with it. In fossil energy work, we build an installation on somebody's property—an example of this being the downhole steam generator in Long Beach, California. The word sure spreads. These are just a few of the many instances of successful technology transfer. In FY80, we had 66 examples involving 30 man-years of effort in transferring technology. In FY81, there were 72 instances and 36 man-years. So far this fiscal year,



THIS HUGE HOLE in the ground beneath the 300-ft. drop tower is not an excavation for a swimming pool for the troops in Area III. It's the future site of a new high-velocity water impact facility that incorporates "pull down" features similar to the aerial cable facility in Coyote Test Field. The 50-ft.-deep water reservoir will be lined with vinyl. Dave Bickel's Track and Cable Division 7535 will use the new facility to test anti-submarine devices under precisely controlled conditions.

we have 52 transfers involving 20 man-years—that I know of.

"Our past record, especially while we emphasized energy programs, is excellent. The staff spent time valued at \$5.7 million during FY81 transferring technology to various clients.

"I don't want to give the impression that tech reports aren't important—they're absolutely necessary," he continues. "Apparently, though, they're seldom the catalyst. In most successful examples of technology transfer, we motivate the interest of a commercial person by means other than technical reports. If the patent department and classification have no objections, we release detailed information. Even so, technical reports must be written promptly, because if one company

is told, then others also have to be informed.

"We also have to be sensitive to leakage of U.S. technology to foreign corporations and governments—we want to help American industry preferentially.

"If we start to have large numbers of people visiting us for detailed information," Bob concludes, "I advise our scientists and engineers to provide a public run-through. We send out announcements and bring the concerned Sandia staff together to give the presentation.

"I ask all Sandians to please tell me about successful transfers or technology. This way, I can learn more and, in turn, provide better advice on meeting our legal obligations and our internal objectives."

Take Note

According to Sandia retiree Glenn Burger, the statement in the Retiree Roundup article in the last issue that a retiree can either pay income tax due in equal quarterly installments *or* may pay the full amount due on Jan. 31 for the entire preceding year is inaccurate. Taxes must be paid quarterly (if retirement income is high enough), although the Jan. 15 installment can be deferred until Jan. 31. (Prudential now offers a withholding plan; in fact, they now will withhold taxes unless a retiree declines in writing.)

* * *

The Kirtland Officers Wives Association is sponsoring a jewelry, cloisonne, linens, jade, and glass show at the East Officers Club Nov. 12-14 from 11 a.m. to 8 p.m. daily. Funds raised from the sales will help finance the Association's charity projects.

* * *

On Sunday, KGGM-TV 13 begins "The Blue and the Gray," an eight-hour miniseries based on Pulitzer Prize-winning historian Bruce Catton's views and impressions of the American Civil War. It runs Sunday from 7 to 10, Tuesday from 8 to 10, and Wednesday from 7 to 10.

* * *

The Albuquerque Chapter of the Stepfamily Association of America meets Nov. 17 at 7:30 at Cleveland Middle School. A counselor in the field will speak on "Myths and Realities of Stepfamilies."

* * *

The Albuquerque Arts Board is soliciting suggestions for potential sites around the city for works of art. Contact the Community Cultural Affairs Program officer at 766-4658.

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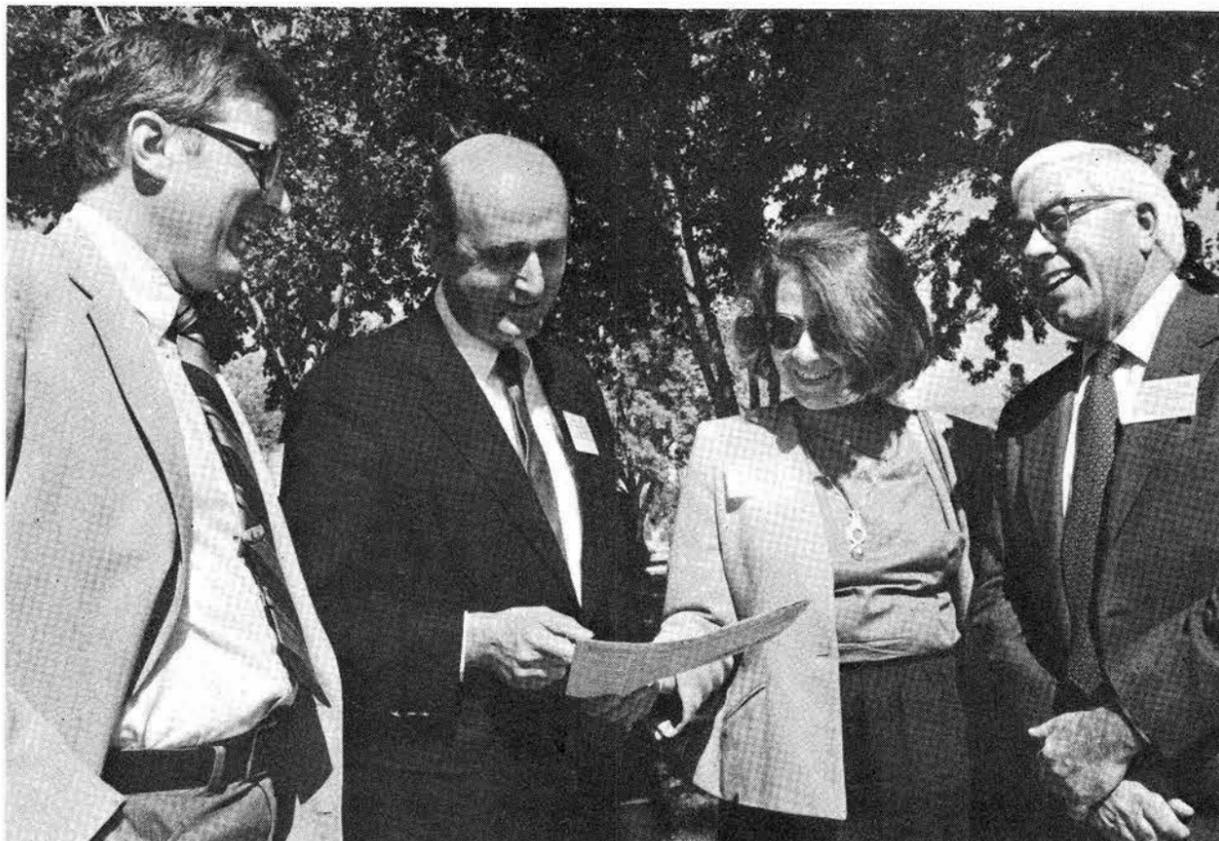
Acoma Elementary School's Christmas Bazaar is Dec. 4. If you'd like a booth space (\$8), call Carmen Graham on 293-7302 by Nov. 19.

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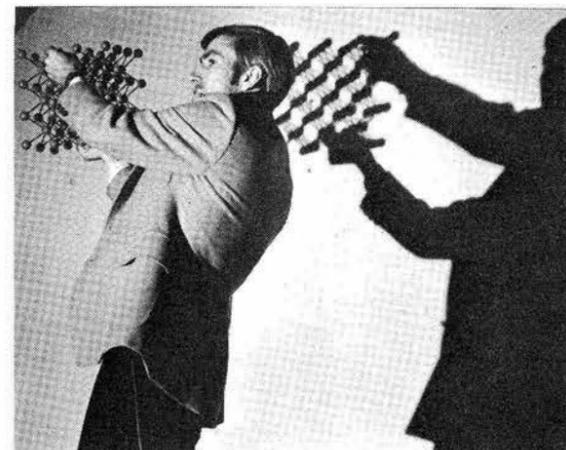
Mirrors needn't always reverse the image. A show with that premise is running at the Albuquerque Museum through Dec. 12. Albuquerque inventor David Thomas, creator of the "Mirror Image" show, will speak on Nov. 14 at 2 p.m. on "Non-Reversing and Other Strange Mirrors."

* * *

The New Mexico Network for Women in Science and Engineering will hold its fall/winter professional conference in Santa Fe at the Sweeney Convention Center on Dec. 4. The conference, entitled "Perspectives," will include presentations by representatives from most of the women's groups in the state, plus a luncheon and a post-conference reception at the La Fonda. Non-members are cordially invited to all functions. Advance tickets are \$20 for members, \$25 for non-members. Contact Elaine Gorham-Bergeron at 4-4065 or Gerda Krefft on



ANNUAL MEETING of the Corporate Associates of the American Institute of Physics was held at Sandia recently. Above, Al Clogston (right), chairman of the Corporate Associates Advisory Committee and former Sandia vice-president of research who chaired the meeting, exchanges information between sessions with (from left) Ken Smith, associate provost and vice-president of research at MIT; Don Langenberg, deputy director of the National Science Foundation; and Gloria Lubkin, senior editor of *Physics Today*. Right, Tom Picraux, supervisor of Ion-Solid Interactions Division 1111, holds a lattice model as he discusses ion channeling in his presentation on implantation metallurgy. (Photos by Bill Laskar)



4-9341 for registration forms or for more information.

* * *

Thursday, Nov. 18, is the date of The Great American Smokeout 1982. The Medical Department urges smokers to take a day off and others to help a friend quit for just one day. If signing "The Pledge" will help, you'll find a copy on most major bulletin boards around the Labs. Don't underestimate the effect of a Smokeout; in 1981 the American Cancer Society followed up a sample group of 1980 Smokeout participants and found that 6.7 percent still were not smoking more than 11 months later. So if you're a smoker, do yourself a favor for at least 24 hours—take the pledge and take time out from contributing to bronchitis, emphysema, heart disease, and cancer. You may be surprised to discover that you can do it, too.

* * *

There are several new faces in the Equal Opportunity & Affirmative Action (EO/AA) Division 3511. Jake DeVargas replaces retiring Ziggy Shelton as division supervisor. A 28-year veteran of Sandia, Jake assumed his new responsibilities on Nov. 1. He is available to help with all aspects of EO/AA concerns. Dick Fairbanks, formerly of 3551, is responsible for American Indian outreach activities. He chairs the outreach committee and is available to help both American Indian employees and their supervisors. Al Villareal joins 3511 from 3533 on Nov. 15. Al will head Hispanic outreach efforts. Other staff and

associated programs are: Ann Griego, handicapped coordinator and Black outreach; Gerda Krefft, women's program; Don Stone, affirmative action plan; Maureen Baca, affirmative action awareness; and Lois Wade, reports and records. All staff are available for counseling and information, in addition to their other duties.

* * *

The University of Missouri-Columbia Engineering Conference Center offers a two-day workshop, *Photovoltaics Today: Residential, Commercial, and Remote Applications*, in Kansas City on Nov. 29 and 30. The workshop is designed for engineers, architects, and others who want a practical knowledge of photovoltaic applications. For more information, contact Frank Seibert, U of M-C, Engineering Conference Center, 1020 Engineering, Columbia, MO 65211 (314/882-3266).

* * *

LAB NEWS wants to know about any Christmas charity projects sponsored by Sandians. Give us a call on 4-7841.



Sweden's prisons are so crowded that convicts are put on waiting lists for a place in a cell, reports the newsmagazine *Der Spiegel* of Hamburg . . . But there is always room in one of the hotels rented by the government for the overflow, with facilities that "are hardly distinguishable from a student dormitory or old people's home, whether in furnishings or rules." The doors have no locks, but the prisoners would not have to break out in any case: they spend their days learning data processing or at a university. Progressive treatment reportedly does not extend to foreign prisoners. Because the idea of easy prison life is based on "resocializing," and because the foreigners will be expelled on completion of their sentences, the magazine says, "they are exempt from privilege and often are put in solitary confinement for years."

Donald R. Shanor in *World Press Review*

Say Something in FORTRAN

A recent colloquium focused on the history of computer languages. Jean Sammett of IBM traced the development of some of the several hundred individual high-level languages that have been developed and used since the dawn of the computer age.

In 1945, before the end of World War II, the very first computer language was developed in Germany. Called PLAN-KALKUL, it was never used. FLOW-MATIC, the first working language, was developed in 1954 by Remington Rand UNIVAC. It used an expanded English vocabulary for business data programming. FORTRAN came along in 1957 and BASIC in 1964. The latter is now widely used in the rapidly expanding field of personal computers.

APT, developed in 1957 for machine tool control, was the first high-level language, that is, one used for specialized purposes and with vocabulary and statements very different from the more common languages like FORTRAN and BASIC. Another high-level language is COGO, used by civil engineers.

SIMULA, from the Norwegian Computer Center, is the only working language developed in Europe. Another specialized language is MUMPS, developed for the medical profession and used in hospital computer systems.

Sammet summed up by observing that the creative momentum was highest between 1950 and 1960. The most prolific period was 1958-59 when ALGOL, MAD, VELIAC, COBOL, LISP, and other languages were developed. The 1970s added relatively few significant languages.

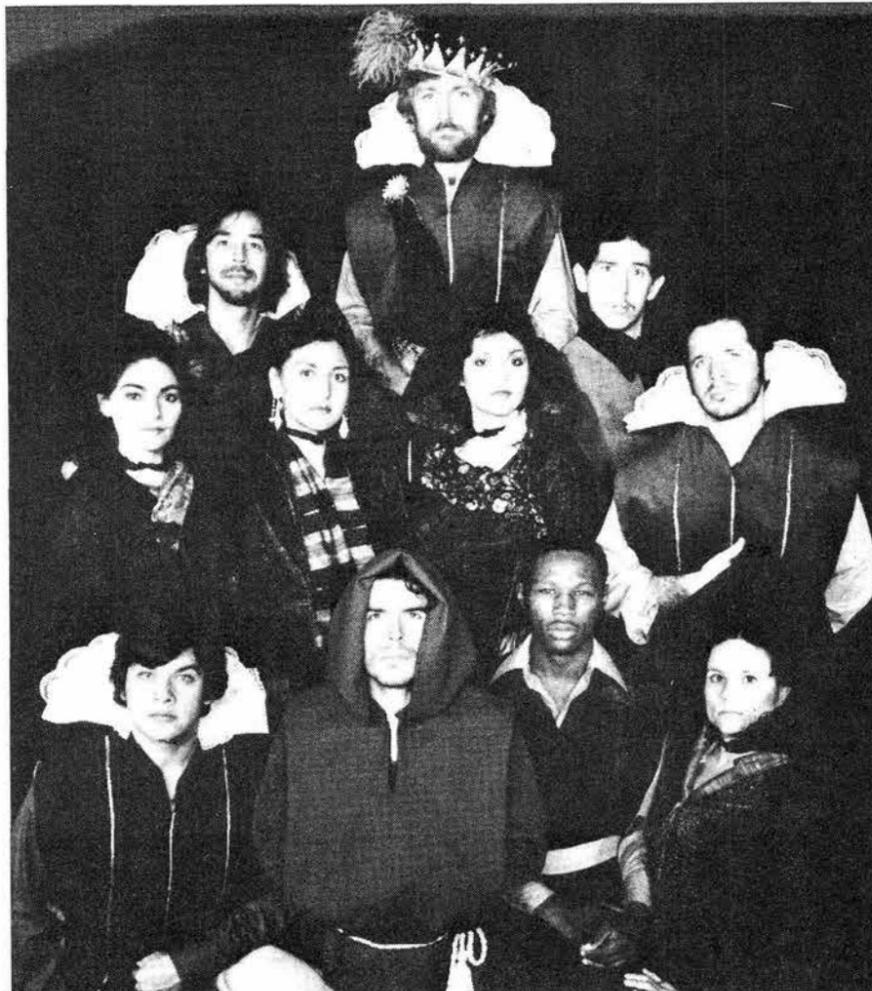
"Language design is fun," she says. "It can help you get a PhD or research contracts."



YOUR AMERICAN EXPRESS CARD PLEASE, MR. PRESIDENT.

The common touch may have led Belisario Betancur to the Colombian presidency but it will not get him into his new weekend retreat, reports Alberto Giraldo in the conservative *El Siglo* of Bogota. Shunning the traditional limousine and chauffeur, the President drove his own car to Hatogrande shortly after his inauguration in August. "But the guards took one look at him, sitting at the wheel of his modest automobile, and refused to admit him," says Giraldo. The President was allowed in only after he showed his driver's license and his bodyguard vouched for him.

World Press Review



THE CAST of La Compañía de Teatro de Albuquerque pose in their roles of the Oñate colonists before undertaking the conquest of New Mexico, part of the group's production of *Nuevo México, Sí!* which plays Sundays at 3 p.m. at Nuestro Teatro, 3211 Central NE.

Our Town

'La Compañía' Theater Group Observes Anniversary

La Compañía de Teatro de Albuquerque, Inc., whose productions have received rave reviews from both critics and audiences, celebrates its first year in its "Nuestro Teatro" home, 3211 Central NE, on Friday, Nov. 19.

It was a year ago that the non-profit group opened its doors with *Nuevo México, Sí!*, a fast-moving musical drama of the history of New Mexico. The show repeats on Nov. 19 at 8 p.m.—the 90th performance of the play, the longest running show in the history of New Mexico theater.

It is an ambitious work told in both Spanish and English, words and music, covering 400 years of history in a two-hour production.

"*Nuevo México, Sí!* has become our bread and butter—the play has enabled us to pay the bills, keep the theater going, and work at our repertory," says José Rodríguez, artistic director and driving force of La Compañía.

Rodríguez, a graduate of the Royal

Academy of Dramatic Art in London, founded La Compañía in January 1977 with Miguel Encinias, then director of the Multicultural Education Program at the University of Albuquerque. Rodríguez, then a member of the Spanish Repertory Company of New York, was at the U of A conducting a workshop in Spanish drama for bilingual student teachers. Since then, the group has struggled and survived, building a solid foundation of dramatic success to become, in part, a professional repertory theater presenting a continuing bill of Spanish drama and original experimental work in both Spanish and English.

Here is the schedule for November:

Friday, Nov. 19, *Nuevo México, Sí!*, 8 p.m.

Saturday, Nov. 20, *O.K.*, 8 p.m. (a romantic comedy in Spanish)

Sunday, Nov. 21, *Nuevo México, Sí!*, 3 p.m.

Friday, Nov. 26, *The Wonderful Ice Cream Suit/Cuentos Nuevomexicanos*, 8 p.m. (*Ice Cream Suit* is by science fiction writer Ray Bradbury in English; *Cuentos* is a collection of New Mexican tales, folklore, and music, an original work by La Compañía member Irene Oliver-Lewis)

Saturday, Nov. 27, *O.K.*, 8 p.m.

Sunday, Nov. 28, *Nuevo México, Sí!*, 3 p.m.

In December, La-Compañía will stage *El Sueño de Navidad del Santero*, a version of the traditional New Mexican nativity play *Los Pastores* which Rodríguez created from many sources. The play will be presented Dec. 9-12 and 16-19 at 8 p.m. at the KiMo Theatre, downtown. Tickets are \$3. Call 256-7164 or 266-3770 for reservations for any of La Compañía's productions.

TAKE THE PLEDGE

On November 18, you can take the pledge! The Great American Smokeout pledge. Quit smoking (or help a friend quit) for one day, November 18. Hundreds of thousands of Americans will join us. How about you? Just cut off the official pledge card, sign it, and carry it with you... you're on your way to one Great American Smokeout day!

Pledge: "I do solemnly swear to give up smoking or help a friend give up smoking for the Great American Smokeout, November 18. I promise not to smoke for 24 hours (and maybe longer), or to help a friend quit."

American Cancer Society



the great



american
smokeout

PLEDGE

sign here



BENEFITS DEPARTMENT MOVED TO BLDG. 832—These familiar faces got together on moving day at the entrance to their new offices. Benefits Administration & Employee Services Division 3543 and Benefits Planning & Pension Fund Management Division 3544 moved last week to the east end of Personnel Bldg. 832. The Equitable Health Care representative is also at the

new location. Retirees or employees who have business with the Benefits department will find reserved parking spaces east of the building. The east entrance has been remodeled and includes easy access for handicapped (a parking space has also been reserved for the handicapped).



DONALD PROCKNOW (third from left), president of Western Electric and a member of Sandia's board of directors, visited Sandia recently. Hosted by Executive Vice-President Al Narath (second from left), Procknow was briefed by Paul Stokes (0311, left) and Vice-President Gene Reed (2000, right) and others during his three-hour visit.

Retiring



June Moore (3141)



INNOVATION, DEDICATION, and creative problem solving are characteristics not only of Sandia engineers and scientists, but of many support people as well. This group was recently recognized for exceptional effort in solving some mechanical problems with Albuquerque Operations' Transportation Safeguards Division road fleet that even the truck manufacturer couldn't handle. From left, Jerry Powell, Rich Wilmesheer, Roy Rogers, Section Supervisor Bill Rose, Division Supervisor Ray Beall (all 3421), and Rick Sneddon, who presented the personal and organizational awards for the DOE.



Marge Rabel (3418)

Ballard Paintings In Two Shows This Month

Doug Ballard, supervisor of Nondestructive Testing Division 7551, continues to paint, and paint, and paint. Doug was one of the 155 professional artists and craftsmen who participated in the invitational Southwest Arts & Crafts Festival held earlier this month. He exhibited realistic watercolors of the Southwest.

Currently, Doug, his wife Pat, and son Steve have a three-person Ballard family show at Fuller Lodge Art Center in Los Alamos. The show, which opened on Nov. 11 and runs through Dec. 5, features 10 watercolors of early Los Alamos scenes as Doug remembers them from the 1945-48 period. He also has other contemporary Southwestern watercolors. Steve is exhibiting recent bronze sculptures, and Pat is displaying her impressionistic watercolors of the Southwest.

Readers will recall that Doug's painting of the church at Las Trampas was the LAB NEWS Christmas cover last year. In addition to the shows that Doug participates in, he supplies paintings for galleries that handle his work around the state.

Events Calendar

Nov. 12-13—NM Symphony Orchestra concert, guest conductor Margaret Hillis, Chicago Symphony; 8:15 p.m., Popejoy.

Nov. 13-14—Collector's Show Case, show and sale, State Fair Ag. Bldg.

Nov. 14-March 5—Forty-Fifth Anniversary Exhibition: "Woven Holy People"—sandpainting textiles from the museum collection, Wheelwright Museum of the American Indian, Santa Fe.

Nov. 17—Travel Adventure film, "Virginia," 7:30 p.m., Popejoy.

Nov. 18—Chamber Music Concert, 8:15 p.m., Keller Hall, UNM.

Nov. 20—"Pirin," the National Folk Festival of Bulgaria, 8:15 p.m., Popejoy.

Nov. 20—Holiday Arts and Crafts Bazaar: gifts, decorating needs, Indian fry bread, Navajo tacos, refreshments, baked goods; 9 a.m. to 4 p.m., Cleveland Mid School, 6910 Natalie NE (Louisiana & Montgomery).

Nov. 20-21—"Hansel and Gretel," special holiday presentation by the Albuquerque Opera Theater, 8:15 p.m., matinee on Sun., 2:15 p.m., KiMo.

Nov. 20-21—Christmas Flower Show, Uptown Garden Club, free, 2-6 p.m. Sat; 11-5 on Sun., Albuquerque Garden Center, 296-6020.

Nov. 21—Audubon Wildlife film, "Vancouver Island," 7:30 p.m., Popejoy.

Nov. 26-28—The Nutcracker Ballet, NM Symphony Orchestra, 7:30 p.m., 2 p.m. matinee on Sun., Popejoy.

Dec. 3—Chamber Orchestra of Albuquerque concert, 8:15 p.m., Albuquerque Little Theatre, 224 San Pasquale SW.



DOUG BALLARD (7551) at his booth at the recent Southwest Arts & Crafts Festival. The painting Doug is holding is one of his watercolors featured at his current show at the Fuller Lodge Art Center in Los Alamos. Doug worked at LASL in the mid-40s, and has painted scenes as he remembers them from that period. This painting depicts the "Big House," which was used as temporary housing for newly arrived employees.

Fun & Games

Bowling—Sandia Bowling Association held its first tournament of the year (a no-tap affair) at Fiesta Lanes on Oct. 23 and 24. DOE bowlers swept all the categories. Tournament winners were Fran (CTID) and Pat Sanchez-Conroy with a 1519 score. Pat also took high game for men with 266. Carl Hilton, husband of Barbara (FMD), had high series for men with 722. Dee Schumpert (FMD) had both high game and high series for women with 255 and 677. SBA hopes to increase tournament entries this year. So if you are interested in joining, call Jan Sisneros (DOE/OPA) on 4-6938 or Ray Letourneau (9333) on 4-6360.

* * *

Walking/Running—Runners and walkers can sign up now at either Base gym for the Nov. 22 Turkey Trot, a fun run and walk. Events include a 5000-meter walk at 11 a.m. and a 5000-meter run at 11:45. Start and finish is south of the Olympic pool. All finishers will be eligible for a prize drawing. More details from Sgt. Hausman on 4-1818 or 4-1025.

* * *

Swimming—If you or one of your dependents has past experience on a swim team and is interested in competitive swimming again, join the 60 swimmers in the Kirtland Aquatic Club. The team is divided into a masters program for those over 21 and an age group program for those from 6 through 21. Practice is from 7 to 8:30 weekday evenings and from 8 to

9:30 Saturday mornings. Age group swimmers with competitive experience in ages 8 through 14 are especially welcome. So are masters swimmers. The Club has the lowest dues in town—\$5 per month. For more info, call head coach Harvey Beavers on 4-9091.

* * *

Hockey—Albuquerque's hockey teams, all age groups, are seeking new players. Carolyn Swenson, manager of Iceland, announces that hockey for youth and senior age groups is beginning now. Hockey programs at Iceland currently have players from age 5 to over 60. Some teams play all games at home while other travel throughout the Rocky Mountains. Although most play regular contact rules, some groups have limited contact provisions. Anyone interested in playing is urged to call Carolyn, 266-7939 or 294-0261, for details.

* * *

Triathlon—The sixth annual Jay Benson Memorial triathlon saw Ron McCurley take first-place honors with a 61-minute, 25-second time. Ron has won the event every year. Among Sandians, Jackie Snyder (2341) took first in women's 20-29 with a 70:40 time, Mary Altherr (wife of Robert, 7471) first in women's 40-and-up with 108:22, Jack Tischhauser (2640) second in men's 50-59 with 87:44, and John Shunny (ret.) third in the same category with 104:13. Event director Tom Lenz reports that 112 people finished the run-bike-swim competition.

MILEPOSTS

LAB NEWS

NOVEMBER 1982

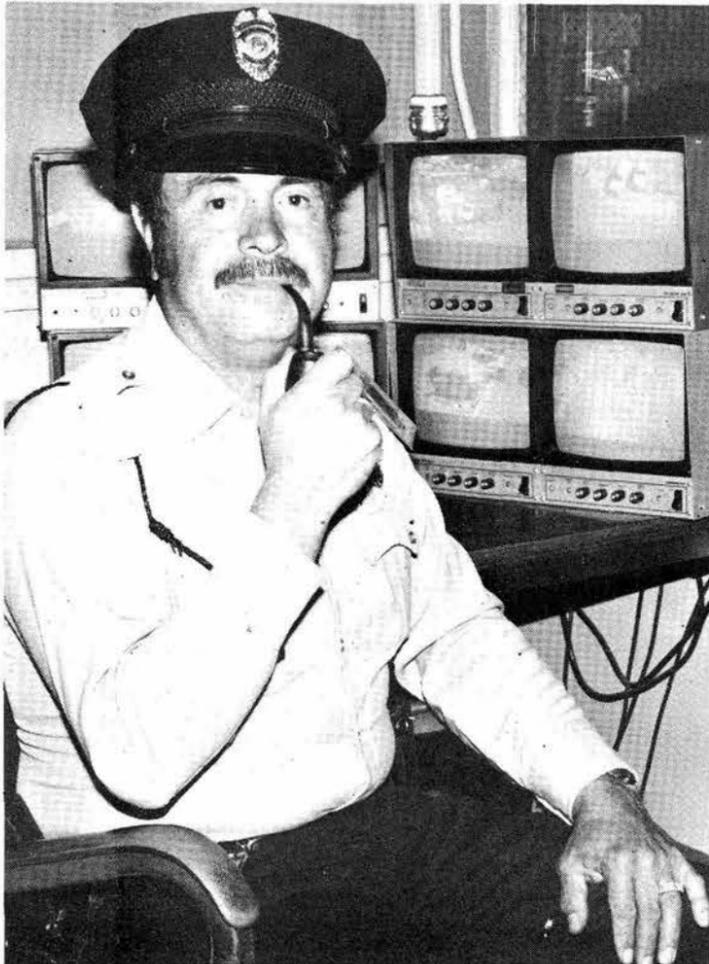


Dorothy Marklin - 7424 25



Ed Hart - 2511

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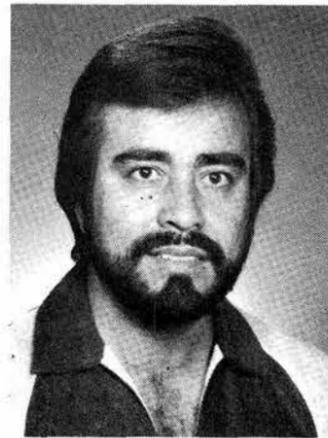


Jake Aragon - 3435

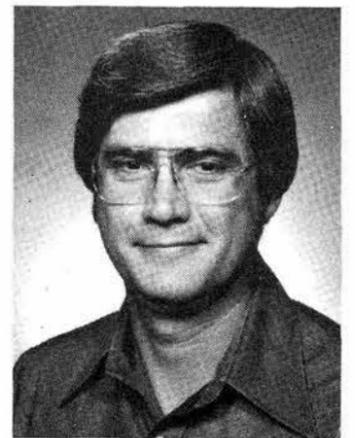
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Chuck Collier - 7424 20



Charles Gutierrez - 7472 10

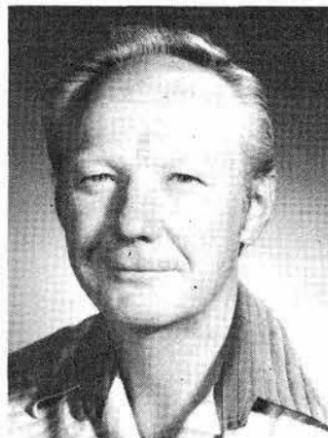


Delmar Klinetobe - 2457 15



Ed Vavro - 7472

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Milo Navratil - 7584

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Everett Gieseke - 9334

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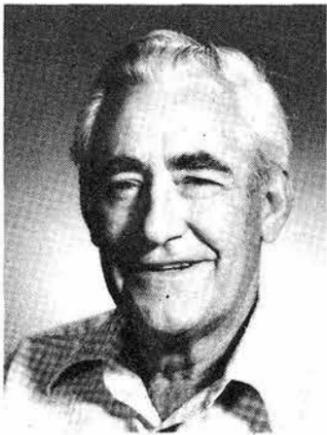
Bud Leonard - 3423

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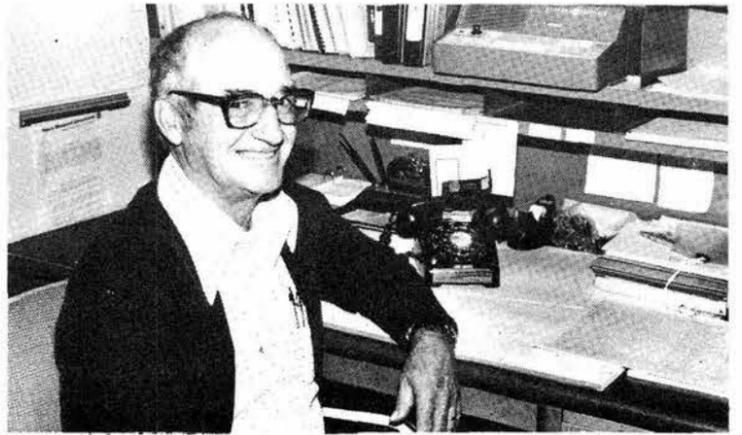
Nena Brannan - 3152

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Bob Kindley - 9314

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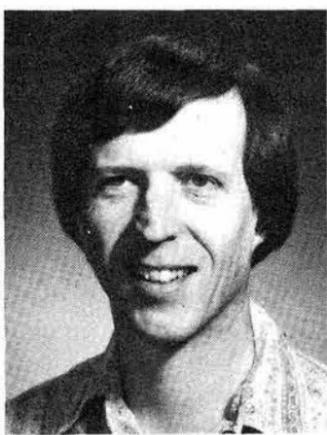
Curley Saxton - 7556

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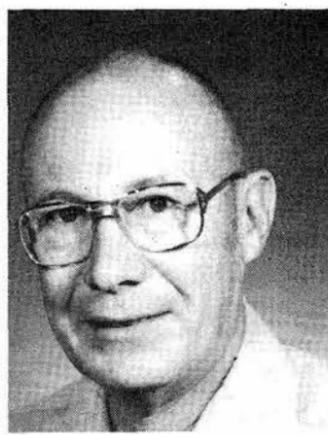
Bob Scalf - 7474

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Fred Bailey - 9254

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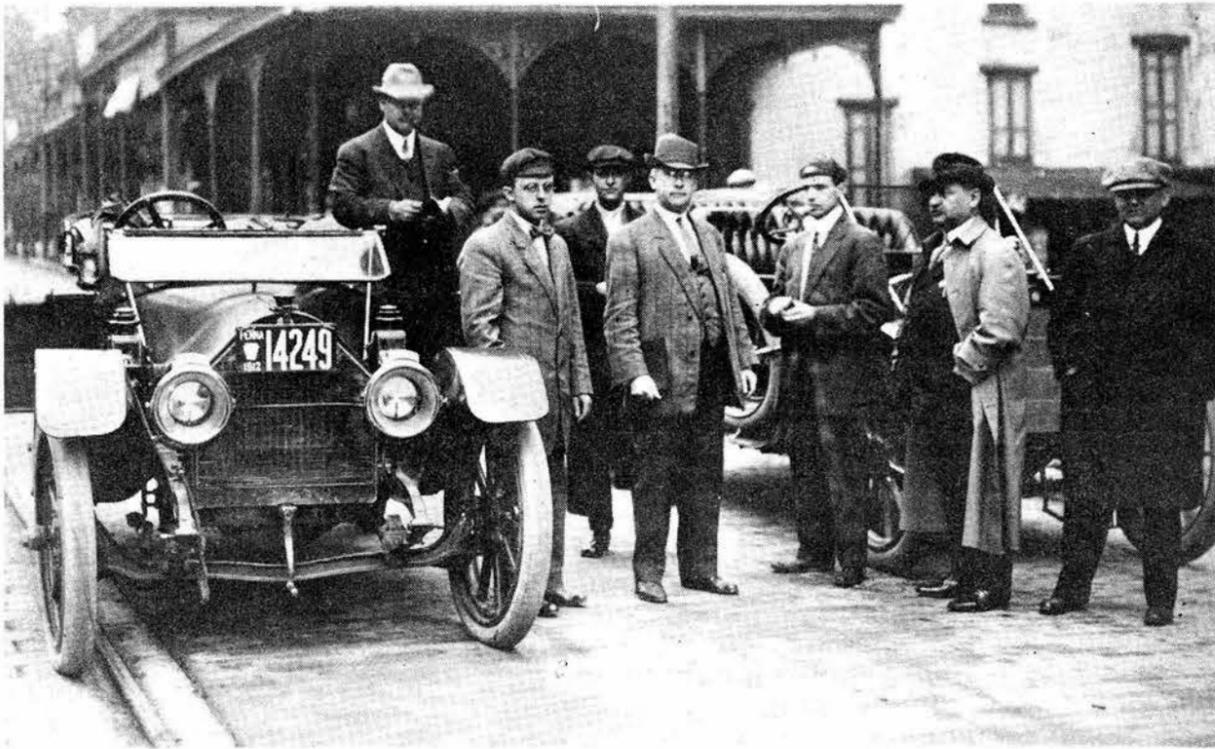
Jess Harness - 1233

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Jim Baremore - 9251

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My Favorite Old Photo

[Do you have a favorite old photo? Bring it by LAB NEWS, MO125, and tell us about it.]

MY FATHER (center) was a druggist for 50 years and an amateur photographer. Born in North Carolina in 1872, he went north when he was 18. The car has carbide lights, right-hand drive, and a 1912 license plate. I don't know most of the men in the photo, but that's a Senator Thompson of Pennsylvania second from the right.

H. H. Dancy, Jr. (retired)

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 (MO125).

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

NEW SHIPMENT: T-shirts w/new design, matching caps, \$6 ea.; new & used books; magazines, 10 cents ea. South Highway 14 Village Project, LAB NEWS, MO-125.

VOLVO 1972 140 series service manual (free); aux. gas tank for Volvo wagon w/fittings & pump, \$20. Berg, 296-2695.

SINCLAIR ZX-81 computer w/manual & power supply, \$75; ¼" drive socket set (Bonney) w/ratchets & extensions. Murray, 255-3421.

METAL GARAGE door, 8'x7', all hdw., \$25; fp grate, never used, 22"L, 16"W, 10" h, ¼" rebar, \$25; 25,000 BTU Autocrat gas heater, 26"h, 27"w, 11" deep, \$25. Benton, 877-2473.

ADMIRAL refrigerator, white, \$100. Armijo, 256-3895.

JEWELRY: man's diamond ring, .45K; man's diamond cluster ring; woman's clip-on diamond bracelet, .75K, make offer, sell below appraisal. Flores, 266-8482.

IBM elec. business typewriter, extra-wide carriage, \$150; Royal port. typewriter, needs adjusting, \$50. Cano, 296-6955.

TWO birdcages; 2 10-gal. aquariums w/stands; patio umbrella table. Carlson, 299-3331 afternoons.

CHAINS for 15" wheels, set of 2. Rainhart, 821-3690.

MAPLE twin beds, complete, \$300; matching Early American lamps, \$40; elec. dryer, \$75; U-Haul packing boxes, \$1 ea. Troy, 821-6812.

NEW COUCH, 72", wood frame, loose pillows, gold/orange tweed, best offer. Wilson, 298-6427 or 296-5965.

CAR CHAINS, never used, \$22; trailer mirrors for car, \$20; 1980 Buick Skylark service manual, \$8. Bliss, 296-3752.

MORSE port. sewing machine, deluxe, \$140; new 30" Sears gas range, \$350; twin bed, iron frame on casters, new box springs & mattress, \$150; new lamp, \$125. Sanchez, 298-4803.

SKI BOOTS, size 6, Unifit Rieker, \$30; Kodak Ektralite 10 camera w/electronic flash, \$10; boys' clothes, size 12; basketball backboard w/ring, \$15. Rodriguez, 296-3277.

BISSELL carpet machine, used twice, \$70; Mont. Ward upright vacuum cleaner, \$45; Sears Kenmore canister vacuum, \$20; white metal storm door w/wrought iron trim, \$25. Gatto, 298-8493 after 5.

BUMPER POOL TABLE. Walters, 293-5381.

CROSS COUNTRY SKIS, 200cm. & poles, never used, \$30; electric sweeper broom, \$10; stereo amplifier w/speakers, turntable, \$25. Shunny, 265-1620.

SCUBA DIVER'S swim fins, Scuba Pro brand, med. size, \$15. Smith, 296-1908.

FIAT 850 Spider engine, \$300; radiator, \$25; waterpump & fan assembly, \$30; Conn Trumpet, B-flat w/case & 3 mutes, \$200. Crompton, 299-5569.

FURNITURE: matching rocker & overstuffed chair w/ottoman, \$150; off-white wingback chair w/hassock, \$125; 4 matching wood tables, \$60; ceramic lamp, \$25. Gourley, 296-5700.

OSCILLOSCOPE, Heathkit IO-450 dual-trace, 10 MHz, \$300. Turner, 293-8938.

RADIAL ARM SAW, Mont. Ward, unique design uses port. power hand saw (most brands adaptable), \$75. Bear, 881-7128.

NEW utility trailer, 4'x5', \$325. Wray, 345-7409.

8½' CAVALIER CAMPER, 2-bowl sink, 3-burner stove, ice box, porta-potti, elec. water pump, storage, sleeps 4, loading jacks available. Baughman, 884-5082.

GIBSON BASS, acoustic bass amp, microphone & stand, all \$600, firm; beauty shop chairs. Marquez, 877-4928.

4 FORD truck rims, 15", 5-hole, \$30. Richerson, 298-0005.

AMT .45 auto stainless steel slide, lowered ejection port, S.S. barrel bushing, complete w/sights, \$65 or trade for Colt slide. Healer, 298-6967.

FREE to good home, Shepherd-cross female, approx. 6 mos. old. Ehlinger, 255-1851.

1 PR. L60x14 tires on white spoke wheels, \$55; Westinghouse elec. stove, 30"x36", copper-tone, for cabinet built-in, \$60. Nelson, 881-0148.

CROSS COUNTRY SKIS: 2 pr., wood w/cable bindings & poles, 190cm/\$55, 205cm/\$65. Zeuch, 296-4969.

DYNAFIT ski boots, size 12½, men's, \$35. Wright, 296-3850.

ARCHERY equip. for hunter or target shooter: bows, arrows, accessories. Tessler, 296-7587.

PERSIAN kittens, red mackerel, reg. pedigree, 6 wks. old, \$100 ea. Martin, 292-3980.

B&W enlarger, lens, timer, easel, safe light, trays, thermometer, & Kodak dark room manual, \$175. Boultinghouse, 298-3458.

PIANO, reconditioned, antique upright, \$875. Adams, 881-6836.

TRUNDLE BED, w/frame & mattresses, \$125; dbl. maple bed, complete, w/box springs, \$125 or make offer. Bolin, 299-5880.

FIREPLACE equipment: brass screen w/curtain & tools, \$15; cast iron grates, \$8 to \$5. Crowther, 821-0172.

SKI BOOTS, Raichle, size 5½, white; \$165 new, used 2 yrs., \$40. Brass, 299-6016.

TWO-STATE oxy-acetylene torch, \$140; Bell 500 helmet, 7½, \$40; engine stand, \$80; Simpson 260 meter, \$40; hand truck, \$20. Murata, 881-8459.

RUG & PAD, 15'x16', \$100; dinette set, drop leaf, \$75; couch, \$100; reclining chair, \$75; small desk, \$45. Adams, 296-3938.

TWO GR15-78 snow tires, used 500 miles, \$40 ea.; Frigidaire washer/dryer, copper, \$125/set. Bell, 821-7148.

PERMANENT reg. Appaloosa mare, excellent pedigree, gentle, for show, 4H, breeding, or pleasure. Harker, 281-3435.

CHAIRS, Spanish Mediterranean occasional, \$50 & \$75; contemporary upholstered, \$75; carpeting, \$50. Sons, 294-3953.

SEARS 3hp elec. lawn mower w/grass catcher, \$150. Marder, 883-3863.

PORT. manual typewriter, Webster by Brothers, \$35. Chorley, 296-1454.

TOOLBOX for wide bed pickup, \$20; front bumper for '73 or newer Chevy pickup, \$30; stepbumper for wide bed, \$25. Aragon, 294-0225.

SIMMONS rollaway; Toastmaster elec. heater; Remington 7mm magnum w/scope; Bean pullover parka; rain poncho; other hunting supplies. Bailey, 294-4218.

BEDROOM suite: solid maple headboard, lingerie chest, dresser/mirror, nightstand, bedframe, & full-size mattress. Chavez, 298-2405.

TIRES: Chevy truck tire, 6-hole, L-70-15 Triaxton, steel belted, mounted, \$50; new polyester 8.55-14, \$30. Gonzales, 247-9406.

TEKTRONIX test equip: dual trace scope, digital multimeter, frequency counter, power supply, signal generator, case, cables & manuals, \$2850. Lohkamp, 298-6494 after 5.

HEATILATORS: one w/blower, \$25; one passive, \$5; 4-post fluorescent fixture w/2 bulbs, \$20. Miyoshi, 821-9118.

TAPPAN refrig., yellow, 19 cu. ft., 6 yrs. old, ice maker, \$250. Yaniv, 294-4490.

AKAI X330D 10" tape deck; 15-10" reels of tape; 13 empty 10" reels; cables, supplies, \$300. Hufnagel, 294-5949.

GAFFERS-STATLER table top gas range & built-in oven; dbl. kitchen sink w/faucets; Sears food processor. George, 821-9668.

LUGGAGE: American Tourister Triumph, 26" pullman, soft side, steel frame, brown, expandable, washable, used once. Buss, 298-1589.

TUBELESS bicycle tires, new, 26x1.75, 24x1.75, \$4 ea. Stang, 256-7793.

TWO LOBO basketball season tickets, Section 17, Row 14, seats 35 & 36. \$173.50. Lovato, 299-1375.

TRANSPORTATION

'82 KAWASAKI 1000R, manufactured as a box stock racer, has incomparable handling & performance characteristics, 4700 miles. Rein, 293-6539.

'77 CHRYSLER Cordoba, PS, PB, AM-FM-8TK, 36K miles, moon roof, \$2450. Cleveland, 299-7420.

'55 CHEVROLET 2-dr. sedan, 350, 4-spd.; new tires, wheels, paint, interior, etc., serious inquiries only, \$4500. Bisbee, 293-0356.

'71 VW bus, 20K on new big bore engine, AC, 7-pass., \$3450 firm. Knotek, 296-6291.

NEW 10-SPD. OMNI II bicycle, never used, water decanter mounted on side, best offer. Leyba, 883-5554.

'53 FORD Victoria HT, \$800. Herrera, 836-1768 after 5:30.

'78 YAMAHA DT100E w/dirt bike tires, \$475 or best offer. Parks, 884-7475 after 5.

'74 CHEV. Caprice, PS, PB, AT, \$550. Marquez, 344-8455.

'73 FORD Galaxie, low mileage, AC, PS, PB, V8, reg. gas, one owner. Schamann, 298-5192.

'76 TRIUMPH TR7, AM/FM/8TK, AC, \$300 below NADA retail. Holmes, 292-0898.

'78 YAMAHA YZ80, \$400. Wright, 296-3850.

'56 T-BIRD, AT, convertible w/HT, continental wheel kit, peacock blue. Sandoval, 293-6261.

'80 MUSTANG 2.3L, AT, AM-FM cassette, 19200 miles, \$4225 trade-in price. Stang, 256-7793.

'81 SUZUKI PE 250, purchased new August, 200 mi., never raced, \$1650. Turner, 293-8938.

MOTOCROSS bicycle, Roger De-coster, Tuff wheels, Ashtabula cranks, Messenger seat, knobby tires, thornproof tubes, 3 yrs. old, \$130. Leeman, 299-9149.

'81 VW Wanagan camper, beige, AC, AM-FM cassette, low mileage, \$12,500. Alvarez, 821-6817 after 4.

'68 GMC pickup, ¾-ton w/8x10½ cabover camper, jacks & trailer hitch, \$1450. Copus, 294-4943 after 5.

'78 TOYOTA Corolla lift back, 5-spd., AC, radio cassette stereo, 43K miles, avail. Dec. 7, \$3500. Herter, 255-4625.

'73 WINNEBAGO, 24', 3 new tires, new batteries, water heater, water tank, plumbing, self-contained, sleeps 6, \$9500. Bell, 821-7148.

'80 YAMAHA 100MX, new, approx. 25 miles; 4 ea. all terrain tires, 33x12.5 R15 w/spoked chrome rims for Ford 250. Johnson, 293-3442 after 6.

'65 CORVAIR, 2-dr., AT, orig. paint, under 60K miles, \$2250. Morgan, 299-2850.

'72 JEEP Commando, 4-wd, V6, rebuilt engine, 3-spd., \$1000 or best offer. Tomasko, 821-6972.

'70 MGB conv. HT & ST, AM-FM. Johnson, 298-1011.

'79 SUZUKI GS750, some accident damage but rideable, best offer. Prevender, 299-5253.

'70 CAMARO Custom, PS, PB, AC, AM-FM radio & cassette player, CB. Drebing, 266-6688 after 6.

'80 PLYMOUTH Champ, 4-spd. manual w/OD, AC, AM, silver exterior,

new radials, \$3800. McDowell, 292-1099.

'64 CHEVELLE stn. wgn., green, 6-cyl., orig. owner, low mileage, 4-dr., parts replaced, new tires, \$600/best reasonable offer. Hitchcock, 294-5153.

'72 CHEVROLET pickup, ½-ton, 4-wd., 4-spd., SWB, 350-V8, radio. Weems, 281-5837.

'66 VW, rebuilt engine, needs trans., best offer. Monson, 298-7969.

REAL ESTATE

SPLIT LEVEL 4-bdr., \$72K, assume 7½% loan if income under \$33K & not house owner 3 yrs. Shelton, 255-8264.

'78 SCHULT mobile home, 14'x66', 2-bdr., 2 bath, fenced yard, carport, adult park near Wyo. gate. Gallaway, 268-0463.

LOS RANCHOS VILLAGE, approx. 1 acre in El Caballero Norte, a private subdivision of custom homes, \$50K, terms. Assink, 345-2957.

LUXURY 3-bdr. condominium in Chicago, carpet, custom drapes, 2 baths, W/D, all elec.; MIA appraisal \$185,000, sell for \$155,000. Lee, 884-3224.

TRIPLEX located near San Mateo & Gibson, \$67,000 financed at 11.5%. Harris, 821-8524 or 294-2651 after 5.

3-BDR., 2 bath, 1850 sq. ft., NE (Eastridge), end of cul-de-sac, landscaped w/sprinklers, RV parking, low \$80s, assumable 8½%, financing available. Reif, 299-2665.

3-BDR., 10½% assumable FHA, near UNM, law & med schools, dbl. garage, remodeled kitchen, fruit trees. Bryant, 266-6166.

WANTED

HOMES for male Golden Retriever & spayed female Labrador, 18 mos., all shots. West, 281-3091.

GAS powered, rear bagger, rotary lawn mower w/height adjustments, preferably self-propelled. Dowd, 299-8473.

GARAGE DOOR, 7' x 9' new or used in good condition. Mitchell, 865-7941 after 5:30.

GARAGE SPACE for temporary storage of automobile, prefer NE heights. Bisbee, 293-0356.

SUBARU w/4-wd and 30,000 or less miles. Shunny, 265-1620.

TWO speaker jacks for old Grundig stereo; also information about servicing or repairing these gems. Eversgerd, 897-0544.

REAR BUMPER for a '67 GTO or any information on possible source. Graham, 1-864-1960, Belen.

PANORAMIC CAMERA; Olympus Pen F half frame camera. Mattox, 821-3945.

DEER HIDES, any size or condition. Wade, 869-3934.

WORK WANTED

STUDENTS WANT rototilling, raking, stump removal, light hauling or any other yard work. Tom, 881-2395, or Paul Holt, 294-6928.

Mexican Food Fiesta Tonight

CHILI LOVERS, if you need your green chili fix, tonight is the night. Chef Hank Perez is coming on with beef, cheese and chicken enchiladas, carne adovada, tamales, sopapillas, both red and green chili, salsa, Spanish rice, refried beans, and cold gazpacho soup—all this for \$5.95, \$3 for kids 12 and under. The Apple Mountain crew, an offshoot of the Watermelon Mountain Jug Band, is on the stage playing country and western music while special Happy Hour prices are in effect all evening.

NEXT FRIDAY, Nov. 19, is a seafood spectacular—oysters, scallops, cod, salmon, shrimp, Creole vegetables, hush puppies and salad bar. Members pay \$6.25, kids, \$3.50. On the bandstand is a show band with singer Steve O'Neill.

THE BIG ONE this month is Lobster Night on Saturday, Nov. 20. The best possible price on an 8- to 10-ounce lobster tail these days is \$11.50. On the bandstand is Marci and the Talkabouts, one of the most danceable groups in the city, playing a versatile variety of tunes to please the young ones and the older young ones. Reservations are required—call 265-6791 and pick up your tickets by Nov. 19.

A SPECIAL HAPPY HOUR marks the beginning of the Thanksgiving break on Wednesday, Nov. 24. Alex Montoya, an extraordinary piano man, will entertain in the main lounge, with an adjacent portable dance floor in the dining room area. Happy Hour prices start right after work.

TALK TRAVEL with Shirley McKenzie (2432) in the lobby tonight between 5 and 6. She's putting together plans for a new season of tours, and she wants to know where you would like to go. In the meantime, sign up for the Las Vegas package during the Christmas holidays. Go



SEEING THE CITY during his recent visit here was Charles Brown, chairman of the board of AT&T. He was a passenger on Charlie Hines' (3154) balloon, the Sunny Honey. (Photo by Bill Laskar)

by bus Dec. 26-29 for \$105 or by air Dec. 26-28 for \$138. Both packages include lodging at the Maxim Hotel and a tour of Hoover Dam.

NOW IS not too soon to think about several upcoming events in December. First, mark your calendar for Saturday, Dec. 4, the night of the Club's all-member Holiday Ball. This semi-formal dinner dance features Phil Lenk with an eight-piece orchestra playing the old tunes and the best of the new tunes with strange instruments like trumpets, trombones, and saxophones. In addition, there'll be an outstanding buffet and an elegant style show from Kistler-Collister displaying evening dresses, furs, and gentlemen's attire.

The annual Kids' Christmas Party is set for Saturday, Dec. 11, starting at 10 a.m. Ron and Mary Kay will be there with their puppets, along with Santa Claus.

The New Year's Blast upstairs and downstairs is set for New Year's Eve, naturally, Friday, Dec. 31. It's a package buy—\$37 per couple which includes admission, funny hats and noise makers, dancing, champagne, breakfast, and an open bar all evening. Reservations, please.

CORONADO SKI CLUB meets Tuesday, Nov. 16, for a social hour at 7, business at 7:30. The program features Paul and Kay Souder discussing Purgatory Ski Area. Movies and door prizes are also scheduled.

The group's Lake Tahoe ski trip is still on. Cost is \$470; deadline to sign up is Nov. 30. Call Pat Cox, 6-0160, or Milo Navratil, 4-1046, for details.



(Cartoon by Jeff McDowell, 9252)

LAB NEWS Schedule

Thanksgiving Day is Nov. 25, Energy Conservation Day Nov. 26, and the Christmas shutdown Dec. 24 through Jan. 2. Therefore, LAB NEWS publication dates are Dec. 3, Dec. 17, and Jan. 7. Deadlines for ads and other submissions for those three issues are noon on Nov. 24, Dec. 10, and Dec. 23, respectively.