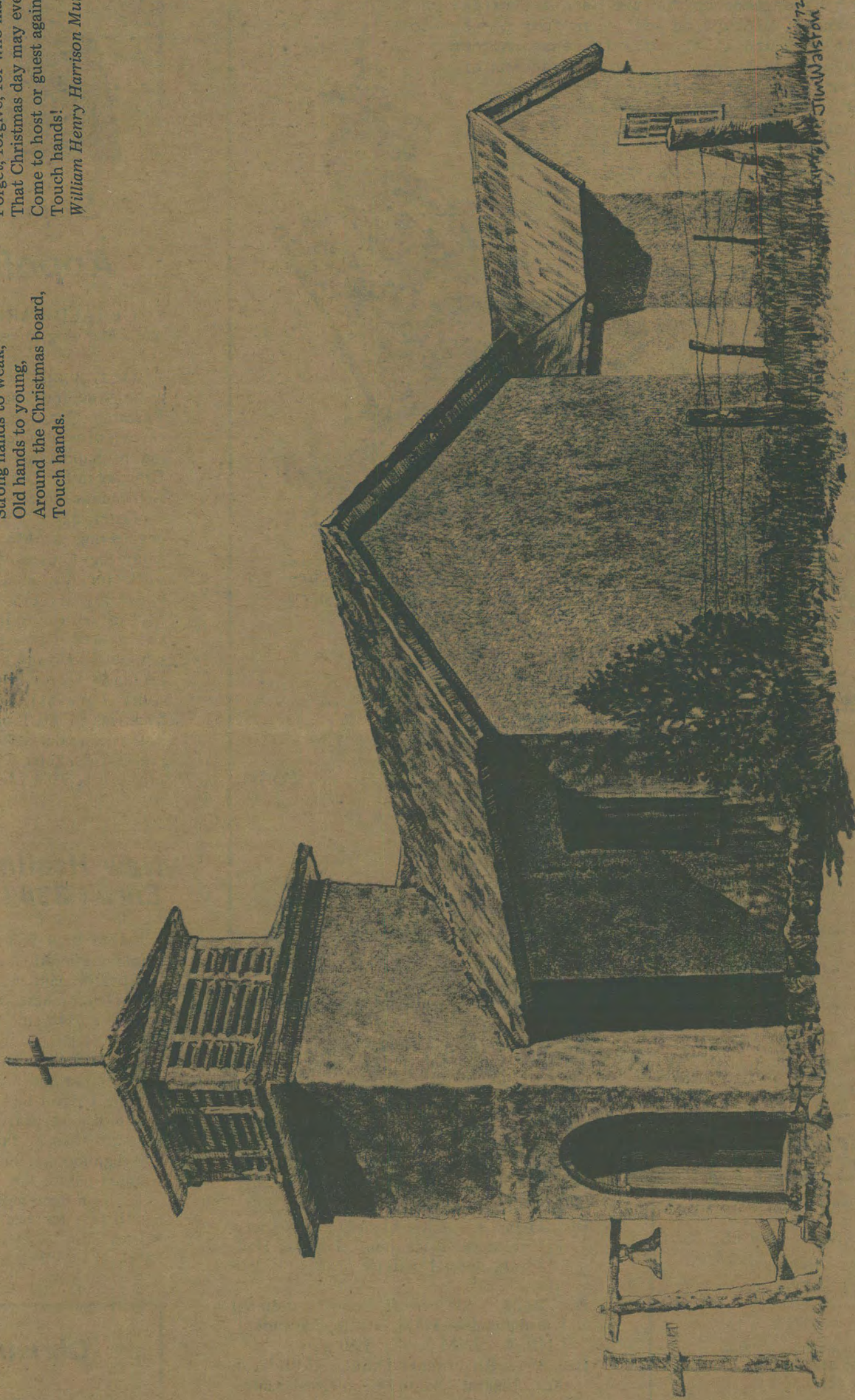


Ah friends, dear friends,
How fast the guests do go.
Touch hands, touch hands
With those that stay--
Strong hands to weak,
Old hands to young,
Around the Christmas board,
Touch hands.

The false forget,
The foe forgive, for every guest
Will go and every fire burn low
And cabin empty stand.
Forget, forgive, for who may say
That Christmas day may ever
Come to host or guest again.
Touch hands!
William Henry Harrison Murray



Afterthoughts

Man's Inhumanity To Man--From the Journal: "With per capita cigarette smoking by Americans up for the second straight year, total U.S. cigarette production will rise four percent to a new record in 1972 and likely will increase another two to four percent next year..." At this season of the year it's more or less de rigeur that we look for the silver lining in order to be joyous. Well, no one likes perfection in his fellows, right? Sainly types tend to the tedious. And what we have here--more Americans smoking more cigarettes--certainly isn't perfection. So the way to view these dismal statistics is to think of them as representing that redeeming quality called human folly. They're out there puffing away--but they're only human.

* * *

'Tis The Season To Be Greedy--

With shoplifting reaching epidemic heights (depths?), it's just a matter of time 'till movies and TV romanticize the profession and its practitioners. If a platoon of cutthroats like Jesse James & Co., or a homicidal psychopath like Billy the Kid can somehow emerge on our screens as sort of lovable, then it should be no trick at all to turn that high school kid in K-Mart furtively lifting his/her favorite record album into a genuine folk hero. Might even be a good TV series--the "Rip-Off Squad" maybe?

* * *

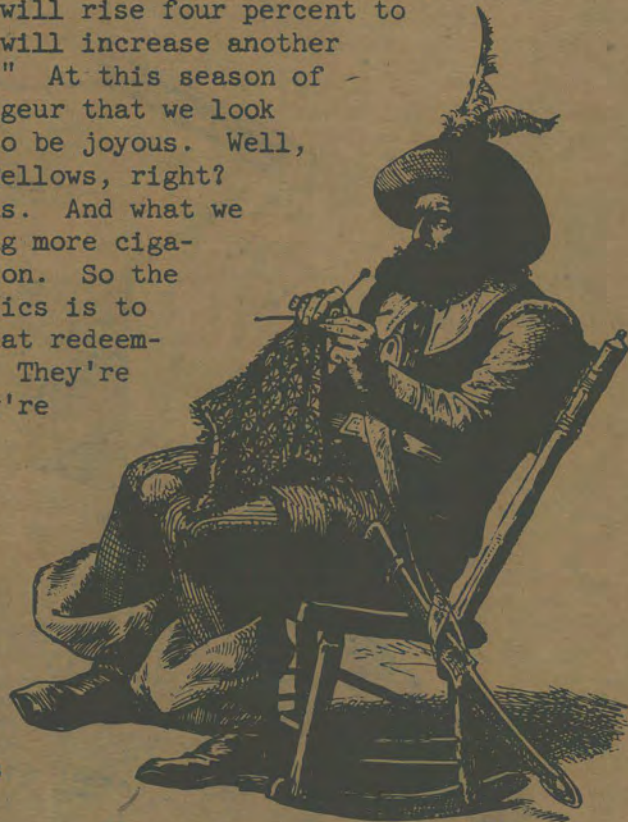
Ave Atque Vale--

The traffic-controlling MP
Is a sight we won't again see;
He's replaced by a light
Not really quite bright--
But 'tis the Provost Marshal's decree. (bh)

* * *

Merry Christmas
To All Authorized Personnel

*js



Supervisory Appointment

GERALD BARR to supervisor, Experiment Planning Division 9114, effective Nov. 16.

Gerry joined the Labs in September 1967 as a structural analyst in Solid Dynamics Research Department. He has been in his current division since April 1970. Before coming to Sandia he worked with McDonnell Douglas in St. Louis and General Dynamics Astronautics in San Diego.

Gerry has a BS degree in aeronautical engineering, an MS and PhD in ME — all from the University of Kansas. Research work for his doctorate was done at the University of Texas. "I was working in the field of aeroelastic instabilities of cylindrical shells, and when my professor changed schools, I followed him," Gerry says. He and his family are enthusiastic about any outdoor sport. "We ski, hunt, run rivers, hike, backpack — anything that keeps us outside," he says. The Barrs, Gerry and wife Laurie, 11-year-old daughter Kelly, and 4-year-old son Jon, live at 7304 Mc Nerney Ave. NE.

New Health Programs Enroll 3380 Sandians

More than half of Sandia Laboratories employees in Albuquerque signed up for the new health maintenance programs offered for the first time here last month.

Some 653 employees chose the Lovelace-Bataan Health Program while 2727 selected MASTERCARE, the program affiliated with Presbyterian and St. Joseph's hospitals.

The payroll deductions for the pre-paid health service start this month. Coverage becomes effective Jan. 1. Identification cards and handbooks for the plans will be distributed before Jan. 1.

Livemore employees were offered a health maintenance program — named the Kaiser Plan — last January and some 285 Sandians enrolled.

Events Calendar

Dec. 22-23, 29-30 — "You're A Good Man Charlie Brown," Music Theater at Kimo Theater, 8:15 p.m.

Dec. 23 — Basketball: UNM vs. Colorado, at UNM Arena, 7:30 p.m.

Christmas Eve — Kachina and night procession with bonfires, Taos Pueblo.

Dec. 24 — NM Mt. Club, North Sandias hike, Gulf Mart, 8:30 a.m.

Christmas Day — Dances, most pueblos.

Dec. 26 — Turtle Dance, San Juan Pueblo. Matchines Dance, Taos Pueblo.

Dec. 26-Jan. 1 — Civic Light Opera Association presents "Brigadoon," Popejoy Hall, 8:15 p.m. Special matinee on Jan. 1, 2:15 p.m.

Dec. 29-30 — Basketball: Lobo Invitational Tournament — Tulsa, Seattle, Dartmouth, UNM — UNM Arena, 7:30 p.m.

Dec. 29 — Roadrunner Theater, "Murder in the Cathedral," Santa Fe Liturgical Center, 8 p.m.

Jan. 1 — NM Mt. Club, Old La Bajada Hill, Gulf Mart, 9 a.m.

Jan. 7 — NM Mt. Club, Del Agua in Sandias, Gulf Mart, 9 a.m.

Jan. 8 — Travel Film, "Inside Red China," Popejoy Hall, 7:30 p.m.

Jan. 9 — Audubon Wildlife Film Series, "The Land No One Wanted," (public lands in the West), Popejoy Hall, 7:30 p.m.

LAB NEWS

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SANDIA LABORATORIES

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&

don graham ass't. editor

bruce hawkinson writes
as does norma taylor while
bill laskar takes/makes pictures

&

in livermore lorena schneider does all

Christmas Art

Our Christmas cover was drawn by Jim Walston, an artist in Technical Art Division 3155. The church is a real one, and it stands in Pinos Altos, a village just to the north of Silver City. In his free time, Jim draws more people than objects, and the little Indian girl on page 14 is also his work.

A Talk with Morgan Sparks

The Labs' new president came to Sandia last October. Immersed in the task of learning about Sandia, Morgan Sparks is not yet a familiar figure to people at the Labs, and we spent some time with him recently in order to pass on to LAB NEWS readers this view of the person who is our new president.

* * *

Morgan Sparks is a calm man who speaks unhurriedly and with assurance. He listens attentively and considers his response before giving it. In what must be a stressful job, he appears relaxed and I believe *is* relaxed. By admission, though, he is putting in long hours, as he puts it, "... trying to get my hands around this job."

In appearance, he ranges somewhat above average in height, is partially bald with greying hair, has square shoulders and a flat stomach. He conveys a vigor not entirely consistent with his 56 years.

Reviewing the Sparks official biography, his assignment here from a high post at Bell Labs seems almost predictable. His career, consisting of 29 years with the Labs, is marked by close association with research activities whose results and practical applications have profoundly affected our world. Specifically, the younger Sparks in 1948 began work in the Labs' semi-conductor research group; shortly before, the transistor had been invented at Bell Labs by Bardeen, Brattain, and Shockley. He became intimately involved in the burgeoning field of semiconductors and along the way picked up 10 patents. He was first to build a junction transistor, in 1951.

Scientific growth was accompanied at Bell Labs by his orderly progression through supervisory ranks. Mr. Sparks came to Sandia from the post of vice president, electronics technology, a position held since 1971.

* * *

We were talking in the president's office about his early years. Most Sandians by now know that Morgan Sparks qualifies as a westerner, the real thing, having spent childhood and youth in Pagosa Springs, Colo., and Harlingen, Texas.

"All those years in the East — did you think of yourself as an out-of-place westerner?"

"Not really — even in '43 when I first went to the Labs the scientists there came from all over. It was — and is — a cosmopolitan group and few of us had special allegiance to one section of the country."

And in confirmation of this, the Sparks speech bears no regional accent.

The Sparks family, father from Nebraska, mother from Missouri, two sisters and Morgan (named after his grandfather, a judge) resided in Pagosa Springs until Morgan was nine. The father owned and ran the town hardware store.

"I dimly recall a trip we made to Santa Fe for a fair or something like that. The La Fonda was there, very grand, and when I saw it recently it looked, well maybe not quite so grand."

High school was attended in Harlingen, a small town close to the Mexican border in the extreme southern tip of Texas. He picked up some colloquial expressions in Spanish but never studied the language formally. I asked about any scientific precocity.

"Well, I always had good grades. But actually I started out wanting to be an architect — I don't think I really knew what an architect does."

His scientific career took focus while he was an undergraduate at Rice, where he majored in chemistry. This was in the mid-30's and young people who attended college, then as now, needed money. He soda jerked one summer, but landed jobs in later summers with Texaco, DuPont and Bell Labs in programs much the same as Sandia's present Youth Opportunity Program.

"The Texaco job out in the oil fields got me started in chemistry — I probably would have become a petroleum engineer if I had stuck with them."

When war came, the young Sparks was working on his doctorate at the U. of Illinois, at the time a center of research on synthetic rubber, and the draft board conceded that his talents were better employed as a scientist. The National Defense Research Council had the task of marshalling the nation's scientific



Morgan and Bette Sparks

talent and when his PhD was conferred, in 1943, he was assigned to Bell Labs.

"That was an interesting project — we developed a battery that was activated by sea water for use in an electric torpedo. Conventional torpedoes powered by compressed air left a telltale wake of bubbles — this one didn't."

When war ended, he remained at Bell Labs. In '49 he married Elizabeth (Bette) MacEvoy. The Sparks have four children — Peggy, 22, and Patty, 20, both students at St. Lawrence University in New York, Morgan, 15 and Gordon, 12, who attend Albuquerque Academy. The family hopes to move into their own home from the present rented property in Four Hills and are actively househunting.

Getting back to Sandia, I asked about his reaction to being number one, that is to his being behind the sign that says "the buck stops here."

"It's different. Of course, even here, I still have to report to people. But it's different. There's considerably more authority and administration."

What kind of schedule does the job entail?

"I generally try to get here by 7:15, and it works out that I generally am taking work home. But you know, one good thing about those red-striped folders — you can't take those home."

Then the tough question. His opinion of Sandia Labs, based on observation of little more than two months?

"I've been making the rounds, learning what's going on in the various organizations. From what I've seen, I'm impressed. People at Sandia are doing good work — the technical work is scientific and analytical — not empirical I'm impressed."

With that we concluded our discussion, but not before learning that Morgan Sparks is the first to bring to the presidency one talent that should be a fair-size plus for many Sandians: he skis and looks forward to many outings with his sons on New Mexico's slopes. • js



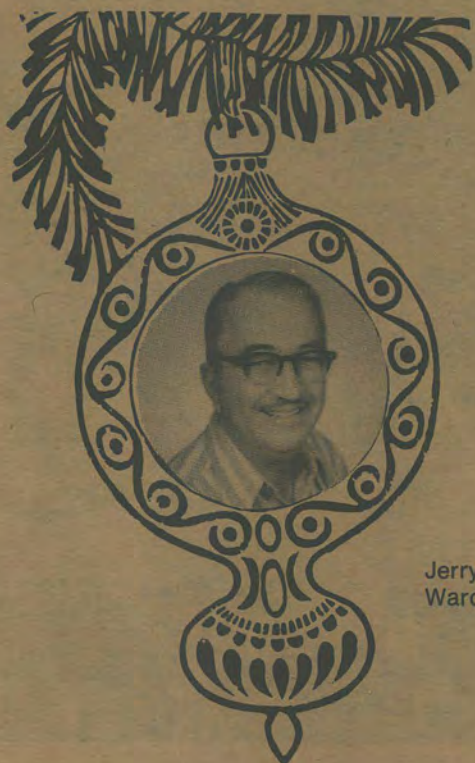
Sons Morgan and Gordon flank parents. Fuzzy one is Bonnie. Daughters Peggy and Patty are at college.

Reflection of Christmas Past

At this time of the year do you ever stop to think of past Christmases? Such reflection will usually recall one that is memorable.

Here are a few that stand out in the minds of people we all work with.

* * *



Jerry Ward

Jerry Ward (8412) who was in the service during World War II recalls vividly one Christmas he spent in Australia. "I was in the Navy at the time and our ship was in the river at Brisbane, shooting up subs along the coast. We held a Christmas party for the kids in the area who were war orphans. It turned out to be a real kick! First we had a big dinner aboard ship for all of them, then presents for each. They ran all over the ship with the sailors in tow and we all had a great time. It was different — real fun!"

* * *

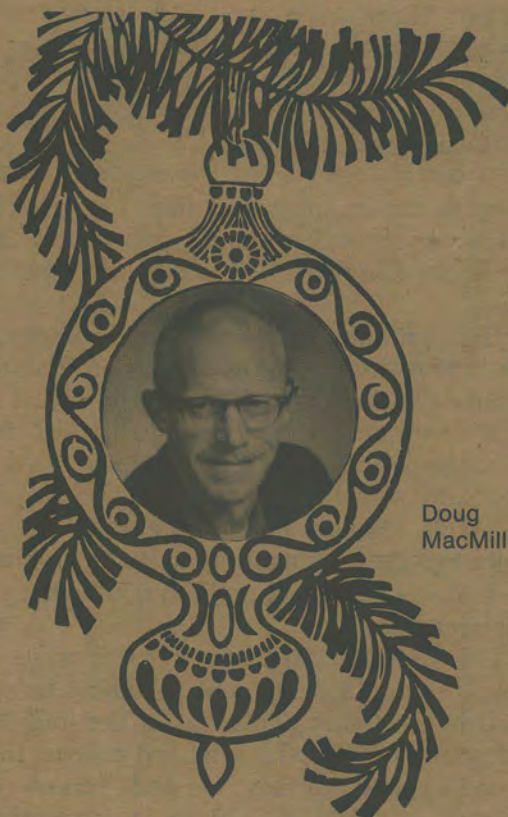


Johnny Cordial

Christmas of 1944 is the most memorable for Johnny Cordial (8161), who was with the paratroops, 17th Airborne Division, at the time. "We flew from England into Reims, France, arriving on the 24th in the early evening. That night we moved out in trucks to the big guns. We were issued ammunition and K rations, and they passed out small cans of tuna fish and tomatoes to each of us. At six o'clock the next morning we moved out and the canned food became our Christmas dinner. This was of course the "battle of the bulge," and I went from Dec. 23 to Feb. 10

without having my clothes off because we Never stayed in one place long enough. I removed my boots only a time or two to massage my feet. I wouldn't take a million dollars for what I learned, but I wouldn't give 15 cents to go back through it again. I'll always remember that Christmas — that can of tuna and tomatoes."

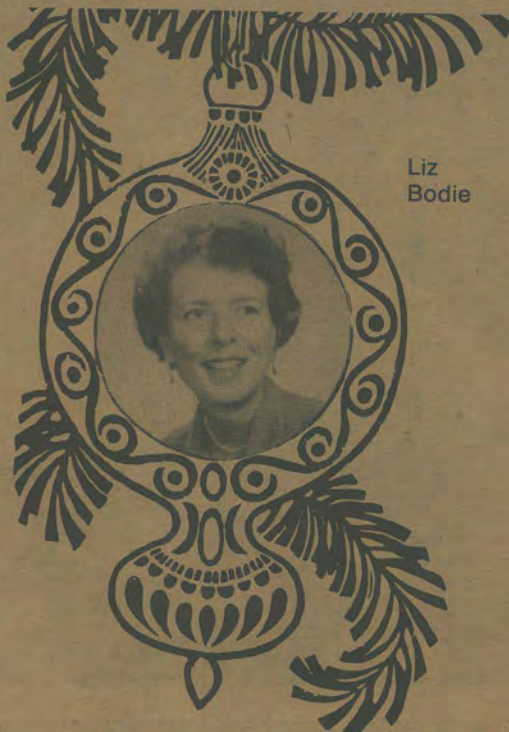
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Doug MacMillan

"While I was a merchant seaman about 1950, we went ashore in the Philippines one Christmas Eve," recalls Doug Macmillan (9125-1). "My buddy and I decided to have a few drinks with a couple of WACs from the ship. We were enjoying ourselves, not noticing the time, when suddenly we heard three long blasts on the ship's whistle — meaning the ship was sailing. As we rushed out, we discovered it was daylight. Running all the way, we decided it would be really funny if we traded hats, so we put on the WAC hats and they put on ours. As we came marching down the pier arm-in-arm early that Christmas morning, the mayor of Manilla, the local Army lieutenant general, all the wives and dependents aboard ship, and the captain were looking down, while the band played 'California Here I Come.' To say the least, it caused the captain some discomfort."

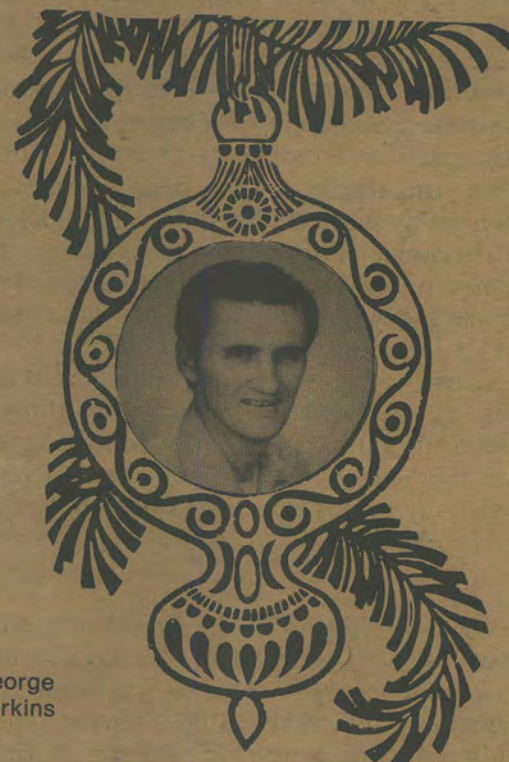
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Liz Bodie

"I remember putting up a Christmas tree in the tropics without a suitable stand," says Liz Bodie (8232) who worked for several years in Panama. "In the first place, we had to order the tree from the States in August. When it arrived the second week in December, we found it reached from the ground to the middle of the second story of the house. Our handyman cut off many feet and we put it in a washtub in the basement to keep it as fresh as possible. Later when we tried moving it into the living room, we discovered it was so big around it wouldn't go through the door and the branches had to be cut. It was still the most gigantic Christmas tree I've ever seen in a house. But trying to make it stand up in a bucket of wet sand and wiring it to the ceiling turned out to be the really big project. Then the cat ran up the tree and down everything came, including the tree and our homemade ornaments. We managed Christmas Eve and Christmas Day, but after that we disposed of it."

* * *



George Perkins

George Perkins (8213) and his wife have had unusual Christmas holidays since 1968. Each year they have helped chaperone 30 to 35 high school and college youths on a week's trip to Mexico in connection with their church. "Leaving on Christmas day we travel straight through to Ciudad Obregon, about 350 miles below the border at Nogales," says George. "Transportation is by a Greyhound bus owned by the church and our own motor home, in which my wife does all the cooking for the students and other adult sponsors while we're en route. Primary purpose of the trip is missionary work. We canvass door-to-door, then about six in the evening we hold a Christian service in the town plaza, followed by a regular service in the church. We also help financially by providing building materials. For instance, the church had walls but no windows, no roof and a dirt floor. We have completed the roof and expect to finish the windows and floor this year. We take along clothes and some toys that people send from here. The students pay their own way — about \$45 roundtrip for food, lodging, transportation — all earned through their own special projects. It always amazes me that we can collect \$125-\$150 from within our group as we're leaving Obregon, for the students really feel sorry for these people, sometimes not allowing themselves enough for refreshments on the way home."

LIVERMORE NEWS

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LIVERMORE LABORATORIES

DECEMBER 22, 1972



LIVERMORE CHRISTMAS CONTEST — A gingerbread house created by Jan Inzerilla (8323) won first place in the annual Christmas Container Contest at Sandia/Livermore. Each Christmas, rather than an exchange of cards, employees pool contributions to help the needy in the local area. To collect the monies, organizations compete for the best decorated or most unusual container. This year proceeds go equally to Livermore-Amador Emergency Fund Center and the Interdenominational Co-op Nursery Scholarship Fund.

Take Note

Roy Tacket (8178) has been elected president of the Sandia Employees Golf Club for 1973. Other officers serving with him are Moe Houk (8161), vice president and chairman of weekend events; Emily Joiner (8212), secretary/treasurer; Larry Weirick (8313), chairman of the evening summer B league.

One tournament each month, as well as weekly twilight league tourneys during the summer, are scheduled again this year. The first event will be held Jan. 13 at Swenson Golf Club in Stockton. Employees interested in joining the SEGCL league should call Moe at ext. 2204 or Roy at ext. 2074.

* * * *

"Beauty is in the eye of the beholder," and after the Livermore Beautification Committee saw Bob Schaefer's (8177) yard, he was awarded one of 14 citations given this year by the Committee for outstanding treatment of property in Livermore.

Sympathy

To Ron Bremer (8183) for the death of his father-in-law in Lebanon, Ore., Nov. 20.

To Jim Gruver (8431) for the death of his mother-in-law in Eugene, Ore., Nov. 26.

To Leo Gutierrez (8100) for the death of his father in Los Lunas, N. Mex., Nov. 21.

To Jim Wimborough (8161) for the death of his mother in Tulsa, Okla., Nov. 28.

Congratulations

Mr. and Mrs. Dick Brown (8137), a daughter, Amy Elizabeth, Nov. 23.



Christmas Decorations

At Christmas time, Sandia/Livermore secretaries usually take a few minutes out from their typing, shorthand, and other chores to brighten up the office. Featured here are various ways offices around the Labs have been decorated for the holiday season.



A Different Path To Learning — Public School Now Offers A Choice



If we Sandians have one thing in common, it's that we all went to school. And anyone who's spent more than a few years in the classroom and who now has children in school — and most of us probably do — is likely to have wondered at one time or another if a different approach to education might not produce better results.

Under the conventional approach to the 3 R's, education is what happens in a classroom under an authoritative figure called a teacher who tells students everything they need to know. They prove they know it by giving yes/no type answers to questions and by regurgitating knowledge acquired at test time. And in 2160 days, spaced over 12 years, they're "educated."

Not long ago that was a pretty accurate summary of what went on with Albuquerque Public Schools. It's no longer true across the board. Oh, plenty of traditional classrooms are still run in traditional ways, and many of them are doing a fine job. But parents and their children now have the opportunity to select some non-traditional modes of education within the system, modes which may well prove better for your son or daughter.

Most of the system's elementary schools have at least one teacher who has chosen a non-traditional approach for his or her classroom. It's often called "open concept" teaching, but the label is neither universally accepted nor important. What is important is what happens to kids in such a classroom.

The teacher is less an authoritative dispenser of knowledge, more a resource person, a guide, a coach. The classroom is less a formal, highly ritualized place, more an area (or collection of areas) designed for the simultaneous expression of several kinds of learning activities. And the process itself is less structured, more flexible, with opportuni-

ty for more individualization.

For many kids, this kind of learning environment is highly stimulating. Learning can be enjoyable; the teacher can be an ally in discovering new ideas, new skills; the other kids can be cooperators rather than competitors in the process. "We're excited about kids helping kids — team learning. Sometimes a couple of kids can turn each other on to a problem and each one learns much more than he would have alone," says Marilyn Davenport. She's one of the people helping classroom teachers master some of these new approaches.

At the high school level one innovation is a school that draws on the community for its teachers and on community resources for its textbooks. First of this new kind, Freedom High, is located in the northern part of town. A second one, the Community School, serves the Heights. Both are modeled after the Parkway Project in Philadelphia, and both deal with kids, mostly juniors and seniors, who reject the traditional classroom.

At Community School, the students are self-selected — they apply if they feel they can accept responsibility for their own education. From the applications about a hundred are chosen by lot. "They're a highly motivated bunch," says Richard Rounds, the school's principal. "They want a learning experience that's closer to their living experience than they find in the classroom."

At Freedom High, the students are potential dropouts who have been referred to FHS by their counselor. Some are academic failures, but others have to work part-time and simply don't fit into the traditional high school. "Still others," says Esther Shumaker, a school coordinator, "just need more time to do more — they're sharp but they're bored in a classroom."

At both schools each student plays a major role in working out his own individualized education program with the counselors, coordinators and teachers. Each one must meet the state requirements for graduation, but classes can be small, informal, and often are held out in the community. Not just anywhere — it's the unpaid volunteer teachers who make possible schools like

Freedom and Community. Professors, mathematicians (some from Sandia), broadcasters, lawyers, business men, doctors, and many others donate their time and often share their work location with small groups of students. "It's great," says Art Key (4115) who teaches computer principles for Community School, "the kids learn fast, and they're enthusiastic — they have to be to be out here at 6:30 two mornings a week to use the PDP 10." Terminals are located in Bldg. 832 so that's where the class meets. (Incidentally, if you'd like to be a volunteer teacher, call APS Special Services.)

School on Wheels isn't on wheels at all — it's located downtown. But it's probably the most radical of APS innovations. That's as it should be — it deals with kids with radical problems. Each must be a low income, 16-18 year old high school dropout — with desire. And some radical solutions — through a Dept. of Labor grant, the students are paid to spend half the day in the classes they need to complete the diploma requirements. They're not classes in the traditional sense — that's what they dropped out of once. Like those of Freedom and Community, School on Wheels classes are experience-based. Unlike the other two, they operate year around.

The other half-day, students work for some non-profit organization such as the city or Model Cities in order to get job experience that complements their academic work.

"It's sometimes rewarding, sometimes frustrating, always challenging — working with these kids," says Richard Romero; he's the coordinator. "You've got to relate to them — and that's something you can't learn from a book or a class." He's proud of all 34 graduates — several are in college and one at UNM is on the Dean's List. Even more important is the fact that nearly all the grads are employed full-time.

There's no one right way to teach all kids, or any kid. Some may prefer the structure and security of the traditional classroom. But some may prefer a more independent kind of learning. And APS offers these a choice. •bh



Take Note

Ken Sutton, manager of Employment Department 3250, has been elected president of the New Mexico Personnel Association for 1973. Purpose of the organization, a chapter of the American Society for Personnel Administration, is to maintain high standards of personnel administration and to promote understanding of those standards among professional personnel people. During 1972 Ken served as a member of the board of directors and as membership chairman.

Ken is a member of the Rocky Mountain Placement Organization, and is on the Girl Scout board of directors, where he is chairman of the Employed Personnel Committee. On Dec. 1, the Chaparral Council presented an award to Ken for his outstanding service on this committee.

* * *

The First Aid instructor needs aid. Specifically, Grant Johnson (4613) needs to hear from those who took the Multi-Media First Aid Course Oct. 23 through Nov. 2. Somehow the class rosters were misplaced. Call Grant at 4-7650 and let him know you were there.

* * *

Bad news for Sandians in the South Valley is that no special bus from that area to Sandia will be requested from the the Transit Company. George Baldonado (4152) sent a couple of hundred letters asking about interest in a special route; about 80 people responded. But George's map work showed that prospective bus riders are scattered all over the Valley. A bus route that would get reasonably close to each home would have to begin at a very unreasonable hour — like 6:30 a.m. Thanks to those who responded — from George and from all of us pushing other ways to get to work.

Promotions

Clare P. Jost (8217) to Secretary
La Vonne A. Lightsey (8217) to Secretary
Raymond D. Bland (5332) to Staff Associate
Technical
Abran Vigil (4542) to Draftsman

Deaths



Wilson

Earl Wilson, supervisor of Technical and Crafts Training Division 3132, died suddenly Dec. 16. He was 50.

He had worked at Sandia Laboratories since May 1956.

Survivors include his widow, Phyllis (3161) and three sons.

* * * *



Shroeder

Fred Schroeder of Computer Operations Division 5411 died Dec. 14 after a short illness. He was 51.

He had worked at Sandia since June 1967.

Survivors include his widow and three daughters.



A VERY SPECIAL CHRISTMAS, this is, for the Gene Bates (3132) family. Louise is successfully convalescing from a recent life-saving kidney transplant. She is doing fine. Son Tim is glad to have Mom home and things normal again. He's looking forward to Santa's visit. Gene says, "Words alone are not adequate to express my feelings of gratitude. Our heartfelt thanks to all of those who helped during the recent fund-raising effort."

Larceny and a Q-Clearance — Not Mutually Exclusive

Candy bar,
half eaten
Gloves
Car radio
Sport coat
Coffee fund —
\$13.50
Portable radio

Cigars
Datsun auto
Ash tray, memento
Book of stamps
Work shoes
Basketball tickets
Raincoat
Cassette recorder

You've probably guessed by now that this list somehow relates to items that have mysteriously disappeared. Or you may prefer a less euphemistic phrasing. They were stolen, would you believe, either from within the Labs or from our parking lots. And that's not a typo up there — a Datsun auto really was

stolen from the lot.

We talked with Clem Toft and Jim Kaiser in Security Standards Division 3511 about the problem of pilferage of personal property.

"It doesn't appear to be a major problem," stated Clem. "This list (above) goes back for a year or so. On the other hand, the list contains only the items reported to us — some people probably haven't reported minor losses."

What to do? "Be a little prudent" Clem says. "Lock your car in the parking lot. Lock up your valuables in your desk or locker, or at least put them out of sight. And report any losses to Security Division 3511."

Retiree Report

In recent weeks LAB NEWS has received letters from several retired Sandians. All sound busy and happy and send greetings to friends at the Labs.

* * *

Charles Bennett retired May 1967. The Bennetts lived in California and New Jersey and are now settled in Fairfield, Conn. Charles says they like Connecticut very much and are near their children and grandchildren. "I am teaching the grandchildren leather crafting and we all like that . . . I would like to hear from my old friends in the Vibration Lab . . . thank you for the chance of saying hello through the Lab News."

* * *

Allan Gruer retired July 1971. ". . . After a year and a half of retirement this particular couple is fairly well ensconced on the West Coast of Florida . . . It's been quite an education to observe at first hand how several thousand retirees do their thing here and by and large it speaks well for the concept of early retirement. For example, we have a municipal trailer park here populated by singles and couples who, in the main, go North every summer. However, about the first of November most are back and a truly active round of activities commences. Weekly bingos, Saturday nite dances (to rock and roll), card parties, shuffle-board, horse-shoes, and last but not least — gossip and yarn-telling. Everyone has a story to tell and the range of experiences is enough to give almost anyone an inferiority complex — except one's own travels and exposures always seem to be listened to with great interest . . ."

Al comments that in Florida many things are slanted in favor of retirees — a homestead exemption of \$5000 for property tax purposes; many nursing homes; waived fishing licenses; volunteer therapy helpers; special discounts on medicines, meals, and many other items.

The Gruers were traveling in Spain at the

time of the Coronado Club Spain-Portugal trip. "On a more personal note, we did enjoy meeting the Sandians in Lisbon in October. Marge and I were in Lisbon and met the charter plane from Albuquerque. Until one is retired and misses the familiar faces, 'tis impossible to transmit the joy at seeing them under foreign travel circumstances. As veteran foreign travellers, we cannot stress the desirability too much of making such trips while one is hale and hearty."

* * *

Bert Quelle retired February 1970. "Too bad — the otherwise meaningful English language missed on the word retirement — that's not what it is — the Spanish word really is it — jubilación (promotion to fun). And jubilation it has been mostly since I 'came of age' on Valentine's day two years ago. It was like commencement only more so. I have been busy with presenting exciting learning experiences to pre-schoolers, counseling at awakening retreats with youth groups, attending meetings serving as chairman of the State Advisory Council on Aging, traveling in nine countries of Europe; also speaking to students launching their careers, talking to adults looking to the future."

Bert and Irene spent a year looking for their retirement home and found it in El Guache (Rio Arriba County) on the banks of the Rio Grande. The old adobe, on some three acres of land including over an acre of orchard and garden and with Truchas Peak in the background, was restored by the Quelles. ". . . Local people and an interpreter helped us. Ten thousand bricks for floors and one hundred tons of sand went into the renovation. It was fun to revive its charm."

Bert comments on some of their experiences — ". . . new neighbor families — friendship has been lavished upon us with tortillas, trout, enchiladas, meat from home butchering, wood for fireplaces, trees for the yard, picnics, invitations to homes and church services . . . A new place to entertain friends, relatives and youth groups; . . . We went



DWIGHT RUSSELL retired from Design Information Processing Department in April 1970. He is now involved in a second career — sales and service work for a local camper trailer firm.

swimming in the nearby Rio Grande. With the neighbors we exchange folk music indigenous to the Rio Arriba country. This deepens my feeling and insight into the interpretation of music which I have been invited to share with several audiences."

There have been some stormy times in addition to the good times — two floods, a hurricane, and illness. "It was a new experience to be on the receiving end of help. It gives more meaning to one's help to others in the wide community that helps you."

* * *

David Carrick retired May 1970. ". . . I suppose I fit into the 'second career' category."

"Western Electric invited me to join them in July 1970 as a production engineer. I've been at the Omaha Works working on both product and test engineering . . ."

"My wife Marjorie has profited by this transfer to Omaha. She is with the Omaha Girl Scouts office as Publicity and District Advisor. In Albuquerque she was with Camp Fire Girls and later a teacher in the Albuquerque Public Schools."

"The sour note in all this has been the climate. Ugh!

"We look forward to a second retirement in a few years, in New Mexico I hope."

* * *



Millard Taylor retired February 1966. "We have been sending 'Taylor-Made' Christmas Greetings to relatives, friends and neighbors since 1925."

"After I retired from Sandia Tech Art Dept., we traveled from border to border in California and the most interesting, historical landmarks are the 21 Old Missions along El Camino Real . . ."

"As a retired artist, I find these old and restored Missions an ideal way to combine my rough sketches into our way of sending Christmas Greetings . . . and with each letter we send a short note about ourselves or that this San Luis Obispo de Tolosa Mission (see sketch) was 17 years old when George Washington was elected the First President."

Ida Nelson retired December 1971. Ida and Clarence replaced their Albuquerque home with a mobile home. Their site is one-third acre at Meadow Lake, a community in the foothills of the Manzano Mountains, southeast of Albuquerque. "Adjusting to country living was no problem," Ida says. "The quiet, serene surroundings are relaxing . . ."

"With 19 grandchildren to enjoy, we purchased a new truck and 20-foot camp trailer, enabling us to visit and travel in comfort." Their activities keep them on-the-go all over New Mexico — Clarence trout fishes and Ida takes scenery pictures.

"Meadow Lake has a volunteer fire department and any spare time is spent at functions and projects to raise money for more equipment and to build a fire house — pot lucks, bingo, fisherama contests, turkey dinners and bake sales have proved successful. There are no dull moments and the weeks just aren't long enough."

* * *

Everett Massey retired July 1972. From Sandia to substitute teaching is quite a switch. "I signed up for substitute teaching in the public schools," Everett says. "My first assignment was a six-week stint at Rio Grande High School and that was an education in itself. Young people are different these days, but very interesting. Kids don't jump when a teacher says something — you have to lean on them a little. I've had no discipline problems and I've enjoyed my teaching."

Last summer Everett served as umpire-in-chief for New Mexico for the American Softball Association, and as commissioner of officials for the Young America Football League.

He advises retirees to keep busy. In addition to other activities, Everett does a lot of fishing and says he has a new set of golf clubs which he plans to break in this winter.

* * *

Henry Durlinger retired February 1961. "Dear Friends: Henry has only this to say about retirement — Don't! — that is, unless you have an all-consuming passion for one particular hobby or charity. As all of you probably know, Henry's hobby has always been tool and machine design — and he's still riding it enthusiastically at age 76 . . . Good luck to all the young-'uns of 65! May your later-life years be as happy as Henry's. Sincerely, Thelma Durlinger." • nt

Ben Franklin Would Be Proud

Lightning-Proof Connector Patented

"Lightning seldom strikes the same place twice. Once is usually sufficient."

This variation on an old saying has special meaning to Sandia Labs people who work on missile and aircraft systems.

Missiles and aircraft are sometimes exposed to lightning strikes, and this causes problems for system designers. Metallic compartments are often used to provide physical and electrical protection to sensitive components. But electrical cables almost always penetrate the compartments through connectors. These connectors provide pathways for lightning energy to enter and cause damage.

Concern about this problem led Charlie Jackson (1532) and Mike Bumgardner (now EG&G) to urge that ways be investigated to build a lightning arrestor system into a connector so that lightning energy could be diverted away.

A feasibility study was conducted in Guidance Components and EM Effects Division 1426 under Arlin Cooper. Various ways of building a lightning arrestor connector were considered and rejected. However, one technique, called "dielectric-stimulated arcing," was found to have special advantages in that a device incorporating this electrical characteristic could be simply constructed in a small size, was rugged, responded rapidly and could handle large power surges.

In addition, it provides a simpler, less expensive approach to lightning protection than past methods.

In dielectric-stimulated arcing, a material with a high dielectric constant, such as titanium dioxide, contributes to a voltage breakdown between conductors.

This results in lower breakdown voltages and more uniform response to various surges.

A connector device was built incorporating a means for dielectric stimulated arc-



LIGHTNING is a menace to sensitive components in missile and aircraft systems. A new electrical connector that protects components from lightning energy surges has been developed at Sandia.

ing. Testing verified all of the theoretical expectations. A patent was recently awarded to the AEC for the device in the name of Arlin Cooper who conceived the design. The prototype was built and tested by Lee Allen (1425).

Simulated multiple-pulse lightning currents of more than 200,000 amperes (an unusually high lightning current) have been successfully diverted by the device. It also protects against other electrical surges.

The connector is now in production for use in three missile systems. Component development was performed under the supervision of Dick Traeger (1435) assisted by Harry Olson (1435) and Lee Allen. • dg

Patent Awarded New Chemical Process Discovered by Sandians

Discovery of a basic chemical process by Bob Dosch (5521) and Bill O'Neill (5520) has led to a patent for a new way to prepare ferroelectric ceramic compositions. The patent was awarded to the AEC recently in the names of the inventors.

The Sandians found that alkoxides of titanium, zirconium, tantalum, and niobium, after being reacted with a quaternary alkyl ammonium hydroxide in a non-aqueous media, produced compounds which can be used in preparing stable aqueous solutions of these metals. (These metals are notable for not forming water-soluble salts.) This discovery is of interest because these metals can now be reacted with other metal ions in aqueous solutions. The resulting compounds can be filtered from the solution and heated at relatively low temperatures to form the desired ferroelectric material. The resulting ceramic is consistently more homogeneous, with finer particle size and higher purity, than material formed with conventional methods.

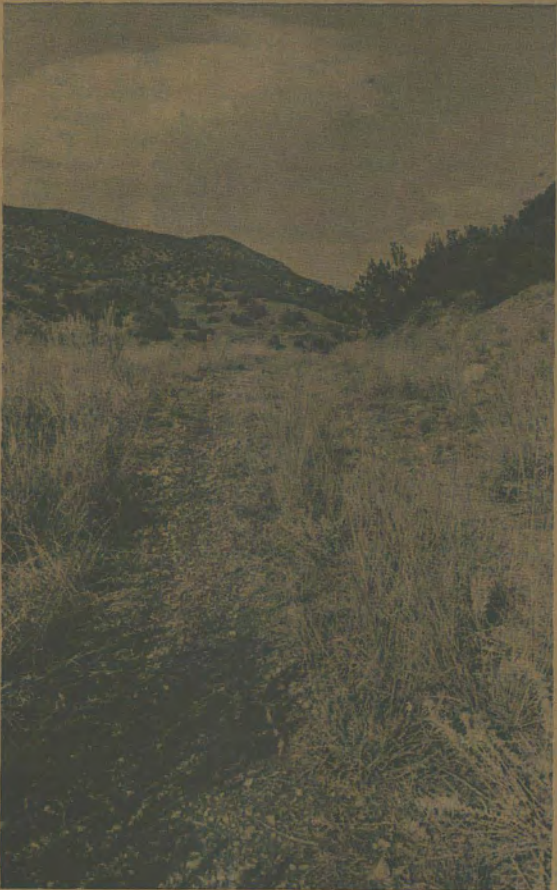
In addition, the discovery has important application in the fine particle dispersion of metals in other materials via solutions. Also, the metal compounds are useful in analytical chemistry for separation and quantitative determination of a number of metals. Bob Dosch is currently preparing a paper on these new analytical techniques. • dg



BOB DOSCH AND BILL O'NEILL have discovered a new class of chemical compounds which provide a means to dissolve several metallic elements in water. These have applications in ferroelectric ceramic production, heavy metal dispersion and new analytical chemistry techniques. The discovery was patented recently by the AEC.



IT'S CALLED RAPPORT — Everett Massey's recent substitute teaching assignment was to take over math classes at Jackson Junior High for two weeks preceding Christmas. "Teaching is different these days," he says. "I seldom lecture or use the blackboard. Instead students work at their own speed and receive individual attention."



Vista New Mexico

Tijeras Canyon Scenes

Left above - Tiny church, now deconsecrated.

Right above - Cottonwoods mark location of old stagecoach stop on Coyote Road.

Left - Ruts on old stagecoach trail.

Right - Ruins of an earlier day in downtown Tijeras.

Below - Handhewn log cabin.

Far below - Formerly Tijeras town hall. • bh



Below—Shelter and shadows.

Far below - Tijeras church.



Credit Union Reporter

Individual or Joint Tenancy Account

If your Credit Union account was originally set up as an individual account, and you have since married, you may want to include your wife or husband in a joint tenancy account. If you already have a joint account, has anything occurred since the account was set up whereby you would want to change the joint owner? Remember, in the event of your death, ownership passes to the surviving owner and is not subject to disposition by will.

* * *

CU Bulletin Board

Lead Poisoning Is Still A Danger — Christmas tree decorations dangerous? Some can be. It's true that one of the most common sources of lead poisoning in the home — lead-based Christmas tree tinsel — has been eliminated this year. Theoretically. It's no longer legal to sell it. (If you know of any merchant still offering it for sale, please contact Sen. Montoya's office at 842-2551.)

But if you're using last year's tinsel, you may well be inadvertently poisoning some tots. If your tinsel has been around awhile and you can't remember whether it's lead-based or not, you'd best replace it with some new, safe stuff — or do without.

* * *

It Turns Out That Flying Is A Risky Business — But not because of any physical danger. According to two articles in recent issues of Consumer Reports, the risk involves being overcharged for your ticket. One article describes the air fare "... price structure so complicated for certain kinds of air routes that neither you nor the ticket agent can cope

with it." It goes on to say "Probably the highest risk of overcharge awaits the traveler to smaller cities on routes involving a change of airlines." The other article discusses so-called discount air fares. "There are special fares for children traveling alone, children accompanied by an adult, families, clergy, senior citizens and military personnel. There are military, youth and adult standby fares, Discover America fares, Visit USA fares, night fares, stop-over fares, and joint fares for travel on two or more airlines."

Focal point for the overcharge problems is usually the hapless clerk behind the airline counter at the airport. Worried by that long line of impatient customers, he's unlikely to take time to do the digging necessary to insure that you're getting the lowest fare possible. So he establishes a fare that he knows is safe, i.e., not underpriced.

So what to do? We talked to Sandy Borgrink in Travel Reservations Section 4363-1, who confirmed this sorry situation. But for Sandians there's a solution, according to Sandy. Use SATO, Bldg. 800, Rm. 108. Open 10 to 12 and 2 to 4, SATO (Scheduled Airlines Ticket Office) is staffed by airlines ticket agents whose collective experience and wisdom Sandy says is insurance that you will get a fair shake. And you don't have to be on a business trip to engage their services for yourself and/or your family.

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CHRISTMAS PROJECT sponsored by the Office Employees, Local 251, the Guards Union, Local 27, and Navajo Freight Line employees will bring gifts and food baskets to 45 needy families. Gina Herrera (AEC) displays some of the gifts contributed by Sandians.

Office Employees, Guards Union Conduct Christmas Project

For the 13th consecutive year, the Office and Professional Employees International Union, Local 251; is conducting a Christmas project. The group will provide gifts and food baskets for 45 needy families this year. The recipients are selected by the school principals of Stronghurst, Riverview and Coronado Schools.

Also helping in the project this year are International Guards Union of America, Local No. 27, and employees of Navajo Freight Lines.

Maxine Stephenson (7633), president of Local 251, is chairman.

Organization 7600 Providing Christmas Baskets for Needy

Organization 7600 will provide food baskets, toys and gifts for 24 needy families this year as part of a Christmas project that has been conducted for the past 15 years. Last year the group collected \$430 for the project.

Jerry Hastings (7655) and Bob Yuhas (7613) are co-chairmen.

The recipients are chosen by the Salvation Army.

Sympathy

To Homer Wilhelm (4518) on the death of his mother-in-law, Dec. 2.

To Leo (8100) and Fred Gutierrez (9124) on the death of their father in Los Lunas, Nov. 21.

To Jim Rhodes (4113) on the death of his father-in-law in Springfield, Mo., Dec. 1.

To James Barnett (4113) on the death of his mother in Winchester, Ind., Dec. 11.

To Ed Clamp (7423) on the death of his mother in Colorado.

To Alma Mischke (4152) on the death of her father in Michigan, Dec. 12.

To Alice Vancil (4152) on the death of her brother in New Jersey, Dec. 13.



NEW MEXICO'S Senator Montoya spent a day last week at Sandia being briefed on Labs programs. Conference was the first between the Senator and recently arrived President Sparks. Among other committee assignments, the Senator is chairman of the Legislative Subcommittee of the Appropriations Committee.



Gene Abbott — 3111

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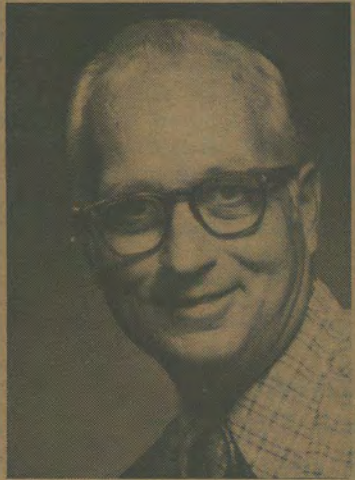


Richard Willey — 5214

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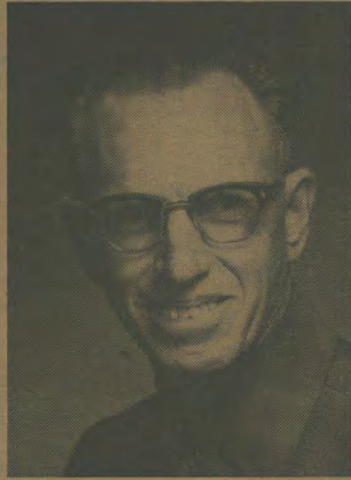
MILEPOSTS

LAB NEWS December 1972



Floyd Mastin — 9133

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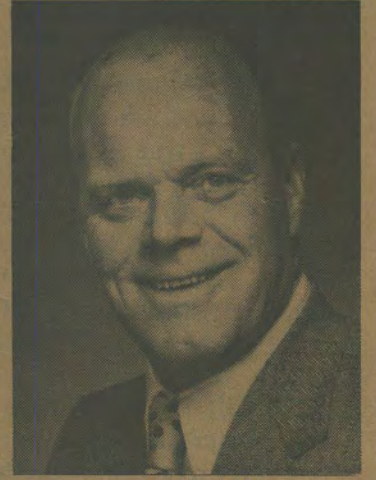
Herbert Bowen — 9322

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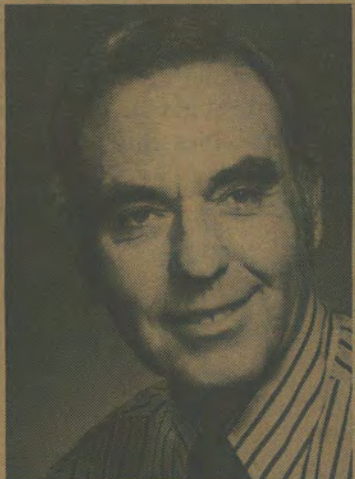
Elizabeth Cook — 7542

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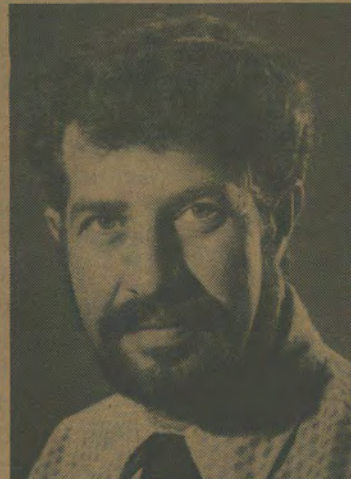
Allen Thornton — 1331

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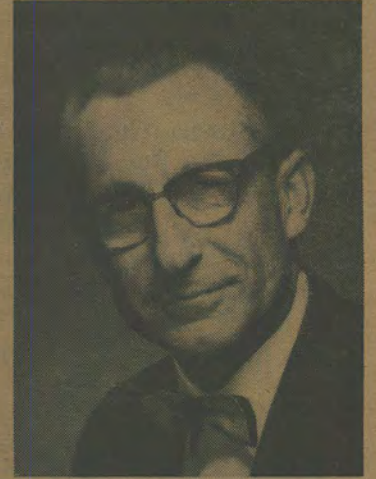
Irv Lenz — 9312

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Larry Wilhelm — 5411

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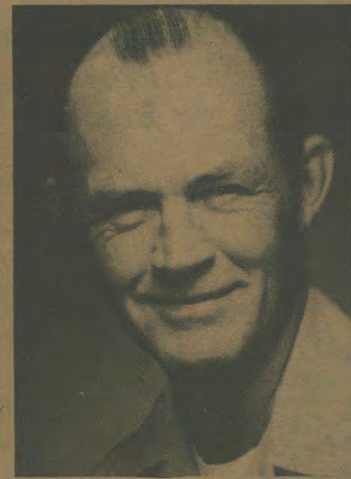
Floyd McIver — 5335

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Marylee Adams — 1731

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Joseph Brooks — 9463

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Corry McDonald — 7451

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Charles Lowe — 7632

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John Cotch — 4513

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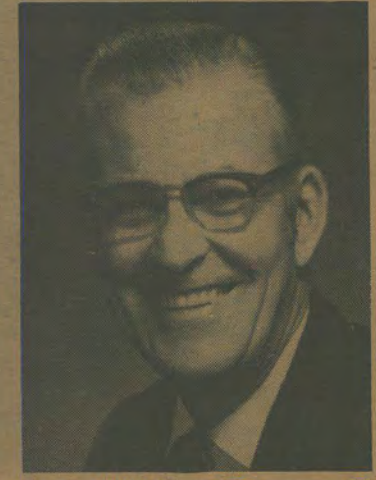
C. B. Torres — 7154

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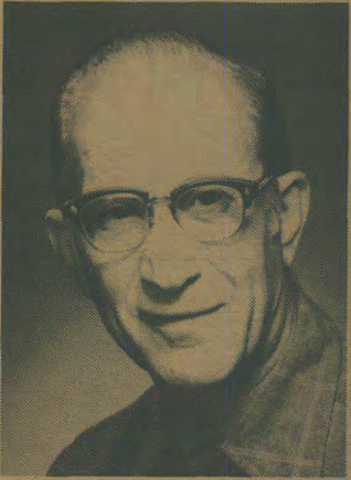
Mary Jo McClellan — 1831

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Frank Millikin — 1551

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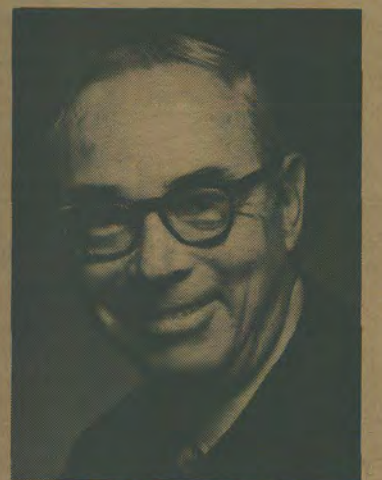
Sylvester DeLuca - 4613 15



Edith Worley - 7542 20



Vern Blake - 1550 25



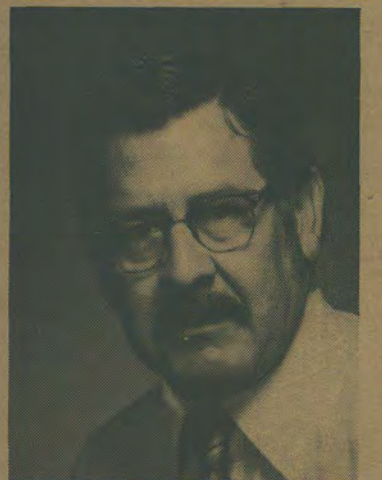
Dennis Doherty - 7122 20



William Tucker - 7431 20



Luther Martinez - 4622 20



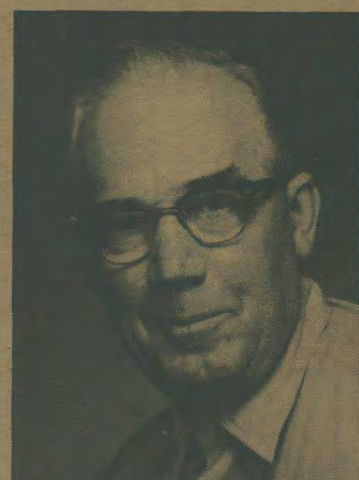
Gilbert Ramirez - 4137 20



Charlotte Heidrich - 7135 10



Gary Montague - 3132 10



Joe Fulmer - 4513 20



Polly Loomis - 3302 20



Robert Chavez - 4613 10



William Wilson - 9312 15



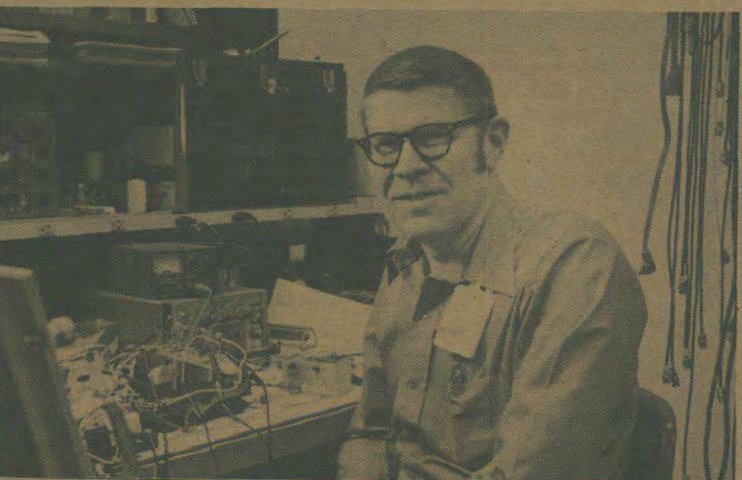
Sherwood Embry - 4337 25



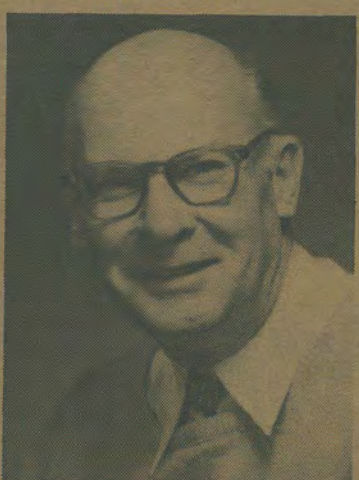
Don Knapp - 1611 20



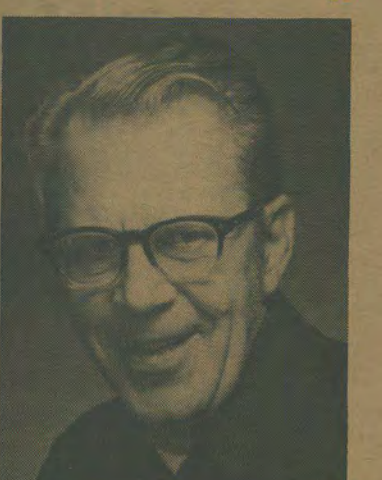
Winton Pafford - 9441 20



Roy Hollenbach - 5163 20



Glenn Morter - 9223 20



Robert Scalf - 7133 15



Around the child bend all the three
Sweet Graces — Faith, Hope, Charity.

— W.S. Landor (1775-1864)

Speakers

P. Richards (5132), "Magnetism in Less Than Three Dimensions," Univ. of Colorado, Oct. 19, and Montana State Univ., Oct. 20.

R.L. Park (5331), "The Analysis of Solid Surfaces," Physics Dept., Kansas State Univ., Oct. 26.

T.A. Sellers (9239), "Review of Synchronous Satellite Applications," AEC Telecommunications Conference, Oct. 31-Nov. 2, Las Vegas, Nev.

J.F. Cuderman (5213), "Potassium Atoms in Collision with Surfaces and Other Atomic and Molecular Targets," Dept. of Physics, Univ. of Denver, Nov. 1.

B.L. O'Neal and J.H. Metcalf (both 3313), "Criteria for Evaluating Personnel Exposures in A Mixed Radiation Field in Which Energetic Beta Particles are Present and A High Beta to Gamma Dose Rate Ratio is Measured," Rio Grande Health Physics Society Chapter Meeting, Nov. 3, Albuquerque.

D.M. Ellett (9150), "Gas Stimulation Using Nuclear Explosives: The Project Rulison Experience," Local Chapter of the American Institute of Plant Engineers, Nov. 8, Gallup, N.M.

B.L. Butler, D.A. Northrop (both 5313), and T.R. Guess (5314), "Interfaces in Carbon Fiber/Pyrolytic Carbon-Matrix Composites," Symposium on Interfacial

Bonding and Fracture in Polymeric Metallic and Ceramic Composites, Nov. 13-15, UCLA.

M.M. Widner, T.P. Wright (both 5231) and J.R. Freeman (5241), "Flux Correct Transport Applied to ADI MHD Models"; Wright and Widner, "Some Geometrical Effects on the Source of Spontaneous Magnetic Fields"; A.J. Toepfer and J.W. Poukey (both 5241), "Nonlinear Interaction of an Electron Beam with a Tenuous Plasma"; J. Chang, L.P. Mix and D.W. Swain (all 5243), "The Experimental Observation of Vortices Associated with Trapping Effects in a Weak Beam Plasma System"; J.W. Poukey, J.R. Freeman (both 5241) and G.O. Yonas (5242), "Numerical Experiments on Relativistic Electron Beam Diodes"; P.A. Miller and G.W. Kuswa (both 5242), "Plasma Heating by an Intense Electron Beam"; G.W. Kuswa and L.P. Bradley (both 5242), "Neutron Production by Collective Ion Acceleration in Field Emission Diodes"; K.R. Prestwich (5245) and G.O. Yonas (5242), "Studies of High Nu/Gamma Diodes Using Low Impedance Electron Beam Generators"; L.P. Bradley and G.W. Kuswa (both 5242), "Relativistic High Current Diode Characteristics Associated with Collective Ion Acceleration"; C.L. Olson (5241), "Pressure Gradient Focusing of Intense Beams"; G. Yonas (5242), K.R. Prestwich (5245) and J.W. Poukey (5241), "Beam Focusing Using Current Carrying Plasmas on the Axis of Diodes"; G. Yonas, G.W. Kuswa and L.P. Bradley

(all 5242), "Effects of Beam Injection Conditions on Beam Propagation and Collective Ion Acceleration"; D.A. McArthur (5224) and J.W. Poukey (5241), "Theory of the Nitrogen Laser Excited by an Intense Relativistic Electron Beam"; W.D. Brown (1715), "A Born Eikonal Formulation of the Scattering of an Electromagnetic Wave by an Inhomogeneous Turbulent Plasma," APS Meeting, Nov. 13, Monterey, Calif.

A.C. Watts (9226) and W.L. McDaniel, Jr. (Miss. State Univ.), "Observations Concerning the Minimum Fuel Problem," 6th Asilomar Conference on Circuits and Systems, Nov. 15-17, Pacific Grove, Calif.

L.S. Nelson (5324), "The Origin of Chondrules: Experimental Investigation of Metastable Liquid Silicates," 35th Annual Meeting of the Meteoritical Society, Univ. of Chicago, Nov. 16-18.

M.J. Clauser (5241), "Ellipsoidal Coordinates — A Natural Coordinate System For Calculations of Laser Irradiation of Slabs"; Clauser and J.R. Freeman (both 5241), "Comparisons of 1/2 D Calculations With 2D Calculations"; M.M. Widner and T.P. Wright (both 5231), "Alternating Direction Implicit MHD Code for Simulating Laser Plasmas," Computational Aspects of Laser Produced Plasmas, Oct. 23-25, Univ. of Rochester.

A.B. Donaldson and W.P. Schimmel, Jr. (both 1543), "A Thermal Model for Geothermal Energy Extraction," CANCEM, Nov. 6.

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Deadline: Friday noon prior to week of publication unless changed by holiday.
A maximum of 125 ads will be accepted for each issue.

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1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Laboratories and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

POOL TABLE, first \$50 takes; ladies' fake fur coat, size 12, \$15; extra set of kitchen cabinets, white, \$25. Rhoden, 294-9207 after 5.

30 ROUND-top concrete blocks, \$7.50. Schmierer, 299-2352.

STEREO TUNER AM/FM, Realistic model TM-8, stereo amp., 20 watts per channel, Realistic model 40-A, \$45. Rainhart, 299-2887.

BUMPER POOL TABLE, includes balls, 2 cue sticks, table cover, used very few times. Vigil, 299-0647.

FREEZER, 16 cu. ft., 10 yrs. old, \$85. Selvage, 299-0779.

HEATHKIT metal locator, \$50. Brassell, 298-9349.

CARPETING, over 30 sq. yds., used, \$1/sq. yd. Archuleta, 877-1320.

23 CH C.B. mobile radio, Pace 2300 w/turner M+2u mike, also std. mike, \$150. Rutledge, 898-6997 after 6:30.

CORNER SET, includes 2 mattresses, 2 foundations, bolsters, covers & corner table, \$150. Benzley, 294-1217.

DINING RM. TABLE, 4 chairs, maple, \$100 or best offer. Castillo, 242-9601.

OLDER SINGER sewing machine, blond cabinet; Royal Heritage & Remington port. typewriters; child's sled. Mason, 299-2836.

PHILCO CLASSIC 1937 table model radio, \$35 or trade for silver teaspoons or old edged weapons. Smitha, 266-9977.

CLEAN BENCH-Farr, 2-spd. blower, prefilter, 30" hepa filter designed to reduce allergens in a room, also suitable for industrial use, \$200. Rarrick, 296-2340.

3-CHANNEL Heathkit CB radio & antenna, \$45; 2 dinette sets, \$15 ea.; men's "alligator" wool overcoat, 42R, \$35. Lassiter, 298-2461.

LUND wood skis, 6'8", Cubco bindings, men's size 10 ski boots & boot tree, metal poles, all for \$60. Walter, 299-2898.

STURDY CANVAS luggage carrier fits station wagon rack, \$14; exercise slanting board, \$12; modern couch, \$30. Frauenglass, 344-8344.

STANDARD wirehaired dachshund puppies, born Oct. 16 to AKC champion parents, 3 available. Simon, 898-3275 or 256-9734.

HOMO autumn haze mink cape; telescope, Tasco 600 power, \$300 ea., terms possible. Scott, 298-2129.

30W LINK low band transceiver for 5W CB portable. Flowers, 282-3458.

ONE-HALF INCH Sony Videocorder w/monitor, used less than 1 yr., new \$1200, sell for \$650. Swain, 255-7003 or 265-0098.

ADMIRAL console stereo, AM/FM radio w/floating turntable, walnut cabinetry. Bennett, 266-4665 after 6:30.

FLUTE, Artley Wilkins model, solid silver, retails \$525, sell for \$450 cash. Fisher, 266-2266.

PAIR of tiger running shoes, worn only a few times, size 11 1/2, \$6. Hall, 298-8617.

FREQUENCY COUNTER, Heathkit IB-101, new, \$125. Richardson, 268-7843.

VEHICLE MANUALS for '66 Ford pickup, '56 Chry., '49 "Motors"; 2 Johnson 35 HP props. Windham, 265-3031.

SKI BOOTS, lace type, \$5/pr., ladies' 7 1/2, men's 10 1/2. Baxter, 344-7601.

POOL TABLE w/ping pong table top, \$99; speaker system in mahogany cabinet, \$49; canopy bed, \$99. Winblad, 344-3109.

2 ANTIQUE radios, Radiola 20 and Crosley Bandbox; ham gear: SBE 34 transceiver, Drake 2B receiver, 2BQ multiplier, Tektronic oscilloscope 211A. Freedman, 298-2177.

TIRE/WHEEL, 6-hole bolt pattern, drop center wheel, 6.70x15 tire, 6 ply, \$11. Rakoczy, 256-0433.

8' CABOVER CAMPER, complete w/jacks & tank, \$400. Frasier, 299-6933.

OUTBOARD MOTOR, 7 1/2 HP Sears, '72 model, used 4 times, remote 3-gal. tank, solid state ignition. Bentz, 299-3448.

SONY port. tape recorder for 5" reels w/counter, \$30; 14" tire chains, \$4; Smith Corona port. typewriter, \$25. Bradley, 296-2213.

RABBITS, 6 mos. old, for pets only, \$1.50 each; tires: 8:55x15 4-ply nylon, suitable for recapping, \$3 ea. Bassett, 898-1840.

RIFLES: 308 Savage, model 99, \$100; dbl. barrel 12 gauge, J.C. Higgins, \$60; std. 4-element elec. range, \$25. Chaves, 255-6155 or 242-8637.

VINTAGE Singer sewing machine; Kodak slide projector, remote control; Viking tape deck; Garrard record changer; table lamps. Spray, 299-0412.

BICYCLE, girl's 24", \$20; refrig., Hotpoint, \$25. Hayes, 296-3909.

FREE Springer pups, mother thoroughbred, Westman, 255-6048.

GOLD winged-back chair, \$75; Simmons hide-a-bed sofa, \$30. Sherwood, 299-2169.

HEAD SKIS, 6', w/bindings, \$40; 2 pr. buckle boots, size 7 & 8; women's ski pants, size 12; girls' ski clothes, 10-12. Mullin, 298-9060.

'71 HONDA CL 175, \$425; 7:50x-15 M&S tire, tube, flap, \$10. Scottish terrier, 11 mos., \$75 or offer. Benson, 268-9727.

WINCHESTER, 70, cal. 225, new, \$150; 101 12 ga. single trap, \$225 or trade for 101 skeet or? Zaluga, 344-1564.

2 PR. children's Cubco bindings, \$10 ea.; 2 pr. 175 cm wood skis, \$5 ea. Kepler, 298-5652.

TRANSPORTATION

'56 OLDS, 4-dr. HT, R&H, AT, PS, PB, \$125. Cano, 296-6955.

'64 PLYMOUTH stick shift, needs work on trans., good motor. Richardson, 294-5312 after 6:30.

'64 IMPALA, 9-pass. wagon, stripping for parts, cheap, selling folding rear facing seat & whatever parts requested. Stixrud, 298-0478.

'66 CHEVROLET Belair V8, 4-dr., AC, PS, PB, fiberglass tires, \$650. Stoeber 266-6439.

'71 INTERNATIONAL Travelall, gold, PS, PB, AC, heater, Positraction, model 1010. Laster, 344-3378.

1930 MODEL A Tudor sedan, excellent running condition, new seat covers, top, windows & paint. Young, 298-6927.

'72 GRAN TORINO Sport 351 4-barrel, 6,000 miles, gun-metal gray w/black vinyl top, factory air, PB, PS, AM/FM stereo radio w/8-track tape deck, \$3,500. Cordova, 265-4784

after 5.
'65 RAMBLER Classic wagon, \$350; V8, PS, PB, R&H, 3-spd. stick. Rogers, 299-7365.

ONE EACH 327 & 427 Corvette engines; radial T/A tires FR60x15. Fuller, 294-3089.

BICYCLE, girl's Sears 3-spd., \$30. Weart, 298-0614.

'69 VW BUG, \$850, blue, 28K miles. Hill, 255-6538.

'67 MERCURY station wagon, A/C, PS, PB, AT, luggage rack, \$800. Gay, 299-5625.

'72 1/2 MAICO 125MX motorcycle, 6-spd. trans., new teflon piston. Cornutt shocks, conical front wheel w/alloy rim & new rear tire, \$800. Moore, 298-4517.

20" GIRL'S bicycle, banana seat, \$18. Jennings, 344-4529.

'68 OLDS Cutlass S, 2-dr. coupe, AC, AT, PS, PB, 350 V8, bucket seats, console, 40,000 miles, split wholesale & retail at \$1,550. O'Neal, 298-2859.

'71 AUDI 100LS, 4-spd., tachometer, radio, 9,000 miles, under factory warranty, \$3,495. Scheer, 265-1983.

'69 VW BUG, 50,000 miles, \$900, \$200 under retail. Rush, 296-1244.

1950 WILLYS JEEP, dualmatic hubs, metal cab, heater, \$750. Zamora, 265-3187.

BICYCLE, Schwinn 10-speed Continental w/carrier, \$80. Kavet, 299-1793.

'67 PONTIAC GTO 4-spd., 428 cu. in. V8, mag wheels. Taylor, 846-0864.

'66 JAGUAR, new paint-brakes-battery-tires, 4.2 liter, chomewire wheels, tape deck. Schultz, 298-1076.

350 CL HONDA, top end, trans. overhauled. Mason, 299-2836.

WANTED

JAGUAR SERVICE MANUALS, any year or type. Nielsen, 848-3853.

NATIONAL NC-2-40D communications receiver, appearance & operating condition not important, but must be mechanically complete. Hinde, 299-3214.

ARIZONA HIGHWAYS magazine, May 1972 issue. Rakoczy, 256-0433.

METRANOME, mechanical or electric. Shepherd, 299-1507 after 6.

TRADE 1969 Kawasaki 90cc for Honda trail 90 or comparable Honda bike, four sprockets w/ the Kawasaki. Frasier, 299-6933.

INBOARD/OUTBOARD tri-hull boat, open bow, 16'-18", 2-4 yrs. old; water skis, jr. & adult; ski belts; snow skis and boots for lady, 5'3", size 8B. Chandler, 296-3323.

JEWELER/PLUMBER air-acetylene torch outfit and/or jewelry/lapidary tools and/or gram scale & weight set. Westman, 255-6048.

REAL ESTATE

2-BDR. HOUSE on lg. corner lot in BelAir district, new carpet & drapes, den w/fireplace, will negotiate terms on reasonable offer. Curtis, 344-8937.

1/2 ACRE LOTS in new subdivision, 1/2 mile east of Peralta, approved for mobile homes or permanent dwellings, low down and low monthly payments. Shuman, 869-2618.

WORK WANTED

WILL do babysitting at home weekly basis, reasonable, also reliable teen-age daughters will baby sit evenings within reasonable distance NE. Garcia, 256-7606.

FOR RENT

LARGE 1-bdr. unfurnished apt., elec. kitchen, carpet, AC, 127 Gen. Arnold NE, \$118, water paid, no pets, couple preferred. EerNisse, 298-3968.

1-BDR. APT. near UNM, furnished, lighted parking area, \$140 plus deposit. Bentz, 299-3448.

2-BDR., unfurn., all elec. new appl., laundry, storage, security fence, pool, wired quadrasonic, Juan Tabo & Haines NE. Pike, 296-0025.

LOST AND FOUND

LOST - orchid & silver ojo earring, gold earring for pierced ear, ladies' bifocal glasses w/brown frames, GM ignition key, 3 bronze keys held together w/screw & nut, ANB check book w/name Orville Talley & key to Labs scooter, Ford Motor key, leaf shaped gold clip earring, ladies, white gold wristwatch w/Navajo expansion bracelet. LOST AND FOUND, tel. 264-2757, Bldg. 832.

FOUND - 3 pr. safety glasses, pr. sun glasses, thermos, ladies' glove for right hand, gold band ring. LOST AND FOUND, tel. 264-2757, Bldg. 832.

LOST - Dark red female Irish Setter, 8 mos. old, lost in vicinity of Louisiana-Kathryn-Zuni-Wyoming. Reward. Matthews, 298-8104.

Get Tickets Now for New Year's Party

TONIGHT while people from 7100 party in the ballroom and those from 4100 celebrate in the dining room, Happy Hour will run full blast in the main lounge with special prices until 10 p.m. Denny and guitar will entertain.

* * *

TOMORROW Santa Claus will put in a special appearance at the Club at 10 a.m. as the highlight of the Kids Christmas Party. Ron Day and Mary Kay will present an original show with songs and fantastic puppets. Cartoons will be shown, and the 30-voice Valley High School choir will present a program of holiday music. The party is free to member's kids, age 10 and under, but members only, please.

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TEENAGERS home for the holidays might enjoy a party scheduled just for them on Thursday, Dec. 28, from 7:30 to 10:30. A group called Magic Sam will play for dancing while Don Nelson and Chuck Logan of KQEO will keep things moving as emcees. Tickets are two-bits for member's kids, 50

SAFETY

Brought it thru '72
Now it's up to you!



Bill and Alicia Fay — Phyllis and Ray Uhler.

cents for guests. Member parents should pick up tickets for their youngsters.

* * *

TICKETS for the great Coronado Club New Year's Eve party should be picked up right away. Upstairs and downstairs will be filled to capacity with champagne, confetti, noisemakers, balloons and hats for everybody. Frank Chewiwie will play upstairs while Wildman Bob Banks and the Trio hold downstairs. At midnight a breakfast buffet will be spread. Tickets cost \$7.50 per member couples, \$4 for singles.

* * *

HAPPY HOURS will be back on regular Friday night schedules starting Dec. 29. An oriental buffet will be spread and the Country Establishment will play for dancing. Special prices will be in effect from 5 to 10 p.m. On Jan. 5, Mexican food will be the buffet feature while Christopher is on the bandstand. Margaritas will sell for 50 cents. On Jan. 12, Sol Chavez and the mighty Duke City Brass will make the samba sound while the Club's famous chuckwagon roast beef will be spread.



LET'S HEAR IT for Soul Session. Yea! Saturday, Jan. 6. Yea! Free Admission. Yea! Happy Hour Prices. Yea! Jan Christenson (7000 A).

SOUL SESSION on Saturday, Jan. 6, will see the return of Freddie Williams and the Key Notes to the bandstand to make a huge rock sound from 8:30 to 12:30. Happy Hour prices will be in effect and super sandwiches will be available.

* * *

TRAVEL NEWS — The Coronado Club is offering a new trip to Spain, Bud Wheeler (3251), travel director, reports. "This one is scheduled for May 17-25, 1973," Bud says, "and it's a tremendous vacation buy. The package costs \$354 and includes seven nights at the new deluxe Holiday Inn on the beach at Malaga on the beautiful Costa del Sol region of Spain's coast. A continental breakfast each day is included along with a choice of lunch or dinner, a local tour of the area, a welcoming party, and all transportation. The Club is splitting the tour with another group and only 60 persons need sign up to make it feasible. If you're interested, leave your name at the Club office. Singles pay \$375."

Las Vegas, Nevada, is another trip scheduled, Bud reports, for Feb. 1-4. The \$129 price includes three nights at the Castaways, a dinner there, late show at the Sands, Desert Inn or Frontier, and transportation. Sign up right away for this one. Bud needs 50 to make the package go.

New Year's Resolutions

To: Lab News — 3162
From: R. J. Johnson — 7616
Subject: Article for Lab News

Wouldn't it be nice if at least here at Sandia Laboratories we could all keep the following New Year's resolutions:

1. All drivers always keeping their vehicles within the speed limit.
2. All bicyclists always stopping at stop signs.
3. All drivers and all bicyclists always stopping for pedestrians in crosswalks.
4. All pedestrians always crossing only in crosswalks.