

Afterthoughts

The Felicity of This Season--"And I do come home at Christmas. We all do, or we all should. We all come home, or ought to come home, for a short holiday."--Charles Dickens, A Christmas Tree

"It is a fine seasoning for joy/ To think of those we love."
--Moliere

Bicyclists Really Dig Surveys--In the last issue of LAB NEWS we included a coupon in which we asked Sandia bikers and would-be bikers about cycling conditions and how they might be improved. The response was surprisingly good--about 130 replies. Haven't had time to come up with any conclusions yet, but we're working on it and will keep you informed. The ardent tone of most of the replies struck us --these are really passionate people.

Silence, The Rare Commodity--"Human affairs would be much more happily conducted if it were equally in the power of man to be silent and to speak; but experience shows over and over again that there is nothing which men have less power over than the tongue, and that there is nothing which they are less able to do than to govern their desires."--Benedict Spinoza

Vista

NEW MEXICO

Our Cover: Nuestra Senora de Guadalupe

If you've visited some of the old churches in New Mexico, the cover for this Christmas issue of LAB NEWS will have a familiar look. It is a representation of an art form peculiarly New Mexican — a *retablo* — a religious picture painted by a native artist on a wooden board.

The cover retablo is a particularly distinguished example of this art form and was loaned to us by the International Folk Art Museum in Santa Fe. According to papers accompanying this retablo "it was painted by the santero Rafael Aragon, probably about mid-19th century." Its title is *Nuestra Senora de Guadalupe*. The Folk Art Museum, by the way, is well worth visiting by anyone interested in the cultural heritage of New Mexico.

Retablos are a form of *santos*, the other form being sculpture. Both restrict themselves to religious themes, depicting saints, divine persons and events in the Catholic Church. The religious artist was called a *santero*.

Why a wooden board? In the backwater villages of the 18th and 19th century wood was available, canvas was not. Even a smooth wooden board was something of an accomplishment in the absence of lumber mills. Yet the painting of retablos and the carving of religious figures flourished because their religion was central to the people, and the church and its ornaments offered a touch of grandeur that contrasted sharply to the plainness of everyday life.

Primitive as it appears, the retablo actually represents a fair amount of technique. After hewing out his board, the artist sometimes would add the semicircular "lunette" to the top (as in the cover illustration) which authorities believe copies the fluted shell of niches for statues in Europe. To prepare the board to receive paint, he would apply several coats of gesso, a kind of plaster of Paris which he would have made himself from local gypsum rock. His pigments were likewise obtained locally, usually from minerals pounded to powder, and these were mixed with water and egg yolk to make a tempera paint. Blue and green were colors not generally available from any mineral source, and their presence on a retablo usually marks it as a more recent work, i.e., late 19th century, when oil paints were being imported.

The artist's brush could be a cluster of yucca fiber, a feather, or a chewed willow stick. With these crude instruments he would draw the outline of the figure and would then fill in the portions with color, somewhat as by-the-number paintings are done today. When the painting was finished, he protected its surface with a coat of watery egg yolk.

The first santeros in New Mexico were the missionaries, who felt the need for decoration in their humble churches. But the people also wished to have these religious objects in their homes, and a number of lay artists developed to satisfy the demand for the paintings. The art form enjoyed modest success until displaced by mass-produced religious pictures toward the end of the 19th century. • js



GLENN FOWLER (9000) welcomed some 40 nondestructive testing representatives to Sandia last week to attend the 16th AEC/NDT Conference of Weapons Agencies. The 2 1/2-day conference featured talks on nondestructive testing developments and a tour of Sandia NDT facilities.

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An Equal Opportunity Employer

ALBUQUERQUE, NEW MEXICO
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TONOPAH, NEVADA

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Bill Laskar is the Photographer.

In Livermore, Matt Connors &
Lorena Schneider are

Writers, while

George Hosoda is the Photographer.

Events Calendar

Dec. 18 — Albuquerque Wildlife Association Variety Show, Civic Auditorium, 7:30 p.m.

Dec. 18 — N.M. Mt. Club, West Sandias, meet at Western Skies at 8 a.m.

Dec. 21 — Children's Variety Show, Civic Auditorium, 8 p.m.

Dec. 22-23 — Lobo Invitational Basketball Tournament (Texas A&M, St. John's, Creighton, UNM), UNM Arena, 7:30 p.m.

Dec. 24 — Luminaria Tour, call Chamber of Commerce (243-2201) for information.

Dec. 27-31, Jan. 1-2 — "My Fair Lady," Albuquerque Civic Light Opera, Popejoy Hall, 8:15 p.m.

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

Jan. 4 — "Promises, Promises," by Neil Simon; music by Burt Bacharach, Popejoy Hall, tel. 277-3121.

New Service Anniversary Jewelry Available Soon

Next time you reach a "milepost" service anniversary at Sandia (5 years, 10 years, 15 years, etc.), you become eligible for the new look in service anniversary jewelry.

The new look is basic southwest silversmithing in contemporary and traditional designs. The Sandia thunderbird emblem is incorporated into most of the pieces, and the emphasis is on functionalism. For instance, the thunderbird brooch for women is handy for badge attachment inside the tech areas. There is a handsome silver letter opener and a useful key holder.

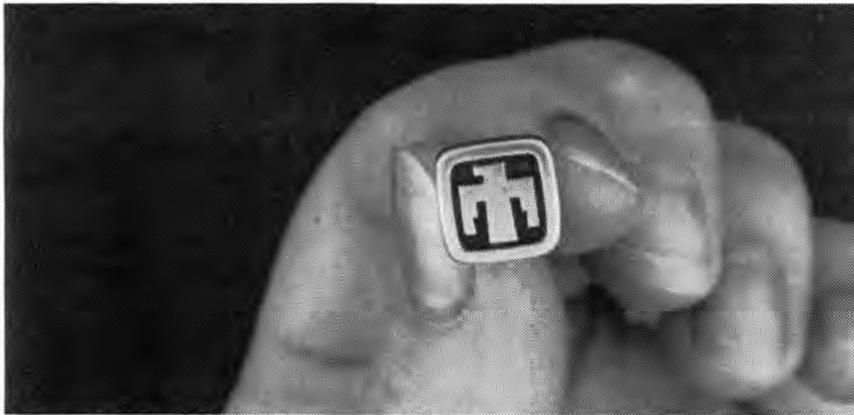
A set of the new jewelry will soon be on display in the elevator foyer of Bldg. 802 in Albuquerque and Bldg. 911 in Livermore. It was designed and crafted by Jack Suttman, Janet Jenkins and Fay Spellman of Graphic Design Section 3155-3, using southwestern silversmithing techniques. Ben Sedlack (1612) and Bernie Kayate (5153) assisted the project.

Anyone having a milepost service anniversary date after Nov. 22, 1971 is eligible for the new jewelry. Employee Services Division 3243, Division 8236 in Livermore, will send you a descriptive brochure from which to make your selection. Supervisors will make the presentations. The first of the new jewelry should be ready for presentation in March.

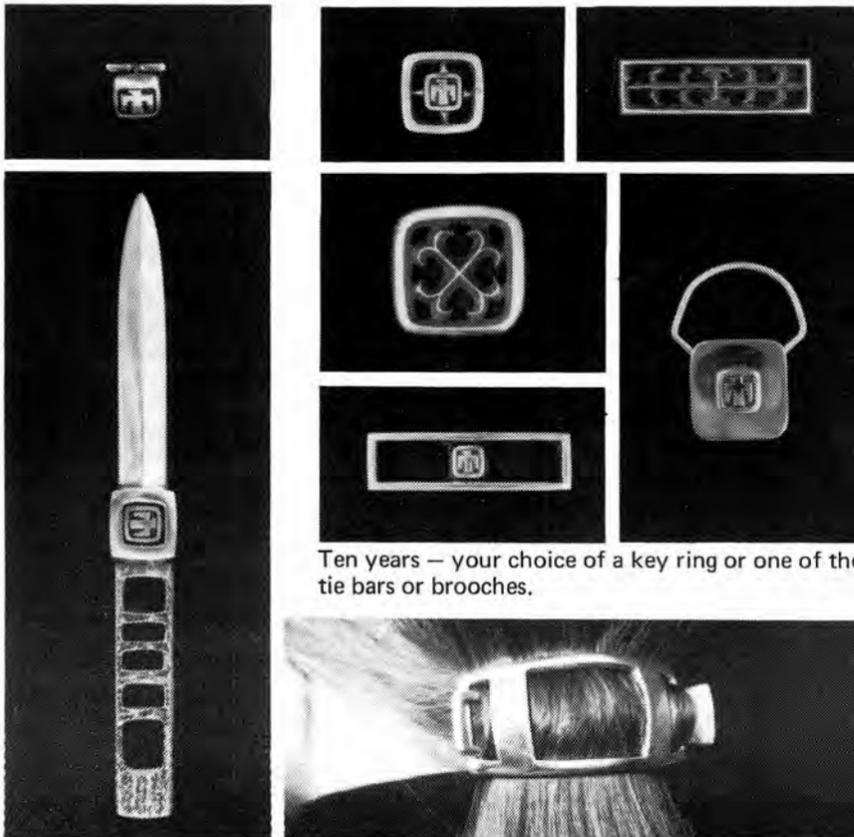
Production of the jewelry will be done under contract by craftsmen using molds made from the pieces designed by Division 3155. Sandia will provide the sterling silver for this use from silver reclaimed from the processing chemicals of the Sandia motion picture labs. From 50 to 80 pounds of silver are reclaimed annually from movie film.

Although the new jewelry is not available retroactively, all employees with five or more years service are eligible to purchase the new Sandia thunderbird pin for a handling charge of \$1.50. Department offices will handle this and ordering details should be available shortly.

With the exception of the 5-year pin, the jewelry is pictured here at approximately half-scale.

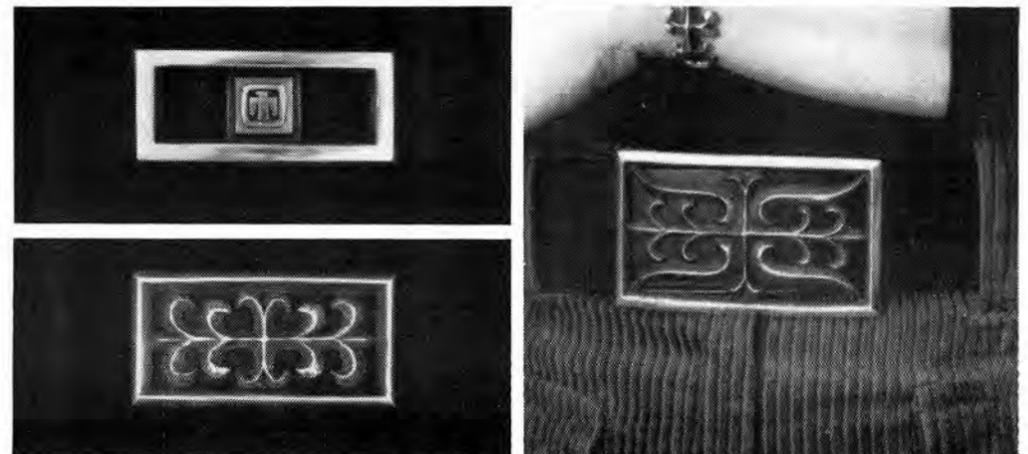
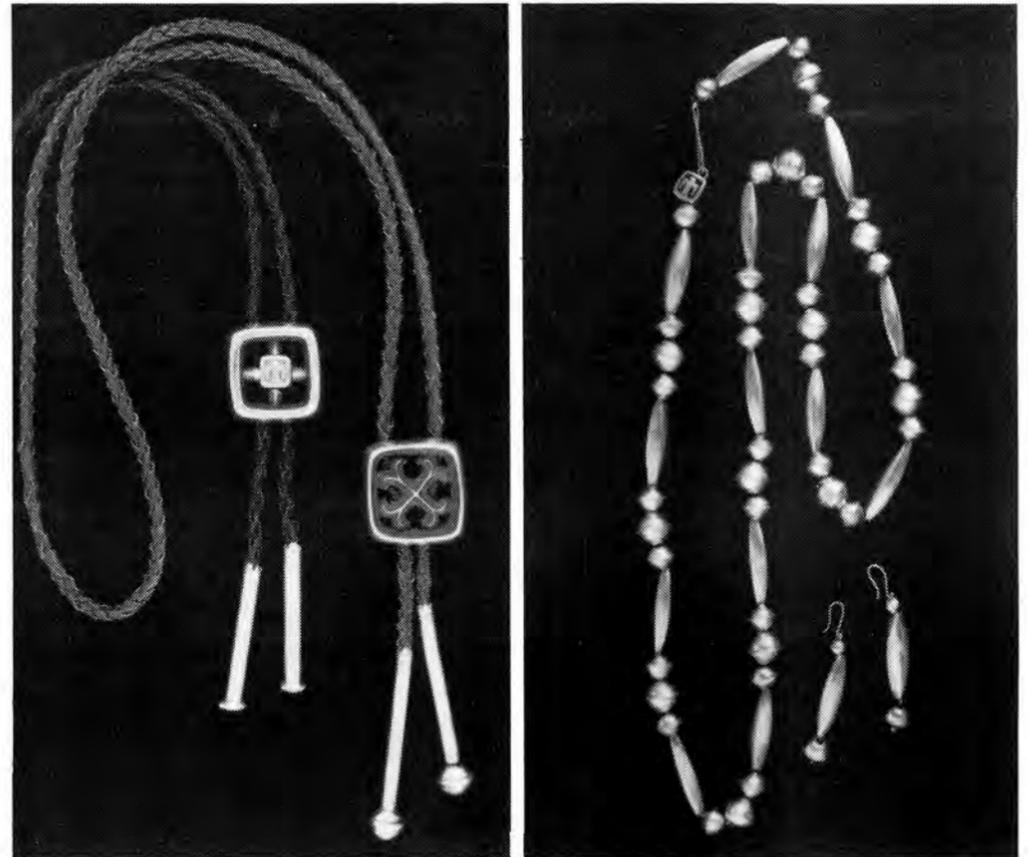


Thunderbird insignia has been incorporated into a silver pin for the 5-year service award.



Ten years — your choice of a key ring or one of the tie bars or brooches.

Fifteen years — the options are cuff links, a hair clip, or a handy silver letter opener.



At 20 years, your choice includes necklace and earrings, bolo tie, or one of the three belt buckles. At 25 years, you may choose a watch or Nambeware (not shown), or any three pieces of service award jewelry.

Steam Plant People Will Work On Christmas

Christmas Day 1971 falls on a Saturday. To most of us, that's a double reason for taking the day off.

But Plant Technicians Bill Shaffer, Nick Tavone and Earl Deno (all 8257-1) will be on the job Christmas Day. Each has an eight-hour shift keeping the steam plant in operation.

How come they're so lucky?

"Shift work is part of our job," says Bud Pearson, their supervisor. "We operate 24 hours a day every day, and there are 21 eight-hour shifts a week. With four regular operators, each man works five shifts. That's 20. The extra shift (8 a.m. - 4 p.m. every Thursday) belongs to the relief man who is qualified as an operator in addition to his main job. He also takes over when the "regulars" take vacation or are sick. The schedule is worked out a year in advance and it works out that every seventh year one man will get off on Christmas Day. This year it's Andy Anderson."

Why not just shut down entirely?

"It just can't be done," Bud contends. "Steam is used to heat and cool buildings. It's also used in labs running temperature control experiments, and our computers require closely controlled temperatures. Shut the plant down for any length of time and we would have severe equipment damage."

What's it like to work while others enjoy the cheer of the Season?

"It's routine," shrugs Bill Shaffer who has the graveyard shift (12 M - 8 a.m.) Christmas Day. "After 19 years of shift work, my wife, Mary, and I have become accustomed to planning around the schedule. So have our children who live near us. And some of our grandchildren (Bill has 20). After work, I'll stay up until the presents are opened, then sleep for two hours. Mary and I will go along with whatever plans our two sons and two daughters and their families have. We'll be at one of their places for Christmas dinner; there just isn't enough room for the bunch in our mobile home. We'll probably get to bed around 7 p.m. because I'm due back at work midnight Sunday, the 26th. This year I have to work two days before and four days after Christmas. But I'll have New Year's Day off."

"Doesn't matter to me — I don't mind it," says Nick Tavone who takes the day shift (8 a.m. - 4 p.m.). I've worked Christmas Day many times. I accept it because of the job. It's expected. If you have a negative attitude about it, you're butting your head against a stone wall. Besides, shift work breaks up the monotony. From the time I was in the Navy working in the fire and engine rooms until today I've spent more than 25 years doing

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CHRISTMAS CONTAINER CONTEST — "It's a Small World," created by Pat Leigh, left, and Lollie Short of Purchasing Division 8264, won first place in Sandia/Livermore's Christmas Container Contest. Each year employees pool contributions to help the needy in the local area at holiday time, rather than exchanging greeting cards. To collect the monies, secretaries throughout the Laboratory compete for the best decorated or most unusual container — this one rotates while playing Christmas music. Winner receives a gift package and winner's division a plaque. This year proceeds will go equally to children's activities at the Livermore-Amador Emergency Fund Center and the building fund for the Twin Valley Association for Retarded Children. Deadline for contributions is Dec. 20.

shift work. Marie (Nick's wife of 40 years) got away from the big deal of fancy dinners. What we have Christmas Day depends on how Marie feels about it. Presents can be exchanged morning, noon or night — sometimes the day before . . . usually happens when the kids start begging to open them."

Swing-shift (4 p.m. - 12M) operator Earl Deno puts it a little differently. Says he: "Haven't seen Santa Claus for three years, and it will be four more before I do. By that time I won't believe in him anymore. I'll be working the day before and three days after Christmas. I look forward to Jovita's (Earl's wife) Christmas dinner at 11 a.m. though. Ham, enchiladas, macaroni and fruit salads and those tasty Mexican pastries. She's used to rearranging mealtimes, but the one on Christmas is always something special. Working Christmas is the job — it has to be done — somebody has to do it. And being paid double time and a half helps." • mo

Christmas Cheer

You remember Santa Claus. He's the one with the sideburns that forgot to say when.

* * * *

A teenager gave her parents a wonderful Christmas present. Ten minutes use of the phone!

* * * *

Show me a fella who puts up eight strings of untested Christmas lights on the top of his house and I'll show you a Fiddler on the Roof!

* * * *

Thanks to 15 different bowl games, New Year's is now the greatest holler day of them all!

* * * *

How about that new teen-age doll? You wind it up and it leaves home.

Christmas Bells Chime "Happy Birthday" for Five Sandians

Being born on New Year's Eve or New Year's Day usually brings some notoriety and maybe an unplanned tax exemption, but being born on the eve or the day of Christmas is something else.

Sandia/Livermore has five employees in the latter category. They claim that having a birthday on or near Christmas has advantages and disadvantages.

Here are some of their comments—

BILL FUNK (8230) — "I always have a holiday for my birthday! Of course, when I was young, being born on Christmas affected the presents. My parents would discriminate by giving me a book for my birthday and some other kind of present for Christmas — they'd split the gifts up that way. Later in my youth when I worked at a gold and silver mine in Colorado, Christmas wasn't a holiday, at least we didn't get the day off but worked only seven hours — that hour off was considered a fringe benefit in those days."

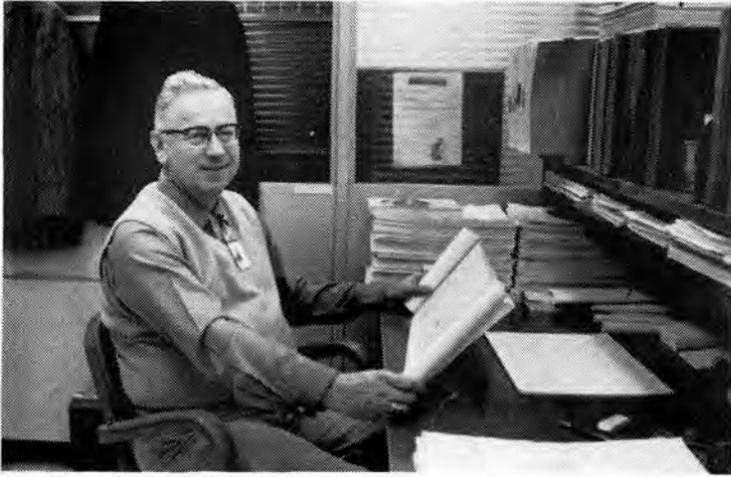
LEE DAVIES (8420) — "The main advantage is you always have a party on your birthday, even though it's combined with Christmas and not necessarily a birthday party. Through the years I've had lots of presents because our custom has been to have Christmas on Christmas Eve, which happens to be my birthday. So, I've celebrated both at the same time. However, as a kid, I guess I missed out on an extra batch of presents some other time during the year. I remember my grandmother used to make a special point of being sure I had a birthday gift."

HERMANN FOLKENDT (8413) — "You lose out on either a Christmas or birthday gift. It's almost like splitting up a pair of socks — you get one sock in one hand for Christmas and one sock in the other hand for your birthday. That is, if you're good! In Austria they have a custom where if you've been a bad boy you get either a Santa Claus in your shoe by the window or a little devil; and somehow when I was young I wound up with the devil quite a few times. I remember going to birthday parties for other kids, where they'd play games, sing songs, and have a cake, much as they do here. But when you're born on Dec. 25th you miss a lot of that."

MICHAEL MALINOWSKI (8331) — "The fact that I was born at Christmas? Only two things really come to mind: first thing is an advantage — everyone always comes to the party whether they like it or not. The obvious disadvantage is you don't get as many presents. Aside from that, I haven't found any drawbacks."

JIMMY ACKERMAN (8256) — "Being born on Christmas assures you of having a dinner-type party even though it's a combined Christmas/birthday celebration. On the other hand, you don't get as many gifts as you think you should considering they're for both occasions. I've always hated to admit my birth date because people tend to think being born on Christmas day is an oddity — maybe not odd, but they're always rather surprised. For some reason, they feel everything you do should be perfect, as if you're a saint."





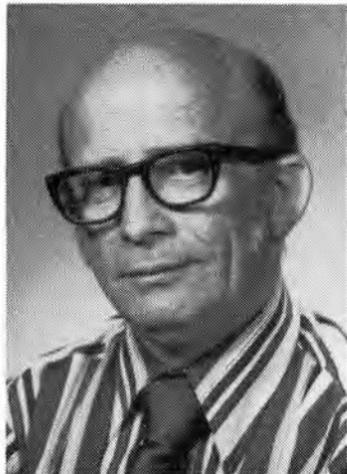
Theodore Smart — 9424 20

MILEPOSTS

LAB NEWS December 1971



Ken Smith — 3100 20



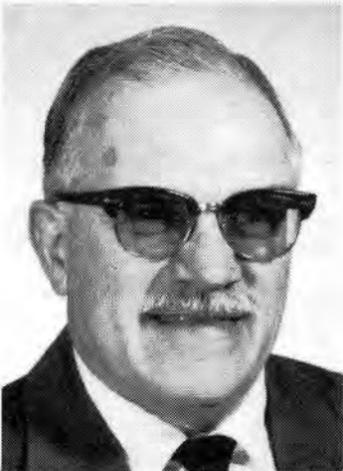
Jim Walston — 3155 15



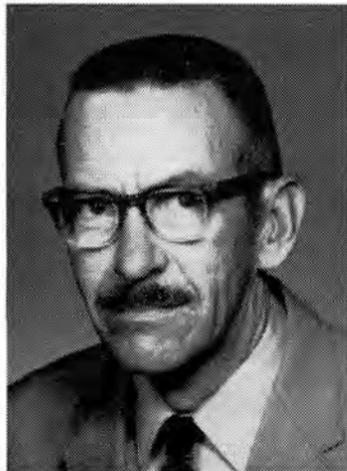
Dollie Harris — 3141 10



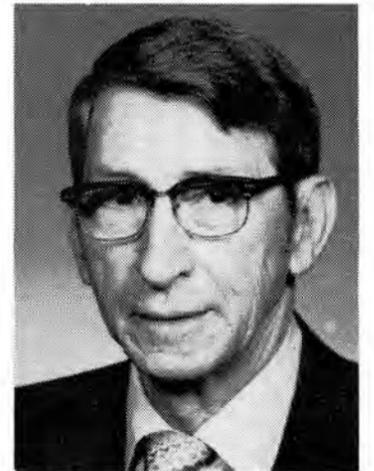
Lessie Lee — 5422 15



Leo Reynolds — 1612 20



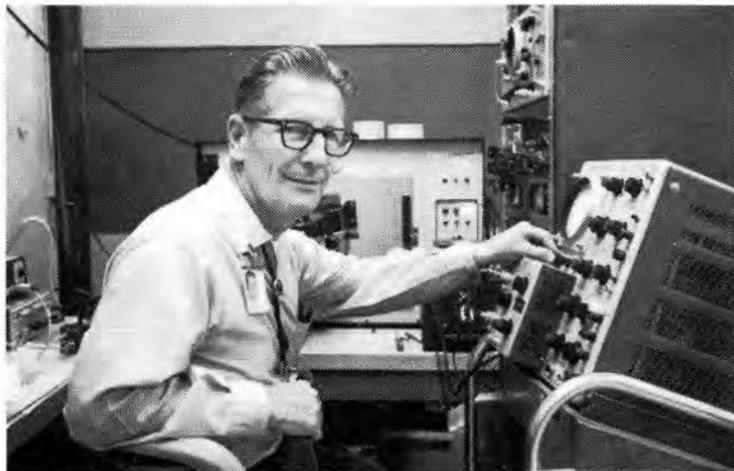
Loren Watkins — 1814 20



Anthony Parisi — 9484 15



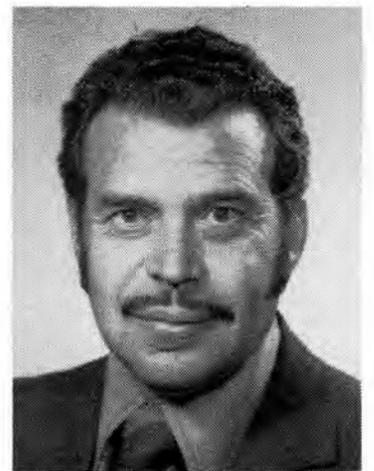
Derrell Dollahon — 4364 15



Martin Hansen — 7152 20



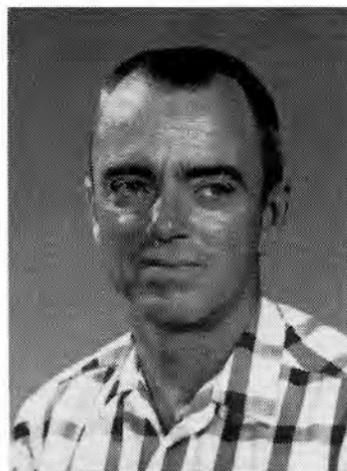
Robert Grover — 1534 15



Victorino Lopez — 7112 20



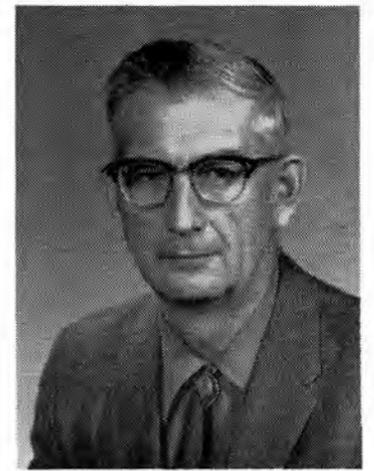
Art Randall — 4332 20



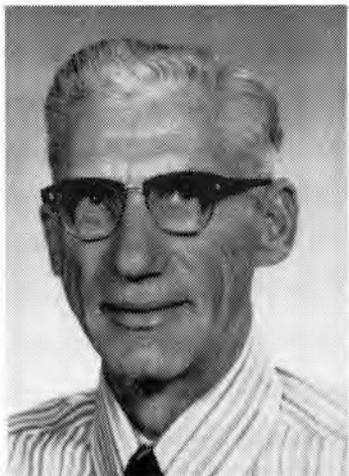
Henry Cole — 1316 15



Helen Allen — 7542 20



Arnold Draper — 7450 20



Ernest Manning — 7132 20



Robert Mottern — 9461 20



Arthur Troum — 7616 20



Dallas Sasser — 1722 15



Marie Blythe — 3311 15



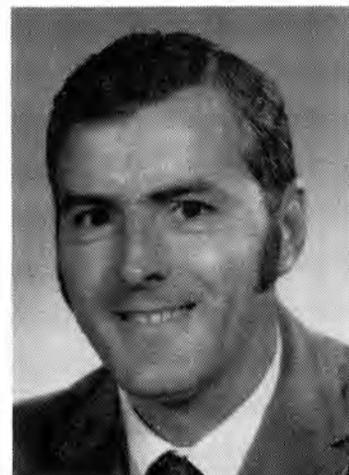
William Anderson — 1824 15



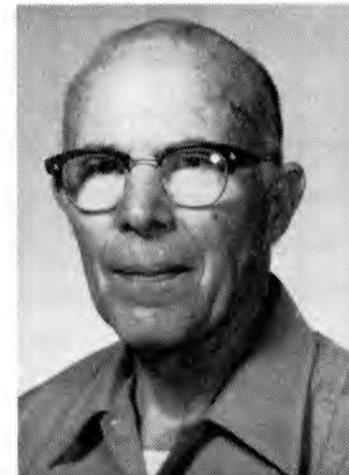
Don Odell — 4137 20



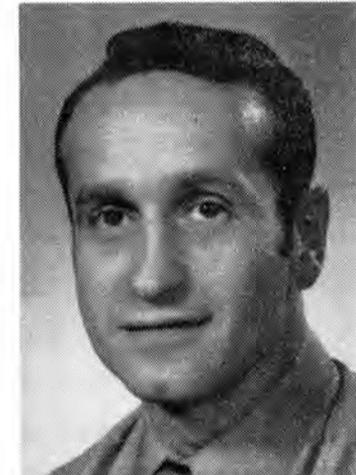
George Chapman — 4553 20



Richard Spalding — 9214 10



William McConnell — 7651 15



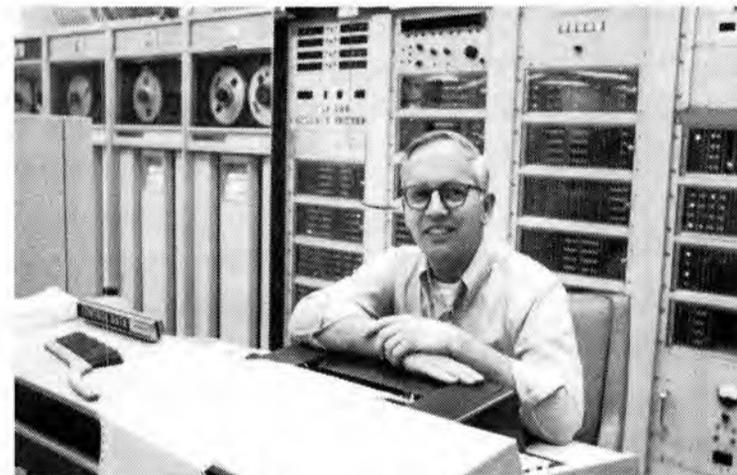
Samuel Levy — 1913 10



Ervin Bureta — 7113 20



Fred Stewart — 3512 20



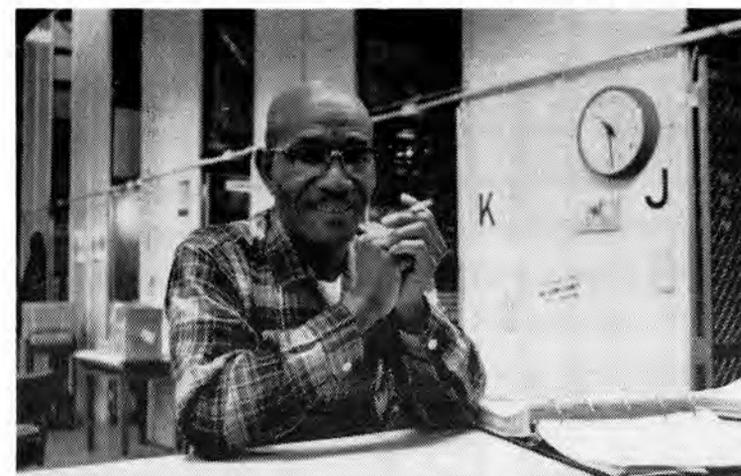
Glenn Riggins - 9423 15



Angie Rivera — 7631 20



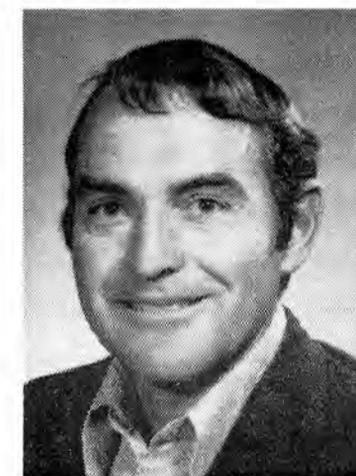
Beno Baerwald — 4514 20



Lonnie Johnson — 4614 20



Daniel Vallejos — 4514 20



Dick Baughman — 5154 10

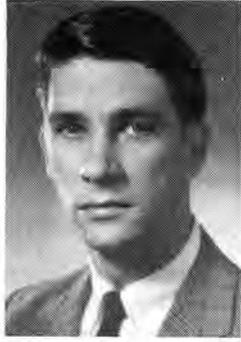
Supervisory Appointment

VIRGIL DUGAN to supervisor, Systems Studies Division III, 1734, effective Dec. 16.

Joining the Laboratories in June 1964, Virgil worked two years in the advanced data systems group and one year with planetary quarantine. After a two-year absence to continue his education he rejoined the planetary quarantine organization. Since April 1970 until his present promotion he has been with the Systems Studies Department.

Virgil's degrees — BS, MS and PhD — in electrical engineering were awarded from Mississippi State University. His Master's was earned under Sandia's Technical Development Program. He is a member of IEEE, and several honorary societies.

Virgil, his wife Sandra, and three-year-old Carol live at 7130 Bellrose Ave. NE.



Authors

E.K. Beauchamp (5334), "Effect of Microstructure on Pulse Electrical Strength of MgO," Vol. 54, No. 10, JOURNAL OF THE AMERICAN CERAMIC SOCIETY.

B.K. Seely (5521) and A.F. Veneruso (1213), "Atomic Absorption Spectrophotometry Applied to the Determination Breakup Statistics for Fractured Stressed Material," Vol. 43, No. 13, ANALYTICAL CHEMISTRY.

P.B. Bailey and G.E. Barr (both 1721), "Scalar Diffraction by a Curved Edge," Vol. 12, No. 10, JOURNAL OF MATHEMATICAL PHYSICS.

S.L. Erickson and F.J. Conrad (both 5521), "Determination of Boron and Nitrogen in Boron Nitride," Vol. 18, No. 10, TALANTA.

J.N. Johnson (5133) and R.W. Rohde (5531), "Dynamic Deformation Twinning in Shock-Loaded Iron," Vol. 42, No. 11, JOURNAL OF APPLIED PHYSICS.

G.J. Jones (5335), "Lateral Growth in Solid-Solid Phase Transformations," Vol. 42, No. 11, JOURNAL OF APPLIED PHYSICS.

Recreation Notes

FUN & GAMES

The Sandia Lab Bowling Association recently completed its annual Handicap Tournament. Team event winners were Bob Hulse (1411), Len Hansen (5112), Bill McAtee (5222), Gary Miller (5375) and John Nakayama (1514). Runner-up team members were Dennis Mottern (5535), Vern Christy (3513), Nick Delollis (5332), Ed Roberts (1932) and Ken Romine (5627).

The doubles event was won by Jim Carmody and Frank Chaves (both 7133), with Henry Baisdon (7113) and Cliff Fawver (7616) finishing in second place.

Top bowlers in both singles and all events were Gary Miller and runner-up, Don Hosterman (3134).

* * * *

To start the new year, the next Association bowling tournament is scheduled Jan. 8-9, with Sandia Lab and AEC employees and their spouses invited to participate. The tournament will be a singles and doubles with two classes, so all levels of bowling proficiency can take home the prizes. Tournament managers are Mary Ward (7651), ext. 3546, and Joe Stiegler (9480), ext. 1400. Entry forms will be mailed to members.

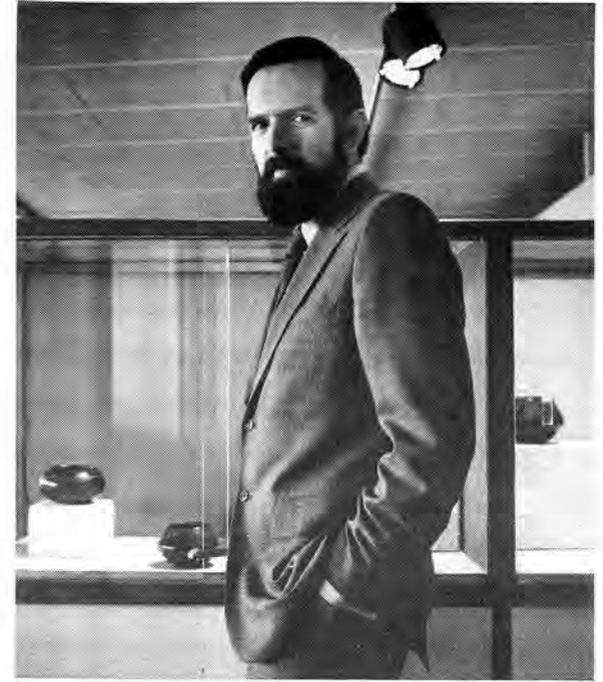
—Norma

Dick Knutson Elected

Dick Knutson of Hybrid Microcircuits Applications Division 1431, has been elected charter president of the New Mexico Chapter of the International Society for Hybrid Microelectronics. Dick has been at the Laboratories for 13 years.

Congratulations

Mr. and Mrs. M.D. Olman (1222), a daughter, Linda, Nov. 17.



PRESIDENT-ELECT Bill Paulus (9426) of the Museum of Albuquerque stands in the Maria and Julian Martinez pottery room. The collection is on loan to the museum from the Chester E. Farris collection.

Museum President Elected

The Museum of Albuquerque Association has elected Bill Paulus (9426) to head the group as president for the coming year. Association members, all volunteers, support the museum staff, maintain the gift shop and work with the Board of Directors in the operation of the museum.

"Our members are extremely busy," Bill says, "acting as tour guides, especially for school children; handling receptions opening new exhibitions; or arranging for film demonstrations and lectures in support of particular exhibitions. During my term of office, I'll probably place emphasis on fund raising activities — we are anxious to add to the museum's permanent collection."

Alan Pope (5600) is a member of the Board of Directors and John Anderson (1517) has just completed a term as a board member.



YOUNG NAVAJOS from Many Farms, Ariz., visited Sandia recently to see the kind of work done in a modern laboratory. At left, Frank Long (7141) explains

fabrication of an aluminum heat exchanger, while at right Donna Foor (3251) demonstrates Flexowriter operation.

Credit Union Reporter

By Karl Waibel (4117)
Chairman, Supervisory Committee

All About The Supervisory Committee

Each time you receive a request to confirm your account balance, or see an article in the LAB NEWS of account verifications, or read the annual Credit Union report, perhaps you may wonder *who* and *what* the Supervisory Committee is. In this article, I'll be telling you briefly what we do.

Bob Butler (4364), Joe Holdridge (4121) and I were appointed last January by the Credit Union Board of Directors to serve on the Supervisory Committee for a period of one year. Appointment of such a committee is required by Federal law. Once appointed, we can't be fired without approval of the Credit Union members at a special meeting. (Unfortunately, we can't be paid either.) We do, however, have two paid part-time auditors, who do most of the work.

In essence, the Supervisory Committee acts as a policeman overseeing the activities of the Credit Union. Under the Federal Credit Union Act we act as your representative to insure that the Credit Union is operated in compliance with applicable laws and regulations. To do this, we go behind the figures appearing on the Balance Sheet and Statement of Income and Expense and verify that these figures reflect the actual financial condition of the Credit Union. We perform relatively detailed audits of how money is spent; question procedures and policies, and verify accounts.

The request for verification of loan and/or share balances that you may receive along with your quarterly statement is one example of our work. Only through such audits can the Supervisory Committee review and evaluate the performance of the Credit Union and its



elected officials. We also review operating procedures of the Credit Union and the minutes of Board meetings, and we make frequent recommendations. Periodically, the results of our examinations and special studies are reported to the Board of Directors and the National Credit Union Administration. We can even suspend a Board Member if we consider it necessary. Federal law gives us this special independent status. And we report to you yearly in the Annual Report.

Each year examiners of the National Credit Union Administration examine all credit unions for compliance with applicable laws, regulations and sound credit union practices. Our review has just been completed. Conclusions of the examiners can best be summarized in their parting words, "it's a pleasure to examine such a fine credit union."

Sympathy

To H.A. Warrick (9342) on the death of his brother, Nov. 29.

To Ruby Cruze (4153) on the death of her brother in Knoxville, Tenn.



AEC OFFICIALS visited the Labs recently for briefings. Seated next to Mr. Clogston (5000) are, from left, Victor Corso, Asst. Controller for Budgets, John Abbadessa, Controller, Herman Roser, Ass't. Director DMA, and President Hornbeck.

RETIRING



GEORGE ROTH (1840)



DANIEL JUCKETT (7111)



ED BERQUIST (4374)



BERNICE CANNON (7542)



BILL McCONNELL (7651)

The Sandia Scene



WE'VE DISCOVERED SOMETHING about basketball. The fun thing isn't watching 10 grown men drop the ball through a hoop but rather to catalog a range of facial expressions that put Burton and Guinness in the shade. Here are Sandia players in a recent league game. At left, Nos. 7 and 14 appear to be gazing at the creation of the universe. Above, No. 18 and friend do a Nureyev/Dame Margot Fonteyn sort of thing. And at right we have something reminiscent of the flag-raising on Mt. Suribachi. No. 17 is having a trying moment. The winners? . . . never did find out.



A FEW DAYS after this picture was taken at the November 30 Telephone Pioneers luncheon, Charlie Bidwell died suddenly. He's second from left and is shown with another Sandia/Bell retiree, Burt Eich. Gordon DeSato (7651) and Roy Rainhart (5312) stand to Charlie's left.



FLOORED — Odds are 158 billion to one, more-or-less, against being dealt a perfect bridge hand — all 13 cards of the same suit. Last week it happened to Jerry Hastings who almost kept his cool as he bid 7 hearts. Others in the noon hour bridge game were (l to r) Bob Roginski, Brian Joseph and Mike O'Bryant (all 7651).



CHRISTMAS at Sandia Labs takes on a local flavor with this chili-decorated tree, shown off by (l to r) Delores Molina, Pat MacPherson, and Clara Blasyk, all of 4136. Projects to help people are many, and a few that have come to our attention include the Division 1525 gift collection for the Los Lunas Hospital, the Local 1689 I.A. of M. sponsorship of lunch, a party, and shoes for kids at Five Points School, and the 3100/3200 project to help poor people in villages along South Ten — Torreon, Escabosa, Punta, Chilili, and others.

Next issue of LAB NEWS will be published Jan. 7, 1972. Ad deadline will be 12 noon, Dec. 30.

Speakers

R.L. Park (5331) and J.E. Houston (5332), "The Application Appearance Potential Techniques to the Study of Solid Surfaces," Naval Ordnance Lab, Nov. 29, Washington, D.C.

J.T. Foley (1543), "Transportation Shock and Vibration Descriptions for Package Designers," Nov. 30, University of Wisconsin.

R.P. Hudson (100 staff), "Computer Simulation of Electron and Ion Processes in Photoionization of an Oxygen/Nitric Oxide Mixture"; F.K. Truby (5215), "The Decay of O₂⁺ in an O₂ Afterglow"; M.E. Riley (5234), "Asymptotic Solutions in Atom-Atom Scattering"; J.F. Cuderman (5233), "Ionization of Fast K Atoms in Collision with H₂, N₂, O₂, and CO"; J.K. Rice (5215) and F.W. Bingham (5233), "Classical

Elastic Differential Cross Sections for Ion-Atom Collisions at keV Energies"; R.L. Park (5331), "The Measurement of Core Electron Binding Energies of Surface Atoms"; G.J. Lockwood (5233), "Total Cross Sections for Charge Transfer of F⁺ in H₂, N₂, He, Ne, and Ar"; J.M. Hoffman, G.J. Lockwood (both 5233), and G.H. Miller (5235), "Emission Cross Section for N⁺ (3914A) for F⁺ Ions Incident on N₂ Gas"; A.R. DuCharme (5331) and R.L. Gerlach (5332), "Cross Sections for the Inner Shell Ionization of Surface Atoms by Electron Impact"; R.A. Langley (5233), "Fluorescence Efficiencies of Nitrogen Excited by 0.3 and 2.0 MeV Sodium and Neon Ions," Division of Electronic and Atomic Physics Meeting, American Physical Society, Dec. 3-5, Atlanta, Ga.

W.F. Hartman (1541), M.J. Forrestal (9324) and J.C. Bushnell (9462), "An Experiment on Laser-Generated Stress Waves in a Circular Elastic Ring," Applied Mechanics Western Conference, USC, Aug. 23-25, Los Angeles.

C.D. Longrot (1415), "Real Time/Time Share Computer in a Research and Development Environment," EMR 6130 Users Group Meeting, Nov. 19, Las Vegas, Nev.

K.E. Lawson (5522), "Characterization of Thin Films by X-Ray Emission"; E.H. Farnum (5154), "Some Methods and Applications of X-Ray Topography," 8th Annual X-Ray Analysis Symposium, University of Utah, Nov. 5, Salt Lake City.

J.G. Curro (5511), "Polymer Equations of State," Chemical Engineering Department, Nov. 15, University of California, Berkeley.

C.E. Land (5153), "Electrooptic Ceramic Materials and Devices," Colloquium at the Optical Sciences Center, Nov. 16, University of Arizona, Tucson.

L.V. Rigby (1644), "Time Utilization in Apprenticeship Programs," 2nd Annual Rocky Mountain Apprenticeship Conference, Nov. 18, Denver.

• SHOPPING CENTER •

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

RULES

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.

MISCELLANEOUS

SUNBEAM electric hair curler, \$7. Minter, 256-9225.

LADIES ski pants, size 10R, \$8; ladies ski gloves, \$1; baby Sear's swingmatic, \$8; baby hulahoop walker, \$4. Lewis, 296-7896.

USED set of Harvard Classics, \$50. Capes, 299-5883 after 5:30.

KITTENS, Siamese-cross, 2 females, 1 male, free. Hale, 298-1545.

2-METER ham transceiver, Swan FM-2X, 6 mos. old, all N. Mex. repeater frequencies, \$200. Weaver, 265-4809.

DELTA Mark Ten capacitive discharge ignition system, new, factory assembled, still in unopened box, 12 volt, reg. ground, kit price \$29.95. Stuart, 299-9190.

REK-O-KUT turntable w/monaural pickup arm, \$15. Toepfer, 296-6758.

BICYCLE: 24" w/ram horn handlebars, yellow, \$30. Sirwinski, 256-9531, 2831 Claremont Pl. NE.

GAS RANGE, \$35; walnut coffee table, \$40; 12 ga. dbl. blr. shotgun, \$45. Husa, 298-3335.

SNOW TIRES, studded, Goodyear Suburbanites, G 78-15 (fits 8:25-15), used one season, cost \$72, sell for \$40. Zownir, 256-3717.

2 STOVES; GE refrig. Armijo, 242-5139.

BLOND WIG, never worn, new \$40, sell for \$20. Miller, 282-3189 after 6.

LADIES warm-up ski pants, medium, yellow/Navy leather trim, 2-way zipper, Obermeyer brand, all polyester, never worn, \$20. Eagar, 298-0522.

EARLY AMERICAN maple dbl. 4-poster bed, \$100. Traver, 294-2138.

10 SETS plastic horseshoes, size 00, shaping tool included, make offer, fine for sandy soil, won't stand up in rocky terrain. Rutledge, 282-3151.

ESTERLING sterling silver tableware, 8 4-piece place settings plus 15 other pieces, \$650 or best offer. Licking, 296-7732.

AKC Norwegian Elkhounds, male puppies, will hold for Christmas. Broyles, 344-3872.

SKI BOOTS, child's size 1; California Dutch rabbit, female, w/hutch. Schwoebel, 268-6440.

HONDA SL-100, 1970, new rear tire, \$295. Bentz, 299-3448.

FREE: puppies, 4 males, 1 female, will be 6 wks. old Christmas Day, Mother - Dalmation, father - unknown. Aeschliman, 298-7846.

UTILITY TRAILER, covered w/hatch, new tires, heavy duty, \$250. Smailer, 299-8413.

FREE DOG: 1/2 Labrador, 6 mos., old, medium sized, friendly & alert. Magnuson, 296-3650.

2 MOUTON FUR COATS, size 14, \$15; size 10, \$25. Williams, 299-2747.

VAPORIZER, cool vapor, Hanksraft model 240. Rowe, 296-6295.

COLEMAN, 3500 BTU catalytic heater, \$10. Shane, 296-4430.

'71 HONDA trail 90 w/accessories, 160 miles, \$350; Challenger sport helmet, \$14; bumper mount cycle carrier, \$18. Klett, 298-7892.

CHILD's buckle ski boots, size 4, \$17; Hoffman easy vision, 21" B&W TV, console model, \$25. Johnson, 298-1011.

SKI BOOTS, ladies size 7, \$20. Crego, 298-1912.

OSTERIZER BLENDER, \$10; photography printing & developing equipment, including enlarger, \$25. Bierly, 255-9017.

MINIBIKE, Totegate; hi fi; furniture; bowling ball; hair dryer; electric curlers; make-up mirror. Chandler, 296-3323.

VERY CORRECT 3/8 Arabian colt by Camelot out of Manrasa; also 2 palimino quarterhorses. Martinez, 255-6785.

AMPLIFIER, guitar, Lafayette 3 output, 15 watts, 12" Jensen speaker, \$35. Shepherd, 299-9066.

SKI BOOTS, buckle, size 6M Nordica, \$20; skis, child's 4'3" w/bindings, \$10. Anderson, 299-5447.

FOLD-A-BOAT, 1970 model, 3 carrying cases, oak & aluminum structure, 14'4" length, 55" beam, 20" depth, \$150. Smatana, 299-6278.

CAMERA: Model 320 Polaroid auto. land camera, new, \$59.95, sell for \$40. Collins, 268-7144.

TYPEWRITER, Remington std. model w/elite type, \$35. Brammer, 265-8194.

ORGAN, Thomas Malibu deluxe, less than 1 yr. old, \$1150. Silverman, 298-1308.

LARGE, modern-style walnut coffee table, \$35. Silva, 298-5779 after 5.

LADIES English riding boots, size

6 1/2-7N, cost \$80, sell for \$25. Kjeldgaard, 296-2212.

ASTHMATICS nebulizer, Devilbiss model 150, \$35; Maverick trailer hitch & helper springs, \$12. Stephenson, 299-3914.

GITAR, Fender Stratocaster w/tremelo and hard shell case, Fender super reverb amplifier. Matsko, 299-2145.

AKC reg. toy poodle puppies, 6 wks. old Christmas day, male or female, pedigree available. Davis, 298-1957.

ACCORDION, Italian, 120 bass, \$85. Ayers, 299-1055.

KLIPSCHORN, \$130, Sherwood S2200 AM/FM tuner. Jeske, 299-2810.

SKIS w/Nevada bindings, blizzard epoxy, 205cm, \$90; Kastinger ski boots, mens size 9 1/2, \$25. Looney, 255-7394.

BUFFET; baby mattress, car bed, chair; Cosco utility table; table lamps; maple dressing table w/mirror. Fisher, 299-9235.

REG. black 9 wk.-old miniature poodle pups, should grow into dogs w/good conformation & excellent disposition, \$60. Metzler, 299-3093.

SHOP MANUAL for '64 T-Bird, \$3. Prevender, 299-5253.

35MM color camera, Yashica electro 35GT gold Mecanica w/tripod & case, new cost \$155, take \$85. Bassett, 898-1840.

'65 CUSHMAN super eagle, 9 hp, windshield, helmet. Wason, 298-8327.

'58 GREAT LAKES trailer house, 8' x 45', \$2000; '59 Cessna 150 full gyro panel, Narco MK II & MK III, \$4000. Arnold, 255-3272.

REVOLVERS: Blackhawks, cal. 30M1, 41 Mag., single six 22/22mag. sell or trade for old guns or Indian items. Zaluga, 344-1564.

REALISTIC SA-350 stereo amplifier; lab-6 auto. turntable; 1 pr. solo-1 speakers, \$90. Freyermuth, 299-2053.

BICYCLE, girl's 24", \$20; blond dining room table, 6 chairs, solid oak, \$100. Beck, 256-3350.

SKI PANTS, boys sizes 12/\$8, 14/\$3, 16/\$10; 18/\$10; boots — 6, 8 1/2, 9 1/2, 10 1/2, 11; medium skis/bindings. Stixrud, 298-0478.

AQUARIUM, 10-gal.; snow tires & wheels, 8:55 x 14; gas heater, 18,000 btu; prof. buffet tenor sax; 4" cast iron pipe. Barth, 345-0172.

FOR RENT

2-BDR., APT, new, fully carpeted, built-ins, AC, FA heat, near Sandia

area, SE, \$135-140/mo. Montoya, 299-5935.

FOUR HILLS, 6 mos. lease, 3-bdr., den, fp, view, \$350/mo, first, last & deposit. Butler, 242-5398 or 298-2893.

REAL ESTATE

3 HALF-ACRE LOTS, at Rio Grande Estates, Belen, NM, \$900 each 1/2-acre. Chavira, 864-6022.

CARS & TRUCKS

'62 CORVAIR Monza, 2-dr., AT, radio. Young, 256-9158, 4614 Burton SE.

'66 CORVAIR 4-dr., AT, new spare, \$450; '55 Ford pickup, rebuilt trans., R&H, \$250. Smith, 299-0082.

'64 FORD Fairlane 500 Sports coupe, orig. owner, \$800. Harper, 268-8357.

'68 MUSTANG 289 V8, AT, PS, AC, 19,800 miles, \$1550. Hammons, 296-6339.

'64 KARMANN GHIA, radio, \$700 or best offer. Peters, 265-1143.

'70 TOYOTA Mark II, 4-dr., 4-spd. stick, R&H, \$1850. Capes, 388 Coyote Lane SE, 299-5883 after 5:30.

'70 FORD Maverick 2-dr., manual shift, new paint. Messersmith, 299-3780.

'65 FORD Custom, 6-cyl., std., 2-dr., new paint, wide ovals, \$495; '66 Chevelle V8, auto., gold 4-dr., \$695. Brinkley, 344-5334.

'64 LINCOLN Continental. Ross, 298-1734 after 5.

'61 RAMBLER wagon, AT, AC, \$200. Nogle, 299-3863.

'61 T-BIRD, red convert., needs top, AT, AC, \$250. Johnson, 298-2592.

'66 TORONADO, new — paint, vinyl top, tires, brakes & alternator; below book, loaded. Mullin, 298-9060 or 266-1663.

'67 FORD Country Squire, 9-pass., below book, \$1400. Johnson, 255-5427.

'68 DATSUN spts. roadster, radio, 4-spd., 37,000 miles, \$1150. Shumway, 865-7160.

'67 FAIRLANE 500, 2-dr., V8, AC, AT, \$875. Sanchez, 298-5330.

'60 OLDS conv., PB, PS, AC, \$125. Garcia, 344-4688 after 6.

'71 PINTO, low mileage, R&H, bucket seats, std. trans., \$1925. Turner, 299-0704.

'69 DODGE 108A van camper, V8, PS, AT, AC, R&H, Red-E-Kamp

equipped, new tires, low mileage. Howard, 700 California SE, 256-2525.

'67 DODGE VAN, custom sportsman, windows all around; '65 MGB, good top, tonneau, tires. Hansche, 296-1387.

'64 VW, new paint; 2 motorcycle tires, 2:50 x 18. Wilkinson, 299-8327.

'62 FORD country sedan, 352 engine, cruismatic, PS, radio, AC, \$300. Harnar, 299-3400.

'63 VW bug, 18,000 miles on rebuilt engine. Kershner, 299-6513.

'49 PLYMOUTH, \$75. McIlroy, 299-4977.

'58 FORD 4-dr. wagon, V8, AT, nearly new tires, shop manual. Workhoven, 282-3246.

'63 FORD GALAXY, 12,000 miles on rebuilt engine, new generator, 3 new tires, AC, \$235. Shuster, 268-8491.

WANTED

GIRL'S 20" bicycle. Toepfer, 296-6758.

PENTAX Spotmatic SLR body only, no lenses, must be in good working condition. Hughes, 299-6674.

TRADE '68 GMC Suburban, 9-pass., heavy duty trailer towing gear, AC for 4-wd vehicle. MacDougall, 299-8496.

RIDE from Ranchas de Alb. 7700 block, North Second, to work & back. Aquilar, 898-0897.

WILL SWAP fine road car, '66 Continental, leather seats & whole bit, for a U.S. city car, comparable book value & condition. Baxter, 344-7601.

BOY'S ski pants, sizes 16 and 10. Schwoebel, 268-6440.

TV, 17 or 19" portable, not necessarily in running condition. Day, 265-2319.

LADIES BIKE, 5 or 10-spd.; .22 revolver w/holster. Chandler, 296-3323.

BOY'S 26" bike, 3 or 5-spd., Sektan, 296-5396 after 3.

USED exercycle, Granum, 243-1491.

NEED TO RENT within 30 days, 3 or 4-bdr. home in NE, prefer Del Norte area, but will consider any. Hawbaker, 268-1625.

WILL babysit 5 days a week, fenced yard. Fields, 299-6242.

SHOP MANUAL for '66 GTO. Prevender, 299-5253.

TRADE use of floating home on Conchas Lake for use of your ski cabin or condominium. Westman, 255-6048.

16" GIRL'S bicycle. Bouton, 898-3562.

Kids Party Tomorrow; Celebrate Dec. 31 at Club

KIDS CHRISTMAS PARTY starts at 10 a.m. tomorrow with a great new holiday puppet show by Ron Day and Mary Kay including new characters and original songs. The Enchanters will sing carols and cartoons will be shown. Santa Claus will pass goodies out to kids 10 and under. It's free to members and families but members only, please.

* * * *

THE YEAR 1971 will end in grand style Dec. 31 at the Coronado Club. The year's biggest bash will also greet 1972 with champagne, confetti, noisemakers, funny hats, balloons and the music of two great bands — Frank Chiwiwie will be on top in the ballroom while Wildman Bob Banks and the Terror Trio will hold downstairs. Dancing is set from 9 to 1 a.m. Scrambled eggs, sausage, muffins, etc., will be served at midnight. The event costs \$7.50 for member couples, \$11 for guest couples. Get your tickets now.

* * * *

TEENAGERS and college types home for the holidays can live it up Monday, Dec. 20 at their own bash emceed by Chuck Logan, local disc jockey. Something called "Back Yard Grass" will be wired into the bandstand from 7:30 to 10:30. Member parents should pick up tickets.

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CHANCES ARE EXCELLENT, according to Club President Chet Fornero (4337), that a few more seats will be available on the Club's Hawaiian tour Feb. 21-28. "We're splitting the chartered 727 jet with the Elks Club," Chet says, "and they may not make their quota."

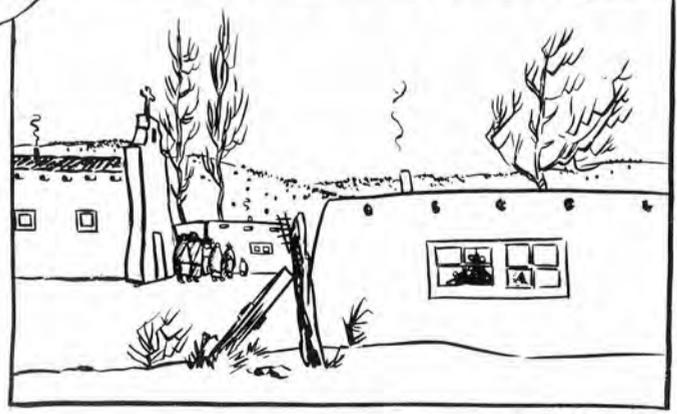
Some 75 Coronado Club members have already signed up for the trip, but the first people on the waiting list have a good change to go, Chet says. Anyone interested in making the trip should pay the \$349 fee at the Club office by Jan. 7.

Those interested in the Club's tour of Portugal and Spain in October 1972 should pay the \$100 deposit at the Club office by Jan. 31, Chet says. Total cost of this 16-day package is \$565. A total of 170 must sign up to make the package feasible, he says. In the meantime, let him know if you are planning to make this trip.





A MERRY CHRISTMAS



Felix Rodilla
Cliff Rocha