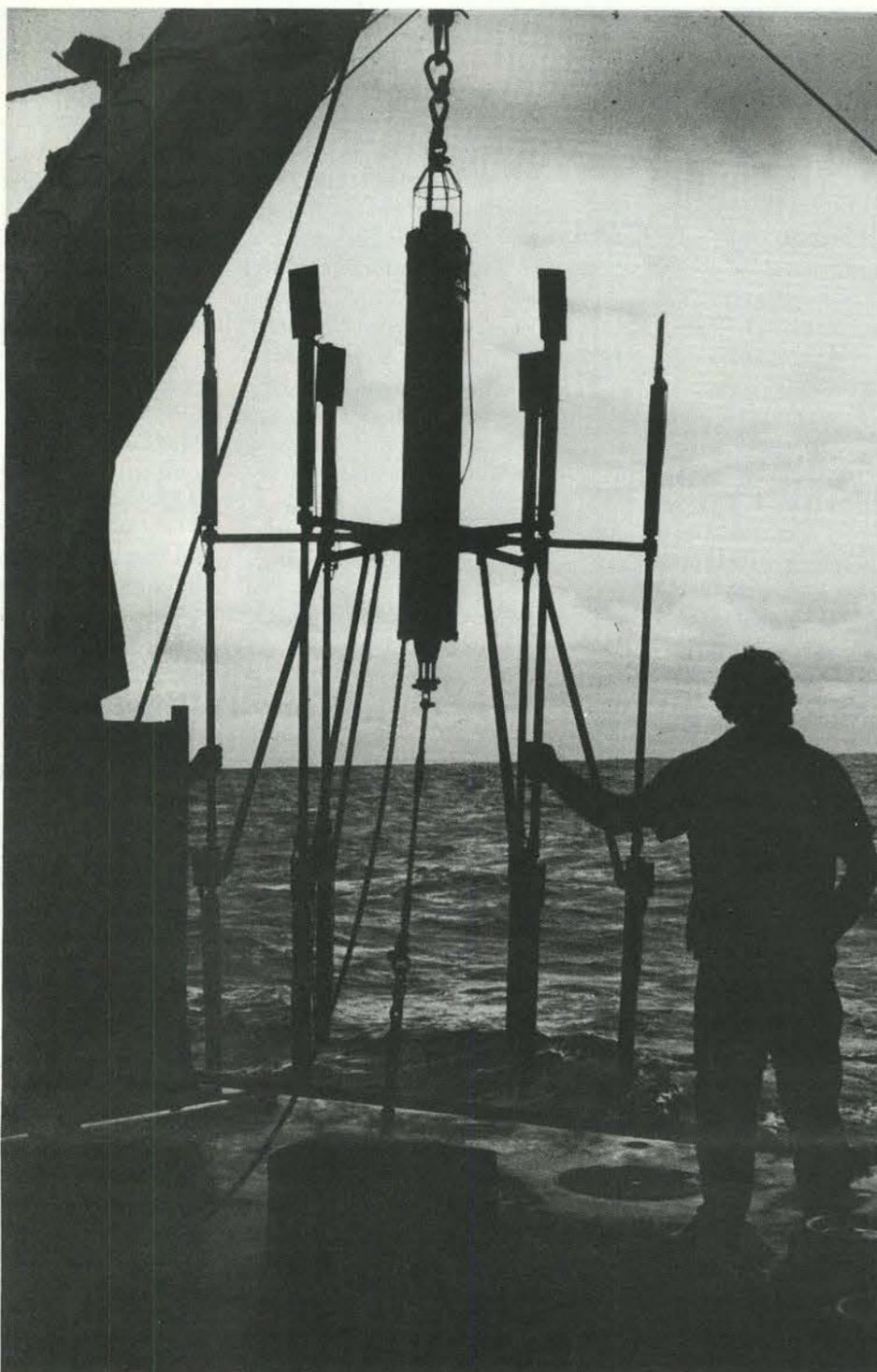


Ocean Basins Studied as Disposal Site



CORROSION EXPERIMENT ready to spend a few months on the ocean floor. Metal samples at top and bottom will allow comparison of corrosion rates from sea water vs. sediment. Except for anchor (block near bottom) entire unit is retrievable on command.

Sandia Labs is coordinating an ambitious study to explore possible use of deep ocean basins for nuclear waste disposal. An interdisciplinary team effort, the study includes participants from the Woods Hole Oceanographic Institute, University of Washington, Scripps Institute of Oceanography, Worcester Polytechnic Institute, Lamont-Doherty Geologic Observatory, University of Rhode Island, and the Fletcher School of Law and Diplomacy. The program is coordinated by Rip Anderson and Dan Talbert (both 5444).

Basis of the study is the fact that the most tranquil spot on earth is likely the floor of one of the great ocean basins underlying the major oceanic gyres. The deep, dark, cold ocean basin floors are a kind of mid-ocean desert. They appear to offer no food or mineral resources and are virtually devoid of life. On the barren seascape, an almost flat prairie of brownish-red clay, natural processes happen in slow motion. For instance, sediment accumulates at a rate of less than one millimetre per thousand years. And existing currents are relatively slow, from 2 to 13 centimetres per second.

In addition, the basins are essentially unaffected by environmental changes such as ice ages because the gyres (slowly revolving cylindrical water masses up to hundreds of kilometres in diameter) are stable and will remain so unless the earth's axis of rotation changes. They are also geologically inactive — no major earthquakes, no volcanoes for millions of years.

Such characteristics have made the basins of interest to scientists and engineers working on the problem of nuclear waste disposal. It is far too early to state that ocean basin floors are candidates for such disposal, but enough is known to indicate that the areas should be studied further.

At present, major gaps are found in our knowledge of deep ocean currents, and of the geology, sedimentology, chemistry, and physics of submarine sediments. Several ocean cruises have been undertaken since 1974 to fill in some of these knowledge gaps. Study sites of the cruises include two areas in the Pacific about 800 miles north of Hawaii and an area near the Bermuda Rise in the Atlantic.

Much new data has been developed during these ocean cruises. Current meters, for example, reveal that the deep ocean currents are faster than anticipated, and that a given mass of water does not move as one coherent body. Core samples of sediments — a 20-million year geologic history — show that no appreciable bottom changes have taken place in that time even though major climatic changes have occurred. Data has also been gathered on water chemistry, radioisotope distributions in the water column and sediments, chemical and mechanical properties of the sediments, and animal life. Bottom photography has provided a direct look at the sediment surface and of marine life.

The few fish near the bottom have apparently developed into a highly opportunistic society. Little or no food exists on the basin floor. Small particles of food descending from the surface are consumed by the time they reach the 1000-metre mark. A particle may be consumed

(Continued on Page Five)

LAB NEWS

VOL. 28, NO. 4

FEBRUARY 20, 1976

SANDIA LABORATORIES • ALBUQUERQUE NEW MEXICO • LIVERMORE CALIFORNIA • TONOPAH NEVADA

Sandia's Secretarial Supervisors

The present system of secretarial supervision at Sandia, in effect since 1972, is both unique and workable. Three executive secretaries — Jo Sena (2000), Thelma Foster (5000) and Shirley Dean (9000) — and a former assistant personnel representative — Elsie Wilkins (1000) — are Secretarial Coordination Section Supervisors. They represent 173 secretaries. Each supervisor has complete responsibility for division secretaries in her vice presidency, and all but Elsie pursue a dual role as section supervisor and secretary to a vice president. Elsie takes

over when any of the other supervisors are absent.

The women agree that it's a big job. "There is a terrific amount of work," says Thelma, "but it's logical for us to handle it. We're aware of the needs in our own organizations. For instance, we know when new projects will begin, when the 'busy times' are likely to occur, and when and where reorganizations will take place. With this overview, we can plan for the future."

"Benefits are impressive," Elsie
(Continued on Page Four)



ELSIE WILKINS (1001) has an office in Bldg. 880 "We all do a lot of walking, but I enjoy the exercise—even when it's raining."

Afterthoughts

Our illiterate offspring--Dean Huber at UNM reports that this year's freshman class not only posted the worst American College Test (ACT) scores in the history of UNM, they also managed to post the single worst decline in scores from year to year since ACT results were recorded at the University. And the worst decline came in English usage. In 1967, only 10 percent of those taking the ACT placed in the bottom quartile. By 1975, one third of all incoming freshmen were "functionally illiterate" in English, meaning that their basic skills in English were on an elementary school level.

The problem is not restricted to our local university. Prestige schools--Stanford, Berkeley, Harvard to name a few--have found it necessary to enroll the majority of their entering students (already a select group) in remedial English classes, usually dubbed "bone-head English."

This situation is alarming, even sinister. Consider the implications. The possibility is likely that most people are unable to write a coherent paragraph. Indeed, just writing two consecutive sentences clearly and grammatically may be beyond most. The problem is not simply that of a gaffe in syntax. People unable to express themselves clearly betray a deeper problem: they really are unable to think clearly. In a word-oriented culture such a failing is a severe handicap.

We're showing an occupational bias, but we think the solution--at least for those of school age--is simple. Make 'em write. And write. And write. Early on and throughout school. There's a lot of mumbo-jumbo about the craft of writing, as though one has to be heaven-struck to be a good writer. But it's mostly a matter of application. Just consider the example of Winston Churchill, a master with words, who in his youth was something less than a shining academic star. In fact, he had to repeat several grades and in one biography relates how he came by his word mastery: "By being so long in the lowest form (at Harrow) I gained an immense advantage over the cleverer boys.... I got into my bones the essential structure of the ordinary British sentence--which is a noble thing. Naturally I am biased in favor of boys learning English..."

So are we.

*js

Supervisory Appointments

DON ARQUETTE to supervisor of Product Control and Evaluation Division 2122, effective Feb. 16. Don has been associated with manufacturing development engineering since coming to Sandia as a staff member in June 1956. His primary interest has been in fuzing radar development.

Don received a BS in EE from Michigan State University in 1953, then served two years in the Army at Aberdeen Proving Grounds in Maryland and the Yuma Test Station in Arizona. He earned his MS in industrial engineering and management from Oklahoma State University in 1956.

Don's leisure time activities include skiing and golfing. He and his wife Lois have five children and live at 1112 Dakota NE.

EDWARD GRAHAM to supervisor of Bipolar Integrated Circuits and Microwave Devices Division 2122, effective Feb. 16. Since first joining the Labs in 1964 as a member of the Technical Development Program, Ed's work has been with semiconductor devices in the electromagnetic radiation organization. He was gone for a brief interlude while working on his PhD.

He earned a BS from Mississippi State in 1964, MS from UNM in 1966, and PhD in 1970 from North Carolina State -- all in EE. Ed is a member of IEEE. He enjoys hiking and woodworking and helping his wife Kathy who raises poodles. The Grahams have a six-year-old son, Christopher, and live at 12449 Regent NE.

PAUL PEERCY to supervisor of Ion Implantation Physics Division 5112, effective Feb. 16. Paul joined the Labs in August 1968 and worked for two years in the laser physics department. Since then his work -- structural phase transitions in solids -- has been with Radiation and Surface Physics Research Department and Physics of Solids Research Department. He had previously worked at Bell Labs in Murray Hill, N.J., performing research on plasma physics and solids.

Paul received a BA from Berea College (Ky.) and MS and PhD -- all in physics -- from the University of Wisconsin. He is a member of the American Physical Society. Paul is a rock hound and enjoys most sports; tennis is his favorite. He and his wife Cathy and their two boys live at 7505 McNerney NE.

PAGE TWO
LABE NEWS
FEBRUARY 20, 1976



Congratulations

Mr. and Mrs. Ivan Waddoups (1754), a daughter, Feb. 4.

LAB NEWS

Published every other Friday

SANDIA LABORATORIES

An Equal Opportunity Employer
ALBUQUERQUE, NEW MEXICO
LIVERMORE, CALIFORNIA
TONOPAH, NEVADA

Editorial offices in Albuquerque, N.M.
Area 505 264-1053
ZIP 87115

In Livermore Area 415 455-2111

john shunny is editor
&
don graham ass't. editor

bruce hawkinson & norma taylor write
bill laskar does picture work
gerse martinez lends a hand
&
lorena schneider reports on livermore



Left to right: Paul Peercy (5112), Ed Graham (2112) and Don Arquette (2122).

LIVERMORE NEWS

VOL. 28, NO. 4

LIVERMORE LABORATORIES

FEBRUARY 20, 1976

A Program for PCB's

Printed circuit boards (PCB's) are an important part of many Sandia components. A complicated PCB often requires several weeks of work by a design draftsman working with the design engineer. Then computer programs and automatic drafting equipment can translate the design drawing into a circuit master to control production of the finished board.

But what about the engineer who doesn't need a complicated PCB? Because he doesn't need the services of a design draftsman, he tends to get lower priority on the always-crowded drafting schedule. And yet, even for a simple design, he needs a layout drawing and a production circuit master. The answer is usually "Do it yourself," and that can be frustrating and time-consuming for an engineer with schedules to meet.

At Sandia Livermore there's now a better way. Bruce Affeldt, Model Shops and Inspection Division 8423, has written a computer program that automatically generates a drawing of a printed circuit board from just a few general instructions.

Such a program can work because the physical dimensions of most boards fit one of half a dozen standard categories. And many of the integrated circuits that plug into the boards come in standard 14- and 16-pin packages, no matter how complex the circuits themselves. (The integrated circuit packages are termed "dual in-lines" since the pin connections in each package form two parallel rows.)

Working with Jim Hopwood, Model Labs Division 8424, Bruce wrote a program that automatically lays out the various circuit elements on the board. With only general information on board size and type, and number of integrated circuit packages as input, the program calculates the best location for the dual in-lines, grounds, and voltage sources, in accord with the elements of good PCB design practice.

The program runs on the CDC 6600 computer and produces a tape which controls the Xynetics plotter. The plotter produces a scale drawing of the PCB showing all the "lands" (pin, voltage, and ground locations) less any connections between them. The drawing also draws a fine grid over the PCB to aid the engineer in making the connections between the lands. All the engineer need do is sketch the connections he wants, using the grid lines as a guide.

Although we now have the engineer's sketch and a production master, we have not yet produced a design layout drawing for Drafting's files. This is the last automatic function of Bruce's program. Working with Ollie Rohrbach of Design Definition Division 8431, Bruce built an option into the program that allows it to merge the original land drawing information from the first computer run and the connecting path information from the second computer run into instructions for the Xynetics plotter. The plotter automatically produces a design



THE COMPUTER has done the dirty work. Now all Bruce Affeldt (or an engineer who needs a printed circuit board) has to do is to fill in the unique elements. Bruce designed the program a couple of years ago and has been expanding its capabilities since.

layout drawing that looks just like a design draftsman's. The drawing even includes a detailed parts list.

Both Bruce and his supervisor, Bill Schmedding of Special Machining and Support Shop Section 8423-1, are quick to point out that the computer program cannot do the work of a design draftsman. The intent is to give the engineer quick service on the simpler PCB designs. "Typically, we're giving engineers a three-day turnaround time from concept to fabrication," says Bruce. "It meets the needs of the engineer who wants something more advanced than a breadboard layout but doesn't need the specialized skills of the drafting group."

Sympathy

To Jack Renaud (8213) on the death of his mother in Port Huron, Mich., Jan. 15.

To Merle Snyder (8412) on the death of his mother in Livermore, Jan. 11.

To Janet Fachner (8167) on the death of her father in Livermore, Jan. 26.

To Anton West (8314) on the death of his father in Bethel Park, Pa., Dec. 18.

To Carlton Scott (8113) on the death of his brother in Granville, Ohio, Jan. 16.

To Hazel Willyard (8323) on the death of her mother-in-law in San Leandro, Jan. 14.

To Michael Schalit (8266) on the death of his father in Evergreen, Colo., Feb. 2.

To Ted Simmons (8323) on the death of his father in Oakland, Jan. 30.

Take Note

Joe Portolese (8323) has been awarded a BS degree in business administration from San Jose State University. His course work was completed under Sandia's Educational Aids Program. Joe joined Sandia as a property management clerk in 1959 and left in 1962 to attend San Joaquin Delta College in Stockton where he received an AA degree in business administration. After returning to Sandia in 1965, he was a computer programmer and later section supervisor in Computer Operations for five years. Most recently he has provided administrative support for SLL computing organizations.

* * *

Dave Abrahams (8413) has been reelected to the board of directors of the Golden Bay Chapter of the Muscular Dystrophy Association. His responsibilities include overseeing communications between the four county units which represent the chapter. Active in Muscular Dystrophy Association for the past four years and currently chairman of the Alameda County Unit, Dave and his wife Jolene each year have coordinated the Jerry Lewis MD telethon pledge center in the Livermore area.

Speakers

Rudy Johnson and Jack Dini (both 8312), "Electrochemical Joining: Process, Applications and Property Data," Third Pennsylvania State Conference on Electrodeposition, Aug. 20, State College, Pa.

George Thomas (8314), Walt Bauer (8334), Pete Mattern (8334), and Barry Granoff (5825), "He and H Implantation of Vitreous Silica and Graphite," American Chemical Society Meeting, Aug. 25-26, Chicago, Ill.

George Thomas (8314) and Walt Bauer (8334), "SEM Facility for In-Situ Observation of Ion Implanted Surfaces" and George Thomas, C.R. Hills (5822) and H.J. Stein (5112), "The Microstructure of He Implanted Gas," 33rd Annual Meeting, Electron Microscopy Society of America, Aug. 11-15, Las Vegas, Nev.

Authors

Jack Dini and Rudy Johnson (both 8312) and Harry Saxton (8314), "Influence of S on the Properties of Electrodeposited Ni," JOURNAL VACUUM SCIENCE TECHNOLOGY, Vol. 12, p. 766.

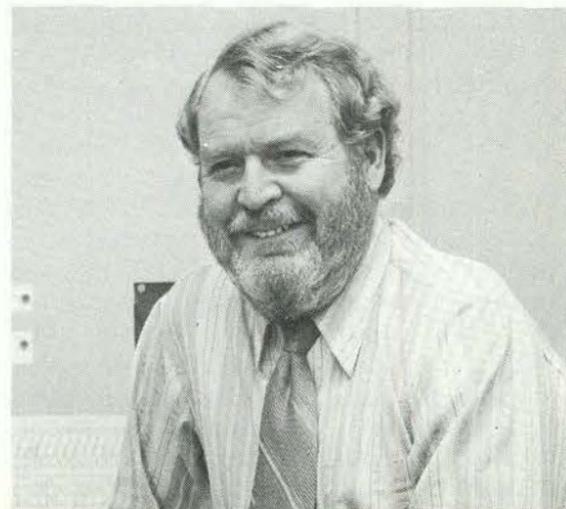
Jack Dini and Rudy Johnson (both 8312), "Coefficient of Thermal Expansion of Sulphamate Nickel Electrodeposits," JOURNAL OF MATERIALS SCIENCE, Vol. 10, p. 1253.

Rand German (8312), "Compaction Mechanics of Submicron Palladium Powder," INTERNATIONAL JOURNAL OF POWDER METALLURGY TECHNOLOGY, Vol. 11, pp. 169-176.

Von Madsen (8344) and Rand German (8312), "Quantitative Metallography Using a Television Camera and Laboratory Computer," METALLOGRAPHY, Vol. 8, pp. 233-240.

Jim Bartel (8313) and E.F. Westrum, Jr. (Univ. of Michigan), "Heat Capacities of Fe₃O₄ and ZnFe₂O₄ from 300-500K," JOURNAL OF CHEMICAL THERMODYNAMICS, Vol. 7, pp. 706-708.

Retiring



Jerry Jones (8168)



THELMA FOSTER (5001) spreads out the vacation schedules and the work begins. "There are two things I try to do—comply with the secretary's request and provide secretarial service during her absence."



JO SENA (2001) updates blackboard in her office. "Secretaries are welcome to check the vacancies and talk to me about a move," she says.

Continued from Page One

Labs' Secretarial Supervisors



SHIRLEY DEAN (9001). "I have 48 secretaries working for 70 divisions . . . trouble is, they're located in 17 different buildings!"

continues. "To meet the secretarial needs of an organization, we relocate secretaries, arrange sharing of work loads, and sometimes double up — one secretary serving one or more divisions."

"Sometimes," Shirley adds, "a secretary has been in the same job for years, while the organization acquired more people and more responsibilities. She may be seriously overloaded. We can take care of situations like this."

"The four of us work together," Jo says. "Since there is no internal system to advertise vacant division secretarial positions, we've set up blackboards in our offices as well as in other buildings, listing these vacancies. We also encourage the secretaries to talk to us about lateral moves. If an employee wants a change, we'll do our best to move her."

These supervisors also have an important

role in secretarial training, which is handled by Sandra Barber (4231). "When Sandy has a new group," Jo continues, "she describes individual backgrounds and we discuss where each will be assigned."

The women, in conjunction with the 4200 secretarial committee, have been instrumental in introducing new in-hours courses to help secretaries broaden their skills. These include a classified document refresher, basic and advanced English, a course on reference materials, and a metrication course.

They admit to an occasional feeling of being bogged down in paperwork — time cards, vacation schedules and job evaluations — but all are enthusiastic about their work and encouraged by the results. "Of course, we all depend upon the experienced secretaries," Thelma adds, "and when the trainees do well, we're proud of them. • nt"

LAB NEWS Meets Head Cop

We had another stereotype shattered last week when we met and interviewed Colonel Kalman Simon of the Air Force, who bears the formidable title of Chief of Security Police on Kirtland Air Force Base. As everyone knows, colonels are brusque types with crew cuts who carry riding crops that they flick against their thigh when things aren't going right.

But Colonel Simon was perverse enough to be none of these things. He's affable, soft-spoken, relaxed, even reasonable. Subject was the police business on the Base and the interaction of Labs people with that business. As it turns out, Labs people are exemplary citizens who rarely run afoul of Base regulations; in fact, they account for something less than 1% of citations issued.

There have been a few problems, however, which the Colonel asked us to mention: — speed limit on the road to Area III is 40 and, where marked, 50; on the dirt powerline road from the golf course north to Eubank it's 25. ("There'll be a serious accident on that dirt road at the rate some people are driving it," the Colonel noted.)

— speed limit where *not* posted is 25 and, in parking lots, is 6 mph.

— your vehicle must be safe, *legally* safe; that means it must have, among other things, a bumper, operating lights, and a muffler that muffles.

— if you have an accident on Base, don't move either vehicle unless they constitute a safety hazard.

— register weapons if you must carry them in your vehicle.

Colonel Simon singled out bicyclists who travel along the east edge of the Parade Ground for especial comment. "We instituted the policy of permitting cyclists to treat 'Stop' signs as 'Yield' signs because it seemed the reasonable thing to do. But some number of them go barreling on through the intersections as though there were neither Stop nor Yield signs. Now that's just plain dangerous."

We agree, Colonel, and, speaking as a cyclist, we have a suggestion: have your men hand out a few citations to the more flagrant offenders. The word will spread and we suspect that the situation will quickly improve.

Retiree Notes

Al Gruer reports in a letter: "We enjoy life here in Southwest Florida and still consider it as the one spot in North America where one can find summer in winter. Have still to encounter frost in almost 5 years. In contrast to most of our contemporaries we do not shackle ourselves to golf-bridge-shuffleboard etc. but just manage to keep busy with home projects and other kindred people. By the way, whatever happened to the retiree gossip column? . . . I suspect there are few retirees who do not entertain nostalgic thoughts of the early days at Sandia."

The answer to your question, Al, is simple: nothing. We'd really like to carry more retiree news but haven't been too successful in extracting news items from them. If more would send us occasional notes, as you do, we'd be in business.

Take Note

Do your departmental files — or personal ones — have any pictures which would look good in an upcoming *Pictorial History of Sandia*? We're looking for "people pictures" — Sandians doing things at test locations around the world, at local and remote facilities, at work (and at home and at play), even photos of the Albuquerque of the 40's and 50's. The unclassified History will cover from the beginnings through '75 and will be a part of Sandia's Family Day in October. If you know of such pictures, call LAB NEWS at 4-7841 soon.

* * *

Singer Della Reese is featured in "A Star Spangled Evening," a benefit sponsored by the Albuquerque Symphony Women's Assn. on Sunday, Feb. 29, from 7 to 10 p.m. at First Plaza. She will perform with the Albuquerque Symphony. Guests will be treated to hors d'oeuvres, a no-host bar, and a debut of Galeria shops. The ticket packet, @ \$10, includes free parking, and a stub for the grand prize. Proceeds will benefit the Symphony. Buy tickets at the ASO office, 120 Madeira NE, Suite 306, at 1st National Bank branches, or at 12328 Key West NE.

* * *

Bob Garcia, Special Ass't. to the President on Equal Opportunity (200), has received an appointment to the Board of Directors of Albuquerque's United Way. His term extends through 1977, and he is serving on the United Way's Committee on Admissions which reviews requests from agencies wishing to become a part of UW. Bob joins fellow Sandian Morgan Sparks on United Way's Board.

* * *

Four speakers are scheduled in the next couple of weeks at UNM's Kiva as part of the lecture series, "Critical Materials Problems in Energy Production."

Discussing battery technology on Feb. 26, James Battles, Argonne Labs, will speak at 3:30 p.m. and Elton Cairns, General Motors, Warren, Mich., will lecture at 5 p.m.

On March 4, discussing superconducting materials will be Prof. T. Gaballe, Stanford U, at 3:30 p.m. and Prof. B. Matthias, U. of Calif., La Jolla at 5.

Interested Sandians are invited. For additional information, call George Samara (5130), 4-2945.

* * *

When you are invited to speak at a meeting, do you rise to your feet confidently and respond with appropriate remarks, or do you sink lower in your chair and mutter apologies? For the latter, the Sandia Toastmasters Club 765 is starting a short, comprehensive program in the fundamentals of oral communication called Speechcraft. It's designed to give quick help to the inexperienced speaker and to assist those with some training and experience as well. Register before the opening date, March 17. For further info, call Pete Hernandez (9422) at 268-5000 evenings.

* * *

Got a tree you don't want? The city will sometimes transplant your tree to a park, if it meets their specs. Their release states they are "... especially interested in evergreens such as fir, scotch pine, pinon, and junipers and flowering trees like crab apple and purple plums." The tree's health and size are factors also. Call the Park Maintenance Office on 766-7760 for this service. One additional goodie: if they take your tree, you get a letter of receipt with the tree's commercial value — it's tax deductible.



UP FROM THE DEPTHS, 6 km below, a current meter is hauled aboard the *Moana Wave*, the University of Hawaii's research vessel. The meter holds one of the first long-term (more than a month) records of ocean currents from water that deep. Unit was released from its anchor via radio command after 9 months of data collection.

Continued from Page One

Deep Ocean Disposal

and cycled several times before it ever reaches the bottom, if, in fact, it ever does. "So," says Dan, "we infer that life near the bottom may depend on the arrival of an occasional dead fish, or whatever, that falls rapidly to the bottom. It's feast or famine."

Early thinking was not limited to specific seabed disposal schemes. Instead, researchers sought to eliminate clearly impractical possibilities. Only one such limitation has developed to date. It has been learned that transport in the water column is very complex and considerably more rapid than at first believed so that placement of transuranic wastes on the sediment surface is not feasible. On the other hand, no serious technical impediment has been found which would rule

out disposal of high-level nuclear wastes underneath the sediment surface. While not yet ready to advocate seabed disposal, the study team has concluded that there are stable and unused areas of the sea floor which deserve serious attention as possible disposal sites, and that a system for the disposal of nuclear wastes into the seabed can be developed.

Many from the Labs are contributing to the program. Says Rip, "The Sandians plus the oceanographers from the sea-going institutions make a pretty impressive group. I'm told that we couldn't have put together a better team. It's a good thing! We have a large and difficult job to do." • bh

The University of Albuquerque travel programs for this summer are again available to Sandia employees, families and friends. Several itineraries are being offered: the Orient, 14 days; South America, 19 days; Northern Europe & the Soviet Union, 23 days; and the British Isles, 23 days. All tours are fully accredited (optional). For more information call Howard Seltzer (9651), 299-0284.

Sympathy

To Paul Gallegos (3171) on the death of his father-in-law in Albuquerque Jan. 27.

To Clarence Coats (2316) on the death of his father in Pueblo, Colo., Jan. 23.

To Homer Wilhelm (9718) on the death of his brother in Covington, Va., Feb. 8.

To Frank Zamora (9718) on the death of his brother in San Diego, Calif., Feb. 5.

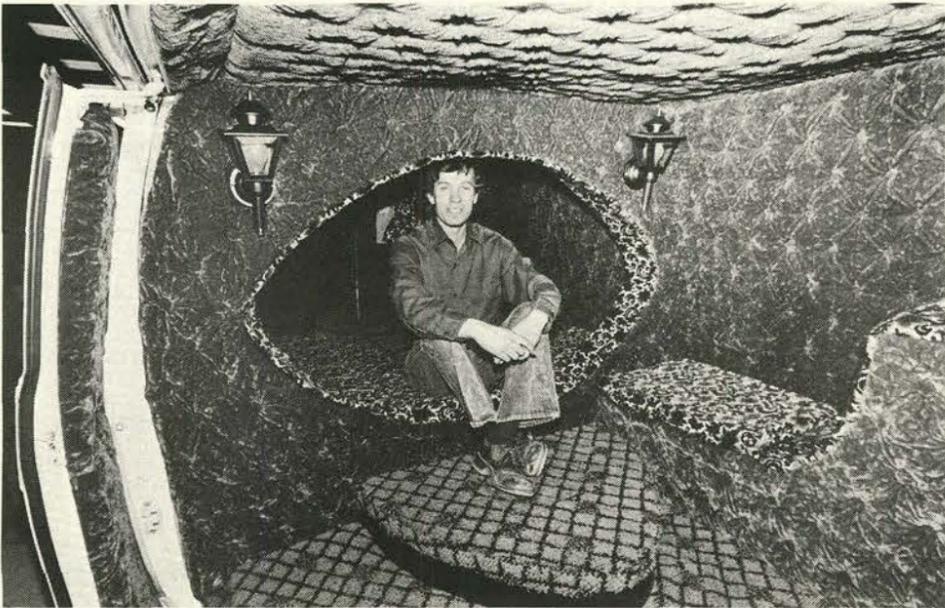
To Herbert Frahn (9712) on the death of his mother in Rosenbury, Tex., Jan. 25.

To James Sanchez (9712) on the death of his sister-in-law in Albuquerque, Feb. 2.

To M.L. (9343) and Betty (1100) Heisler on the death of his sister in Albuquerque, Feb. 2.



"THE EMPEROR'S CLOTHES," a children's musical comedy, plays tonight and tomorrow at 8 p.m. at the Neighborhood Drama Project, 1020 Edith SE. Shown with members of the cast are Gary Shephard (2634), right, who has directed the project for six years, and Penny Heidrich (3282), standing, volunteer drama coach. Admission is free; call 247-2552 for reservations.



Wins First at Auto Show

FIRST PLACE in the recent Rod and Auto Show at the Convention Center was won by Sam Griego's (9722) '65 custom Chevy pickup (top left). Tunnel of Love, his '74 Chevy van (upper right), took a second. Sam spent six years working on the pickup, stripping it to the frame, rebuilding the engine, chroming the undercarriage, adding sun roof, upholstering the interior, and making the bed of the pickup transparent with 3/4-in acrylic plastic so the undercarriage chrome is visible. The plush van is completely upholstered in red crushed velvet, has built-in television, stereo and must be seen to be appreciated. And believed. Both vehicles were finished with 25 coats of paint, including overlays and decorative panels painted with an airbrush. Sam bought his first car when he was 12 years old, says he grew up in his father's garage. With him in the van is Kathy Martinez (ERDA). Between working weekends as a lead guitar with the Griego Brothers band and evening courses at TVI, Sam is rebuilding two more pickups.

Recreation Notes

FUN & GAMES

Bicentennial F&G — All sorts of athletically-oriented events are being dreamed up to commemorate the nation's 200th. Don Bliss (9623) describes one transcontinental bike ride in which 150 cyclists will leave the Los Angeles area in June, heading east, with an ETA in Belen (bypassing Albuquerque) around July 11. Their goal: Washington, D.C. With logistic support from vans, the group hopes to average 100 miles per day which, considering the Mojave Desert, temperatures in June, the ascent to the high mountain plains, and a regimen of always cycling into the sun, is a mighty aspiration. If you want to join the group as they continue east, call Don.

A more tranquil but nonetheless demanding event is reported by Glenn Fowler (1000). This is the Bicentennial canoe ride — a 14-day canoe trip down the Mississippi from Dubuque, Iowa to St. Louis, 400 miles — to commemorate a Revolutionary War canoe ride over this route by one Jean Marie Cardinal, whose aim was to alert the American garrison in St. Louis of British military advances on the upper Mississippi. The literature urges canoe enthusiasts to join the ride, or "to sponsor a similar float in your area." Let's see, we could put wheels on the canoes, go down the Rio Puerco . . .

Tennis — The '76 ladder season for tennis opens March 1. A "ladder" is essentially a listing of people who want to play tennis with

other people, more or less rank ordered so that a beginner doesn't play Mr. Forest Hills. It's a good way to improve your game. Call Norm Smith, 4-2771, to join.

STA has already sponsored a mixed doubles tournament and will shortly offer both a singles and doubles tournament. Interested? Call Jose Gonzales, 4-3643.

Sandia Bicycle Assn. — February issue of *Consumer Reports* contains a fairly detailed appraisal of 51 10-speed bikes. At the top of the ratings: Fuji Road Racer, Raleigh Super Course, Falcon Olympic and Jeunet 620, most of them in the \$200 bracket. At bottom, the \$90 and \$100 cast iron specials offered by the large chains. The ratings seem to say you get what you pay for.

Bike and other traffic is the subject of a separate article in this issue which we commend to your attention.

Curious about the world underwater? Be a scuba diver. "It's fun, wet, spectacular, and exciting," report Sandians Mike Johnson (2541) and Lee Galbraith (2542). The club they belong to, New Mexico Scuba Divers, invites new members, experienced or beginning. Classes for the latter will be taught by certified instructors. The Club plans trips to dive in New Mexico waters as well as along the California and Mexico coasts. For more info, call Mike at 296-3431 or Lee at 298-9715 evenings.

The outdoors is subject matter for a new series of lectures, movies, demonstrations, and discussions beginning at the Coronado Club on March 8 at 7:30. The series is called **Outdoors Indoors**; the first event is concerned with fishing, and the public is invited (\$1 admission fee for non-Club members). Door prize: a rod and reel.

Sandia Runner's Assn. — In last weekend's Tucson Marathon, SRA was represented by Irv Hall (1223) who ran the 26-miler in 3:14:59, a personal best for Irv in the marathon. He was 2nd in his 40-plus class, 38th overall in the field of 160.

Sandia Golf Assn. — For five bucks, membership is yours in SGA, so says Bill McAtteel (5422). The '76 season offers golfers 11 tournaments played over 8 courses; both scratch and handicap leagues will operate, and your handicap is computed under USGA standards. Discounts on golf gear also will be available. If you haven't received a membership form, give Bill a call on 4-1507.



Events Calendar

Feb. 20-22 — Shrine Circus, Tingley.
 Feb. 20-22, 27-29 — Old Town Studio, "Sleuth," 242-4602.
 Feb. 21 — NM Mt. Club, Embudo Basin (Sandias), hike 6-8 miles, 9 a.m., Albertson's, Juan Tabo & Menaul.
 Feb. 21-22 — NM Ballet Co.: Winter Concert, Popejoy.
 Feb. 23 — Popejoy Cultural Series: Hal Holbrook's "Mark Twain Tonight," 8:15 p.m.
 Feb. 26 — Basketball, UNM vs Utah, 7:30 p.m., UNM Arena.
 Feb. 27-29 — Rio Grande Pottery & Sculpture Exposition, Convention Center.
 Feb. 28 — NM Mt. Club, Hamilton Mesa (Pecos), hike 8-12 miles, 6:30 a.m.,

Gulf Mart.
 Feb. 28 — Basketball, UNM vs BYU, 12 noon, UNM Arena.
 Feb. 29 — Maxwell Museum, opening of Guatemala Textiles, major display of Central American textiles (UNM Campus).
 Feb. 29 — Janis Ian Concert, 8:15 p.m. Popejoy.
 Mar. 2-3 — Hockey, Albuquerque vs Amarillo, 7:30 p.m., Tingley.
 Mar. 4 — Hockey, Albuquerque vs Billings, 7:30 p.m., Tingley.
 Mar. 6 — Basketball, UNM vs Texas-El Paso, 7:30 p.m., UNM Arena.
 Mar. 6-7 — 19th Annual Gun Show, Convention Center.

Authors

G.H. Miller (5216) and G.J. Lockwood (5232), "Calorimetric Determination of Beam Energy," Vol. NS-22, No. 6 (1975), IEEE Transactions on NUCLEAR SCIENCE.

J.S. Pearlman and J.P. Anthes (both 5214), "Reduction of Classical Thermal Conductivity Under the Influence of High Power Lasers," December 1975, APPLIED PHYSICS LETTERS.

G.B. Krefft (5112), "Effects of High-Temperature Electrolysis on the Coloration Characteristics and OH-Absorption Bands in Alpha-Quartz," Vol. 26, No. 4 (1975), RADIATION EFFECTS.

G.E. Reis (1331), "Dense Packing of Equal Circles Within a Circle," Vol. 48, No. 1 (1975), MATHEMATICS MAGAZINE.

P.J. Chen (5131), "Waves in a Binary Mixture of Linear Elastic Materials," Vol. 14, 237(1975), JOURNAL DE MÉCANIQUE; P.J. Chen and J.W. Nunziato (both 5131), "On Wave Propagation in Perfectly Heat Conducting Inextensible Elastic Bodies," Vol. 5, 155(1975), JOURNAL OF ELASTICITY.

R.C. Lincoln and R.C. Heckman (both 5443), "Negative-Pulse Thermal-Diffusivity Measurements of ATJ-S Graphite to 3500 K," Vol. 7, 71(1975), HIGH TEMPERATURES - HIGH PRESSURES.

G.C. McDonald (9623), "What Metric Standards? Where Are They?" Vol. 96, No. 3 (1974), MECHANICAL ENGINEERING.

E.D. Graham (2116), C.W. Gwyn (2142) and R.J. Chaffin (2125), "Device Physics Simulation Yields Increased Understanding of Microwave Transistors," February 1975, THE MICROWAVE JOURNAL.

A.B. Harris (5132), "Nature of the 'Griffiths' Singularity in Dilute Magnets," Vol. 12, No. 1, PHYSICAL REVIEW B.

G.J. Jones (2531), "The Kinetics of Lateral Growth," Vol. 29, No. 2, JOURNAL OF CRYSTAL GROWTH.

J.K. Rice and A.W. Johnson (both 5216), "Enhancement by Helium and Argon of the Formation Rate of the 1720-Å-Radiating States of Xe₂ Excited by an E-Beam," Vol. 63, 5235(1975), JOURNAL OF CHEMICAL PHYSICS.

J.W. Reed (5443), "Wind Power Climatology," Vol.

27, No. 6 (1974), WEATHERWISE.

M.J. Landry and A.E. McCarthy (both 2541), "Use of the Multiple Cavity Laser Holographic System for EBW Analysis," Vol. 14, No. 1 (1975), OPTICAL ENGINEERING.

F. Biggs (5231), "Hartree-Fock Compton Profiles for the Elements," Vol. 16, No. 3 (1975), ATOMIC DATA AND NUCLEAR DATA TABLES.

R.C. Hughes (5814), "Charge Transport by Photocarriers in Polymer Films," (1974), ELECTROPHOTOGRAPHY; "Electronic and Ionic Charge Carriers in Irradiated Single Crystal and Fused Quartz," December 1975, RADIATION EFFECTS; "Hot Electrons in SiO₂," Vol. 35, 449(1975), PHYSICAL REVIEW LETTERS; R.C. Hughes, E.P. EerNisse and H.J. Stein (both 5112), "Hole Transport in MOS Oxides," Vol. 22, 2227(1975), IEEE Transactions on NUCLEAR AND SPACE RADIATION EFFECTS.

D.B. Hayes (2513), "Polymorphic Phase Transformation Rates in Shock-Loaded Potassium Chloride," Vol. 45, No. 3 (1974), JOURNAL OF APPLIED PHYSICS.

P.B. Bailey (5121) and S.M. Davenport (formerly 5121), "A Fourth Order Nonlinear Two Point Boundary Value Problem Arising in Linear Elasticity," Vol. 1, No. 4 (1975), APPLIED MATHEMATICS AND COMPUTATION.

L.F. Shampine and M. Gordon (both 5122), "Typical Problems for Stiff Differential Equations," Vol. 10, No. 3, SIGNUM NEWSLETTER.

D.E. Amos (5122), "Computation of the Central and Noncentral F Distributions," Vol. 5, No. 3, (1976), COMMUNICATIONS IN STATISTICS.

W.J. Camp and J.P. Van Dyke (both 5151), "High Temperature Series for the Susceptibility of the Spin S Ising Model: Analysis of Confluent Singularities," Vol. 11, 2579 (1975), PHYSICAL REVIEW B.

A.C. Switendick (5151), J.E. Schirber (5150), and W.J. O'Sullivan (UC), "Volume Dependence of the Band Structures of the Noble Metals," Vol. 68, K 29 (1975), PHYSICA STATUS SOLIDI B.

Speakers

R.J. Thompson (5121), "The Numerical Solution of a Nonlinear Flow Problem," American Mathematical Society annual meeting, Jan. 22-26, San Antonio, Texas.

J.M. Peek (5261), "Distorted Wave and Coulomb-Born Treatments of Inelastic Charged Particle-Positive Ion Collisions," LASL Seminar, Jan. 8.

J.A. Reuscher (5421), "Dynamic Thermomechanical Behavior of the Sandia Pulsed Reactor III," Reuscher and B.F. Estes (5421), "Design and Initial Performance of the Sandia Pulsed Reactor - III," US/Japan Seminar on Fast Pulsed Reactors, Jan 19-23, Tokai-Mura, Japan.

G.E. Brandvold (5710), "Solar Energy - A Perspective," N.M. Institute of Chemists, Jan. 9, Santa Fe.

T.D. Harrison (2531), "Does Your Solution Have A Problem?" ASQC meeting, Jan. 17, Albuquerque.

J.S. Pearlman (5214), invited seminar, "Evaluation of Laser-Thin-Film Interaction," Dept. of Aerospace & Mechanical Sciences and the Laboratory for Laser Energetics, University of Rochester, Jan. 16, Rochester, N.Y.

G.R. Case (2142), "Implications on Testing of Actual Fault Mechanisms in Random Logic LSI Circuits," IEEE 410 Committee, Jan. 16, New York City.

H.R. Yoshimura (5432), "Full Scale Vehicle Testing Program," 55th annual meeting of the Transportation Research Board, Jan. 19-23, Washington D.C.

J.S. Pearlman (5214), "Interaction of Short Laser Pulses with Polystyrene Films," invited presentation, A/Y Special Seminar, LLL.

S.T. Picraux (5111), "H, D, and T Analysis and Profiling Using Nuclear Reaction Analysis and Ion Scattering," and "Ion-Metal Interactions," Jan. 7-8, SLL.

D. Emin (5151), "The Thermoelectric Power due to Scattering and Hopping Transport in Semiconductors," University of California at Riverside, Jan 13.

H.R. Shelton (4232), "Work Assignments, Supervision, and Coaching," and "Motivation of Practicing Engineers in the Area of Continuing Education," College-Industry Meeting, Jan. 14-16, Orlando, Fla.

A.C. Ellingson (9512), "QA Programs in Nuclear Power Plants," Conference on Quality Costs and the Customer, ASQC, Jan. 17, UNM.

L.R. Hill (1141), "Radioactive Waste Disposal in Bedded Salt," American Institute of Mining, Metallurgical & Petroleum Engineers, Jan. 17, Grants, N.M.

B. Morosin (5154) and P.S. Peercy (5132), "Structural Studies on Alkoxides (Ti, Nb, Zr) Hydrolysis Products," and "Crystal Structure of a Decaniobate Complex," American Crystallographic Association meeting, Jan. 18-22, Clemson, S.C.

R.K. Traeger (2151), "Chromium-Gold Thin Film Metallization," American Electroplaters Society Inc., Jan. 22, Fort Worth, Texas.



JACK WOHL, Sandia's contract optician for fitting prescription safety glasses, is located in Bldg. 814, Rm. 1. Office hours are Mondays and Thursdays, 10 a.m. until noon and from 12:30 to 3 p.m.

PAGE SEVEN
 LAB NEWS
 FEBRUARY 20, 1976



feed back

Q. Has consideration ever been given to the publication of a pictorial history of Sandia Laboratories? I expect such a book would be a brisk seller among both on-roll and retired employees.

A. Information Department, 3160, has been hoping to prepare an updated history of Sandia, text and photos, but time has not been available for this effort. Your suggestion concerning a pictorial history is a good one and will be considered by the department staff as a possible interim measure. They have been looking for a souvenir booklet to hand out at the planned Family Day next fall, as part of the Bicentennial celebration, and this may turn out to be the answer. Thanks for your suggestion.

K.A. Smith — 3100

Q. I have noticed that my children, who attend St. Charles School, bring home school papers with printing on the other side. I have talked to the school principal and was informed that the school will be very happy to use Xerox or any other 8 1/2" x 11" paper which is blank on one side. Could Sandia so dispose of its waste paper?

A. Thank you for your inquiry about the disposition of our unclassified scrap paper. A program has been established to collect computer tab cards, computer tab paper and mixed paper, which includes Xerox paper. All employees are encouraged to participate in this program.

The paper collected is stored in the Salvage sales yard and is sold to Albuquerque Waste Materials on a six-month contract at present. However, schools such as St. Charles may procure this paper by contacting Mr. Clovis Baca, Director, New Mexico Federal Property Assistance Program. His address is P.O. Box 4757, Coronado Station, Santa Fe, New Mexico 87502. The telephone number is 827-2511.

C.R. Barncord — 3200

CDC 7600 Now In Computer Center

Latest addition to Sandia's Scientific Computer Center in Bldg. 880 is a CDC 7600 which went "on-line" this month. The 7600 has a central processing unit which performs operations such as addition and multiplication as much as five times faster than the CDC 6600 computers which Sandia has been using since 1968.

In addition to its speed, the 7600 has great capacity — 65,536 words of main core memory plus 512,000 words of auxiliary memory. As in the 6600's, memory words are 60-bits, which give the machine about 14 significant figures of precision (14 decimal places).

The 7600 has two high capacity disks with 40 million 60-bit words each for storage of user files. It also has direct access to four seven-track tape drives, and a nine-track magnetic tape drive will be added in the near future. However, most tapes are not processed by the 7600 directly.

"The 7600 is too fast a machine for most peripheral devices such as card readers, printers and tape drives," according to Ron Detry, supervisor of Scientific Software Division 2641, "so the 7600 relies on another computer — a Cyber 172 — for most of its input and output processing. Any job destined for the 7600 (along with any needed tape files) is read into the Cyber 172 which transmits the job to the 7600 at a high rate of speed, much faster than the 7600 could achieve directly."

The Cyber 172 has 65,536 words of memory and is linked with three 844-21 disks that provide a total of 36 million words of storage for user files. It has access to a large bank of seven track tape drives.

Currently, the 7600 "stands alone." It is not linked into Sandia's unique scientific computer network which joins three 6600 computers and extended core memory with a common mass storage system and a "load leveling" capability.

"About 42 man-months will be required to develop the software necessary to integrate the 7600 into the network," according to Paul Lemke (2641), project leader responsible for the scientific network. "When the effort by the systems programmers is complete late this year, the 7600 will have access to the same set of user files as the 6600's and will be a full partner in the network. In the meantime, the 7600 is operating with physical transfer of tapes from the network to the Cyber 172.

"This substantial software effort is required," Paul continues, "because the programs Sandia developed to direct the

overall operation of the network are not compatible with the 7600/Cyber 172 operating systems. Our programs were the first to permit the sharing by three 6600's of a common permanent file base containing those files users wanted to save from one execution to the next. This feature was installed in 1973. In July 1975, the input/output queues were placed on these common storage devices which allows load-leveling between machines. A job may be executed by whatever machine has the resources free to do so, regardless of where in the system the job originated or the destination of the output.

"These system enhancements were installed to reduce the number of peripheral devices needed, to allow the user to execute his job on any machine regardless of where he had created his files, and to minimize the impact of a failure on any single machine."

The current scientific computer network consists of the three CDC 6600 computers, eight 844-44 double density disks with total storage capacity of 188 million 60-bit words, 30 tape drives, one million words of very-fast-access extended core storage partitioned among the three 6600's, and the necessary card readers, punches and printers.

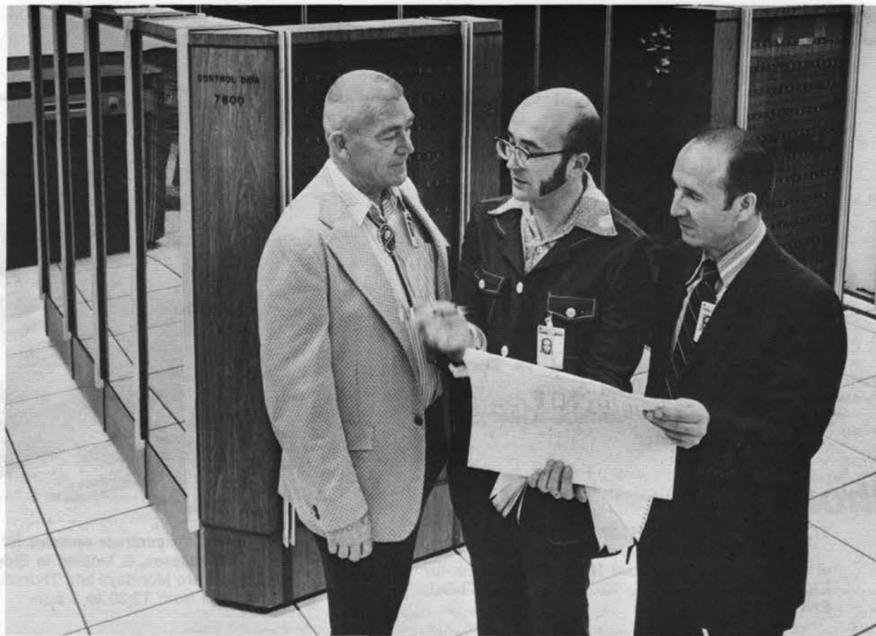
In April another seven of the double density 844-44 disks will be installed, effectively doubling the present capacity for user files.

Most users of the scientific computer center have access to the network through several high-speed terminals in various locations throughout the Labs. The scientific network also supports the six high-speed Sandia Interactive Graphics Systems terminals developed jointly by Division 2644 and Division 2641.

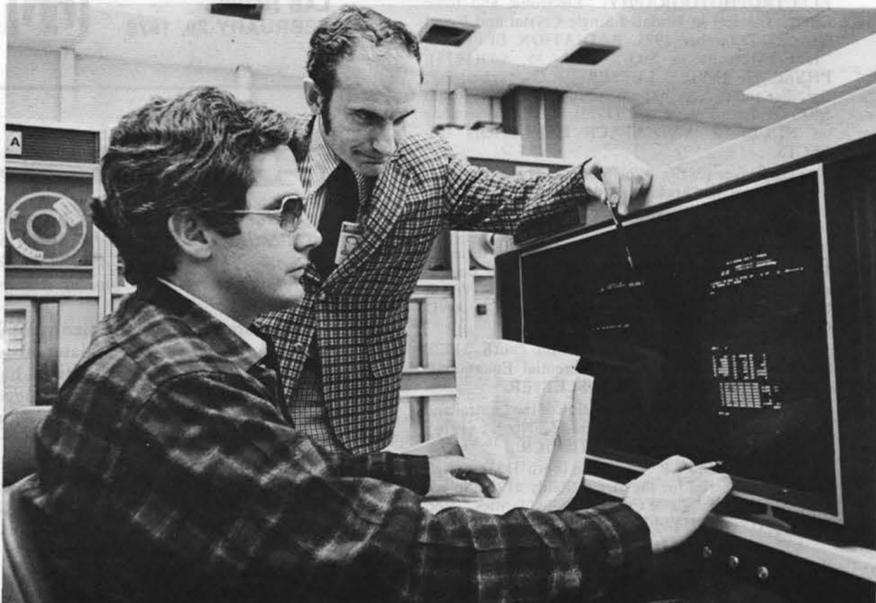
Current plans call for the retirement of the PDP-10, Sandia's current time-sharing computer, and conversion of one of the CDC 6600's to handle the time sharing task. This system eventually will be integrated into the network.

On the other side of the computer organization, in what is called the Data Processing Center, two Univac 1108 computers handle Sandia's financial transactions, payroll, inventory control, personnel records, budgeting, technical information, integrated procurement system and record-of-assembly weapon data. Sixty terminals throughout the Labs provide access to the 1108's.

Both computing centers work seven days a week, three shifts per day. • dg



NEW CDC 7600 computer (background) went "on line" this month in Sandia's Computer Center. From left are Lee Hollingsworth, director of Computing 2600, Ron Detry, supervisor of Scientific Software Division 2641, and Kelly Montoya, manager of Computer Operations Department 2630.



PROJECT LEADERS for operational software for the scientific computer network are Scot Fishburn and Paul Lemke (both 2641) at a CDC 6600 console.



CDC 6600 computer operators Ben Garcia, Jr. and Tony Chavez (both 2631) confer on network operations.



UNIVAC 1108 operator Mary Couch (2632) discusses financial program schedule with Karl Walbel, supervisor of Financial Management Systems Development Division 2625.



SYSTEMS PROGRAMMERS, responsible for the operations software of Sandia's scientific computer network, are (l to r) Jack Hudson, Scot Fishburn, Joe Ashcraft, Larry Lane, John Brabson, Ron Domres, Ron Halbgewachs, Paul Lemke and Ron Detry (all 2641). The scene is not a laundramat but Sandia's installation of new double density 844-44 disk storage units.



TAPE LIBRARY for the computer center is filled with hundreds of user files. From left are Jess Sanchez, Alex Maestas and Elton Chandler (all 2631).



AT CONSOLE of Sandia's PDP-10 time sharing computer is operator Lois Amsden (2631).

After 40, Ken Thinks He'll Stick



Ken Lloyd

1936. Black runner Jesse Owens was an irritant to Adolph Hitler with his winning ways in the Olympics in Berlin. Roosevelt swamped Landon. Shirley Temple flounced her blond ringlets. And Ken Lloyd was fresh out of Brooklyn Tech High School (NY) and looking for a job in the depression. Not the most auspicious introduction to the work world.

1976. As it turned out Ken really only had to hunt for a job that one time. This month he observes his 40th anniversary with the Bell System. Nominally a Bell Labs employee, Ken has been at Sandia Labs since 1952 when he came out here from New Jersey at the request of Tom Robertson on a "two-year" assignment to help set up drafting standards. Sandia and the Southwest beguiled the Lloyd family, and they've been here since.

"An employment agency sent me to an outfit in Manhattan called Electrical Research Products Inc." recalls Ken. "For \$15 a week, I worked first in the mail room, then in the stock room. Later I did acoustical engineering for ERPI — they were doing the sound work for motion pictures. Around 1940 ERPI was absorbed by Western and I went over to Bell Labs as a design draftsman. Did a lot of radar work at the Labs during the war."

At Sandia Ken worked closely with weapon project groups on the 25, 28 and 30 weapons. In 1972 he helped set up the micrographics facility which has since realized considerable savings in the reproduction of drawings. Currently he is assigned to Engineering Information Systems Division 9623.

Retirement? "Not for a while," says Ken. "Don't want to rush into these things."

Deaths



William Lace of Electronic Fabrication Division 3616 died accidentally in a home fire Feb. 11. He was 62.

He had worked at Sandia since December 1955.

Survivors include his widow, two daughters and a grandchild.



Ramona Daugherty of Personnel and Employment Division 4256 died suddenly Feb. 6. She was 51.

She had worked at the Labs since Oct. 1961.

Survivors include a daughter, her mother and three brothers.



Marion Tucker, supervisor of Payroll Section 3252-3, died Feb. 10. He was 63.

He had worked at Sandia since August 1948.

Survivors include a son, daughter and granddaughter.



HAVE A PET PROJECT?
CALL US LAB NEWS
X-1053

MASTERCARE Subscribers

Don't grouse — run for office. Three slots open next month on the 15-person Mastercare board, and there's no Sandian yet among those who have expressed interest. Gene Aronson's (2642) term expires this year, Don Bliss's (9623) next. So, unless some Sandian who'd like an interesting challenge volunteers to run, one of these days there'll be no board representative from Sandia. If you're interested, or even just curious, call Gene on 4-4348 or Don on 7609 today or Monday.

Said the Smithsonian: 'Yes'

Last fall LAB NEWS carried a story and pictures on the miniature steam engines and printing press built by Benjamin Warner, great-grandfather of the late husband of former Sandian Ellen Jones. The Smithsonian Institution has now officially accepted the models, thanks to the efforts of Art Clark (9330) of the ASME and Ray Smelich, retired.

Some quotes from the acceptance letter from the Smithsonian curator: "I was absolutely stunned at seeing these exquisite examples of fine workmanship . . . The gold-washed beam engine in particular is the most exquisite thing I have ever seen. We are pleased and delighted to have these objects in the National Collections and grateful to you (Mrs. Jones) and those in the ASME who assisted in placing them here."

The models are now on display in a special "case of the month." Later they will become a part of one of the Museum's major Bicentennial Exhibits titled "1876 — A Centennial Exhibition" which replicates the Philadelphia Centennial of that year.

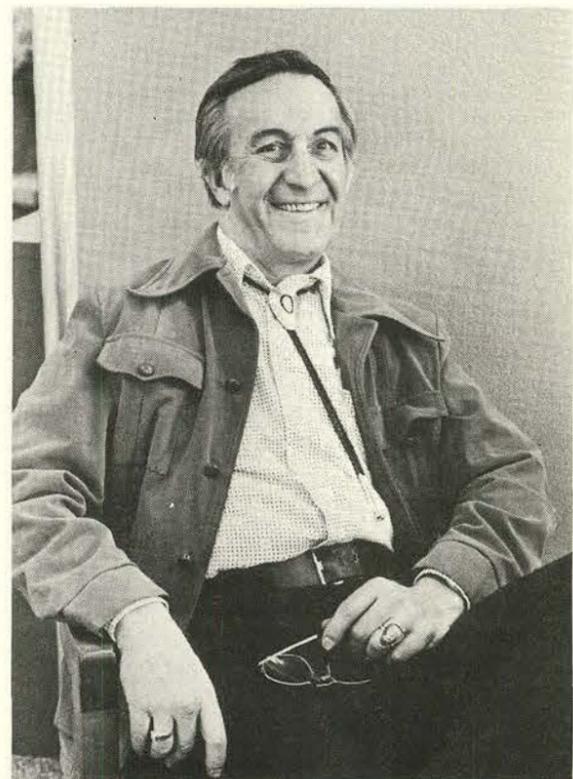
PAGE TEN
LAB NEWS
FEBRUARY 20, 1976



Retiring



Mildren Austin (3624)



Henry Roy (3733)

A TRACE OF DISASTER — Sandia's laser strain seismometer in Area III recorded these events during a 17-hour period Feb. 4-5. First event on the left is an earthquake (5.0 on the Richter scale) near Prescott, Arizona, which was probably perceptible. Large event is the Guatemalan earthquake (7.5 on the Richter—a logarithmic scale). The next two events are underground nuclear tests at Nevada Test Site. The Guatemalan quake has a maximum peak-to-peak amplitude of about 1.6×10^{-7} strain (a measure of relative displacement). Duration of the wave is much longer than that of the other events, partially owing to the relative strength of the sources. First waves to arrive are the relatively low amplitude body waves which travel through the interior of the earth and are refracted to the surface. Large amplitude surface waves follow. Sandia's mile-long (1609 meters) laser strain seismometer, the longest strainmeter in existence, is one of the most versatile and sensitive instruments available for geophysical studies. Project scientist is Doug Garbin (1111).

Women to Benefit From New Medical Services

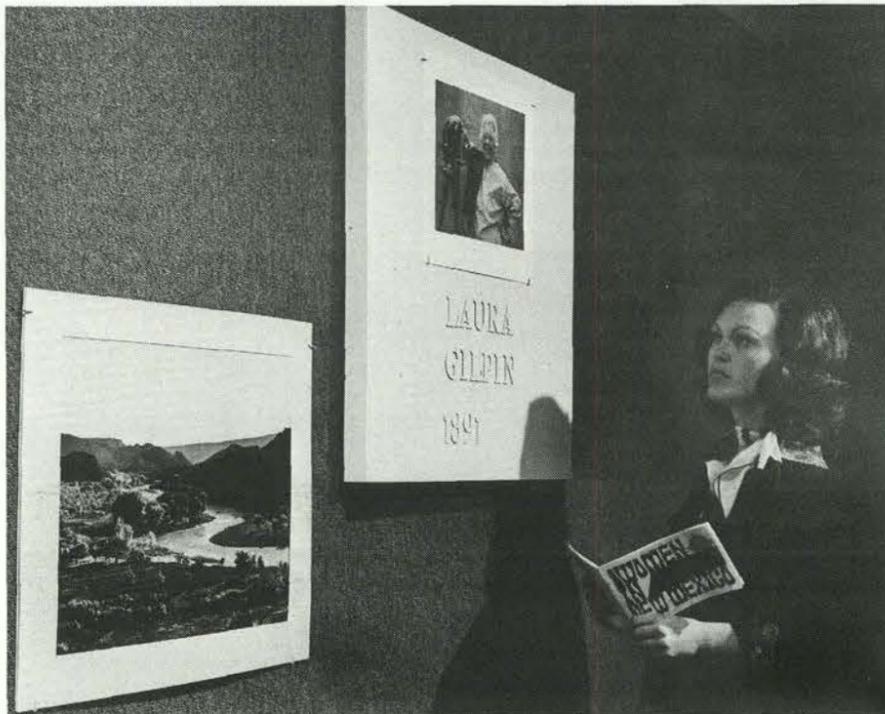
Women at Sandia will benefit from several new services to be offered by Sandia's Medical Department. Two of these services are of utmost importance in the early detection of cancer. Dr. Judy Ewing, the Medical Department's newest member and the only woman M.D. on the staff, and Dr. Mossman will take PAP smears as part of the routine physical examination.

The second service is instruction on self breast examination. Currently, a qualified member of the American Cancer Society is teaching the nurses on the medical staff how to instruct women in SBE. "The physical examination is divided into two parts," Dr. Ewing says. "The first part consists of lab work and x-rays. During this part, the nurse will show the employee how to do SBE. The second part of the exam is conducted a week later. This is when I perform the actual physical examination and go over the results of the lab work. At this time, I will again discuss SBE just to reinforce what she learned the week before and will urge her to continue SBE at home. I've had women show me lumps so tiny that I wouldn't have been able to find them. This just proves the importance of SBE." (The American Cancer Society reports that 95 percent of breast cancers are discovered by the individual.)

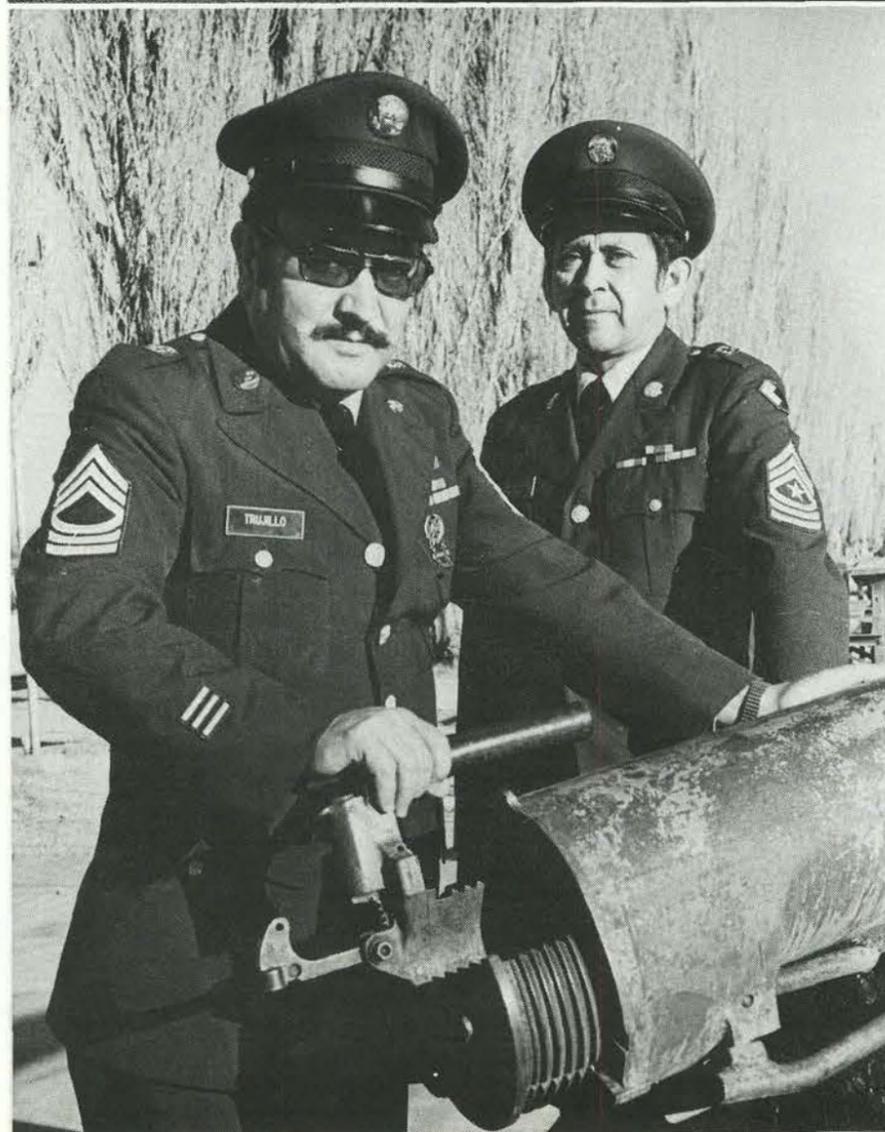
Other new programs have been initiated by the Medical Department for all employees. Upon arrival of new equipment, glaucoma screening for all employees age 50 and over will become a part of the routine physical. Glaucoma is an insidious disease with no readily apparent symptoms early in its course. If undetected, the results are loss of vision and, eventually, blindness, so early recognition is mandatory.

Other new equipment enables complete cardiopulmonary resuscitation and the rapid treatment of shock and severe injuries.

The Medical Dept. has expanded treatment of uncomplicated ailments — sore throats, earaches, Monday morning aches from weekend skiing, etc. The patient is examined, and medication and treatment started with the understanding that the patient seek his/her own physician for follow-up care if required.



WOMEN IN NEW MEXICO is the title of a new exhibit which opened recently at the Museum of Albuquerque. Kathy Pitts (212), Sandia women's program coordinator, reports that the show highlights 13 women who have made significant historic and cultural contributions to the state. The exhibit was prepared by the Albuquerque Branch of the American Association of University Women. Nancy Benson (husband Dave works in 5167) headed the project. Also at the Museum are an outstanding water-color show and an exhibit of 10 centuries of Mexican jewelry.



AS any recruit will tell you, Sergeants have a way of looking at you that... well you just wish he was looking at the next guy. But L.C. Trujillo (left) and Dennis Cordova are different. They're from Sandia (9414 & 3281 respectively), and they've just been promoted in the Army Reserve, L.C. to Master Sergeant and Dennis to Sergeant Majoy (which is as high as you can go). Both are attached to the 156 Support Group Unit. After we got the picture, we had to promise we'd get a haircut.

MILEPOSTS

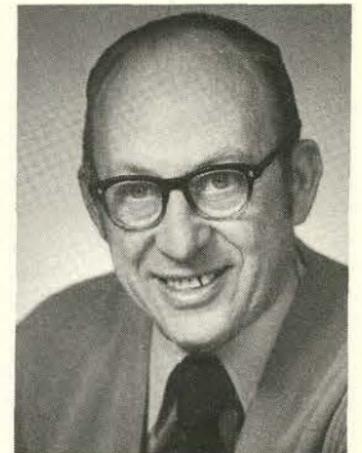
LAB NEWS

February 1976



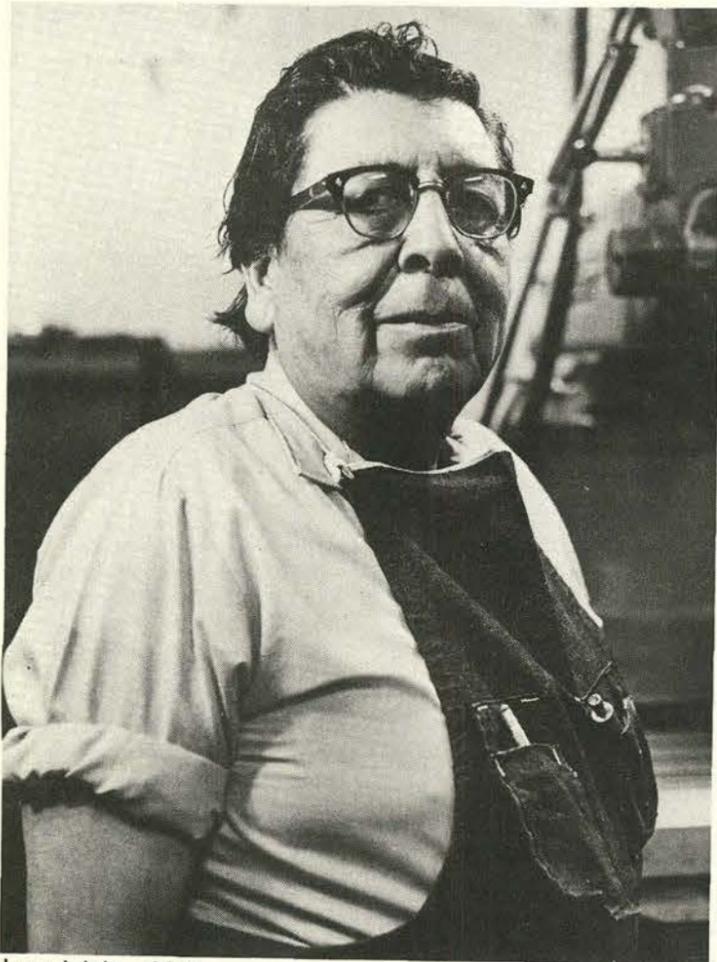
Piffie Chavez - 3734

25



Hans Birnbaum - 8423

15



Jose Jojola - 3645

25



Al Gendreau - 3644

10



Len Dighton - 8156

15



Jack Casey - 8344

15



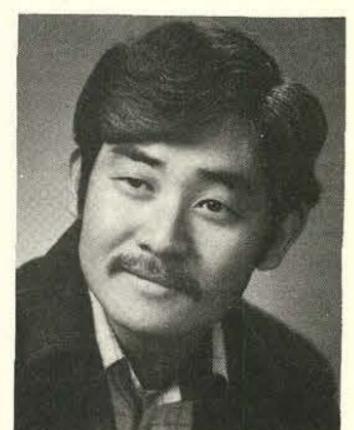
Richard Moyer - 9515

20



Dan Miko - 1251

15



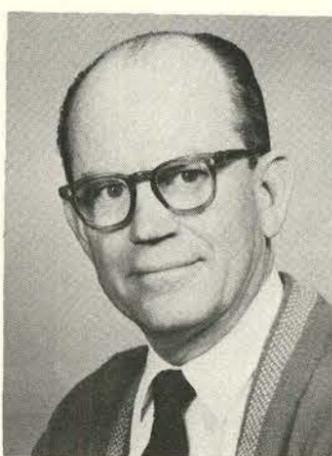
Tabo Hisaoka - 8431

15



Roger Aden - 9336

20



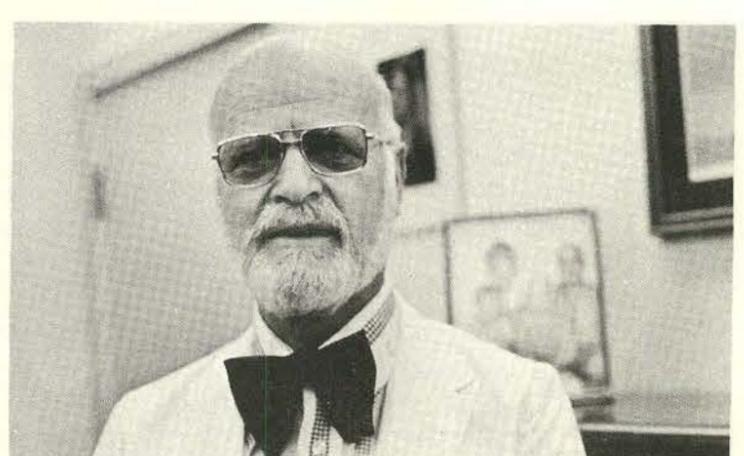
Muriel Iverson - 9423

20



Charles Bild - 9600

25



S.P. Bliss - 3300

20



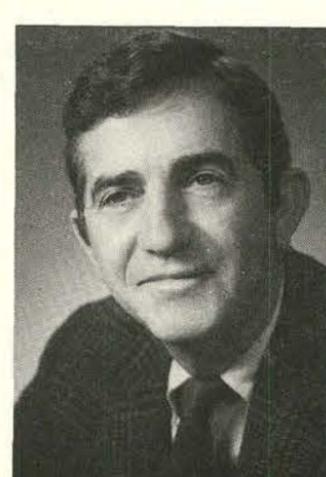
Gene Medina - 9423

25



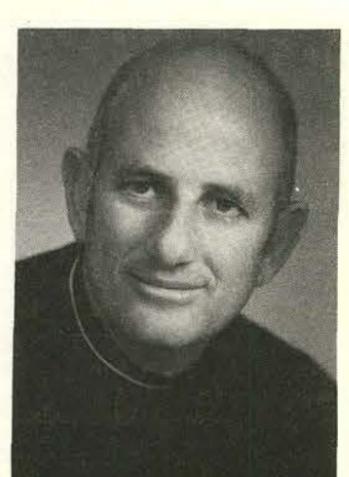
Duncan Tanner - 8159

15



Walt Dzugan - 8212

25



Sy Mayer - 8412

15



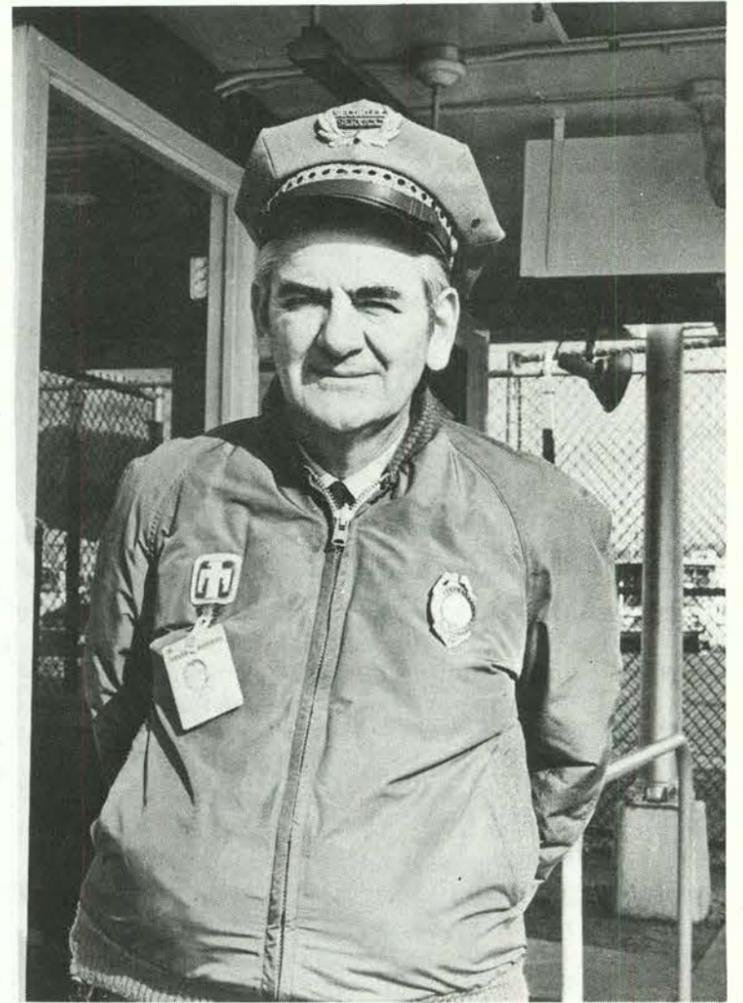
Virginia Barrett - 5830 20



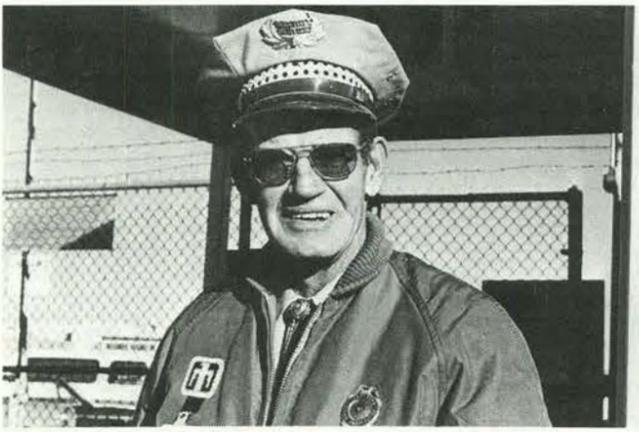
Alec Willis - 8344 15



Clarence Loveless - 8183 20



Michael Adams - 9550 25



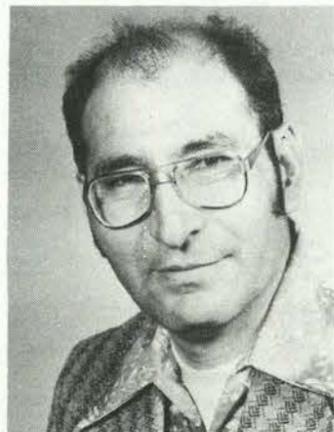
Murt McMullen - 9550 25



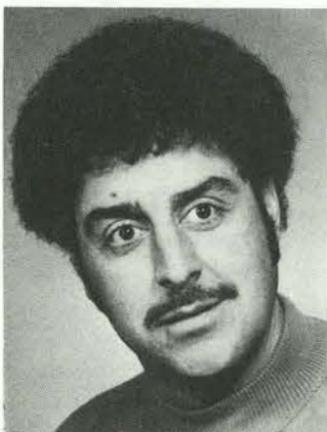
Len Hiles - 8158 10



William Huff - 9531 25



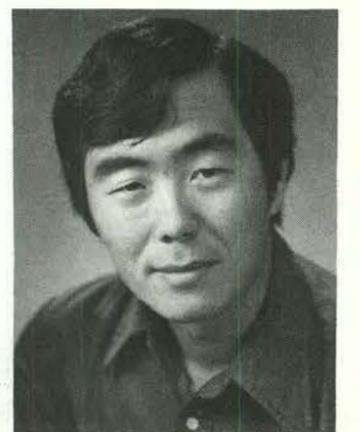
Eloy Montoya - 2631 10



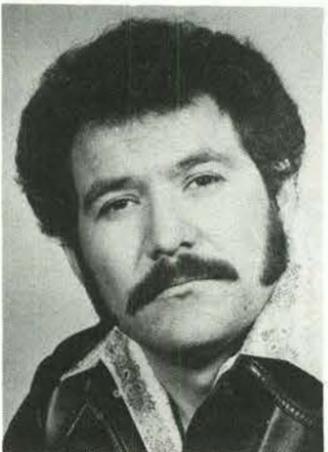
Manuel Vigil - 9335 10



Elbert Mathias - 3725 25



Ken Urabe - 8432 10



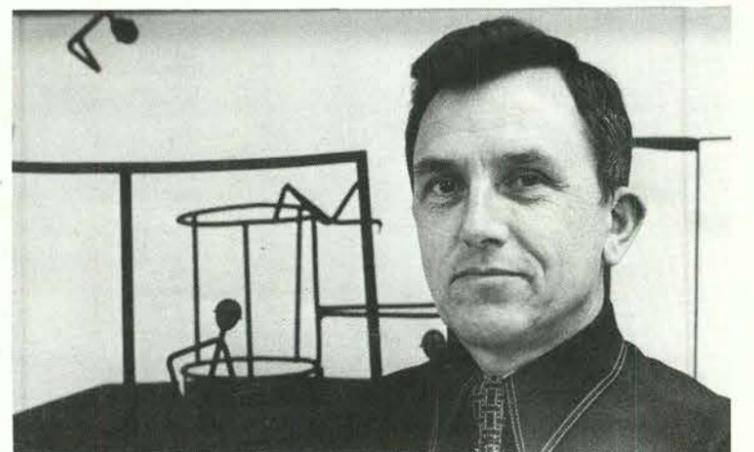
Roque Gallegos - 5233 10



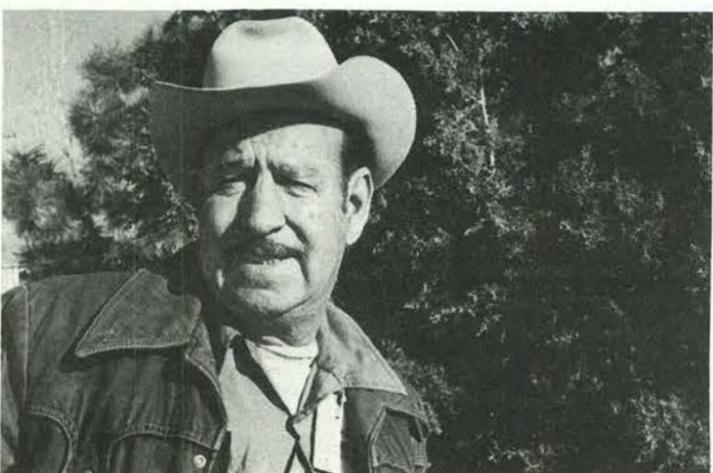
William Stolpun - 9634 20



Archie Stannish - 3731 10



Arthur Hassig - 9652 15



Liliaido Padilla - 9712 25



Jack Sublett - 3610 25



Irene Dodson - 3617 25



Sam McAlees - 1333 20

Tel-Med: Acne to Atherosclerosis

Now available to the Albuquerque community, one of the newest services in the health education field is a telephone program called Tel-Med, provided by the Auxiliary to Presbyterian and Anna Kaseman Hospitals through the fund raising activities of its members. Tel-Med is a collection of tape-recorded messages dealing with a wide assortment of physical and mental medical subjects.

Albuquerque is the 51st city to have Tel-Med, according to Joan Parsons, Auxiliary chairman. Joan says that since its initiation last March, Tel-Med has received 39,000 calls. The console is located at Presbyterian Hospital and operates Monday through Friday from 12 noon to 8 p.m. Tapes are three to five minutes long, are easy to understand, and are approved by physician specialists.

All tapes, including those acquired from the Tel-Med library in California, are screened for approval by the Albuquerque and Bernalillo County Medical Associations.

Tel-Med is not designed to be used in an emergency nor in the diagnosis or treatment of an illness. It can, however, help you recognize early symptoms of a condition, or adjust to serious illness, or just remain healthy.

Tel-Med is easy to use. Call 843-9660 and give the operator the number of the tape you wish to hear.



TEL-MED five-channel tape console. All tapes are reviewed periodically and updated as the need arises. Operators play tape you request. 12-8 p.m., Monday-Friday. Call 843-9660.

Adolescents **843-9660**

- 172 Acne
- 50 Teen Years: The Age of Rebellion
- 133 Advice for the Parents of Teenagers

Babies and Children

- 883 Caring for Yourself after a Baby
- 882 Emotional Feelings after Childbirth
- 260 Supplies for the New Baby
- 261 Care of a New Born
- 881 Breast Feeding Your Baby
- 51 When a New Baby Creates Jealousy
- 102 Mouth to Mouth Resuscitation in a Small Child or Baby
- 73 Earache
- 48 Thumbsucking
- 263 Teething
- 5000 Bedwetting
- 18 Tonsillectomy
- 400 Tommy Gets his Tonsils Out
- 43 Stuttering and Other Speech Problems
- 232 Recognizing Speech Problems in Children
- 174 Masturbation
- 233 Diabetes in Children
- 75 Pinworms
- 226 "Should I keep my Child Home from School?"

Cancer

- 183 Cancer's Seven Warnings
- 182 What is a Pap Test?
- 6 Breast Cancer
- 178 Rehabilitation of the Breast Cancer Patient
- 180 Cancer of the Colon and Rectum
- 179 Lung Cancer
- 696 How Smoking Affects Your Health

Common Problems

- 518 Itching Skin
- 79 Dandruff: A Form of Seborrhea
- 84 Dizziness
- 37 Backaches
- 45 Indigestion
- 36 Hiccups
- 35 Headaches
- 42 "I'm Just Tired, Doctor"

Digestive System

- 45 Indigestion
- 36 Hiccups
- 2 What is a Normal Bowel Movement?
- 199 Colitis and Bowel Disorders
- 180 Cancer of the Rectum and Colon
- 162 Hepatitis
- 198 Hiatal Hernia
- 78 Appendicitis
- 44 Ulcers
- 4 Hemorrhoids

Drugs and Alcohol

- 136 Amphetamines and Barbiturates (Up and Down Drugs)
- 137 Marijuana
- 138 Narcotics
- 134 L.S.D.
- 943 Is Drinking a Problem?
- 944 To Drink or Not to Drink
- 942 Alcoholism: The Scope of the Problem

tel-med Tape Library
Please request each tape by number

- 945 So You Love an Alcoholic
- 946 How A.A. Can Help the Problem Drinker
- Emotional Problems**
- 882 Emotional Feelings after Child Birth
- 175 Fears of the After Forty Man
- 33 Tension: Helpful or Harmful
- 144 Emotional Experiences of the Dying Person
- 726 Psychosomatic Illness: It's Not all in Your Head
- 728 When Should I see a Psychiatrist?
- Eye, Ears, Nose and Throat**
- 9 Glaucoma
- 231 Hearing Loss in Children
- 73 Earache in Children
- 18 Tonsillectomy
- 400 Tommy Gets his Tonsils Out
- Family Planning**
- 54 Birth Control
- 57 The Rhythm Method
- 55 Birth Control Pills
- 53 Tubal Ligation
- 1 Vasectomy: Birth Control for Men
- 58 Diaphragm, Foam, Condom
- 14 Family Planning
- 32 Unwanted Pregnancy: "Where Can I Get Help?"
- First Aid For:**
- 118 Animal Bites
- 121 Bee Stings
- 111 Choking
- 108 Fainting
- 98 Head Injuries
- 96 Poisoning by Mouth
- 99 Sprains
- 91 Severe Bleeding
- 101 Thermal Burns
- 102 Mouth to Mouth Resuscitation in a Small Child or Baby
- 103 Mouth to Mouth Resuscitation in the Adult Only
- General**
- 90 Hay Fever
- 193 Baldness and Falling Hair
- 1040 Face Lifts — Plastic Surgery
- 300 Flu
- 969 Infectious Mononucleosis
- 125 Epilepsy
- 84 Dizziness
- 35 Headaches
- 5045 Rabies
- 52 Lice: Pubic, Head and Body
- 11 "Are You a Hidden Diabetic?"
- 22 Foot Care for Diabetics and Others with Poor Circulation
- 42 "I'm Just Tired, Doctor"

Brought to you by the Auxiliary to Presbyterian Hospital and Anna Kaseman Hospital
tel-med is endorsed by the Albuquerque and Bernalillo County Medical Association

164 Family Health

Heart and Blood

- 565 Hypoglycemia
- 34 Anemia
- 566 Sickle Cell Anemia
- 191 Varicose Veins
- 63 Early Warnings of Heart Attack
- 21 Cigarette Smoking and Heart Disease
- 696 How Smoking Affects your Health
- 25 Hypertension and Blood Pressure
- 65 Chest Pains: Not Necessarily a Heart Attack
- 30 Living with Angina Pectoris
- 23 Diet and Heart Disease
- 28 How to Decrease the Risk of Heart Attack
- 29 Atherosclerosis and High Blood Pressure
- 59 Blood Transfusions and Blood Services

Insects and Pests

- 195 Bee Stings
- 160 Cockroaches
- 64 Flies
- 52 Lice: Pubic, Head and Body
- 5045 Rabies

Mouth and Teeth

- 309 Canker Sores and Fever Blisters
 - 263 Teething
 - 307 Seven Warnings of Gum Disease
 - 314 Bad Breath
 - 302 Effective Tooth Brushing
 - 301 Flossing Your Teeth
 - 303 Dental Plaque
 - 305 Crooked Teeth — Malocclusion
 - 313 What You Don't Know about Dentures Might Hurt You
 - 318 Reducing Dental Costs
- *tel-med is endorsed by the Albuquerque District Dental Society

Muscle, Bones and Joints

- 128 Rheumatoid Arthritis
- 127 Arthritis, Rheumatism
- 126 Gout
- 129 Bursitis
- 37 Backaches
- 46 Lumps and Bumps of the Arms and Legs
- 47 Leg Cramps, Aches and Pains

Parents

- 883 Caring for Yourself after a Baby
- 260 Supplies for the New Baby
- 261 Care of the Newborn
- 51 When a New Baby Creates Jealousy
- 882 Emotional Feelings After Childbirth
- 133 Advice for Parents of Teenagers
- 168 How to Take Temperature, Pulse and Respiration

Pregnancy

- 67 Warning Signs of Pregnancy
- 12 Am I Really Pregnant?
- 5 Early Pre-Natal Care

Public Information

- 19 Nine Ways to Cut Your Medical Costs
- 318 Reducing Dental Costs
- 430 Important Information about Medical Insurance
- 155 Medicare
- 154 Medicaid
- 14 Family Planning
- 164 Your Family Health
- 5001 Your Hospital Admission
- 59 Blood Transfusions and Blood Services

Reproductive System

- 1 Vasectomy
- 889 Hysterectomy
- 74 D and C
- 66 What Causes Miscarriages?
- 24 Abortion
- 31 Vaginitis
- 39 Female Hygiene in the Age of Advertising
- 173 Menopause
- 174 Masturbation
- 68 Infertility
- 1180 Homosexuality
- 182 What is a Pap Test?

Respiratory System

- 300 Flu
- 576 Bronchial Asthma
- 7 Pneumonia
- 13 Pulmonary Emphysema
- 179 Lung Cancer
- 90 Hayfever

Safety

- 3 Can Medicines in Your Home Poison Your Child?
- 10 Poisons in Your Home
- 195 Bee Stings: It can Cause Death
- 41 Are You Ready for the Skiing Season?
- 1082 Sports Tips for Youngsters
- 1081 Health Hints for Campers
- 147 Lady Beware: Lady Living Alone
- 148 Mugging and Purse Snatching

Skin Disorders

- 518 Itching Skin
- 82 Psoriasis
- 79 Dandruff
- 172 Acne
- 80 Ringworm and Athlete's Foot
- 86 Are Old Age Freckles Dangerous?

Smoking

- 21 Cigarette Smoking and Heart Disease
- 696 How Smoking Affects Your Health
- 694 Why a Woman Should Quit Smoking
- 695 Reduce the Risks of Smoking
- 697 Do You Want to Stop Smoking?
- 699 Gimmicks to Help You Quit Smoking
- 693 Weight Control While Quitting Smoking

Venereal Disease

- 15 Syphilis
- 16 Gonorrhea
- 8 Venereal Disease
- 900 Information About New Tapes Not Listed In This Tape Guide

New tapes not listed in the above guide include:

- 77 - Kidney Stones
- 38 - Influenza
- 56 - IUD - Intra Uterine Devices
- 229 - Chicken pox
- 131 - Arthritis and Quackery
- 185 - Cancer of the Skin
- 219 - Laxatives
- 239 - Inoculations

- 402 - Where did I come from, Mama
 - 429 - What is Tel-Med
 - 472 - Cataracts
 - 581 - Chronic Cough
 - 582 - Shortness of Breath
 - 5002 - Breast Enlargement - Plastic Surg.
 - 5003 - Accidents - #1 Killer of Children
 - 5004 - Champus (Military health care plan)
- Tel-Med brochures are available in LAB NEWS office, now in Bldg. 814.

**PAGE FOURTEEN
LAB NEWS
FEBRUARY 20, 1976**



Tom Hoover Collects Votes

Like most collectors, Tom Hoover (1714) chanced into his avocation. He came to Sandia in 1954 fresh out of Iowa State University and ended up 10 years later sharing an office with one Harry Kinney. Bernalillo County had just been redistricted, no incumbent represented his (Tom's) district in the State House of Representatives, and Harry said "Run." Tom ran and won. He's been in politics ever since.

He spent the next 10 years attending legislative sessions and committee meetings in Santa Fe. "I was appointed to the Legislative Finance Committee during my first term," says Tom. "Finance is the key to any government so the sessions are an intense learning experience. I learned a great deal about the state and its fiscal needs."

Shortly after Tom decided not to run for State Representative again, the City of Albuquerque passed a new charter (February 1974) which called for a mayor and nine councilors. "I felt my experience in Santa Fe would be valuable to the new Council, so I ran for the District 4 position," says Tom. He was one of two councilors elected outright — no run-off election was necessary.

"I enjoyed the challenge of helping to set up a new city government. At first, everything

we did set a precedent. My legislative background helped us avoid setting precedents we'd be likely to regret later."

Tom laughs off the "Sub-paragraph 3-C Hoover" sobriquet. "It's true that I study legislation thoroughly. But someone has to be a stickler for details or else a law will lead to misinterpretation later. When it comes to laws, good intentions aren't enough."

Tom is now beginning a full four-year term of office. He professes no state or national aspirations: "The City remains a challenge. How will it grow? Where will it grow? What will it become? Where do we get the revenues to support the programs that should be — or must be — supported? These are difficult questions, but they must be answered. I'm pleased to be a part of the decision-making process."

Politics takes time. During the first months of the new Council, meetings took about 20 hours a week, mostly in the evenings. It's down now, thanks in large part to Tom's streamlining of committee assignments. But it still demands 10 to 15 hours a week, well above the one-tenth of the Mayor's time envisioned by the charter writers when they set the salary at one-tenth of the Mayor's.



TOM HOOVER at a City Council meeting.

Constituents take time too — phone calls and letters to answer. Tom believes in making himself accessible. He's recently begun holding a monthly meeting (first Tuesday, 7:30 p.m., Hooten-Stahl Community Room, 6060 San Mateo NE) with District 4 residents.

"Yes, it takes time," Tom concludes, "but I'm lucky to have an understanding family. And they realize that there are worse vices than politics." •bh

PAGE FIFTEEN
LAB NEWS
FEBRUARY 20, 1976



JUNK • GOODIES • TRASH • ANTIQUES • KLUNKERS • CREAM PUFFS • HOUSES • HOVELS • LOST • FOUND • WANTED • & THINGS

CLASSIFIED ADVERTISING
Deadline: Friday noon prior to week of publication unless changed by holiday.

RULES

1. Limit 20 words.
2. One ad per issue per category.
3. Must be submitted in writing.
4. Use home telephone numbers.
5. For Sandia Laboratories and ERDA 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.

FOR SALE MISCELLANEOUS

- MACGREGOR irons, 2-9, \$30. Goen, 268-7521 after 5.
- GIRL'S 20" Schwinn Sting Ray (Coaster) bike w/thorn-resistant tubes, \$25. Gatto, 298-8493.
- WILSON Staff-Dynapower golf clubs, 2-9 pw, regular shaft D3, \$60. Zownir, 256-3717.
- ANTIQUATE hat blocks, hardwood & collapsing mould type; fortune telling penny type scale. Dunn, 298-4185.
- 2-BDR., '65 trailer, 10'x55', 4'x9' extension on side, best offer. Sanchez, 831-2078.
- MAYTAG portable washer & dryer, apartment & mobile home size, 3 1/2 yrs. old, 110-V green, \$200 w/dryer stand. Werling, 293-7344.
- PIMENTEL classical guitar, \$40. Fellerhoff, 299-3132.
- BDR. SUITE, twin beds (w/out mattress or box springs), nite stand, dbl/dresser w/mirror, white w/blue trim. Jefferson, 299-1125.
- SEARS Scientific calculator, never used, cost \$105, sell for \$50; instruction book, complete w/charger Nicads, 117-V. Slesinger, 299-4626.
- LABRADOR retriever puppies, black, Registered, litter whelped 1/16/76. Hueter, 242-1620.
- SEWING machine, all metal, new, won in contest, zig-zag, 25 cams, makes button holes, stretch stitch, portable, guarantee, \$200. Smith, 299-7151.

STEREO console by Magnavox, genuine wood cabinet, AM, FM, record changer, George, 299-3466.

CARPET, blue-green shag, undermat, 11x15; continuous cleaning broiler oven; rotisserie broiler; 4x6 green shag rug. Butler, 293-7699.

SOFA, flowered design, \$230; 2 chairs, 1 gold, 1 green, \$100 ea. Wilson, 268-6287.

CAMPER shell, insulated & paneled, swb, 48" tall, vented top, alum. sliding windows, curtains, \$250. Martin, 869-2049.

LOUDSPEAKERS, KLH 6, \$135 list, \$85 ea. Smith, 255-5662.

HAND carved by George Sandoval: King size headboard & 7' armoire chest, Spanish bdr. furniture set, \$850. Dossey, 294-1167.

YOUNG black Angus bull, reserved from my '75 calf crop as breeding stock, ready after April 1. Causey, 881-7534.

'72 MAYTAG portable dryer, model A-50, free delivery, \$110. Roth, 877-4997.

NYLON carpet, green, 10 1/2 x 9 1/2, w/pad, \$50; baby gate, wedge in place, \$3; baby bed, w/out mattress, \$18. Lewis, 298-7361.

SONY tape recorder, TC-500A; rifle, Ruger 284, w/base rings; king size woven bed spread. Csinjinni, 294-4200.

VW 10" tires, Dune buggy, new, mounted on Jackman wheels, \$115; Gerry back pack; GE baby heating tray. Baker, 821-6357.

SINGLE size corner beds w/corner table & storage area, blue plaid covers & 2 bolster pillows, \$120. Boyer, 298-3893 after 5.

CHILD'S car seat, ford-tot-guard, ages 1-3, \$20. Caskey, 294-3218.

DOUBLE wide mobile home, deluxe GE kitchen, patio cover, car port, in adult section, 4-Hills Mobile Home Park. Erickson, 296-0486.

REAR deck lid & bumper from '67 VW, \$10 ea.; Maytag washer, \$30; Motorola TV w/stand,

needs work, \$30. Wilkinson, 299-8327.

LADIES size 5 black English riding boots w/black patent leather tops, \$60. Brown, 873-2777 after 6.

BRAIDED rugs, oval, 100% wool, 1 9x12, 1 8x10; 5 piece maple finish dinette set, Keizur, 298-7945.

SLIGHTLY used vending machine, asking half of original value. Garcia, 255-0633.

REGISTERED Norwegian Elkhound puppies, both parents shown extensively, sire pointed, quality pups from a line breeding. Knotek, 296-6291 or 296-8203.

BABY stroller, \$10; Hoover floor polisher, never used, \$25. Bishop, 299-8782.

GIRL'S 26" bicycle; crib & mattress; stroller; hiking boots, size 7 1/2. Linnerooth, 299-6154.

DISHWASHER, built-in, Frigidaire, \$35; GE electric rotisserie/broiler w/many attachments, \$35 or best offer. Plummer, 296-4327.

SEWING machine, Singer Touch & sew zig zag, model 758, '71, w/cabinet & chair. Aubuchon, 865-7790.

FOLDING seats for camper or van, collapsible camper top, camper window; 2 bicycles; tire chains for 7.75/15. Otts, 299-3423.

GIUITAR, Pimentel concert classical model, rosewood w/Ebony finger board, case; men's silver turquoise bracelet, contemporary overlay design. Kane, 881-7672.

SANDIA Pilot Group can provide liability insurance to cover new Sandia Lab limits at low cost. Denison, 255-3535.

TRANSPORTATION

'69 FORD camper van, Pop-Top, kitchen facilities & bed, \$1500. Mason, 292-3455 or 296-7267.

'72 JAVELIN SST, 304 engine, 3-sp., average retail \$2075, sell for \$1475. Miller, 832-4788.

'73 GMC 3/4-ton Camper Special, loaded, '75 Tiltin Hiltin 9 1/2 ft. camper, refrigerator, heater, Monomatic, near NADA wholesale. Nielson, 293-8028.

'72 SUPERBEETLE. Dow, 266-2382.

'71 CHEVY Impala, 4-dr. HT, extras, 55,000 mi., \$1575. Bagley, 294-4706 after 5.

'65 FORD pickup, 1/2-ton, long wide bed, 1 owner, \$750. Houghton, 299-3386.

'74 SUZUKI TM-75 trail bike, including helmet & car bumper rack, \$295. Brewster, 298-6166.

'71 DODGE Charger, 2-dr., AT, PS, PB, AC, small V8, 2-BBL, regular gas, 20 mpg on Highway. Souther, 842-9630.

'65 CHEVY Impala, Super Sport 327 V8, rebuilt motor w/less than 500 miles, mags, transmission needs adjusting, \$400. Gunckel, 299-3543.

'75 HONDA CB-200; '72 BMW R60/5. Shane, 296-4430.

'68 GTO 400, yellow, black vinyl roof & black interior, 3-sp., chrome wheels, bucket seats, Havens, 821-6870.

'72 PINTO wagon, AT, R&H, AC, 31,000 miles, below book. Miller, 832-4788.

'74 FORD Custom 50 Ranch Wagon, V8, AT, PS, AC, under blue book, \$3200. Williams, 266-6724.

'75 YAMAHA RD-50, loaded, 600 miles; camper shell, lw, insulated, \$150; '73 Yamaha 360 Enduro. Campbell, 293-3115.

WANTED

SUMMER HELP for Coronado Club snack bar; must be over 21 and available May 29 - Sept. 6. Foster, 265-6791.

SHOP manual for '72 Chevrolet. Celke, 296-3665.

GASOLINE irrigation pump. Metoyer, 877-1893.

GOOD trampoline. MacCallum, 842-0233.

ROTO-TILLER type garden cultivator. Baxter, 344-7601.

CAMPING gear: Canopy awning; folding table w/chairs; small air compressor. McConnell, 255-2488.

WHEEL for boat trailer, 8" rim, with or w/out tire. Falacy, 881-1802.

HELP Explorer Scouts to Philmont Scout Ranch, Mexican food dinner, adults \$2.50, children \$1.25 donation, Feb. 28, 7:00 pm. Ristine, 298-8383.

CARPOOL from area of North 4th & Corrales Rd., Thacher, 298-5938.

25-GAL. butane bottle. Westman, 881-0471.

FOR RENT

2-BDR. apt. w/garage, Morningside & Grand, \$175/mo. plus utilities. Vigil, 266-6892.

REAL ESTATE

3-BDR. HOUSE, 2 yrs. old, NW Albuquerque. Dunn, 345-6466.

100 FT. lot, Tijeras Canyon, 3 miles east of Western Skies, patrolled, restricted addition, natural city gas, etc., \$5500. Chavez, 298-5091.

LOST & FOUND

LOST — Turquoise tielack w/road runner; Rx safety sunglasses; silver pen & pencil set; multi-colored head scarf; heishi & silver bracelet w/black and coral.

FOUND — Turquoise stone; pearl earring; silver & turquoise heishi earring; ladies watch; ladies brown glove; silver earring; 2 keys on paper clip; man's yellow gold watch; man's bi-focal glasses; turquoise & silver earring; small pocket knife; coral earring. 4-3441.



SPRING '76 STYLES is title of the fashion show coming up March 5 at Happy Hour. Women's spring and summer clothes from The Image, men's from The Lancer, models from Flair. Rosario Ayers coordinates. Model Terri Wiley wears a great pantsuit and a greater smile. Thanks, Terri!

FRIDAY	SATURDAY
20—HAPPY HOUR FRIED CHICKEN BUFFET Adults \$2.50 Under 12 1.50 MIDNIGHT SPECIAL Tom McCahon In Lounge	21—TEEN DANCE 7:30 - 10:30 FRIENDS Members - 25¢ Guests - 50¢
27—HAPPY HOUR SEAFOOD BUFFET Adults \$3.25 Under 12 1.92 Watermelon Mountain Jug Band PRISONERS	28—CASINO NIGHT 8-12 Midnight ELTON TRAVIS Members \$1 Guests 2 (LOBO BUS - 12 noon)

Vernon, Gettysburg, and Philadelphia, and fly home package is a bargain at \$534 (\$464 for kids). Ask the Office for a flyer, and schedule yourself for a Pre-Trip meeting at 7:30 on March 10.

YOU'RE — also invited to Greece: 14 nights in Athens, RT transportation, optional side trips on the mainland and cruises of islands in the Aegean. See the Parthenon soon (not that it won't last, but . . .). It's under \$900. Get the full details in the Office, and attend the Pre-Trip meeting on March 17 at 7:30.

RICH — That's Jeane Rich and Her Friends accompanying the Fashion Show on the 5th. Roast beef, Thomás and Marcia, too.

OR — maybe the *Watermelon Mountain Jug Band* is your cup (jug?) of tea. One week from tonight, from 6:30 to 8:30, they return along with shrimp creole, baked whitefish, and other gastronomic goodies. The *Band* is fun: the only way to keep your foot from tapping is to toenail it to the floor — which will have you going around in circles when the *Prisoners* play dance music later.

POOR — time for fishing. But a great time to get ready. The Club's new Outdoors Indoors Series begins March 8 with the experts relating their favorite fishing tips and trips. That's "Hooked on Fishing," and it's at 7:30. Members 50¢, guests (public invited) \$1. Doorprize: a rod-and-reel guaranteed to catch fish (if used according to specifications, of course).

IT'S — another fantastic Variety Night on the 6th — again one exciting for the childless and the childed. Ron and Mary Kay Day have a new puppet show featuring half a dozen old favorite puppets and half a dozen new favorite tunes. Climax the evening with the award-winning Disney True-Life Adventure *The Living Desert*.

WHETHER — you believe it or not, the Lobo-BYU game on the 28th begins at noon. So the Lobo bus will leave the Club at 11:15. And at 6:45 on the 26th, not the 27th.

YOU — teens have *Friends* arriving tomorrow at the Club. That's the name of the group playing for the Teen Dance tomorrow night.

HAVE — you signed up for the new dance lessons yet? The dual track series begins march 11 and continues Thursday nights through April 15. One track is for beginners — 7-8:30; the other is for intermediates — 8:30-10. \$20 each or \$35 for couples.

MONEY — is what you save lots of if you use the discount tickets good at all the Commonwealth Theatres. Save 75¢ each time you see a movie, save \$1.50 if you see two. (\$15 if you see 20.) Buy them by the bunch at the Club — members only.

MORE INFO - 265-6791.

PAGE SIXTEEN
LAB NEWS
FEBRUARY 20, 1976



IT'S — golden fried chicken, sizzling *Midnight Special*, and a heart-warming Tom McCahon waiting for you this evening at Happy Hour. With the chicken, potatoes *au gratin* and cole slaw. With the *Midnight Special*, 3 hours of very moving (literally) music. With Tom McCahon, late evening listening in the Lounge.

NOT — long now till Casino Night. It has all the thrill of a genuine den of iniquity — without the iniquity. Gambling, yes: blackjack, roulette, poker, craps, and more — but with play money. You don't know how to play? There are dozens of helpers whose job it is to help you have fun. So come on out — bet with the odds or with your friends (or with your odd friends). Isn't it time you found a harmless vice?

WHETHER — you're old or young, history buff or history duff, a June 6-12 Bicentennial Trip which takes you to half a dozen historical sites in Virginia, Pennsylvania and DC will give you the Spirit of (19)76. Open to members, their kids (school's out), and their friends, the fly-to-DC, bus to Colonial Williamsburg, Mt.