

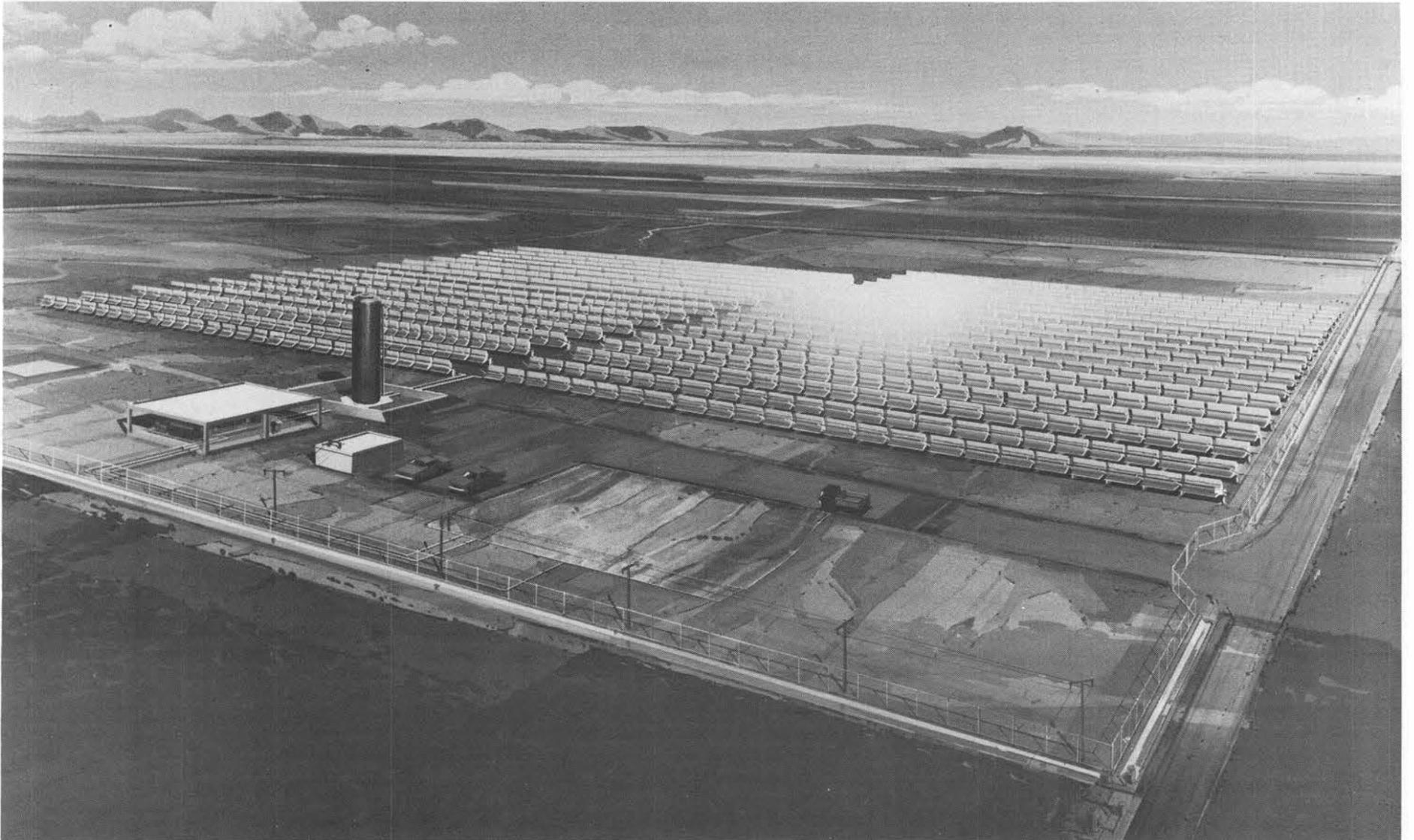


# LAB NEWS

VOL. 31, NO. 7

APRIL 6, 1979

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



ARTIST'S RENDERING of the world's largest solar-powered irrigation facility now under construction near Coolidge, Ariz. — a joint project involving DOE, Sandia, Acurex, the State of Arizona, a local farmer, the University of Arizona

and a rural electric co-op. When completed, the facility will produce 150 kW of electricity and, using a thermal storage tank, will be capable of operating several hours past sundown.

## Sunny Irrigation

# A Possible Agricultural Alternative

If the cost of power produced by conventional fuels continues to rise, the day may come when farmers in the Southwest can no longer afford to pump water from deep wells 24 hours a day to grow crops.

As a hedge against such a possibility, the Department of Energy, the State of Arizona, the University of Arizona, the Arizona Cotton Growers Association and Sandia are engaged in a collaborative effort to assess the potential of using solar thermal-electric power as an alternative.

Right now, it's not cost effective to use solar power for irrigation. The question is when? And with what kind of system?

These are the kinds of questions researchers hope to answer as they build and operate facilities like the one in Willard, N.M., and the one now going up in Coolidge, Ariz.

Sandia project engineers Bob Alvis and Earl Rush (both 4725) told us about the Arizona facility. When it's completed (sometime this fall), it will be the largest solar-powered irrigation facility in the world, one that will produce 150 kW of electricity. It's funded by DOE's Small Solar Thermal Power

System Program and designed and being built by Acurex with Sandia as technical advisor.

A large field of parabolic trough concentrators will collect solar energy, and a Rankine cycle heat engine (a sort of steam engine) will generate the 150 kW of electricity to power the deep-well irrigation pumps. A thermal storage tank will serve as a backup during those times when clouds obscure the sun. More importantly, its stored heat will extend operation of the system several hours past sundown.

May through September are the major growing months in Coolidge, the months when the greatest amounts of power are needed. The rest of the year, the solar system will produce excess power.

Rather than pumping and storing water during the off season or trying to store electricity in batteries, the most economical solution proved to be to use the existing Farmers Electric Co-op Power grid as a power bank — providing them the excess electricity generated in the off-months and taking it back for night-time operation during the peak growing season.

The Coolidge site is an experimental

facility (one in which agricultural experiments will be under the control of the state university and county agents); the entire system is monitored by instruments which measure and record its hour by hour, day by day performance. What's learned at Coolidge, may someday help solve the power problem looming on the horizon for agriculturists in the Southwest.

## **Savings Bonds Campaign Set**

The Sandia Labs Savings Bonds campaign is scheduled to begin April 23. Campaign chairman is William Kraft (1410), who has set a Labs-wide goal of 95% participation. Present enrollment is 87%. Additional goals are a 10% increase in total contributions and a 10% increase in the number of Sandians subscribing to bond-a-month.



RICK BECKMANN (1736), BILL NICKELL (4337) and DODY HOFFMAN (3212-1)

## Supervisory Appointments

RICK BECKMANN to supervisor of Advanced Systems Development Division 1736, effective March 16.

Joining the Labs in 1967 as a staff member in an automated data systems group, Rick worked on development of test equipment for Tonopah Test Range. Later on, he worked on guidance and control development for the Missile Detector System and, most recently, on SITAN. His current division is responsible for advanced development and signal processing on the Air Force's Base Installation Security System (BISS).

Rick earned a BS in EE from the University of Missouri at Rolla and an MS in EE from Rensselaer Polytechnic Institute. His interests off the job include basketball, softball, tennis, skiing, camping and photography. Rick has a daughter, and he and his wife Susan live in the NE heights.

\* \* \*

DODY HOFFMAN to supervisor of Systems Analysis Section 3212-1 — a section of Administrative Policies and Procedures Division 3212 — effective March 16. Coming to the Labs in 1956 as a messenger, Dody later became a division and department secretary. Four years ago she transferred to security where she's worked in document control and security education. She has also performed security systems studies and appraisals.

Under Sandia's Educational Aids Program, Dody earned her bachelor's degree from U of A and received her MS in public administration in 1978 from UNM. She is a member of the American Society for Public Administration. Dody's hobby is collecting Indian pottery. She and her husband Jim (4212) live in the NE heights.

\* \* \*

PAUL MIX to supervisor of Target Experiment Division 4242, effective April 1.

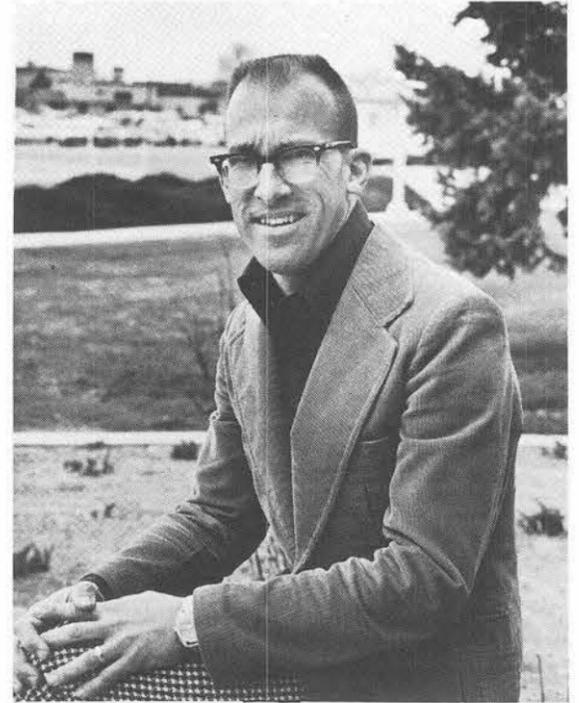
When Paul came to Sandia in July 1971, he joined a group conducting plasma physics studies. Following a reorganization in January 1973, Paul was assigned to the division which he now supervises. His work with this group has included study of the generation and pinching of electron beams as well as implosion hydrodynamics of E-beam targets.

Paul earned BS degrees in mathematics and physics from the University of Texas, and an MS and PhD in physics from MIT. He is a member of the American Physical Society. He jogs regularly and enjoys skiing and sailing. Paul and his wife Ruth and their two sons live in the NE heights.

\* \* \*

BILL NICKELL to supervisor of W81 Development Division 4337, effective April 1.

Since joining Sandia in 1965, Bill has worked on digital instrumentation for underground tests, nuclear reactor safety and advanced weapon systems development. He has also been involved in a number of Phase I and II weapon programs. Most recently, he's been with his current division which has responsibility for development of the W81.



PAUL MIX (4242)



LEONARD PARSONS (1424)

Bill earned a BS in EE from UNM and, during an Air Force tour at the National Security Agency, he completed the NSA Catholic University master's study program. Before coming to the Labs Bill worked at Philco in computer memory development. Bill enjoys skiing and golf. He and his wife Diane live in the SE heights.

\* \* \*

LEONARD PARSONS to supervisor of Stockpile Systems Test Lab/Amarillo 1424, effective April 1. Leonard joined the Labs in 1953 and worked at various locations in nuclear surveillance activities. In 1955 Leonard transferred to Medina Facility in San Antonio where he was promoted to supervisor of a systems test section. When Medina closed in 1966, Leonard moved to Pantex where he has continued to supervise the systems test section.

Leonard earned his BS and MS in education from SW Texas State University and a BS in physics from St. Mary's University. He taught at SW Texas State and in the Austin city public schools. He was a radar technician in the Marine Corps during WWII.

Off-the-job interests include church and scouting activities and he's Assistant Director of the national amateur radio organization — the American Radio Relay League. Leonard and his wife Marie have five children and live in Amarillo.

### LAB NEWS

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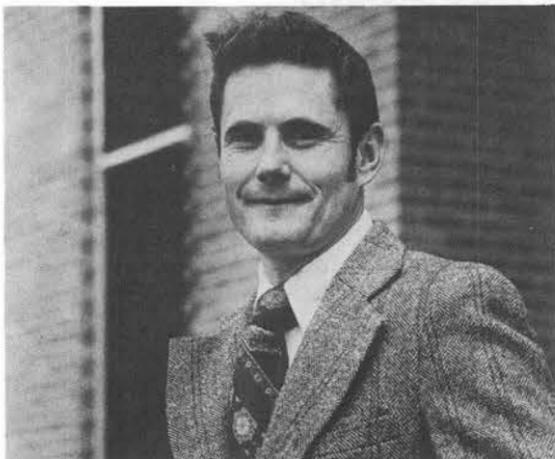
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## Supervisory Appointments



**PAUL BREWER** to manager of Personnel and Accounting Department 8210, effective April 1.

Joining SLA in August 1966, Paul worked in employee benefits for 18 months. He then completed a one-year assignment in personnel systems and, in March 1969, was promoted to division supervisor of accounts payable. For the past six years, Paul has headed the Programmatic Budget Division 3242.

Paul received a bachelor's and a master's degree in business administration from UNM. He served in the Navy for three years as a ship supply officer and later was stationed at Sandia Base where he was security classification and top secret control officer for the Navy Weapons Division.

Away from the job, Paul enjoys bridge and fishing and, in Albuquerque, he and his wife Terri live on several acres in the Valley where he enjoys farming and gardening. The Brewers haven't yet decided where they will live in the Livermore area.



**CLIFF YOKOMIZO** to supervisor of Advanced Components Division 8442, effective April 1.

Joining Sandia Livermore in 1966, Cliff developed hardware in a weapons project group for four years. Later he did design work on the roll-control test vehicle and was granted a patent on the actuating mechanism for the vehicle's fins; designed the shock mitigation system for gas stimulation devices in the Plowshare program; held design responsibility for the LABRV (large advanced ballistic re-entry vehicle) program; and was concerned with design of the 10-MW Barstow solar central receiver system and the 5-MW STTF at Sandia Albuquerque. Most recently, he has worked in advanced components development.

Cliff received a BS degree in ME and an MS in mechanical design from UC/Berkeley and has done graduate work in ME at UC/Davis. He is a member of the International Solar Energy Society and serves as treasurer of the Tri-Valley Japanese American Citizens League. Leisure time activities include photography, bowling and gardening. He, his wife Donna, and their two children live on Rampart Drive in Dublin.

# LIVERMORE NEWS

VOL. 31, NO. 7

LIVERMORE LABORATORIES

APRIL 6, 1979



A FUNNY CRT? — Word Processing Center operators Sherry Cruz, Cindy Bahr, Chris Imler and Judy Foster smile with understanding at Seymour's display console — they know how easy it will be to correct the error of his ways. Chris is now in 8261, the others in 8265.

## Word Processing Center

### Stacks of Pages, Piles of Smiles

In just two years, Sandia Livermore's Word Processing Center has won for itself a secure place in the hearts and minds of Sandia natives.

Part of the story is statistical:

Born: Feb. 28, 1977

First Year Production: 20,000 pages

Second Year Production: 30,000 pages

Most Doting Users:

Materials Department 8310

Systems Studies Department 8320

Computation Department 8330

Physical Science Department 8340

Solar Department 8450

The WPC, a part of Frank Cupps' Publications and Public Information Division 8265, was conceived in the Computer Center and emerged blinking into the daylight of first floor, Bldg. 912, last spring. The devices that make word processing possible here are three Vydec 1400s, each with a keyboard, and a cathode ray tube display and printer. Information typed into the system is viewed on the CRT, then stored on "floppy disks" that resemble too-thin 45-rpm records. From the disks, information is transformed into text copies by the printer, at speeds reaching 540 words per minute.

What makes the Vydec system unlike a conventional typewriter is its flexibility and speed. An experienced operator types data at a rate of 120 to 130 words per minute, checks it over on the display and makes corrections or changes as desired, prints it out, then stores the disk for future revisions.

Ease of revision is the forte of the word processing system. For example, adding a paragraph, deleting a sentence, inserting an extra word, shifting from double-spacing to single — all of these simply mean putting the page on the display, using the cursor (a sort of neon arrow) to point at the place the change is to be made, then typing in the new material or deleting the old. All the respacing is done automatically.

Key people on the WPC, besides supervisors Frank Cupps and Ralph Jaeger, are Sherry Cruz, Chris Imler, Cindy Bahr, and Judy Foster — plus Igor, Bertram, and Seymour, the last three the result of the rampant anthropomorphization of the three Vydec machines by Sherry and Chris. Some months ago the two were picked for WPC and introduced to a Vydec ("How do you do — whatever it is that you do?"). And they were sent off for two days of instructions. And returned word processing experts — or at least they thought so then.

"Actually," says Chris, "we didn't have the slightest idea of how to do an efficient job of difficult typing — tables, equations, and the like. And our trainers didn't either. Then we found that using a machine feature designed to permit typing individual addresses on form letters worked well for the mathematical symbology."

"Now I prefer equations," adds Sherry. "Straight text typing is monotonous. It's the rough stuff that brings a sense of accomplishment."

The two became proficient — 120 to 130 words per minute. "That's because we don't have to worry about margins and carriage returns and errors — knowing how easy it is to correct an error takes the pressure off so you don't make many," says Sherry.

And the Center became popular with Sandians who recognized the value of storage, quick retrievability, and easy revision. By its fourth month, the Center was using overtime to keep turnaround at a day or so. And still is — WPC has become too popular.

"We're pleased," says Frank. "This WPC is among the most productive we know of. And as Judy and Cindy — our new operators — gain experience, we'll continue to give good service on tough jobs. But the days of one-day turnaround may be gone forever." The volume — which is to say popularity and need for the service — is simply too great.



**BUSSING OR CAR POOLING?** — Jeff Gammon (3741) of the Employee Transportation Committee discusses bus schedule with Sharon Shannon (3741) at the Bldg. 802 commuter information board. Similar board is located in Bldg. 892 near room 115. Besides bus schedules, would-be car poolers can join or arrange car pools with "Pin A Ride." Car pools can also be arranged through an ad in the "Wanted" section of LAB NEWS classified ads.

### Bus Notes

## The Bus Situation: Some Good, Some Bad News

Later this year, in October, the city will receive 24 new 48-passenger buses. These are the buses authorized by voters back in 1975. But, as Jeff Gammon (3741) of the Employee Transportation Committee puts it, "If we don't get any operating funds for those new buses — and the city hasn't authorized any yet — then we won't be able to add them to the fleet."

Jeff gave us a run-down on the present

### Events Calendar

- April 6-7 — N.M. Symphony Orchestra and Chorus, Mozart Mass in C Minor, 8:15 p.m., Popejoy.
- April 6-8 — "Fuente Ovejuna, USA," Spanish-language play, U of A, KiMo Theater, 8 p.m. (April 8, 3 p.m.); 831-1111, ext. 289.
- April 13 — Poetry reading, 8 p.m., Albuquerque United Artists, Downtown Center for the Arts, 216 Central Ave. SW.
- April 13-14, 19-21 — "Springtimespace," an evening of dance, Rodey Theatre, UNM, 8 p.m.
- April 15 — Pueblo Dances — Cochiti, San Felipe, San Ildefonso, Santa Ana, Santa Clara, Santo Domingo, others — Spring Corn, Basket, various dances; check with Pueblo.
- April 18 — Maxwell Museum of Anthropology Lecture Series: "Historic Pueblo Pottery," Presbyterian Professional Center, 201 Cedar SE, 7:30 p.m.
- April 19-22 — "Rediscover New Mexico," Travel Show, Winrock Center Mall.
- April 20 — Crownpoint Navajo Rug Auction, 7 p.m., Crownpoint Elementary School.
- April through July 29 — "The History of Photography in New Mexico," UNM Art Museum.

bus situation; here are the highlights:

- although six percent of all Sandians commute by bus, only two percent of the city's population use the transit system. If a greater percentage of the population rode the bus, the present crunch for operating expenses would be much less severe.
- the city's present fleet consists of 58 regular and 9 minibuses. Only one bus is held in reserve during peak hours. In 1958, incidentally, the city had the same number of buses — 58.
- operating funds — salaries, maintenance, fuel, etc. — were not approved by the city for Phase I of the grid system beyond the end of 1978. In January, the non-peak hour service was reduced to keep expenditures within the old system funding. If funding remains at the present level, the grid system will go down the drain.
- Phase II of the grid system would place the 24 new buses into operation and thereby provide 15-minute service on major routes (instead of 30). But ... no operating funds, no buses, although present plans are to use nine of the new ones as replacements for worn-out minibuses. And, says Jeff, the Employee Transportation Committee has asked for four of the new buses to augment Sandia's present commuter system. If we get them, it would be late in the year.

Jeff believes strongly that more Sandians should begin considering a cost/energy effective car pool, with three to five people per car. The Transportation Committee needs an employee volunteer to set up a first-rate car pool system. Interested? Then call Jeff on 4-8857.

## Professionalism Focus Of Secretaries Week

Promoting the professional image of the secretary is the central theme of Secretaries Week, April 22-28. In addition to recognition of secretaries, activities during the week include a workshop and seminars as well as social hours. Some of the highlights:

— *Secretaries Day*, April 25

— *Secretaries Social*, April 25. Hosted by the local chapter of the National Secretaries Association, the social runs from 5-7 p.m. at the First National Bank building at Central & San Mateo. Those wishing to attend should contact June Rugh (3540), 293-8581 after 5 p.m. Reservation deadline is April 12.

— *Portrait of a Changing Professional*, April 28. This one-day workshop, sponsored by the Albuquerque NSA chapter, is open to administrative, secretarial or clerical people as well as their supervisors. The workshop is held at the Convention Center from 7:30 a.m. to 4 p.m. Registration is \$20 and includes lunch; deadline is April 16. For more information contact Barbara Champion (1710), workshop chairman.

— Education and Training Division 3521 and Shirley Dean (5000), representing the secretarial coordinators, have arranged for a one-day seminar, conducted by an outside firm, to be presented in-hours at the Coronado Club on five consecutive days — April 23-27 — during Secretaries Week. It is entitled "Seminar for Advanced and Executive Secretaries." All secretaries are invited to attend; scheduling will be arranged by secretarial coordinators, with different groups attending each day.

## Fun & Games

*Coming up* — Athletic events for which LAB NEWS has entry forms include the Diet Pepsi 10 kilometer (6.2 miles) run this weekend (Sunday, April 8) at Kit Carson Park; the Marine Corps 10 kilometer run for muscular dystrophy on April 22, also at Kit Carson Park; and the American Heart Assn. National Run For Life, set for May 19. And, also on April 22, the 100-mile Tour of the Rio Grande Valley by bicycle. The Triathlon had been scheduled for April 8 but has now been postponed until this fall.

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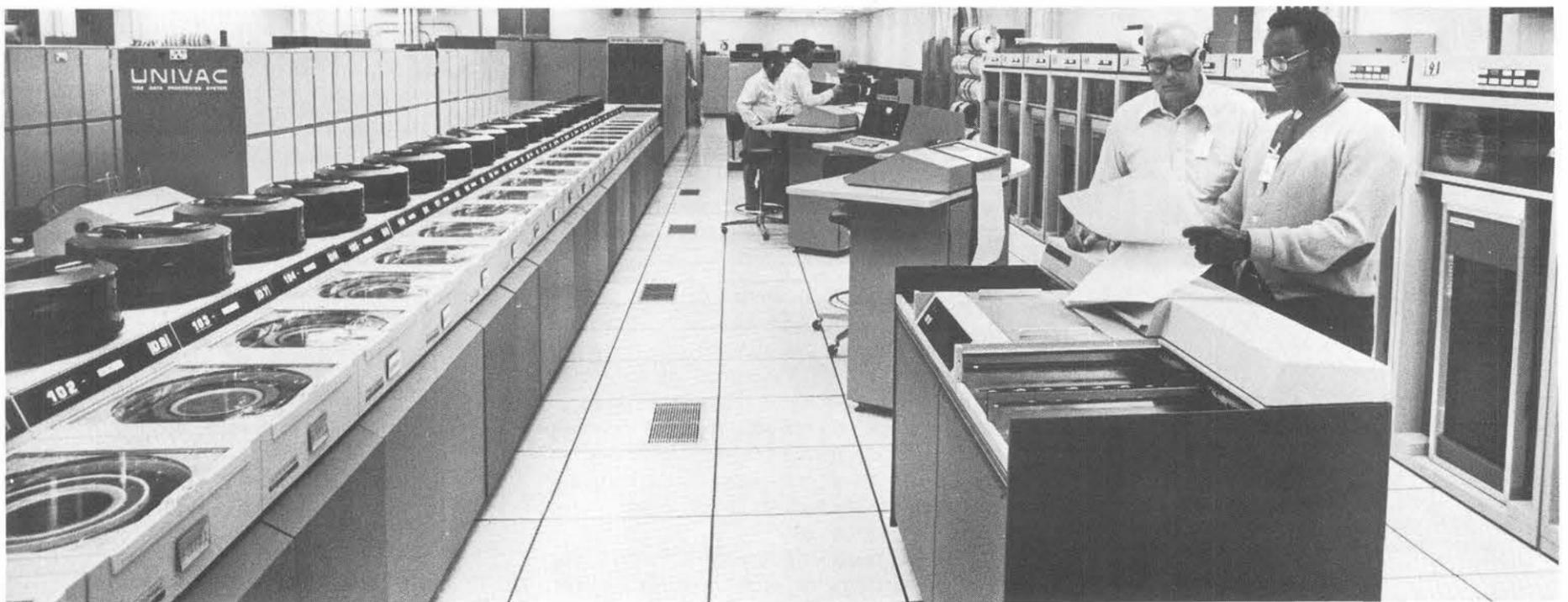
*Skiing* — Purgatory and Taos will both operate through Easter Sunday, April 15, after which Taos will shut down completely while Purgatory will continue to run, but only the number one lift. Cross country skiers should be able to do their thing at least through April provided they plan trips at higher elevations — 10,000 feet or above — where the snow remains deep.

\* \* \*

*Flying* — The Kirtland Aero Club advises that a change in Air Force regs now permits Base aero clubs to offer membership to civilians working on Base. The Club offers "low cost aircraft rental and flight training programs." If you're interested call 4-0884 or 242-4184 for more information.



If Ned Potter is right, the steady forward thrust of technology may carry us further than we really want to go. Writing in *New York* magazine, Ned noted that new computer and communications technology will allow people to order anything they want, and pay for it, without ever leaving home. "Pretty soon," Ned warns, "nearly everything you once had to do in person, you'll be able to do over the phone. It's terrific, with only one problem. It will end civilization as we know it."



**NEW COMPUTER** — A Univac 1100/82A computer is now operating in Sandia's Computing Center in Bldg. 880. It recently passed its acceptance test with an exceptionally good record of 99.1 percent availability. The system has dual CPUs, one million words of main memory, four billion bytes of mass storage, dual consoles, 12 tape drives, three high speed printers and other periphery equipment. It will operate in parallel with the 1108 through August

1982 when the 1108 will be phased out. As programs are redeveloped, the new computer will handle an increasing load of the Lab's data processing including payroll, payments, property management, budgeting, personnel and medical files, technical library, general stores, engineering drawing files, record to assembly data and quality assurance data. Karl Waibel (2632), left, is in charge of operations; Craig Jones (2647), operating systems.

## About Conservation, See Marvin Moss

By day he's a physicist in Thermophysical Properties Division 5842. But after hours, Marvin Moss becomes Chairman of the Albuquerque Energy Conservation Council, a group chartered by our city to identify ways and means for the city and its citizens to conserve energy. The Council has among its 15 members representatives from the Public Service Company, the Gas Company, DOE and UNM. Betty Brake (5511) is also a member.

Marvin summarized recent Council activities. "We sponsored two energy conservation fairs at Coronado Center that were well attended. At these we handed out various brochures dealing with easy measures one could take to conserve energy around the home — for example, how to insulate your water heater. Our most recent work is an 11-point program we've presented to the City that spells out how Albuquerque can conserve energy. We're hoping for action soon."

The Council has also received a small grant from the State of New Mexico which will enable it to place a paid person at a facility in Winrock Shopping Center to dispense energy conservation information. And there are plans to offer energy workshops around the city from time to time.

Marvin sees a lot of inertia in our system that is counter-productive to energy conservation. "In residential construction, for instance, most homes are still built with little or no thought given to taking advantage of the sun. I don't mean that they all should have active solar energy systems, but the homes could incorporate simple passive solar features — like many windows on the south-facing sides. Actually, what's needed is better platting of streets. If the street is laid out with some consideration for solar orientation of houses, then it's easy for the builder to take advantage of the sun."

Do you have an idea to help save energy? Marvin is casting about for both humble and grand schemes and feels that the Sandia population is well suited by temperament and education to their production. The idea can relate to city, industrial or residential use of energy. Send yours to him — he's in organization 5842.

## Borehole Temperature Logger Tested

A prototype of a borehole temperature-logging instrument developed by Sandia Laboratories has been successfully operated in a geothermal well for 1½ hours at 275°C — the highest temperature at which an uncooled and uninsulated instrument equipped with active electronics has ever operated. In the test, the instrument also operated for 18 hours at the 2286m (7500 ft.) level of the geothermal well where temperatures reached 241°C. And a separate electronic instrument, which measures geothermal well flow, was operated to a peak temperature of 221°C.

The test, conducted in a Union Oil geothermal well, is part of the DOE program to develop, demonstrate, and commercialize instrumentation technology so that geothermal well development costs and risks are reduced. Sandia manages this program for DOE's Division of Geothermal Energy; Labs budget for it for FY79 is \$1.4 million.

Geothermal well logging instruments are needed because conventional oil and gas logging tools are not reliable much above 150°C; geothermal resources of economic interest are typically above 200°C and range as high as 350°C.

Sandia developed the high temperature electronics in the prototype; the mechanical parts were designed and fabricated by Gearhart-Owen Industries, a logging service company.

The entire instrumentation package, weighing about five pounds, slips into a four-foot-long, two-inch-diameter steel housing. Included in this package are a temperature or pressure sensitive device and the necessary electronics to measure and communicate the downhole information to the surface station. Special hybrid transistor circuits are used in the electronics.

"The technology of this first instrument is being transferred to industry," says Tony Veneruso, who heads Geothermal Technology Division 4736. A contract has been made with Teledyne Philbrick to work with Sandia on the fabrication of the high temperature electronics. Many other applications of high temperature logging are envisaged.

"Logging is indispensable in determining reservoir rock and fluid properties and thus the ultimate production potential of geother-

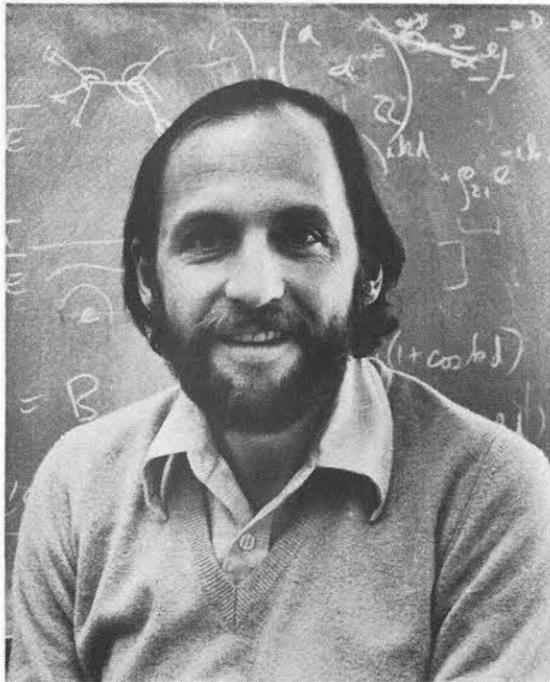


**HOW HOT?** — Joe Coquat of Geothermal Technology Division 4736 inserts a prototype of a high-temperature well logging tool into a Union Oil geothermal wellhead. Instrument passed first field test, operating at temperature of 275°C.

mal reservoirs," Tony continues. "In addition, logging provides data essential for modeling the reservoir, planning well completions and production, and determining environmental impact."



Take this not with a grain of salt but with a cup of oriental tea. Phil Klass, writing in *Zetetic* magazine, says research has made him believe in fortune cookies. "Eventually," he says, "the scientific community will awaken to the remarkable prescience of Chinese fortune cookies and launch an investigation into the underlying principles. They may find that this remarkable property is the result of a heretofore unknown reaction between the subatomic particles in the flour used in the cookies and the ink used to print the message. But this," he admits, "is a speculative hypothesis." So much so, we suggest he make room for that fortune cookie in his cheek — right next to his tongue.



**Concert April 13-14**

## Peter Feibleman Sings Tenor

Peter Feibleman, a surface science specialist in Solid State Theory Division 5151, sings tenor with the New Mexico Symphony Orchestra Chorus for relaxation. The Symphony and Chorus will present a major work, Mozart's "Great Mass in C Minor," at Popejoy Hall concerts April 13-14 at 8:15 p.m.

"I enjoy singing," Peter says, "Weekly rehearsals tend to be an intense as well as stimulating diversion at the end of the day. Being part of a 120-voice chorus and 150-member orchestra is exciting."

Peter became interested in music as a teenager, continued his study during college years. He performed in Gilbert and Sullivan productions at Columbia University, worked with the opera at the University of Illinois where he met his wife Lorie. She is a lyric soprano, also a member of the New Mexico Symphony Chorus.

"The Chorus is always looking for musical talent," Peter says, "If anyone is interested, call the Symphony office, 266-7675, and arrange for a tryout."

## Stop Smoking

Phase three of Medical's Stop Smoking Program is set for the four weeks running from April 24 through May 17. Meetings will be held Tuesdays and Thursdays, from 3:30 to 5 p.m., and will concentrate on assisting smokers who wish to quit. The sessions take place in the Bldg. 832 conference room, and total enrollment is limited to 20 people. To sign up, contact Arlene Price, 4-1057 or Phil Cheremiah, 4-3993; or send your name, organization and phone number to Arlene, Org. 3330.



According to the AMA, some 8 million Americans ride a horse at least once a year (presumably not the same one at the same time).

With such significant numbers clambering aboard, it follows that significant numbers will dismount involuntarily — and probably head first, since AMA research indicates that's the location of the majority of injuries to equestrians. The AMA's solution is simplicity itself: give up your Stetson in favor of a helmet like those worn by motorcyclists. Perhaps the legislature should pass a helmet law ...?

## Cancer

# A Little Knowledge You Can Live With

This is National Cancer Control Month, and the American Cancer Society and its two million volunteers are spreading the word about the disease, with emphasis on its early detection and treatment. The following is taken from the ACS publication "Cancer Facts & Figures."

### Why Early Detection Is Vital

**Localized** — Cancer typically begins as a "localized" disease. At the start, just one cell (or perhaps a few) undergoes an abnormal change — it becomes a malignant cell, cancer. The cancer cell reproduces itself by dividing into two cells, which in turn redivide and so on. All of the descendants of the original cancer cell are themselves cancer cells — thus the cancer grows.

Most cancers originate on the surface of an organ, such as the skin, the surface of the uterine cervix, the lining of the mouth, stomach, intestines, bladder or a bronchial tube, or the lining of a duct in the breast, prostate gland or elsewhere. For a time, such cancers typically remain on the surface at the site of origin ("in situ").

After a while, some of the cancer cells penetrate beyond the surface and invade underlying tissues. This "invasive" cancer continues to grow, though for a time its cells may remain as an intact mass which may be visible to the naked eye. As long as all the living cancer cells remain where the disease started, it is said to be "localized."

**Regional** — Unfortunately some of the cancer cells eventually become detached and are carried through the lymph or blood systems to other parts of the body. But the body has protective mechanisms. The detached cancer cells may be trapped in a lymph node in the region near the original site. This retards the spread for a time in a stage of the disease known as "regional involvement."

**Advanced** — If left untreated, these cancer cells eventually spread to other parts of the body. This is "advanced" cancer. Death is almost inevitable.

It is important to detect cancer before it has spread so that it can be treated adequately and promptly by surgery, radiation or chemotherapy, or a combination of these methods. Take note of the seven warning signals — it's knowledge you can live with.

## 7 WARNING SIGNALS THAT CAN SAVE YOUR LIFE...IF YOU SEE YOUR DOCTOR!

1. Change in bowel or bladder habits.
2. A sore that does not heal.
3. Unusual bleeding or discharge.
4. Thickening or lump in breast or elsewhere.
5. Indigestion, or difficulty in swallowing.
6. Obvious change in wart or mole.
7. Nagging cough or hoarseness.

### Los siete avisos de peligro son:

1. Pérdida anormal de sangre o flujo.
2. Un bulto o dureza en el pecho u otra parte.
3. Una úlcera que no cicatriza.
4. Cambios en el ritmo habitual de las eliminaciones intestinales o urinarias.
5. Ronquera o tos.
6. Indigestión o dificultad al tragar.
7. Cambios en una verruga o lunar. Si alguno de estos síntomas dura más de 14 días, vaya a su doctor.

**American Cancer Society**



THESE SANDIANS were recently awarded certificates of completion for the five-year Technical Institute Equivalency program. Standing (l to r): Alan Smith (2452), Florindo Salas (2325), Howard Heerdt (2325), Bruce Whittet (2454), Charle Fleetwood (2457), Ronald Ward (1483), Arthur Sena (2533), Mildred Hill (4414). Seated (l to r): Tom Cordova (3441), Sam Sena (2625), Richard Chavez (2522), and Irene Leyba (4004).

# feed back

*Q. Without special service, following normal procedures, why can't I get faster turnaround time on keypunch jobs greater than, say, 75 cards? Why must I wait a minimum of three days?*

A. Our keypunch section is not staffed to handle the total keypunching work load which fluctuates widely between peaks and valleys. To eliminate having to staff for these peak periods we utilize a contractor. Most of the jobs that are done in-house are production jobs. Fridays are specifically scheduled for Payroll by both Sandia and the contractor. Key punching of source programs, not normally scheduled in advance, is the primary reason for the high and low peaks. Consequently, it is difficult to plan for and get any sizeable program punched on the same day unless it is given a special priority.

The keypunch overload is sent to the contractor the day we receive it. There are, however, many times when the program is not received in our office the same day as dated on the Keypunch Request Card. We ask the contractor to return all work the following day. The computer messenger service delivers the punched cards to your building the day they are returned to our office.

L.E. Hollingsworth, 2600

*Q. This morning I arrived at the Gibson gate area at 7:32. I, finally, parked at 805 at 7:50. I could have walked faster! More & more people are without base bumper stickers and it seems the AP's have no objection to these people entering but must stop for an extended chat with each one. Can't something be done?*

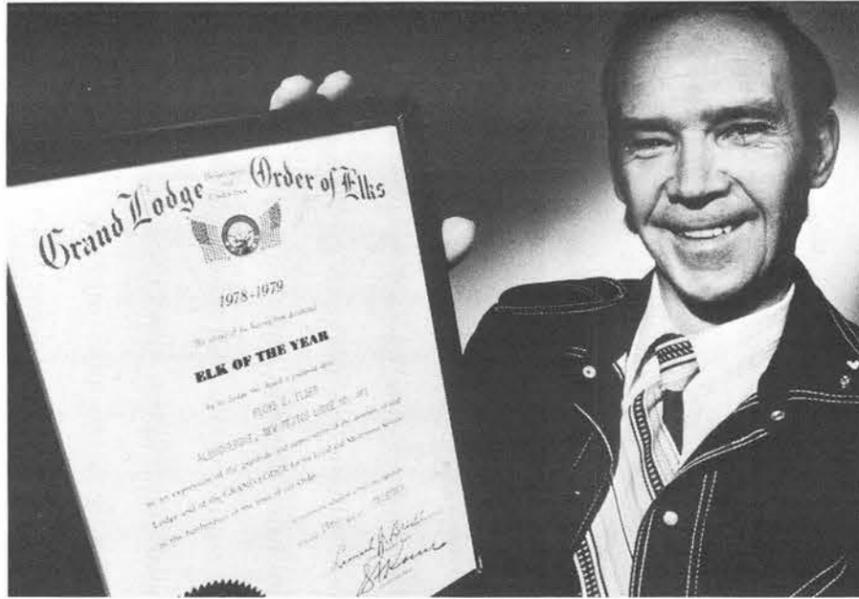
A. I agree that some mornings we do feel unnecessarily delayed at the gates. However, we must realize that the undecaed vehicles are bringing people on base who have business here, many are employed on base, and others are not familiar with procedures.

The AP's have a difficult job permitting authorized people in at a steady rate of speed and assuring that unauthorized personnel do not enter.

It is unrealistic to close the gate to undecaed vehicles during certain hours. There is an overhead sign at some gates that instructs vehicles without decals to enter through a certain lane. There also are gates specifically created for Sandia's visitors. However, visitors don't always come to the correct gate or lane.

Although the situation is sometimes frustrating, it is simply one that as yet has not been overcome.

D.S. Tarbox-3400



FLOYD ELDER (3653) was named "Elk of the Year" recently by the 5700-member Albuquerque B.P.O.E. Lodge No. 461. Floyd earned the honor through his contributions to many Elk programs and projects. He has served on numerous committees since 1966, and currently heads the Veterans Service Committee. The plaque recognizing his achievement was issued by the national Elks organization.

## Take Note

The annual Retiree Picnic at Albuquerque is scheduled for Tuesday, May 29. Invitations will be mailed to all Sandia retirees later this month.

\*\*\*

Don Johnson of Parachute Systems Division 5632 was knee-deep in snow on a frozen lake during much of the time surrounding the recent solar eclipse in North America. Sandia furnished five payload recovery systems for NASA and Canadian rockets launched during the eclipse to carry experiments above the atmosphere.

"This was Sandia's standard recovery system used since 1968," Don says. "There were no problems. We recovered all five units."

Don provided technical direction for the recovery system and operated direction finding equipment aboard a ski-equipped Otter aircraft during recovery operations. The plane landed several times on frozen lakes to recover the payload units.

\*\*\*

Going Solar? Then you may want to attend the Albuquerque Museum Solar Tour this Sunday, April 8, from 1 to 5 p.m. It begins with a lecture at the Museum by Sara Balcomb, a solar specialist from LASL; Sara will discuss the benefits and pitfalls of solar power in both active and passive systems. Synergetic Science will then demonstrate a solar water heater and, later, the group will board a bus to visit several homes that incorporate active or passive systems. To conclude the tour, wine and cheese will be served at the

last home visited. Cost is \$6.50; contact Linda Sedillo at the Museum in advance, 766-7878.

\*\*\*

If you've recently received a request to update your Personnel Security Questionnaire, don't be alarmed — it's a DOE requirement that PSQ's be updated every five years. Security asks that you not put off completing the form; they would like to get the information returned to them as soon as possible. In another area of security, namely yours, the badge office in Bldg. 802 has a number of engravers which you may borrow to inscribe your valuables. By inscribing your social security number on these items, you can then register with APD's Operation ID and, when the police recover your stolen color TV, they'll have some way of tracing it back to you. On the other hand, given the quality of commercial TV, you may not want it back . . .

\*\*\*

The American Vacuum Society holds its 15th Annual Symposium later this month, April 23-26, at the 4-Seasons Motel. A number of vacuum technology courses are being offered. Don Schreiner (5114) is Symposium Chairman.

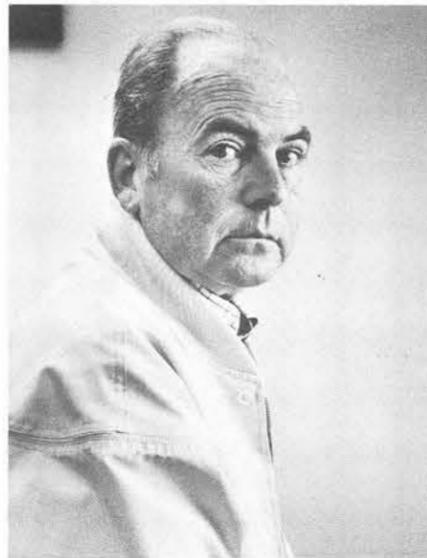
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The Penitentes are an unusual religious group that has been active in New Mexico for several hundred years. You can learn more about them by attending a lecture tomorrow, April 7, in Botts Hall of the Old Main Library; Mauro Montoya will speak about Penitente customs and traditions, which include flagellation. The lecture starts at 2 p.m.

## Retiring



Bill Sherman (1424)



Gene Anderson (4713)



Oran May (1483)



James Gibbons (2552)

## Unusual Vacations

# You, The Sailboat & The Blue Caribbean

*(Editor's Note. First in what we hope is a series, this article describes a vacation that's far-out but within reach of many Sandians. If you've had an off-beat vacation that might appeal to others, call on 4-1053 to tell us about it.)*

The trade winds from the east blow at a steady 20 mph, the air and water temperature are the same — a balmy 80°, and the voluptuous curve of the white sail against the blue sky is a sight to quicken the pulse. The sloop heels in the fresh breeze, dipping the gunwale under a passing wave, and you feel you're going supersonic though, in fact, you might be up to 7 or 8 miles per hour.

Sailing is one of those activities, those few activities, that can offer you the thrill and satisfaction of dealing — one-on-one — with elemental forces: the wind and the sea. Many sailors have noted that the joy of sailing is somehow like the joy of skiing.

DOE's Bill Horton does both and is hard-pressed to choose between the two. He doesn't have to, fortunately, and Bill and his wife Elaine have recently returned from 10 days of ocean sailing in some of the best sailing waters in the world — those in the area of the Caribbean known as the Greater Antilles, which include the Virgin Islands (where Bill was), Puerto Rico, the Dominican Republic and Haiti. These sailing waters are characterized by steady winds (with only an occasional hurricane), fairly calm seas, crystalline water for skin diving, warm temperatures, and literally hundreds of tropical islands to explore (or to seek shelter on if a squall develops).

Bill did his cruise with an outfit called Caribbean Sailing Yachts, one of many sail boat charterers operating in these waters. Their modus operandi is fairly typical, and to the would-be sailor they offer a selection of sail boats — with 34, 37, 39, or 44-foot models — fully provisioned with food and drink and ready to go, but only after a two-hour checkout during which you must satisfy the man as to your competency to handle his valuable piece of merchandise.

But suppose your knowledge of sailing is limited to what you and your rubber duck did in the bath tub and you think the main sheet is a piece of bed linen . . . Then the charterer will be happy to teach you, for a fee of course, and largish outfits like Bill's CSY offer something called the "Sail 'N Learn Cruise," for beginners, a "Virgin Islands Cruising Course" for those with a bit of experience and, finally, the "Windward Sailing Course" when you aspire to sail 'round the Horn. In each course the approach is the same — you go out on the boat and the teacher comes along to show you the ropes or, rather, lines. As a skill, sailing is basically simple, but it's a skill of a thousand-and-one details, most of which can only be picked up with sailing experience.

Because Bill is a fairly seasoned sailor, he and Elaine were able to take out a 34-footer by themselves; even so, they elected to take a cruising course. "It's a good way to pick up the more advanced techniques, and it's fun to work with one of their pros," Bill reports. Elaine was a novice and was not without some apprehension. "It's still a big ocean and a tiny boat," Bill says. "But after two days experience behind the wheel she's become a blue-water sailor — in spite of a brush with a line squall that laid us over momentarily. We're both anxious to return and do more ocean sailing."



Money & Logistics — Bill loaned us the CSY catalog and we're tempted to ask for some computer time. The rate schedule is complex, taking into account the boat size, number of people per boat, season of the year (there's three, and "off season" is cheaper than "middle" or "in season" by as much as 40%), enrollment or not in the sailing school, and provisioning or not of the boat. Fees are on a per day basis and we'll give you two sample cruises to establish some ballpark numbers. In the first, let's assume there are four of you who want to take an 8-day "Sail 'N Learn" cruise in the off-season on the big 44-footer, fully provisioned. That will run \$352 per person for a total of \$1408. Next, assume two couples want to take a 34-footer out for eight days, no sailing school since one or more can pass the sailing test, middle season, fully provisioned. That's less, \$176 per person for a total of \$704. Unfortunately, living in Albuquerque means that getting to the Greater Antilles may account for half or more of the cost. For Bill and Elaine, flying on super saver via Miami down to the British Virgin Islands ran to about \$400 each.

If you've reached this far and we haven't scared you off, here's some addresses where catalogs and other detailed information can be obtained: Caribbean Sailing Yachts, Box 491, Tenafly, N.J. 07670 and The Moorings, Box 50059, New Orleans, La. 70150. And call us if you decide you need a cabin boy who can do a little writing on the side. • js

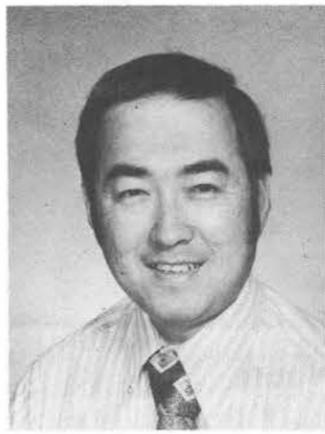


AT THE HELM — Bill Horton (DOE) shows his stuff on 34-foot sloop just off Virgin Islands in the Caribbean. Chartered sail boat carries British registry (which explains Union Jack).

# MILEPOSTS

## LAB NEWS

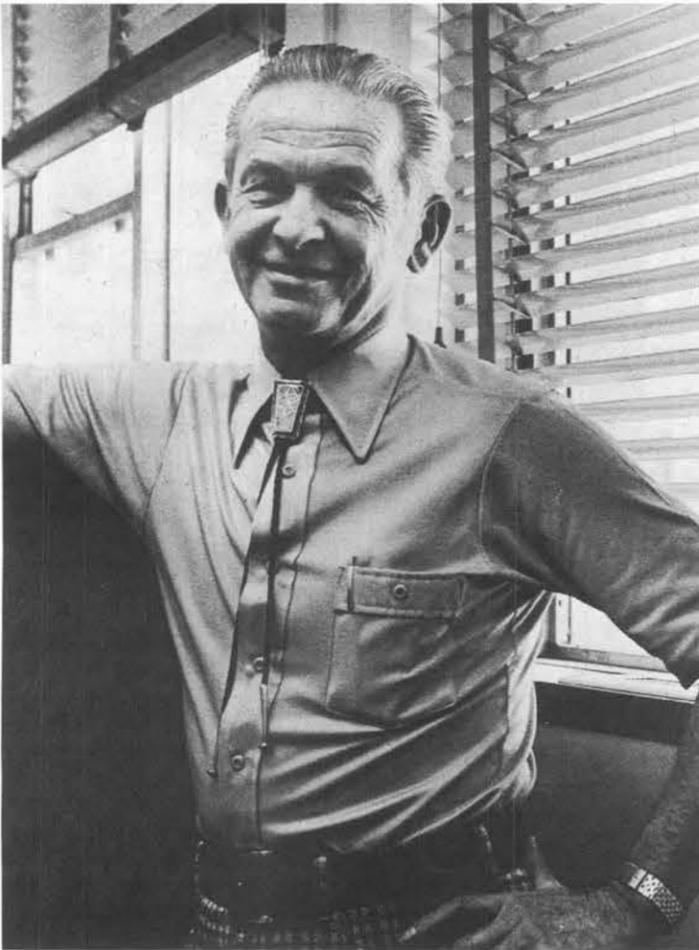
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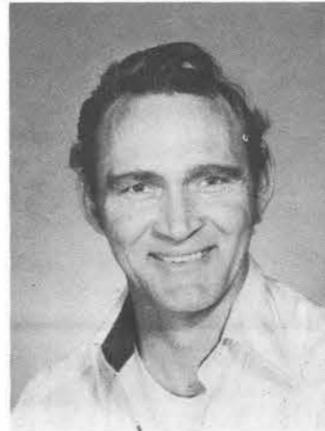
Dennis Miyoshi-1765 10



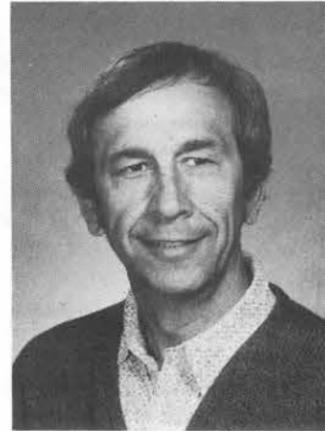
Alice Morgan-3252 15



Henry Moleculeski-4322 30



Charles Jenkins-2532 10



Gil Cano-4423 15



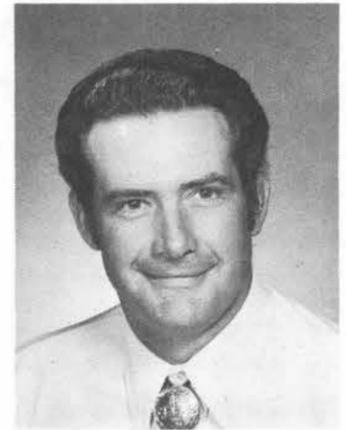
Mickey Sanchez-3411 25



Frank Thome-4442 10



Mel Mefford-3000 15



Bob Workhoven-4721 20



Kyle Williams-1483 25



Gary Samlin-4212 10



Don Jelinek-2344 15



Sam Mancuso-3543 25



Les Harris-1731 20



Bob Blewer-400 10



Bill Walker-1136 25



Bud Wimber-2326 10



Bob Beasley-1172 20



Cook Story-8441 10



G.T. Holman-5131 10



Al Narath-4000 20



Ernie Alford-8252 30



Dan Tichenor-8444 10



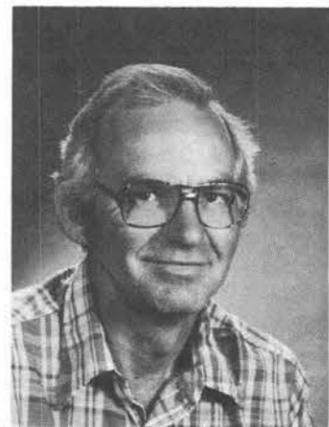
Gerry Wilson-1252 15



Harold Hunt-8257 20



Frank McMurtrey-8423 20



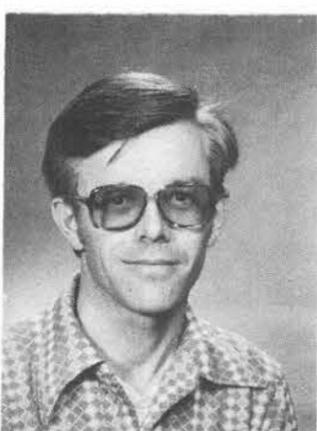
John Zimmerman-4725 25



Victor Roh-5621 25



Frank Emig-2456 25



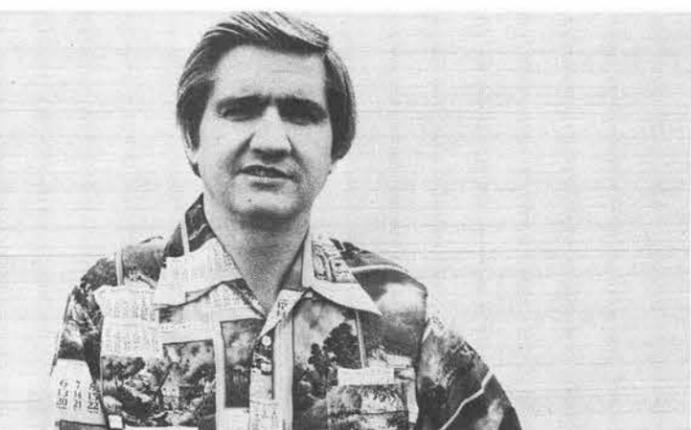
Donald Overmyer-5151 10



Ben Benedetti-8121 15



Rocky Roach-8423 30



Edward Gullick-3421 15



Sal Armijo-3612 30



John Temple-1244 20



Neita Tucker-3255 15

# SYMPATHY

To Larry Andrews (2154) on the death of his father in Independence, Mo., March 16.

To Prospero Toledo (3618) on the death of his father-in-law in Albuquerque, March 18.

To Florencio Baldonado (3421) on the death of his mother-in-law, Feb. 27.

To Julia Ulibarri (3533) on the death of her mother-in-law, March 27.

To Margaret (3450) and Bill Crawford (4322) on the death of Bill's mother in Middletown, Pa., March 25.

To John Kelly (4423) on the death of his father in California, March 28.

To William Moore (1171) on the death of his father in Cody, Wyo., March 26.

To Wilson Botner (5632) on the death of his wife in Albuquerque, March 21.

# Retiree Deaths

(Jan. to March)

Silviano Gallegos (80)	Jan. 5
Octaviano Trujeque (70)	Feb. 1
Michael Weber (73)	Feb. 4
Charles Johnson (66)	Feb. 17
Glenn Thornburgh (81)	Feb. 28

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

### CLASSIFIED ADVERTISING

Deadline: Friday noon prior to week of publication unless changed by holiday. Mail to: Div. 3162 (814/6).

#### RULES

1. Limit 20 words.
2. One ad per issue per category.
3. Submit in writing. No phone-ins.
4. Use home telephone numbers.
5. For active and retired Sandians and ERDA employees.
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

BAR w/4 wrought iron bar stools, brown top, white panels, black stools, \$500. Nogales, 247-1178.

DUNLOP TIRE 155x13; wsw steel belted radial, GR78x15; wsw polyester G78x15. Kennedy, 293-9455.

GAS STOVE, 36", window, light, storage, \$100. Newman, 266-6964.

LOGAN LATHE, 6" swing, milling attachment, 2 chucks, quick change tool post, \$1450. Hickerson, 884-8462.

MUST FIND HOME for 2 dogs, both 1 yr. old, one 3/8 wolf shepherd, spayed; other Malibu shepherd, male. Banach, 292-1871.

PANASONIC 4-channel stereo, BSR turntable, speakers, \$100; Kenmore zig-zag sewing machine, \$100; burgundy velvet couch, \$200. Padrick, 299-7971.

12-STRING GUITAR, Yamaha FG-230 w/case, \$100; Sony TC-366 tapedeck, 3-head deck w/accessories, instructions & tapes, \$125. Riley, 821-6431.

HAIR DRYER, Helen Curtis Empress professional, cool-warm-hot-extra hot controls, \$30. Ludeke, 268-5265.

WOODEN office desk; kitchen sink; porch swing; wooden screen door. Grant, 255-6105, 405 Palomas Dr. NE.

MATCHING SOFA, love seat, chair, recliner, 2 mos. old, \$650; 19" color TV, \$250. Arellano, 298-3938.

DISHWASHER, port., lg. capacity, \$75. Cox, 881-3794.

BABY CRIB, mattress & bumper, \$20; rocking horse, \$10. Nuttall, 821-2895.

RCA COLOR TV, 23" diag. picture, modern Danish cabinet, 48x29x21; 2 ea. 9" oval duo-cone speakers, AFT, other features, \$225. Stang, 256-7793 after 5.

7700 BTU GE air conditioner, adjustable window mounting, 115V AC, \$125. Bolwahn, 898-5961.

AWNING, alum., window, 8' wide; awning, alum., porch, 11' wide; bathroom sink, small, make offer. Curry, 881-2061.

KITTENS, blue-grey short hair, small house pets, ready 1 week, free to a good home. Munson, 299-1400.

BUCKET SEATS, pre-1960, Corvette, orig., includes rail supports, red waffle design. Marchi, 299-3653.

'77 HOLIDAY RAMBLER 5th wheel travel trailer, 27', loaded, no road miles since bought. Bennett, 281-5386.

SOFA, 7', green-white-beige print, 18 mos. old, cost \$900 sell for \$450. Welch, 299-8764.

KENMORE washer/gas dryer, \$400; maple dinnette w/leaf & 4 chairs, \$150; recliner w/vibrator, \$250; frostless refrig. side-by-side, \$500; Bissell sweeper, \$35. Kraft, 296-3991 after 6.

A FRAME, 8'x8'x7', play-

house/storage, \$100, you haul. Mason, 281-3052.

NEW BROWNING BSS Sporter 20 ga. shotgun, IC & mod. choke, \$315; Winchester 61, .22, \$220 w/case. Klett, 884-8354.

TWO PONDEROSA PINE trees, 4 & 5' tall, you dig, both for \$50. Conklin, 298-8217.

SLIDING GLASS DOOR, 6'x6'-8" w/screen, \$25. Erdman, 292-0258.

CYCLONE sawdust collector system for lg. home wood shop or small commercial shop, \$225. Gunter, 898-4951.

CAMERA, 35mm, SLR, Miranda RE, built-in meter, \$95. Esch, 292-0754.

'77 32' FIFTH WHEEL travel trailer, Twilight Bungalow, used very little. AC, \$8800. Tyson, 883-7924.

RCA B/W 19" TV w/stand, \$65. Sublett, 298-1004.

LADIES RING, large deep purple amethyst, very ornate, solid 14k gold mounting, \$3000 value, sell for \$1250. Schmidt, 299-7305.

COMPLETE kitchen cabinets, approx. 14' wall & 10' base, including sink and faucet, gas range; elec. vent fan. Harrison, 883-5411.

ETAGERE, wrought-iron, 6' high, 4 glass shelves & plant hanger, \$60; Coleman stove, 2-burner, \$20. Dalphin, 265-4029.

BALDWIN Orga-Sonic concert organ w/better quality Leslie speaker, solid walnut cabinet & bench, \$750. Lyon, 299-9423 or 884-8515.

13' TRAVEL TRAILER, stove, ice box & toilet, easily towed by Datsun/Toyota type vehicles, \$975. Mares, 299-6958.

PLATFORM ROCKER; lamps; mirrors; lg. fan; dog house. Falacy, 293-2517.

REFRIGERATOR, 15 cu. ft., Kenmore, coppertone, \$60. Baca, 881-4184.

'78 EDITION, University Society encyclopedia, retail \$825, sell for \$500, includes world atlas, 2-vol. dictionary. Barnard, 831-4114.

50 AMP METER BOX & pole, \$25; 30-gal. drum stove, \$8; elec. paint compressor, 1 qt. capacity, \$25; 19" color TV, \$175. Klecotka, 821-1466.

FOUR 15"x8" Chevy 6-hole chrome Jackmon wheels w/Firestone LT15-10 All Terrain tires. Boeck, 298-6495.

DOW CORNING silicone caulk, high elongation, \$3/tube. Bennett, 298-1142.

COUCH, green/beige; green loveseat, both \$170. Wilson, 296-5965.

LANDSCAPING ROCKS, 8"-10" diameter, free for the hauling. Fiennig, 298-0743.

Hohner International acoustic guitar, limited edition, 1 yr. old; Celestron 8 telescope, clock drive, tripod, equatorial wedge, oculars, case. Downs, 293-9320.

GARAGE SALE: bicycles; microwave oven; charbroil BBQ; panel heater; turntable; tape recorder; tapes; telephone answering system; misc. items. Clement, 298-4994.

BEDROOM SET: bed, mattress (firm), box springs, 4-dwr. dresser, 6-dwrs. dresser w/mirror, canopy. Beller, 881-4047.

ANTENNA ROTOR, made by CDE, model AR1, unused, \$20. Smith, 242-9576.

RIFLE, 300 Savage, \$175; 14' alum. boat w/Sears 9.9 motor. Singleton, 299-1613 after 5 or weekends.

LOWREY French provincial console

piano, lt. cherry wood, tuned regularly, \$1395. 8907 Los Arboles Ave. NE. McIlroy, 299-4977.

TURNTABLE, Garrard Z 2000B, tangent-tracking auto., plays 6 records, w/base, cover & Pickering cartridge, \$140. Norris, 877-6415.

FREE, good Valley top soil, 2601 Los Padillas SW. Gonzalez, 873-0216.

### TRANSPORTATION

'68 C-20 Chevy Suburban, AT, AC, PS, PB, Positraction, sleeping platform in back, \$1100. Mattox, 821-3945.

SUZUKI GS750, '77 4-cyl. w/fairing, extra tools, manual & cover, \$1795, negotiable. Kidd, 299-0035.

'72 BLAZER, 4-spd., radials, Positraction, hitch, CDI ignition, \$3350. Hickerson, 884-8462.

'75 YAMAHA 175 Enduro, low mileage, \$500. Padrick, 299-7971.

15' VENTURE catamaran, dacron jib/mainsail, kick-up rudders, full trailer w/electrical, '79 registration, 133 sq. ft. mainsale. Clendenin, 299-2071.

CANOE, 12', 48-lb., vinyl coated fabric over cedar plank & rib hull, Tremblay of Canada, \$275. Perdreauville, 296-2870.

'71 CAMERO, 6-cyl., 250 cu. in. eng., 3-spd. floor shift, \$1600. Wright, 281-5828.

'72 BUICK Centurion, 4-dr., power, Cruise Control, \$1000. Guist, 294-2047.

'73 MERCURY Cougar XR7, 351 Cleveland, AC, PS, PB, rocket wheels, new tires, new paint, \$2800. Shipley, 298-2433.

'66 NOVA-SS 2-dr. HT, 327, auto./console, AC, duals, CDI, ww tires, maroon/black, 39,000 miles, \$3500. O'Bryant, 268-9049.

'63 CORVAIR 4-dr., steel radial tires, orig. owner, \$1500. Kerr, 299-7527.

SCHWINN BICYCLES: girls 20", \$25; boys miniature sting-ray w/or wo/training wheels, \$35. Eisenberger, 293-5162.

BOAT, 14', aluminum, cartop, accommodates 20 HP, \$325; tent, 8x10, \$25. Hueter, 242-1620.

R/C AIRPLANE, complete w/OSMax engine, 6-channel MRC receiver & transmitter, ready to fly. Fisher, 881-8072.

'76 MINI motorhome, 23' Cruise Air, Dodge 440 engine, AT, PS, AC, AM-FM cassette, 4000 kw generator. Kelly, 255-7226.

'75 INTERNATIONAL SCOUT II, PS, custom paint, AT, tires, equalizer trailer hitch, 45,000 miles, 4-spd., \$3950. Malin, 344-9337.

1940 HARLEY DAVIDSON 1200cc, \$2000, serious inquiries only; new 14" tires, four ea., \$130; Kirby vacuum w/attachments, \$25. Bernal, 869-2305.

'75 RABBIT, 4-dr., AM-FM/8-track stereo, AT, new rubber, \$3150. Gallegos, 255-5264.

'79 FORD Bronco Ranger XLT, AC, PS, PB, 4-spd., many extras, still under warranty. Hopper, 292-3059.

'78 FIAT 124 Spyder convert., 5400 miles, AM/FM stereo, mag wheels, \$6000 firm. Koontz, 821-8952.

'73 CHEV Blazer, 4x4, full time hubs, AM/radio, AC, PB, new battery & front tires, price negotiable. Mc Namee, 265-4935.

SKI/FISHING BOAT, '63 Starcraft, 15', HD trailer, \$2700; self-contained camper for LWB pickup, shower,

oven, 4 jacks, \$2400. West, 299-7314.

SAIL BOAT, complete pkg., 13' boat, all sails & rigging, 5 hp motor, 3 PFDs, swing keel & kick up rudder, trailer, extra hdw., \$300. Landis, 296-9289.

'73 PONTIAC Lemans Deluxe, 4-dr., AC, PB, PS, Cruise Control, low mileage, \$1595. Arterburn, 299-3620.

'72 PORSCHE 911T Targa, AM/FM stereo, air, Daisy mags, Koni shocks, Michelins, red w/black interior, \$9100. Monette, 255-3987.

SAIL BOAT, Force 5, 95 sq. ft. of sail, 14' hull, \$1250 includes trailer. Gardner, 344-2547.

'71 LESABRE 4-dr., AC, radio, 350 eng., \$600. Harrison, 883-5411.

23" P-13 SCHWINN Paramount (bicycle) frame, headset, grazed on shift levers & cable guides. Downs, 293-9320.

'75 CHEVY VAN, Beauville model, fully equipped. Shirey, 298-6362.

'74 DODGE VAN, insulated, carpeted, paneled, sunroof, bay window, high back seats, CB, AM-FM cassette, alum. spoke wheels, \$4250. Hayward, 294-7278.

'76 MONTE CARLO, 305 V8, AC, PS, PB, cruise, tilt wheel plus more, one owner. Chatter, 898-6391.

'73 MOTOR HOME, Explorer, low mileage, extras, \$9000. Singleton, 299-1613 after 5 or weekends.

'75 CHEVY Monza, V8, manual 4-spd., factory air, AM/FM radio, 39,000 miles, orig. owner. Hiebert, 299-5392 after 6.

BICYCLE, MX racing quality, HD Webco frame & mag wheels, \$90. Wentz, 881-7125.

'64 JEEP Wagoneer, 4-wd, 230 cu. in., rebuilt engine, new paint, new tires, PS, PB, \$2000. Gabaldon, 255-7971.

'77 FORD Granada, loaded w/extras, 19,000 miles, 13 mos. extended warranty remaining, below book at \$4200. Burgess, 296-4254.

### REAL ESTATE

VALLEY HOME, privacy, view, 3-bdr., den, DR, insulated, 3 porches, hot water baseboard heat, 5.3 acres. Roth, 877-4997.

FIVE ACRES, tall ponderosas, privacy, will consider cash discount, off S 14. Condit, 281-3788.

R-2 LOT, 140'x50' on 63rd St. NW between Avalon & Central, new & old 4-plexes on the block. Rios, 299-8188.

ON CUL-DE-SAC: backyard access, landscaped, 4-bdr., 2 baths, w/marble vanities, kitchen built-ins, bay window, c/patio, Montgomery & Tramway, \$64,000. Byers, 298-8326.

BELLEHAVEN AREA, 3-bdr., den w/fp, built-ins & wet bar, formal DR, ceramic tile in baths, new carpeting, 2000 sq. ft., under 70. Rowley, 299-8419.

3-BDR., fp, DR, basement, irrigated 2/3 acre, lg. garden, orchard, small barn, livestock permitted. Madsen, 344-9970.

MOBILE HOME, 12'x60', 2-bdr. w/8'x40' screened porch, new drapes, set up in reputable park, close to base, adult section. Chavez, 292-2635.

MOUNTAIN HOME on 5.3 acres, built

Aug. '77, 2000 sq. ft., passive solar, well insulated, 9.9 miles from Western Skies. McCampbell, 821-7996.

### WANTED

SHOP MANUAL for 1974 Dodge pickup. Newman, 256-9174.

PERSONS with rafts interested in river rafting this spring. Object: car switches, etc. Mattox, 821-3945.

SWINGSET. Kerschen, 821-2848.

SQUARE BACK VW, body must be very good, '67 to '70 preferred. Souder, 281-3121.

BACKPACKS, junior size, good condition, no knapsacks. Bushnell, 298-9631.

MALE TOY FOX TERRIER to use for stud, must be registered. Miller, 299-6067.

EXERCISE BICYCLE, used, in good condition. Jakowatz, 299-9271.

SEAMSTRESS close to Madeira SE. Bonds, 262-0924.

20-GAL. or larger aquarium w/pump, filter, bubbler, & possible other accessories. Gunter, 898-4951.

LAWN MOWER, gasoline powered rotary preferably w/grass catcher. Prevender, 299-5253.

BANJO and/or guitar, either folk or classical; television cabinet w/front doors. Korak, 296-1165.

CARTRIDGES: all types, singles or boxes, from WWII or older. Edgerly, 898-2983.

HOUSE/ITER/RENTER, 3 bdr. house w/dog, June through mid-Aug., close to Base & shopping centers. Sutherland, 266-1734.

USED POLAROID SX-70 Alpha 1 camera. Markowitz, 294-0332.

GEODESIC DOME CLIMBER for young children; also, swing set. Bennett, 298-1142.

POWER LAWN MOWER. Orear, 256-1941.

FREEZER, 15+ cu. ft., upright or chest. Magnuson, 296-8962.

TWO PAIR children's water skis, used. Harris, 255-6577.

SUMMER PROF. desires furnished or partially furnished house or apt. Arriving about June 15. Sherman, 716-461-1271.

### FOR RENT

NEW CANDLELIGHT 3-bdr. house near Freeway & Coors NW, dishwasher, elec. stove, gas heat. Adams, 256-7265.

NEW 2-bdr. 4-plex apt. at 116 Dallas SE, available now. Rivera, 266-3184.

HOUSE in NE heights (Eastridge area), available 8/1/79 to 9/1/80, will consider renting partly furnished. Reif, 299-2665.

NEW 2-bdr. unfurnished townhouse apt., near Central & Tramway; dishwasher, disposal, view, \$100 deposit, \$225/mo. plus elec. Berg, 296-2695.

### LOST AND FOUND

LOST — Man's red wool mitten, HP calculator in brown case, man's dk. blue ski cap & round brown hat, gold locket, tri-focals w/brown frames & case, yellow & white gold wedding band.

FOUND — Man's wool hat insc. "Miami Dolphins", man's leather glove & tan glove w/leather palm, butterfly necklace, 2 Bic lighters, small notebook w/computations, Estee Lauder lipstick. LOST AND FOUND, Bldg. 832, 264-1657.



HE ALSO SINGS BASS. At Sandia, Roger Eaton (5511) does theoretical work in fluid mechanics and heat transfer. Off hours, he sings bass in a church choir and with a quartet that performs for retirees and other groups.

**Roger Eaton, Singer**

**Finds Stage Safer Than Field or Court**

A lot of retirees in Albuquerque have reason to be grateful that Roger Eaton (5511) broke his leg playing football in his junior year in high school.

"I taught myself to play the guitar that year," Roger recalls. "Then the next year," he adds with a smile, "I taught myself the advance course when I broke the same leg playing basketball."

And what does that have to do with retirees?

Out of that original involvement in music, Roger went on to play and sing in a number of school and church choirs, and in small musical groups. He still does.

Right now, he's a member of the St. John's Methodist Church choir, and of the St. John's Quartet that performs an average of twice a month at retirement and nursing homes (and for various church groups) in the Albuquerque area.

"Performing for older people is a real pleasure," Roger says. "They come early and they're enthusiastic. We seem to be a link for them with the outside world."

As an art form, music tends to be a melting pot, to provide performers of wide-

ranging backgrounds a common meeting ground. That's certainly the case with the St. John's Quartet.

The first tenor (Jack Nuzun) and the baritone (Daton Hill), both teach at Truman Middle School — Jack in Language Arts and Daton in Physical Education. Ted Lortz, second tenor and leader, is youth director at St. John's. Roger, who sings bass, does theoretical work in fluid mechanics and heat transfer. The accompanist, Dave Percy, is a mathematician and former football player from Colorado University who now designs computer software for a local consulting firm.

The quartet's musical interest spans a wide sweep, too — from folk through barbershop, gospel rock and spirituals to opera (one of their most popular numbers is what Roger describes as "a travesty on Verdi's Rigoletto").

The Quartet sings at churches and retirement homes free of charge. ("It's our way of sharing," says Roger.) Other performances are subject to charge. Bookings can be arranged through Roger at 4-4063.

• cec

**Coronado Club Activities**

**Easter Egg Roll April 14**

TONIGHT the wild man returns to the Club. Bob Banks and the Trio make the Happy Hour music while king crab Newburg or New York steak are served on the buffet line.

TONIGHT ALSO singles mingle in the Eldorado Room starting at 4:30. Yolanda and the Combo play for dancing. Munchables, and mingling are also on the agenda.

TOMORROW at Variety Night magician Gib Richards entertains starting at 7 with a movie, "The Great Locomotive Chase," following. Super sandwiches are available at 6. Bring the kids; admission is free.

NEXT FRIDAY'S Happy Hour features surf and turf on the menu, the Carter Express Disco on the bandstand. Call the Club office, 265-6791, by mid-week to reserve buffet tickets.

SANADO WOMEN meet for a luncheon and fashion show Tuesday, April 10. Call Nancy Dodd, 296-1158, *right now* for reservations.

KIDS age six and under enjoy the annual Easter Egg Roll. Competition by age groups means every child has a shot at a prize. Door prizes and cartoons are part of the fun. Member's kids only, please. It's free.

DISCO LESSONS are offered by the Club starting April 11. The class will meet for five Wednesday evenings. Cost is \$15 for members. Sign up at the Club office.

SEASON SWIM TICKETS go on sale at the Club office April 13. Registration for swimming lessons is set for Saturday, April 21.

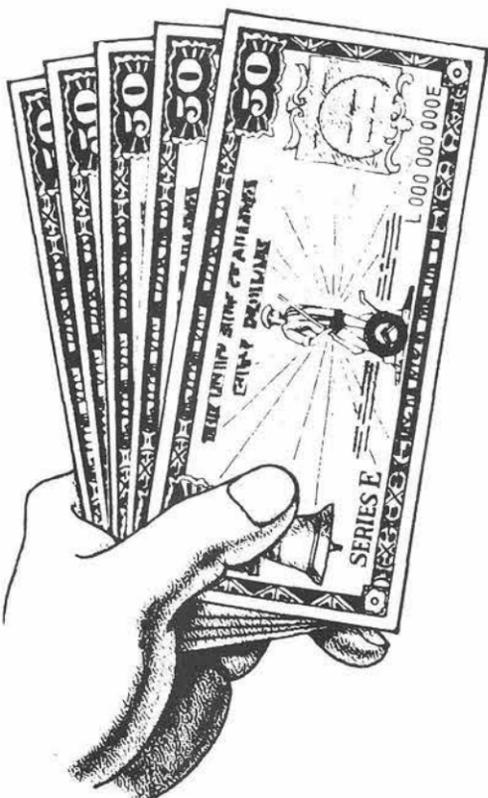
FRIDAY	SATURDAY
6 — HAPPY HOUR King Crab Newburg or New York Strip <i>Adults</i> \$6.25 <i>Under 12</i> 3.15  BOB BANKS TRIO  4:30 Singles Mingle	7 — VARIETY NIGHT  "The Great Locomotive Chase"  Magic Show By Gib Richard Supper — 6 p.m. Show — 7 p.m.
13 — HAPPY HOUR  Surf & Turf  <i>Adults</i> \$6.25 <i>Under 12</i> 3.15  CARTER EXPRESS DISCO	14 — EASTER EGG ROLL AND HUNT  9:30 — noon Cartoons Free to Member's children

CASINO NIGHT, an annual C-Club blast with everything Las Vegas has except real money (and it doesn't cost you real money), is scheduled Saturday, April 21, starting at 7:30. Elton Travis plays for dancing.

TRAVEL DIRECTOR Ed Neidel will be in the lobby tonight from 6 to 7 with a handful of tours to almost any place. Go to Europe, Hawaii, Mexico or Las Vegas at special rates. Talk to Ed, he's got the deals.

UPCOMING EVENTS — Sanado Ball, May 5; Travelogue Night, April 24; Teen Disco, April 28; Swim Season Opening Party May 26.

**Winning Hand.**



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