

BOTTOM LINE for the Parachute Lab is successful deployment of chute developed in the Lab. Here a B61 rocket, launched on the test track in Area III,

impacts softly under fully opened canopy of ribbon chute. More on Parachute Lab on page five.

LAB NEWS

VOL. 29, NO. 18

SEPTEMBER 9, 1977

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

'Excellent Results'

Continuous Chain Drill Bit Tested

A program milestone was reached recently when fixed head versions of the Sandia continuous drill bit design were tested at the Terra Tek Drilling Research Laboratory at Salt Lake City.

"Excellent results," is the way Max Newsom, supervisor of Drilling Projects Division 5735, describes the laboratory experiments. "The tests proved we have a design concept with the potential to significantly reduce deep, hard rock drilling costs."

Two fixed head versions of the drill bit design—the cutting surface with its pattern of natural and manmade diamonds—were tested in Sierra White granite. Using observed drilling rate and bit life data from these laboratory tests, drilling costs

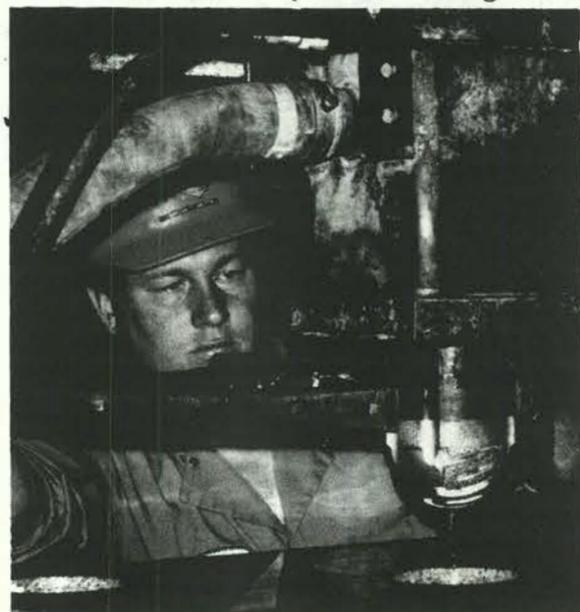
were compared with standard diamond bits (also based on laboratory performance) at starting depths of 1000, 2500, 5000, 10,000 and 18,000 ft.

Both bits were subjected to a series of tests which included 13 hours of continuous drilling in the granite. At the end of this period of drilling through hard granite, the drilling rates of both bits were holding steady having shown little degradation through wear.

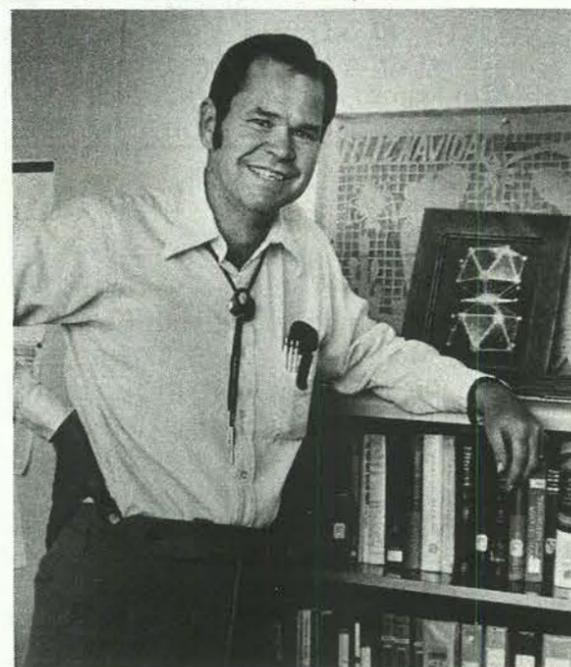
"At all depths below 2500 feet, the Sandia design indicates an economic advantage over the standard bits," Max says. "At the greater depths the decrease in drilling footage costs may be as large as 30 percent. The Sandia bit, which is being designed to change the cutting edge 16 times before it has to be pulled from the hole and replaced, should offer a much longer life than conventional equipment."

"Only the cutting surface of the Sandia design, simulating five chain-links, was tested at Terra Tek," Max says, "with a diamond pattern that was developed jointly with Christensen Diamond Products Co. We are now fabricating, in cooperation with Christensen and NL Hycalog, a full working prototype with the continuous chain sections which will be tested next month at Terra Tek."

Jack St. Clair (5735) is project engineer. Henry Togami (2325) is drill bit designer. At the Terra Tek Laboratory's tests, Bob Fox, supervisor of Special Products Division 2325 and responsible for a number of the drill bit components, assisted during the week of 24-hour a day drilling operations.



TECHNICIAN from Terra Tek Drilling Lab examines Sandia's chain drill bit following test in granite.



Bill Myre New Safeguards Head

BILL MYRE has been promoted to director of Nuclear Security Systems 1700, the Sandia organization primarily concerned with the Safeguards program. The promotion takes effect on Oct. 1.

At the same time, Orval Jones, who previously headed Org. 1700, has been named director of Nuclear Waste and Environmental Programs 5300, a newly created directorate.

An EE alumnus of Texas A&M, Bill joined the Labs' Field Test group in 1950, working with that group until the early 60's save for a two-year stint in the Army. In 1961 he assumed responsibility for the Vela satellite effort, a program that turned out to be highly successful. He shifted to

[Continued on Page Four]

Afterthoughts

Hang in there Hyman--ERDA News carries an item to the effect that Admiral Hyman Rickover, now in his 59th year of Naval service, has been reappointed head of the Navy Nuclear Propulsion Program. At age 77, Rickover is a phenomenon. Many years ago his prickly ways had just about insured his retirement with modest rank from the Navy. But the Congress interceded, insisted on his promotion to Rear Admiral, and he's been both the immovable object and the irresistible force ever since. If he were the type, and he probably isn't, Rickover could have many chuckles as he contemplates the present obscurity of his many earlier detractors.

* * *

The private coastline--Driving along Oregon's and Northern California's coastline on Route 1 last month, we were struck by the amount of coastline in private hands, i.e. fenced off from public access. As an estimate, we'd say at least two-thirds. Now this is a situation analagous to being denied access to a National Forest because of bordering private lands. The beach and ocean are like air and the sky--no one should own them, everyone should have equal access.

* * *

"The political difficulty is that the (energy) crisis is invisible. There is no clear, unequivocal signal, similar to Pearl Harbor calling us to, demanding, national unity. Instead we have a more subtle and chronic problem--the signs of which can readily be ignored, rather than an unequivocal signal. Oil continues to flow, an embarrassingly large portion of it from abroad. There are no gasoline lines. Public skepticism exists as to the magnitude of the problem. No one has an immediate stake in participating in the painful processes of adjustment. Unquestionably democracies respond better to clear and unequivocal signals than they do to mixed signals. Can we nonetheless react with appropriate foresight and vision?"
-James R. Schlesinger, at University of Virginia Commencement *js

Take Note

A class in conversational German is being offered to children and young adults by UNM's Modern Language Dept. at Comanche Elementary School. Register for the course at Comanche on Sept. 19 from 4 to 4:30 p.m. Classes run once a week for 10 weeks from 4 to 5 p.m., non-beginners on Mondays and beginners on Tuesdays. Cost is \$15; further information on 277-5907.

* * *

An ERDA release states that bids for construction of Sandia's new cafeteria will

be opened about Sept. 22 and that work is to be completed within 150 days after the contractor receives notice to proceed. The 94' x 98' one-story building, to be built east of Bldg. 860 and outside the Tech Area, is estimated to cost between \$300,000 and \$400,000.

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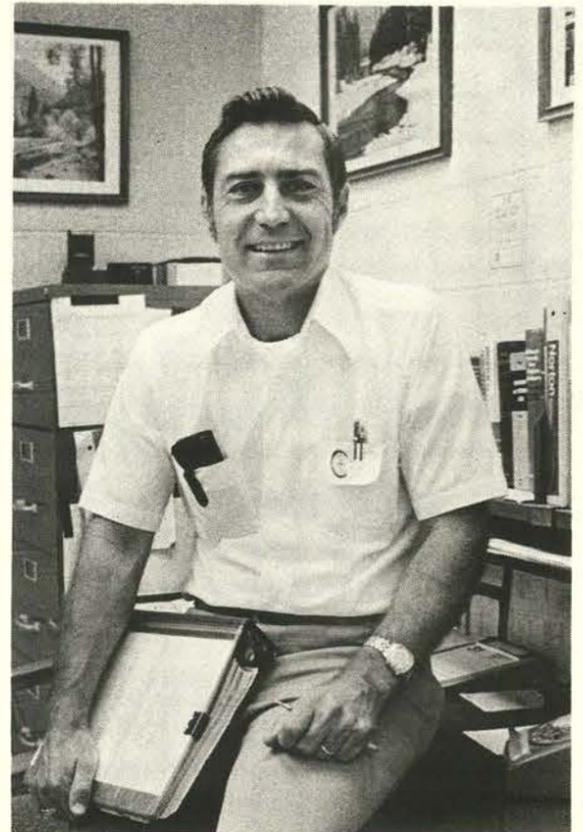
Vera Romero (9570) is feeling pretty good these days. Vera's sister, Mari-Luci Jaramillo, has been nominated by the President to become Ambassador to Honduras. Mrs. Jaramillo, who holds her PhD in bilingual education, teaches at UNM. The Senate holds a confirmation hearing on her appointment next week and, if all goes well, she expects to be in Honduras sometime in October.

* * *

The manager of the Labs' Environmental Health Dept. (3310), Bill Kingsley, has been advised by Governor Apodaca of his appointment to the Radiation Technical Advisory Council. The Council advises the State on matters relating to radiation and radioactive materials. Bill's term lasts through May 1979.

* * *

Former members of the WWII 8th Air Force are reminded of the reunion to be held in St. Louis next month. Persons needing more information should contact the 8th AF Clearing House, 3911 N.W.



JIM WINTER (9713)

Supervisory Appointment

JIM WINTER to supervisor of Plant Modification Division 9713, effective Sept. 1.

Jim has worked in the Plant Maintenance organization since joining the Labs in September 1948. Starting as a member of the labor pool, he advanced to leadman of that group. In 1953 he was promoted to section supervisor and in the intervening years has been in a rotational program, supervising numerous activities of the organization.

Before coming to Sandia, Jim spent two years at UNM and two years in the Navy. A native Albuquerquean, Jim enjoys participating in almost all sports, including the coaching of a Little League team. He and his wife Jean, a former Sandian, have five children and one grandchild. They live at 1004 Casa Grande Place NE.

183rd Terr., Opa-Locka, Fla. 33055.

* * *

FOR SALE vehicles may be parked in the area south across the street from the Bank of New Mexico on Base. Be sure there's a For Sale sign visible and include your phone number. Don't park such vehicles at the Coronado Club. If it's left over 24 hours, the Security Police will consider it an abandoned vehicle and tow it away.

* * *

Want to stop smoking? Then consider taking the "Smoking Modification" course being offered by Medical next week, starting Sept. 13. The course consists of six sessions, 4:45 to 6:00 p.m., Tuesdays and Thursdays, and involves concepts of behavior modification, group interaction and reinforcement. Enrollment is limited to 20 people, and the sessions will be held in the Medical Building. If you're interested, call Wanda Cupp in Medical, 4-7169. Spouses are welcomed too, subject to the limitation of 20 people.

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&
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Program Fosters Grad Work

Sandia is participating in a National Consortium for Graduate Degrees for Minorities in Engineering, developed to encourage minority students to consider advance study. Relatively few minority people pursue graduate studies.

Eight industrial and government laboratories and 19 universities are involved. The joint effort assists the students in financing graduate studies and in obtaining practical engineering experience through summer employment at the participating laboratories. The student's interests are matched to the assignments and each lab assigns an experienced engineer to each student as a mentor.

At Sandia/Livermore this summer is Allen Burns, who graduated in May from the University of Portland with a BS in electrical engineering. "While in school, I worked at the Bonneville Power Administration on an undergraduate co-op program where I saw the power side of EE," says Al. "At Sandia, I'm getting the electronics and digital viewpoint which will be helpful when I decide which direction to go for my master's at Arizona State University this fall."

Together with engineer Dave Bray in Electronics Development Division 8159, Al works on the hardware and software for a general purpose computer tester being developed by Laurence Watkins for the division's products. He's also working on electronic circuitry in the hybrid microelectronics area, doing evaluation re-design. "Since his previous interest was in power," says Dave, "electronics is a different view of the engineering world for Al, and we're getting things accomplished that needed to be done but had no available manpower for. So there's a mutual benefit."

Another student at Sandia this summer under the program is Kimberly Francis from MIT, who is working in Albuquerque's Data Systems Division 1241.



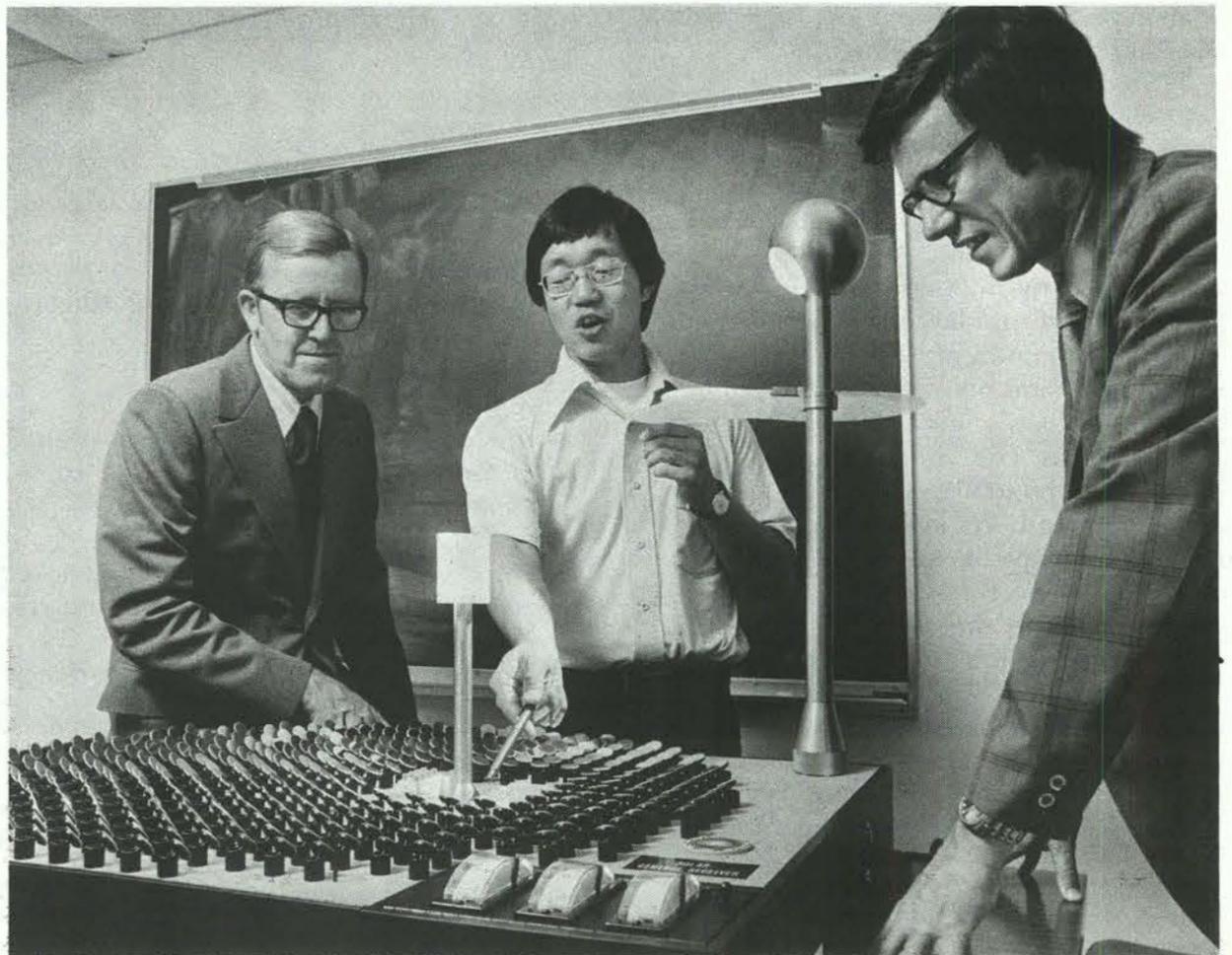
STUDENT Allen Burns, who begins master's degree studies in the fall, is working in SLL's Electronics Development Division 8159 this summer with engineers Dave Bray and Laurence Watkins under a national consortium program to increase the number of minorities with graduate degrees in engineering.

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LIVERMORE LABORATORIES

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MODEL illustrates central receiver concept to be used for ERDA's first solar electrical pilot plant near Barstow, Calif. Cliff Yokomizo demonstrates cloud effect to Al Skinrood (left) and Rick Wayne (all 8130). SLL provides technical management of the development phases of the project.

10 MW at Barstow

Design Chosen for Solar Electric Plant

A conceptual design has been chosen by ERDA for the nation's first experimental solar power tower, a 10-megawatt electrical generating plant to be built near Barstow, Calif., at a cost of about \$100 million. Technical management of the development phases of the project is provided by Al Skinrood of Solar Department 8130.

The design, based on a central receiver concept, includes a cylindrical "inside out" boiler (receiver), glass mirrors (heliostats), and oil/rock thermal storage subsystems developed by a McDonnell Douglas team.

The design concept decision culminates a two-year development program by three industrial teams, one led by McDonnell Douglas and the others by Honeywell and Martin-Marietta. Additionally, Boeing developed a conceptual design for the heliostats (sun-tracking mirrors) only.

Over 30 Sandians, from both Livermore and Albuquerque, participated in the technical analyses and cost studies of the designs. "All of the designs submitted were basically sound from a technical standpoint," says Rick Wayne (8130), "and they benefited substantially from work contributed by Sandians."

Rick adds that the concept recommended by Sandia and chosen by ERDA

appears to be the least costly for future commercial-scale systems. These systems are expected to be available in the 1990's at a cost which should make them attractive to the electric utilities.

The 10-megawatt experimental Barstow plant will generate electric power in the same way that a fossil or nuclear plant does, except that the steam which drives the turbine/generator will be produced from the heat of the sun. Chief solar components are the heliostats that collect sunlight, the receiver that converts water into high-pressure steam, and a heat storage system that permits steam to be produced when there is no sunlight.

Sandia is currently preparing technical specifications to be used in the detailed design and construction of the plant. ERDA expects to award contracts to fabricate components and construct the plant within the next six to eight months, and to place the plant in operation in late 1980 or early 1981.

This pilot plant is to be built and operated under a partnership arrangement with the Southern California Edison Corporation, the Los Angeles Department of Water and Power, and the California Energy Resources Conservation Commission.

feed *li*back

Continued from Page One

New Director

Q. Why doesn't payroll send a vacation balance printout to each Division June 1 and possibly again Sept. 1 or 15? There are so many new Division secretaries, and so many personnel transferring from division to division that individual vacation balances are sometimes questionable.

A. Organizational listings of vacation balances are distributed at approximately six-month intervals. The most recent verification was as of January 31, 1977. Listings as of June 30, 1977 were distributed early in August. With present manual procedures the time lapse involved in posting attendance records, keypunching balances, and preparing and distributing listings makes it impractical to attempt verification as late as September. The listing would be too late to allow time for corrective action. We believe June 30 to be the optimum point at which to verify summer balances, allowing employees sufficient time to alter plans.

Systems work has just started to computerize maintenance of attendance records. A computer-based system will update records more quickly and allow more frequent verification of balances. With the improved capability, your suggestion of verifying balances at June 1 and September 1 may be adopted.

C. R. Barncord - 3200

Q. Is it the intent of SLI 4559 to point out that a masters degree is required at Sandia to be a professional?

A. The intent of SLI 4559 is to describe an available program under which an employee is afforded an opportunity to demonstrate professional level competence and achieve professional status. Comple-

tion of the Master's does not guarantee reclassification, nor is it the only possible route to professional status. Employees have been reclassified on the basis of long term professional experience combined with a current professional level work assignment.

J. R. Garcia - 3500

Q. As a new employee, the first day on my new assignment I did not know where I was supposed to park and was late for work because I was lost.

I suggest supervisors cover this subject with their new employees.

A. Supervisors sometimes overlook a routine detail which seems important and perplexing to new employees. Since communication is a two-way street, let me encourage you to ask about things that concern you. Incidentally, the Sandia telephone book has clear maps showing all streets and parking areas.

You are free to use any available parking space that is not restricted.

J. R. Garcia - 3500

Q. Since the custodians now work after hours, isn't it possible for them to empty the wastepaper baskets after 4:30 p.m.?

A. Changing the custodial work hours to the 1:00 p.m. to 9:00 p.m. shift meant changes in several work efforts. Emptying wastepaper baskets is considerably less disruptive to the work environment than wet mop/vacuum activities.

If a particular concern arises in this area, it can be resolved by calling Organization 3422, extensions 2444, 4146, or 8556.

D. S. Tarbox - 3400

weapons work in 1966, heading the Exploratory Systems Department for seven years. In 1973 Bill returned to head Satellite Systems Department and, in 1976, he joined the Safeguards program as manager of Information Systems Department 1730. Principal work of this department has been development of sophisticated intrusion detection systems.

In his off-hours, Bill is a water sports enthusiast. He swims daily, water skis, runs white-water rivers, and brags about a charter membership in the White Water Steamship Company. He used to drive to work in a '28 Chevy but a few years back upgraded that to his present '41 Chevy.

The Myres (Darlene) have three children and live in the northeast heights.

Q. Re: 25 year awards. When will the Hamilton quartz watches be made available to women with 25 and 30 years service?

A. Quartz watches for women, including the LED and LCD models, have only recently been introduced, but most models are not yet available for service award programs. Because of special price considerations, we buy all of our award watches from the Service Award Divisions of Bulova and Hamilton.

We are collecting information from our suppliers on models as they become available for possible introduction in the near future.

F. P. Prange - 4100

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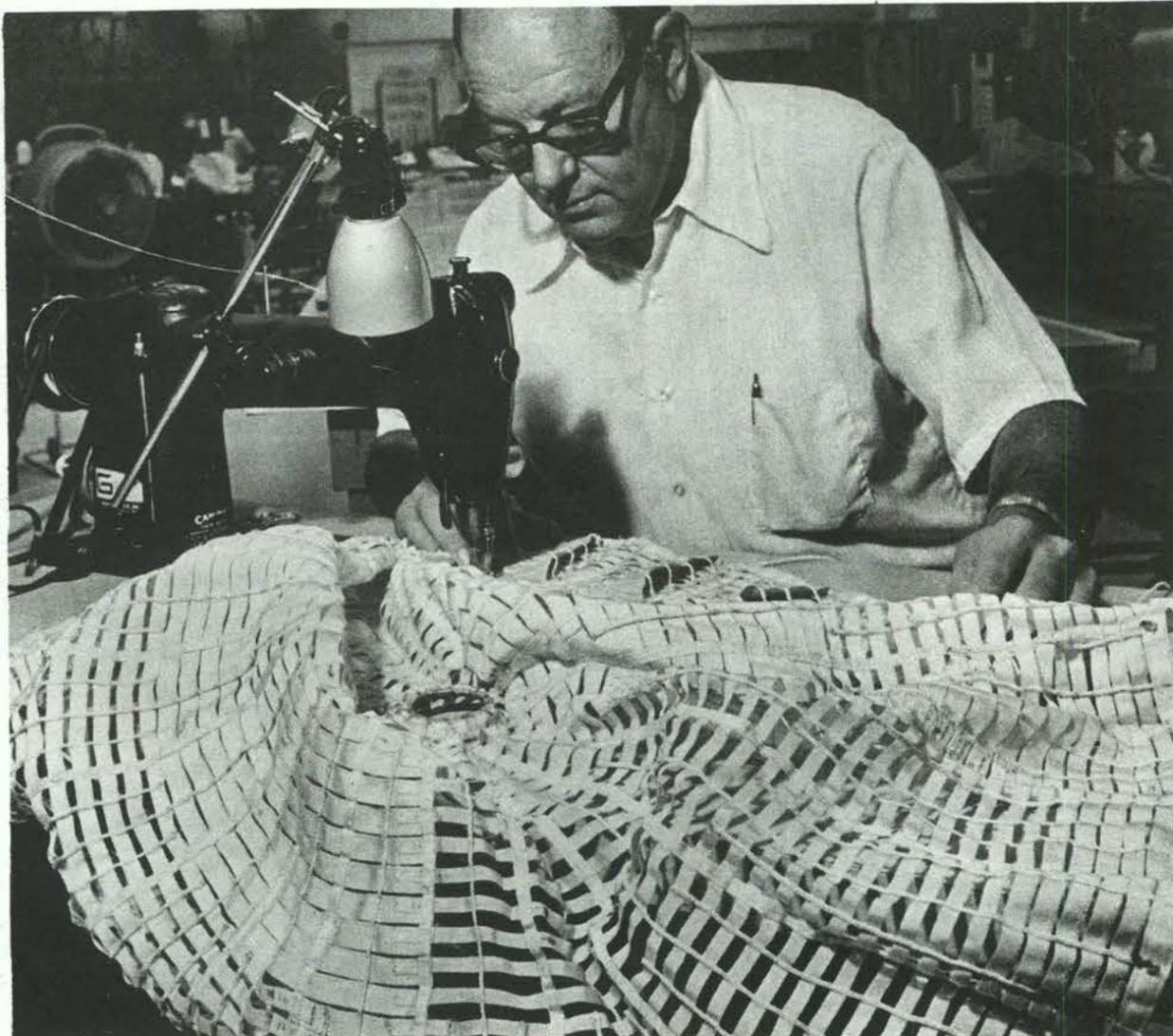


SOMETHING FOR EVERYONE is offered by the State Fair Parade: Indians, high school bands, Sheriff's Posses, politicians, beauty queens, middle-aged men on funny little motorcycles, and floats that urge us to do something—"Eat Mutton Chops!" State Fair opens on the 14th, and the parade moves out on Saturday the 17th at 8:30 a.m. Route: on Lomas from Louisiana to Wyoming, south on Wyoming to Central, west on Central to Louisiana.



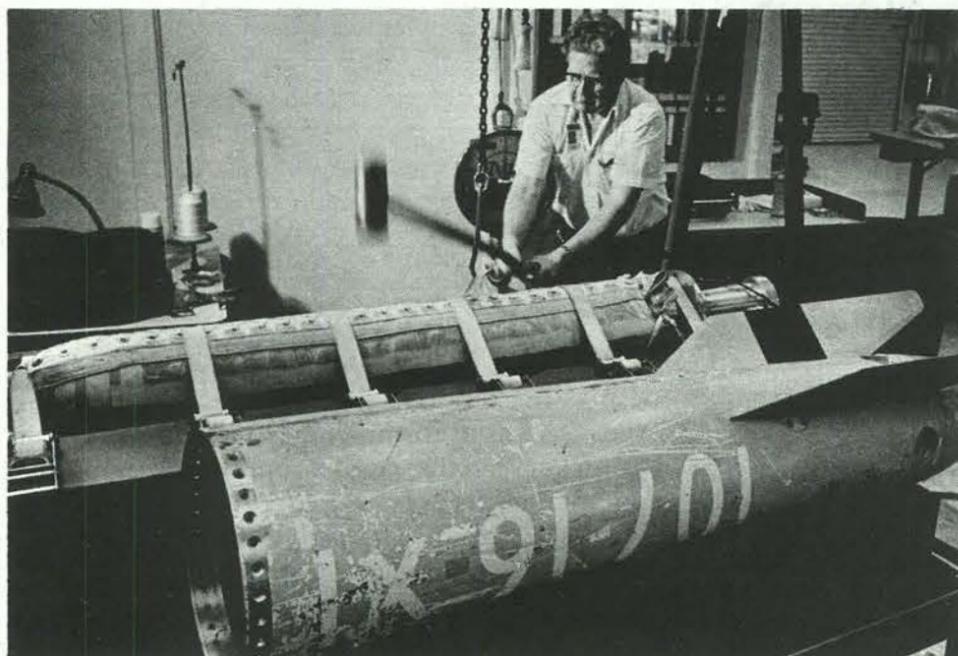
BREAKING POINT of parachute material is determined on this machine by Ken Ronquillo. Goal in chute development is maximum strength, minimum volume because space available is always limited.

HAL WIDDOWS displays sewing skill on scale model of the B77 lifting chute. Riggers are adept with several types of sewing machines and must stitch various weights of kevlar and nylon with great precision.



'Probably Best of Its Type'

Sandia's Parachute Lab



PACKING yards and yards of material and fittings so that it fits into small, confined space (foreground) sometimes takes not-so-gentle touch. Oley Olson variously employs a lace-and-tighten technique and a multi-ton hydraulic press to this end. Sledgehammer and, occasionally, a baseball bat are used as well to bring packed chute to firmness of solid oak.

Randy Maydew, head of Aerodynamics Department 1330, is unequivocal about the facility: "It's probably the best R&D lab of its type in the country. And, for that matter, anywhere." He's talking about Sandia's Parachute Lab, part of Parachute Systems Division 1332 under Carl Peterson. Ted Botner is project leader in the Lab.

Since the early '50's, the division and the Parachute Lab have designed and developed scores of unique chutes for myriad applications—chiefly for weapons but also for instrument packages borne aloft by rockets, rocket boosters, and other non-weapon hardware in need of a soft landing. A major assignment today is to assist NASA in the development of the space shuttle recovery system—a scheme which envisages the deployment of six chutes, each 115 feet in diameter, to bring to earth gently two rocket booster cases so that they may be used again. Each case is worth a million dollars. Dean Wolf of the division is handling that assignment.

Chute design is followed by chute fabrication in the lab, usually on a prototype basis. People who work on parachutes are called "riggers," a term connotative of lines in a sailing ship's rigging; indeed, parachute riggers do handle lines but other skills are called upon as well. Some of these skills are illustrated here.

We asked the Labs' riggers if any had ever made a parachute jump. With a collective experience of 77 years, surely one had taken the plunge?

"No way," said Oley Olson for the group. "We know a little too much . . ."

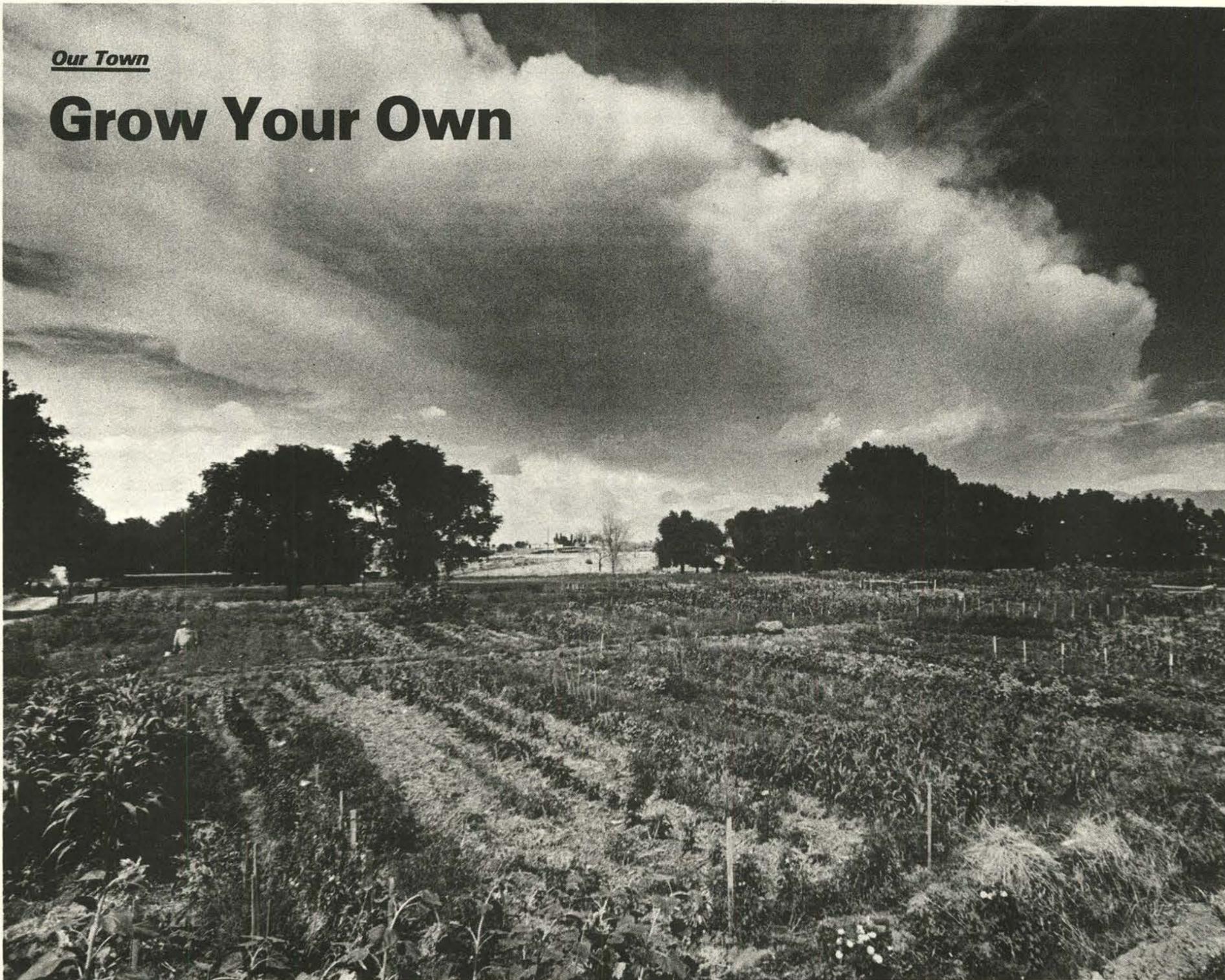


LOOKS like a fabric shop, but these heavy duty materials are not the stuff of high style. Horace Lucero unrolls bolt of coated nylon cloth.



RESEMBLING a huge petticoat, this full scale B77 chute is grappled with by Dennis Cronin as he sews lifting liner onto canopy. Largest chute handled in Lab measured 36 feet in diameter.

Grow Your Own



COMMUNITY GARDEN: It's located at Menaul & Edith. Scarecrow is for real.

The "Community Gardening Program" is a success. Sponsored by the Menaul School and the Albuquerque Parks and Recreation Department, the program's 90 garden plots all were spoken for in the first week of the program. Thirty dollars bought the use of a 15- by 80-foot plot which was tilled in the spring and is irrigated regularly. Organic fertilizer is also supplied, thanks to the nearby Prices Dairies.

Bruce Allen, an agronomist and farm manager at the school, is project coordinator. "We're doing it for several reasons,"

Allen says. "For the senior citizen and low income family, the program provides both food and recreation. Fresh vegetables taste better and are better. And 20 to 30 dollars worth of seed will yield \$300 worth of produce on the average plot. Even higher yields are possible."

Many people other than senior citizens and low income people take advantage of the program. Allen reports that the sign-ups include a lawyer, bank vice-president, insurance man and one Sandian who was not identified.

Allen expects to expand the number of

plots for next year to about 130 and hopes that similar programs will start up in other areas of town. The \$30 per plot just about covers the cost of operation; no government money is used.

"Produce grown locally is much more energy efficient than that grown by the massive agri-businesses and more economical for those on low or fixed incomes," says Allen. Beyond the obvious benefits of fresh produce, Allen sees in the program a step toward greater personal and regional self-reliance: "Grow your own. It's fun and you gain independence."

L. D. Buxton, J. F. Muir, W. B. Murfin (all 5412), D. A. Dahlgren (5411), L. S. Nelson (5443) and D. A. Powers (5831), "Molten LWR Core Material Interactions with Water and with Concrete"; S. V. Asselin, J. A. Milloy, G. B. Varnado, J. W. Hickman (all 5412), and D. J. McCloskey (5410), "Summary of Sandia Laboratories Studies on Protection of Nuclear Power Plants Against Sabotage," 1977 ANS Topical Meeting on Thermal Reactor Safety, July 30 - Aug. 5, Sun Valley, Idaho.

K. M. Glibert (1112), "Errors in Dual X-Ray Beam Differential Absorptiometry," 26th Annual Conference on Applications of X-Ray Analysis, Aug. 3-5, Denver.

C. R. Hills (5822) and T. V. Nordstrom (5832), "Transmission Electron Microscopy Study of Precipitation in a Nickel-Beryllium Alloy," EMSA Meeting, August 1977, Boston.

G. L. Maxam (9353), "Field Penetration by Diffusion Into a Conducting Shell"; N. Pollard (9354), "A Broadband Electromagnetic Environments Simulator (EMES)," IEEE Electromagnetic Compatibility Symposium, Aug. 2-4, Seattle.

F. A. Hasenkamp (9351), "Radiography Using

Scattered Radiation," Innovative and Advanced NDT Radiography, Aug. 2-4, Wilmington, Del.

R. P. Stromberg (5714), "ERDA Solar Total Energy Program," New Options in Energy Technology, AIAA/EEI/IEEE Conference, Aug. 2-4, San Francisco.

M. K. Matzen (5211), "A Power-Pulse Length Parameter Study of Time Dependent Effects in Laser Produced Plasmas," Conference on Transport Processes

Speakers

in Laser Plasmas, Aug. 3-6, Bar Harbor, Maine.

G. L. Cano (5433), L. J. Klamerus and E. A. Bernard (both 5432), "Nuclear Power Plant Fire Protection Research," Status of Generic Research, ANS Topical Meeting, Aug. 7-10, Chattanooga, Tenn.

B. Morosin (5154), "Configuration of Some Charge Transfer Complex Ions," American Crystallographic Association meeting, Aug. 7-12, East Lansing, Mich.

W. E. Williamson and W. R. Barton (both 1335), "A Nonlinear Method for Parameter Identification Applied to a Trajectory Estimation Problem"; "Trajectory

Analysis Program (TRAP): A Multi-Functional Flight Test System"; "Reentry Vehicle Nose Tip Shape Identification Using Aerodynamic Coefficients and Nose Tip Recession Gages"; "A Nonlinear Method for Parameter Estimation," AIAA 4th Atmospheric Flight Mechanics Conference, Aug. 8-10, Hollywood, Fla.

F. Biggs and C. N. Vittitoe (both 5231), "HELIOS: A Computational Model for Solar Concentrators," Workshop on Applied Optics of Solar Collectors, Aug. 9-11, Houston, Texas.

G. J. Simmons (5120), "PAL Code Management Systems for Tactical Nuclear Forces," Sandia Livermore Colloquium, Aug. 12, SLL.

G. H. Miller (5216), "Science History—Fact and Fancy," Downtown Optimist Club, July 1; and "From Metric Units—A Backward Look," Sandia Civitan Club, July 15, Albuquerque.

H. C. Monteith (5411), "UFO's and Their Mission to Earth," Host Lions Club, July 5, and "ESP Research in Russia and America," Old Town Optimist Club, July 6.

D. P. Peterson (9624), "Artificial Intelligence," Host Lions Club, July 12.

Fun & Games

Orienteering—The new sport of orienteering—racing by foot over a wilderness course with map and compass—is the subject of a class to be taught next week at Mountains & Rivers, 2320 Central. Two sections are offered, Monday and Wednesday, Sept. 12 and 14, or Tuesday and Thursday, Sept. 13 and 15; both meet from 7 to 9 p.m. and both sections have a final session on Sunday the 18th over an orienteering course. Cost is \$10, or \$8 for advance registrations. Sign up material is available in the LAB NEWS office.

* * *

Sandia Bicycle Assn.—Want to race a train up a mountain? On Saturday, Sept. 24, the Coronado Club is again sponsoring a ride for members on the Cumbres & Toltec Railroad from Chama to Antonito. A number of SBA bikers plan to take off from Chama when the train leaves, around 10 a.m., and race it to Cumbres Pass, 12 miles distant and at an elevation of 10,000 feet. The RR track is close to the road for much of the way, and bikers thus have a visible check on their progress. It's a tough climb but all downhill coming back. Call LAB NEWS, 4-1053, if you're interested.

* * *

Fitness & the psyche—Age brings physical deterioration. How much depends to a large extent upon a person's program (if any) of physical fitness: those who exercise regularly experience little deterioration compared to those who do nothing. And benefits may go beyond the physical. In an article entitled *Exercise and Aging* in the *Physical Fitness Research Digest* (April 1977), the author describes a study of personality differences "... among young and old high-fit and low-fit groups of seven men each between ages 21 and 61 years." A number of psychological tests were administered to participants. "The results showed that both high-fit groups were more intellectually inclined, emotionally stable, unconventional, composed, secure, easy going, and adventurous than were the low-fit groups." The message: if you would age serenely, be active physically.

* * *

The mopeds are coming—The State has recently adopted a liberal stance on mopeds—those small 2-wheelers incorporating the best/worst (take one) of a motorcycle and a bicycle. They're legal on public thoroughfares, they don't have to be registered nor is a license plate required. A driver's license is required but not a motorcycle endorsement. Presumably no helmet is required either (at least off Base). Considering their top speed, around 30 mph, it would be foolhardy to take one on a thoroughfare having a 45 or 50 mph speed limit; the freeway, obviously, is out. Since a moped weighs in at around 75 or more pounds, most riders stay in the power rather than the cycling mode. To our mind a better setup is the motorized bicycle: a small electric or gasoline motor is hung on your present bike to supplement pedal power. Cost is under \$150 vs the several

hundreds for a moped and, of course, you gain more physical benefit as well.

We haven't heard from the Base yet as to their reception of mopeds. And if a motorized bicycle shows up, the consternation will be thick enough to cut. We don't intend to ask whether one or the other will be permitted in the Tech Area (assuming they get that far).

* * *

Karting—Mike Johnson (5216) dropped by to report on the good health of the Albuquerque Kart Club, with some 50 members including 4 Sandians. The go-Karters race the first and third Sundays of every month on a half-mile road course on west Central in the 11,000 block, near the base of 9-Mile Hill. Mike says today's vehicles average 60 mph and hit 90 on the straightaway. Races start around noon and Mike invites Sandians to join them for the fun. If you're interested in the club, you can reach Mike on 296-3431.

* * *

Boating—The Coast Guard Auxiliary is again sponsoring boating courses this fall. "Boating Safety & Seamanship," a 13-week

course, starts Friday, Sept. 16. Classes in "Principles of Sailing," a 7-week course, start Monday, Sept. 19. The once-a-week classes run from 7:30 to 9:30 p.m. and are held in the hospitality room of the 1st National Bank, San Mateo and Central. You can register at the first meeting or by contacting Ed Bultman, 821-0672, or Ben Gardiner, 298-0116.

* * *

Gym improvements—Locker rooms in the Base gym are scheduled for renovation during September and October. Present lockers are being replaced, which means that present occupants will have to empty their lockers—women by Sept. 16 and men by Oct. 4. After the new lockers are installed they will be assigned at a fee of \$8 per year, a MAC innovation. The shower room will remain open during renovation. There is no charge for showers.

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Swimming—Fall and winter hours for the Olympic Pool are now in effect: Tuesday to Friday, 11 to 1 and 4 to 7; Saturday, 11 to 5; Sunday, 1 to 5; closed Mondays.

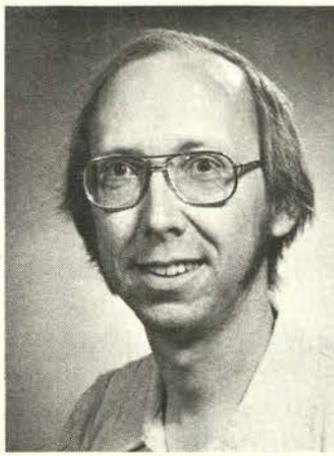


PSYCHO-CYCLIST suffers from acute *logicoextremis* (there's a lot of that around labs and graduate schools). After all, if a small flag buys a little safety then, logically . . . well you can see what this leads to. Visibility is the cardinal virtue for cyclists: it has a way of keeping you in one piece.

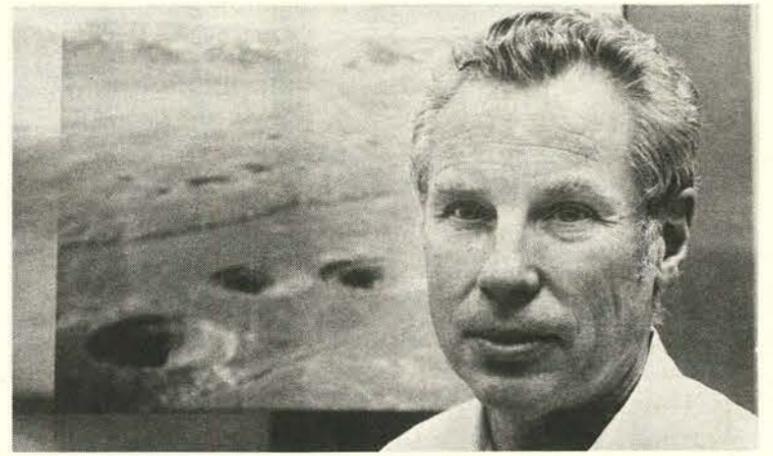
MILEPOSTS

LAB NEWS

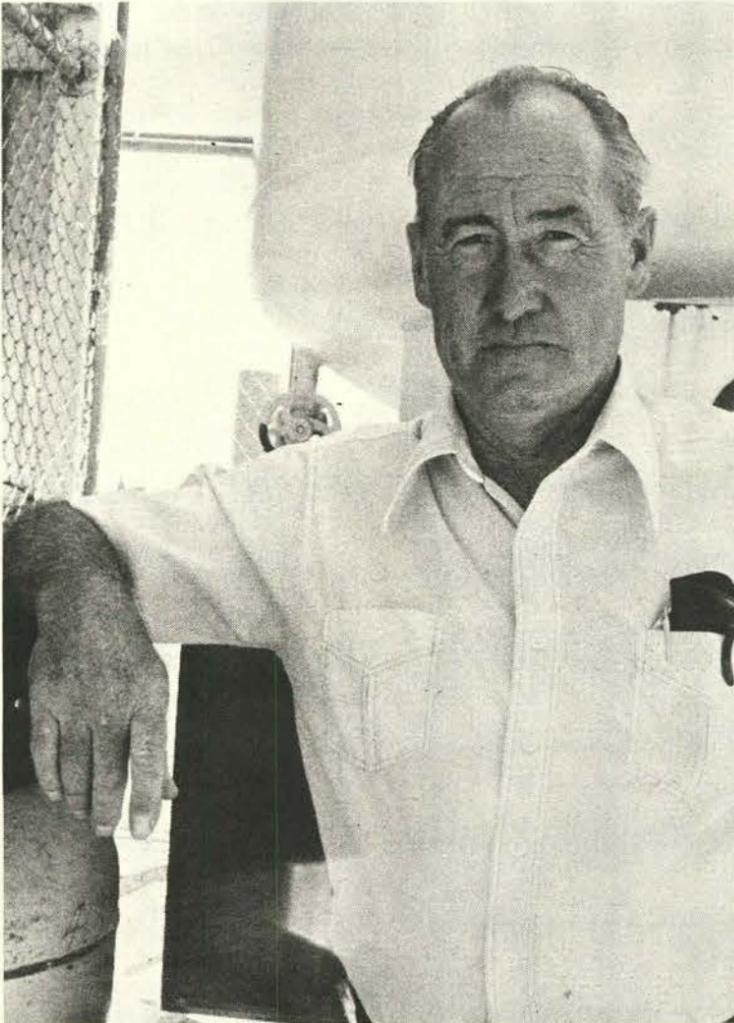
SEPTEMBER 1977



Rondall Jones - 2642 10



Carter Broyles - 1100 25



Eugene Lewis - 3727 15



William Jackson - 9581 20



Albert Angel - 3430 25



Jerry Hood - 4310 20



Bill Clement - 2135 20



T. J. Tucker - 5131 20



Eugene Cox - 3430 20



John Hilger - 9712 15



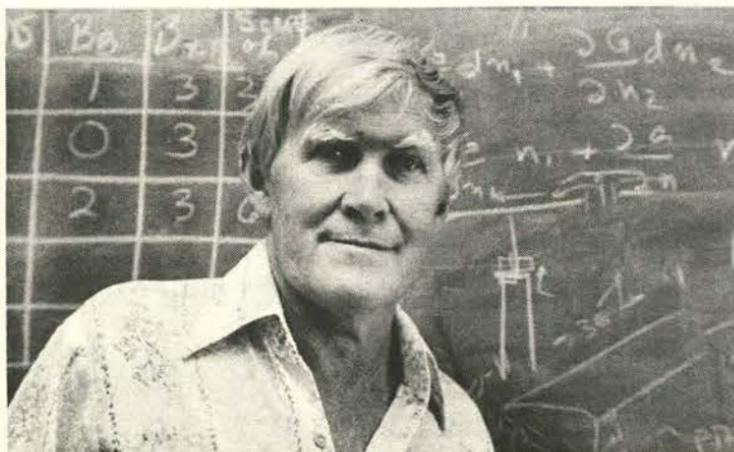
Earl Scott - 2552 20



Barbara Potts - 3155 15



Roy Crumley - 3713 30



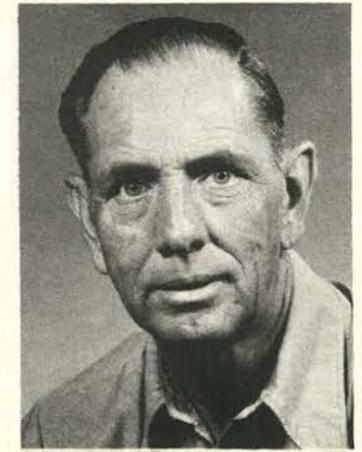
Al Quant - 5813 25



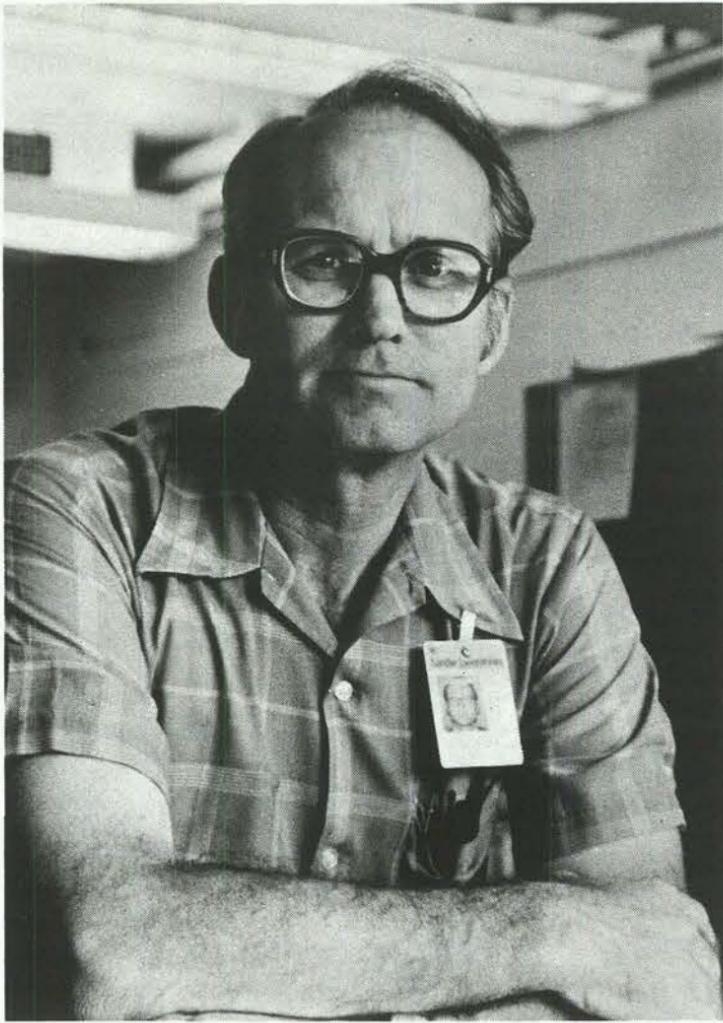
Orelia Montoya - 5813 25



Jose Sena - 9572 15

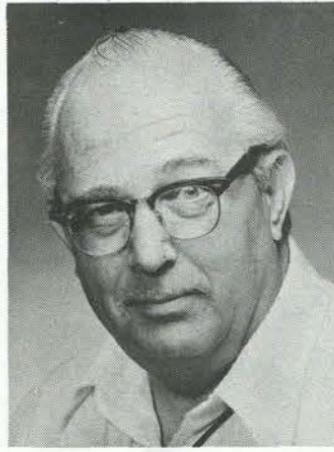


Joseph Billings - 3413 25



Dennis Oliver - 9624

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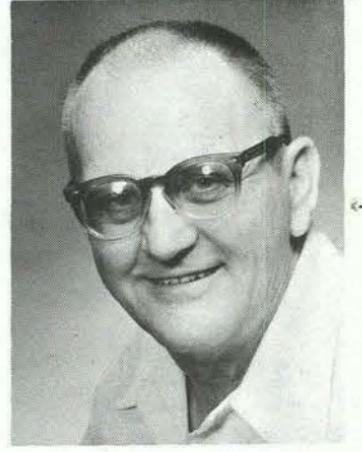
Neal Vinson - 1213

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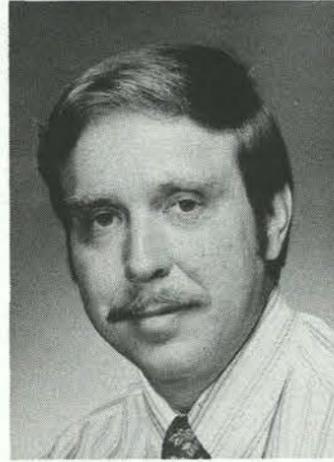
Jack Hanna - 9000

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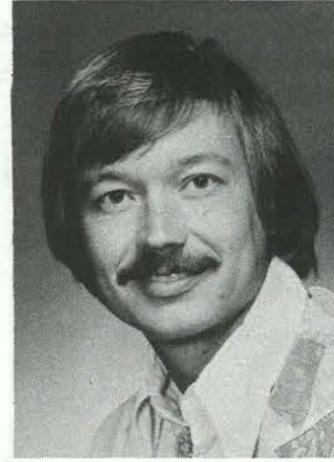
Charles Clendenin - 2633

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Paul Longmire - 4341

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Fred Hartman - 4312

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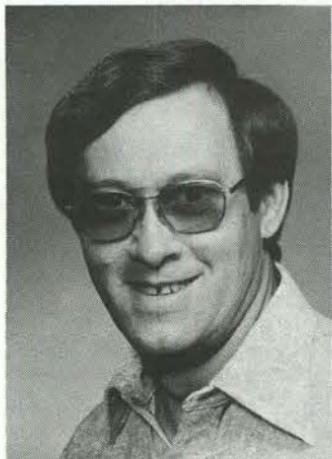
Pete Stirbis - 1284

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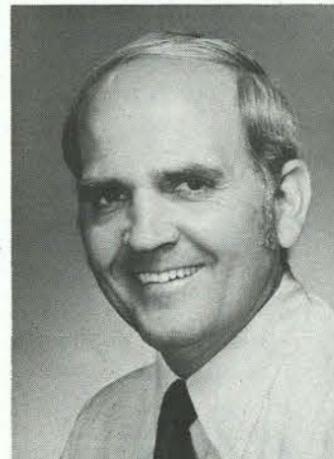
Steven Benzley - 1282

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Donald Gluvna - 4323

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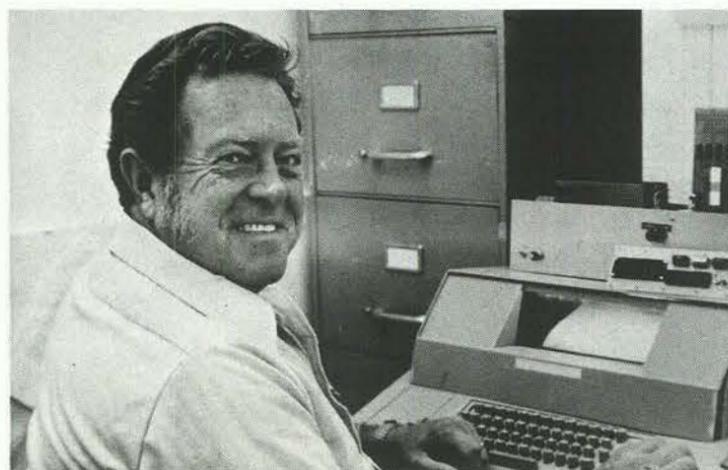
Howard Gerwin - 5712

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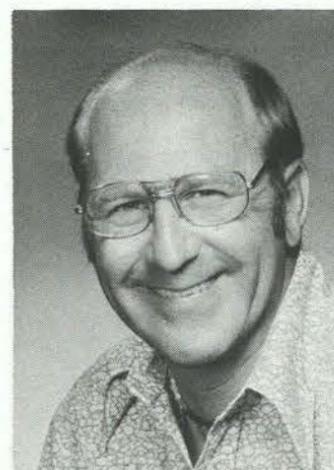
June Christy - 5000

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James Beaudet - 1732

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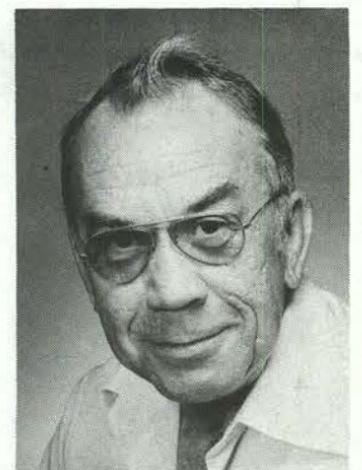
Stanley Love - 9525

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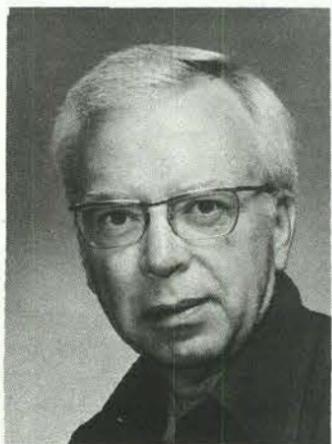
Kenneth Kimball - 1125

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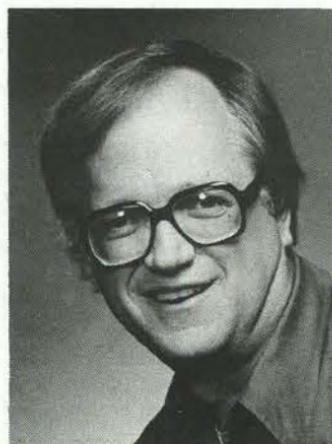
Phil Mead - 3151

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Dan Garst - 1754

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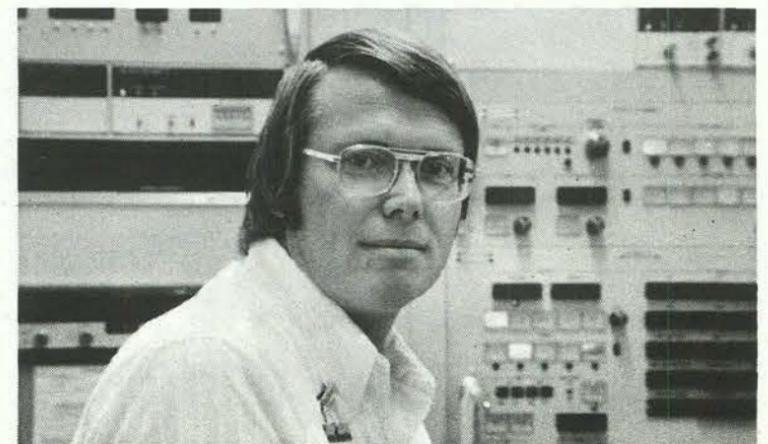
William Hartman - 1282

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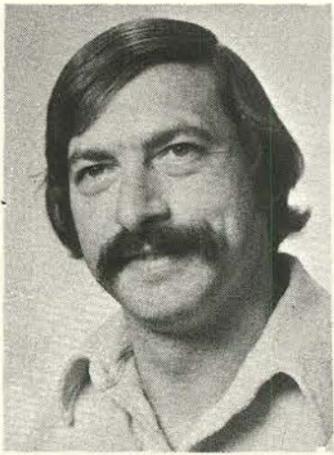
Robert Donohoe - 1126

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Roger Chaffin - 2125

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Ray Smith - 8115 10



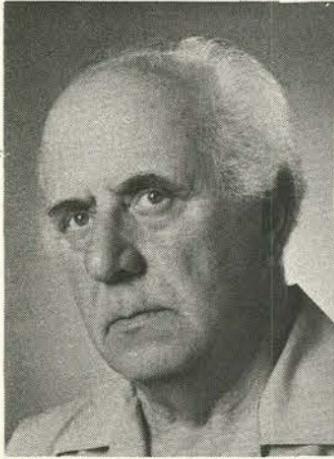
Robert Reineke - 5735 25



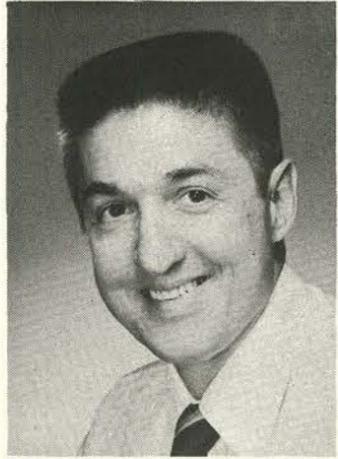
Harold Spahr - 1336 20



Clifford Rudy - 9742 25



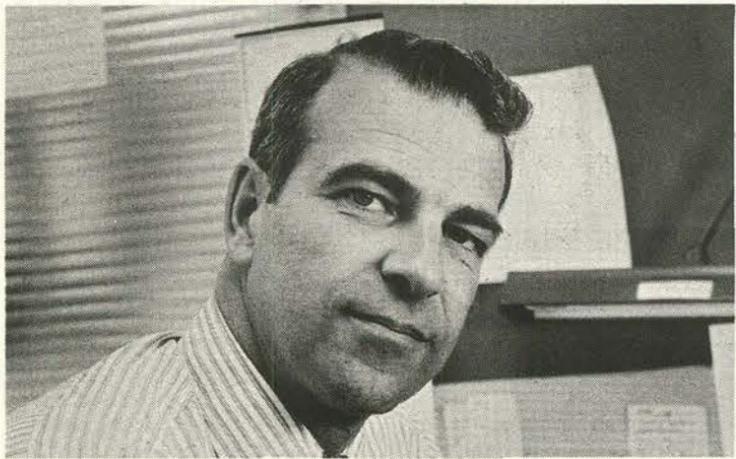
John Barnhouse - 8423 20



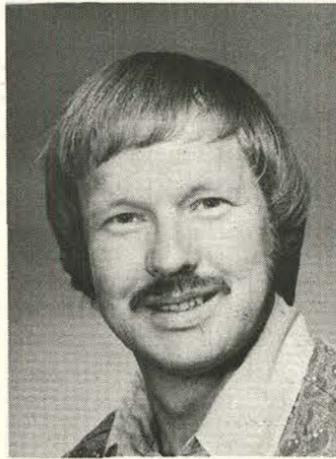
Donald Rigali - 1323 20



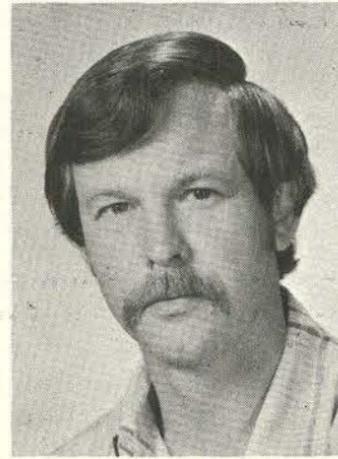
Jo Davis - 9344 30



George Kupper - 3721 15



Dale Breeding - 1123 15



Ben Odegard - 8314 10



Raymond West - 9526 25



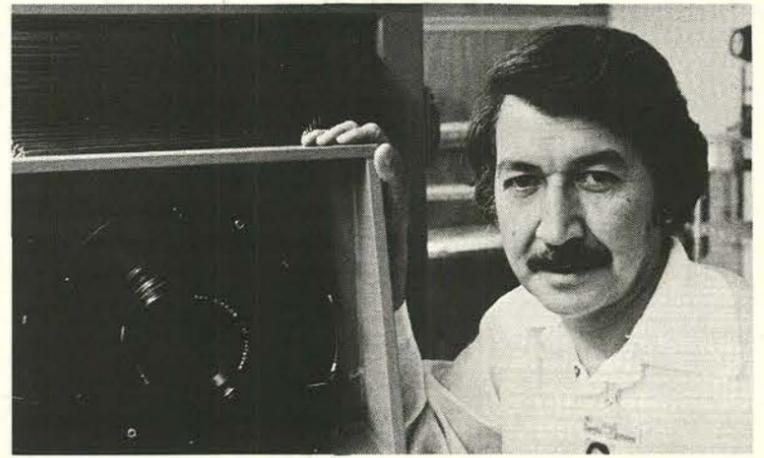
Manuel Archuleta - 9652 10



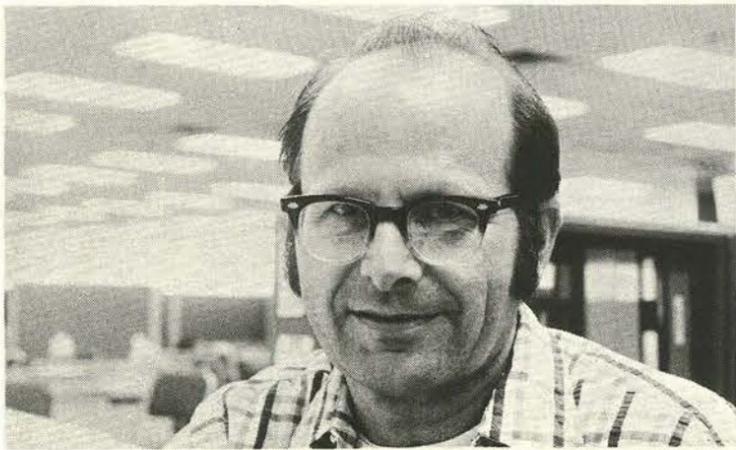
Fred King - 5215 25



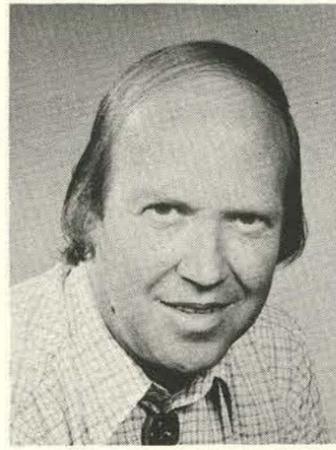
Ronald Zotnick - 9515 20



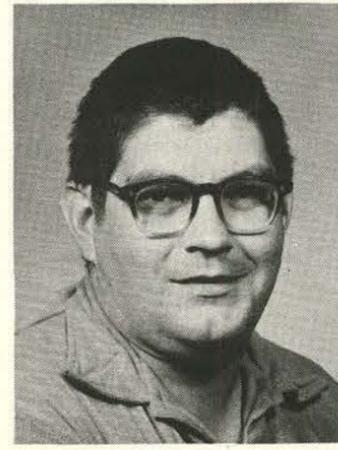
Hilario Garcia - 9573 25



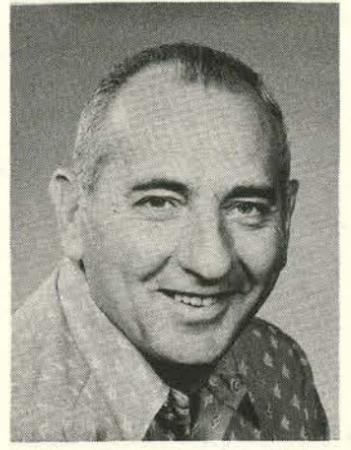
Robert Isidoro - 9523 20



Kenneth Hankins - 9652 25



James Clabaugh - 9523 15



Lawrence Kent - 9337 20



ANN MICHELE is the newly-elected First Vice President of the National Secretaries Association (International). A member of NSA's board of directors, she is the contact for the International Council, International Memberships committee, and the Education and Program committee. Ann is secretary for two directorates at the Labs—Information Services 3100 and Plant Engineering 9700.

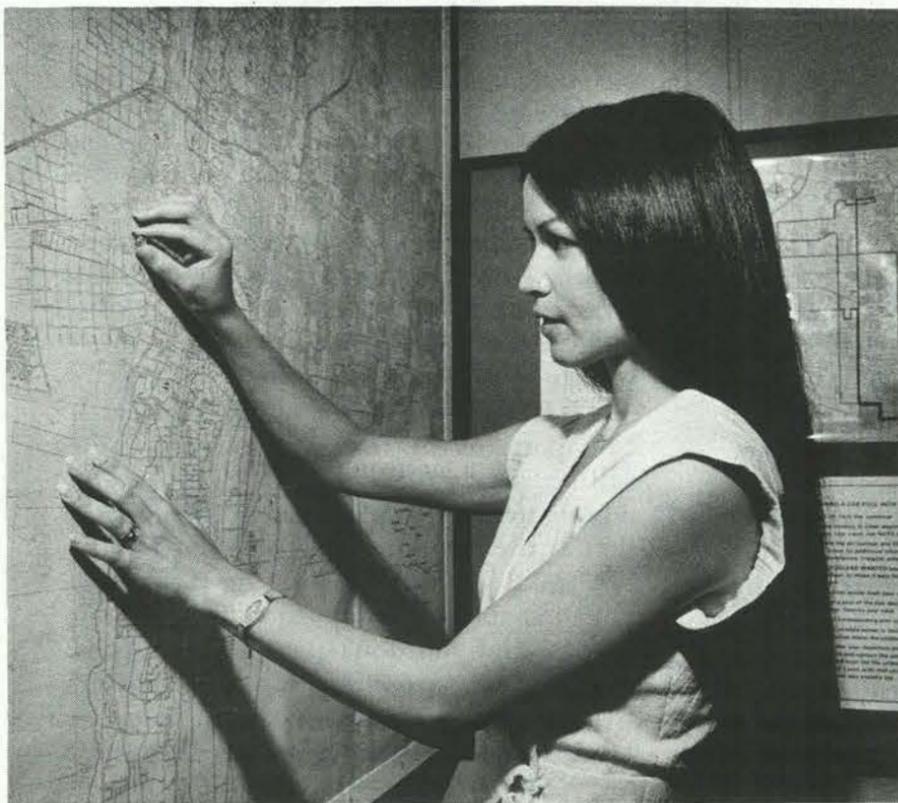
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LAB NEWS
SEPTEMBER 9, 1977**



Congratulations

Mr. and Mrs. Joe Madrid (9561), a son, Aug. 29.

Mr. and Mrs. David McCloskey (5410), a son, Eric Harlan, Aug. 30.



NEW CAR POOL matching boards are now ready for business in the lobby of Bldg. 802 and the west hall of Bldg. 892. Put a numbered pin at your home location, fill out a card with your riding/driving/sharing preferences, and wait for a call. Smaller map includes outlying areas, and a bus route map shows Sandia Special routes in the city. Patsy Zmiejko (4010) demonstrates tacking technique.

Events Calendar

Sept. 9-11, 16-18—"LuAnn Hampton Lavery Oberlander," Vortex Theatre, 106A Vassar SE, 7:45.

Sept. 9-18—"Girl in the Freudian Slip" (held over), Barn Dinner Theatre, 281-3338.

Sept. 10—"International Fiesta," sponsored by the Albuquerque Museum Association, Civic Plaza, 10 a.m. - 4 p.m.

Sept. 10-25—Parimutuel Horse Racing, State Fairgrounds.

Sept. 14-25—New Mexico State Fair.

Sept. 18—3rd annual free Civic Plaza concert by N.M. Symphony, 4:30 p.m.

Sept. 18—UNM Chamber Orchestra concert, 8:15 p.m., Keller Hall.

Sept. 19—San Jose Fiesta, Laguna Pueblo, harvest dance.

Sept. 21, 22—New Mexico Symphony Orchestra concert, 8:15 p.m., Popejoy Hall.

Sept. 22-25—"The Merchant of Venice," by the Classics Theatre Company, Popejoy Hall, 277-3121.

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

TRASH BAGS, city-approved, \$4, South Hwy. 14 Project. LAB NEWS office, Bldg. 814.

RABBITS, \$3 ea. Benson, 268-3586. SKIS; new Nutone Heat-A-Vent; kids games, toys & backpack; other items. Blackwell, 265-4242.

3 FIESTA dresses, sizes 12 & 14. Joseph, 268-5414.

DOG HOUSE w/removable roof, \$13; heavy wood workbench w/2 lower shelves, \$35. Bishop, 299-5749.

GE portable dishwasher, \$95; 8-dwr. chest of drawers, \$45; Reeves equalizer hitch, \$75; 2 castiron kitchen sinks, \$15 & \$35. Salazar, 255-1301, 420 Graceland SE.

STARCRAFT folding trailer, sleeps 6, sink, gas stove & refrig., gas furnace, monomatic toilet, battery, \$1150. Janney, 881-4622.

HOMEMADE 220 V arc welder, includes cables, helmet, torch, rod holder, \$25. Roberts, 255-9527.

LAWN MOWER, elec. Kent, 256-1221. SKIS w/poles: Rossignol 102 w/Besser bindings, \$40; Kastle w/Cubco bindings, \$25; 2 Schwinn bikes: boys 26", girls 24", \$25 ea; golf bag; 2 golf carts. Scales, 296-9295 after 5.

ROLL-A-CHAISE roll-a-way bed w/mattress, \$25; new Scott's lawn spreader, \$20; new lawn sweeper, \$15; crochet set, \$15. Collins, 292-0495.

PHOTO ENLARGER, Kodak Precision,

Universal condenser, covers 35mm through 2 1/4 x 2 1/4 cut film, orig. 50mm Ektar lens and copy stand lamps, 75mm lens, \$90. Smith, 242-9576.

AQUARIUM, 10-gal. w/top & strip lights, thermometer, filters, pump, heater & gravel, \$25. Coughenour, 296-4146.

SERRO SCOTTY travel trailer, 15', recirculating toilet, furnace, oven, \$1750. Dones, 883-0093.

RABBITS, young breeders & proven stock, \$3 and \$5. Bassett, 898-1840.

ALASKAN SEAL fur coat, med. size, 1/2 length; quality fur collar, make offer. Miller, 255-1324.

TRAVEL TRAILER, 17', fully self contained, sleeps 6, toilet, hot water, shower, refrig., brakes, '63 model, \$1500. Hueter, 242-1620.

BUNDY FLUTE, \$70. Smith, 296-8519. 357 MAGNUM PISTOL, \$175. Pettiford, 873-1782.

VIOLIN, Lewis, 3/4 size, w/bow & hard case, \$125. Guier, 298-9525.

FLUTE, Gemeinhardt, open hole, solid silver, used 1 season, \$450. Neil, 298-1645.

PUPPIES, half Beagle & half small breed, 3 to pick from. Chandler, 296-3323.

SADDLE, western pleasure, padded seat, w/bridle & saddle blanket, \$90. Allen, 869-6680.

USED 3'x6'8" hollow core door w/hdw., \$6; 6' glass sliding door, plus parts, \$55; 2 34"x75" plate glass windows, \$20 ea. Benton, 877-2473.

AKC miniature Dachshund, blk/tan male, 8 wks. old, \$135. Mason, 293-3958.

'70 MOBILE HOME, Sportscraft, 12x60, 2-bdr., carpeted, appliances, new water heater & AC, skirting & tie-downs, \$5000 cash. Geisler, 898-3278.

ALTO SAXOPHONE, case & lyre, \$100; Polaroid land camera, model 340, \$25. Dieter, 255-8056.

SEARS MODEL 600 deluxe dish-washer, \$75. Pope, 255-6702.

JAPANESE Nitron 8mm movie camera, \$25; *Hobbies* magazine, year 1932; WWI gas mask w/case. Smitha, 881-1001.

STEREO RECORD PLAYER, floor model, 16, 33, 45, 78 rpm; 6 speakers w/AM-FM radio, \$25; swing set

frame & legs, \$4. Coalsen, 298-0061. POOL TABLE, 8', particle board, folds up, \$40. Bauhs, 281-3497.

POOL TABLE, 8', 3/4" bed, all accessories. Thompson, 298-8954.

HANG GLIDER: Quick Silver B, 8 to 1 glide ratio, \$500 includes lessons. Torres, 864-7000 or 864-8727 Belen.

'77 TRAVEL TRAILER, 19', AC, self-contained, used 5 days, spare tire, completely equipped, 6' refrig., shower, \$5300. Anderson, 296-3558.

DOUBLE OVEN & range top, gas, pink, \$10; Yashica 35mm SLR camera, thru-the-lens meter, \$100. Sutherland, 266-1734 after 5.

STARCRAFT tent trailer, sleeps 6, fully equipped w/sink, stove, ice box, heater, closet, spare tire, brakes. Linnerooth, 299-6154.

AKC GREAT DANES, brindle males, pointed sire, outstanding lineage, ears cropped, dew claws, shots, show prospects, \$300. Sorley, 1-864-6618.

20X LYMAN SCOPE, MKX long action, 25106 IMP, Ithaca 37 16 ga, Baby Browning, Colt pocket 32. Schalles, 281-3035 after 5.

HIDE-A-BED; radio/record player combination; recliner; other furniture; set encyclopedias, misc., Urbanoski, 299-2319.

50 VOLUMES Worlds Greatest Classics, \$295 firm. Smith, 247-8617.

CLARINET, wooden, Selmer Signet Soloist, case, cleaning kit & stand, 1 1/2 yrs. old. Plimpton, 299-8590.

1930 VINTAGE: overstuffed 88" 3-cushion sofa & chair, needs recovering; 12-place-setting Noritake, 30-yr.-old china. Stamm, 255-2640.

GREENHOUSE/GARAGE sale: houseplants, 25¢-50¢; hanging geraniums, spiders & bridalveil, \$4-95; sprinkler heads; record player; Chrysler wheels; trumpet. Leenhouts, 8503 Osuna NE.

ELEC. RANGE, white, used 7 months, \$200. Bosburg, 298-3747.

CHAIN SAW, \$35; beer tap, CO2 bottle, regulator, \$25. Copeland, 266-4944.

RECORD CHANGER, Garrard model 30, \$15. Binder, 299-2937.

COUCHES: gold upholstered, \$75; black naugahyde, \$75; black nauga-

hyde recliner, \$50; coin operated commercial football, \$375 or sailboat. Lassiter, 298-2461.

WHITE ANGORA rabbits, \$5 ea. Lane, 281-5019.

TRANSPORTATION

'70 FORD, 3/4-ton pickup w/8' cabover camper; AC, AM-FM 8-track stereo, HD 4-spd. trans., Apodaca, 298-7792.

'64 CORVAIR Monza coupe, \$695. Dalesandro, 881-4741.

'75 YAMAHA DT 400 B, 3188 miles, \$750 or best offer. Webb, 883-8591.

'74 BMW 2002, AM-FM, AC, new tires, 36,000 miles, no smog devices. Eagan, 281-5696.

'67 JEEP Commando, overhaul on engine & trans. May '76, \$1000. Zamora, 344-0256.

'67 TOYOTA Land Cruiser, 4-WD, HT, 49,200 miles, capacitor discharge ignition, trade for pickup of equal value. Smaller, 881-7981.

'69 VW CAMPER, 20,000 on rebuilt engine. Hueter, 266-1638.

'72 VW square back, \$1700. King, 281-3186.

'71 FORD 250, all power, factory air, 390 engine, w/9 1/2" Aspen cabover camper, self-contained, monomatic toilet, \$4500. Harper, 256-1657.

'72 FORD Custom 500, PS, PB, AC, \$1150. Bear, 294-6730.

BIKE: girl's 26", 3-spd., \$22. Pitti, 256-1629.

'71 TRAVCO motor home, 27', self-contained, 2 roof AC, generator, cruise control, about 52,000 miles, \$8000. Gall, 834-7307.

'65 PLYMOUTH Fury, 2-dr., PS, AT, AM radio. Harrison, 881-7938.

'76 CHEVY VAN, 6-cyl., 3-spd., radials, HD radiator, AM-FM cassette, camper, 14,000 miles. Olson, 268-2227.

BIKE: girl's, 20", chrome fenders, racing type handlebars, \$40. Stuart, 265-7315.

BIKE: girl's 3-spd., Schwinn. Blotner, 298-9459.

'75 PINTO Runabout, AT, about 28,500 miles, below book, \$2495. Nance, 296-8255.

'69 SIMCA wagon, 55,000 miles, 30 mpg town, \$500. Barnette, 298-9227.

'64 ALFA 1600 Spiders: two, one

wrecked front, one wrecked rear, good running gear, restorable, \$600 for both. Kovacic, 843-6148.

'70 PONTIAC LeMans, 350 cu. in., 4-dr., AC, PB, PS, R&H, \$850 (book \$1225). Zucuskie, 881-4086.

'71 B.S.A. Goldstar trailbike, 500cc, \$595 firm. Smith, 247-8617.

'71 CHEVY pickup, AC, AT, PB, Winnebago shell, new tires-battery, 350 engine, trailer equipped, \$2500. Anderson, 296-3558.

'74 MUSTANG II, low mileage, new brakes, \$1800. Thompson, 883-2707.

'69 CHEVY VAN 90, paneled, insulated, carpeted, posi-trac, 4-spd., radio, \$1000. Wilkins, 294-8623.

REAL ESTATE

ROSWELL: 2-bdr., den, 1500 sq. ft., near NMMI; Estancia Valley: 20 acres, water, electricity. Smith, 298-7365.

5-ACRE LOT, 4 miles NE of Moriarty, electricity and phone to lot, 85' water table, \$3900. Shannon, 256-7618.

FOR RENT

7 RM. HOME, 1 1/2 baths, sunken tub, sundeck, unfinished den-loft, 2 ponderosa-covered acres, Sandias, caretaker, furnished, easy commute, rent/lease. Hawkinson, 281-5239.

MOBILE HOME, 24x60, Conchas Lake frontage, winter months, responsible party with references, pay utilities only. Foster, 294-0379, Conchas, 868-2262.

2-BDR. house, living/sun room, 316 Cedar SE, prefer no children or pets, South of Presb. Hosp., \$225/mo.; \$225 DD. Souther, 842-9630.

WANTED

TWO OR THREE-drawer steel file cabinet in good condition. Bishop, 299-5749.

JUNE 1977 *Prevention* magazine, to borrow. Swain, 265-0098.

MARY KAY representative; object: scentuous purchase. Shoaf, 296-6166.

KEEPING—the Happy Hour faithfuls happy and (hopefully) luring the unfaithfuls into the fold tonight are: A.) *Charlie Baca*, and B.) barbecued ribs and corn-on-the-cob at \$3.75 and \$1.92. (If you eat late, you can chew to-Baca.) Early or late, you'll enjoy Charlie's people's sounds and what they do for your dancing. Show up in your tennis attire if you can—celebrate the success mentioned in the next paragraph.

HOUSE—empty with the kids back in school? Rejoice. Then take up a new vice. Like tennis. Yes, the Club has now authorized construction of four brand new, luxurious tennis courts. Join now. You may be playing by Thanksgiving, certainly by spring. More courting info from Joe Tillerson, Phil Stanton, or Ed Leeman.

IS—the season we're in now called pride, singles? Should be—pride goes before a fall, and that's what's around the corner. Let's get together TONIGHT at the Single Mingle. (Maybe you'll meet someone who'll help you to keep your thermostat patriotically lower this winter.) (Maybe not.) Either way, the S-M scene is fun—live music by *Linda Beattie*, free chips-&-dips (while they last), Happy Hour (cheap) soft and hard drinks, fun and games of all kinds. It's on the Patio. It's at 4:30. It's 50 cents for each card-carrying Club member (and for one guest), a dollar for non-members. Pay at the Lobby door, then head for the pleasures of the Patio.

A—Happy Hour featuring *Spinning Wheel* is a little like a VW with a Corvette engine—overpowered but sure fun! Pot roast of beef *jardiniere* and all the trimmings too. Get there early—the fire code limit is 525. It's \$2 instead of the usual \$1 for guests, and Happy Hour prices shift to regular (but never ethyl) once the band begins. Buffet: \$3.50 and \$1.92.

LOT—of C-Club retirees will take over the Patio on the 16th. If you're one of them, you're invited out for Mike Michnovicz music, free hors d'oeuvres, Happy Hour bar, and good company.

LIKE—the quasi-incompetent that I am (I consider myself the weakest link in an otherwise undistinguished chain), I got the serving time wrong in the calendar for the Shrimp Peel on the 17th. It's 6:30, not 7. *Mea culpa*, and if you haven't gotten your tickets (three dozen shrimp and *Elton Travis*) yet, you're likely out of luck. Your last chance is the waiting list—but don't wait to join it.

THREADING—your way through intricate patterns in response to one whose calling is a caller is fun. Even if you don't catch the square dance demonstration at the Shrimp Peel, come out for the first square dance lesson on the 19th. Each is 50 cents per hour for 20 two-hour lessons, and you don't pay till you're sure you like going around with square dancers—say the third lesson.

BEADS—of sweat (man, are *they* hard to string!) breaking out on your fevered brow as you contemplate electing the people who will guide the C-Club ship past the rocky shoals of a new recreation program, a new food service program, and keeping 3100 members delighted? I can't blame you. But I can advise you to show up at the Annual Meeting (7:30 on the 12th) and cast your vote for the most capable people around to serve on the Board next year. Refreshments will be served.

ON—Saturday (that's tomorrow), *Satin Flame* converts the ballroom to a sound chamber to the delight of several hundred teens already bored by books. Parents, buy tickets early or at the door.

A—Sanado-sponsored Arts and Crafts fair gives all of us a chance to marvel at the Sanadone *objets d'art* that will festoon the Patio on the 13th from 11:30 to 2. Catch the shuttlebus, and spend your lunch period ambling, ogling, and maybe buying. (It's only 103 days till Christmas.)

STRING—of neat skiing trip packages awaits Coronado Ski Club members this year. Learn about all of them at the meeting on the 20th. Social conditioning at 7. At 7:30 Scooter LaCouter (that's his name—honest) of the Interski US Demo Team will show and narrate "An Amazing Aspen Road Tour" and answer your questions on skiing (like "how is size of sitzmark correlated with size of sitzer?"). If you're a member by 7 p.m. (slip Fred Schkade—pronounced SKAH-dee—your \$7 anytime before then), you're eligible for a drawing for lift tickets for two for a week at Aspen (what a lift that would be!) and for other Aspenalia and for local lift tickets and for a Jacor-donated "rug-ski exerciser," whatever that is. Other ski films too.

WITH—movie tickets running you \$3 or more, you can run out of \$ all too soon. If your paramount goal is to save some \$, be a 20th century fox and see all the united artists at Cinema I II III and Wyoming Mall for a universal \$2.15.

NO—room left on the Cumbres and Toltec Aspencades Sept. 17 and 24, but, if you've got tickets, come out for the pre-trip all-you-need-to-know meeting on the 15th.

KNOT—in your stomach as you contemplate a \$909 withdrawal from your checking account (or from the Credit Union's) for your trip to Hong Kong? Two consoling thoughts: A.) Wanderlust may not be the best kind but it's a close second;

B.) It ain't never gonna get no cheaper. Get the Oriental details accidentally—like by casually querying the Club.

AT—the time when teachers convene (Oct. 27-30), you and your tots and teens (wouldn't it be great to be half as wonderful as your tots think—and half as stupid as your teenagers think?), or your in-laws and outlaws, or your spouses (bigamy, isn't it? Thanks. It *is* big of me.) and lovers (actually, bigamy is proof that two rites make a wrong) could be in (trumpet fanfare) (tubas fan better) *Disneyland!* And Marineland. And Universal Studios. And three nights in the Howard Johnsons across from Disneyland. And all this for \$207 single, \$175 at 2 per room, \$165 at 3 per room, and \$125 for the sub-twelve set. Don't wait. If Disneyland V sells out as quickly as I, II, III and IV, you need to sign up now.

THE—trips to Manzanillo and Mazatlan aren't quite sold out yet. But don't remain undecided. Or you'll remain here.

OTHER—folks may prefer New Mexico to Old. And the Club has a trip for them too. On Oct. 1, bus to the Trinity Site (on the one day per year it's open), then

CONGRATS TO: the CAC Divers! Kim Jones, Kelly Jones, Mary Ann O'Keefe, Jackie Lovato, and Ronny Hughen placed high in two recent national competitions. Kim was one of two selected for international competition in Canada and brought home third and fourth place trophies. Kelly, Mary Ann, and Cheri Kane made High School All-America. Chuck Tjeltweed and Cheri won diving scholarships to New Mexico State. And to Sanadoe Irene Sublett! Her oil painting of City Drug in her hometown of Melrose, NM, took First Place, Best of Show, and Purchase Award at the Artist Alpine Festival in Ouray, Colorado, last month.

through White Sands Missile Range to Alamogordo and the International Space Hall of Fame (full of famous international space). Then it's a side trip to White Sands National Monument (where you see real estate values shifting before—maybe in—your eyes). Stay overnight in the Desert Aire motel in Alamogordo. Next morning rise and shine (or twinkle a little) and head for Carlsbad Caverns. Walk down or ride, try to remember which are the stalagmites and which the stalactites, and ride out. Then head home. Your \$35 includes all transportation, lodging, and entrance fees but not meals.

END—the year with a splash. In the Caribbean! (End this column with my congratulations. Where do I get all this stuff? Easy. A little talking bird tells me. I reward it with bird shot—a shot of gin, bourbon, whatever. I'll probably be arrested for contributing to the delinquency of a mynah.) Where were we? Oh, yes, the Caribbean. Fly to Puerto Rico, then sail on the MS Carla C all the way to South America. Back too. Visit exotic ports-of-call. Avoid shipboard romances. (Boards are hard.) Hear strange tongues (like yours after three brass monkeys). Have a great time. Prices begin at \$810. Do it the Christmas—New Year week or Jan. 7-14.

MORE INFO—265-6791.

