

Vista New Mexico

## The River, page 10

# LAB NEWS

VOL. 25, NO. 10

MAY 18, 1973

## Savings Bond Drive Set Next Month

Chairman for this year's Savings Bond drive is Bill Gardner, director of Org. 1500. He will be assisted by these representatives from each vice presidency: Bill Myre, 1000; George Rodgers, 2000; Ted Sherwin, 3000; Paul Stanford, 4000; Randy Maydew, 5000; Jim Kenagy, 7000; Bob Hargreaves, 8000 and Art Clark, 9000.

The Bond drive is scheduled to be conducted during the first two weeks of June. Present participation is about 75 percent of employees, and it is the aim of the drive to increase the amount of participation substantially, both with respect to the number of employees enrolled and the amount contributed.

Announcing the Bond drive and schedule, Mr. Gardner noted three reasons for buying Bonds: "First is patriotism, which still stimulates some people. Bonds help our government in the war on inflation and the battle for a solution to poverty and the energy crisis. Second, Bonds are ideal gifts — at Christmas, or on birthdays or other occasions. Better still give a Bond to a child for his education or to yourself as an added retirement fund. Finally, for many people, it is difficult to save. Here is a great way to insure saving — a regular deduction taken care of by your employer with a guaranteed 5½% interest."

### VP Retires

## He's Generally Charlie

When the sandy-haired, freckled faced guy who looks like a favorite Irish uncle retires this month, the Labs will lose a fairly rare bird: a man who has exercised considerable authority for many years but who remains universally liked. At age 64, VP Charlie Campbell leaves Sandia after some 26 years on the job.

He's had a career at the Labs marked by a succession of responsible assignments. One of his earliest was to help organize and put into operation the employee benefits plan, and he played a large role in setting up Sandia's employee recreation programs. In times past Charlie has managed employee services, public relations, and personnel. He became vice president of administration in 1959 and has since been involved in a top management capacity in all budget and other fiscal matters relating to Sandia's operation.

We talked with him last week as he was winding up his affairs.

"What now Charlie — any plans?" we asked.

"Well Pat and I will look around for awhile. But I think we'll end up back in Albuquerque. And I may become a management consultant. Should do well — I can say I've had personal experience with every mistake known to management," he smiled.

"You started at Sandia sort of at the beginning of things. What was it like back then?"

"Different. A helluva lot different. When I

showed up in '47, Sandia was a cluster of temporary buildings — some are still standing — and a few hundred employees. Paul Larsen was the director, we were still part of Los Alamos, and he was the man for the job. A very forceful man . . . worked from sunup to sundown, Sundays too. You know, he took it upon himself to set up Bendix, even picked the plant, and it certainly wasn't clear at the time that this was his job. He'd say, 'Someone has to do it'.

"Sandia has had many able presidents. Landry, the first WE man, came into an R and D operation from a production background. But he had sense enough to realize there was a difference and he gave the R and D people a free hand. Jim McRae is the only man I know who could get people to do things simply through motivation — never raised his voice, but you'd feel about an inch tall if you fell short of what he expected. And Julius Molnar, who followed McRae, seemed aloof but he was a very human guy. And he worked and worried about being 'human.' I recall how he went to some lengths to learn all about baseball just so that he could talk about it with his son."

"What about 'management'?" we asked. "Any particular convictions?"

"A few. I think the over-riding consideration is a constant awareness of the dignity of the individual, whether he's a janitor or at the top. I recall the old gardener who took care of the grass and shrubs in front

(Continued on Page Two)



Le Grand Charlie

Continued from Page One

## 'We Can't Rest On Our Laurels'

of 800 — he didn't have a very exalted job but his values reflected real wisdom. And this business of 'dignity' can come out in many small ways — like calling a person by his last name, without the 'Mr.'. That's always grated on my ear — call him 'Joe' or call him 'Mr. Smith' . . . it shows respect."

"How about the Labs, Charlie? Have we passed our peak, or what?"

"I don't really know. I do know we have good people, a good laboratory and a good reputation. But dammit, we can't rest on our laurels — we've got to let the world know we're here and can do good technical work."

### Credit Union Statements

As part of its normal audit procedure, the Supervisory Committee of the Credit Union recently mailed statements to members who have terminated, retired, or closed out their accounts. If your account was in one of these categories and you did not receive a statement, please notify R.C. Butler (7324), Committee Chairman.

Seems to me with all the need for R and D in matters of energy, pollution and the like that we could get a piece of the action. But it won't come to us — we've got to go after it."

Maybe we should have gotten Charlie Campbell a salesman's valise instead of that gold watch and put him on the road. He'd made a pretty good case for Sandia Labs. •js

## Take Note

If your 10 to 14 year old offspring is interested in playing football he can join the Young America Football League this Sunday, May 20, from 12 noon to 6 p.m. at 5300 Ponderosa NE, 268-3433. He should bring a parent, his birth certificate and a small picture. And money — \$20 for one, \$35 for two, and \$50 for three boys.

\* \* \*

### Recreation Notes

## FUN & GAMES

### Sandia Golf Association (Women)

Winners and runners-up in the recent Socorro Tournament were: First Flight: Pat Anderson (9425), low gross winner and Betty Chappell (AEC), runner-up; Sybil Milligan (ret.), low net winner and Joan Gillon (1200), low net runner-up. Second Flight: Judy Tripp (7633), low gross winner and Sandy Blose (4256), runner-up; Alice Smith (3141), low net winner and Clara Gearhart (3141), runner-up.

\* \* \*

Anyone for the Colorado River? Mark Percival (5323) reports that there are several openings on a river running trip he's organized with a professional outfitter. The journey runs from Lee's Ferry to Lake Mead, takes 10 days, is scheduled for late June and early July, and costs \$250, which includes your transportation to and from Albuquerque. That's an excellent price, and if you're interested call Mark.

\* \* \*

**Bike Riders** — do you belong to the Sandia Bicycle Association? Purpose: to promote the cause of bicycling, on Base and in the city. Membership, about 300. A newsletter is published once a month that discusses bike routes, includes tips on maintenance, lists a bike tour schedule, and carries items of general biking interest. SBA officers are Billy Thorne, Doug Drumheller, Tom Mayer and Lyle Wentz. Tom is secretary and if you wish to join send him your name, organization, E number and phone number. He's in Org. 1247. Also, send him a buck if you can spare it — SBA occasionally needs some money in support of its purpose.

A carefully worded news release from the Inter-Tribal Indian Ceremonial confirms what has been widely surmised: there won't be a ceremonial this year. But, according to the release, "The Ceremonial is still pursuing its plans for an expansion of the concept of letting native peoples tell their own story in a cultural center . . . open throughout the year. The plan envisions a resumption of the Ceremonial."

## LAB NEWS

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### SANDIA LABORATORIES

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

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

in livermore lorena schneider does all

## Onward, Upward with the Automobile

Traffic onto the Base getting worse all the time, you say? You're right. Here's officially compiled data:  
Average Daily Traffic

Year	Gibson (East of Louisiana)	Wyoming (South of Central)	Eubank (South of Central)	Totals
1972	17,600 cars	18,200 cars	9,200 cars	45,000 cars
1971	13,900	17,900	7,000	38,800
1970	13,900	17,000	7,100	38,000

Going up all the time. In fact, in terms of percentage increase, it's going up faster than total Albuquerque mileage: 16% from 1971 to 1972 for the Base entrances. Total Albuquerque mileage:

Year	Miles of roads, streets, etc.	Vehicle miles traveled	Rise over previous year
1972	1,654	4,995,856	13.6%
1971	1,594	4,344,665	10.6
1970	1,549	3,927,434	10.2

What does it all mean? Just this, if growth continues at present rates there'll come a time when the glut of cars in Albuquerque will turn simple trips to work, shopping centers and elsewhere into bumper-to-bumper exercises in frustration.

The time is ripe for serious reflection of how, and when, and why we use our automobiles.

**PhD Degree Awarded  
Ben Benedetti**



Ben Benedetti has returned to Sandia's Applied Mechanics Division 8113 after receiving his PhD degree in civil engineering from Arizona State University.

He obtained his doctorate under a National Defense and Education Act fellowship awarded by HEW. During the last year of his leave of absence he taught statistics and mechanics of deformable bodies. His doctoral dissertation is entitled "Transverse Vibration Stability of a Beam Subjected to Moving Mass Loads."

Joining Sandia/Livermore in July 1962, Ben worked in structural dynamics and concentrated on stress and vibration analysis. Previously, he attended Oregon State University and the University of Santa Clara where he received his MS and BS degrees, respectively, in mechanical engineering.

# LIVERMORE NEWS

VOL. 25, NO. 10

LIVERMORE LABORATORIES

MAY 18, 1973

**1973 LLL Travel Club Offerings Available**

A brochure describing tours available this year through the LLL Recreation Association has been posted on Labs bulletin boards.

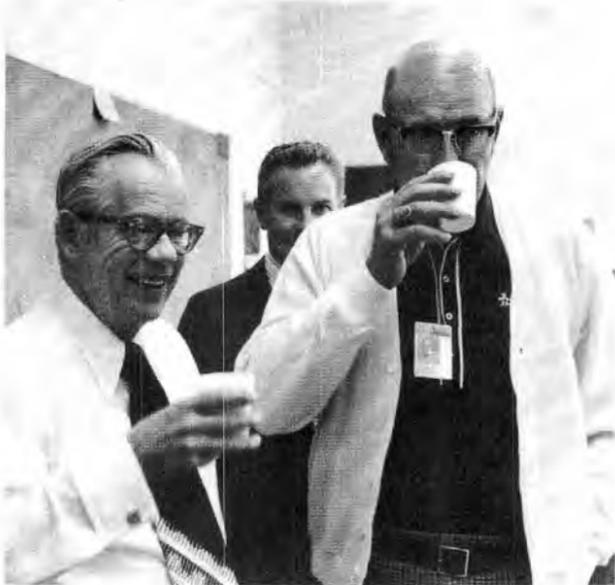
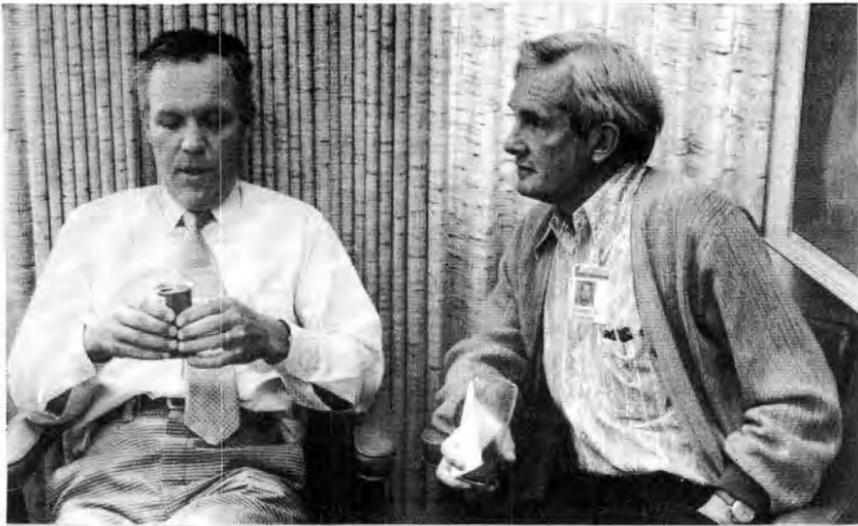
Trips, all with west coast departures, are offered to Hawaii, Tahiti, the South Pacific, Mexico, Central America, the Orient, and Europe including extensions to Greece, Israel, Russia, and Central Asia. In addition, cruises from west coast ports are offered to Mexico and Alaska, plus five air/sea cruise packages to the Caribbean.

**Death**

Lee Graves of Metallurgy Division 8313 died May 6 after a short illness. He was 63.

He had worked as a member of the laboratory staff at Sandia/Livermore for over 11 years.

Survivors include his widow Ferne (8433), his mother and stepfather, a son, two daughters and three grandchildren.



**Spring Management Conference Held at Livermore Laboratories**



## Ice Tests At Thule Successful



SILHOUETTED by arctic sun, Sandians use an auger to drill for ice thickness measurements.



ED STOUT (9441) mans TM recording unit on board C-54 aircraft.

Eighteen ice penetrometer units were dropped recently into sea ice near Thule Air Force Base, Greenland, by a group of Sandians headed by Gordo Miller, supervisor of Mobile and Remote Ranges Division 9441. The project is part of a continuing Sandia program, centered in Terradynamics Division 5716 under Bill Caudle, to study characteristics of vehicles designed to penetrate earth and ice. A portion of the recent project was sponsored by the U.S. Navy.

Operations were conducted from the air in a C-54 chartered from Ross Aviation. Bill Lucas was captain. On the ice, Division 9441 used a number of all-terrain vehicles even though they lacked the versatility of dog sleds. Temperatures on the ice ranged from 5 to 25° below zero. Only one day's operations were cancelled because of weather. Visibility was less than 10 feet during the "white-out."

Ed Stout (9441) was alternate test director and responsible for test unit loading and TM

recording. Cal Cox (9441) was ice safety officer and responsible for all-terrain vehicles. Bill Caudle, test requester, wore several hats (as did all the participants) including that of "bombardier." H.H. Patterson (1230) shared the bombardier duties and range control operations. Wayne Young (5716) was test project engineer. Test unit assembly was handled by Lou Feltz (5623). Marv Barnett (9481) and Leon Keck (1231) were responsible for the TM packages on board the test units. Bill Hoffman (9441) handled the ground data recording of the telemetry data.

Fenner Jones (9441) was chief aircraft controller during operations and planned the flights. Jack Kiker (5716) collected ice sample cores. Bill Mahaffey (3153) provided documentary photographic coverage (both movies and stills) and took the pictures on this page. Back at Sandia, Frank Rivera (9443) and Fran Roelle (9442) provided logistical and administrative support to the operation. • dg



RECOVERY of an ice penetrometer test unit is performed in below zero temperatures. Face masks are a necessary precaution. Sea ice thickness averaged about five feet in this area. Eighteen test units were successfully dropped and recovered.

# Spring Is Here (Always)

With Tony Shannon (7144) springtime is eternal.

In the Process and Fabrication Labs, Tony is the man who builds most of the springs. Springs are handy mechanical things, usually a spiral of tempered steel wire, which perform many more functions than simply closing the screen door. We use a lot of them around the Labs.

Tony builds them to exacting specifications if they are part of a prototype component under development, but most jobs call for replacement springs for equipment used in the day-to-day operation of the Labs. These range from the tiny springs in hand tools to those installed in the presses of the print shop.

Most of the time Tony is able to eyeball the equipment and handwind a spring to fill the needed function. He's had a lot of experience. He joined Sandia 22 years ago and along the way he became the man who winds springs. Most springs are wound by hand using a mandrel attached to a simple hand drill. There's a lot of art in the process. For more exacting jobs, the shop has precision spring winding machinery. A spring takes several hours to be completed on this equipment.

Tony can produce one of his handmade springs in a couple of minutes. He tries it, and if it doesn't work the first time, he can make adjustments and produce another one quickly. More than two tries are rarely needed.

Springs come in all sizes and shapes but most fit into three categories — tension, compression or torsion. The tempered steel wire is heat treated after winding to "lock in" the deformation of the wire. When not winding springs, Tony is a machinist in Shops contributing to regular production. • dg



TONY SHANNON (7144), spring man of the Process and Fabrication Labs, displays some of his handwork.



## Gene Haertling Honored By Ceramic Engineers

The PACE award (Professional Achievement in Ceramic Engineering) was presented last week to Gene Haertling, supervisor of Active Ceramic Material Division 2521, at a meeting of the National Institute of Ceramic Engineers. The group named Gene "the nation's outstanding young ceramic engineer whose achievements have been most significant to his profession."

Last year Gene patented his invention of a transparent electrooptic PLZT ceramic which has led to several other patents for devices (such as the Cerampic) using the material. He holds four U.S. patents and a number of foreign ones.

He joined Sandia in June 1961 after earning his PhD in ceramic engineering from the University of Illinois.

## Sympathy

To Bill Jackson (4115) on the death of his mother April 28.

To Bennie Gallegos (7111) on the death of his mother-in-law April 24 in Albuquerque.

To Herb Gentry (7518) on the death of his sister April 28 in Albuquerque.



PHIL THACHER (9532) explains operation of electro-optic voltage measuring device to representatives of AEC integrated contractors who came to Sandia for standards laboratory manager's meeting. Meetings are held semi-annually by the eight integrated contractors in order to exchange information on standards problems of common interest.

## Speaker at Sandia Math Symposium

R.D. Halbgewachs (2641), "CONLIM: Upper Confidence Limits for the Failure Probability of Systems"; F. Biggs (5223), "On the Use of Computer Program UNFOLD in the Design of Experiments"; T.H. Jefferson (8441), "TJMARQI — A Subroutine for Nonlinear (and Linear) Parameter Estimation"; C.H. Turnbull (8441), "Fitting the Summation of a Family of Curves to a Set of Test Data via Interactive Graphics"; R.E. Huddleston (8441), "A Subroutine for Computing Best MIN-MAX Rational Approximations"; R.L. Young (2644), "Sandia Interactive Graphics System — SIGS"; D.B. Saylor (5122), "Learning to Live with Instantaneous Turnaround"; J.F. Lathrop (8441), "Should You REDUCE?"; M.A. Soderstrand (8182), "Sensitivity Analysis of Higher Order Filters Using REDUCE"; R.C. Basinger (8441), "An Iterative Procedure for Solving Large Games"; R.E. Jones (2642), "Development of a Self-Organizing Mesh-Generation Program"; V.K. Gabrielson (8441), "Experience with Code Optimization in SASL (A Finite Element Code for Static Analysis of Axisymmetric Solids)"; K.D. Marx (8341), "TRAFIC and LINUS: Versatile Three-Conductor Transmission Line Codes"; D.C. Williams (5315), "Application of Predictor — Corrector Algorithms to Second Order Ordinary Differential Equations"; M.R. Scott (2642), "Computational Aspects of Invariant Imbedding"; D.C. Williams (5315), "Error-Control Criteria and Efficiency in the Integration of Ordinary Differential Equations"; B.L. Hulme (5122), "The Collocation Code, COLODEI, for Stiff Systems of O.D.E.'s"; J.R. Freeman (5241), "A Method for Computing the Transition from Ambipolar to Free Diffusion in a Decaying Plasma"; F.G. Blotner (5643), "Accuracy Studies of Some Finite-Difference Schemes for Solving the Boundary Layer Equations"; J.R. Freeman and J.W. Poukey (both 5241), "Simulation of Relativistic Electron Beam Diodes"; R.T. Walsh (5166), "Tensor Viscosity for Wave Propagation Calculations"; K.L. Brower (5112), "Self-Consistent-Field Xa Scattered Wave Calculations for Polyatomic Systems"; R.T. Walsh (5166), "Non-Integral Formulation of the Equations of Motion"; B.J. Thorne (5162), "Use of Rezoning with Lagrangian Wave Codes"; W.T. Ashurst (8364), "Dense Fluid Transport via Molecular Dynamics of Non-Equilibrium Systems"; P.J. Roache (5643) and M.A. Ellis (5712), "Steady-State Navier-Stokes Solutions via a Fast Biharmonic Solver"; R.L. Fox and R.R. Eaton (both 5643), "Effects of Numerical Dissipation on Highly Nonisotropic Flow"; R.T. Walsh (5166), "Dual Coordinates for Calculation of Bulk Motion," Sandia Mathematical Computation Symposium, May 17-18, SLA.

# Phone Voices Have Owners Too



Angie Gurule

Angie Gurule, secretary for Technical Publications and Art Department 3150, can talk all day about telephone calls. Much of her work is telephone oriented — she handles requests from outside agencies for copies of Sandia's telephone directory, makes internal distribution of other company directories, orders reprints for Sandia authors and, perhaps her most important job as far as Sandians are concerned, is revision of our telephone directory. In answer to "when will the new phone book be distributed?" Angie gives a tentative date: soon.

Angie has been at the Labs almost 21 years. She and her husband Frank, a chemist in Actuator and Chemical Components Division 2515, have two daughters, 15 and 16 years old. Both attend Del Norte High School. "I'm interested in the girls' activities of ceramics and weaving," Angie says. "I like people, so we do a lot of entertaining." The Gurules think the Coronado Club trips are great — they've enjoyed Spain and Rio and are signed up for one of the Mazatlan trips.

\* \* \* \*



Cliff Olson

Cliff Olson has been meteorologist with Test Operations Control Division 9311 since he joined the Labs almost 16 years ago. "We are a service group," Cliff says, "and of course weather forecasting is part of our business. The worse the weather the more calls we get. Many of our calls come from employees traveling on company business — what kind of weather they can expect, what type of clothing to take — and this isn't limited to the U.S., it can be world-wide," Cliff says. The meteorology group also gets lots of personal calls — "we're going on vacation next week to Baja — what will the temperatures be?" "can I plan on golfing this weekend?" "will fishing be any good?" "can I cut hay next week?" "should I protect my

fruit trees tonight?" "when should I put out my tomato plants — would you put them in today or wait a day or so?" "We can generally satisfy most callers," Cliff says.

Cliff and his wife Lois have one son and two grandchildren. Their son is working on his PhD in clinical pharmacy at Southern Cal. Cliff likes to travel and enjoys gardening. "One thing my wife and I never discuss is the weather," he says.

\* \* \* \*



Laurie Krebs

Laurie Krebs has been Public Relations Division and Department (3160) secretary for her 12 years at Sandia. The requests for information which she receives run the gamut from the straightforward, businesslike questions — who? when? where? — to the miscellaneous and sometimes ridiculous — why? howcome? would you believe? Laurie usually comes up with the answers, but when she can't she's sure to know someone else at the Labs who can answer the question.

Laurie's husband Conrad is retired. They have two married children and three grandchildren, and their youngest son Jon lives at home. Her interests include bridge, reading, an occasional golf game, travel and entertaining.

\* \* \* \*



Dan Callahan

Dan Callahan (7332-2) joined the Labs traffic organization 15 years ago. As a traffic analyst he can tell you all about outbound shipments — air express, air freight, special moves, trucks, padded vans, heavy haulers, and parcel post. One of the strangest

shipments Dan made arrangements for was a load of empty beer cans to be used in a blast test.

Dan and his wife Barbara have two daughters and a two-month-old grandchild. Their oldest daughter Mary, an RN in Washington, D.C., is completing work on her master's degree in cardiovascular nursing. Patricia is married and lives in Silver Springs, Md. Dan says he didn't empty the beer cans for his special shipment, but he could have supplied some coke cans!

\* \* \* \*



Carl King

"The water running across Eubank was so deep I could hardly get to work this morning! Why don't you people do something about it?" Carl King of Access Control and Administrative Section 9551-1 couldn't do a thing about it but try to placate the irate caller. The things that Carl can do something about are classified mailing and shipping channels. He can answer your questions on mailing classified documents or shipping classified hardware. He also obtains AEC clearance for suppliers, handles hand-carry authorizations and is the contact for all classified facilities outside of Sandia. He gets many calls that have nothing to do with security.

Carl has been with the Labs for 22 years, 15 years on the guard force and the last seven on the administrative side. "Off the job I do a lot of yard work and I like to hunt and fish," Carl says, "but what my wife Norma and I really enjoy is a leisurely drive 'round the hills."

\* \* \* \*

## Authors

M.L. Knotek (5155), "Absorption and Transport Study of the Pseudogap in Amorphous GE," Vol. 30, No. 14, PHYSICAL REVIEW LETTERS.

D.S. Drumheller and H.J. Sutherland (both 5163), "A Lattice Model for Stress Wave Propagation in Composite Materials," Vol. 40, No. 1, JOURNAL OF APPLIED MECHANICS.



# A Different Kind of Army

Some people think of the Salvation Army when they see streetcorner bell-ringers at Christmas. Some people think of the Salvation Army when their cars break down in Tijeras Canyon. Some think of bass drums and tambourines, others of food and shelter. They're all on the right track.

"We're a place people can come to when they really need help," says Brigadier John Bawden, who shares with Mrs. Bawden the commanding officer role for the Albuquerque post. "Maybe it's a small payment which keeps the electricity on, maybe it's an initial purchase of food stamps, or maybe it's a place to sleep and a tank of gas in the morning. We have ways to help both Albuquerque residents and transients. And we're available 24 hours a day."

The familiar Christmas bell-ringers are a vital part of one of the resident programs. The money donated by shoppers provides Christmas dinners for a couple of thousand families at home and another couple of thousand in local hospitals and institutions; last year the Christmas program reached over 12,000 people.

Another program for residents operates year around. Food, clothing, shoes, medicine, advice, whatever is necessary — 6000 people were helped last year. Still another program reached 5000 patients in local hospitals and institutions during the year.

We're a mobile society all right, but sometimes the mobility ends unexpectedly — a car gets sick and a family ends up at Salvation Army. Sometimes by bus, the Army helps them move on. "Sometimes it's to their original destination, sometimes back home," says Fred Rustin, the Travelers Assistance arm of the local Army. "You know, people still think of California as the promised land. Occasionally we get them both going out and then, totally disillusioned, coming back through on their way home. We try to screen out the ones who don't have a job or a relative out there and save them the trouble of a U-turn at the Pacific, but we're not always successful — people have to see for themselves."

There's an 11-person staff at the Army's two locations near Broadway and Coal. The Brigadier is in his 39th year of service, and his dedication is infectious. The post has an air of quiet efficiency. "There's a reason for the military structure — we're fighting. Not people, but poverty, disillusionment, weakness," says the Brigadier. "Some people think we're militant about our Christianity, but we're not. We don't demand, we don't even expect, a person to worship as we do. We invite them to join us, of course, but that's all."

"We've found though that religion can be an ideal therapy, especially for people with an alcohol problem. It fills a vacuum for them — and some turn out to be our best workers for the cause."

The Salvation Army is, of course, one of the agencies supported by Sandia's ECP program. "Tell your people," says Capt. Ken Gibson, the Army auditor, "how far we're able to make their dollars go. We have agreements with the state on food stamps, with garages for repairs, with bus lines for fares; one dollar can often buy two or three dollars worth of goods or services. So each dollar is a kind of seed money."

That same idea is apparent in Bob Hepplewhite (9440). Like Bob Durand (7333), he's a member of the Army's local advisory board. "It's exciting to be able to help out down there — the Army can do so much with so little. I've been on the board for seven years now, and I still enjoy it. Those of us on the board are helping the Army help others — that's a good feeling."

"No, I don't beat the bass drum, but I've been known to ring a bell or two around Christmas. Why not? It's a good cause." • bh



BRIGADIER K. JOHN BAWDEN, Commanding Officer at the local Salvation Army.

## Assuring the Quality SNAP

Few are built; they must be highly reliable; they tend to utilize technology from the outer edge of the state-of-the-art; and they use new and exotic materials that can withstand the rigors of space.

SNAP (Systems for Nuclear Auxiliary Power) programs, therefore, are no snap; the requirements are rigorous. In fact, Sandia has a quality assurance (QA) program under Bob Harnar in Division 9512 which is especially tailored for SNAP hardware such as RTGs (Radioisotopic Thermoelectric Generators). RTGs convert radioisotopic heat from Plutonium 238 into electricity. They're lightweight, compact, rugged, and, thanks in part to Sandia's QA people, highly reliable.

RTGs supply electrical power for several current spacecraft. Pioneer 10, launched in March 1972, is now half a billion miles from Earth and will fly by Jupiter in December of this year. Pioneer 11, launched last month, will be near Jupiter by December 1974. If Pioneer 10 is successful in terms of quantity and quality of data, Pioneer 11 can be directed to swing past Jupiter and on to Saturn to return data on that mysterious planet — ETA 1980 or so. The four RTGs aboard Pioneer 10 produce 152 watts, the four on Pioneer 11 162 (as of April); in both cases wattage exceeds design requirements.

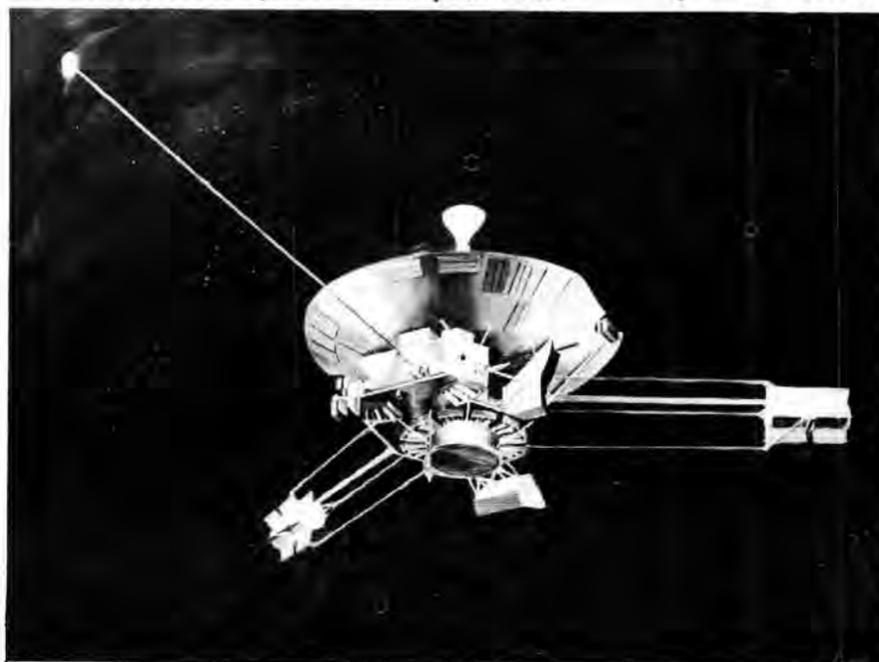
All eight are SNAP 19 RTGs built by Teledyne Isotopes. In addition, a SNAP 27 RTG built by General Electric, was aboard each of the five successful Apollo missions. All are now in operation on the moon. The Apollo 12 RTG shows a decline in output of only 5 1/2 watts (from 73 1/2 to 68) after three and a half years of operation; the specification

called for 63 1/2 watts after a year of operation.

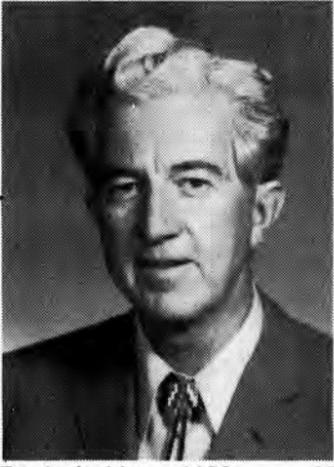
One current effort involves SNAP 19 RTGs for the Viking lander (see LAB NEWS, April 28, 1972) which is scheduled to land on Mars in 1976. Paul Syroid is the local honcho with Mike Zapach and Jim Brewer alternating in Baltimore at monitoring the Teledyne Isotopes activity. A second current effort is the Multi-Hundred Watt RTG being developed by GE for the Lincoln Laboratories communication satellite. The local man is Bob Hannigan with Dale Pipher and Werner Bach on location.

Assuring the kind of power and reliability necessary for a space mission is the QA team's job. The SNAP QA programs are three-fold, consisting of: a) evaluation of a contractor's quality control operations; b) evaluation of the product; and c) evaluation of the reliability program. An in-depth knowledge of the product and its producer is essential. Reviews, audits, team visits, developmental tests — all are part of the QA program, and all are designed to ensure that the eventual product will perform the task it's designed to perform on a space mission. There must be electrical power or the experiment fails. And it must be reliable — there's no way to service a malfunctioning power supply once it's off the ground.

The exemplary job the QA team is performing has been officially recognized by the head of the AEC's Space Nuclear Systems group: "The outstanding team effort... facilitated efficient, timely and high quality hardware procurement [for a] high priority space science effort." • bh



POWER TO THE PIONEERS is furnished by two pairs of RTGs (radioisotopic thermoelectric generators) which are part of the SNAP program. On this artist's conception of Pioneer 10 on its way to Jupiter, one pair of RTGs is visible at far right, another in lower left.



Edwin Jenkins - 1132 25



James Boespflug - 2331 15



Dorothy Bair - 4154 25

# MILEPOSTS

## LAB NEWS

May 1973



Adolfo Martinez - 1253 25



Gilbert Lenert - 9341 20



Samuel Blaylock - 7518 25



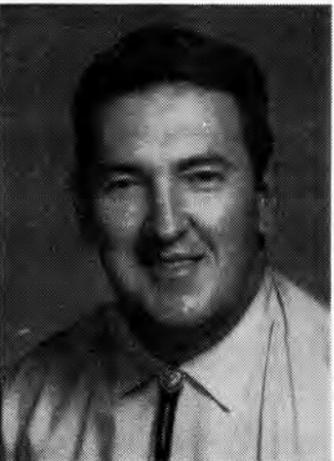
Wendell Smith - 3151 15



Robert Eldredge - 5000 10



Bud Wheeler - 4252 20



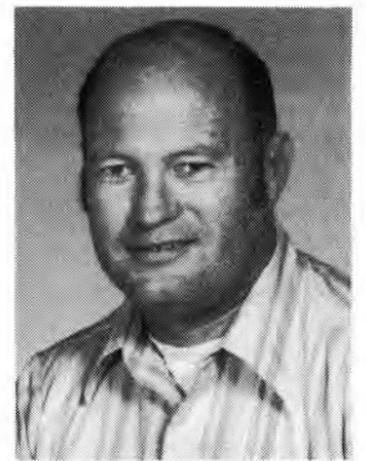
Tony Garcia - 7517 25



Clifford Blossom - 9443 20



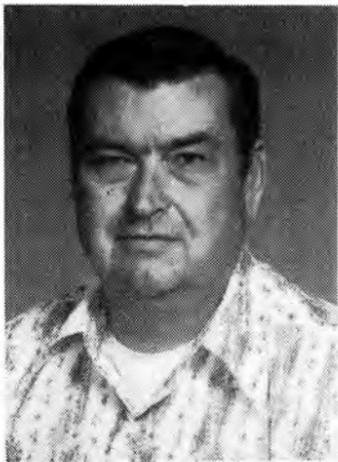
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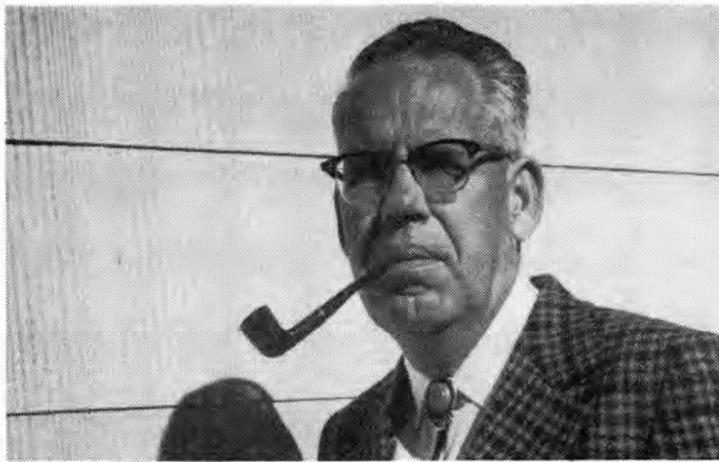
Chauncey Matthews - 9352 10



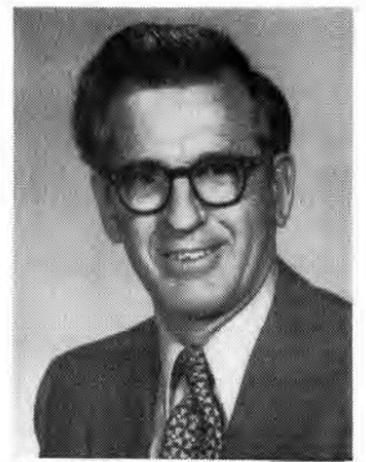
William Young - 1525 15



John Bahlman - 5623 20



John Banister - 1150 20



John Ransom - 7554 25



Frank Keene — 2500 20



Hazel Willyard — 8442 10



Leo Dunn — 9441 25



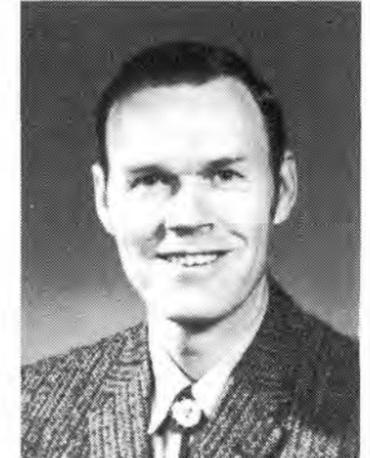
Sidney Gasser — 2643 20



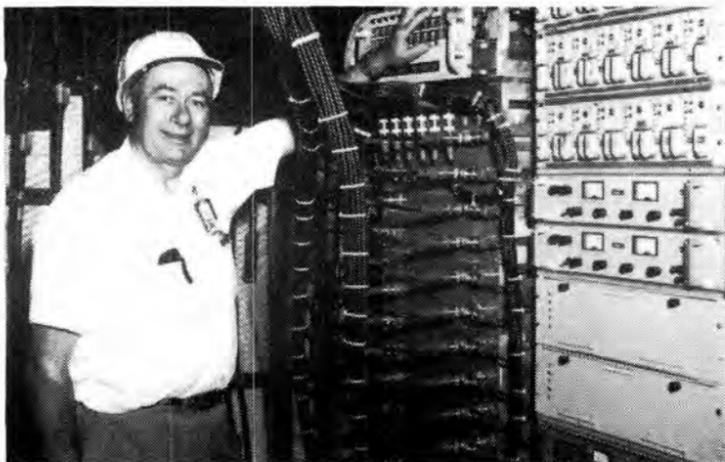
Charles Prohaska — 3154 10



Frank Myers — 7518 15



Kenneth Payne — 2433 15



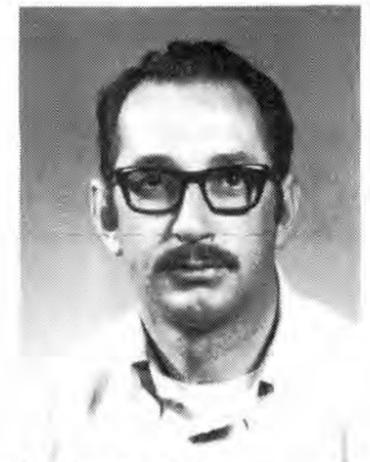
Ernest Norton — 1124 15



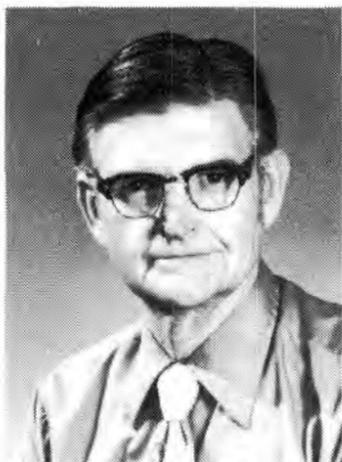
Tom Stevenson — 5720 20



Marcella Hightower — 4154 10



Ken Grant — 7543 10



John Hertweck — 4510 25



Emory Padgett — 8421 10



Charles Ortiz — 9551 20



Jim Reck — 7131 25



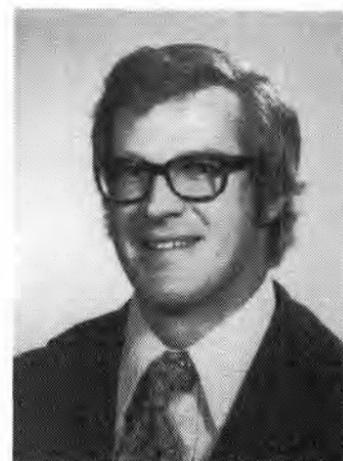
Ray Cohrs — 7551 10



Woodrow Hunt — 7611 20



Edwin C. Wittwer — 1247 20



Ronald Andreas — 5722 10

# The River

Some 250 million years ago at the site of present-day Albuquerque, the earth's crust cracked in a tremendous upheaval and thrust upwards. The grey limestone of Sandia Crest, now some 5000 ft. above the valley, is a remnant of that old crust. Simultaneously, the valley floor sank, a process repeated later during eruptions of the volcanoes on the West Mesa. There was no river then. The Rio Grande, occasional mighty stream that it is, did not make the valley. Over millions of years, it filled the trough with silt and gravel and preserved our most precious resource — fossil water. (The same grey limestone formation at the Crest lies some 10,000 ft. beneath the city now. It was a very deep trough.)

The Rio Grande is not a full-time river. Now at near-flood stage after an unusually wet winter, the river will dwindle to almost nothing by summer's end. Still, it has sustained life in this part of the world through geologic ages, and has thus figured prominently in the history of the people who have lived here — Indians, Spanish, Anglos.

One of the greatest floods in Albuquerque's recorded history occurred in 1874 when 24 square miles of water lay between Albuquerque and Bernalillo from April through June.

At the time, Old Town was threatened with isolation and extinction. On May 30, 1874, Albuquerque's REPUBLICAN REVIEW carried this item:

"A large force was kept working day and night since Saturday last. The losses so far are very heavy, and numbers of poor people are rendered homeless. If Albuquerque is not swept away, it is owing to the determination and exertion of Salvador Armijo, Santiago Baca, F. and C. Huning, Diego and Manuel Armijo. The base of the bluffs in front of the town, on the east side, is now lined with camping places where it seems to us persons encamped, although rejoicing in comparative safety, are suffering a great deal from exposure and anxiety at the prospective loss of their homes and crops."

During this period, the railroad was dickering with landowners to bring the iron horse into this area. There is a story, not well documented but presumed true by some historians, that the railroad planned to bypass Albuquerque because of the rampaging river. Bernalillo looked like a better bet. The story goes that a Father Gasparri of San Felipe de Neri Church, financed by Armijo, Huning, Romero and other large landowners, organized a labor party that secretly dug a channel which changed the river bed, moving it farther west. In any event, the railroad located several miles east of Old Town and created the present Albuquerque downtown site. When the railroad came in 1879, Father Gasparri was honored at a community banquet.

The railroad changed life in Albuquerque considerably, but the river retaliated in 1884 with the worst flood in Albuquerque's history. Old Town was reduced to a tiny island while the new town was inundated. Railroad tracks and bridges were washed away. From high water marks left on the old church in Tome, the peak water flow has been estimated at 100,000 cubic feet a second.

Other floods have come and gone. Dick Strome (3155) remembers as a kid his family fleeing their home on 14th Street and taking refuge on the hill where Presbyterian Hospital is now located. They did this several times. And a flood in 1941 left most of downtown and the area around 12th and Candelaria

under two feet of water for several weeks.

The Middle Rio Grande Conservancy District was formed in 1925 to direct flood control, drainage and irrigation. The work has continued since. Swamps that once marked the north and south valleys are gone — drainage canals and gradual lowering of the water table account for this.

Flood control is gained through diversion channels which pick up the runoffs from major arroyos and funnel them into the river near Alameda. A siphon, a giant pipe six and a half feet in diameter and 1400 feet long, buried beneath the river bed, pulls excess water from the Alameda bend (thus protecting North Fourth and Second Streets) and puts it into the Arenal Ditch on the west side of the river about a mile north of Central near Atrisco Road.

The stories everyone has heard about the river once running down Second Street are true. But the street didn't exist then. It was about 2000 years ago that the river moved from its 2nd St. course to the present channel on the west side. Flooding, of course, is another story.

The river has shaped our town and much of the history of the Southwest. Starting in the high peaks of Colorado, the Rio Grande winds some 1640 miles to the Gulf of Mexico. It neatly divides New Mexico and provides a handy border between Texas and Mexico. Oddly enough, the canyons of the Rio Grande in what is now Big Bend National Park were one of the last unexplored regions of the United States. The area was not surveyed until 1899. • dg

## Congratulations

Mr. and Mrs. Ray Lucero (7513), twin daughters, Julianne Marie and Jennifer Lynn, May 5.

Mr. and Mrs. Thomas Hunt (1125-1), a son, James Andrew, April 7.



RETIRING at the end of the month are (1 to r) William Young (4525), D.R. Metheny (7515), Lee Parman (100), William Holder (1132), and DeForest Rushing (7113). Not shown is Pat Farley (4256).

## Speakers

Paul Stickler (9472), "Multi-Channel High Speed Data Acquisition and Processing System," Las Vegas Section of Instrument Society of America, April 26, Las Vegas, Nev.

W.F. Chambers (5522), "Microprobe Control via FOCAL," EE Seminar, UNM, April 26.

B.M. Butcher (5133), H.J. Saxton (8312) and L.M. Lee (5133), "Shock Wave Compaction of Porous Beryllium," Topical Meeting on the Correlation of Metals Data, April 25-26, Lawrence Livermore Laboratory.

J.K. Rice (5215), "Determination of Chemical Reaction Rate Constants by Time-Resolved Mass Spectrometry," Division Seminar, April 27, LASL.

J.L. Colp (5716), "Inclined Pullout Forces for Embedded Plate Anchors," 1973 Offshore Technology Conference, Houston, Texas.

C.N. Vittitoe (5223), "Electron Attachment and Avalanching Associated with EMP Calculations for High-Altitude Bursts," DNA EMP Phenomenology Working Group Meeting, May 3-4, KAFB.

R.P. Stromberg (5712), "A Solar Community," Energy Crisis Symposium, May 3-4, Albuquerque.

G.J. Jones (5531), "Materials Problems in Radioisotopic Thermoelectric Generators," Seminar at Iowa State University Metallurgy Dept., May 7, Ames.

C.B. Bailey (2642), "The Sandia Mathematical Program Library"; R.J. Detry (2642) and A.A. Key (2633), "Benchmarking for Data Processing at Sandia"; A.F. Schkade, Jr. (7624), "A Production-Oriented Intelligent Remote System"; R.E. Jones (2642), "How To Achieve Program Portability via Standard FORTRAN"; D.B. Saylor (5122), "Learning to Live with Instantaneous Turnaround"; G.R. Case (2112), "DEVLIB — Semiconductor Device Library Selection Program," First Mountain Region Conference of Association for Computing Machinery, May 7, Scottsdale, Ariz.

P.B. Rand (5513), "An Aromatic Polyimide Syntactic Foam"; C. Arnold, Jr. (5511), "Delrin Incompatibility"; J.G. Curro (5511), "Gruneisen Parameters of Polymers"; J.G. Curro and E.A. Salazar (both 5511), "Long Term Mechanical Behavior of O-Rings," JOWOG 28 — Spring 1973 Meeting, Sandia Laboratories Livermore.

D.A. Nissen (2523) and R.W. Carlsten (1913), "The Surface Tension of the Molten Binary System LiCl-KCl"; W.H. Smyrl (5531), "Mass Transfer of Minor Components in a Propagating Crack," Electrochemical Society Symposium on Fused Salt Technology, May 13-18, Chicago.

M.L. Merritt (1150), "Cavitation in Water from Underground Shock Waves," Annual National Meeting of the Seismological Society of America, May 16-19, Golden, Colo.

# Bus Notes

More and more Sandians are realizing the advantages of busing these days. The latest effort is a survey of the Far East (Albuquerque, that is). Farrell Perdreauxville (5722) is the prime mover. People living between Juan Tabo and Panorama should have received survey forms. If you live there, and didn't get one, and are interested in bus service to and from Sandia, please call Farrell at ext. 5668 or Bruce Hawkinson at ext. 7841.

A bus route from Los Lunas serving Valencia, Peralta, Bosque Farms, and Isleta

Bridge should begin in less than a month. The interest among residents of the area was high, so the only delays are procedural ones. As soon as they're solved — and they will be — all those who responded to the survey will be notified as to starting date and precise schedule.

Frank Garcia (7115) is currently checking the interest of Sandians in the Los Chavez, Belen, Adelino, and Tome areas in terms of a bus serving the Deep South. If you live down there and haven't heard from him within the next week, give him a call.

## 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.  
A maximum of 125 ads will be accepted for each issue.

**RULES**

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

### FOR SALE

#### MISCELLANEOUS

**BIRD CAGE**, \$10; ping pong table, \$10; 12 and 14 pound bowling balls, \$5 ea. Demmel, 299-5639.

**OUTBOARD MOTOR**, 25 hp, Evinrude elec. start, includes accessories: 2 gas tanks, shift control, steering, battery case, etc., \$250. Holton, 265-1088.

**FREE PUPPIES**, Shepherd-Husky-Elk Hound mix. Cyrus, 898-4038.

**SEARS 7 1/2 bushel lawn sweeper**, \$20. Kjeldgaard, 296-2212 after 5:30.

**SET of 365 H.P. 327C.I. Corvette exhaust manifolds**, \$12; 2 6"x-15" 5-hole Chevy wheels, \$10; old tape recorder w/tape & mike, \$15. Snelling, 268-5895.

**LUGGAGE RACK**, 41" long x 56" wide, mounts on any car w/gutter 48" to 62" wide, \$10. Wright, 298-4567.

**ENGINE**, '55 Imperial Hemi-Head, makes car go, brakes won't stop it. McKeever, 299-2777.

**GARAGE & YARD SALE**: 1839 and 1843 Cagua Place NE: headboards, doors, tires, rim, desk, various junk, May 19-20. Vandi.

**HOME MADE CAMPER shell**, fits Chevy 1/2 short narrow bed, best offer; '56 Chevy rear for parts. Padilla, 877-2116.

**TWO FAMILY garage sale**: baby things, furniture, clothing, loom, dishwasher, stained glass artwork, lots more, Sat.-Sun., 9-6, 9625 Lagrima De Oro NE. Brandon, 294-1285.

**'72 ARISTOCRAT CAMPER**, 8 1/2', 6 sleeper, porta-potti, heater, boot, 20-gal. water tank, 12V water pump. Cleveland, 298-0218.

**TRAILER HITCH**, Reese, straight line, anti-sway, load leveler, handles 550 lb. hitch weight. McGuckin, 299-1342.

**FREE puppies**, mixture, small dogs, 8 wks. old, 12012 Kashmir NE, Holiday Park. Grant, 296-5097.

**HANGING BED**, complete, \$195; CB radio & antenna, \$35; elec. trailer brake control, load leveler hitch & bars. Lassiter, 298-2461.

**FREE BEAGLE cross pups**, 7 wks. old. McAvooy, 869-2223.

**DISHWASHER**, RCA Whirlpool portable, \$75. Reed, 299-7425.

**EVAP. AIR CONDITIONER**, 4500

CFM-SD 2 spd., used 2 seasons; Slim-Gym type exerciser, \$12; Garrard changer motor, \$5. Schubeck, 298-6697.

**BENCH TYPE passenger seat for van**, \$35; Westinghouse roaster oven w/broiler attach., \$35. Mattina, 299-7060.

**POOL**, 20'x4', complete except for liner, make offer; wood lathe, Craftsman 12" w/tools & stand, no motor, \$85. Johnson, 869-2098.

**LARGE ceramic top coffee table**, \$35; 55-gal. drum, \$3; beige carpet, 9x12 w/pad, \$15. McDonald, 299-9269.

**6x6x10x10 mesh**, 6 rolls, \$20 each. Baxter, 1610 Bayita Lane NW, 344-7601.

**WESTERN YOUTH SADDLE**, tooled leather, quick change stirrups. Barth, 345-0172.

**FLUTE**, Artley Wilkins model, solid silver, orig. cost \$550, sell for \$450 or best offer; small upright Whirlpool freezer, 12 1/2 cu. ft., \$150. Fisher, 266-2266.

**INDIAN JEWELRY**; old & new Indian rugs. Peters, 299-4327.

**SERVICE MANUALS**, '66 Olds, both chassis manual and body manual, \$5 for set. Sims, 255-6967.

**REVERSED CHROME RIMS**, 14" for GM cars; Toyota rim & tire, almost new, 13" whitewall. Vigil, 296-3590.

**RECR. TRAILER**, 20' Prowler 1969, self-contained, AC. Robertson, 296-4613.

**TYPEWRITER**, Smith-Corona, 14" carriage, elite type, \$50. Garcia, 877-1562.

**REFRIGERATOR**, top freezer, 1.3 cu. ft., cooler 6 cu. ft., needs repair on door gasket & handle; tire & rim, mud grip, 650/700-13. Perryman, 247-8485.

**BROWN shell heeshee**, fine quality, \$20/strand; 1 heeshee & chunk turquoise necklace; 2 concho belts. Atkins, 266-4408.

**LAWN SWEEPER**, 30", as is, \$5; Scott's spreader, as is, \$2; lift up camper door, center glass missing, \$10. Bassett, 898-1840.

**NORWEGIAN ELKHOUNDS**, AKC, excellent lineage, \$135. Camp, 268-8700.

**DESK**, gray metal, two pedestal. Schwoebel, 298-4295.

**BELT SANDER**, Stanley 497, almost new, \$100; B&D orbital sander, all ball bearing, \$40. Kjeldgaard, 296-2212 after 5:30.

**8' CABOVER CAMPER**, stove, icebox, sink, sleeps 4, 1 mo. old, \$850. Burns, 268-1306.

**SUPER 8 lip synch sound movies**, zoom camera, tape recorder, cassette, 3 cases, 4 prepaid mailers, \$225. Berman, 296-5640.

**TIRES**: pr. of H70-15's, raised white letters, \$15. Stuart, 265-7315.

**LOWRY SUPER GENIE ORGAN**, dbl. manual octave foot pedals, rhythm box, etc., 7 mos. old, \$1000. Kirchmeier, 344-5783.

**PORTABLE DISHWASHER**, Whirlpool Imperial 90, 2 spd., 6-cycle, 1 1/2 yrs. old, \$150. Welton, 299-8507.

**CAMERAS**: Contax Ila 35mm rangefinder w/f2.0 lens, two Zeiss folding 120 film f3.5; Yashicamat TLR. Jefferson, 299-1125.

**TREADLE SINGER sewing machine** in oak cabinet, \$50. Taylor, 344-8176 after 5:30.

**TIRES**, G78-14 will fit 825-14, four for \$20; Westinghouse refrigerator, \$45. Savitt, 268-0158.

**ROTO SPADER**, Sears, 5HP new motor, \$150. Wilkinson, 299-8327.

**PIANO**, Starr, console, \$300. Hill, 299-3772 after 5:30.

#### TRANSPORTATION

**'64 PONTIAC Bonneville**, AC, power, \$310. Hall, 299-0009.

**'71 BRONCO stn. wgn.**, V8, 4-wd, fully equipped, air, less than 4400 miles, firm price \$3300. Snodgrass, 268-8820.

**'72 FORD LTD**, 4-dr., AC, PW, PS, AT, vinyl top, FM-AM radio, Cruise control, 16,000 miles, \$3200. Vittitoe, 299-9298.

**BOYS BIKE**: Schwinn stingray 21", & beginners bike, best offer. Gomez, 256-1584.

**'61 VW BUG**, \$150. Mason, 296-7267.

**'68 VW CAMPER**, pop top, outside tent, gas heater, air, radio, radial tires, '70 engine w/oil cooler & filter, new brakes, \$2200. Campbell, 296-3518.

**'69 GTO**, factory air, PS, power disc brakes, 4-spd., vinyl top, mag wheels, Irving, 266-2401, 206 Adams NE, Apt. 1.

**MOD BIKE**, 3-spd., Demon, hand brakes, banana seat, 20" wheels, high-rise handle bars, nearly new, \$50. Smith, 281-3430.

**'66 OLDSMOBILE 442**, 43,000 orig. owner miles, new belted tires, will sell at NADA book. West, 298-6966.

**MONTE CARLO**, 1970, black w/vinyl top, fully equipped. McCoy, 294-1305.

**'72 PINTO** run about, 2000 cc engine, 4-spd., wide oval tires. Weaver, 265-4809.

**'64 CHEVY II wagon**, 6-cyl., stick, \$275. Sunderland, 294-1607 after 5.

**TRAIL BIKE**, Bridgestone 100 cc, dual sprocket, good for dirt or road, \$100. Peterson, 256-7514.

**BICYCLES**, men's & women's, 26", 3-spd., Wards Hercules, English lt. wts., \$35/ea.

Crumley, 299-5293.  
**'70 PONTIAC LeMans**, V8, AC, vinyl top, PB, PS, 4-dr., asking \$2000. NADA \$2125. 268-8161 or 843-2389.

**'67 HONDA 160 scrambler**, '73 license plates, street legal, w/elec. start, speedometer & skid plate, best offer over \$245. Goodson, 266-2498.

**'69 PLYMOUTH Roadrunner**, AC, R&H, many extras, orig. owner, low mileage, \$1200. Fuller, 294-3089 after 6.

**YAMAHA ENDURO**, 1970, 175cc, includes helmet and other extras, \$275. Hansen, 898-3173.

**'66 MUSTANG convert.**, Rod, 299-3141.

**'69 IMPALA**, custom coupe, power, AC, vinyl top, 40,000 miles, \$1600. Kelsey, 266-6460.

**'62 DODGE pickup D-100**, one owner, low mileage, 318 V8 engine, long wheelbase, heavy duty rear springs, tires, Randall, 299-0372.

**REG. Appaloosa gelding**, reasonably gentle, 3 yrs.; '66 VW sedan, rebuilt trans., good compression. Higgins, 898-0409.

**'72 TRIUMPH Trident**, 750cc, 5 mos. old, low mileage. Smith, 255-7274 after 5:30.

**'73 CHEVROLET Custom 10 truck & camper shell**, 1/2-ton, 3-spd., \$2900. Armijo, 242-2015.

**BOYS 20" Sears bike**, thornproof, \$15; ladies 26" Schwinn, \$15; Olds Ambassador trumpet, \$50. Lane, 298-3366.

**10-SPEED Schwinn Varsity bicycle**, \$45. Smaller, 299-8413.

**CANOE**, home made, canvas over wood frame, \$10. Miller, 255-6838.

**'66 OLDS**, 4 dr., R&H, AC, PS, PB, polyglass tires, \$750. Fjelseth, 299-8642 after 5:30.

**BRAND NEW girls bike**, 5-spd., 26" wheels, twist grip shift, \$62.50; 8-yr.-old mare, \$150. Shock, 877-3728.

**'72 FORD LTD 8-passenger stn. wgn.**, AC, PS, PB, AT, 18,500 miles. Jones, 299-6542.

**'72 FIREBALL motor home**, 8'x-16 1/2', Dodge 360 CID, AC, PB, PS, 7400 miles, warranty, list \$10,800, sell \$8500. Walker, 256-7391.

#### REAL ESTATE

**MOSSMAN 3-bdr.**, den, dbl. garage, fp, new carpet & drapes, lg. down, near everything, 2917 Dakota NE. Henderson, 256-1355.

**3-BDR.**, 1 1/2 baths, ww carpet, builtins, \$153 month includes PIT, \$20,000 total, \$4000 down, no qualifying, immediate possession. Bayer, 296-8346.

**1 1/2 HOURS FROM ALBUQ.**, mountain home, completely winterized. Conant, 256-0012.  
**MOSSMAN 3-bdr.**, 1 1/2 bath,

carpets, fp, drapes, built-ins, moderate down & assume 5 1/2% mortgage or refinance conventional. Kroth, 268-4661.

#### WANTED

**LATE MODEL CAR**, 4-dr., std. size, will pay full NADA retail for clean, low mileage, cash. Tiefa, 299-2763.

**GOOD sewing machine**. Morgan, 256-7994.

**1HP or 3/4 HP electric motor**, 110 VAC single phase for use on table saw. Frasier, 299-6933.

**TRADE antique clocks for good pool table or guns**. Flowers, 281-3458.

**USED rototiller or rotospader** in need of repair. Cyrus, 898-4038.

**PHOTOGRAPHIC ENLARGER**; transistor C-B radio transceiver. Fisher, 299-9235.

#### FOR RENT

**HOUSE FOR LEASE**: furnished, 4-bdr., 1 1/4 bath, den, near Base, available July 6. Gomez, 256-1584.

**BIG 4-bdr. home**, perfect condition, all the extras, 1 yr. lease, available mid-June, 10421 Hendrix NE. Gillette, 298-2868.

**MOUNTAIN CABIN** 25 mins. from city, Hwy. 10 south, adjacent to Nat'l Forest. Widner, 294-1934.

**3-BDR.**, 1 1/4 baths, AC, central heat, carpet, built-in oven/range, walled yard, single garage, premium rental, \$200/mo. Patterson, 243-6219.

**QUIET**, 2-bdr. unfurnished apt., carpeting, drapes, private yard, off street lighted parking, near Base, no children or pets, \$140. Shaw, 266-3421 after 5:30.

**CAMPING EQUIPMENT**: external frame tent, sleeping bags, packs, stove, lantern, etc. Hardesty, 294-3430.

**'69-'70-'71 Chevy or Ford 1/2-ton pickup**, good & clean, SW3, V8, 4-spd., Posi-traction. Mattox, 296-4149.

**35MM slide projector w/remote controls**. Kelsey, 266-6460.

**SUNBEAM twin rotor elec. mower**. Baxter, 344-7601.

**HOMES for lively Siamese kittens**, born April 4. Moody, 898-3780.

**1973 DODGE MOTORHOME**, self contained, many extras, daily or weekly rates. Wetherholt, 299-5736.

#### LOST AND FOUND

**LOST** — Money in brown folder, reward; small stainless steel pocket knife, ladies Rx sun glasses. LOST AND FOUND, tel. 264-2757, Bldg. 832.

**FOUND** — Man's black leather glove, man's lt. brown raincoat, 9 keys on ring. LOST AND FOUND, tel. 264-2757, Bldg. 832.

# Fiesta Mañana; Pools Open May 26

**HAPPY HOURS** — Tonight, Club manager Jim Schultz promises a fantastic spread of authentic Hungarian food and next week he's going ranch style — barbeque and the like. The Country Establishment is playing for dancing tonight while Denny Gallegos and guitar entertain in the main lounge. On May 26, Barbara Clark will be in the lounge and Wildman Bob Banks and trio will be on the bandstand.

\* \* \*

**TOMORROW** is Fiesta time with headliner Graciela Flores performing two shows — at 7 and 10:15 p.m. Sol Chavez and the mighty Duke City Brass will play for dancing. The Club's kitchen staff is putting a lot of TLC into the preparation of traditional Rio Grande-style Mexican food for the buffet. The fun starts at 6:30 p.m.

\* \* \*

**SWIM SEASON** opens with great news — the Club has acquired a third pool! An agreement with the military allows the Coronado Club to take over the former Special Services Family Pool located directly south of the Club's patio area. Entrance is on B Street.

The new pool has been renovated with tremendous volunteer work from the Coronado Club Aquatic Club youngsters and parents — particularly Club swimming director Max Newsom (5724) and board member Bill Fay (AEC).

Of interest to all Sandia and AEC employees is that the new pool is available to them during the noon hours for lap



FASHION SHOW at the Coronado Club during the noon hour Tuesday, May 22, features (l to r) Sandy Silva (7332), Nadine Ortiz (9551) and Archie Pearlman (7333) presenting summer styles from Omar's Boutique. Other models include Frances Fejer (AEC), Diana Patino (2314), Soila Candelaria (1537) and Mary Kite (TWA). Yolanda Adent (9310) will provide piano background and Linda Sanchez will moderate.

## Events Calendar

- May 19** — Bike Ass'n. tour to Jemez Dam, meet at Northdale Shopping Center, 9 a.m.
- May 19** — N.M. Mt. Club, Tent Rocks, Gulf Mart, 8 a.m.
- May 20** — Opening of 1973 N.M. Fine Arts Biennial, public reception, Museum of New Mexico, Santa Fe.
- May 20** — Symphony Safari, Albuquerque Symphony Orchestra will play a concert at the Rio Grande Zoo, 2 p.m.
- May 23** — Led Zeppelin concert, 8 p.m., UNM Arena.
- May 24** — Chicano Unidas general meeting, Model Cities Auditorium, 122 Broadway SE, 7:30 p.m., all employees welcome.
- May 26** — N.M. Mt. Club, Trigo Canyon, Lobo statue, UNM, 7:30 a.m.
- May 26-27** — Festival of Arts presented by Arthritis Foundation, Airport Marina, 12-9 p.m.
- May 26-30** — Bike Ass'n. Iron Horse Rally, Durango, Colo. Call Tom Mayer, 255-1565.
- May 27** — Bike Ass'n. tour to Corrales, Northdale Shopping Center, 9 a.m.
- May 27-30** — June Music Festival, Fine Arts Quartet performing Bartok String Quartets, Albuquerque Little Theater, 8:15 p.m.

swimming, a great way to exercise. On weekends, the third pool will alternate half hours of recreational swimming with lap swimming.

Opening day swim festivities include a patio party with Mike Michnovicz and accordion entertaining, happy hour prices from 11 a.m. to 6 p.m., snack bar in operation, and free admission.

\* \* \*

**TEENAGERS** should enjoy a party Saturday, May 26, with Hank Stone of KQEO as master of ceremonies and Ghost Rose on the bandstand from 7:30 to 10:30 p.m. Member parents should pick up tickets for their youngsters.

\* \* \*

**TRAVEL NEWS** — Both trips to Mazatlan next November are sold out, according to Bud Wheeler (4251), Club travel director, but odds are that if anyone wanted to sign up on a standby basis, there might be some cancellations.

Plenty of space is left on the

Mediterranean package scheduled Oct. 14 to 29. This one includes a week at Palma de Majorca and another week cruising on the RHMS Queen Frederica. Prices start at \$699. Bud has some great color brochures describing the cruise in detail. Call him on ext. 4256 for more information.

\* \* \*

**SANADO WOMEN** will meet for luncheon at 1:30 p.m. Tuesday, June 12. Speaker will be Dr. Frank Hibben, UNM professor of anthropology, who will show slides and discuss exotic animals, natives and scenery of Africa.

**Bread Winner.** 

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