

Safing Switch Awarded Patent

A patent has been awarded to DOE for a fluid metering inertial switch, the MC2854, part of the safing system for the W76/Mk4 Nuclear Warhead/Reentry Body for the Trident C4 missile. Inventors are Joe Abbin (2541), Howard Devaney (2542) and Lew Hake (retired).

The device is unique in that it senses the acceleration of the missile launch environment and closes and latches 10 normally open electrical circuits, but it will perform this function only if the launch environment is sensed—the specific acceleration for the specific amount of time.

This is accomplished by an inertial piston in a fluid-filled chamber with a bias spring exerting a precise force on the piston. The launch acceleration environment will push the piston against the spring, causing the piston to move at a speed governed by metering the fluid through a small orifice until all the acceleration/time conditions are met. A decoupling mechanism removes the bias spring force from the inertial piston just short of the point where the normally open electrical circuits are closed. This feature allows most of the force available from the missile launch acceleration to drive the piston and overcome the frictional forces associated with closing and latching the electrical contacts.

Another unique feature of the MC2854 is its ability to permanently lock the 10 normally open circuits in the open condition (fail safe) when abnormal temperatures are encountered, such as in a fire. The device contains a detenting feature which operates at an elevated temperature and locks the inertial piston in its fully safe position. Loss of the metering fluid in the chamber for any reason also locks the piston in the safe position.

The switch also contains features that allow it to be monitored and reset during inspection.



INVENTORS Joe Abbin (2541) and Howard Devaney (2542) examine the MC2854 acceleration switch that recently received a patent. At left is a transparent plastic model used for "show and tell" which demonstrates the unique capabilities of the switch to provide safety for the W76 missile warhead. The device will not allow closure of 10 electrical circuits until the precise conditions of missile launch are met.

Love Boat It's Not!

If you have assumed that a two-month cruise on the *Glomar Challenger* is all shuffleboard and cocktails, forget it.

Carol Stein, a geologist in Earth Science Division 9731, spent July and August working in the northwestern Pacific on the drilling vessel. Her job was to evaluate technical problems associated with deep-sea drilling, and to make suggestions as to how Sandia engineers might improve or adapt existing technology to this type of specialized situation.

Glomar Challenger is a research vessel owned by Global Marine, Inc., and under contract to Scripps Institution of Oceanography in La Jolla, a division of the University of California. Typically, the *Challenger* is out for six to eight weeks at a time, operating continually. It has taken core samples in almost every corner of the world's oceans since the beginning of the Deep Sea Drilling Project in 1968.

"Science at sea is not at all like science in the lab," says Carol. "As a member of the scientific party, I spent most of my time doing routine sedimentology and core description, X-ray mineralogy, and organic geochemistry. In addition, my responsibility was to define those areas where scientific information is desired, but is not currently obtainable with existing instrumentation—there is a great deal of room for the kind of improvement that Sandia expertise could provide."

Carol joined *Glomar Challenger* in Yokohama on June 24. The primary

purpose of this two-month "leg," or cruise, was to collect core samples in the Nankai Trough and the Japan Trench.

"Just east of the Nankai Trough, we drilled to establish a reference section, to see what the sediments look like before they're deformed by pressures at the edge of the Pacific Plate," says Carol. "Except for a few minor hitches, drilling here went fairly smoothly.

"At the next two sites, we drilled into a different type of geologic setting—where the sediments get scraped off and pile up at the plate boundaries. It's a fascinating way to explore plate tectonics, currently the dominant theory in geology."

Four computer-controlled thruster engines located fore and aft, one on each side, maintain the ship's precise position while drilling. Called "dynamic positioning," the system fixes the ship's position by means of a radio beacon, and the computer controls these engines to maintain the exact coordinates. A 200-foot-high derrick amidship supports the drill stem that protrudes through the bottom of the ship's hull to the ocean floor.

"I was part of an international scientific team," says Carol. "One American and one Japanese scientist were co-chiefs. Half of the team was from Japan and the rest from Britain, France, Canada, Germany, and the U.S. All together, *Challenger* carries about 60 people, including the crew, two teams of drillers, the Scripps technicians,

ECP Total Reaches \$952,304; Tops Goal by \$37,000

Sandians pledged a record \$952,304 to the Employee Contribution Plan during the recent campaign, reports Glen Kepler (1810), ECP committee chairman. "We topped our goal of \$915,000 by some \$37,000," Glen says.

The tally is not quite complete. There are late cards yet to be included, and some employees are still on vacation.

The percentage of total employees participating increased slightly from 86.1 at the beginning of the drive to 86.5 percent. Percentage of Fair Share contributions also increased—from 49.6 to 49.7 percent.

"The results of the drive are extremely encouraging," Glen says. "Sandians have a very, very good record in the community, and these ECP figures make it even more outstanding. I think it's super."

and the 16 or so who make up the scientific party.

"At the second site, we were drilling toward a fault zone identified with seismic profiles supplied by JAPEX—a large Japanese oil company. These profiles are

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LAB NEWS

VOL. 34, NO. 22

SANDIA NATIONAL LABORATORIES

OCTOBER 29, 1982

Antojitos

Themes from 7 Deathly Sins

1. "If there ever were an accident, I'd just hold my child back with my right arm so she wouldn't go through the windshield."
2. "I'm not driving on the freeway. So I don't need my seatbelt."
3. "Thanks for the ride. I won't put on a seatbelt because you're a good driver, aren't you?"
4. "It's not really dark enough for my headlights to help me see yet, so I'll use my parking lights."
5. "My brakes hold O.K. if I pump them a few times."
6. "I use my turn signals whenever I'm near a car that really needs to know whether I'm going to turn or change lanes."
7. "Look at the guy accelerating down the entrance ramp. He'd better not try to enter the right lane. I would move over, but it's mine--I was in it first."

There they are--seven statements by otherwise intelligent motorists, arrayed in order from the absolutely asinine to the merely stupid. What's wrong with each? 1. There is no way that you're going to hold any child, even a tiny one, in place against the inertial forces of a panic stop situation, much less a collision. And you're risking someone else's life, not merely yours. 2. Whatever the speed or the roadway, seatbelts are your cheapest form of car insurance. 3. If the person from whom you accepted a ride is insulted by your use of seatbelts, you're riding with an idiot. How is he/she going to ensure that all other drivers on the same road are faultless? 4. Headlights are not only for seeing. They're also for being seen--and avoided--by other cars. Parking lights are for parking. 5. When you really need brakes, you don't have time to pump them. And there is no way to know when you'll need them. 6. Learn to use turn signals out of habit. Habits like brushing your teeth and using your turn signals can protect your health. In even the mildest type of emergency, taking the time to decide whether to use turn signals is a luxury you won't have. 7. This is the reasoning of a feckless dolt. If you can move left safely, do so--it's exactly what you'd prefer the other driver do if the roles were reversed.

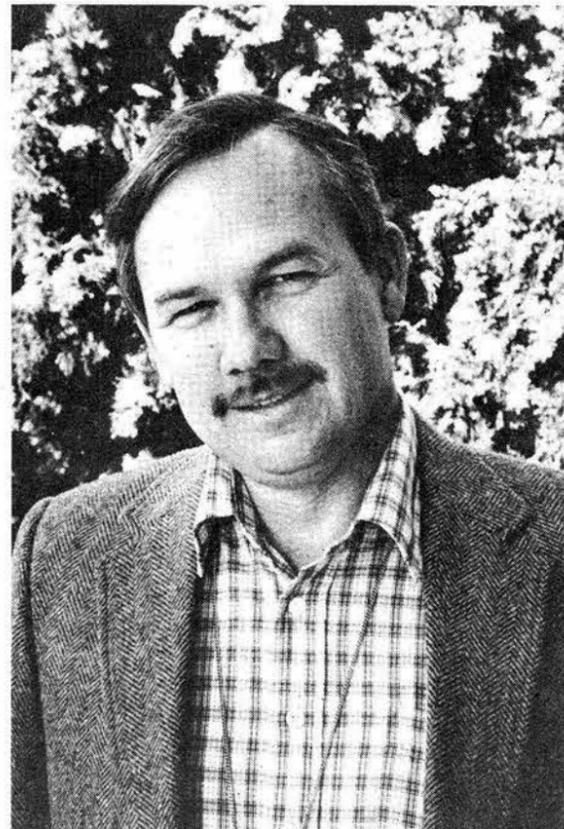
End of sermon.

●BH

* * *

An expert doesn't really know any more than you do. He is merely better organized and has vu-graphs.

Supervisory Appointments



BILL CHILDERS (9331)

BILL CHILDERS to supervisor of Phase I and Phase II Division 9331, effective Oct. 1.

He joined Sandia in 1961, working first in the explosive test lab, then in arming and fuzing for the Air Drop Readiness Program as an arming, fuzing and firing systems designer. In 1968 he transferred to Livermore as a reliability engineer, most recently working in advanced systems design and as the lead electrical engineer on the W82 system.

Bill's education includes an associate degree in EE from Georgia Southern Technical Institute at Atlanta; then, through the educational aids program, he earned a bachelor's degree in mathematics from Cal-State Hayward and a master's in EE from UC Davis.

Recreational activities such as skiing, fishing, and hiking take up his free time. His wife, Pat, is section supervisor of 8214-1 but will be moving to Albuquerque at the end of the year. They have four grown children.

* * *

JOHN DICKINSON to supervisor of A&F Systems Section 7132-1, effective Oct. 1. John is located at LLNL.

He joined Sandia in 1949 as a technician in the weapons program. Since that time he has worked in field test, taking part in the Dominic series in the '60s that included some time in Livermore and the Pacific; he also has worked at Nevada Test Site. His most recent assignment has been in Safeguards Division 9233.

John's formal education was at the University of Chicago where he attended radio school while on a three-year tour of duty with the U.S. Navy.

He and his wife Del have five grown children; they plan to locate in the Livermore area.

Death

Merlin Manteufel of Technical Security Division 3433 died Oct. 18 after a long illness. He was 55.

He had worked at the Labs since August 1954.

Survivors include his widow and two daughters.



We in the US have traditionally viewed science as the domain of scientists, but the Japanese treat science as a universal basic skill. Fifty percent of Japanese managers—but only a tiny fraction of managers in the US—have a strong science background. That the Japanese are also world leaders in many areas of technology is probably no coincidence.

Stanley Pogrow in *Phi Delta Kappan*

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Synchrotron Radiation

What is the strange attraction that has kept drawing Rick Stulen and Steve Haney of Physical Research Division 8347 back to Stanford?

"We go there to learn more about synchrotron radiation at the Stanford Synchrotron Radiation Laboratory [SSRL]," Rick says. "This national research facility is actually an integral part of SPEAR, which stands for Stanford Positron Electron Annihilation Ring. It is used by high-energy physicists in their elementary particle studies. SPEAR is a tremendous resource for us, as it is located only 50 miles west of Sandia."

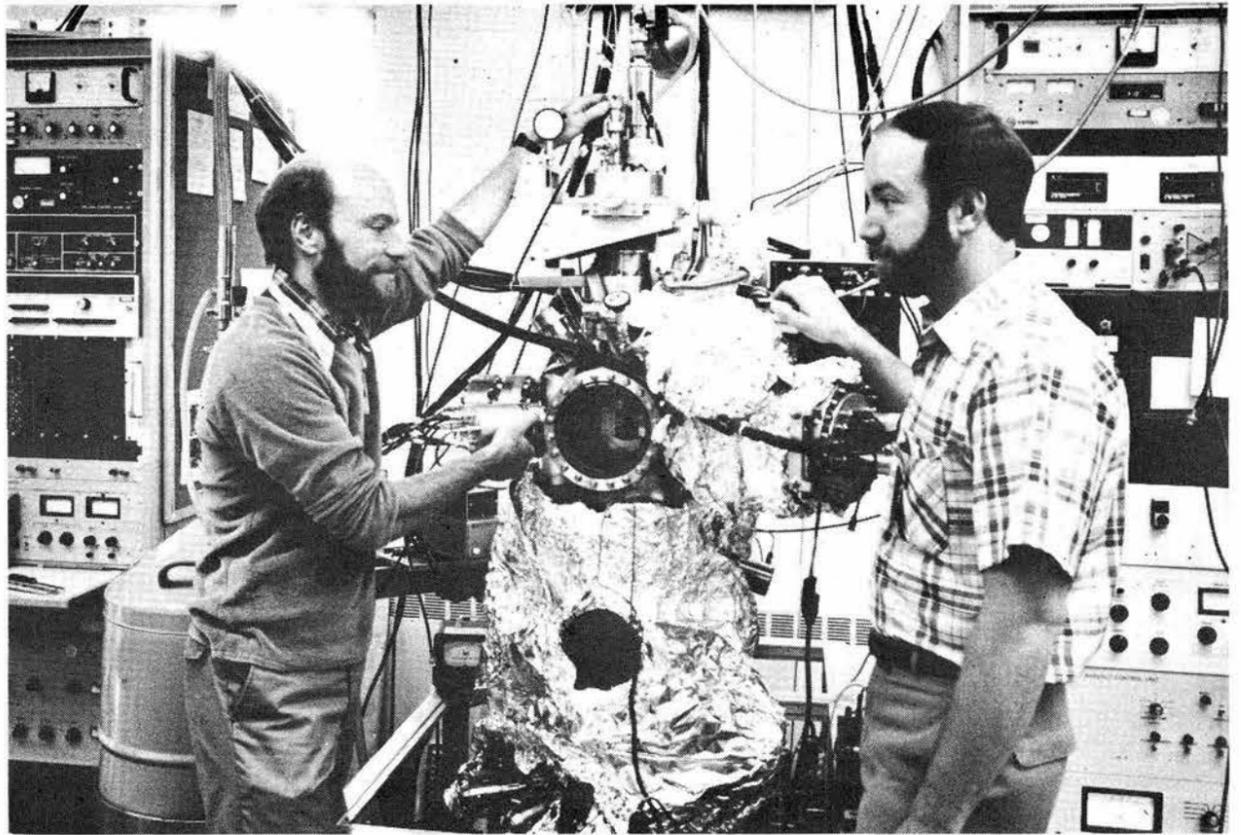
SPEAR contains positrons and electrons traveling in opposite directions inside a basically doughnut-shaped vacuum vessel. They are made to collide at specific locations in the ring, producing subatomic particles used for study by the high-energy physicists. But the electrons generate a very intense light, called synchrotron radiation, as they are accelerated around the main storage ring. This radiation is a problem because emitting this kind of energy slows down the electrons and positrons so they have to be 'kicked,' or accelerated, several times as they travel around the storage ring in order to maintain a constant velocity.

"We've found that synchrotron radiation is not all bad," says Rick. "In fact, it is a new tool for studying the bonding characteristics of hydrogen and other gases to well-defined metallic surfaces.

"Primarily, we use a technique called photon-stimulated desorption, or PSD," says Rick. "Mike Knotek was the first experimenter to look at PSD using synchrotron radiation around 1978, and we've become involved through working with him. In the PSD techniques, we expose a clean, solid surface to a particular gas, in our case, hydrogen. The photon beam is then directed toward that hydrogen-covered surface causing desorption or emission of protons that we detect using sophisticated time-of-flight techniques. We study the dependence of this process on photon energy. We're particularly interested in characterizing the near threshold or valence excitations involved in stimulated desorption. Synchrotron radiation allows us to probe with a wider range of photon energies than is possible with conventional laboratory light sources—basically the entire spectrum from visible light to the very hard X-ray region is accessible."

The Livermore program has continued to expand and now enjoys significant theoretical support from Division 8343. Livermore is now assembling a 40-foot equipment-laden trailer to be located at SSRL and used by all Sandia staff preparing experiments there. "This trailer will ease our life tremendously there and as a result, I would hope, increase our productivity as well," says Rick.

The Sandia group includes Mike Knotek (1114) and Guillermo Loubriel (1152) as well as Rick and Steve and Tom Felter (8347) and Michael McClellan (8315), the latter two part-time.



WORKING at their Sandia lab are Rick Stulen (left) and Steve Haney (both 8347). They are making adjustments to the electron stimulated desorption (ESD) equipment that relates very closely to the work they do with the Stanford synchrotron.



SANDIA LIVERMORE NEWS

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Supervisory Appointment



JOAN WOODARD to supervisor of Solar Programs Division 8431, effective Oct. 16.

Joan began her career at Sandia in January 1974 in the systems studies division on a solar collector study. She then moved to the solar energy technology division where she worked on the technical management and the design evaluation for the Barstow Solar Central Receiver pilot plant. Upon completion of this evaluation, she contributed heavily to the systems analysis of solar hybrid and repowered plants. Her most recent assignment has been in the Combustion Applications Division 8522

where she performed research on the auto-ignition properties of synthetic fuels.

Before coming to Sandia, Joan earned a bachelor's degree in applied mathematics at the University of Missouri at Rolla. She also has a master's in engineering economic systems from Stanford through the OYOC program and a PhD in ME, obtained from the University of California at Berkeley through the Doctoral Study Program.

Joan and her husband Jim, who is supervisor of the Weapon Subsystems Development Division 8465, live in Pleasanton with their four-month-old son. They are active as junior high youth counselors in their church and enjoy cross-country skiing and backpacking. Joan is also a runner; she completed the Pacific Sun Marathon last year.



LEAP committee member Joan Bersie (8300) visits with Twin Valley Learning Center student Michael Walton; Peg BonDurant (8215) is at left. Learning Center co-director Carol Thorsness is behind desk. The LEAP campaign has already exceeded its goal by a considerable amount, according to LEAP chairman Mike Gusinow (8512).



ALTHOUGH Carol Stein (9731) isn't one to make waves, she nonetheless braved a typhoon in the northwestern Pacific. The stormy interlude occurred during a two-month cruise on the drilling ship *Glomar Challenger*.



IN CALMER weather, Carol poses with other members of the multinational scientific team.

Continued from Page One

Love Boat It's Not!

maps of portions of the sea floor showing the subsurface structure. One of the problems we encountered was occasional loss of the drilling bit. In almost 5000 meters of water, it took 22 hours to bring the pipe up, put on a new bit, and return it to position. Not only that, but during a routine inspection after a month at sea, cracks were found in the derrick. We raised the drill string very carefully and headed back to Yokohama for repairs. There we also exchanged several scientists.

"The ship returned to the same site, but we had incredibly bad luck. Just when we drilled down to the depth we'd reached before, we received a report that a typhoon was roaring up from Taiwan. We headed north toward our next site, off Hokkaido, the northernmost main island of Japan. Unfortunately, the typhoon changed course and ran right over us. It was a real first for the *Challenger*—70- to 80-mile-per-hour winds and 35-foot seas.

"It was absolutely awesome," continues Carol. "Because the ship was top heavy and had a very high center of gravity, the captain had to keep it always at a certain angle to the wind. This meant that at times the ship was almost broadside to the waves—everytime they smashed against the hull, the noise was deafening and the entire ship vibrated. It wasn't exactly reassuring either when they started feeding us extra information about the 'survival equipment.' As most of us were of uncertain stomach, and it was impossible to work, sleep, or read, we wedged ourselves into easy chairs in the science lounge and watched old John Wayne movies for the next three days.

"Passing through the eye of the typhoon was an eerie experience—through a hole in the clouds, a little bit of sunset was visible, and hundreds of birds were milling around in a mass of swirling clouds.

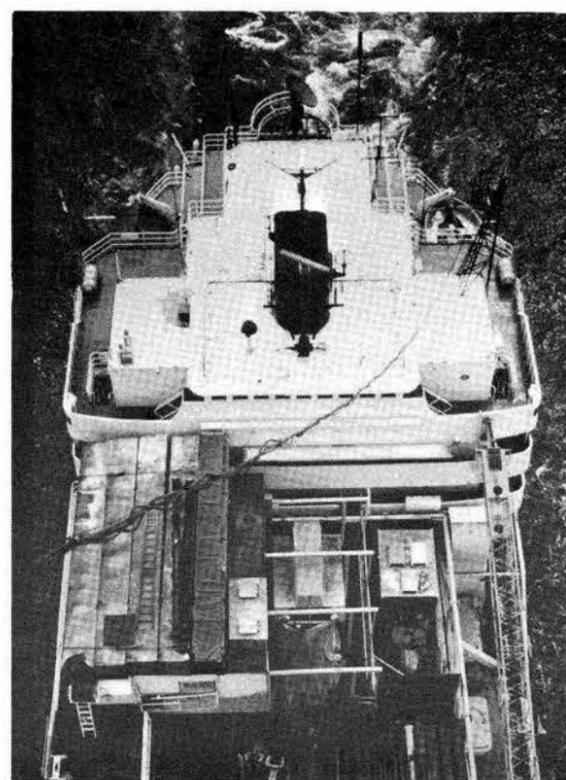
"After the typhoon, we went to the third site, on the west flank of the Japan Trench. Things went fairly successfully until the

hole caved in—but we managed to penetrate almost 950 meters of sediment."

As for recreation on the ship, Carol reports precious little: "I tried jogging around the foredeck—32 laps to the mile—but it wasn't really satisfying," she says. "The best exercise available was climbing the derrick, all 200 feet—quite a thrill, really! It was a pretty spectacular view of the deck and the drilling operation, but the rest of the scenery was nothing to write home about.

"I learned a tremendous amount from the other scientists," Carol concludes. "In addition to observing closely the technological aspects of the whole operation for Sandia, I found it extremely rewarding and personally very satisfying to have been a member of this international effort. All in all, it was an extraordinary opportunity to participate in a unique program."

Glomar Challenger docked at Hakodate, Hokkaido, in mid-August. From there,



CAROL snapped this vertiginous view from atop the ship's 200-foot derrick.

Carol took off on her own for a two-and-a-half-week jaunt through Japan and Korea. But that story later . . .



GARY SHEPHERD (2614) directs young actors and actresses of the Neighborhood Drama Project in their roles in "Switcheroo," a musical comedy about the Old West written, composed, directed, and produced by Gary. It opens to the public Saturday, Nov. 6, at 3:30 and 7:30 and on Sunday, Nov. 7, at 7:30. The Neighborhood Drama Project, 1020 Edith SE, was established by Gary in 1970 and performs several productions each year. It is sponsored by the New Mexico Arts Division (National Endowment for the Arts). Donations of \$1 are accepted at the door.

Take Note

The Albuquerque chapter of the Quarter Century Wireless Club, a national ham radio operators organization, recently presented its 60-Year Award to retiree Frank Goss, Jr. That means Frank has been active in ham radio for 60 years. "I don't remember what started me off," he says, "it's been so long. Electrical things always did interest me. I do remember doing high-school algebra homework on the air with my buddy." Since retiring in 1968, Frank and his wife Claire have traveled in their motor home throughout the U.S., Canada, and Mexico. Naturally, Frank carries his ham radio equipment along with him.

* * *

On Sunday, the Albuquerque Museum opens a new show by four painters, three sculptors, and a photographer, all of them displaying a strong New Mexico influence. The show, *In Place*, will run until Feb. 6.

* * *

A new singles group, the Singles Fellowship, is forming. Non-denominational and non-profit, the group seeks members for meetings and activities. Call Patty Gonzales on 298-6752 for more information.

* * *

The Tierra del Sol Council of Camp Fire invites the public to join in the festivities tomorrow at their first Holiday Bazaar. Lots of games, crafts, baked goods, and fun. Costume contest with prizes for scariest, cutest, funniest, most original (and for best adult). It runs from 9 to 2 at the Camp Fire Service Center, 4101 Silver SE. More info from 265-8786.

* * *

The Beta Aloosters Chapter of Toastmasters International meets every Wednesday from noon until 1 p.m. at the Coronado Club. "Our purpose is to improve public speaking skills," says Oscar George (1513), "and the best way to



VAUDEVILLE SHOW-STOPPER last week was President George Dacey, who performed—with dash and skill—a number from Gilbert and Sullivan's *Trial by Jury* that he re-wrote for the occasion, a reporting luncheon for United Way. Sandia is currently at \$952,000, some \$37,000 over the goal of \$915,000.

improve is through practice. We offer a supportive group, and we are looking for new members." Call Oscar on 4-9159 for more information.

* * *

Retiring this month and not shown in LAB NEWS photos are Oscar Berlier (3613), Wally Boyes (3155), Bill Busby (2624), John Crye (3631), Johnson Hays (7123), Elden VanVickle (3611), Perfecto Romero (3615), Willie Garcia (3163), John VonDreele (2544), and Antonio Skender (3741).

Events Calendar

Oct. 29-31—Sandia Ski Patrol Ski Swap, Ag. Bldg., State Fairgrounds.

Oct. 29-Nov. 14—"Murder Among Friends," Albuquerque Little Theatre, 8 p.m. Tues.-Fri., 6 & 9 p.m. on Sat., 2 p.m. on Sun., 242-4315.

Through Nov. 21—"Never Get Smart With An Angel," comedy at the Barn Dinner Theater, 281-3338.

Oct. 31-Feb. 6—Contemporary New Mexico Art by eight painters, sculptors, and photographers, Albuquerque Museum, West Gallery.

Nov. 1—Albuquerque Philharmonic Orchestra concert, 8:15 p.m., Highland H.S. Fine Arts Center, no admission.

Nov. 4-6—The Experimental Theater at UNM presents a new play by a Southeastern playwright, 8 p.m., UNM Fine Arts Center, 277-4402.

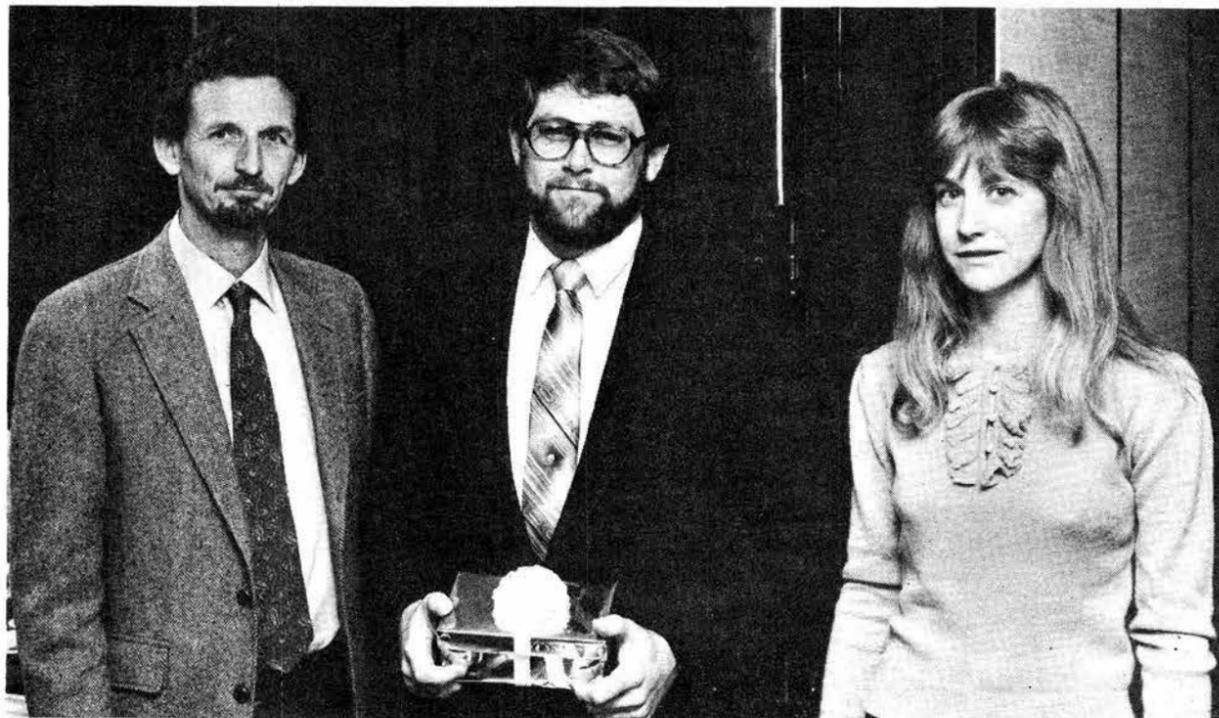
Nov. 5-6—"Heritage," 10th anniversary performance of the New Mexico Ballet Co., 8:15 p.m., Popejoy, 277-3121.

Nov. 5-7—10th Annual SW Arts & Crafts Festival, 10-9 Fri. & Sat., 10-6 on Sun., State Fair Exhibit Hall, 881-2777.

Nov. 5-7—Annual Los Novicios Craft Guild Christmas Show, 10-9 Fri., 10-6 Sat., noon to 5 on Sun., Montgomery Plaza Mall.

Nov. 6—6th Annual Marching Band Fiesta; 25 high school marching bands from N.M., Colo., Ariz., and Texas compete. Preliminary competitions 8-4, finals 7-10 p.m., University Stadium.

Nov. 8-9—A Festival of Choruses, featuring the UNM choral ensembles, free, 8:15 p.m., Keller Hall.



BOB GREGORY, Director of Microelectronics 2100, left, recently presented Larry Young, Bendix Kansas City product engineer, center, with the 60,000th LSI integrated circuit die fabricated in Sandia's Center for Radiation Hardened Microelectronics. The work is performed in Melanie Tuck's (right) Process Operations Section 2141-1. The die is used in support of the B83 and W84 programs at Bendix.

Coalition Does What Government Can't

Tomorrow is Embudo Canyon Recovery Day, and a host of volunteers will fan out over Embudo Park (at the far east end of Menaul Blvd.), one of the sites in the Sandia Foothills Open Space Program. They'll busy themselves constructing erosion control mini-dams, removing graffiti and litter, landscaping, improving trails, and repairing fences and signs.

The driving force behind all this activity is Volunteers for the Outdoors, a newly formed statewide volunteer group. A coalition of the many outdoor-oriented organizations in the city and state, its aim is to encourage these organizations to undertake the many jobs that the government can't handle.

Sam Beard (1633), one of the many on-roll and retired Sandians active in VFO, tells us about the group: "The Appalachian Mountain Club, headquartered in Boston and the White Mountains of New Hampshire, recently received a \$600,000 grant from the Richard King Mellon Foundation to assist volunteer organizations in taking a more active role in helping solve their local public land management problems," he says. "The Forest Service is being encouraged to cooperate with these groups, and in view of the many budget cuts they appreciate the help."

"The Appalachian Mountain Club people thought that other parts of the country would benefit from their approach. Essentially a giant outdoor club founded in 1876, AMC puts in and maintains trails in cooperation with state agencies and the Forest Service. The grant is for a three-year program to select six sites around the U.S. where volunteer efforts can be improved. AMC will give subgrants to these local groups and share its expertise through workshops and technical assistance."

Sam, a long-time member of the New Mexico Ski Touring Club and author of *Ski Touring in Northern New Mexico*, is an old hand at trail work. For years an Adopt-a-Trail program in the Sandias has enabled clubs to adopt one or more trails in a given area. These groups are responsible for maintaining the trails by trimming branches and removing logs and litter.

"VFO is an enlargement of the Adopt-a-Trail program to cover all public lands in New Mexico," says Sam. "To get the ball rolling, Roger Moore, an AMC staff member, came to Albuquerque in January to work with representatives of local groups."

Other Sandians active in VFO are Art Arenholz (3520), Wendell Nelson (0143), Corry McDonald (ret'd), and John Southwick (ret'd). The group publishes a newsletter, *Volunteers for the Outdoors—The New Mexico Section*, edited by John Shunny, former LAB NEWS editor. A booklet, *Job Opportunities for Volunteers* that lists some 200 forest-related jobs, is also available from the Forest Service.

For more information, call Sam on 821-0309 or Roger Moore on 299-0275.



MARKING a trail in the Sandias is Art Arenholz (3520) while Sam Beard (1633) looks on. They're both members of Volunteers for the Outdoors, a new statewide volunteer outdoor group.

FY82 Fiscal Data Released

The Sandia payroll for fiscal year 1982, which ended Sept. 30, amounted to \$208.5 million at Sandia Albuquerque and \$34.2 million at Sandia Livermore. For FY81, these figures were \$187.4 million for Albuquerque and \$30.4 million for Livermore. Salaries of some 90 Sandia employees at Nevada Test Site and Tonopah Test Range are included in the Albuquerque figures.

At the end of FY82, 7950 employees were on roll at Sandia, including 1088 at Livermore. The total is about 70 fewer than at the end of FY81.

Assets of the DOE installations operated by Sandia totalled \$591.8 million at the end of FY82, compared to \$522.6 million in FY81. These figures represent un-depreciated value of buildings and facilities at all three Sandia locations.

Purchases by Sandia in New Mexico amounted to \$115.7 million for FY82. About 99.3 percent of the amount, or \$114.9 million, went to Albuquerque firms. Purchases from other DOE contractors are not included. Purchases in the state in FY81 amounted to approximately \$102.5 million.

feed back

Q. How about moving the unused Mardix booth west of Bldg. 806 to Gate 11?

A. There are already several proposals regarding a new location for that booth. Gate 11 is being given consideration.

D. S. Tarbox—3400



WE'RE INVITED by Lobo Louie and these Chapparals to come out Nov. 13 for Sandia Night at the Lobo-Colorado State football game. The Lobos are currently 6-1 for the season, the tickets are \$5 each (rather than \$8), and the selling locations for the tickets are the Credit Union and the Coronado Club beginning Nov. 1. Or look for special promotions at noon on Nov. 1, 3, 5, 8, 10, and 12. All special seats are in Section CC on the east side of the stadium between the 10 and 25 yard lines.

IRS Doesn't Stand for 'Individualized Retiree Services'

by Ted Sherwin

One of the few unpleasant surprises I discovered after retiring was that the IRS requires many retirees to file "Declarations of Estimated Tax" on taxable income received after retirement. Generally speaking, if your estimated tax due is \$200 or more and your gross taxable income for the year includes more than \$500 in income not subject to withholding, you must file. Your first declaration is due at the start of the quarter following your retirement, and you may pay the tax due in equal quarterly installments, or you may file your Form 1040 by January 31 for the preceding year and pay the full amount due at that time. All the details are covered in IRS Form 1040-ES, which contains an "Estimated Tax Worksheet" and tax schedules, as well as the Declaration Voucher.

Your income tax situation is considerably different after retirement, and often more complicated, than while you were working and having taxes withheld. Therefore, many retirees will find it advisable to consult a tax expert to determine their tax liability and the best way to proceed to minimize the tax bite.

There are various ways you can invest the proceeds of your Bell System Savings Plan, and the tax consequences will vary according to the type of income you receive from such investments. Long service employees with substantial sums to invest will do well to talk to a financial expert, such as an investment counselor, if they can find one who isn't selling something.

In the course of your preparations for retirement, you will learn from the Benefits Administration Division that the tax due on the proceeds of your Savings Plan may be reduced if you take advantage of the IRS "Special 10-Year Averaging" Plan, as explained in IRS Form 4972 and attached instructions. Don't be misled by the title of the instruction. It does not mean that you can spread your tax payments on the lump sum settlement over a period of 10 years. It simply means that you are permitted to figure your tax liability (on this part of your income only) as though it *had* been received in 10 equal installments, rather than as a single substantial sum that would be taxed at a higher rate if added to your other taxable income for the year.

To oversimplify slightly, you compute the tax on one-tenth of the lump sum amount that is taxable as ordinary income, and then you multiply that by 10 to find your total tax due. The result may or may not be to your advantage, but you have to figure it both ways to be sure; you need to do this before you file the Declaration of Estimated Tax due, mentioned above.

The income tax work sheets and booklet furnished to retirees who are participants in the BSSP are very helpful in collecting the figures you will need to determine how much of your lump settlement is taxable as ordinary income and how much as capital

gains. You may want to include the capital gains as ordinary income in the Special 10-Year Averaging Method but, again, it may not be to your advantage. Still, you have to figure it both ways to find out.

So, do you begin to get the idea that maybe the services of an expert might be helpful? That expert can only work with the information you give him or her, however, so be sure you are collecting all pertinent income data as you go along. The Benefits Administration Division, aware of the complexity of the income tax situation many retirees face, holds special briefings to help employees who are retiring become aware of the IRS regulations, including some examples of optional methods of figuring taxes due. They are *not* able to give tax advice on specific situations for individuals.

Observations on Retirement

•There are worse things than driving in rush-hour traffic. Almost any other time of day is worse, in fact. Worse because the flow is not uniform or predictable. Three slow drivers running side-by-side on the freeway, never looking back or to the side, can be extremely frustrating when you're late for a dental appointment

•Everything grows better and bigger when you give it more water, fertilizer, and loving care. But there is a limit to the amount of zucchini and tomatoes you can unload on your friends.

•Most of the things you expected to save money on turn out to be correct—not so much dry cleaning, less dining-out expense, fewer miles driven so insurance rates go down some, and, of course, there's no withholding tax. But that can be a mixed blessing, as I explained in my tax article. Your utility bills go up, even without inflation, because you're home more, watering more, using more gadgets, ect. And you spend more on entertainment (but less on clothing).

•The greatest invention since sliced bread turns out to be the TV "zapper," that nifty little gadget that enables you to kill from a distance the laxative commercial that always comes on just as you sit down to eat, and all the other distasteful or offensive commercials. Great device for switching from one station to the other to catch various versions of a fast-breaking news story, too.

•Your pattern of living probably won't change drastically—if you were always a morning person you'll still get up early—but you'll enjoy the freedom from pressure. No more clock-watching and deadlines. And that's really what retirement is all about; slowing down a bit and taking time to do the things you always wanted to but never had the time. It's terrific.



LT. COL. ORIE MONTOYA (1813)

Orié Montoya Retires from National Guard

Orié Montoya, an ESA in Physical Properties of Polymers Division 1813, retired recently from the New Mexico Army National Guard with the rank of lieutenant colonel after serving 32 years. At his retirement ceremony, Orié was presented the Meritorious Service Medal for distinguished service.

Orié served 10 years as an enlisted man, rising to the rank of master sergeant before attending Officer Candidate School. He graduated in 1959 as a second lieutenant and held several positions before becoming commanding officer of Battery B, Third Automatic Weapons Battalion in Belen. During two of the three years Orié headed the unit, it was awarded the Eisenhower trophy for the best unit in the state.

He has worked at Sandia 27 years, primarily in materials research areas.



OUTSTANDING ACHIEVEMENT by Sandia was the reason that the New Mexico Minority Supplier Development Council awarded this plaque, held by Jay Hughes (3731, left), Sandia's Small & Minority Business Liaison Officer, and Richard Russell, Director of Purchasing 3700. Jay, who has been one of the most active and successful people in the country at getting minority businesses into the mainstream of the American enterprise system, reports that Sandia purchased over \$18 million worth of goods from minority suppliers last year.

Fun & Games

Triathlon—We're just one week away from the Sixth Annual Triathlon, the Jay Benson Memorial, so there's still a little time to take your body outside and see whether all the parts are still working. The five-mile run, 10-mile bike, and ¼-mile swim event is set for Sunday, Nov. 7, at 8 a.m. sharp, west of the East Base Olympic Pool. Entry forms are available through the Coronado Club on 4-8486.

* * *

Basketball—Labs Association competition starts in early December, so now's the time to assemble player rosters. Get them to Joe Maez (1114) by Nov. 19. Costs run \$6.50 for Sandians and dependents, \$14.25 for DOE and contractor people. An organizational meeting will be held Nov. 30 at 4:45 at the C-Club. More info from Joe on 4-8939.

* * *

Running—The New Mexico Foundation Against Women's Cancer will hold a Five-Mile Run on Sunday, Nov. 14, at 10 a.m. at San Gabriel Park. Proceeds will go toward the group's Second Annual Conference on Women's Cancer next March. Entry fee is \$4 (\$5 after Nov. 10). T-shirts, too. For entry forms or info, call Julia Vargas on 4-2364.

* * *

Marathon Reminiscences—Alan Bolles (7587), age 28, ran his first marathon a couple of weeks ago. The experience moved him to verse:

An eager young runner named Sam
Ran a marathon Sunday A.M.
He said, "It was neat,"
But where are my feet?
I had both of them when we began!"

* * *

Ski Swap—It's tomorrow and Sunday at the Ag Bldg. at the Fairgrounds, and it's the best chance around to outfit yourself and your family with downhill and cross-country ski gear at reasonable prices—9-4 tomorrow, 2-4 Sunday. Proceeds go to the Sandia Peak Ski Patrol. (Consign gear for selling today until 8.)

* * *

Massage—A therapeutic massage class for couples will be offered through Sandia's Employee Recreation Program starting Tuesday, Nov. 9, at the C-Club. Professional therapeutic massage specialist Bob Morgan of Southwest Sportsmedicine is the instructor. The focus of the class will be on the back, neck, shoulders, and feet. Couples will gain a good working knowledge of the muscle groups in those areas as well as several types of massage techniques useful in relaxing their partners after a tough day at the fusion accelerator. The class meets Nov. 9, 16, and 23 from 7-9 p.m. Cost is \$13. (An intense, one-day workshop is also available—Nov. 13 from 8:30 to 1. Less material is covered—no foot massage—and the cost is \$11.) Call Tom Lenz on 4-8486 for signup or further info.



SANDIANS SURVIVING the Tour of Albuquerque Marathon include (front): Jerry Gallegos (3615), Larry Johnson (9323), Kathie Hiebert (7241), Linda Graham (2626), Max Sandoval (0314), and Ed Dale (2627). Standing, Bob Fragua (DOE/AL), Henry Dodd (9752), Roque Feliciano (7551), Al Bolles (7587), Russ Haushalter (7556), Jake Jakowatz (0315), Jackie Snyder (2341), and Ron Madsen (9234). Larry won the 60-69 category, Henry the 40-49; Kathie came in third in the 30-39 bracket, Al third in the 50-59, and Jackie fourth in the 20-29. Finishers not shown: Ken Grant (3643), Irv Hall (7223), Gerry Quinlan (2636), Hank Westrich (1543), John Harrington (9269), Dave McTigue (1511), and Robert Foster (3435).

Karate—A Tae-Kwon-Do (Korean style of karate) class is offered at the East Base Gym combative (sic) room on Tuesdays, Wednesdays, and Thursdays from 5 to 7 starting Nov. 2. The class accepts students from 9 to 90 with monthly costs set at \$20.80. Two or more family members pay \$26 per month. Sandians, DOEans, spouses, and dependents are eligible. Tom Lenz on 4-8486 has info and signup forms.

* * *

Yoga—A Kundalini Yoga class will be offered through Sandia's Employee Recreation Program starting Wednesday, Nov. 3, in Room B5 of the C-Club from 7 to 8:30. The class runs eight weeks. Gurudeep Khalsa says improved coordination, reduced tension and stress levels, increased brain power, and increased flexibility are just a few of its benefits. Cost is \$29. (A morning class at the East Base Gym will start Nov. 4 from 10-11. You must have employee or dependent ID to enter the gym. That one costs \$25.) If you have some questions about the program, attend a free demonstration/lecture at the C-Club on Nov. 1 at 4:45. If you're ready to sign up, call Tom Lenz on 4-8486.

Congratulations

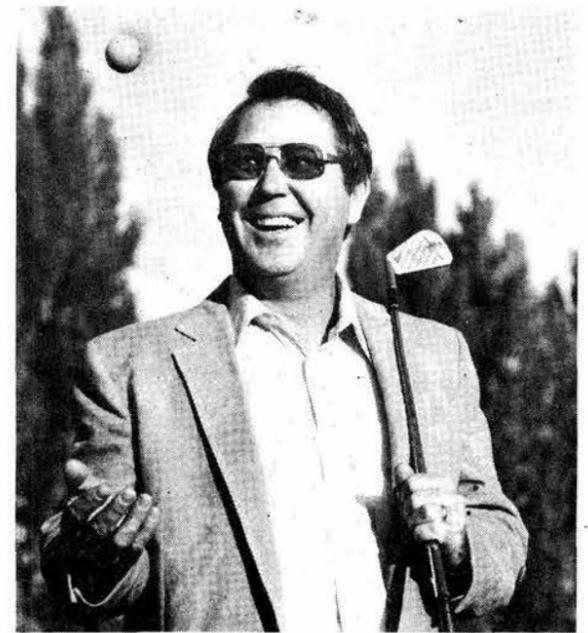
Pat (C-Club manager) and Janice Corcoran, a son, James Howard, Oct. 11.
Joyce (9001) and Larry Phillips, a son, Larry LaMont, Sept. 18.
Basil (9269) and Brenda (3144) Steele, a son, Basil, Jr., Sept. 17.

Sympathy

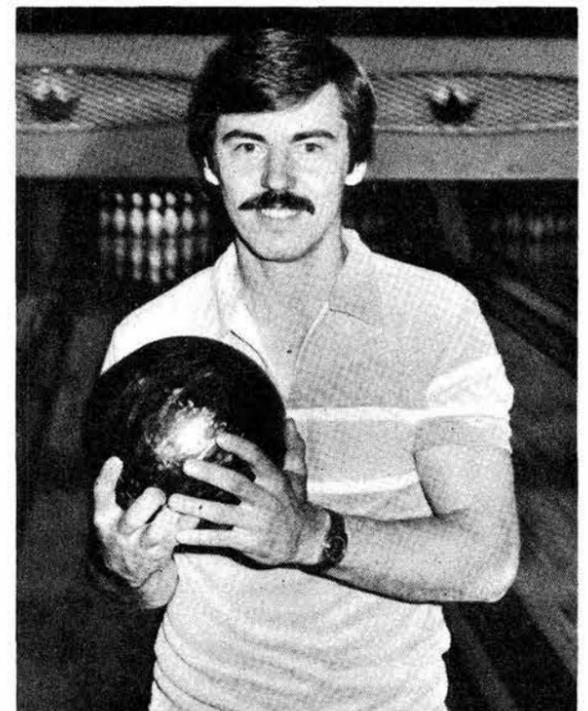
To Paul Bolwahn (2146) on the death of his father-in-law in Albuquerque, Oct. 14.

Speaker

R. L. Iman (7233), "Considerations for Uncertainty and Sensitivity Analysis of Computer Models," invited paper, NRC Workshop on Propagation of Uncertainties, ORNL, Oct. 7-8.



PRES HERRINGTON (0322) scored a hole-in-one on the afternoon of Sept. 29 at Tijeras Arroyo's number 8 hole (159 yards, par 3). It was Pres's first hole-in-one in 14 years of golfing with the Sandia Employees Golf Association.



REGGIE TIBBETTS (3613) bowled a perfect 300 game Oct. 19 at Fiesta Lanes. It was his first 300 game in his several years of bowling in the Sandia Labs Missile League. Needless to say, his team, the Spartans, won that night.

MILLWRIGHTS John Clay and Pete Armijo (in tower window), both of Remote Areas Maintenance and Test Support Division 3618, work on the outside elevator of a new prototype guard tower nearing completion in Area III adjacent to the Reactor Bldg. 6588. The tower, an R&D project of John Risse's Transportation Division I 9213, is a prototype for a national facility. At the completion of the project, the new tower will be turned over to Sandia Security. The tower, which has six floors plus the top observation deck, is constructed of "double tee" pre-cast concrete structural elements. It will serve as a Safeguards standard, the subject of a new guard tower design manual.



Go For Health

The Medical Department will present a three-part film series on life-style in November. Each of the three films has the premise that we all have the responsibility for the quality of our own lives. The films, each about 30 minutes long, will be shown in Bldg. 815 (outside the Tech Area) from 12-12:30.

Nov. 4 "Health and Life-Style: Positive Approaches to Well Being" covers stress management, nutrition, exercise, and the psychology of dependence (smoking, drugs, alcohol).

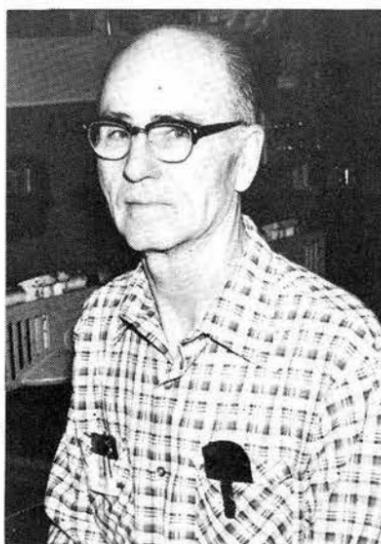
Nov. 9 "Weighing the Choices: Positive Approaches to Nutrition" addresses the question "What should I eat on a day-to-day basis?" The film suggests consciously selecting some foods more often than others in order to be healthier and to aid in weight control.

Nov. 11 "To Your Heart's Content: Positive Approaches to Fitness" stresses the importance of fitting fitness into our lives. The film offers options for everyone—from walking to swimming to cross-country skiing.

RETI R I N G



Bob Vermillion (7473)



Merle Alexander (7473)



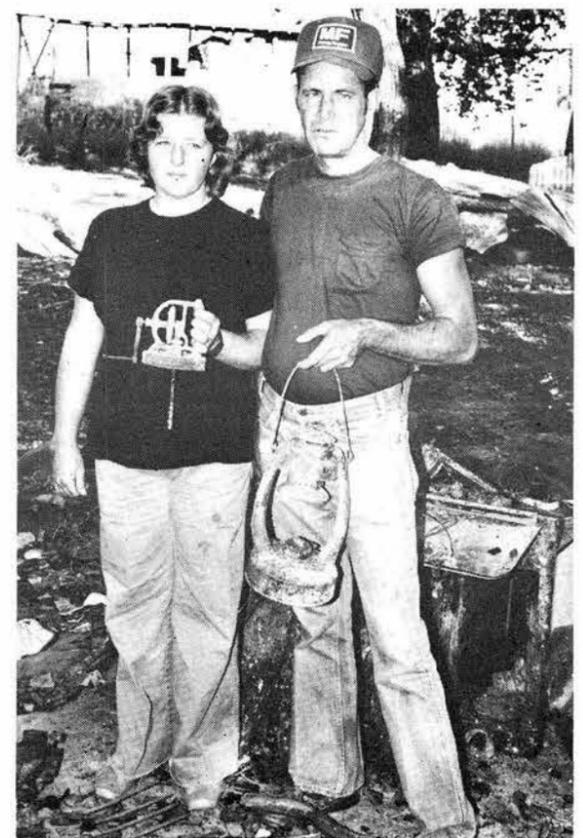
Bob Jaramillo (7474)



Elsie Wickham (3542)



Dorcas Entley (2345)



NOT A PRETTY SITE—Dianne Jackson (3435) and her husband Harlon lost everything they owned when their home burned Oct. 14 while Dianne was at work. The loss was not covered by insurance. Donations of furniture or clothing for the couple or for their sons (12 and 15) are gratefully accepted. Call Lou Tidwell or Susan Smith (both 3435) on 4-3155 if you can help.

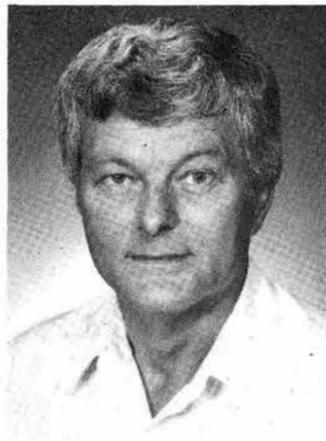


Science fiction has reached the modern-day Middle Kingdom—the People's Republic of China—according to Stan Oziewicz, writing from Peking in the independent *Globe and Mail* of Toronto. A leading practitioner is Zheng Wenguang, a professor at the Peking Astronomical Observatory. Says Oziewicz, "Zheng is considered China's best science-fiction writer."

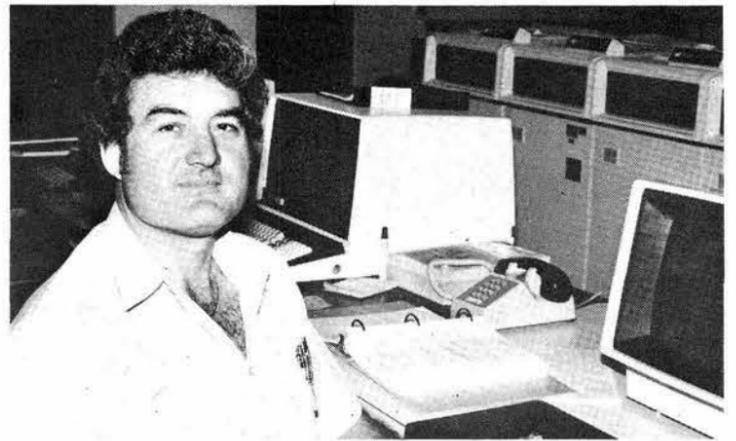
Often called the father of modern Chinese science fiction, Zheng wrote a short story titled "Mirror Image of the Earth," about a luxuriant planet with no animals or birds. One of Zheng's Chinese spacemen—in a "none-too-subtle poke at the Cultural Revolution"—says of the planet's vanished inhabitants, "They didn't live in the same stage of civilization as we do. While we are burning books and burying scholars alive, they had already mastered the technique of laser holographic photography and the means of long-distance space travel." Oziewicz adds, "Unleashed from the shackles of the Cultural Revolution, science fiction has seen a tremendous surge."

J. Robert Moskin in *World Press Review*

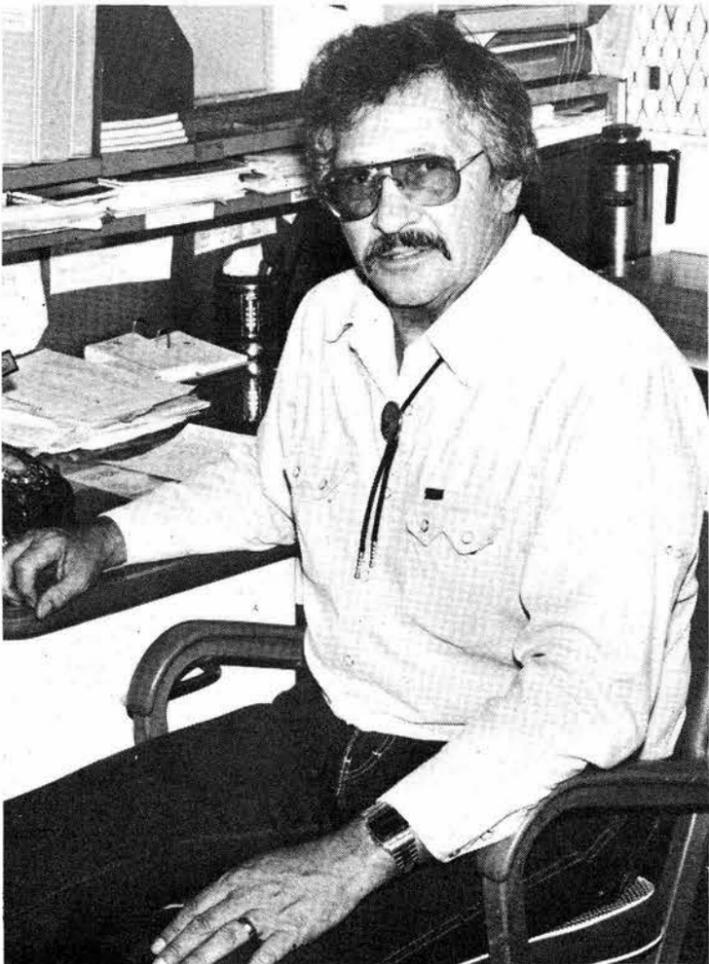
MILEPOSTS
LAB NEWS
OCTOBER 1982



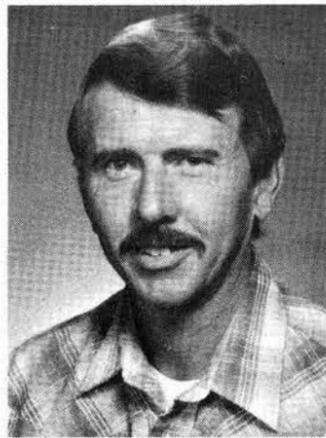
Joe Flanagan - 3155 25



Ted Garcia - 2631 20



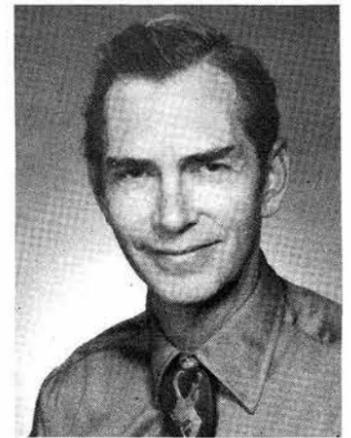
Alex Griego - 7135 30



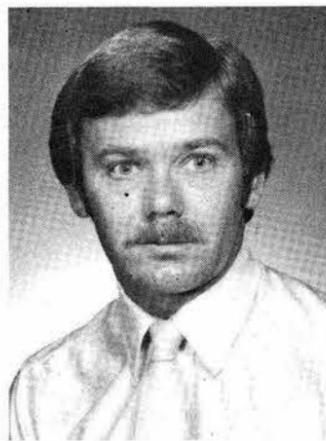
Steve Shope - 1255 10



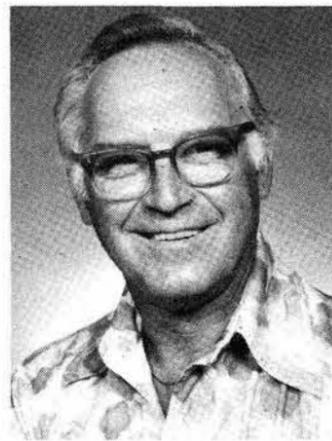
Arthur Andazola - 2522 20



Bill Chambers - 1822 15



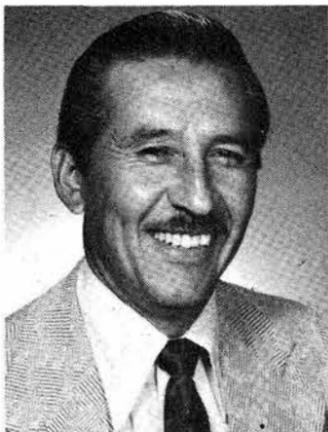
Robert Setchell - 1131 10



Reinhart Gauerke - 3740 30



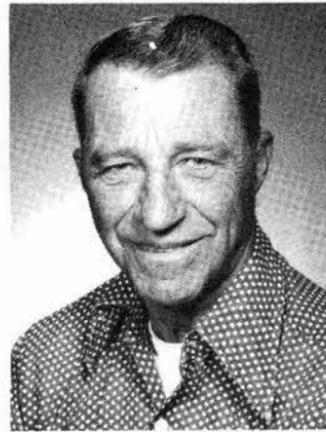
George Donaldson - 2156 30



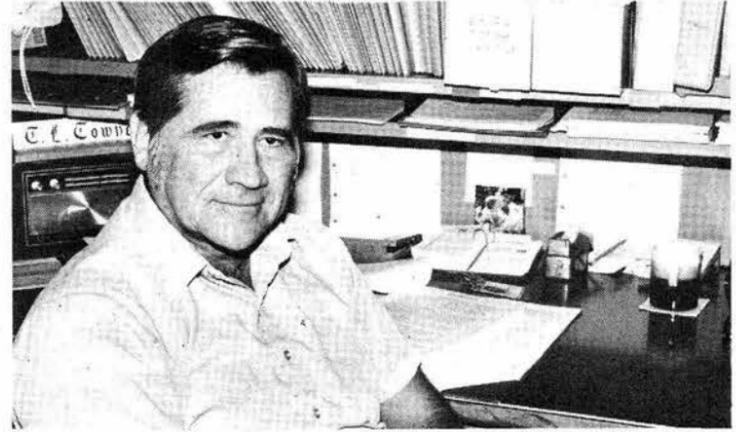
Louis Flores - 7543 30



Ed Cassidy - 3552 20



Cliff Rudy - 3631 30



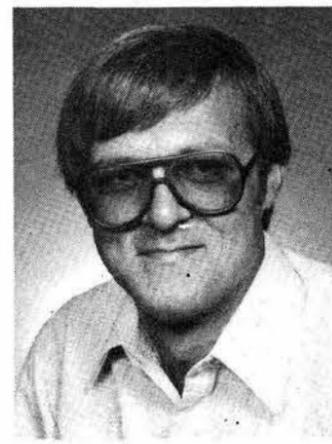
Tom Towne - 9316 20



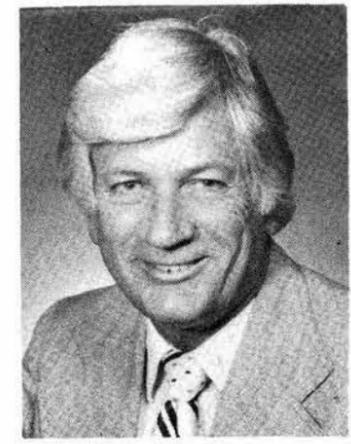
Walter Drake - 7533 35



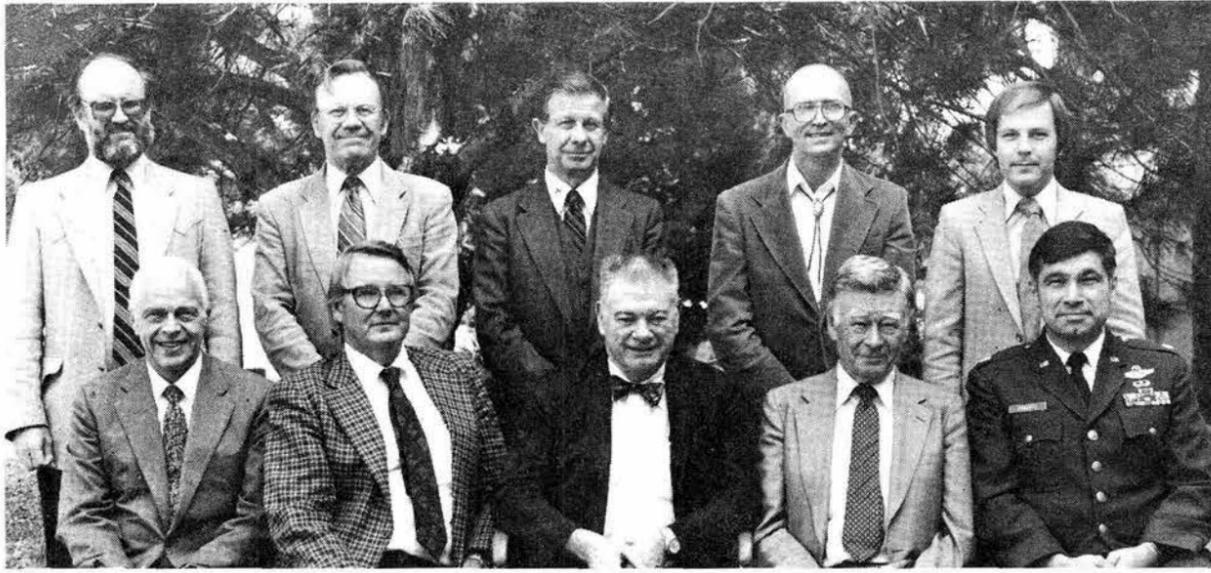
Reuben Minter - 2433 30



William Sullivan - 9725 10



Ziggy Shelton - 3511 30



THE WEAPONS PANEL of the Air Force Scientific Advisory Board met for two days at Sandia to receive briefings on Sandia activities related to national security programs of interest to the Air Force. The Weapons Panel is chaired by Bill McMillan. Those in the photograph are (seated from l to r): John Houbolt, Bob Peurifoy (9300), McMillan, Glenn Kent, Lt. Col. Phil Roberts, Board Secretariat; (standing) Harold Sorenson, Fred Hawthorne, Bob Norling, John Taylor, and Paul Chrzanowski.

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Deadline: Friday noon prior to week of publication unless changed by holiday. Mail to: Div. 3162 (MO125).

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 DOE employees.
6. No commercial ads, please.
7. No more than two insertions of same ad.
8. Include name & organization.
9. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

MISCELLANEOUS

TOYS: LEGOS, Adventure people, books, record player, puzzles, electronic games, table games, etc., 7840 Northridge Ave. NE, 1-5 on Sat., 10/30. Caskey.

UNMOUNTED diamonds: VS-1 quality or better, excellent color, 38 pt., \$600; 52 pt., \$900; 60 pt., \$1000; 62 pt., \$1050. Schimmel, 296-2295.

CLASSICAL RECORDS, 33 1/2 RPM monophonic, 23 discs from the late '50s, early '60s, list available, set at \$20; \$2 ea. Stevens, 299-6086.

METAL BLDG., 10'x10', best offer. Baney, 294-8970.

COMPLETE Beethoven collection, 85 albums-17 volumes, Deutsch Gram-mophon Bicentennial Edition, includes lg. book on Beethoven. Minor, 865-7473.

SINGLE BED, Stearns & Foster, spring & mattress, \$50; antique "Jenny Lynd" spool daybed, \$300; hand-made quilts, spreads, circa '20s, \$50 & up. Kadlec, 822-8445.

APPLE II computer, 48K memory, game paddles, several programs on cassette, \$800. Dell, 884-3325.

AKC Golden Retriever puppies, proven backgrounds, \$100. Claussen, Belen, 1-864-6144.

DOGHOUSE, large, sturdy, \$25. Arnold, 898-1467.

BOSTON TERRIER puppies, 8 wks. old, purebred. Gibbons, 299-2863 or 897-4543 evenings.

NEW TRAILER for hauling large motorcycle, \$275, 4424 Grande Dr. NW. Mabery, 344-4692.

RV TIRE, 8.00x16.5, used about 5000 miles, about 1/4" tread left, \$10. Allen, 296-6453.

H-11A computer system, 32K x 16 bit dynamic MOS read/write memory, H-27 dual floppy disc, 265 bytes data storage per drive, H-19 monitor & keyboard, make offer. Hudson, 821-3968.

KING SIZE MATTRESS, 80"x78" Simmons Ultrapedic w/matching twin box springs, no spots, no soil, \$150. Rost, 268-2326.

GARAGE DOOR, 8x7, metal, \$25; 25,000 BTU Autocraft gas heater, 26"x27"x11", \$25; fireplace grate, 3/4" rebar, 22"Lx16"Wx10"H, never used, \$25. Benton, 877-2473.

GUN CABINET, holds 6 rifles or shot-guns, fruitwood stained pine, \$25; steel pickup tool box, \$25. Karnes, 884-8674.

CRAFTSMAN joiner/planer, brand new, \$300. Gosler, 294-2324.

PANASONIC hi-fi recording AM-FM radio, record player, cassette, w/2 speakers, \$75; Sears 13" color TV, \$175. Johnson, 255-0262.

TELESCOPE, Criterion Dynamax Newtonian reflector, 4" dia., 40" focal length objective, 3 eyepieces, finder scope, setting circles, equatorial mount w/latitude adjust. Hughes, 299-6674.

CORNER TYPE bed/couch, new, \$125; LWB truck bed, chrome rails, \$35; 7.50-16 8-ply tire & rim, 2 ea. Arana, 299-1214.

WOOD BURNING STOVE, Ben Franklin, \$115. Marron, 345-4006.

FISHING LURES, 1/2 retail; cut geodes; white cast iron dbl. sink w/rim; floor polisher-scrubber w/brushes. Graff, 268-5291.

HEATHKIT stereo components, AA-14 amplifier, AS-14 tuner, AJ1214 tuner, \$30-\$50 ea. Fuller, 294-3089.

POOL TABLE, GreenBriar 8' regulation, assorted accessories, honey-comb construction. Nowicki, 296-2209.

8" BLACK & DECKER radial arm saw w/stand, includes dado head, \$125 or best offer. Palmer, 299-4722 after 6.

REG. Black Angus bull, \$1200; cows, \$550; 4 30' wood trusses, \$60; wood burning stove w/pipe, \$125. Lackey, 898-6638.

GARAGE & Arts & Crafts sale, multi-family, Sat. 10/30, 8:30 a.m. to 3 p.m., 1233 Morningside NE. McKay, 255-0388.

COTTONWOOD TREES, non-cotton bearing, sizes from 4' to 16' high, 1" to 4" dia., \$12-\$35. Sparks, 898-1252.

MEN'S ski boots, Nordica, size 8, \$35; Tyrolia 150 bindings, \$20; ladies' ski boots, Munava, size 7, \$35. Evans, 268-7039.

DINETTE table w/leaf, 4 chairs, \$75; stereo cassette deck, Nakamichi 700, \$475. Clement, 299-1501.

KING SIZE BED, Simmons, stand, mattress & springs, \$350. Murphy, 299-6916.

DART BOARD, English Pub style w/darts & solid wood cabinet, \$15. Smith, 296-1908.

GARAGE SALE: Sat., 10/30, 1037 Lawrence NE: sewing machine, TVs, tables, workbench, clothes, misc. Syme, 296-4758.

AQUARIUMS, 100 gal., best offer. Leyba, 884-6374.

CORNER GROUP, green plaid, \$90. Quintana, 881-4576 after 5.

SHORT gold drapes, 1 pair, approx. 54x72", \$25. Moyer, 881-3879.

NIKKOR 43-86 zoom; 28mm wide angle; miniature twin lens Rolliflex. Laskar, 299-1024.

CRAFTSMAN 25" lawn sweeper, \$15; old square expandable table w/ wooden folding legs, \$40. Gregory, 268-2022.

SMITH & WESSON .357 magnum, model 19, 6" barrel, 92 rounds fired, includes rug, head muffs & cleaning kit, \$250 firm. Sealey, 242-7378.

CHAIN SAW, Homelite XL-2 w/roller nose, auto. oiler, spark arrestor, Oregon chain, \$75/best offer. Cox, 268-5629.

COMMODORE 8032 computer w/4040 disc drive, 4022 printer, software—GL pkg, & Visicalc, \$3500. Perkinson, 821-5206.

APACHE camping trailer, 13' solid state, 3-way frig., furnace, 3-burner stove, elec./man. water pump, sleeps 4, \$1800. Szymanski, 256-1708.

LUGGAGE, 3-piece beige set, \$35. Kimball, 299-7532.

FIREPLACE SCREEN, brass, custom made, Roberson opening 30" w x 23 1/4" h, \$15; clarinet, Yamaha, w/ case, music stand & other accessories, \$135. Trump, 299-5162.

CAMPER SHELL for pickup w/LWB, \$200. Weatherbee, 869-2849.

HEADERS & intake manifold for AMC 258 6-cyl. (Jeep), \$50; Holley 4-bar. carb., \$60. Hubbard, 842-9431.

REMINGTON 7mm magnum w/variable power Bushnell scope; poncho; parka; hand warmers; hoist; & other hunting miscellany. Bailey, 294-4218.

DIRT BIKE, sturdy, w/mongoose frame, \$80; strong work bench w/metal frame, \$80. Norwood, 262-0073.

BSR auto record changer, magnetic cartridge, dust cover, \$25. Coats, 266-2855 or 293-0784.

BRACKET to mount full fairing, fits 1979-82 Honda CB750, \$25; shop manual, 1979 CB750, \$5; valve shim removal tool for Honda, \$10. Schmale, 293-0784 or 266-2855.

PENTAX 6x7 camera, 2 lenses, alum. case. Bechdel, 293-8709 after 6.

ORGAN, Hammond, Model A-100; Spinnet, pecan finish, \$1095. Neal, 294-3088.

FIREPLACE, free standing, circular glass, red, 4' dia., Malm Carousel, never installed, \$500; antique porcelain wood-burning stove, \$75. Cover, 881-3860.

MARLIN 30-30 cal. lever action rifle, \$130; Taurus .38 cal. revolver, 3" barrel, \$100. Martinez, 293-7626.

FLUKE Digital Multimeter model 8020A, w/instruction manual & carrying case, push-button function & range selector, \$95. Lucas, 292-2877.

4x5 VIEW CAMERA, 150mm lens, Omega D2 enlarger; 50, 75, 135mm lenses, timers & other darkroom equip. Williams, 293-3630.

WINCHESTER Model 94-30 WCF lever action, cost \$200, used 1 season, make offer. Martin, 294-2381.

TURQUOISE & SILVER ring (signed) & bracelet, both for \$35; 14kt. gold necklace, \$140 retail, sell for \$100. Nowak, 292-8132.

DIGITAL Techniques course w/electronic trainer, breadboard, power supplies, interfacing IC & components, etc., \$50. Madrid, 294-5780.

ONE-WHEEL TRAILER, Sears, \$35; pool table, 4 1/2 x 9' slate, \$75; turntable, Pioneer PL15D, Shure cartridge, \$60. Magnuson, 821-5330.

MARLIN 336 30-30 rifle, Unertl 4x scope, ammo, lead, primers, \$200. Hufnagel, 294-5949.

FURNITURE: wingback chair, \$50; 90" sofa, \$85; 12x16 green shag rug & pad, \$50; bumper pool table, \$75. Luikens, 881-1382.

HOT WATER gas heater, 40 gal. American Standard, used, glass lined, \$50. Stang, 256-7793.

REPAIR SERVICE MANUALS: Mustang II 1974-76, Honda 1970-74, Honda 360/600/2 1967-75, Yamaha XS650 1974-77, Automotive Suspension Steering brakes, 5th e. Ritterbush, 298-4010.

GARAGE sale: furniture, kitchen utensils, children's clothes, toys, more; 10/30, 8-5; 3547 Colorado NE. Medernach.

TRANSPORTATION

'75 TOYOTA Corolla HT, AC, MT, radio, low miles, new brakes & battery, high mpg, \$2100 firm. Holmes, 292-0898.

'82 BUICK Regal Limited, \$9525. Baney, 294-8970.

'70 GMC 3/4-ton pickup, V8, 4-spd., LWB w/tool box & sideboards, \$1200; Raleigh 3-spd., girl's bicycle, \$50. Holt, 294-6928.

'77 CHEV. Caprice Classic, 350 Mtr., 4-dr., all power, AM/FM radio, speed control, 40,276 miles, \$3700. Baca, 822-8342 or 836-4072.

'81 TOYOTA Tercel lift-back, SR-5 alloy wheels, AM-FM. Woody, 831-6321.

'76 HONDA Civic, 4-spd., AM, \$1700 or best offer. Shull, 881-2726.

'69 CHEV. BelAir 4-dr., 327, AT, rebuilt engine, parts replaced: starter, alt., water pump, brakes, shocks, new tires, \$500. Morrow, 281-3417.

'68 INTERNATIONAL Travelall, 3/4-ton, 304 V8, 4-spd., orig. owner, \$1100. Grothaus, 821-1530.

'75 K2400, fairing, luggage, crash bars, disk brake, new tires, custom seat, \$750/offer. Gosler, 294-2324.

MODEL A 1929 roadster, nice restoration, \$12,000 or best offer. Trompak, 298-6671.

'77 MONZA Towne Coupe, AC, AM-FM cassette, new steel radials, \$2495. Gaede, 821-2125.

'73 VW Super Beetle, auto. stick shift, rebuilt engine, new brakes, \$1800. Dell, 884-3325.

'67 FORD Custom 500, 4-dr., small 8-cyl., \$295. Coughenour, 293-3288.

'80 OLDS Omega, AM-FM stereo, AT, PS, PB, cruise, 4-dr., 4-cyl. Paul, 296-6500 after 5.

'62 MERCEDES 220 S 4-dr. sedan, 4-spd., AC, R&H, 6-cyl., \$2900. Martegane, 884-4643.

'81 YAMAHA 650 Special II, luggage rack & backrest, \$1875. Kolb, 298-7287 after 6.

'82 FORD EXP, low mileage, 45 mpg, best offer, take over payments. Leyba, 884-6374.

'75 HONDA XR7 dirt bike, for ages 8-14. McKenzie, 298-8933.

'67 CHEVY II, needs paint, \$450. Fitzmorris, 266-6785.

'74 MUSTANG, new paint, new radials, \$1795. Metzgar, 242-1028 after 4.

'73 MERCEDES-BENZ 280SE 4.5 sedan, dark green w/brown interior, \$7750 or highest offer. Freeman, 296-2977.

'77 MUSTANG hatchback, 4-spd. Chavez, 831-2692 after 5.

'69 CHEVELLE stn. wgn., white, 307 V8, AT, PS, 89K miles, orig. owner, \$1000/offer. Leeman, 299-9149.

'74 MGB convertible, AM-FM, OD. Traver, 294-2138.

'78 PONTIAC Catalina stn. wgn., 9-pass., \$3300. Dahlgren, 298-8168.

'76 AUDI FOX, AT, AC, FM, radials, 32/25 mpg, \$2950. Neal, 294-3088.

'80 YAMAHA 100MX, \$750; 4 ea. all terrain tires, 33x12.5 R15 w/spoked chrome rims for Ford, \$250. Johnson, 293-3442 after 6.

'77 AMC Matador stn. wgn., 3 seats, PS, PB, AT, AC, 56K miles, \$2075. Oglesby, 299-8174.

'64 BUICK Le Sabre, 66K miles, new tires, \$1800. Johnson, 298-1011.

'76 VW Rabbit, 4-dr., 4-spd., extras, best reasonable offer. Gruer, 298-4776.

'80 FORD Mustang, 2.3L, AT, AM-FM cassette, 19,300 miles, avg. retail \$5K, sell \$4300. Stang, 256-7793 after 5.

REAL ESTATE

4-BDR., dbl. garage, 2 years old, \$6000 down, assume 10 1/2% int., \$57,800. Sandoval, 831-3232.

1970 MARK V MH, 14x68, 2-bdr., 2 baths, storage, Tappan Range, re-frig./freezer, W/D, dishwasher, disposal, carport, porch, Terrace Park. VanArsdale, 299-1678.

CUSTOM building lot in Rebonito subdivision, \$14,000, terms, 10% discount for cash. Lewing, P.O. Box 1731, Sun City AZ 85372; 602-584-1465.

BOSQUE FARMS, 3-bdr., 2 baths, fp in great room, 1 acre, 2 wells, orchard, horses allowed. Perrette, 869-6931.

3-BDR., 1850 sq. ft., 2 bath, NE (Eastridge), oversize lot, end of cul-de-sac, RV parking, assumable 8 1/4% financial available, \$80s. Reif, 299-2665.

5 1/2 ACRES in Jemez Mtns., electricity, pure spring water, natural gas, Nat'l Forest surrounding; Ponderosa, pine and meadow, \$48,500, terms. Hughes, 299-6674.

5-BDR., Paradise Hills, 1700 sq. ft., \$55K total, assume 5 1/4% loan, low down, REC on balance. Romero, 897-0083.

3-BDR., 2 baths, brick den, hw floors, skylights, near Base, \$77,500, assumable, terms negotiable. Burdick, 266-1504.

3-BDR., study, 2100 sq. ft., NE near Arroyo del Oso Elementary School. Perkinson, 821-5206.

HOUSE close to elementary, middle schools & UNM, 4-bdr., solar addition, lg. LR, dbl. garage. Norwood, 262-0073.

TRIPLEX located near San Mateo & Gibson, \$67K financed at 11.5%. Harris, 821-8524 or 294-2651 after 5.

WANTED

VIOLIN CASE, used, full-size. Edgar, 884-8567.

DENBY dinnerware, Camelot pattern, place settings or odd pieces. Magnuson, 268-5955.

HEADLIGHT hi-low switch assembly from a Yamaha motorcycle, any year or size may fit. Davidson, 294-4571.

USED bounce-away rebounders built by Neo-Life, not interested in other brands. Mills, 294-5219.

LP GAS heater for cabin, cash or trade for Ben Franklin wood burning stove. Marron, 345-4006.

TO RENT HOUSE in S.Y. Jackson School District, family of 3, 6 months minimum, prefer New Holiday Park. Heller, 293-2776.

DEER HIDES, any size or condition. Wade, 869-3934.

HOUSE TO SHARE, close to work, own room(s) & bath, no pets, 1 child O.K., \$175/\$225* rent + 1/2 utilities. Levin, 299-0891.

CHILD'S swing set. Borgman, 299-6010.

YOUNG COUPLE, UNM students, desire to house sit mid-Dec. to mid-March. Bentz, 299-3448.

ATARI, small corn popper. O'Neil, 299-5272.

PHILIPS PCS 150 or equivalent, enlarger, 6x7 format. Peterson, 294-2727.

FRENCH DOOR (10 or 15 glass), 30", new or used. Mitchell, 865-7941.

REMINGTON pump action shotgun, Model 10, 29, or 31. Svensson, 898-3078.

SHARE-A-RIDE

MORIARTY-EDGEWOOD vanpool needs riders. Hansche, 281-5623.

LOST & FOUND

PRESCRIPTION SUNGLASSES, dark green lenses, wire-rim frames. Lost 10/11 between 870 parking lot and 892. Saylor, 4-7705.

Spinning Wheel Tonight

HALLOWEEN comes to the Club tonight as spooks, witches, goblins, monsters, and co-workers parade around winning prizes for best costumes. Spinning Wheel, show band extraordinary, plays for dancing while Chef Hank Perez spreads a super buffet. Call the Club office *right now*—265-6791—about reservations.

TOMORROW NIGHT, it's more spooks, witches, etc., smaller editions, as the kids get their turn. It's the Club's annual Kids Halloween Party with prizes, bags of treats, Cokes and popcorn, games, films, and the Club's famous "House of Horrors," guaranteed to terrify.

HAPPY HOUR next Friday, Nov. 5, is an extra special, two-for-one prime rib buffet for \$11. A group called Chameleon is on the bandstand, and they're called Chameleon because they can change styles at the drop of a hat. They come well recommended.

On Friday, Nov. 12, plan on a Mexican food fiesta. You get the works Rio Grande style *a la* Chef Perez, famous for his green chili. The Apple Mountain crew, an offshoot of the Watermelon Mountain Jug Band, plays country and western music for dancing. The tab is \$5.25 for members, \$3 for kids.

VARIETY NIGHT on Saturday, Nov. 6, features "The Black Stallion," an award-winning movie produced by Francis Ford Coppola. The photography is outstanding and the story line appeals to both young and old. Hamburgers, hot dogs, French dip sandwiches, pizza, salads, and desserts are available at 5; the movie starts at 6. Admission is 25 cents per person.

CORONADO SKI CLUB holds an equipment clinic for all interested skiers on



ASSORTED SPOOKS, witches, monsters, ghosts, and goblins will be awarded prizes for costumes tonight at the Spinning Wheel Halloween Party at the Club. Kids get their chance tomorrow at the Kids' Halloween Party starting at 6 p.m. The Club's "House of Horrors" will scare your socks off. Prizes, bags of treats, fun and games are part of the festivities. (Our model witch in Anna Lujan, 3154. The monster is assistant editor Don Graham without his glasses.)

Tuesday, Nov. 9, at 7:30 p.m. in the dining room area. The regular monthly meeting held in the ballroom, hosted by Purgatory Ski Area representatives Paul and Kay Souder, is set for Tuesday, Nov. 16, starting at 7 with super door prizes and movies. On Nov. 20, the group journeys to the Sunrise Ski Area in Arizona. Call Kaz Ioshi (9334), 6-0511, for details.

MID-WEEK HAPPY HOURS at the C-Club continue as the best private club buy in the city. On Tuesdays, enjoy special prices and a free spread of munchies and goodies at 5:30. On Wednesdays, it's three for one—three draft beers or three well drinks for \$1—from 4:30 until 6:30.

THE WORD is spreading. The Coronado Club's "Triple S" luncheon served Mondays through Fridays from 11:30 until 1 is the best buy on Base.

GUEST MEMBERSHIP CARDS for visitors in town from Los Alamos, LLL, Livermore, Tonopah, Pantex or DOE contractors are available free at the Club office. Show ID cards and get a guest membership for as long as the visit lasts.

TRAVEL DIRECTOR Shirley McKenzie (2432) reports that the Las Vegas Thanksgiving trip has been cancelled, but you still go by air or by bus during the Christmas break. Go by bus Dec. 26-29 for \$105 or by air Dec. 26-28 for \$138. The package includes lodging at the Maxim Hotel and a tour of Hoover Dam.

A spot might be left on the Mazatlan tour if you act immediately. Call the Club office, 265-6791, *right now*.

Shirley is currently making plans for upcoming trips. See her in the lobby on Fridays between 5 and 6 to talk about where you might like to vacation.



"No kidding! A blustery spring day on the Rio Grande is much worse than this?"