



QUESTION: How do you get a 70-foot, 20-ton gun barrel to the top of the 7000-foot mountain overlooking Coyote Canyon? Answer: with some difficulty.

Here Connie Coalson of Track & Cables Division 1535 helps driver Paul Silva (3618) negotiate one of several hairpin turns. Other photos, page four.

LAB NEWS

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



NEW LOOK in carpools shows Base-wide ingredients: Nyles Morris from DOE, Airman Cynthia Frohn from the 1606 TRNSS, and Don Hanson (1733) from Sandia. Computerized matching by home address now provides names of

potential carpool members living near each other and working on the east side of the Base. See story on page two.

Base-Wide Carpooling Inaugurated

With the advent of the new year, a new ridematching program that operates across the entire Base is being offered to Sandians, DOEans, the military and other on-Base people. Developed by the Kirtland Employees Transportation Committee, the program aims to promote energy-efficient ways of commuting. Don Stone and Barbara Champion of Benefits & Employee Services Division 3543 represent Sandia on the Committee and will administer the program at the Labs.

The computerized ridematching program is a modification of an existing program used by the local KAFB data processing group. The Military Airlift Command (MAC) liked the modifications made to accommodate Sandia/DOE so well that they plan to adopt them on all MAC bases in the United States.

Sandia has elected to join with the military and DOE in a carpooling effort chiefly because the pool of registrants will be about twice as large as that from Sandia alone. Cost of the larger computerized system is not much greater and, in any event, is shared by the three groups; in addition, the KAFB system was already established.

Here's how computerized carpooling works. Assuming you're interested in carpooling, you complete a registration form which includes, among other data, your address. The computer then searches for others who live near you, who work on the east side of Kirtland, and whose work schedule—starting and stopping—is within 30 minutes of yours. A "match list" is printed and returned to you via Commuter Assistance.

Once the match list is in your hands, you decide which people on the list you'll call to arrange a carpool. If you run into problems, Don Stone and Barbara Champion are ready to help. For example, they can contact the downtown ridematching agency, RIDEPOOL, on behalf of hard-to-match employees.

Don points out that computerized carpooling can help people who may not have considered forming a permanent carpool. For example, the bike rider who wants to join only for the winter months, or the student attending classes who can participate in the carpool only on certain days, or an existing carpool in need of additional members. Don adds that if enough people from an outlying community sign up, his office will help them form a vanpool.

Next week, every Labs employee will receive a registration form for the new computerized system. If you'd like to be in a carpool or, for that matter, if you've only thought about it, you are urged to complete and return the form. If you're already in a carpool, the program can provide you with a list of potential members, available if your pool loses a member.

Questions? Call 4-RIDE

Top-secret computer used for personal use
Games, Letters, Jokes Stored
Computer at Weapons Lab Improperly Used, U.S. Says

Top-secret lab's computer was toy for 200 workers
Weapons Computer Used For Gambling and Games

Weapons Computer Turns Bookie Joint
Fun and games on top-secret lab computer

Top secret computer used for silly games

Probe says 200 used computer improperly

Afterthoughts

How to get some lumps you don't really need—I have before me a pile of newspaper clippings, perhaps a hundred or more, all on the above theme. This is a collection which, devoted to some positive achievement of the Labs, could be considered a coup in public relations. As it is, our computer foul-up is a debacle in public relations. It matters not that we are pure in all other matters, nor that we do laudable work in defense and energy, nor that the actual dimensions of this computer misuse were minuscule compared to the computer's total capacity. I have some knowledge of how editors work—they forever look for the banana-peel pratfall, I suppose because they know that people enjoy the spectacle of dignity unseated. And this is what gets published. Now and for some time to come, when you mention that you're from Sandia, there's a good possibility the other person will smile and make some remark like "Oh--made any good bets lately on the computer? Ha, ha, ha..." It's the kind of reaction that gets very old, very fast. Considering the uproar, I have to conclude that the group of Sandians who were playing fun and games with the computer really weren't very bright.

* * *

For '81, a pair from Plutarch's *Lives*--"Men, steered by popular applause, though they bear the name of governors, are in reality the mere underlings of the multitude. The man who is completely wise and virtuous has no need at all of glory, except so far as it disposes and eases his way of action by the greater trust that it procures him."

"Lycurgus... used to say that long hair made good-looking men more beautiful, and ill-looking men more terrible." *js

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Death

Thad Werner, supervisor of Technical Library Processes and Systems Division 3141, died Dec. 21 after a long illness. He was 38. He had worked at the Labs for 18 years. Survivors include his widow, Gerri (3146), and two daughters.



Flower Demo at Base Library

The Base library is featuring a demonstration of Japanese flower arranging (*Ikebana*) on Wednesday, Jan. 14, from 12 to 1 p.m. The library is just north of the military service station, between F. St. and Gibson.



TOM COOK (8000) delivers "State of the Labs" talk to a full CRF auditorium. (Stefanski photo)

Tom Cook: The State of the Labs

Delivering a "State of the Labs" message to all Livermore Sandians and looking ahead to the decade of the '80s, Tom Cook (8000) said, "In addition to major changes throughout, more is going on here now than in all of our 25 years at Livermore. This applies not only to the intensity of our work, but also to its variety." He added, "Things are busier than they ever have been . . . and we are going to have to hustle to accomplish all that is ahead."

He spoke for the first time in the Labs' new auditorium, an adjunct of the Combustion Research Facility. His talk recapped the history of the Labs since Sandia's arrival in Livermore in 1956, and he announced the upcoming 25th anniversary open house and family day, Saturday, March 7, 1981, plus the formal dedication of the Combustion Research Facility on March 6.

Using vugraphs, Mr. Cook outlined the Lab's relationships with DOE and detailed our active programs, stating, "We have reached a very stable and sound period in our work . . . we're in a good position to move into this decade with diversified programs—not totally dependent upon weapon work, as we were a decade ago."

Outlining the three major programs—defense work, combustion, and solar R & D—he showed charts of budgets and staffing for the current fiscal year as well as projections for the future. Defense-related programs will receive \$67 million or about 76 percent of Sandia Livermore's \$91 million budget for FY 81, while energy programs will total \$24 million—solar \$16 million of that, combustion research \$6 million and magnetic fusion \$0.7 million.

"In addition to our all-time high in funding of \$91 million, we're also receiving an all-time high in direct support from Albuquerque, mostly in the weapons program—about \$33 million for this year,"

he continued. He noted that salaries account for almost \$30 million this fiscal year.

Talking about people, Mr. Cook said SNLL will end this fiscal year with some 1080 people—just about the Labs' peak of employment. "We are experiencing steady but deliberately slow growth. The national labs have a select position in the world and will continue to have some constraints. We have to continue to be selective in the work we choose to do," he explained.

On the subject of the Labs' expanding role in combustion studies Mr. Cook said, "Almost 90 percent of our energy comes from the combustion of organic materials. Back in '74 we felt—and still do—that the government was neglecting the combustion sciences. We had some exciting ideas we thought might be worthy of support and have now seen those ideas come to fruition. In some ways both our ideas and our support have progressed more than we ever hoped for.

"Solar and combustion are now relatively mature and stable programs. Under administration policies, the weapons program has had some instabilities . . . indecision on what the country wants to do in nuclear weapons has been disruptive from a technical standpoint," he said.

Talking about the small but important fusion program at SNLL, Mr. Cook noted

its genesis in Sandia's weapons work. "We have here a cadre of internationally-known people who understand how tritium interacts with materials in very complex ways. These people, and our excellent facilities, are making substantial contributions to the magnetic fusion program. We are working closely with Princeton University, Oak Ridge National Laboratory and Lawrence Livermore National Laboratory on the selection of first-wall materials for their big plasma machines."

The greatly increased computing capabilities at SNLL also received attention. Installation of the Cray supercomputer has given the Labs a jump in computing capabilities by a factor of 20. Cray usage is at 80 percent of capacity even though the machine was only recently installed.

Highlighting the accomplishments in solar, Mr. Cook talked about the progress of the Solar Central Receiver project, now called Solar One, at Daggett in the Mohave Desert. The heliostat field is being installed, and the plant should be operative about a year from now, he reported.

Other topics covered in the overview included the Educational Aids Program, in-house courses offered, the equal opportunity and affirmative action programs, and planned facility expansions such as a new laboratory building, addition to the Computing Center, and extension of the Tritium Research Facility.

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Gun Barrel to Coyote Overlook

FIRST, the 70-foot barrel was broken down into two 35-foot sections. Even so, making the hairpin turns took a nice touch on the grader. Road to the top is steep (up to 29% grade), narrow and several miles long. Once assembled, the air gun will be used in a reimbursable program for the Army, test firing anti-tank missile—SKEET—into the canyon defile. These men helped in the operation. From front, this side of barrel: Herb Gentry, Lewis West, Pete Ortiz, Paul Silva, Reynaldo Gonzales and Tony Salazar (all 3618). On the other side, from the front, are Connie Coalson (1535), Prospero Toledo (3618), Florencio Baca (3618), Lucino Molina (3618), Steve Rudic (3618—standing off center to left), Gerald Cobb (1556—standing to right) and Miguel Garcia (3618) on top.

Fit Is Better

Another Look at Running vs. Bicycling

Readers of LAB NEWS know by now that the world can generally be divided into those who run, those who bike and then there are those others. I've been a card-carrying runner/biker (some dispute this) for a few years and, while I think of biking as more fun, I've always felt it didn't quite measure up to running in its intensity, so, therefore, if you have just 30 minutes or so for a workout, then go running because you'll get more out of it in terms of fitness.

By "fitness" I mean cardiovascular fitness, and I've followed the generally accepted prescription that you gain cardiovascular fitness by sustained exercise at 75 to 80 percent of your maximum pulse rate. The formula, 220 minus your age, gives you one rough measure of your maximum pulse rate and, so, with some multiplication, you can derive a pulse rate upon which to peg your exercise regimen.

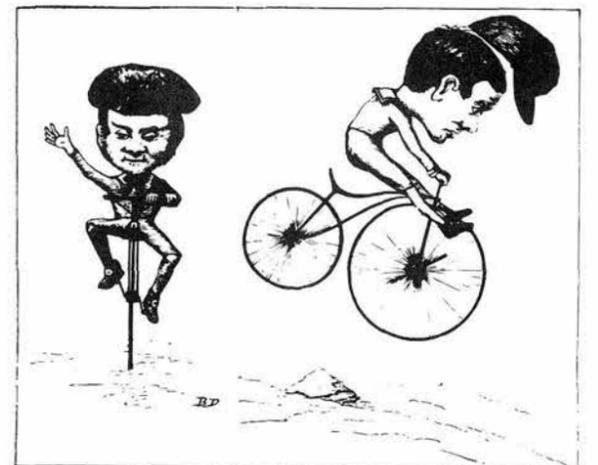
So how do running and biking compare in terms of pulse rate? Well, they're darn near the same, and I say this with some confidence because I've had the opportunity to use something called a pulse rate monitor *en route*, a device which gives pulse rate readout while you're running or

biking. Until I used the monitor, my attempts to take my own pulse during or immediately after a workout were usually exercises in frustration: by the time I found the pulse, recovery was already well under way.

The pulse rate monitor is a belt-like device worn around the chest. It has three sensors and is connected to the readout device. The latter is deck-of-cards size and is clipped on the waistband where its pulse rate display can be easily read.

While running my customary distance at my customary pace, my pulse rate ranged between 150 and 160. Next day, on a bike, pulse rate hovered around 145. The values would appear high for someone my age (55), well over 80% of maximum, assuming the formula for maximum pulse rate earlier given has any precision. I don't think it does and, in any event, the point here is that both running and biking clearly elevate the pulse high enough to enhance cardiovascular fitness.

Biking is fun, as I've said, and there's a legion of people out there, dutifully running with an utter lack of joy and enthusiasm, who might well consider a



switch to the bike. An additional benefit is that cycling doesn't pound your body the way running does.

But before you dash out to buy that three or four hundred dollar ten-speed, let me inform you of the nature of bike riding for fitness. It's not your leisurely pedal around the neighborhood park. It's ten to fifteen miles of hard, sustained pedaling, 80 or more cycles per minute for each leg, over a course that permits you to do this without the interruption of traffic lights and intersections. Where do you find such a course?—right here on Base. From the gym south to the Lovelace facility (just keep following Wyoming) is about nine miles. And there's a whole network of paved roads just south of the gym that lends itself to bike workouts of almost any distance. • js

Fireplace Furnace Heats 1500 Sq. Ft.

[Ed. Note—This is another in a series of articles about Sandians and energy-saving systems they have devised around their homes. LAB NEWS is interested in these projects—modifying furnaces and fireplaces, installing solar systems, modifying vehicles. If you have an operating energy-saver, call us on 4-1053.]

Dave Bagley (DOE/MIS) is a systems analyst by trade, a handyman around the house by avocation. He's done a lot of neat things to his home, yard and patio in the far northeast heights. But when he moved in four years ago, he faced a crisis. The heating system for the house incorporated an electric heat pump.

"A very efficient device," Dave says, "but expensive. That little jewel could cost up to \$180 during a cold winter month. Something had to be done."

Dave's solution was to install a wood-burning furnace in his fireplace. He designed what is essentially a steel box within a steel box to fit snugly into the fireplace opening. The inside box is for fire, drawing outside combustion air in through the opening in the hearth that was previously used for removing ashes; combustion gases are vented up the chimney. Air from within the house is drawn through the outer box, heated, and then forced back into the house by two small fans. A steel door in the front was later reworked and a glass panel added.

"My girl friends like to see an open fire," Dave says.

Dave made a full-sized cardboard model of the furnace before taking it to a friend for fabricating. Dave and Wayne Brown (DOE), "a cool man with a torch," put the furnace together using 1/8-in.-thick boiler plate. (Materials cost \$150.) It took several evenings, but the unit fit and worked great. Two small muffin fans from an



DAVE BAGLEY (DOE) stokes his wood-burning custom fireplace furnace. Note two small muffin fans at bottom corners of unit. They circulate inside air around the firebox and back into the living area to heat 1500 sq. ft. of space. With glass door closed, the flame pulls outside air through the ash removal trap and vents it out the chimney.

electrical supply house (cost: \$30 for the pair) completed the installation.

The fans pump about 200 cu. ft. of air per minute and the flow is sufficient to heat the 1500 sq. ft. of the house. A thermostat in the fireplace turns the fans on at 130° and off at 110°.

"A load of wood in the firebox burns from two to four hours," Dave says. "The living/dining/kitchen area stays around 68°F and the bedrooms a little cooler—but they're bedrooms and that's the way I like it. I build a fire before hitting the sack and it's good until about 4 a.m. when the thermostat of the heat pump furnace kicks it on. I grew up in New Jersey and I've had enough of cold houses."

Dave burns from two to two-and-a-half cords of wood each winter. He cuts his own with a permit from the Forest Service. He

and a friend who owns a pickup rent a trailer and make about three trips into the Jemez country during the summer to haul wood.

"My electric bill for heating still costs from \$40 to \$60 a month in December and January," Dave says. "Without the wood-burning furnace, I'd be paying twice that, so I figure I'm way ahead."

Wayne Brown has built two more similar units since Dave designed the first one. Now he adds rows of angle iron as heat dispersing baffles on the inside wall of the firebox.

"It's more efficient with the baffles," Dave says. "I may add some—it would be quite a chore to remove the unit from my fireplace—and also add a damping system for better control of the fire. In the meantime, the house stays warm. I'm content."

Industry Use of Solar Being Promoted

A national program to help industry to meet its process heat requirements by augmenting fossil-fuel fired boilers with solar energy systems has been launched by the Department of Energy under the technical direction of Sandia National Laboratories.

Called the Modular Industrial Solar Retrofit (MISR), the project aims to develop efficient and reliable modular solar systems that can be easily and economically installed to provide heat at about 250 to 600°F for industrial processes.

The industrial sector consumes about 25 percent of total U.S. energy, and two-thirds of this consumption is used to generate process heat. About 60 percent of all process heat requirements can be met with temperatures no greater than 600°F when preheating is allowed.

MISR will use line-focusing solar systems, typically trough-like collectors that concentrate sunlight on receiver tubes through which a circulating fluid is heated

by the sun's rays. The hot fluid can be used directly for process heat, or indirectly to power a steam generator.

It is hoped the modular system concept will help solar process heat systems become cost effective by reducing one-of-a-kind engineering, minimizing site construction costs, and reducing installation design fees to 10 percent or less of total project costs, a figure that is typical of conventional construction projects.

The MISR project has a four-fold goal: (1) to verify the modular system concept through field experience, (2) to develop a broad system supplier capability, (3) to provide a vehicle for up-to-date technology developments, and (4) to provide a quasi-mass-production opportunity.

These goals will be achieved by the development, construction and operation of a series of projects which feature modular solar thermal systems that are the solar equivalent of packaged fossil-fuel boilers. These projects, located at industrial sites, will contain industry-

designed and standardized units or components, easily assembled on site and made up of the latest solar-thermal, mid-temperature line-focusing hardware.

Industry users with government incentives will purchase, install and operate qualified systems to obtain cost and performance data and to gain experience and confidence in solar energy systems.

By 1985, solar system manufacturers should be able to produce modular line-focusing solar systems for thermal applications under 600°F at energy costs of \$.034 per thermal kilowatt hour (\$10/MBtu) without incentives.

DOE's Division of Solar Thermal Energy Systems is responsible for overall management of the MISR project. The DOE Albuquerque Operations Office and Sandia are responsible for system experiments and technical management. At the Labs, Bob Alvis, Karl Wally (both 4725) and David Lee (4723) are handling this program; Alvis is project leader.

Rocky Flats

We at Sandia Labs comprehend that the installation called "Rocky Flats" is an integral part of the nuclear weapons complex, but most of us have little knowledge beyond that. Editor Jack Saunders of LLNL's Newsline visited Rocky Flats recently. His report of that occasionally besieged facility first appeared in Newsline, and we have his permission to reprint it here.

The walls, two feet thick, are concrete reinforced with steel. A telephone pole rocketed at 200 miles per hour against the building would shatter into kindling. The architects say an airplane clobbering into the structure might get through the top concrete roof but would not breach the second.

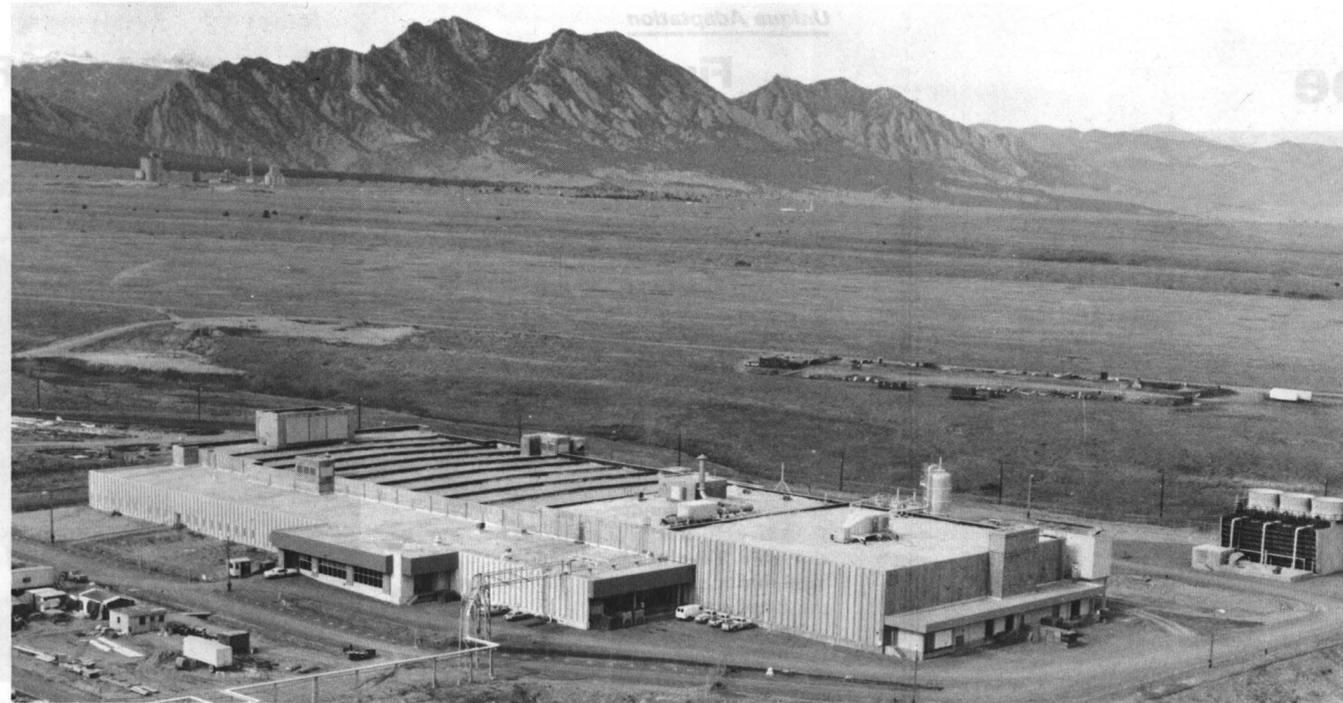
Workers will operate the highly automated facility from remote control rooms. If something goes wrong and cannot be corrected electronically, operators will manipulate the fouled components from behind windows a foot thick and filled with water.

Air in the facility will circulate through stage after stage of filters that are able to trap everything from ordinary dust to viruses. For every 16,000,000,000,000 particles released into the air, one will escape.

Even anti-nuclear critics say the soon-to-be-completed plutonium waste recovery facility at Rocky Flats is a masterpiece of high technology architecture and design. Still, the activists protest the building's opening, scheduled for next year. Their rationale: It's too splendid a facility to contaminate with plutonium. Activists say the building should be used for some non-defense purpose—perhaps as a computer factory. DOE's Rocky Flats Area Manager Don Ofte calls the suggestion "twisted logic." After all, he points out, the very purpose of the Rocky Flats plant, located about 15 miles northwest of Denver, is the fabrication of plutonium parts for nuclear weapons.

There are plenty of good reasons behind the new facility to recover the plutonium chips that are the scrap product of weapons component fabrication. Good environmental management is one. But the new facility also will pay. The plutonium will emerge from the waste recovery process in what are called "buttons," flat chunks of metal about the size of a big cookie and weighing about four pounds. The value per button: \$100,000—nearly three times the current price of gold.

The 6500-acre Rocky Flats site, with some 3500 employees and an annual budget this year of some \$178 million, also fabricates uranium, beryllium and stainless steel weapons parts. In addition, the plant conducts research and development on the fabrication of weapons components and tests wind-powered generators.



FORTRESS-LIKE Rocky Flats plant, located between Denver and Boulder, Colorado, machines and recovers plutonium.

Rocky Flats opened in 1952, the same year as the Laboratory. An announcement of the federal government's intention to build the facility prompted the *Denver Post* to headline the front page story: "There's good news today."

That was in 1951. In recent years, the plant's critics have seized the banner headlines for themselves. Central to the controversy have been the extreme and scientifically dubious cancer warnings of Jefferson County (Colorado) public health director Carl Johnson who has argued that because cancer rates are higher in Denver than in neighboring rural areas, the Rocky Flats plant upwind must be to blame.

Johnson's statistical methods have been widely criticized by the main stream of medical researchers who point out that cancer rates are always higher in urban areas relative to the rural sections that surround them. Johnson's argument, if applied to San Francisco, might suggest that the city's cancer problems are rooted in the onion fields of Vacaville.

Nevertheless, those who choose to believe Johnson do so with a righteous fervor that tends to see all other viewpoints as morally compromised. Plant employees don't take the put-down kindly. Public affairs specialist June Ramos, an articulate young woman with an attractive, contemporary flair, says she has lost some friends because she has chosen to be a member of the Rocky Flats staff.

Plant employees seem annoyed by the controversy and its play in the press.

"Johnson's charges show up on the front page, but the story about how other experts say his charges are nonsense are buried on page 10," said chemist Duane Hunter.

Plant officials say they worry that employee ire might someday flare up and scorch the demonstrators who picket the plant from time to time. To forestall such

an incident, Plant General Manager R. O. Williams, a vice president of Rockwell International's Energy Systems Group which operates the plant for the DOE, last year met with every crew on site. The plant runs three shifts and so Williams, determined to talk personally with each employee, scheduled his meetings at all hours of the day and night. It took him a full week to get around to everyone. But those face-to-face talks with the boss, say Rocky Flats people, put R. O. Williams and his people on the same wavelength.

Not long afterward—on a Saturday—a large fraction of the staff joined Williams for a pro-nuclear rally sponsored by Citizens for Energy and Freedom on the plant grounds.

"It was like a big picnic," Williams recalls fondly. "People brought their families and felt like they were together. Management and employees were hugging each other and just having a great time."

Rocky Flats employees have good reason to rally together these days. Business is humming. Plant production lines are working on components for some 20 weapons systems. The workload includes the modernization of arsenal mainstays like the Poseidon missile and the Minuteman, the production of new weapons like the Lance warhead and the ground-launched cruise missile, and the development of first test components for future systems like the MX missile.

Williams characterizes the workload as "very high" relative to that of the last decade.

Rocky Flats manufactures only some weapon components. Other DOE plants make others or assemble components made elsewhere. All are feeling the stepped-up production schedule.

"Both our capacity and our capabilities are being exceeded," says Williams. "some of our requirements for prototypes can be

met by using equipment in our R&D labs, but many of these new and modernized weapon designs are more complex than what we're set up to handle."

The production plants limped through the seventies with a budget squeeze similar to the one Lab managers struggled with. While capital budgets shriveled, the cost of high technology equipment skyrocketed. For example, the new plutonium recovery facility at Rocky Flats was designed in the early seventies as a \$113 million venture. Its actual cost will come in at \$215 million in today's dollars.

A high level DOE committee, headed by the department's former chief of military applications Alfred Starbird, has reported to Congress that the problem is severe. The result is a major DOE "restoration" program aimed at spurring the modernization of capital equipment and utilities at facilities throughout the DOE weapons complex.

These expenditures, called for as a special Congressional budget item, will apply to the weapons laboratories as well as the production plants and will be spread out over several years through the mid-1980s. For LLNL, Los Alamos, Sandia and the Nevada Test Site the total is projected at some \$300 million. For the six production facilities, the total will probably surpass \$500 million.

When the design laboratories begin calling for the fabrication of parts that have been developed using the latest technology and newly updated equipment, the production plants will also have to have that state-of-the-art capability, said R. O. Williams of Rocky Flats. Otherwise, their production lines will be unable to produce to specifications. Therefore, Williams emphasized, equipment advances used by weapon designers will have to be matched in the plants if the production lines are to keep up with the ability of designers to call for high precision machining.

Fun & Games

Skiing—A few slots are left in the cross country ski clinic for beginners, to be held Jan. 20, 7 to 9:30 p.m. (indoors), and Jan. 25 and Feb. 1, noon to 4 p.m. (outdoors on-the-snow). An intermediate class is also planned with Feb. 16 (indoor) and Feb. 22 (outdoor) sessions. Call Tom Lenz on 4-8486 to sign up.

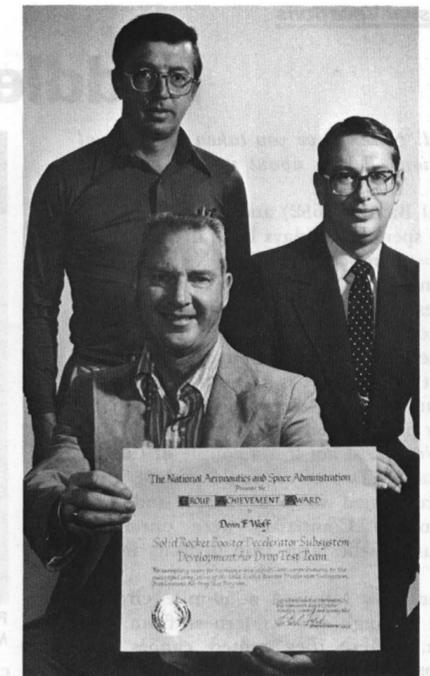
A reminder: you can rent skis/poles/boots at the Base recreation supply for \$5.25/day, \$8.75/two days, and \$12.25/three days. That's cheap. Downhill equipment only. They're on 4-4990, Bldg. 20414.

Upcoming Ski Touring Club trips: Jan. 11, Redondo; Jan. 11, San Pedro Parks; Jan. 24-25, Chama. LAB NEWS has the complete schedule.

The Que Pasa Rec Center on Base will run a bus to Taos Ski Valley on Feb. 21. Cost, including lift ticket, is \$32.64, and they need payment by Feb. 13. Call on 4-5420.

Pistol shooting—Sandia's security inspectors dominated the Governor's 20-Pistol Match, held at T or C last month. The Sandia Security Team took 22 trophies. Individual awards went to Gary Malin, Joe Yambrovich, and David Stout, Expert Class, to Harold Garcia, Sharpshooter Class, to Celso Montano, Marksman Class, and to Grant Aguirre. Pistol shooting's national champion, Charles Pirtle, also at the match, characterized Sandia's team as "the team to beat in the national ranks."

Golf—The Tijeras Arroyo Golf Assn. is sponsoring a talk by Floyd Doss, executive director of the Sun Country Golf Assn., on the rules of golf and the services provided by Sun Country. It takes place Saturday, Jan. 17, at 3 p.m. at the Tijeras Arroyo clubhouse. All golfers are invited to attend.



HONORED BY NASA—Ira Holt (5632), center, Dean Wolf (5632) and Harold Spahr (5636) were honored recently by NASA for their participation in the test program for the space shuttle's solid rocket booster parachute and decelerator subsystem. Their NASA certificates were presented "for exemplary team performance and significant contributions . . ."

Pour on the Coal

Carl Smith (2452) reports that our story on his coal-fired stove in our last issue generated a lot of interest on how to obtain coal. He says that coal is available in Albuquerque at \$6.24 (including tax) for a 100-lb. sack. A ton is \$65 (add \$10 if you want it shoveled into your truck). Check the yellow pages. For a big savings (not counting the gasoline), you can drive to Gallup and pay \$12.50 a ton.



ABC NEWS recently visited Sandia to videotape solar facilities for a solar energy segment to be used on the network's "World News Tonight" program in January. The group is shown in a clean room where Sandia-designed solar cells are fabricated. Left to right, Roger Peterson, correspondent, and Justin Friedland, producer, of ABC News; and Ina Neiman and Victor Wells (both 2141). Victor heads IC Fabrication Division 2141.

Paddle Your Own Canoe

[Ed. Note: Have you taken an unusual vacation? Tell us about it. Call 4-1053.]

Hal Baxter (3652) and John Southwick (ret.) spent seven days last fall with three other members of the New Mexico Mountain Club paddling aluminum canoes through the rivers and lakes of the Boundary Waters Canoe Area in Northern Minnesota. Part of the Superior National Forest, the BWCA is a pristine wilderness of hundreds of waterways surrounded by heavy pine, spruce and hardwood forests.

"We almost got lost a couple of times," Hal says. "Two of us would paddle while the rest tried to read maps and find landmarks. Compasses were unreliable because of the large iron deposits in the area."

The crew followed a 50-mile circular route through the wilderness from Ely, Minn., where they rented canoes and equipment from an outfitter. Part of the trip followed the old fur-trading routes of the colonial French Canadian voyageurs along what is now the international border between Canada and the U.S.

"The weather was mostly sunny," Hal says, "with some clouds and wind. Usually warm days with frosty nights. We weren't bothered by mosquitoes which are a plague earlier in the season. We saw a lot of wildlife and did a little fishing."

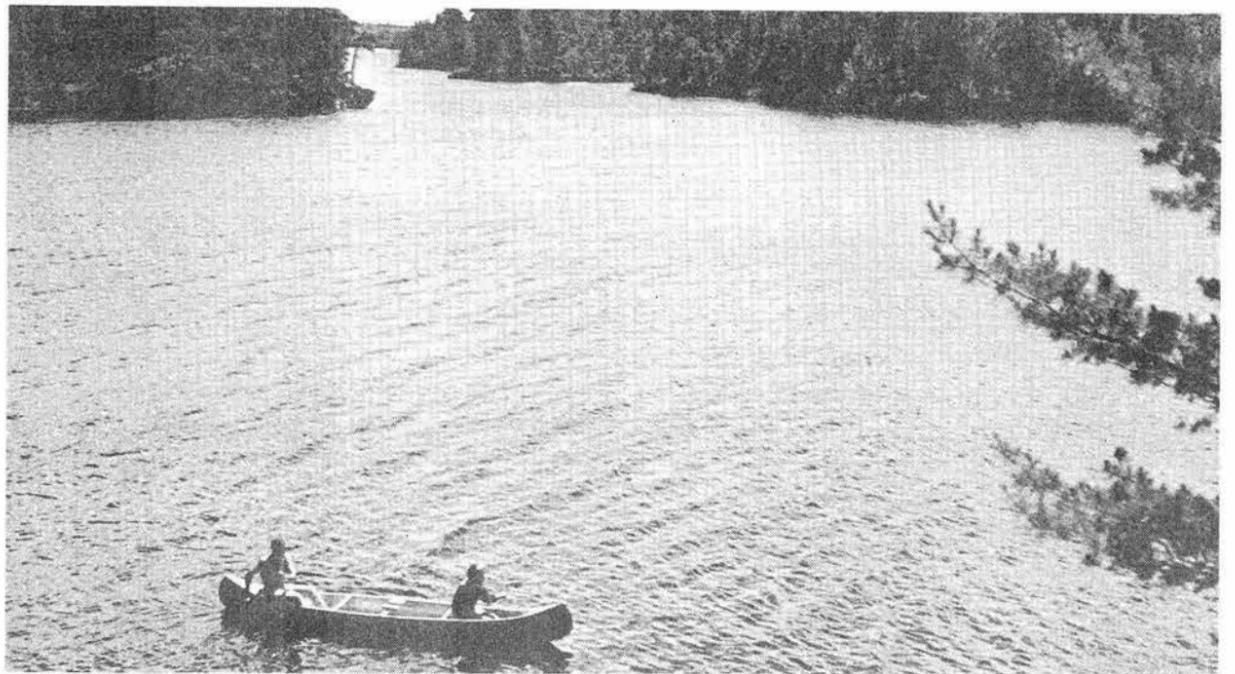
"The food provided by the outfitter was great," Hal says. "For the first three nights the evening meal around the campfire was a feast—steaks or chops and all the trimmings. Then we went on dried rations, but it was still first class. The plan was to keep the weight and bulk down since we had to carry everything on the portages between the lakes and streams. First, we'd

Representative-elect Joe Skeen was a visitor to Sandia Labs in mid-December. After an introduction to the Labs by President Sparks, Mr. Skeen had briefings by Bob Peurifoy (4300), Bill Myre (1700), and VP Al Narath (4000). Mr. Skeen's administrative assistant, Suzanne Eisold, accompanied him; she is the wife of Richard Eisold (1734).

* * *

Sandia Medical has two banner programs slated for next week in theater building 815. On Monday, Jan. 12, Albuquerque cardiologist Richard Lueker continues with the second of his four-part series and will discuss symptoms of heart disease. (On Jan. 19, the topic is cardiac diagnostics and, on Jan. 26, rehabilitation will be discussed.)

"So who needs vitamins?" is the question to be addressed on Tuesday, Jan. 13, by nutritionist and registered dietitian Madeline Nasby. After a review of the subject, she plans to cover vitamin supplements, toxicity problems with vitamins, the cost of vitamins and will answer the question "Are 'natural' vitamins better than synthetic ones?" Both programs run from 12 noon to 12:30 p.m.



PADDLING a canoe on a 50-mile, seven-day tour of the Boundary Waters Canoe Area in northern Minnesota was the recent unusual vacation of Hal Baxter (3652) and John Southwick (ret.).

carry the canoes and then go back and get the rest of the stuff. Everything was packed in canvas 'Duluth' packs with wide shoulder straps that helped. Every night we'd hoist the food packs into the trees to keep them away from bears. The last day, we made eight portages."

The group pitched tents at designated campsites along the way maintained by the Forest Service.

"Regulations are stiff about what can be carried into the area," Hal reports. "They want it to stay clean, and it is—no beer cans, plastic bottles or trash anywhere. It is truly a wilderness. The amazing thing is that it is enjoyed by some 150,000 people annually. I think people are awed by the vastness and beauty of the area and want it to stay in its natural condition. Since we were there late in the season, we didn't see

another group for several days. We caught the changing fall colors in the trees. Beautiful. And talk about isolation—only an occasional airplane overhead reminded us that we were in the 20th century."

Hal plans to organize another Mountain Club tour and return in the fall of 1982.

Logistics—The group traveled in a van 1500 miles from Albuquerque to Ely, a three-day trip. They used KOA camps enroute and stayed two nights at the camp/motel operated by the outfitter near Ely. They returned via Fargo, Mt. Rushmore, Custer Park and Denver. Hal reports that the trip, including all meals in restaurants while on the road and gifts for the folks at home, came to \$325. Of this, \$156 went to the outfitter for seven days on the water (\$140) and two nights and meals at the base camp motel.

Take Note

Dick Traeger, manager of Geo Energy Technology Department 4740, is chairman of an upcoming major conference on geothermal energy. To be held in Albuquerque, the first International Conference on Geothermal Drilling and Completion Technology is sponsored by DOE, the Comision Federal de Electricidad de Mexico and Sandia. It takes place Jan. 21 to 23 at the Four Seasons. Geothermal energy today produces less than one-tenth of one percent of all U.S. electricity and space heat, although a U.S. Geological Survey study estimates that 200 times this amount could be produced. Speakers from eight countries will present papers at the conference, most of which relate to geothermal drilling. Sandia Labs manages DOE's Geothermal Well Technology Program.

* * *

Parent-Craft, a workshop for first-time parents, begins a session on Jan. 12. The group offers information, support, and self-help to 12 couples expecting babies in April or May. For information, call Tom Mehlhorn (4247) at 294-5685.

* * *
Conversational French classes, sponsored by the Alliance Francaise d'Albu-

querque, will be held for 12 weeks starting Jan. 26. Both day and evening classes are available to beginners through advanced students. Two seven-week classes of "French for Travelers" and "French Gourmet Cooking" will also start Jan. 26. For more information, call 821-1508 or 298-1508.

Events Calendar

- Jan. 12—The Audubon Wildlife Film Series: "Kookaburra Country," 7:30 p.m., Popejoy.
- Jan. 13—Cultural Entertainment Series: La Lubovich Dance Company, 8:15 p.m., Popejoy.
- Jan. 18—Cultural Entertainment Series: The Young Americans present a Gershwin Festival, 8:15 p.m., Popejoy.
- Jan. 21—Chamber Orchestra of Albuquerque, 8:15 p.m., Keller Hall, UNM. Metropolitan Opera Radio Broadcasts, KHFM, 96.3 FM; KZIA, 1580 AM, 12 noon:
 - Jan. 10—Poulinc's "Carmelites"
 - Jan. 17—Ponchielli's "La Gioconda"
 - Jan. 24—Mascagni's "Cavalleria Rusticana" & Leoncavallo's "Pagliacci"

feed back

Q. Has Sandia management had any interaction with Continental Airlines regarding recent schedule changes between SFO and ABQ? It seems the most convenient and most used flights were eliminated and what remains are the pits! If nothing has been said, I think it's time!

A. VP Tom Cook has written to the president of Continental Airlines regarding their recent schedule changes. A study at SNLL indicated for the period of May through August 1980, SNLL used Continental Airlines for over 95% of all flights between San Francisco and Albuquerque. This study included total dollars spent with Continental, total number of SNLL employees using their services (for flights between San Francisco and Albuquerque), and alternate flights available. Mr. Cook pointed out the significant shift in Sandia's travel pattern and requested that Continental consider this in their future schedule planning.

A. N. Blackwell—8200

Q. I am a new employee and would like to know if Sandia has any plans to sponsor a day care center for the children of its employees?

A. Sandia does not have any future plans to sponsor a day care center. However, there is a day care center located on Base open to Sandia employees. It can be reached on 4-2314. There are also several day care centers located on main streets adjacent to the Base which makes them readily accessible to people from Sandia.

J. R. Garcia—3500

Sympathy

To Leonard Nelson (1485) on the death of his wife in Albuquerque Dec. 18.

To Bruce VanDomelen (2514) on the death of his mother in Michigan, Dec. 15.

To Shary Holmes (1473) on the death of his mother in Albuquerque, Dec. 19.

To Robert Helmick (1481) on the death of his father, Dec. 18.

To Vivian Wuttke (1471) on the death of her sister in Minot, N.D., Dec. 11.

To Lewis West (3618) on the death of his mother in Albuquerque, Dec. 15.



DESIGN INFORMATION people who staff the centers in Bldgs. 836 and 892 are Gerry Hastings, Mary LaFrenz and John Coleman (all 2433).

Design Info Center Files Expand

DIN (Deutsches Institut fur Normung), the product of the national standards institute of Germany, are the latest addition to the extensive files in both of Sandia's Design Information Centers.

"The DIN standards are now part of our industry standards file," says John Coleman (2433) who heads the Design Information Center in Bldg. 836, Rm. 160. "This file includes industry codes, specifications and standards published by 19 of the major national and international technical associations and societies."

Established almost 10 years ago, the Design Information Centers provide up-to-the-minute technical data and specifications for researchers, engineers, designers and draftsmen throughout the Labs.

In either of the Labs Centers—Gerry Hastings (2433) heads the Center in Rm. 118, Bldg. 892—Sandians have immediate access to more than 20,000 supplier catalogs, military and federal standards and specifications, indexed computer files of any Sandia-designed system or component and more.

Mary LaFrenz (2433) coordinates GIDEP, the Government Industry Data

Exchange Program with its extensive files of engineering data, test data on products, materials and processes, and metrology data. She maintains five different GIDEP files and channels Sandia contributions into the national efforts of 650 participating agencies.

"Sandia is a major contributor to GIDEP," Mary says. "By pooling and coordinating efforts, GIDEP saves participants significant time and money."

"The Design Information Centers feature easy access and quick results," Gerry Hastings says. "Years ago, when I worked a drafting table, I could spend up to half a day locating design specifications for a commercial part. Now, with our two-way indexing, we can find this kind of information within a minute or two."

The Bldgs. 836 and 892 Design Information Centers maintain duplicate files. They are centrally located to serve all of Sandia's designers and draftsmen.

"The Centers are set up to be do-it-yourself operations," John Coleman says, "but the staff is here to help. If anyone has a problem, we can usually help solve it right away."

Retiring



Henry Ward (5623)



Howard Hadlock (3432)



Lamar Treadwell (4321)

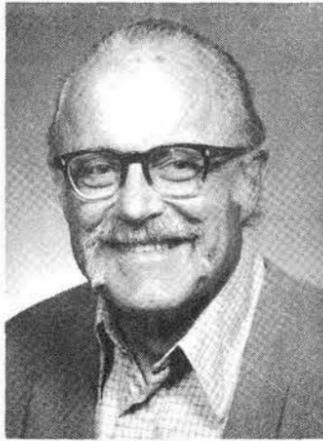


Frank Norris (1721)

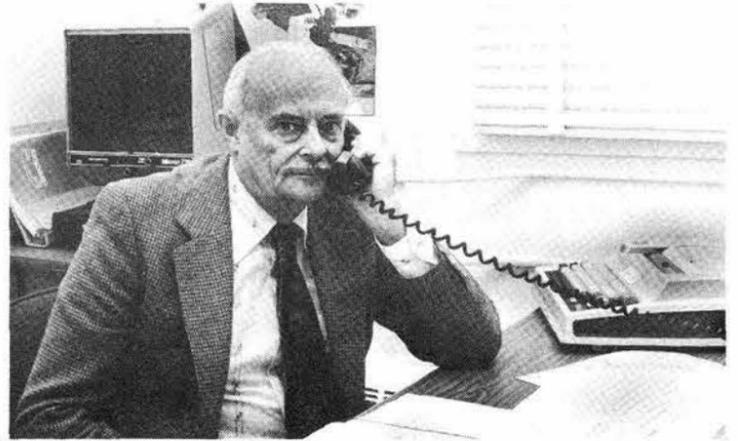
MILEPOSTS

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Hal Baxter - 3652 30



Vern Henning - 3543 30



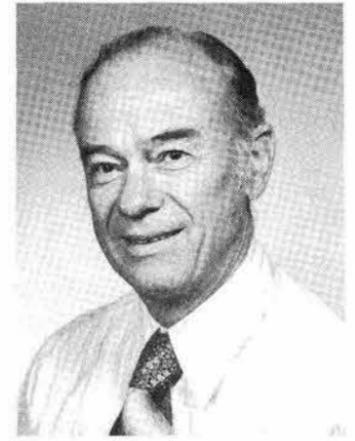
Lorraine Cook - 1533 20



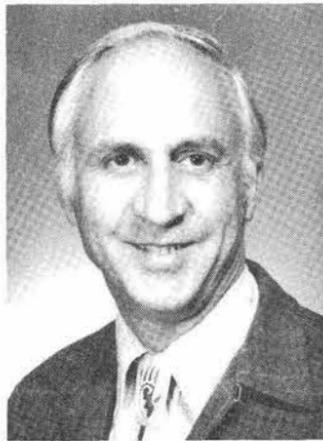
Cecil Mock - 2532 30



Bennie Montoya - 1474 30



Charles Jackson - 4338 25



Jim Muir - 4441 15



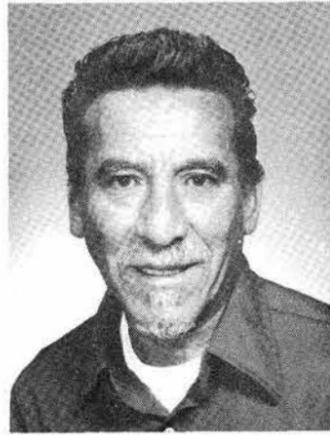
Werner Kuhn - 3441 25



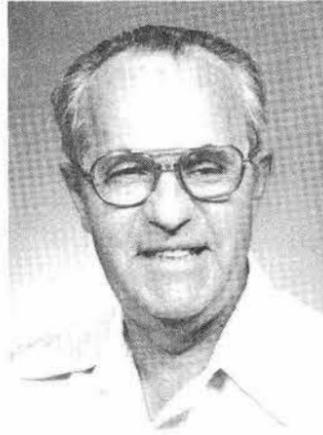
Don Benoist - 1213 20



Jesse Watts - 8262 15



Jose Gallegos - 1482 25



Ralph Work - 2154 30



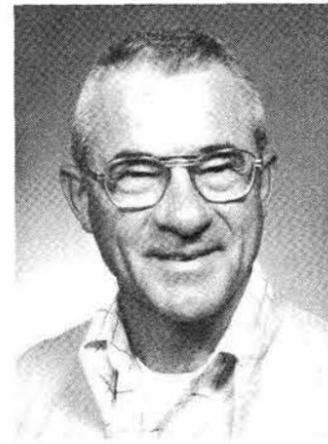
Ross Yingst - 4343 20



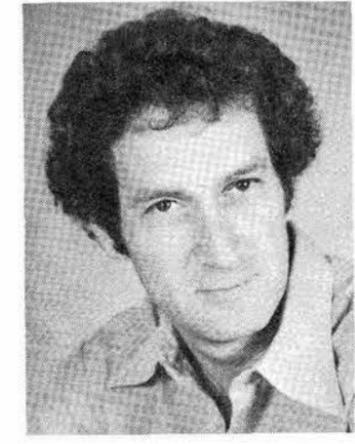
Dennis Cordova - 4004 30



Rick Wayne - 8450 15



Everett Dow - 1733 30



Larry Weingarten - 8122 10

Taos to Santa Fe By Burro in 1854

As many of you know only too well, traveling isn't that much fun anymore. You have to share the road with drag-racing 18 wheelers, lane-changing speed jockeys, and an occasional covey of Hell's Angels. To partake of these pleasures, it costs a dollar-plus per gallon of gasoline and then you're made to feel guilty because your '75 Guzzler Deluxe doesn't get 65 mpg like the latest \$12,000 '81 Kamikaze. And at the end of the day you find that the cut-rate motel is full but there are plenty of vacancies at the \$50-a-night motor inn down the road.

Is that what's getting you down? Well, take heart—it used to be worse. Consider the case of one G. Douglas Brewerton passing through New Mexico on his way from California to Missouri, as he described the journey in the April 1854 issue of *Harper's New Monthly Magazine*. Traveling in those days was not for the faint of heart—but it did have its moments. For instance, after a leisurely 10 a.m. departure from Taos, Brewerton had an uneventful day's ride on his mule "Little Gray" except for being shot at by an unknown assailant. At sunset his party made camp by "the banks of a clear but rapid brook." About a half dozen young women from a nearby village appeared selling "eggs, goats' milk, and tortillas . . . which they were willing to dispose of . . . for a pecuniary consideration." Unfortunately, the travelers were broke so no transactions were made that day.

However, Father Ignacio, a priest who had accompanied the women, invited Brewerton to sup with him. The repast was "by no means a bad one . . . to a man who had spent twelve hours in the saddle": chocolate, an omelette, and a "hotch-potch savoring strongly of red peppers." As a nightcap, and to Brewerton's great delight, Father Ignacio produced a "weighty flask . . . of as fine old cognac as ever slumbered in the cellar of a gouty peer."

The visit with the priest, as it turned out, was to be one of the few pleasant interludes for Brewerton during his journey. That day the party's mules showed symptoms of exhaustion and even his own Little Gray "threatened momentarily to drop down on the road." Reaching a small community, the travelers encamped for the night. The *alcalde* ("a very different sort of person from my friend the Priest") extended Brewerton a "crusty" invitation to supper which nearly destroyed his digestive organs "through the medium of over-done eggs and raw *aguardiente*."

On the following day Brewerton, wishing to make better time, asked a farmer irrigating his fields for a quicker route to Santa Fe. The "short cut" rapidly dissolved into a barely discernible bridle path that disappeared into the wilderness. He was hopelessly lost. Serendipitously, at precisely this moment from the forest appeared two woodcutters "with a little drove of burros . . . some of which were laden with wood to an extent which left only their heads and tails visible." Brewerton shrewdly attempted to query them in his recently acquired Spanish without letting on that he was lost. Within ten minutes, as he related it, ". . . they out-Yankee'd me completely . . . I had learned no more than I had first guessed—that they were woodcutters going to Santa Fe . . . while they had discovered that I was an American . . . and badly lost to boot."

Not that he had much choice, Brewerton decided to accompany the woodcutters—a father and son. His mule, Little Gray, soon collapsed in utter exhaustion, so he was obliged to rent one of the woodcutter's burros, ". . . an ill-tempered, obstinate little brute." Brewerton transferred his saddle to the burro's back where it appeared "large enough for an elephant." His attempt to bridle the animal "called forth an unqualified expression of disapprobation and astonishment from the assembled drove, who brayed in concert."



At this point, the woodcutter patiently explained to Brewerton that burros could be saddled but not bridled.

"'But how,' queried I, 'am I to guide him?'"

'Nothing easier, was the reply. 'You have only to use one of these'—here he exhibited a stick of hard wood some two feet in length, and sharply pointed at one end.'

Brewerton received a quick lesson in the fine technique of guiding the donkey with the sharp stick. He did rather well for the first two miles, but when he poked his mount a tad too sharply, the infuriated burro took off, rushing headlong into the hilly pine woods while its unwilling passenger desperately dodged the menacing branches. The two woodcutters assumed Brewerton was attempting to abscond with their burro, and gave chase followed by their own donkeys and the now-rested Little Gray.

The unlikely procession came to an abrupt end when the burro ran into a sandy area—the animal's short legs sank into the soft ground so that Brewerton could implant his longer legs firmly in the sand, effectively halting the surly burro. The woodcutters soon arrived and quickly realized that no attempt at larceny had been intended. For the rest of the trip to Santa Fe, Brewerton stuck close to the woodcutter "in case of another stampede."

• cm

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Deadline: Friday noon prior to week of publication unless changed by holiday. Mail to: Div. 3162 (M0125).

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

- POOL TABLE, ¾ size, slate composition bed, full accessories, \$275. Wemple, 298-2048.
- GARAGE SALE: refrigerator, dinette table, '73 Honda 450, ski clothes, boots & equipment. Brooks, 265-8612.

USED PIANO. Sanchez, 897-0779. ROAD & TRACK, 24 issues, '72-'76, 25th anniv. issue, \$9. Smith, 242-9576.

SONY BETAMAX, SL-8600, 3 hr. model. Tafoya, 883-6090.

50 GAL. BARRELS for solar energy use; case Guard shell holders, 50 shell capacity, cal. .222, .223, 6mm, four for \$5.00. Stuart, 299-9190.

SILVERTONE solid-state electronic organ, dual keyboard w/20 stops, foot pedals & bench, \$700/best offer. Gross, 821-3761.

BETA FISH display tanks, 3-tier, 15 compartments, fluorescent lights, stainless steel stand, \$45. Kramm, 281-5379.

SKI RACK, holds 4 pairs skis, lockable, fits VW Bug, \$20; tire chains w/ice cleats, \$15. Patrick, 822-0703.

SUPER SNOOPER radar detector, volume & set-off button, power-on indicator, 12 V pwr cord & dash mounting bracket, \$25. Wempe, 844-7853.

REFRIGERATOR, 16 cu. ft. w/freezer & icemaker, shorted compressor, \$60. Horton, 883-7504.

RIDING HORSE, registered Appaloosa gelding, 6 yrs. old, approx. 16 hands, English trained, good disposition, \$1250. Jones, 255-7924.

REMINGTON 788 rifle, .308 w/4X

scope and ammo, \$185 cash-trade. Haaker, 293-1077.

5-PIECE DINETTE, \$70; couch, \$70; coffee table, \$20; stereo coffee table, \$70. Jennings, 298-6457.

ENCYCLOPEDIA AMERICANA, '73 edition, brand new condition. Hands, 836-5919.

GITAR, Spanish, electric, Ward brand, \$50. Hernandez, 268-5000.

REFRIGERATOR, 19 cu. ft. w/bottom freezer, \$90; quilts, cat or bear shape, choice of color, have samples. Lesperance, 255-1237.

OSCILLOSCOPE, EICO; audio signal generator, make offer. Porter, 298-0012.

TRANSPORTATION

'70 CADILLAC CONVERTIBLE, full power, \$3000. Hynes, 243-4198.

'66 CHEVROLET Biscayne, 283, recent paint job & new AT, 4-dr., \$800 firm. Epstein, 265-4287.

'73 DODGE Tioga, 18' RV, cruise control, make offer. Patterson, 821-7068.

'68 CESSNA SKYHAWK, red/white, new interior, instrument-equipped, no damage history, \$11,500. Lysne, 296-4282.

'70 CHEVROLET Kingswood, station wagon, PS, PB, air, radial tires, new Holly Economaster carb, asking \$800. Lowe, 299-7725.

'72 SUBARU FF-1, 2-dr. sedan, fr. whl. drive, 65K miles, front discs, rack & pinion, new battery & upholstery, 30 mpg, \$600. Baxter, 344-7601.

'76 FIAT 131, 4-dr., 5-spd., new brake shoes, 43,000 miles, \$2250. Lackey, 898-6638.

'66 VW Squareback. Kane, 881-7672.

'75 FIAT 124 Spider, convertible, AM/FM stereo, new radials, luggage rack, Fiat shop manuals, low mileage, \$3500. Mehlhorn, 294-5685.

'75 DODGE Coronet, V-8, 4-dr. sedan, \$900 negotiable. Porter, 298-0012.

REAL ESTATE

9½% FHA, \$410/mo., 3-bdr., SW valley, \$49,500. Paylor, 877-8953.

NE LOCATION, 3 bdr., 1½ baths, 1600 sq. ft., large lot, sprinklers, covered patio, many extras, \$59,900, REC possible. Bryant, 881-1489.

ADOBÉ style home, N. Hiway 14, 4-bdr., brick floors, viga ceilings, forced air heating, excellent view, for appraisal. Church, 281-5215.

FOR RENT

HOUSE, 4-bdr., 2 baths, lg. den, within 2 miles of Sandia, \$450/mo. Korish, 265-0152.

WANTED

SKI BOOTS, men's size 8-D. Krinke, 265-8197.

ROOMMATE to share a house in NE hts. Wright, 256-7984.

CAMERA, old folding Zeiss w/Tessar lens or similar 120 film camera. Smith, 242-9576.

TRAILER, single axle, complete on frame, axle, springs, etc. Tobyas, 877-0354.

OSCILLOSCOPE, good CRT. Binder, 299-2937.

WORK WANTED

PART-TIME work for ret'd electronic technicians and fabricators, about 6 days per month. Tech Services, 281-1218, after 7 p.m.

PAINTING, int./ext. by experienced UNM students. Estimates given. Peter Shunny, 265-1620.

Chicken Tonight, Magic Mañana

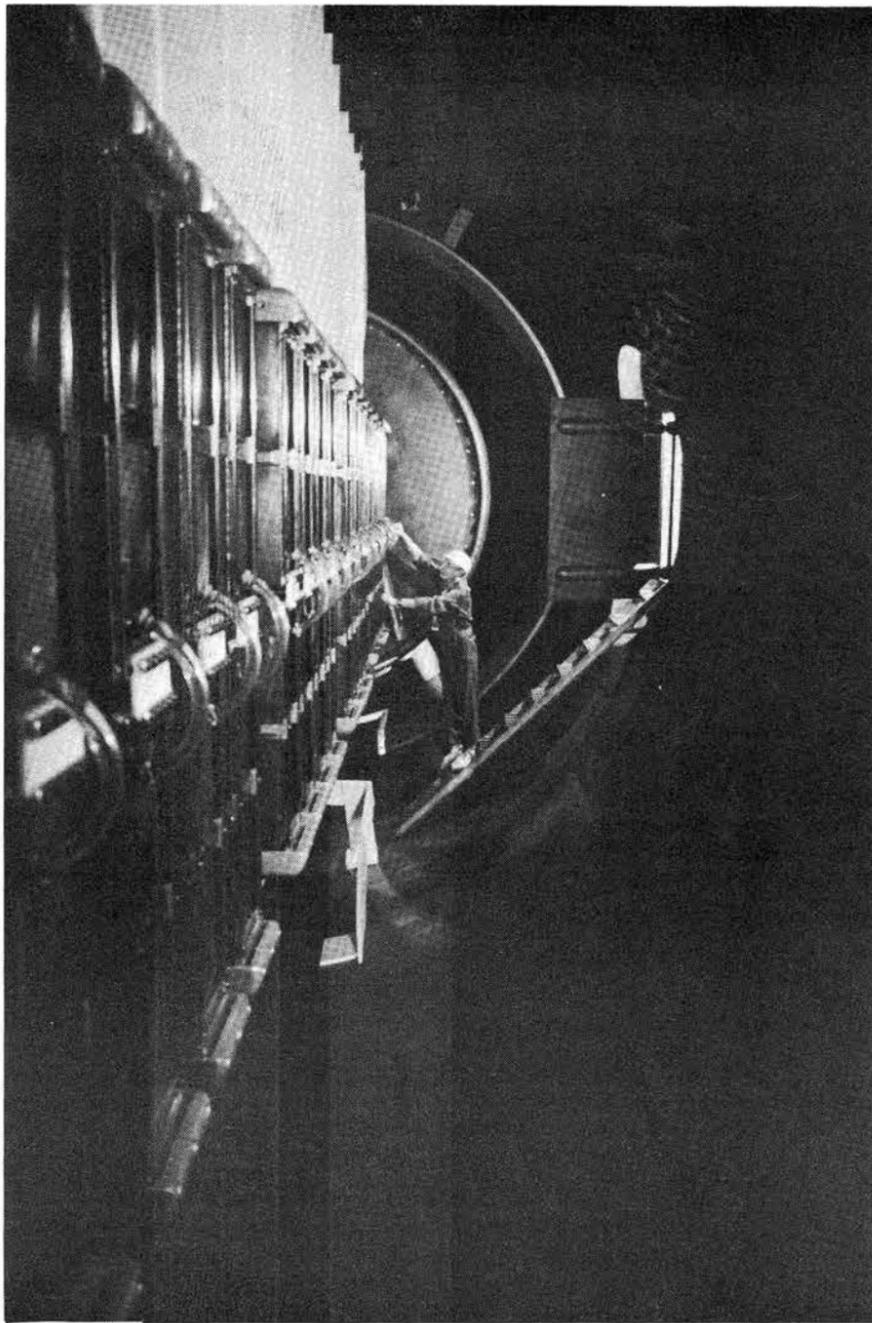
HAPPY HOUR TONIGHT sees O. J. Metzger and guitar entertaining in the main lounge, an all-you-can-eat fried chicken buffet in the dining room and The Family Reunion (formerly Youngblood) in the ballroom playing for dancing. The Club has returned to its regular schedule now and features Friday evening buffets, special prices (cheap) and live music for dancing. To reserve buffet tickets, call the Club office, 265-6791, by mid-week. Use your calendar discount tickets.

TOMORROW is Variety Night, a regular monthly event with a special entertainment show, a movie, and a selection of inexpensive suppers designed for the enjoyment of the entire family. Tomorrow Don Marchi (2515) presents his popular magic show starting at 7 p.m. followed by a movie, *That Darn Cat*, at 7:45. Admission is free to members and families.

HAPPY HOUR next Friday, Jan. 16, features ham and steamship round of beef on the buffet and The Country Showmen on the bandstand.

THE BIG ONE on this month's calendar is set for Saturday, Jan. 17, with shrimp or filet mignon on the dinner menu. The Freddie Chavez Foundation plays for dancing. Tickets cost \$7.50 and must be picked up by Jan. 10.

ANOTHER BIG ONE is scheduled Friday, Jan. 23, when a sit-down dinner featuring three entrees takes the place of the regular buffet. Choose between king crab, prime rib or shrimp del rey at \$7.50 each. In the meantime, Happy Hour prices prevail and the Scotsmen make the



HERMES II UPDATED—A new Marx bank of 128 capacitors, recently installed in the Hermes II Radiation Simulation Facility in Area V, is inspected by Jesse Harness (4233). The capacitors in the old Marx bank (originally acquired from AWRE in England) were no longer available. The new modules are based on technology developed by Pulsed Power Systems Department 4250 and are similar to those used in the Particle Beam Fusion Accelerator. The powerful gamma ray beam produced by Hermes II is used for research and weapon effects simulation studies. Testing and characterization of the improved facility should be complete this month, and it will be back in business for Sandia users in February.

dancing music. No reservations required for this one. Dinner starts at 6 p.m. and when the dining room is full, it's full.

THE CORONADO SKI CLUB opens the 1981 season with a cross-country ski fair scheduled Jan. 20. The program starts at 7 p.m. with a display of merchandise from eight local shops. At 8 p.m., Klaus Weber, UNM cross-country ski coach, discusses "Modern Cross-Country Skiing—An Overview." Refreshments and a movie are also planned.

FOR THE SUPERBOWL game last year the Club rented a giant screen, served green chili, popcorn and Happy Hour drinks and called it Superbowl Sunday. It worked out very well and the troops enjoyed the whole thing. So, guess what, they're doing it again this year—set aside Sunday, Jan. 25, as Superbowl Sunday and watch the game on a giant TV screen at the Club. Admission is \$1.50 but that covers the TV rental and the green chili.

TRAVEL DIRECTOR Frank Biggs (1231) announces two new trips to Mexico. Spend May 5-12 at Puerto Vallarta in the Las Palmas beach hotel for \$399 a person or June 1-8 at Mazatlan in the Playa Mazatlan for \$354 a person. Both packages include air fare, lodging, transfers, taxes and a welcoming cocktail. A \$75 per person deposit at the Club office will reserve space for either of these trips.

Frank reminds you of the new five-day Disneyland trip scheduled April 14-18 with side excursions to Sea World and Catalina



DON MARCHI (2515) presents his popular magic show at the Club's Variety Night tomorrow starting at 7 p.m.

Island. The per person price of this package for adults is \$269 (quadruple occ.), \$282 (triple), and \$300 (double). For children the price is \$212 for the first child, \$208 for the second, and even less for children under four. Deposit \$75 at signup—the balance is due March 2.

For more information, see Frank in the Club lobby tonight between 6 and 7.



JB, I HEAR THAT YOU REDUCED THE ACCIDENTS IN YOUR PLANT BY 50% THIS YEAR. WHAT'S YOUR SECRET?

NO SECRET, T.R., I JUST REDUCED THE WORK FORCE BY 50%.