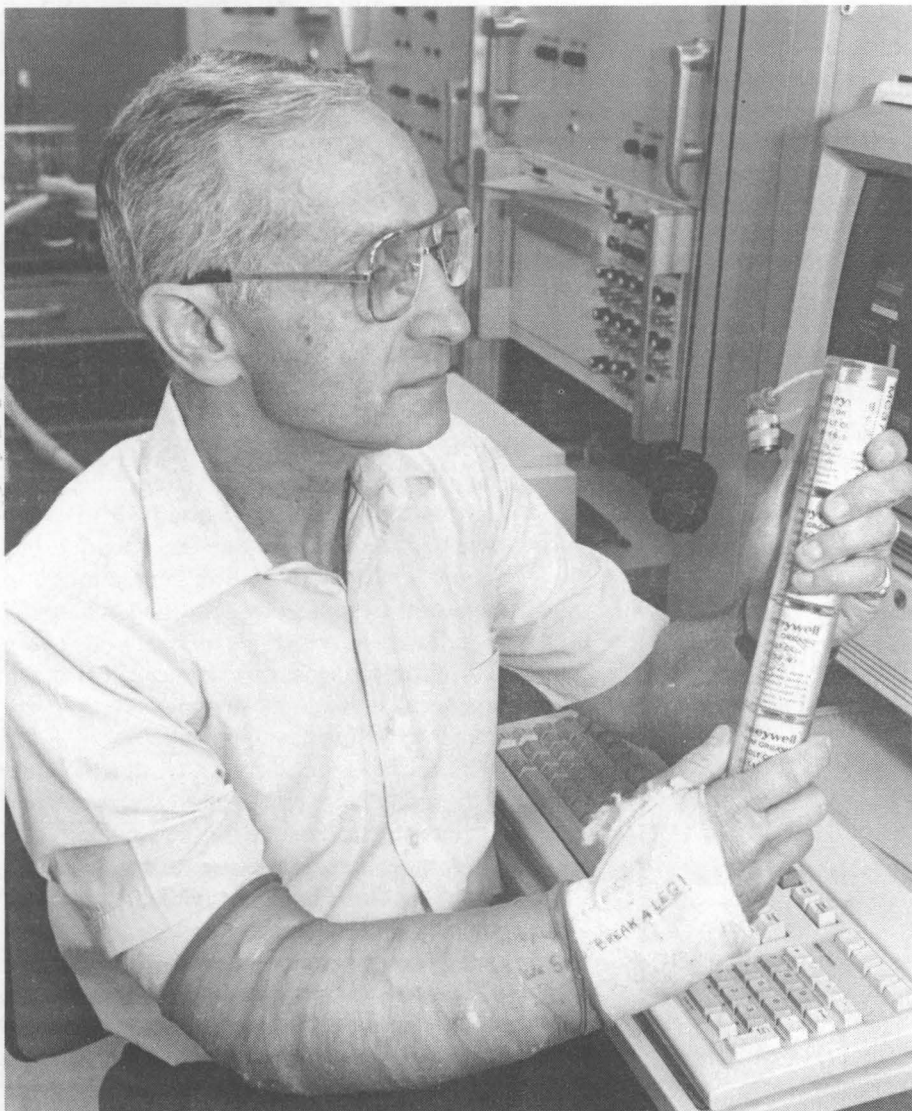


## Battery Workshop Probes Industry for Ideas, Partnerships



SAM LEVY (2523), Battery Technology Workshop organizer, examines a mock battery made of transparent plastic in Sandia's battery lab. Battery users and manufacturers toured the facility as part of the two-day workshop held in Albuquerque Feb. 12 and 13.

Last month, Sandia hosted its first-ever Battery Technology Workshop to bring together representatives from major commercial battery suppliers, major battery users, and the Labs. The workshop's goal was to help transfer some of Sandia's research innovations and capabilities to industry and thereby help increase the US battery industry's international competitiveness.

"Look around you," says Sam Levy of Exploratory Batteries Div. 2523. "Batteries are used in more and more devices every day. New applications are bringing increasingly bigger markets. I expect even faster growth if some of the obstacles in the industry are overcome."

In 1982, he says, 770 million battery-operated devices were in use in the US. Last year, the number increased to 1.3 billion. One reason, he says, is re-

**"I expect the batteries of tomorrow to be smaller, safer, and more reliable, with electronics built in."**

cent advances in microelectronics and the availability of hundreds of new battery-operated devices, from portable radios to electronic toys.

At the same time, however, the US market share in the battery business is decreasing. Sam says US battery exports in recent years have remained constant while imports are on the rise, especially from Japan. According to the US Dept. of Commerce, less than 4 percent of batteries sold in the US in 1978 were made in Japan. In 1988, more than 13 percent of the batteries sold in the US were provided by Japanese suppliers. These figures indicate a need to reinvigorate US competitiveness in batteries, he says.

### Potential Industry Partnerships

At the workshop, held Feb. 12 and 13, Sandians presented results of recent exploratory battery research and Labs capabilities. Industry representatives also expressed their concerns and needs for future R&D efforts, and battery users discussed their needs for smaller, cheaper, and better batteries.

"We tried to make it an informational workshop," says Sam. "We wanted industry to tell us their problems and get a true spirit of cooperation started. Next, we'll invite the interested parties back for a planning meeting."

The industry representatives responded favorably to the workshop, says Sam. Several companies expressed an interest in collaborating with the Labs on fundamental research. Sam says he hopes US battery manufacturers and users will form a consortium as a result of the workshop. Sandia

*(Continued on Page Four)*



# LAB NEWS

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SANDIA NATIONAL LABORATORIES

MARCH 8, 1991

**Waste Minimization Network Expected to Eventually Save Labs Millions of Dollars — See Page Five**

### Tracking Rocket Plumes for SDI

## Satellite Studies Plume from Sandia's Strypi Rocket

Sandia's Strypi rocket, which has carried US scientific experiments into space since 1962, helped researchers score another big success at the Kauai Test Facility in Hawaii last month.

On Feb. 18, researchers from the Strategic Defense Initiative Organization (SDIO), the Naval Research Laboratory (NRL), Utah State University, and Sandia launched a three-stage Strypi rocket from Kauai to study the ultraviolet (UV) light emitted by the

**Optical equipment provided a first-ever on-board look at UV radiation emitted by the rocket's motors.**

rocket's plumes during burn stages. The plumes were successfully tracked and imaged by NRL instrumentation on board the Low-Power Atmospheric Compensation Experiment (LACE) satellite and other ground-based Air Force sensors.

A second experiment, equally successful, took place during high-altitude flight and reen-

try. Optical equipment provided a first-ever on-board look at UV radiation emitted by the rocket's motors during its second and third burn stages. Radiation produced by the aerodynamic heating of the atmosphere surrounding the vehicle — called "bow shock" — was also measured during reentry and transmitted to ground stations using telemetry.

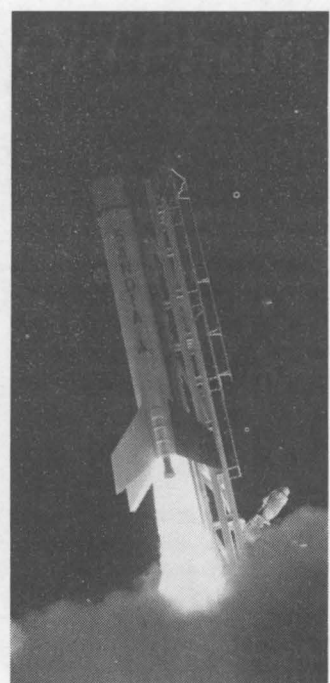
The researchers say they will add the information to a data base of UV, visible, and infrared (IR) emissions that will help characterize, via satellite, space vehicles launched from foreign countries. This information is critical to a successful SDI program, which must be capable of tracking and identifying foreign rockets shortly after launch.

"The experiments were 100-percent successful," says Pat Walter (7526). "Every group involved was inundated with useful data. We're all pleased with the results."

Strypi was originally designed by Sandia in a dramatic 60-day flurry of development aimed at producing a vehicle to carry a warhead for high-altitude tests during Operation Dominic in 1962. It soon became the basis for a family

of one-, two-, and three-stage solid-fuel rockets used to carry a variety of experiments into space. It has been particularly useful for studying reentry physics. Last month's launch was the 40th Strypi launch.

Sandians from several organizations supported the experiments, including divisions 7526 (test development and supervision), 7523 and 7510 (operations and logistics), 9132 and 7525 (flight navigation), 1555 (flight safety), and 7556 (photography support).



Strypi Rocket



# This & That

Favorite War Story – It certainly wasn't the most significant news story to come out of the Persian Gulf War, but I found it one of the most interesting. A local newspaper headline, near the war's end: "Some Iraqis Will Give Up to Anyone, Even Writers." A group of 10 hungry, thirsty, war-weary Iraqi soldiers, eager to get it done, surrendered in southern Kuwait to the first non-Iraqis they encountered – a couple of journalists covering the war. We writer types have long said that the pen is mightier than the sword. Just as mighty, at least, in this case.

\* \* \*

Strypi: "60-Day Miracle" – The Sandia-developed Strypi rocket, used in a successful Strategic Defense Initiative experiment at the Kauai Test Facility last month (see page one), goes back a long way. The first in the Strypi family of rockets was launched back in 1962.

Retired Sandia VP Glenn Fowler wrote about the Strypi's development in an article in Sandia's 40th anniversary booklet, *Reflections for Tomorrow*. Excerpts from the article: "The name Strypi was given to a family of Sandia-developed rockets after George Dacey [then VP of Research and later President] told the story of a British soldier in India who mistook a tiger's tail for a black and yellow snake called a stryphi. The name was appropriate, because at that time – in late summer 1962 – Sandia truly had a tiger by the tail. We were working around the clock to develop the first Strypi and help get the nation back on track in its nuclear testing program.

"The first launch came in late September. We designed, built, and successfully fired a new rocket in less than two months. I don't know of anyone else ever doing that," wrote Glenn.

\* \* \*

Booklet Still Available – A few copies of the *Reflections for Tomorrow* booklet are still available to interested Sandians. Every on-roll employee in late 1989 received a copy. Folks who have joined the Labs since then and others who want another copy can send a self-addressed internal mailing envelope (6 by 9 inch) to Community Relations Div. 3163. Lots of good stuff in that small booklet!

\* \* \*

Change Not Easy – We Sandians are learning quite a bit these days about some of the difficulties involved in changing our corporate culture to meet the needs of a changing world. Jack Wirth, Acting VP of Component Development 2000, tells a story about his farmer grandfather that illustrates the difficulty of change. Seems Grandad Wirth was driving his first tractor after years of using horse-drawn farm implements. The old boy momentarily lost his bearings, and the tractor started plowing through a fence. "Whoa, you beast, WHOA!" shouted Grandad. What worked well in the horse era didn't work so well in the new tractor era. There's a lesson there.

\* \* \*

Age & Economics – A friend tells me his body and mind are giving him a real lesson in economics as he approaches 50. Says his hairline is in recession, his waistline in inflation, and his mind in depression.

\* \* \*

And a Deflating Comment! – A former co-worker once commented that her 50-year-old husband was fond of calling himself middle-aged until she asked, "OK, how many 100-year-old people do you know?" As I recall, he was her fourth husband. With comments like that, he probably wasn't her last one.

•LP

## Gradual Expansion Planned

# Recycling Update

Sandia's pilot paper recycling program, which began last August in Bldg. 891, has been judged a success and will gradually be expanded to other buildings, says Don Schubeck (3412).

During a six-month trial period, about 30 tons of white wastepaper were collected in Bldg. 891 and a few other locations. Don says that equates to saving 510 trees, 126,000 kilowatt-hours of electricity, and 210,000 gallons of water.

Recycling has already been expanded to Bldgs. 804, 823, 839E, 864, 880 (Computer Annex), 887 (and surrounding mobile offices), 892 (drafting), 9981, and MO171 (uncleared new hires). Expansions are planned in other buildings, each of which will be assigned a recycling program coordinator by the building ES&H coordinator.

Don, who has been appointed Solid Waste Recycling Coordinator for Sandia, Albuquerque, encourages Sandians to minimize the amount of wastepaper they produce by printing and copying on both sides of the paper. He also reminds everyone that white paper should be used for major mailings because it can be recycled.

In other recycling developments:

- The recycling collection trailer has been moved from the Bldg. 891 dock to the motor pool lot, which is more accessible for the recycler.

- *50 Simple Things You Can Do to Save the Earth* and *Save Our Planet* are available for check-out in the Technical Library (3140).

- Recycling team member Louise Bland (3414) has been appointed to the board of directors of Keep New Mexico Beautiful, an organization that serves as a clearinghouse for beautification, recycling, and litter-control programs in the state.

•JClausen(3161)

## Take Note

David Ryerson (5144) was recently elected a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE). Senior Member is the highest professional grade for which application may be made and requires experience reflecting professional maturity. About 8 percent of IEEE's 300,000 members are elected to this grade.

\* \* \*

UNM's College of Engineering is sponsoring two Albuquerque workshops on "Total Quality Management" this spring. The first is March 26 through 28. The second, April 2 through 4, is geared toward quality management in government contracting. For information, contact Katherine Love on 277-6061.

## LAB NEWS

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SANDIA'S 1991 SECRETARIAL COMMITTEE got together recently to say "Cheese!" for LAB NEWS photographer Randy Montoya. This year's committee members are (seated, from left) Yolanda Moreno (1), committee recorder; Suzi Montaño (6310) and Lorina Montoya (3220), cochairs of this year's secretarial seminar held in October; (standing) Sue Stone (2810), committee vice chair; Harriet Mason Goodness (5240), Susan Kissam (3300), Becky Wilcox (1160), and Wendy Falls (7520), producers of the *Secretarial Writings and Professional Standards* newsletter; and Charlene Rodgers (9320), committee chair.



**Silver Medalists****Sandians Get International Honors for Paper on Combustion**

Scientists at Sandia, Livermore received top honors at the 22nd International Symposium on Combustion in Orleans, France, for a paper contributing to the analysis of flame structure and chemistry.

The paper earned the Combustion Institute's Silver Medal — the top award given for a paper. For the first time, the medal was awarded jointly to two research groups, one at Sandia and one at Princeton University. The Sandia work was primarily theoretical, while the work at Princeton described complementary experimental research.

The award for the Sandia contributions was accepted by Bob Kee, Supervisor of Computational Mechanics Div. 8245, Greg Evans (also 8245), Jim Miller from Combustion Chemistry Div. 8353, and Graham Dixon-Lewis, professor emeritus of fuel sciences at Leeds University, England. The professor collaborated in the research during a sabbatical at Livermore's Combustion Research Facility.

**Understanding How Flames Behave**

Bob explains that the research focused on a particular form of "strained" or "stretched" flames in an effort to understand the highly complex and little understood dynamics of flame turbulence. Nearly all practical combustion devices (such as engines and power plants) rely on turbulent combustion, but detailed descriptions of turbulent combustion are still in their infancy.

Rather than tackle all the complexities directly, the Sandia team sought to understand critical aspects of turbulent combustion in relatively simple laboratory flames.

The flames analyzed in the work consisted of two jets shooting at each other. As the speed of the jets increases, the flame structure changes. Finally, when the blowing becomes forceful enough, the flame is extinguished — it goes out. Understanding this behavior is important to predicting such things as unburned hydrocarbon emissions in combustion devices.

Bob and Jim, who have studied flame chemistry at Sandia for more than 10 years, say that

**"The paper is an excellent example of how basic research can lead to a cross-fertilization of ideas."**

until now, no one has been able to predict accurately the extinction behavior of certain types of strained flames. They explain that Professor Ed Law (formerly at UC Davis, now at Princeton) set up experiments to measure flame extinction limits from two opposed gas streams. However, the data did not conform to commonly used mathematical models.

Greg Evans was working on mathematically related problems in a different field — that of materials processing — when it occurred to him that his work might also apply to the dynamics of flame chemistry. He guessed right, and his new mathematical formulations led the Sandia group to a reformulated mathematical analysis that explained the professor's data. Greg said the introduction of a finite-length scale, absent from earlier work, was the key.

**Sharing of Knowledge in Different Fields**

He adds that Bob Kee's background in both combustion and materials processing allowed the application of knowledge from one field to another. "The paper is an excellent example of how basic research can lead to a cross-fertilization of ideas that can solve problems in seemingly unrelated fields," says Greg.

Bob notes that the wealth of collaboration at



RECIPIENTS OF the best paper award from the 22nd International Combustion Symposium include (from left) Greg Evans, Bob Kee (both 8245), and Jim Miller (8353). Silver medal is on table in foreground.

Sandia laid the groundwork for the breakthrough. He explains, "We were fortunate to have stimulating input from Juergen Warnatz of

**The work can be applied to at least five other kinds of specialized flames.**

the University of Heidelberg, and Graham Dixon-Lewis of Leeds University, both of whom worked on summer projects at the Combustion Research Facility and were interested in explain-

ing flame structure.

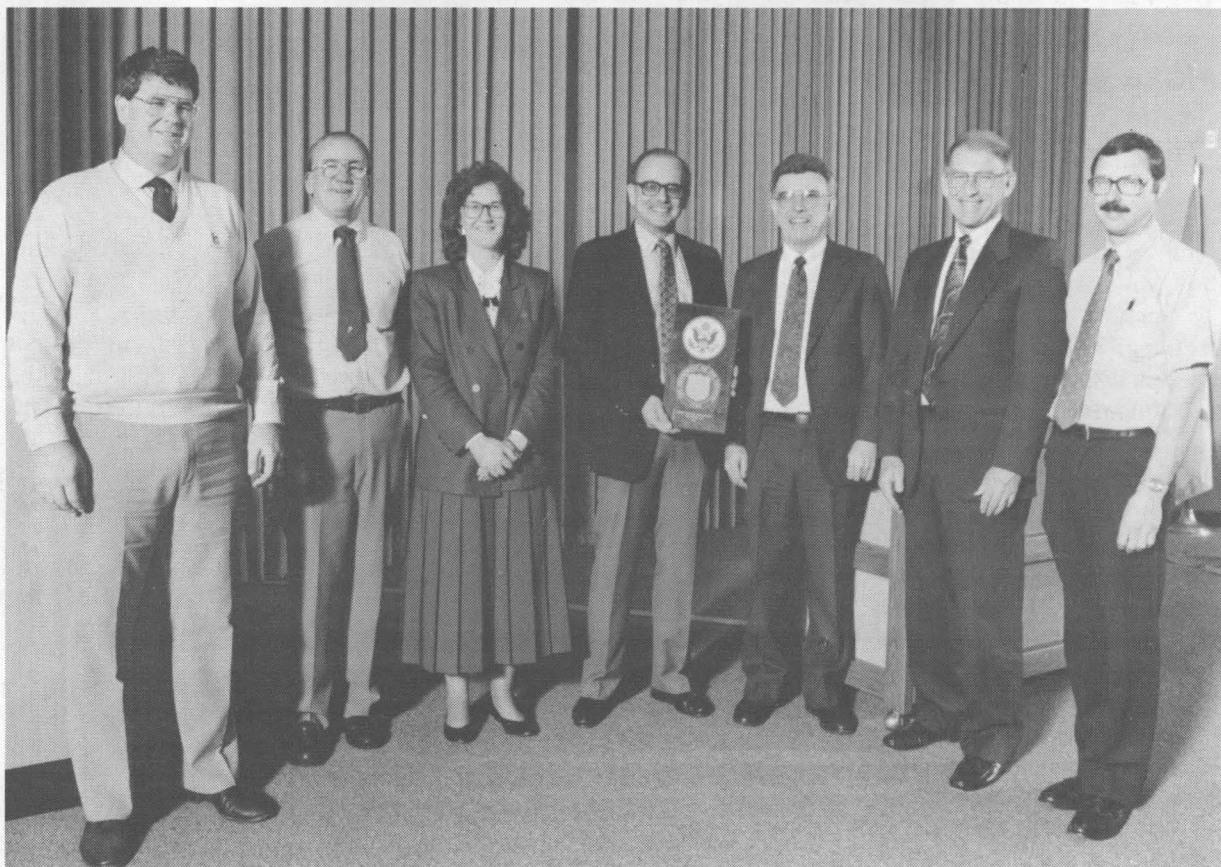
"Collaborations with Professor Tadao Takeno of Nagoya University in Japan also strongly influenced the direction of our research," continues Bob. "His work dealt with the introduction of length scales in other kinds of flames."

Extensions of the work can be applied to at least five other kinds of specialized flames, as well as to a range of materials-processing applications, including semiconductor fabrication.

The research was supported by DOE's Office of Basic Energy Sciences, Division of Chemical Sciences.



**SANDIA  
LIVERMORE NEWS**



LIVERMORE SANDIANS were honored recently for their 95.4-percent participation in the 1990 Savings Bond drive. Employees gave \$333,000 to this year's campaign; 133 either participated for the first time or increased their pledges over last year. Attending a brief ceremony in the CRF auditorium are (from left) Corey Knapp (8536), campaign coordinator for Directorate 8500; Pat Gildea (8280), coordinator for 8200; Charlotte Acken (8453), coordinator for 8400; Mike Rogers (8433), Livermore chairman; Claude Mullen, area manager for the Department of Treasury US Savings Bond Division; VP John Crawford (8000); and Al West (8431), assistant chairman and head of next year's Bond drive. Directorate coordinators not present were Ron Stoltz (8316) and Dennis Beyer (8163).



(Continued from Page One)

## Battery Workshop

could then negotiate CRADAs (cooperative research and development agreements) with the consortium based on future industry needs and Sandia's capabilities.

### New Assaults on Batteries

Today's battery-operated devices are more portable than their predecessors because microchips make them smaller and lighter. Batteries for these devices must also be smaller and lighter. Sam believes the challenges for the battery industry of the '90s are to reduce battery size and weight without sacrificing current battery lifetimes and measures of reliability.

Other challenges faced by consumer battery suppliers are environmental and safety issues. The most common type of rechargeable consumer batteries, nickel-cadmium batteries, can have serious negative effects on the environment if disposed of improperly. Sandia's growing experience in disposal, recycling, and environmentally conscious manufacturing may help industry find ways to manufacture and recycle nickel-cadmium batteries that reduce environmental impacts while retaining current lifetime and reliability.

Other Sandia programs address safety issues. Each rechargeable battery is made up of a series of energy pockets, called cells. Sometimes, when one of the cells in a string of cells has a higher or lower capacity than a neighboring cell, the battery contains an imbalance.

Such an imbalance can be a safety problem, says Sam, because a depleted cell may be overcharged by surrounding cells, causing noxious materials to be vented from the battery. Also, if one

cell inside a conventional rechargeable goes dead, the whole battery is dead and can't be recharged, even if neighboring cells are still functional. If sensors and integrated circuits were placed inside the battery, they could detect imbalances and help moderate the voltage differences between cells, increasing the lifetime of a rechargeable battery and reducing safety hazards.

"We're beginning to look for innovative solutions to common problems in the battery industry," says Sam. "I expect the batteries of tomorrow to be smaller, safer, and more reliable, with electronics built in."

To improve reliability, some Sandia-developed batteries contain two or more strings of cells.

If one of the strings goes dead, the other still operates, maintaining the battery's reliability. Another approach to increasing battery reliability is to incorporate a single additional cell, sensors, and an integrated circuit into a battery pack. If the sensors detect a bad cell, the integrated circuit replaces it with the single new cell, increasing both reliability and lifetime without a substantial increase in weight or volume.

"Our goal is to perform applied research," says Sam. "Industry can continue with the development. The workshop was a good example of how Sandia can make Labs technologies more accessible." ●JG

## Battery Program Meets Labs' Unique Power Needs

Battery R&D is something of a tradition at Sandia. It started in the 1950s as a way to provide highly reliable, one-time power to nuclear weapons, possibly after decades of storage in the weapons stockpile.

Much of Sandia's early battery research focused on thermal batteries. Thermal batteries, unlike their predecessors, contain no corrosive electrolytes and are functional only in the presence of heat (created by an electrochemical reaction). They provide highly reliable one-time power and have longer shelf lives than the chemical batteries of the late '40s and early '50s.

Since then, the battery program has developed and supplied other Sandia programs with batteries that can't be bought commercially. These custom-made batteries typically have unique performance requirements, such as high reliability and long life.

In recent years, battery R&D at Sandia

has tackled a host of other problems. Battery researchers are developing ways to provide power to deep space probes, supply DOE with rechargeable batteries for electric cars, and store electricity from photovoltaic (solar) cells — to name a few.

Sam Levy (2523) says the performance requirements of today's batteries — high reliability and long lifetimes — suggest that much of the R&D done at Sandia in the near future will focus on new materials, not electrochemical problems.

"The biggest problems we have run into is the corrosion of support and containment materials [such as cans, leads, glass seals, and welds]," he says. "Once these are corrected, the electrochemical systems will operate with a higher degree of reliability." He adds, however, that for new high-energy systems being developed, the materials problems will be the most difficult to solve.

## Be Prepared Before Tigers Arrive

*This is the sixth in a series of "helpful hint" columns as we strive to improve our ES&H performance and to prepare for the visit of the DOE Tiger Team beginning in mid April.*

**TIGER TEAM TIPS**



If experience is any teacher, one group the Tiger Team is sure to audit closely is Environmental Programs Dept. 3220. Organizations

that work with 3220 should expect a reduction in the normal level of services before and during the team's arrival and should plan accordingly.

Services most likely to be affected include chemical waste collection, help with wastewater and sink disposal compliance, collection of radioactive and mixed wastes, air emission and National Environmental Policy Act compliance aid, environmental compliance training, classified waste surveys, and PCB identification and collection.

Chemical waste collection employees will set priorities based on disposal requests. Organizations are urged to (1) review current chemical storage, (2) identify outdated, off-specification, or potentially explosive chemicals and "non-JIT" compressed gas cylinders (not purchased through Sandia's Just-in-Time system), and (3) request disposal now with a Chemical Waste Disposal Request form (SA 2008-CWD).

Sandians are reminded that chemical wastes must be handled, stored, and transported in approved ways. Chemicals should not be stored in hallways, other passageways, or in any areas not approved for chemical storage. Employees should not attempt to personally move chemicals to the Hazardous Waste Management Facility. Chemicals will be accepted there only through approved procedures from persons authorized to deliver the chemicals (see form SA 2008-CWD). ●

### Tigers at Tax Time

## Tiger Team Leader Named for Sandia Visit

Dave Spence, who will lead the 100-member DOE ES&H Tiger Team visit to Sandia, has come to know the Labs through the Strategic Petroleum Reserve (SPR) Program.

Since 1984, Spence has been with DOE's SPR, a collection of caverns leached from underground salt domes in southern Texas and Louisiana. The caverns can be filled with up to 750 million barrels of crude oil, which is reserved for easy retrieval during times of special national need. In fact, about 17 million barrels of crude oil is being removed from SPR because of the Persian Gulf war, he says.

Currently, Spence is SPR's assistant project manager of operations. "Among other things," he says, "I'm accountable for those activities that go on concerning cavern certification, creep closure of caverns, and behavior of the caverns in the storage environment.

"That means I'm essentially responsible for managing Sandia's SPR activity. One of my senior people is the regular interface with Jim Linn [Supervisor of Underground Storage Technology Div. 6257]."

Work aimed at learning more about salt creep, cavern integrity and oil losses, and stored-oil chemistry and purity is a key part of Sandia's SPR assignment today.

Before joining SPR, Spence was deputy manager of the Gas Centrifuge Machine Office of DOE's Oak Ridge Operations Office. He also worked for Northrop Space Laboratories, the NASA Manned Spacecraft Center, and the US Air Force.

Spence and principal Tiger Team members from the three sub-teams (environmental, safety and health, and management) will be at Sandia from March 19-21 for a get-acquainted

visit. They will visit with Sandia management, receive briefings and tours, and review documents needed for the assessment.

The long-awaited Tiger Team assessment, to begin April 15 and continue for about six weeks, will include a thorough review of Sandia's ES&H compliance and programs.

Much of Spence's professional career has prepared him for the new Tiger Team leader role, he believes. "I came out of the aerospace industry and the manned space program, which necessarily must be very disciplined. You don't have a chance to do things twice." He also has experience with quality appraisals.

Spence sees his role as Tiger Team leader as one of management oversight. "I also intend to assure a high degree of credibility for this assessment by assuring that findings are of significance and are bounded by requirements.

"What we find — assuming that we do find things that are in less-than-full compliance — should help you improve operation of the Labs. We have no other motive than that," he says. ●

## Retiree Deaths

Stanley Harvey Jr. (71) .....	Jan. 2
Margaret Conmey (78) .....	Jan. 7
Russell Leahy (66) .....	Jan. 17
Ted Morse (85) .....	Jan. 16
R. L. Ledgerwood (59) .....	Jan. 22
John Colwell Jr. (74) .....	Jan. 29
Joe Mahboub (77) .....	Jan. 30





**Reducing and Recycling****Sandia Kicks Off New Waste Minimization Network**

Labs employees can start looking for more ways to reduce the amount of waste they generate, said Jim Fish (3220), author of Sandia's new Pollution Prevention Program (PPP), at a Feb. 26 meeting in the Technology Transfer Center.

The PPP report establishes a network of representatives from line organizations throughout the Labs, called "MinNet" representatives, who are responsible for understanding waste-generating processes within their departments. Each department must be represented by a MinNet representative regardless of the amount of waste it generates, although departments that generate infrequent or small amounts of waste may team up with other departments, says Jim.

The pollution prevention program also establishes a time frame for documenting waste-generating processes, identifying opportunities to minimize waste, and implementing specific changes that reduce the volume of waste generated at Sandia. The result is a formalized waste minimization program that benefits all Sandians.

**Difficult, But Important**

As part of the program, all ongoing waste-generating processes at the Labs will be identified and documented by PWAs (process waste assessments). A PWA is essentially a material balance sheet showing material inputs and outputs for a process. Outputs at Sandia may include air emissions, wastewater, solid waste, and products themselves, for example.

"Establishing PWAs at an R&D facility is considerably more difficult than at a production facility, where inputs and outputs are essentially constant," says Hugh Reilly (6217), chairperson of the PPP Implementation Team. "Writing PWAs for Sandia processes will be a major, but important, undertaking."

After PWAs are written, employees will identify specific changes they can make that will reduce the amount of waste they produce. Finally, formal changes will be made and documented by each line organization.

Hugh says that when the Tiger team arrives in mid-April, initial plans for implementing the program will be complete, and testing on selected organizations will have begun. After this prototyping stage, the implementation procedures will

apply to all Sandia operations at all locations.

By the end of FY92, PWAs will be completed for all waste generators at Sandia. Also by this time, waste minimization opportunity assessments (specific actions that can be taken by line organizations to minimize waste) will be completed for the highest-priority waste generators. A tentative goal

of 50-percent reduction by FY96 has been set for chemical, radioactive, and mixed waste.

**Toughening Up**

Environmental Protection Agency (EPA) and DOE requirements are driving the program. According to the Resource Conservation and Recovery Act (RCRA), each time Sandia ships out waste, it should be able to certify that a formal waste minimization program is in place at the Labs.

DOE orders also require that Sandia establish goals for reducing hazardous and radioactive waste. Sandia's *Pre-Tiger Team Self-Assessment* (PTTSA), completed in January, reported that Sandia does not fully meet these requirements.

Bob Park (4010), champion of the program and member of the Line Managers ES&H Action Team, says the benefits of a formal waste minimization program run deeper than just meeting requirements. The biggest benefit is the savings (see "Sandia's Budget Victimized by 'Unknowns'"). The bill for December's handling and shipping of chemical waste (not including radioactive, mixed, or explosive waste) was more than \$414,000, he says.

Waste management costs for FY90 totaled more than \$10 million. With a waste reduction of approximately 50 percent in five years and an annual program cost of only \$2 million, Jim says, the program should quickly pay for itself. In addition to avoiding disposal costs, Sandia would reduce the cost of monitoring and treating other environmental effluents such as air and water pollutants.

"The cost of handling hazardous, radioactive, and mixed waste at Sandia is enormous," says Gordon Smith, Manager of Environmental Programs Dept. 3220. "By avoiding some of these costs, we free up R&D dollars. I can't think of an environmental program that has a more profound, positive bottom-line effect on our work."

A videotape of the Feb. 26 meeting describing the role of MinNet reps is available to employees. Contact Jim on 6-0367. ●JG

**Sandia's Budget Victimized by "Unknowns"**

Handling hazardous materials at Sandia is expensive. EPA and the Department of Transportation require Sandia to document the exact contents of every shipment of waste sent out, regardless of the amount of each chemical shipped. Darlene Moore of Hazardous Waste and Wastewater Div. 3221 says the biggest problem at the Labs is "unknown" or abandoned chemicals.

Chemicals classified as unknown cannot simply be labeled "unknown" and shipped out, she says. Sandia bears the responsibility and the expense of testing and characterizing unknowns before shipment, which can cost from \$200 to \$2,500 per sample.

Cost is not the only concern when dealing with unknown chemicals, however. Darlene says storing and testing unknowns can also be a safety hazard for Labs employees who have to handle the chemicals.

"If we don't know what's in a vial, how do we know how to handle it?" she says. "Employees can really help out by keeping better records and labeling their chemicals. Also, if you truly can't determine what a chemical is, give us as much information as possible. That helps reduce the cost of analytical testing."

**Sandia's AT&T Contact****Tanenbaum Announces Retirement**

Morris Tanenbaum, Vice Chairman and Chief Financial Officer (CFO) of AT&T, has announced that he will retire May 1. Tanenbaum has been a member of Sandia's Board of Directors since January 1990 and is responsible for Sandia matters at AT&T. Sandia President Al Narath reports to Tanenbaum.

"We really appreciate the strong interest that Morry has taken in Sandia and our work," says Al. "We will miss the leadership and advice he brought to Sandia on behalf of AT&T."

Tanenbaum's 39-year career in the Bell System and AT&T has included assignments in virtually every corner of the business. He worked in engineering and manufacturing at Western Electric, where he was named vice president in 1971. He also headed New Jersey Bell Telephone Co. Tanenbaum was the first chairman of AT&T Communications after the Bell System breakup in 1984 and was made vice chairman of AT&T in 1986. He has held his present position as vice chairman and CFO since 1988. ●

**Desert Storm Family Fund Update****Military Families Get Help from Special Fund**

Sandians who used the special envelopes distributed at the Labs have contributed about 16 percent of all donations to the Desert Storm Family Fund so far, according to a spokeswoman at First National Bank.

The fund was established by United Way of Albuquerque to raise money for New Mexico military families affected by Operation Desert Storm. The money is being used to provide services such as counseling and assistance with paying utility bills of families with members serving in the Persian Gulf.

As of March 4, Sandians using the special envelopes had donated checks totaling \$12,286.78, and the mail was still coming in, notes Judy Sparacino at First National. The overall fund had grown to \$76,481.75, including the donations mailed by Sandians.

The total also includes more than \$54,000 collected in pledges during a recent weeklong telethon for the Desert Storm Family Fund, hosted by KOB-TV, Channel 4.



Al Narath (left) chats with AT&T's Morris Tanenbaum during his Feb. 28 visit to Sandia. Tanenbaum, a Sandia Board member, is responsible for Sandia matters at AT&T. He is retiring May 1. (Photo by Oscar Goodwin, 3153)



**What Do You Think?****Improving Cooperation Between Albuquerque & Livermore**

*This is the fifth in a series featuring employee responses to questions posed by the LAB NEWS. The idea is to give Sandians an opportunity to suggest ways to make the Labs more efficient, more responsive, and perhaps a better place to work. (This series, which has run in consecutive issues, will now run periodically — when significant questions arise.)*

*The current question: What can be done to improve cooperation and teamwork between Sandians at Albuquerque and Livermore? The following responses were received. Only minor editing changes have been made:*

I would like to see the secretarial committees

at both facilities meet on each other's turf at least once a year to swap ideas and information. This would entail one trip for each group once a year and would foster a better understanding of each other's labs that we could share with the rest of the secretaries in our respective labs.

*Harriet Goodness (5260)  
Member of Secretarial Committee*

(1) Keep the lines of communication open between Albuquerque and Livermore organizations that are working on a common project; (2) put your contacts at the other site on distribution for information that affects work at both sites; (3) do not expect the staff from one site to provide inputs to a

major Sandia project without getting the staff involved sufficiently early and providing them with all the necessary ground rules and inputs needed (i.e., do not keep staff in the dark until it's too late to respond); and (4) do not expect the staff from one site to be at the beck and call of the other site all the time, but make the interactions a two-way process. I feel that these basic steps are necessary to foster the feeling that both sites are a part of one Sandia and thereby increase (or create) cooperation between the two sites.

*Chittoor "Subra" Subramanian (8511)*

How can we cooperate when we really don't know one another well? There are lots of good people doing good work at both locations who could probably make genuine contributions to projects at the other location — if only we knew one another on a professional and personal level. To remedy this problem, I'd suggest a series of open meetings (perhaps monthly) at both locations. Researchers and administrators (different ones each month) from one location could travel to the other location, explain their projects, and discuss how Sandians there might contribute or benefit.

*Name Withheld by Request*

Both cooperation and teamwork can be enhanced through good business practices within, for example, the project management (PM) process, especially as applied to operating in a matrix organization. PM methodology recommends techniques to enhance good (network) communications across functional lines — and geographic locations — and to nurture team participation in planning and executing work. PM also stresses accountability and commitment for performing work through well-defined internal contracting processes. A result is improved trust (an element of cooperation) among team members. (Incidentally, many PM elements are being introduced within Sandia via the project management initiative coordinated by the Project Management Implementation Committee and the Project Management Project.)

*Steve Goldstein (9020)*

**Third Time's A Charm****Sandia Wins Clean Air Challenge**

For the third straight year, Sandia is the winner of the annual competition with DOE and Kirtland AFB to reduce the number of people driving to work. The three-way competition was part of Albuquerque's Better Air Campaign held Feb. 4 through 8.

Nineteen percent of Sandia, Albuquerque employees refrained from driving to work at least one day during the Challenge by sharing a ride with someone else, riding the bus, biking, or walking. Participation was indicated by completing and mailing "Don't Drive One In Five" coupons to Linda Stefoin (3543), Sandia's commuter assistance coordinator.

Challenge week included an internal competition among Sandia organizations. The 1000 group led the competition this year with 25 percent participation. Org. 7000 followed with 23 percent.

Linda encourages Sandia employees and contractors to call her (4-7433) for information about ridesharing. She'll try to match you with others who are interested.

**Sympathy**

To Sanford Ballard (6231) on the death of his father in Tucson, Ariz., Feb. 4.

To Sue Hansen (6225) on the death of her brother in Tennessee, Feb. 15.

**News Briefs****Sandia Helps Produce Superconducting Wires**

Sandia, Los Alamos National Laboratory, and Nuclear Metals, Inc., are working together to develop and produce high-temperature superconducting wires that carry more electrical current than is possible with non-superconducting wires. The three-year collaboration, which Sandia entered into last year, utilizes the technical expertise of all three partners.

The new wires are made of a ceramic powder composed of yttrium, barium, and copper oxide, which is manufactured in Process Development Laboratories Dept. 7470 using a Sandia-developed process called coprecipitation (developed in Chemistry and Ceramics Dept. 1840). The ceramic powder, encapsulated in a container called a billet, is forced through a die orifice under high pressure, forming superconducting wire with a metal outer sheath.

Metallurgy Dept. 1830 and Nuclear Materials will design the billets. Nuclear Metals will produce the experimental wires, and Sandia's Electronic Materials Applications Div. 6221 and Los Alamos' Exploratory Research and Development Center will test the wires.

"This partnership provides a unique opportunity for diverse groups at Sandia and Los Alamos to work together with industry and develop a new commercial process," says Tom Bickel (6221).

**New Technique Measures Area of Thin Films**

Sandia scientists have patented a highly accurate method to measure directly the surface area of minute samples of porous, thin films.

The new technique is 10,000 times more sensitive than existing commercial instruments and provides accurate measurements on samples as small as 0.2 square centimeters — about half the surface area of a pencil eraser. Commercial systems currently require samples with total surface areas of the size of a small desktop to make accurate measurements.

The technique, developed by Tony Ricco, Steve Martin (both 1163), and Greg Frye (1846), has important applications in microelectronics, gas separations, optics, and solar cell industries that use thin films extensively in manufacturing. They say it can also be used to determine the pore-size distribution of thin films and as an aid in designing highly specific chemical sensors, effective catalysts, and gas separation membranes.

The new technique owes its sensitivity to the use of a solid-state sensor called a surface acoustic wave (SAW) device.

**Public Can Comment on DOE Reconfiguration**

Albuquerque residents will have a chance to comment on the reconfiguration of DOE's nuclear weapon complex at the first of several nationwide public scoping meetings March 20.

The reconfiguration may involve relocation and possible unification of the Rocky Flats Plant near Denver, the Y-12 Plant in Oak Ridge, Tenn., and the Pantex Plant in Amarillo.

These sites and others proposed by state governments, federal agencies, and the public will be examined in a Programmatic Environmental Impact Statement (PEIS), which will propose ways to reconfigure the nuclear weapon complex while meeting present and future environmental standards.

Public comment will be solicited at meetings between now and September regarding all 13 weapon complex sites across the country. The March 20 Albuquerque meeting is scheduled for 9 a.m. at the Albuquerque Convention Center. A second day will be scheduled if needed.

**New Solar Receiver Improves Efficiency**

In recent tests at Sandia, a new device that converts sunlight to heat has been proven more efficient than earlier designs and better able to cope with natural fluctuations in sunlight, such as that caused by a passing cloud.

Called a reflux pool-boiler receiver, the experimental solar device achieved an efficiency of about 90 percent in converting the sun's energy to heat.

"All things being equal — such as aperture size, operating temperature, and input power — this is a much more efficient receiver technology," says Rich Diver (6217). Other Sandians involved in the project are Chuck Andracka (6217), Jim Moreno (6217), Craig Ginn (6315), Vern Dudley (6215), and Scott Rawlinson (6215).

The improved receiver works much like a stovetop double boiler. It uses a pool of liquid metal — in this case, molten sodium — to transfer heat from the face of the receiver to the helium-filled heater tubes of a Stirling engine. An advantage of the pool-boiler is that it transfers heat uniformly to the engine's heater head tubes. Boiling stability was achieved by adding minute cavities to the interior surface of the stainless steel dome of the 75-kilowatt receiver, an idea proposed at the Massachusetts Institute of Technology more than 20 years ago but only now applied to a practical device.

Receivers turn concentrated sunlight reflected from a parabolic mirror into heat that can be used by an engine to generate electricity.



# feed back

*Q: Before the holiday break, I had the "A" drive on my computer replaced. After the repair person left, I noticed he had left the old drive on my desk. I thought he must have forgotten it — surely our computer repair organization does something with replaced parts. I called the repair person and asked if he had forgotten to take it with him. He said he was not supposed to take defective parts with him and instructed me to throw the drive away. What a wasteful practice! I can't believe Sandia doesn't have some way to recycle such parts. If we can recycle paper, plastic, and glass products, can't we reuse the boards, wires, and other components of computer parts? I would like a manager at Sandia to "officially" tell me to throw this hardware away.*

**A:** You are correct in your belief that we should not throw excess or broken hardware in the trash. Property Reapplication Div. 3414 has avenues for determining the destination of such items by making them available to federal, state, and local agencies, and public schools. If such items are not reassigned, we sell them at our monthly auction. Several parties at the auctions purchase such items for salvaging or reconditioning.

Complete a "delivery of non-hazardous property/material" (DTR) form for any items that do not have property control numbers on them, and call either Jim at 4-7597 or Bonnie at 4-2171 to schedule items for inspection and pickup.

We will make sure the repair people are aware of this procedure. Thanks for your inquiry.

Jim Martin (3400)

*Q: The southwest entrance to Bldg. 836 has automatic doors for handicapped access that have a large actuator button on the inside and a motion sensor on the outside. A safety problem arises when people who are too lazy to open the doors manually or who find it clever to operate them automatically cause the doors to open suddenly without warning. I have often experienced near misses; warning signs are posted on the doors, but they are not much help.*

*I suggest adding a short delay to the activation mechanism along with a warning buzzer. This would thwart inappropriate use of the automatic button and would not greatly inconvenience people who really need this service.*

**A:** We have investigated your comments and thank you for your observation. We discussed the situation with "proper" users of the automatic door and agreed that it was a safety hazard to have all the doors open at once. We are working on a project to modify the doors so that only the door leaf to the right of the user will open automatically. This should eliminate the hazard to people entering or exiting from the opposite side. We will also post entrance and exit signs on the doors to help support the conventional traffic pattern of keeping to the right.

I am bothered by your comment about Sandia employees playing with the mechanisms and will share this with management in Bldg. 836 — such behavior is unacceptable.

Ward Hunnicutt (7800)

*Q: As I walk to and fro across Tech Area I, I try to be a "responsible citizen" and pick up trash on the street. Paper and cloth present no problem, but wood and metal do, particularly larger pieces — my largest so far is a 2x2 piece of plywood! But dumpsters specifically exclude wood, metal, and liquids, and trash cans are often too small.*

**A:** We appreciate your interest in keeping Sandia's property clean.

The trash in dumpsters is periodically picked up by Transportation Sec. 3423-1 and deposited in the KAFB landfill. We must keep wood and metal

out of the trash because it causes severe damage to the refuse truck during compacting. Scrap wood can be placed beside the dumpsters to be picked up by Support Services Sec. 7813-4 on a routine service call, or employees can call Telecon through Div. 7851 and request a pickup.

Scrap metal, on the other hand, is recyclable and is picked up by Reapplication Div. 3414. Currently, there are a few scrap metal containers in the tech areas, and more containers will be provided as necessary. However, Reapplication will pick up scrap metal upon request.

Jim Martin (3400)

*Q: In March, 1990, two personal checks I had attached to expense vouchers were lost. When told I was overdue on paying back the money, I had to go to Finance and submit two more checks. The first two checks never turned up. Another check that I attached to an expense voucher Oct. 8 was misplaced. Our secretaries say they take the checks off the vouchers and mail them separately to Finance. If this is not done, I understand that Vouchering removes the checks and mails them to Finance. Since my division supervisor will not sign a voucher without a check or receipt from Finance attached, I know the check was there when it was signed. All of the checks had the TACA number, my employee and division numbers, and a notation that they were for travel funds.*

*I cannot believe that something is not badly wrong with the process for handling these checks. I also cannot believe that I am the only person whose checks were lost, unless everyone else takes their checks personally or has a secretary take them to Finance. My telephone inquiries regarding the checks only get the response that no one knows what happened to them.*

**A:** It is possible for documents, especially of different sizes and weights, to be separated from the main body of an expense voucher as it passes through the many steps of approval and review. However, although you say that three of your checks were lost, our experience, based on customer interaction, is that very few checks actually fail to reach their destination in the Employee Accounts system.

To reduce the risk of a check becoming separated from the expense voucher, we recommend the following: Pay monies owed to Finance, Org. 4021 (or Org. 8523 in Livermore) in person and record the receipt number on your expense voucher. Or attach the check to the Finance copy of the expense voucher and mail it directly to "Teller," Org. 4021 (or 8523). This way, no one except the teller inputting the data will have to handle the check.

Paul Stanford (100)

*Q: It seems that whenever we fill out medical, dental, or vision care claim forms, there is a tremendous amount of duplication, especially when listing additional carriers. It should be possible to just give the employee's name, the patient's name, and any information that differs from the baseline for that patient. This would save time on both ends.*

**A:** Thank you for your question. The information requested on claim forms for Sandia's medical, dental, and vision plans is primarily to find out if a patient has other insurance coverage. This enables the claims administrator to determine if Sandia has primary responsibility for reimbursement of the submitted expense. In this age of computers, the information you provide at the beginning of the year is maintained online by the claims administrator. Therefore, when filing subsequent claims, you may simply indicate there has been no change by marking

each section with N/C.

When Sandia awards contracts for claims administration, one of the things evaluated is the administrator's ability to assure that reimbursements are made only when Sandia is responsible for the expense. Claims examiners are trained to look for indications that other insurance may exist. If this section is not completed, they may request additional information. Therefore, once you have submitted a form, it is important that you indicate on each additional form that the information has not changed. Periodically, the claims examiner will send follow-up requests to assure the information is correct.

Ralph Bonner (3500)

*Q: Office Safety Inspection Sheet SA 2020-C, now being routed with a proposed generic Office Safety Standard Operating Procedure, needs more review. I suggest placing columns with the headings "OK," "Not Applicable," and "Needs Action" after the "Items" column and before the columns with the headings "Hazard," "Action Taken," and "Date Completed." This permits a simple check mark to speed up filling out the form.*

**A:** I appreciate the time you took to recommend changes for filling out the Office Safety Inspection form. A new Office Safety Program is being reviewed that includes the Office Safety Inspection form, which is also being revised. Your comments have been referred to the Program's writer for consideration.

The Office Safety Program is a prototype program that will be evaluated by line organizations. If the proposed inspection form does not work, it will be changed.

Nestor Ortiz (3200)

*Q: Recently, medical insurance fees for Class II dependents were increased from \$50 a month to \$67.50. What was the basis for justifying this increase, since those who enrolled their dependents prior to Jan. 1, 1987 (an arbitrary date) continue to receive coverage at no cost? If additional fees are required, why not distribute them among all who have Class II dependents? The present policy not only appears to be grossly unfair but may also be illegal, since it obviously discriminates against a small group of individuals.*

**A:** Thank you for your question. In keeping with the requirements of the DOE/AT&T contract, it is important that the Sandia Medical Care Plan follow that of AT&T. Class II dependents are family members who do not fit the usual definition of dependents covered by group-sponsored medical plans. Sandia followed AT&T by extending coverage to Class II dependents Jan. 1, 1985, at a time when neither Sandia nor AT&T required contributions toward the coverage. On June 1, 1986, AT&T began charging \$50 for a Class II dependent; Sandia followed by charging \$50 starting Jan. 1, 1987. However, both AT&T and Sandia allowed all Class II dependents enrolled prior to the date contributions began to remain exempt from the contribution. On Jan. 1, 1990, AT&T increased the contribution to \$67.50, adjustable annually; Sandia followed on Jan. 1, 1991. Since AT&T included a provision for annual increases, Sandia will also adjust contributions based on cost increases.

I would like to point out that the contribution you are making toward your Class II dependent's coverage is less than Sandia's actual cost for individual coverage under the Sandia Medical Care Plan. The present cost of individual coverage is \$122 per month. If your needs for coverage do not require that you maintain a comprehensive plan like Sandia's, I encourage you to investigate individual policies through local insurance brokers.

Ralph Bonner (3500)



# MILEPOSTS

## LAB NEWS

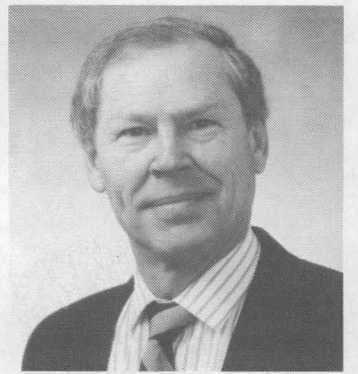
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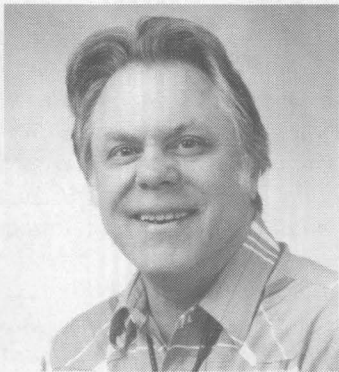
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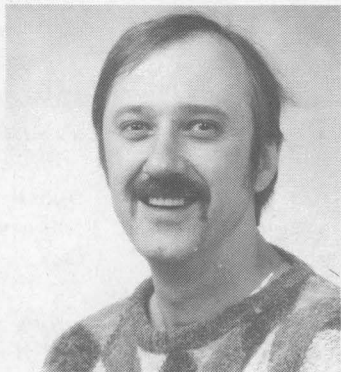
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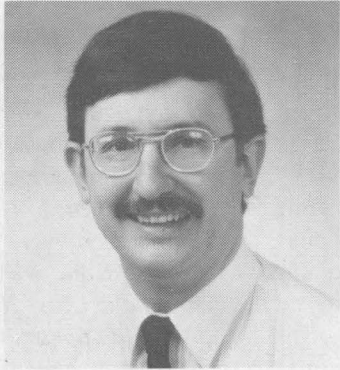
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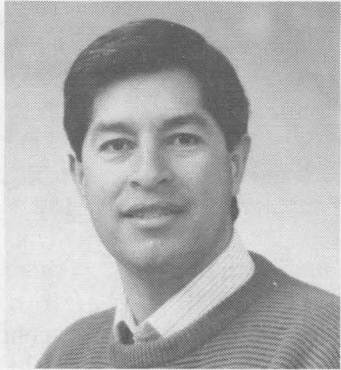
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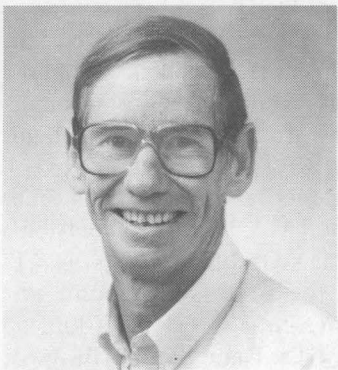
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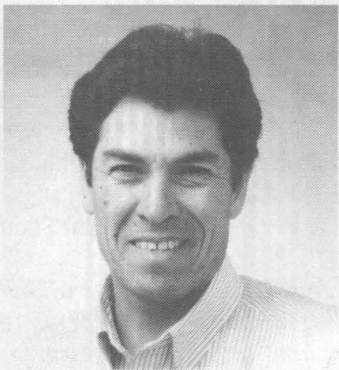
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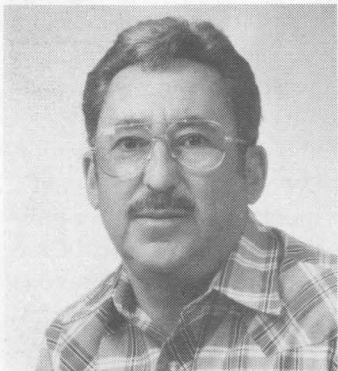
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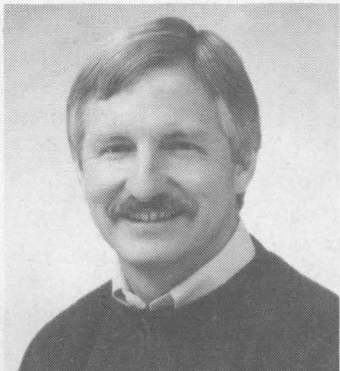
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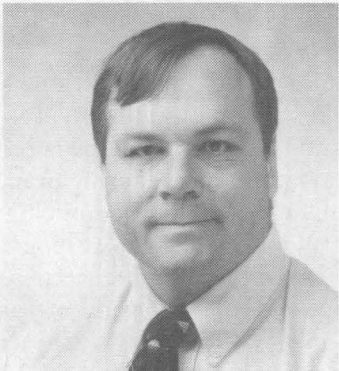
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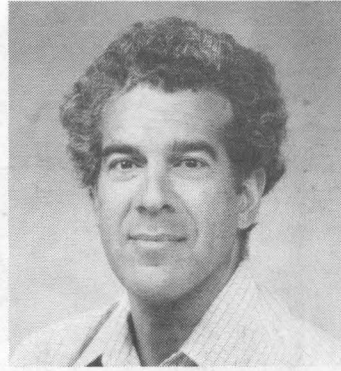
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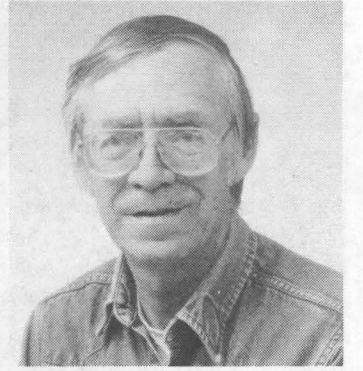
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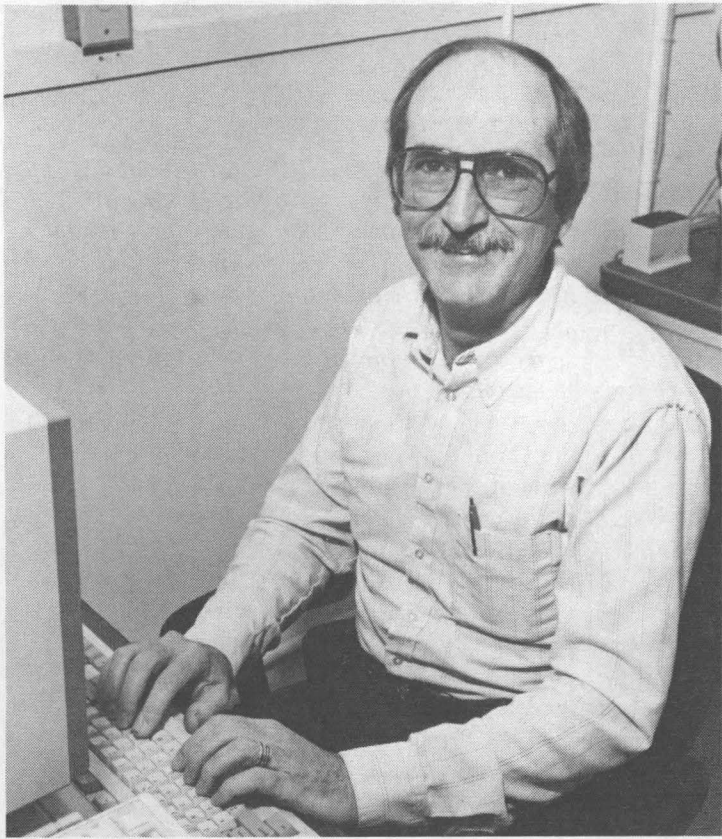
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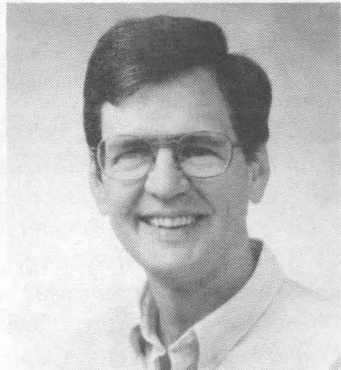
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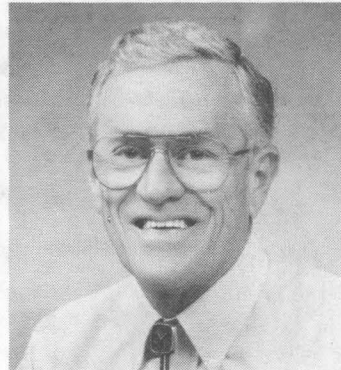
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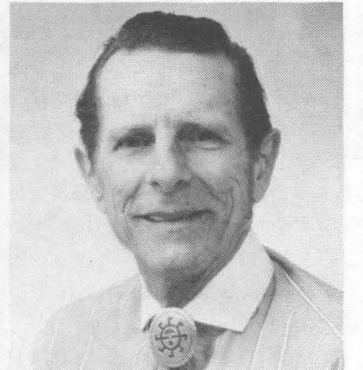
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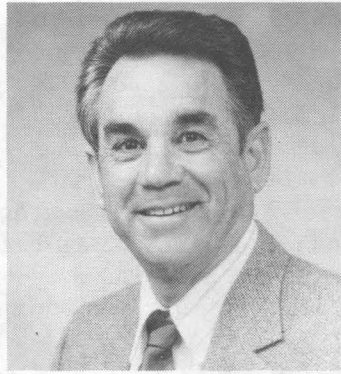
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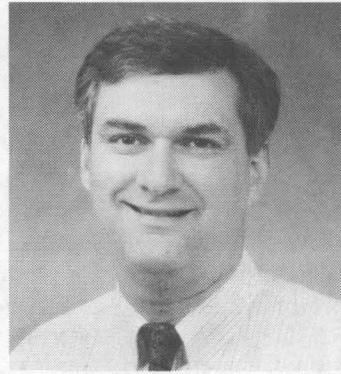
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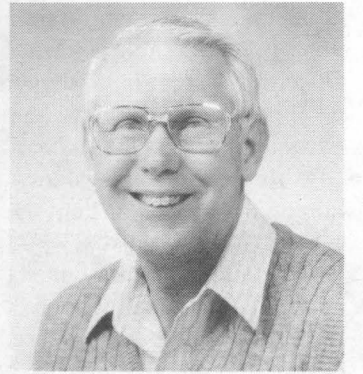
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## Coronado Club Offers Freebies to New Members

**Question:** What's the difference between a couch potato and an extrovert?

**Answer:** One belongs to the Coronado Club (guess which one).

But now, for a limited time only, anyone who is not a member may join and get two months free dues. This includes all bingo lovers, healthy eaters, avid swimmers, moviegoers, people with children, and general all-around fun-lovers.

Sandians and DOE employees who sign up for the payroll deduction program during this year's membership drive, from March 25 through April 5, will not be charged for two months, says Club General Manager Sal Salas. Dues of \$96 for the following 12 months will then be collected on a monthly basis, at a rate of \$8 a month. All other base employees are also welcome to join, but must pay \$96 in advance for 14 months of membership.

Sandians and DOE employees may also pay in advance if they choose.

Folks who sign up will also receive several gifts, including a coffee mug that says "Coronado Club — I Belong," a Frisbee, a discount coupon toward Friday dinner or Sunday brunch, a \$2.50 bingo discount, lunch and a splash in the Coronado Club pool for only \$3.95.

That's in addition to all the other benefits Club members enjoy, such as access to the Club's pool and patio (open from Memorial Day to Labor Day), eligibility for swimming and tennis lessons (signups begin April 1), and dinner dances with live bands on Friday evenings, notes Sal. Members pay \$3 to use the pool or may buy a season pass.

Other benefits include children's events such as bingo and Halloween parties, discount lunches in the Club's dining room, discount movie tickets, discount bingo games, use of Club tennis courts, discount lounge prices, family events, champagne brunches and tea dances, and eligibility for mem-

bership in a variety of well-known activity groups such as the Coronado Ski Club, Aquatic Club for children, and the Thunderbird Retirees Group.

Sandia and DOE retirees are entitled to join the Club for half the normal price — \$48 for a full

year. If they join now, they get two months free.

Registration during the two-week membership drive will take place at the Coronado Club from 8 a.m. to 5 p.m. Monday through Thursday, and 8 a.m. to 9 p.m. Friday. ●



WE'LL SAVE YOU, SERVE YOU, COOK FOR YOU, PAMPER YOU — Eagerly awaiting the arrival of new members are (from left) Coronado Club lifeguard Darlene Meloche, head chef Hank Perez, General Manager Sal Salas, and waitress Elizabeth Burns. (Photo by Randy Montoya, 3162)



# feed **back**

*Q: In Livermore, when usable items were sent to Reclamation, a list of those items was sent to all divisions to see if anyone wanted them. At Albuquerque, because of ES&H cleanup as well as normal replacement of used instruments, many items, such as unused glassware, replacement parts for older equipment, sample holders, or other materials that had to be purchased by the case when smaller amounts were needed, are being discarded. Yet tight budgets may now make such items desirable to other organizations at Sandia. Would it be possible to issue a monthly list of available items in either a memo to supervisors or a notice in the Weekly Bulletin? A program like this might save Sandia a lot of money and result in less waste.*

**A:** Thank you; this is a timely inquiry. Property Reapplication is working with the 3400 Systems Organization to develop a data base of reusable controlled property (S, V, or R numbered). Though the volume of property we handle precludes us from distributing hard-copy listings either in the *Weekly Bulletin* or in special announcements, we intend to have an on-line look-up system available within the next few months. Once this system is implemented, employees will be able to call Property Reapplication to see if a particular item is available. The stockkeeper can consult the look-up system and provide information on the particular item the customer is seeking as well as similar items.

A materials data base (for items other than controlled property) will be developed later. Materials such as glassware or sample holders are received and redistributed so quickly that a listing would be outdated almost as soon as it could be issued. This would also be a very long list requiring a significant amount of time and paper to reproduce and distribute.

We will continue to seek improvements and we hope to provide a satisfactory system in the next year or so. Until then, we encourage all em-

ployees to visit the new salvage yard (Wyoming Boulevard at the road to Tech Area II) and the Bldg. 957 warehouse to shop for reusable items. If property or materials can be reused, it will indeed help Sandia to make more effective use of its limited resources.

Jim Martin (3400)

*Q: Recently, I wanted to buy a piece of fiber-optic inspection equipment. In order to evaluate it before buying, I decided to express-mail a piece of material for the supplier to inspect and return. The material cost about \$5. But I discovered that I can't ship the material without a PO number or a Property Movement Authorization number, which is given out by one person in Div. 153 (and even that requires a memo from my department manager). The alternative is to skirt the rules, go downtown to a Federal Express booth (or other express mail outlet), pay for it myself, and get reimbursed from petty cash.*

*Am I mistaken about this? Is there some code I can use that I don't know about? If not, why do we not have a minimum, no-authorization-required amount like \$100, and someone I can call to get a shipping number? It appears I could order \$500 worth of things through JIT more easily than I can ship a \$5 item. Thank you for your attention and response.*

**A:** Part of your question has to do with the policies and procedures Sandia uses to protect government property and would be more appropriately addressed to Property Management Services Dept. 3410.

The rest of your inquiry has to do with Purchasing.

- The purchases employees can make through JIT are easier to accomplish because Purchasing has already placed the appropriate contract and negotiated price, delivery, and all other terms that govern the transaction.

- Secondly, it appears, based on your inquiry,

that you are trying to qualify a contractor through a test performed on material furnished by Sandia. This sounds like a situation where a Sandia Contracting Representative could provide some assistance. If you fill out a Purchase Requisition and identify this source and other possible sources, the representative can furnish the test material to each contractor as part of the qualification process. This would maintain accountability for government property and perhaps increase the quality of the procurement.

Bob Zaeh (3700)

*Q: It is much too difficult to send a floppy disc to an outside contractor. I can walk a 60-page document over to shipping with two address labels and it will be sent via overnight mail, yet if I take the same document on a floppy disk, I need to fill out a shipper with signatures from my supervisor and the buyer. Let's get this system in step with the '90s!*

**A:** I concur that not just floppies but most media should be shipped just as documents are — without shippers, but with an indication of organization and chargeable case number. Procedures are under review to make this change. A security concern may arise from the need for verification of the absence of classified information.

Lewis Roach (3743-1)

*Q: Talk about "Barrier Busters." The Sandia Weekly Bulletin on Nov. 27, 1990, indicates a new Property Reapplication requirement. The notice states that all items sent to Org. 3414 must be listed separately, such as 1 ea. pencil, 1 ea. paper clip, 1 ea. woodscrew, 1 ea. washer (size?), etc., etc., etc.*

*I thought part of the new Sandia policy was to decrease, not increase, red tape. This new barrier can only lead to more lost time and very full dumpsters. Lost time is lost money.*

**A:** Though we overstated the item in the *Weekly Bulletin* to emphasize how individual items should be described (on a "Delivery of Non-Hazardous Items to Property Reapplication" form), we did not intend for every paper clip and pencil to be counted. We did intend to have each commodity listed as a separate line item: 1 box paper clips, two staplers, 1 in-out basket, 12 ea. 20-foot length 1-inch mild steel pipe, etc.

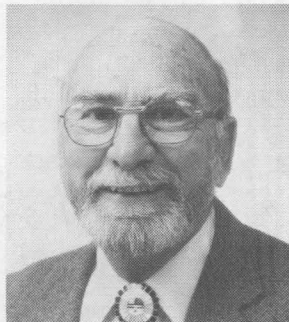
In the past few years, we have gotten away from accounting for excess materials received in Reapplication. We allowed deliveries of items described only as "miscellaneous office supplies" or "miscellaneous scrap." We are required to have documentation, and these vague descriptions did not allow us to properly identify what we had available to SNL employees or other federal, state, and local agencies. In addition, we now have the auction service, and we must itemize each item for accountability and audit purposes.

Complete documentation also makes it possible to follow up on items that become intermingled with other materials. For example, if environmental hazards are discovered in a shipment, we know who to contact for more information. Line-item listings also enable a supervisor to know exactly what is being authorized, an important consideration in today's environment of decreasing budgets, ES&H, Quality Improvement, and ownership and accountability. Another benefit of line-item listings is that we can respond more adequately to phone inquiries about the availability of certain materials, a system that will be automated in the next year or so.

Thank you for your inquiry. I hope I have been able to explain that, in order to provide the most efficient customer service possible, we need the assistance of all Sandians. We did not intend to increase "red tape."

Jim Martin (3400)

## Recent Retirees



Marcel Reynolds  
9115 34



Fran Roelle  
7200 28



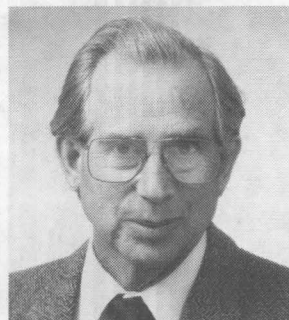
Edward Steele  
7813 13



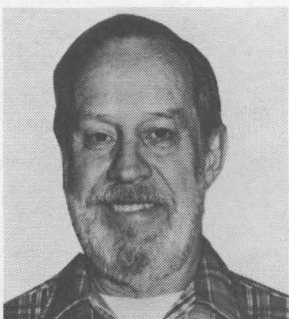
Virginia Leatherman  
3731 23



Robert Buxton  
7322 31



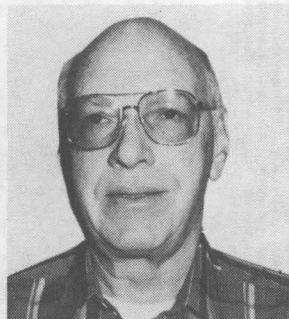
James McKenzie  
5210 25



Dick Dye  
9331 33



Warren Bronson  
7818 21



Hank Kerr  
9331 36



Johnny Hartley  
7341 34



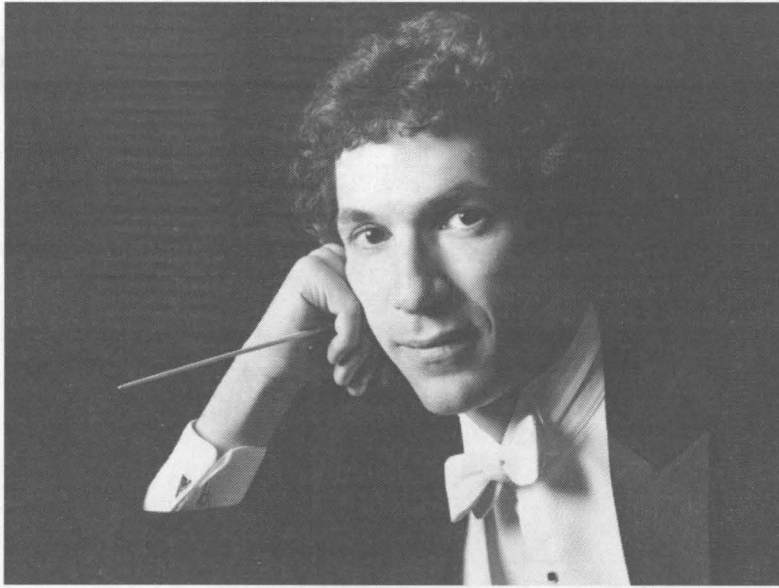
# Welcome

Albuquerque — Lisa Bunting (3213), Pauline Duran (22-2), Mary Wendt (21-1); Other New Mexico — Isabel Martinez (21-1), Martha Sterling (22-2).

Elsewhere: Virginia — Joseph Galaska (7853).

## Fun & Games

Golf — The Sandia Women's Golf Association (SWGA) will hold its annual membership drive meeting on March 11 at the Coronado Club from 4:45 to 7 p.m. SWGA offers women golfers the chance to join leagues, take golf lessons, and play in tournaments. For information, call Suzette Beck (153) on 296-8632.



A NIGHT AT THE SYMPHONY: Sandians and DOE employees are invited to purchase discount tickets to the New Mexico Symphony Orchestra Friday, April 12, to help Musical Director Neal Stulberg celebrate his 37th birthday. The program features Vaughan Williams' *Fantasia on a Theme by Thomas Tallis*, Mozart's *Piano Concerto No. 22*, Prokofiev's *Symphony No. 4*, and Ravel's *Bolero*, as well as a performance by the Albuquerque Youth Symphony. Reservations for the \$8 tickets may be made Monday through Friday, from 9 a.m. to 5 p.m., by calling 842-8565; identify yourself as a Sandia or DOE employee to get the special price.

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

**Deadline: Friday noon before week of publication unless changed by holiday. Mail to Div. 3162.**

**Ad Rules**

1. Limit 20 words, including last name and home phone.
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8 1/2 by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same "for sale" or "wanted" item.
9. No "For Rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.

**MISCELLANEOUS**

MINOLTA TELEPHOTO LENS, 200mm, \$50; Oster hair-trimming set, \$10; small student desk, \$20. Anderson, 897-2772.  
 LOGAN LATHE, 12-in. swing, w/draw bar, set of collets & tool holders, \$4,000. Eaton, 869-2847.  
 AUSTRALIAN BLUE HEELER, medium size, female, spayed, shots, tags, free to good home. Holmes, 897-0916.  
 CHINA, service for 12 plus all serving pieces, white w/silver-flowered trim, never used, \$135. Locher, 266-2021.  
 TELEVISIONS, 19-in. Zenith, 2 color, 1 black & white, all w/stands. Burbank, 299-1460.  
 GIBSON BASS GUITAR; Yamaha RGX211 electric guitar. Bray, 292-2410.  
 ALCOHOL LAMP, for wax-working, \$1.50; Taylor jacketed thermometer, -40° F to +120° F, \$5; hand saw, \$5. Henry, 266-6467.  
 BUNK BEDROOM SET, w/dressers, \$375; Simmons hospital bed, \$350. Schimke, 299-9384.  
 TRAVEL TRAILER, '87 Wilderness model 25N, 25-ft., all amenities except AC & awning, \$9,000. Fifer, 299-3501.  
 METAL LATHE, Monarch 10EE, 10" x 30", needs minor work, has some tooling, \$58,000 new, sell for \$4,500. McDowell, 281-1509.  
 SKIS, 175cm, Elan, w/Salomon bindings, \$85; woman's size 6-1/2 re-entry boots, \$35; both \$110. Horton, 883-7504, leave message.  
 BUNNY RABBITS, free. Ahr, 883-0459.  
 SKI CONDO TIMESHARE, Christmas week, sleeps 8, \$7,000 sale price or \$1,000 for 1 week use. Johnson, 898-7244.  
 HEWLETT-PACKARD CALCULATOR, model 18C Business Consultant, \$60. James, 298-0709.  
 UPRIGHT FREEZER, Wards, white, approx. 9.5 cu. ft., \$75. Sturgeon, 281-9035.

BICYCLE WORKBENCH, Minoura, \$35. Chirigos, 298-3837.  
 GOODYEAR SNOW TIRES, 2, JR7 8-15, \$50/both OBO. Snodgrass, 268-8820.  
 BUILT-IN DISHWASHER, \$150. Romero, 873-3652.  
 ZEBRA FINCHES, 1 female, 2 males, w/2 cages, free to good home. Ginn, 883-0004.  
 YOUTH BED, w/7-in.-thick mattress, 3 drawers built in, 78" L x 41" W x 24" H, \$100; AM/FM turntable stereo console, blond oak, \$50. Stang, 256-7793.  
 COMMODORE CPM CARTRIDGE, \$35; 1520 plotter, \$40; Vadac modem, \$25; B&W monitor, \$10; Astro compass, \$25; tripod & photo equipment. Shepherd, 299-9066.  
 GAS-LOG FIREPLACE SET, for large fireplace, includes 6 logs, grate, & gas burner. Barth, 294-3357.  
 CALCULATOR, HP48SX scientific, expandable, new, w/warranty, 128KB ROM, 32KB RAM, \$200. Spears, 266-9782.  
 TRAVEL TRAILER, '88 Komfort, 24-ft., queen-size sofa bed, 2 bunk beds, AC, carpet, \$6,900. Romero, 821-9743.  
 WINCHESTER SHOTGUN, model 1200 pump, 12-gauge, rib barrel, full choke, \$250; Ithica military 45, nickel-plated, shot 6 times, \$500. Hale, 823-9563.  
 UPRIGHT PIANO, Wurlitzer, \$900. Adams, 821-9079.  
 AUTOCAD RELEASE 9, new, in box, \$499. Luther, 293-4462.  
 DINING TABLE and 4 chairs, solid maple, 46-in. round table w/two 12-in. leaves, protective cover, \$195 OBO. McCord, 281-2146.  
 UPRIGHT PIANO, needs tuning, \$300. Grimley, 821-4201.  
 TRAVEL TRAILER, Aristocrat, 16-ft., stove w/oven, refrigerator, heater, toilet, electric brakes, equalizer hitch, \$1,250. Bush, 281-3773.  
 GOLF CLUBS, left HD, woods (1 & 5), irons (3-PW), \$100. Klinetobe, 278-2315.  
 BED LINER, fits new Chev. or GMC truck, new, \$150. Surran, 256-7344.  
 SWIMMING POOL COMPONENTS (16x32), solar cover & roller, safety cover, 100-gpm pump, filter, spring board. Holmes, 292-0898.  
 SNOW TIRES, P195/75D 14 M/S, 1 pair, used one season, \$30. Helling, 294-4312, leave message.  
 TRUCK TOOL BOX, never installed, \$50; waist-high beam scale, doctor/clinic style, \$50. Baird, 891-5497.  
 BABY CRIB, maple, Jenny Lind style, w/mattress, \$55. Leslie, 293-0339.  
 VIOLIN, 4/4, made in West Germany, w/carrying case & shoulder rest, \$400. Jensen, 821-6178.  
 CONSOLE PIANO, Baldwin Acrosonic, dark wood, matching bench, you move, \$475. Hawley, 299-2516.  
 GLASS PATIO DOORS: one 29-1/2" x 79-1/2", one 31" x 79-1/2", triple-tempered, w/3 screen doors, first \$5. Hollister, 296-8055.  
 R.C. GORMAN FRAMED ORIGINAL, 1977, approx. 36" x 32". Baca, 296-6985 evenings.  
 CAR COVER, water resistant, no tears, all cables, locks, etc., fits medium-size car, \$25. Goodson, 265-2080.

FULL-LENGTH MINK COAT, dark ranch, female pelts, size 6-8, \$2,000. Simon, 299-8468.  
 TICKETS: 1 round-trip, Dallas/Albuquerque, departs May 24, returns May 26, male ticket holder, \$90. Schneider, 344-6626 evenings.  
 KORG POLY 800 SYNTHESIZER, 4-voice, built-in sequencer, w/power supply & strap; \$300; short-scale bass guitar, white, \$100. See, 242-3149.  
 LAWN MOWER, Craftsman 20-in., \$80. Beer, 828-2755.  
 MOVING SALE: kitchen cabinets, housewares, furniture, clothing, Avon bottle collection, more. Siegrist, 293-4148.  
 LOVE SEAT, tan corduroy, \$50. Pompeo, 265-5396.  
 SECTIONAL SOFA, 3-piece, Flexsteel, beige, \$150. Mills, 299-4752.  
 '88 JAYCO TRAVEL TRAILER, 30-ft., AC, awning, microwave, TV antenna & booster, spare tire, extra battery. Benson, 268-9727.  
 AUSTRALIAN SHEPHERD, 1 yr. old, registered, has papers, free to good home. Cox, 298-1602, leave message.  
 TWIN BOX SPRINGS, fit king-size mattress, Simmons Beautyrest, king-size frame, 4 yrs. old, \$120. Brinker, 296-1023.  
 MUZZLE-LOADER PISTOL, Hawken .50-cal., crafted by P. Bondini, w/stand, \$250; Whirlpool spa, unused, \$50; cage, 19" x 29" x 25", \$25. Johnson, 293-3864.  
 LEATHER JACKET, rust color, new, western style, \$100. Garcia, 344-3406.  
 ELECTRIC DOUBLE-OVEN RANGE, O'Keefe & Merritt, coppertone, 19 yrs. old, \$200. Zirzow, 281-9896.  
 CHARCOAL BARBEQUE, \$10; reel lawn mower, \$50. Stromberg, 255-6131.  
 PC CLONE, 20-MHz 80286, 16-bit VGA, 68-Meg hard drive, 2-Meg RAM, 2S1P1G, 5.25 & 3.5 floppy, mouse, \$1,100. Anastasio, 821-4245.  
 ENLARGERS: Beseler 45MXT, w/accessories, \$600; cold light for Beseler, \$100; Vivitar color enlarger (35, 6x6), w/50mm Nikkor, accessories, \$325. Desjarlais, 296-9048.  
 FORMICA-COVERED BAR, w/4 stools, \$150; solid maple double bedframe, \$75. Kruse, 271-8930.  
 ANTIQUE SATIN DRAPES, custom-made, ivory, 128" x 84", \$65; 2 pair celery-green drapes, 94" x 84", \$40/ea. Biffle, 293-7043.  
 OMNIFAX FAX MACHINE, commercial quality, \$350; hard drive and controller card, IBM PC or compatibles, 1/2 height, 20MB, \$200. Carson, 281-5115.

**TRANSPORTATION**

BOY'S 16-IN. BIKE, \$20; bike rack, \$20. Anderson, 897-2772.  
 '86 PACE ARROW, 30-ft., 16K miles, back bath, twin beds, free coast-to-coast, \$31,500. Eaton, 869-2847.  
 '82 SUZUKI GS750E, \$850; Honda Hobbit motorbike, \$110; 82 Olds. Ciera Brougham, one owner, loaded, 68K miles. Bray, 292-2410.

COLUMBIA MOUNTAIN BIKE, new, assembled, won in contest, best offer. Laderach, 888-0712.  
 '89 BUICK REGAL GRAND SPORT, loaded; '83 Harley-Davidson Wide Glide, chrome, extras. Garcia, 344-3406, leave message.  
 '81 CHEV. LUV DIESEL, block heater, 5-spd., bed liner, spoke wheels, chrome bumpers, 52K miles, \$2,500 OBO. Lovato, 897-2523.  
 '68 COUGAR, 75K miles, AT, AC, original paint, 302 engine, bench seat, \$3,500. Vandetti, 299-2318.  
 '74 OLDS. CUTLASS, one owner, 350 V-8, \$3,000. Puccini, 821-0121.  
 '84 BRONCO II XLT, 4x4, AC, tilt, cruise, 5-spd., AM/FM cassette, roof rack, one owner, \$5,495. Barham, 298-7304.  
 12-SPD. SCHWINN PRELUDE, 19-in. CrMo frame, Shimano, DiaCompe, & Sakae components, \$200. Spence, 268-7396.  
 '78 TOYOTA CELICA, 5-spd., AC, \$800. Thurston, 821-8579.  
 WOMAN'S BICYCLE, 10-spd., 26-in., \$70. Hale, 823-9563.  
 '88 MERCURY SABLE GS WAGON, 3.8L V-6, all power, 43K miles, below retail, \$9,000. Brandvold, 296-4394.  
 BMX BICYCLE, Haro Freestyle, w/extras, \$150. Grimley, 821-4201.  
 '76 JEEP WAGONEER, 4x4, receiver hitch, dual gas tanks, rebuilt AT, AC, new paint, 82K miles, \$2,500. Bush, 281-3773.  
 '73 OLDS. LUXURY SEDAN, loaded, 38K miles, \$5,500. Surran, 256-7344.  
 '83 FORD RANGER, 4-spd., PS, PB, AC, LWB, matching shell, 37K miles, \$3,500. Anderson, 293-2490 after March 10.  
 '88 MUSTANG GT CONVERTIBLE, 30K miles, 5-spd., AC, PW, PL, AM/FM cassette, black, \$12,000. Downs, 898-6641.  
 '81 DATSUN 280ZX, T-top, loaded. Johnson, 898-7244.  
 '88 TOYOTA SUPRA TURBO, AT, removable roof, extended warranty, 21K miles. Hughes, 293-7320.  
 '73 MERCEDES 280, 4-dr., AT, PS, PB, AC, \$4,500 OBO. Levy, 821-2294.  
 '89 HONDA ACCORD LXi, Mercedes green, 5-spd., 2-dr., 31K miles, complete maintenance records, \$10,600. Schneider, 344-6626 evenings.  
 '59 RAMBLER CLASSIC STATION WAGON, 6-cyl., w/overdrive, needs front end work, can direct you to parts required. Brion, 298-1761.  
 '83 FORD XLT F250 SUPERCAB, 6.9L, all extras. Tucker, 869-3469 after 5 p.m.  
 '85 NISSAN STANZA, light blue, 5-spd., AM/FM cassette, 86K miles, \$3,800. Karr, 821-1309.  
 '74 FORD TORINO, one owner, 65K miles, AT, PS, PB, stereo. Siegrist, 293-4148.  
 '83 RENAULT ALLIANCE, 4-dr., 5-spd., AC, PS, 74K miles, 33-mpg, new brakes & clutch, \$1,700. O'Hern, 275-3185.  
 '46 CHEV. SCHOOL BUS, fitted w/beds, 283 V-8, \$1,000 OBO. Stromberg, 255-6131.  
 '89 KAWASAKI NINJA 600, 3K miles, white, \$3,800. Durkee, 255-4211.

MINI-MOTORHOME, 22-ft., self-contained, sleeps 8, AC, generator, PS, PB, cruise, more, \$6,900. Fisher, 881-8072.

**REAL ESTATE**

3-BDR. MODULAR HOME, 2 baths, 1,300 sq. ft., assume, \$271/monthly; 1-1/3 acres land, South Valley, assume, \$204/monthly. Flores, 873-4337.  
 1/2 ACRE, north of Belen, set up for mobile home, utilities, fenced, \$17,000. Marquez, 831-3088 after 5 p.m.  
 3-BDR. HOME, 1-3/4 baths, 1,800 sq. ft., passive solar, cedar siding, detached garage, 2 acres, 1 mi. south of Tijeras, \$99,000. Van Geet, 281-4131.  
 2-BDR. COTTAGE on wooded lake-front property, on cove at Lake Bridgeport, Tex., screened porch, furnished. Hawley, 299-2516.  
 3-BDR. TOWNHOUSE, Four Hills Addition, 1,100 sq. ft., garage, woodstove, 1-3/4 baths, sprinklers, landscaped, fruit trees, \$61,500. Walker, 293-1670.  
 3-BDR. HOME, 1-3/4 baths, den w/wood-burning stove, Juan Tabo & Lomas area, \$67,900. Stefanov, 275-3677.  
 4-BDR. HOME, 2 baths, 2,050 sq. ft., new carpet & roof, HHH & LaCueva schools, \$133,000. Jensen, 821-4291.  
 3-BDR. HOME, 1-3/4 baths, 1,575 sq. ft., living room, den, 2-car garage, San Antonio & Louisiana area, assumable 8% loan. Cover, 828-1041.  
 3-BDR. HOME, Four Hills Addition, 1-3/4 baths, 2-car garage, new carpet, 2-1/2 miles from KAFB. Martinez, 296-9035.

**WANTED**

WHEELCHAIR for elderly parent. Schamaun, 298-5192.  
 PRINTER, 9/24-pin, wide-carriage, prefer IBM 5182 or Epson. Robinson, 293-7231.  
 KILNS: electric, ceramic/pottery, enamelling, cloisonne, or glass fusing; other equipment used in these processes. Rice, 291-0182 or 298-3242.  
 HOUSEMATE, to share 3-bdr. 2-bath home, swimming pool, washer/dryer, 2 blocks northwest of Louisiana and Candelaria, \$300/mo. Semonisck, 883-4212.  
 EXPERIENCED HIKERS interested in back country hike in the Grand Canyon, March 29-April 7. Mattox, 292-7763.  
 BICYCLE TRAILER, child-carrier type, needed to pull my son behind bicycle. Greer, 281-4688.  
 SUCCESS AND HORROR STORIES relating to ownership of 1970 and later Volkswagens vans. Zirzow, 281-9896.  
 GOLF CART, aluminum. Stromberg, 255-6131.





## Events Calendar

Events Calendar items are gathered from various sources. Readers should confirm times and dates of interest whenever possible.

**March 8-9** — Classical Concert Series: "The Prayer of Christ Ascending to the Father," from "L'Ascension" by Messiaen; and "Requiem" by Verdi; New Mexico Symphony Orchestra and Chorus; 8:15 p.m., Popejoy Hall, 842-8565.

**March 8-15** — "2,000 Years of Contemporary New Mexico Ceramics," eclectic assortment of ceramics intended to demonstrate visual diversity and draw together the history of New Mexico ceramics; 9 a.m.-4 p.m. Tues.-Fri., 5-9 p.m. Tues. (gallery talk March 5 with Acoma Pueblo potter Mary Lewis Garcia, 5:30 p.m.); UNM Jonson Gallery, 277-4967.

**March 8-17** — "Eleemosynary," mothers and daughters and the drive to strike out of the mold, and "Nice People Dancing to Good Country Music," details life of a novice after being rejected by a religious order for her use of "colorful" language, two plays by Lee Blessing; 8 p.m. Fri. & Sat., 6 p.m. Sun.; Vortex Theatre, 247-8600.

**March 8-23** — "The Boys Next Door," contemporary comedy/drama by Tom Griffin; 8 p.m. Thurs.-Sat., 2 p.m. Sun.; Albuquerque Little Theatre, 242-4750.

**March 8-30** — "Rosencrantz & Guildenstern Are Dead," Tom Stoppard comedy about Hamlet's college chums who are hired to spy on him, Theatre-in-the-Making performance; 8 p.m. Fri. & Sat.; CenterStage, 260-0331.

**March 9** — "Black Women in New Mexico History," speaker Euola Cox presents 50-min. play, "Mitote (woman talk)," sponsored by the NM Humanities Council; 7 p.m., South Broadway Cultural Center, free, 848-1320.

**March 10** — Recital, Audubon String Quartet performs Mozart's "String Quartet in G Major, K. 387," Bartók's "String Quartet No. 5," and Schumann's "String Quartet in A Major, Opus 41, No. 3"; presented by the Chamber Orchestra of Albuquerque; 3 p.m., St. John's United Methodist Church (2626 Arizona NE), 881-0844.

**March 12** — Subscription Concert: Chamber Orchestra of Albuquerque with the Audubon String Quartet perform Arnold Schoenberg's "String Quartet Concerto After Handel" and Sir Edward Elgar's "Introduction and Allegro for String Quartet and Orchestra, Opus 42"; Chamber Orchestra performs Handel's "Concerto Grosso in B-Flat Major, Opus 6, No. 7" and Mozart's "Divertimento No. 12 in E-Flat Major, K. 252"; 8:15 p.m., St. John's United Methodist Church (2626 Arizona NE), 881-0844.

**March 12** — People of the Southwest Lecture Series: "Prehistoric Pueblo Architecture at Hovenweep," by Joe Winter, director of the Office of Contract Archaeology at UNM and noted authority on Anasazi agriculture; 7:30 p.m., Maxwell Museum of Anthropology, 277-4404.

**March 15** — "Mexico Romantico," elegant and nostalgic revue of Mexican music from the nineteenth and twentieth centuries; 8 p.m., South Broadway Cultural Center, 848-1320.

**March 15-17** — "Ruddigore," Albuquerque Academy Parent Association's 7th annual Gilbert and Sullivan musical drama; 8 p.m. Fri. & Sat., 2 p.m. Sun.; Simms Fine Arts Center, Albuquerque Academy, 292-6211 or 293-3072.

**March 16-17** — 22nd Annual Gem and Mineral Show, sponsored by the Albuquerque Gem and Mineral Club; 10 a.m.-6 p.m. Sat., 10 a.m.-5 p.m. Sun.; UNM Continuing Education Conference Center (1635 University NE), 265-4178 or 299-5584.

**March 17** — Spiritual Healing Reggae Band, St. Patrick's Day concert; 3 p.m., UNM Continuing Education Conference Center (1634 University NE), 277-6945 or 277-CLASS.

**March 18** — Choral concert, Occidental College Glee Club from Los Angeles; 8 p.m., First Congregational Church (2801 Lomas NE), 881-2196.

**March 19** — The Progress Woman's Club Annual Style Show and Unique Luncheon, 11 a.m., Four Hills Country Club, 828-0297.

**March 20-31** — "De Donde?" by Mary Gallagher, thought-provoking play about US immigration policy set in a small town in the Rio Grande Valley on the US/Mexico border, New Mexico Repertory Theatre production; 8 p.m. Mon.-Sat., 2 p.m. Sat. & Sun. matinees; KiMo Theatre, 243-4500.

## Coronado Club Activities

### C-Club Remembers Its Members

**MEMBERSHIP MANIA** — Tonight, March 8, the Coronado Club is having a membership celebration as part of its annual membership drive. DJ Ron "R.C." Casias plays your favorites from 6 to 10 p.m. There's also a free Mexican buffet (\$2 for guests). Reservations recommended (265-6791).

**BINGO BUNNY** — Sunday, March 10, the bingo bunny brings its basket of early Easter goodies. Kids can win the basket and many other great prizes by playing kids' bingo. The buffet line begins at noon, bingo starts at 1 p.m., and kids get a free soft drink and hot dog just for playing. Cost to play is \$2.50.

**GRAB YOUR GREEN**, because Friday, March 15, the C-Club is holding a St. Paddy's day party. Trio Grande will be on hand with live music from 7 to 11 p.m., and dinner is served from 6 to 9, including corned beef and cabbage (\$6.95), chicken teriyaki (\$6.95), prime rib (\$8.95), and deep fried shrimp or filet mignon (two for one priced at \$15.95). Make reservations early.

**IT'S MEETIN' TIME** again for the Coronado Ski Club, and this month's meeting, Tuesday, March 19, features election of officers for the 1991-92 ski season. As always, the social starts at 7 p.m. and the meeting starts at 7:30.

## Medical Corner

### Women and Substance Abuse

By Florence Parnegg

Family Counselor for Drug and Alcohol Problems

Women alcoholics and women with other substance abuse problems may have a particularly hard time dealing with their chemical dependency. They often feel guilty about not being society's stereotyped "lady."

Yet few women alcoholics fit the common images of the woman drunk in movies and books, such as an over-the-hill actress slurping down cheap gin from her barstool perch. Most chemically dependent women are holding down jobs, raising families, or both.

The National Council on Alcoholism says that of the 12 million alcoholics in the US, four million are women. This number is steadily increasing, and it does not include women addicted to other drugs, such as prescription drugs, marijuana, or cocaine.

In the past, many people believed that alcoholism was caused by moral weakness. In 1956, the American Medical Association declared it a disease. Now most people regard it that way, at least on an intellectual level.

As society's attitudes toward alcoholism become more enlightened, women who have problems with alcohol and other dependencies will be more willing to come out of hiding and seek treatment earlier. When they do, they improve their chances of recovery.

#### Maybe No Obvious Signs

The functional alcoholic or chemically dependent woman does not necessarily drink a large amount, get drunk every time she drinks, have hangovers, drink every day, drink during the day

or even during the week, look bleary-eyed, have slurred speech, stagger, miss a lot of work or show up late, or ever look drunk or crave a drink.

In fact, she may be a brilliant superachiever, and frequently is an admired citizen.

The functional alcoholic or chemically dependent woman does, however, have personal problems caused by or related to the use of alcohol — for example, problems with sleep, thinking, emotions, moods, self-esteem, health, or employment, or a tendency to flash anger.

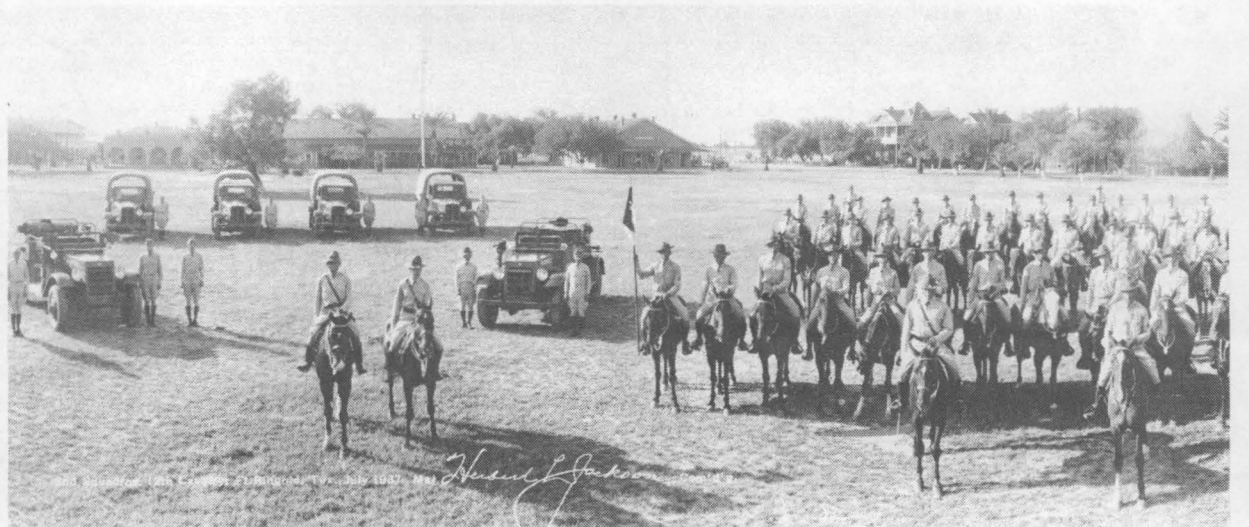
Her family may notice that she fixes a drink or takes a tranquilizer upon arriving home after a hard day, requires a drink or drug before dealing with a family problem, consumes a drink or two even after others have quit (maybe having a nightcap "in order to sleep"), shows discomfort when no alcohol is available, draws a blank about conversations or happenings that occurred while she was drinking, or makes promises but doesn't keep them.

She may miss work, at first sporadically, explaining absences as a result of 24-hour flu, car trouble, minor accidents, cramps, headaches, colds, upset stomach, or back pain.

She may convince her family that they are the cause of such symptoms as lack of interest in family projects, skipping meals or picking at food, irritability, changes in personal appearance, ever-wider mood swings, complaints over lack of money, forgetfulness, and becoming more withdrawn and isolated.

If you would like to know more, or feel you may have an alcohol or substance abuse problem, call me, Florence Parnegg (3300) on 4-3993, or Comprehensive Counseling on 265-1881. Your call and discussion are confidential. ●

## Favorite Old Photo



**RIDING WITH THE CAVALRY** — This photo of my grandfather, Herbert L. Jackson, was taken just before his retirement from the US Cavalry in 1937. Grandpa Herbert (in front, second from right) worked his way up the enlisted ranks before receiving a battlefield commission. He fought in the Spanish-American War, the Boxer Rebellion, the Philippine Insurrection, and World War I. He received the Silver Star, the nation's second highest award for valor. This photo was taken at Fort Ringold, Tex., when the Cavalry still rode horses. They mechanized shortly thereafter.

— Jack Jackson (9241)

