

Tiny Lumps of Matter Have Strange — and Useful — Properties

Small clusters of atoms have roused scientific interest: Their intriguing properties and promising applications could keep a legion of researchers at work for a while.

Maybe "legion" is an overstatement, but it's

true that many researchers are working on nanoclusters, says George Samara of Basic Energy Sciences Program Office 1103. And some of the more interesting progress has been made at Sandia.

Nanoclusters are tiny chunks of matter, rang-

ing from as few as two atoms to a hundred or more. They're too big to be understood as single atoms or molecules, but they're too small to be understood as bulk material. They're a new research frontier, tucked into the seam between the better-understood territories of single atoms and bulk material.

The surest way to convince someone new to the subject that there's something unusual about nanoclusters is to show them several small jars or flasks, each holding different-colored contents — and explain that each contains a solution of exactly

Nanoclusters are too big to be understood as single atoms . . . and too small to be understood as bulk material.

the same material. Jess Wilcoxon of Advanced Materials Physics and Devices Dept. 1153 can do that with, for example, molybdenum disulfide.

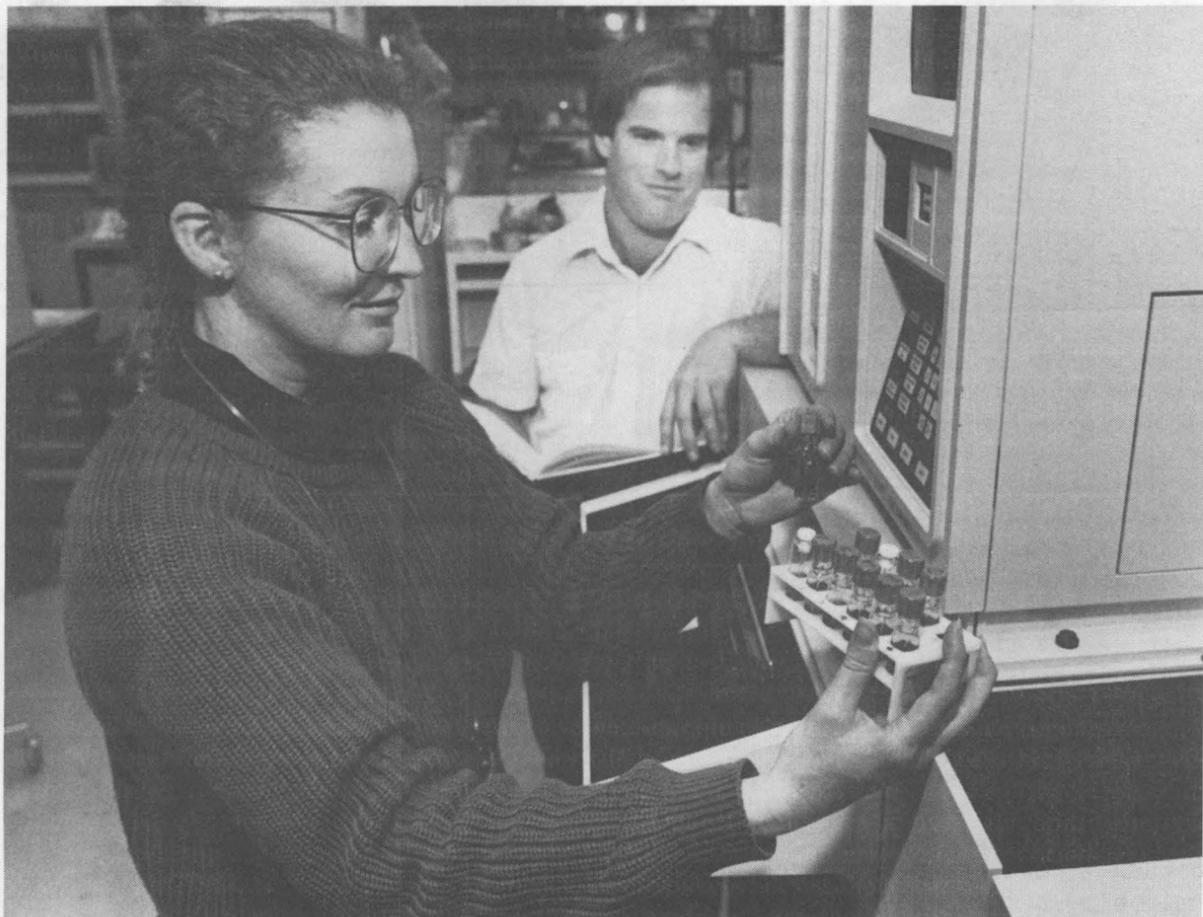
"Moly disulfide is used as a lubricant," he says, "and in bulk it's black. But when it's in small clusters, it can be a beautiful cobalt blue, or yellowish-green, or any of a whole gradation of colors, depending on the size of the cluster."

The properties of nanoclusters that have so far been discovered suggest several breakthrough applications, from liquefaction of coal for fuel to cleanup of pollutants to creation of new types of electronic devices.

Single Atom Can Alter Cluster Behavior

In everyday life, we're accustomed to chemicals having different properties because they contain different kinds of atoms — salt tastes like salt, and sugar like sugar, no matter how large or small the chunks are. But the different colors of moly

(Continued on Page Four)



RACK OF NANOCLUSTERS — Sharon Craft (contractor) holds a rack containing solutions of nanoclusters, as she prepares to put a sample into a spectrometer for analysis. Jess Wilcoxon (1153) looks on. Some of the significant recent progress in the study of the small aggregates of atoms called nanoclusters has been made at Sandia.



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Sandia-SunSolutions Partnership Lets It Happen

You're in Yuma, I'm in Indianapolis — Let's Mark Up This Drawing Right Now

By the end of this year, SunSolutions — the desktop video conferencing and collaboration business unit of Sun Microsystems, Inc. — plans to begin shipping a new software package based on Sandia-developed technology.

That's years earlier than if SunSolutions had conducted development on its own, says Sun's top manager.

The new ShowMe software lets users in different locations — perhaps thousands of miles apart — share a common view of a software application, such as a computer-aided drawing program, and

Studies in the early 1990s found that existing software wouldn't let Sandians collaborate well at a distance.

take turns using it during on-line meetings. ShowMe gives users video and audio along with screen-sharing tools, so they can collaborate in work being done on Sun's computer workstations.

The technology transfer partnership of SunSolutions and the Labs is expected to help the US

take the lead in the fast-growing desktop video conferencing market.

ICE Showed the Way

ShowMe uses a key part of the Interactive Collaborative Environments (ICE) conferencing system developed at Sandia during the early 1990s (LAB NEWS, Dec. 18, 1992). That's the "clever" — client-server — technology that lets dispersed work groups collaborate in real time on complex technical drawings and schematics.

"The idea of the ICE project," says project leader Rodema Ashby of Software and Integration Technologies Dept. 2862, "was to let people in different places work on the same drawing just as if they were sitting at the same table. It's a testimony to the value of what the Sandia team accomplished that Sun was interested in our product and has used it as the basis of a commercial product."

Others who have been active in the ICE project include project technical lead Han Lin (2862), Bob Pastorek (6351), previous project leader Craig Dean (5716), Greg Volkmer (contractor), Jim Yoder (2801), Mike Pendley (2862), Chris Montoya

(Continued on Page Four)

President Clinton Lauds Cooperation

Blood Gas Monitor Becomes One of A 'Funded Few'

When a hospital patient is in intensive care, one of the most frequently performed tests is measurement of arterial blood gas — a painful, costly, and potentially infectious procedure that requires drawing blood as often as every 15 minutes.

Now, a collaboration of Sandia, the University of New Mexico School of Medicine, and Rio Grande Medical Technologies promises to

The grant for the blood gas monitor evidences Sandia's growing expertise in biomedical projects.

change that picture with a non-invasive monitor that works by transmitting light through the skin.

To help move the monitor to commercialization, a grant from the federal Technology Reinvestment Project (TRP) was made last week, one of 41 winning proposals in the first phase of awards. The blood gas monitor project is expected to cost \$2.8 million, part of which will be paid by TRP funds

(Continued on Page Five)

**How We're Gettin'
'Clean & Green' —
See Page Seven**

This & That

Still the Same Old Us - Some Sandians were concerned that our friendly, informal atmosphere could change when we changed contractors Oct. 1. Some folks feared that Sandia PhDs might start calling each other "Doctor" at the company cafeteria, that some of us Sandia men might feel pressure to update our wardrobes more than twice a decade, and that Sandia women would have to start wearing "power suits" to work every day.

Although we "clean up" pretty well when we need to, we remain a bunch of friendly, informal folks on a first-name basis from top to bottom. Local Hush Puppies shoe sales haven't dropped dramatically, necktie sales haven't soared, and my good buddy Jerry Smith (2564) is still wearing those boldly checked double-knit polyester pants that he got such a fantastic deal on back in '72.

Speaking of informal - "Informal Friday" is still alive and well at Sandia. Employees may wear nice jeans and tennies or other informal garb the first Friday of every month. And yes, alert readers, I'm aware that Sandians in some areas and appropriate lines of work wear jeans many other days. Informal Friday is a day when everyone who wants to can "dress down" for a day. Your next chance is next Friday, Nov. 5.

* * *

Urgency Elf? - As discussed in the last issue, all Sandians will soon have the capability for voicemail. Training sessions start at Sandia/New Mexico next week and will continue until we've all had the opportunity to attend. However, helpful person that I am, I've decided to give some early info to you "low-techies" who don't have the expertise and sophisticated knowledge that we electronic wizards do.

The final part of the standard voicemail message tells you to push "1" for normal delivery or "2" if your message is urgent. So, how many of you who don't already have voicemail know what happens when you push 2 for urgent delivery? Does a little elf come out of the phone and hunt for the person? Or does the group secretary issue an all-points bulletin for the person? Maybe Sandia voicemail guru Gary Shepherd (10326) is notified? Wrong, wrong, wrong! When you push 2, and when the person next checks his or her messages, the 2's simply play before the 1's. Now that we all know, the big question is: Will anyone ever leave a "oner?"

* * *

Supercollision! - I'm pretty sure I heard sounds and felt shock waves from that tremendous crash last week in Texas. It was the Superconducting Supercollider making what appears now to be its only major collision - a head-on crash with political and economic reality.

* * *

Maxiboredom - Conventional wisdom says retired folks who didn't have hobbies or outside interests when they worked tend to have a tough time when they retire. A recent Sandia retiree confirmed that when I was talking with him a few days ago. Never one for hobbies, he says now he actually reads those flyers that come with utility bills.

* * *

Me, Too! - From the "I wish I had said that" department: Editor Robert Holland of AT&T's *Circuit Line* says, "As far as the alphabet soup of acronyms is concerned, perhaps our best MO would be to declare them DOA and bid them RIP."

•LP

Help Pick Fairest of the Fair Tuesday

Computer Workstation Fair Sponsored by Corporate Ergonomics

Sandians can see and hear about the latest technology in ergonomic video display terminal (VDT) workstations on Tuesday morning, Nov. 2, at the Coronado Club and then help evaluate different brands and models that afternoon.

Fair Manager Larry Powell (7732) and Sandia Ergonomics Program Manager Dwight Miller (7733) say the results of the employee evaluations will be used to help the Corporate Ergonomics group identify candidates for upgrading Sandia's choice in ergonomic VDT workstation furniture.

Ergonomics involves the design of equipment and work environments to account for human capabilities and limitations.

All interested employees are invited to attend, say Larry and Dwight, but especially those who have physical difficulties with their current workstations or find them uncomfortable to use. The fair will be at the south end of the Fiesta Room (ballroom).

Representatives from 13 manufacturers of workstation furniture and accessories will present and explain their particular products beginning at 8:30 a.m. Each representative is limited to 15 minutes, and the presentations will conclude by noon, explains Larry. During the afternoon, the representatives will leave, and interested Sandians can participate in hands-on evaluations of the workstations.

Evaluations will focus on ergonomic adjustability, ease of use, quality of construction, and adaptability of the design to fulfill Sandia requirements.

Manufacturers invited include Ergodata, Ergo Systems, Haworth, Herman Miller, Igar, Knoll, Kruger International, Mayline, Metier, SIS Human Factors Tech, Symbiote, Tiffin Systems, and Wright Line.

TLC Program Sponsors Men's Health Month

During November, Sandia's Total Life Concept (TLC) program is offering several men's health seminars. Classes are open to everyone. A Men's Health Month Action Booth will be set up in the Bldg. 800 lobby Nov. 4, 10 a.m.-noon. Sample class materials, health statistics, and a book reference list will be available.

Seminars include "What's the Problem with High Blood Pressure?" on Monday Nov. 8, 11:30 a.m.-12:30 p.m., at the TLC facility in MO-170 conference room; "Father/Son Sex Education Seminar" on Wednesday, Nov. 10, 11:30 a.m.-12:30 p.m., in Bldg. 831, Medical conference room (Note: Sons should not actually attend. Seminar will give fathers tips about how to talk with their sons about sex.); "Men's Heart Disease" on Wednesday, Nov. 10, 12:30-1:30 p.m., in the Technology Transfer Center (Bldg. 825); "Cancer Topics for Men" on Thursday, Nov. 18, 11:30 a.m.-12:30 p.m., in the Technology Transfer Center (Bldg. 825); "Men's Fitness Options" on Monday, Nov. 22, 12:30-1:30 p.m., in the TLC facility in MO-170 conference room; and "Nutritional Concerns for Men" on Tuesday, Nov. 30, 12:30-1:30 p.m., in the TLC facility in MO-170 conference room. For information about these seminars, call the TLC office on 844-8238.

Welcome

Albuquerque - Michael Benson (7433), Barton Brooks (10500), Sherron Corry (10507), Lon Dawson (7582), Roy Hertweck (7915), Mary Lopez-Carter (10504), Amy An-Mei Yee (9133). Other New Mexico - Zeferino Banda (7258).

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MARTIN MARIETTA

Mona Davenport Fund Set Up at Credit Union

A fund has been set up at the Sandia Laboratory Federal Credit Union to help Sandia custodian Mona Davenport (7615) and her family. Mona, her husband Delbert, and their children were injured in a car accident Oct. 9 while on their way to the Balloon Fiesta. Mona's mother was killed in the accident. As the LAB NEWS went to press, Mona and Delbert were still in the hospital.

Only One LAB NEWS Issue Next Month

The LAB NEWS alters its fortnightly publication schedule every November and December because of the Thanksgiving/energy conservation holidays and the end-of-year holiday break.

The next LAB NEWS will be published Friday, Nov. 12. We will not publish an issue on Nov. 26, which is energy conservation day (day after Thanksgiving). Our two December issues will be published Friday, Dec. 3, and Friday, Dec. 17.

The first issue of 1994 will be published Friday, Jan. 7, at which time the normal fortnightly schedule will resume.

Three-Year Agreement Started Last Month

Sandia, Coloray Teaming On Flat-Panel Displays

Coloray Display Corporation of Fremont, Calif., and Sandia/California are teaming to develop advanced manufacturing technology for flat-panel displays.

They will jointly develop state-of-the-art manufacturing technology that could result in breakthrough improvements in manufacturing processes and technology for Coloray's flat-panel display products. The project is funded at \$2.6 million for three years under a cooperative research and development agreement (CRADA) signed last month.

Coloray develops flat-panel display products that use a technology known as field emission. The company has exclusive rights to field emission technology originally developed at SRI, International (Menlo Park, Calif.). Coloray intends to introduce several flat-panel display products based on field emission during the next several years.

The research agreement between Coloray and Sandia will allow Coloray to continue to "lead the design and manufacture of field-emission-based flat-panel display products having superior performance and lower manufacturing cost," according to Dan Devine, Vice President of Technology for Coloray.

One of the possible uses of such displays is in portable computers, a market that is expanding rapidly.

Thin Films a Key

Sandia's expertise in advanced lithography, thin-film fabrication, and electron optics will mesh with Coloray's thin-film capability to fabricate novel thin-film structures required for improved display performance and manufacturing yield. That's according to Tom Felter of Physical Properties of Materials Dept. 8715, who says Sandia's and Coloray's joint expertise in thin-film deposition will be used to investigate alternative display fabrication techniques.

Tom says, "Much of the equipment to be used on the Coloray project started in weapons programs and has now found an important use in the commercial sector." That's seen as part of Sandia's shift

"Much of the equipment to be used on the Coloray project started in weapons programs."

toward applying its technical expertise to improving the country's ability to develop and manufacture cost-effective high technology products.

Devine says, "Access to Sandia's technology and equipment presents Coloray with a unique opportunity to reduce the cost and time required to bring Coloray's field-emission-based flat-panel display products to market."

The flat-panel display market is currently dominated by a different technology, active-matrix liquid crystal display, and by suppliers based in Japan and other Pacific Rim countries. The Sandia-Coloray agreement is one of many government and commercial efforts aimed at improving US competitiveness in the flat-panel display market, says Tom.



EXPERIMENTING with model rockets during a hands-on workshop, Debbie Post (8114) demonstrates what engineers do. She was a volunteer at the first Expanding Your Horizons in Science and Mathematics career conference held for young women in San Joaquin County. Sandia and Lawrence Livermore cosponsored the event at the University of the Pacific campus. The conference, for 6th through 12th graders, was similar to the one held for several years in Alameda County. Debbie and LLNL's Monya Lane showed how an engineering team designs, builds, and launches a prototype rocket. Mary Rivenbark (8534) and Cynthia Richards (8535) cochaired the conference with two LLNL women employees.



Rehearsal for Earthquake

Evacuation Drill Was a 'Great Success'

Sandia/California and Lawrence Livermore national laboratories conducted their first joint evacuation drill of both sites on Oct. 15, clearing all the employees in about 45 minutes.

The exercise, fulfilling DOE requirements, provided the emergency preparedness organizations at both sites an opportunity to practice evacuations of the kind that might occur after a major earthquake. The drill also tested the Sandia/LLNL Joint Evacuation Plan, which was written in cooperation with the Livermore, Alameda County, and California governments.

Sandians were alerted by the Building Emergency Teams at 3:15 p.m. of the need to evacuate and go to their assembly areas outside each building. After the building occupants were all accounted for, each group was released to go to the

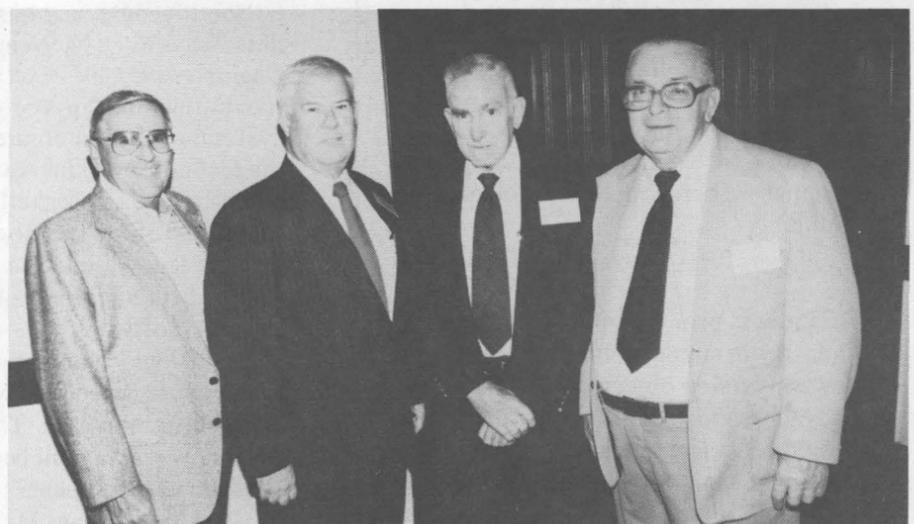
parking lot in an orderly manner and drive off-site. The emergency egress road to Tesla Road south of Sandia was opened so employees had the choice of using that instead of competing with LLNL traffic on East Avenue.

"The drill was a great success," says Sandia Emergency Preparedness Coordinator Bob Czapinski (8641). "We proved evacuation can be done in an orderly and timely manner. This accomplishes what we set out to do."

Traffic was not as heavy as officials had expected along East Avenue and roads leading to Interstate 580. City and county emergency preparedness officials took part in the planning and acted as observers for the drill. A Sandia videographer in a plane overhead documented the traffic flow for future planning.



SANDIA/CALIFORNIA RETIREES enjoy their annual get-together at Castlewood Country Club Oct. 13. Some 300 retirees and spouses were at the dinner party to hear remarks by Jo Sandelin (8522), Ron Detry (8200) filling in for Vice President John Crawford (8000), and Charlie Emery (3000), who discussed the transition to



Martin Marietta management of the Labs. From left in left photo are Eloise Perry, Betty Barnhouse, Betty Hogan, and Carol Verity. In right photo, from left, are Dr. John Rhodenbaugh, Bob Crow, Harry Farmer, and Jim Henderson. The dinner next year will take place Oct. 12.

(Continued from Page One)

Nanoclusters

disulfide, or gold, or any of a number of other materials in nanocluster form, depend solely on the size of the cluster (which is itself much too small to see directly). In some cases, adding or removing a single atom from a cluster can result in greatly altered chemical and physical properties.

One major result of the clusters' small size, George points out, is the big surface area relative to the amount of material: "A large fraction of the atoms are at or near the surface, simply because of the geometry — there are so few atoms in the cluster, that most of them have to be near the surface. That suggests a lot of potential for chemical uses,

because chemistry is really a surface phenomenon.

"In particular, we think clusters can improve catalysis. Catalysts make chemical reactions faster and more practical — they're important in synthesizing new materials, for example. Because nanoclusters have so much surface area per unit mass, they can be excellent catalysts."

Broken Surfaces Help Catalysis

The catalytic properties are connected with the fact that nanoclusters aren't neat microscopic spheres or cubes. George explains, "Their surfaces aren't smooth like a bulk crystal. The surfaces are faceted and defective — there are missing atoms where atoms might normally be in a crystal. That's a property believed to be important in catalysis."

The small size of clusters also means that elec-

trons in them can't move about as freely as in bulk material — they are confined. Because of quantum effects, the confined electrons can acquire certain specific amounts of energy, but not others. (That's what causes the colors — whether a certain wavelength of light is absorbed depends on how much energy can be absorbed by the electrons in the clusters.)

This behavior of electrons points to some of the other possible applications for clusters, such as information storage in extremely small spaces, or development of lasers that operate at a desired wavelength.

Among the possibilities that seem bizarre, considering the near-infinitesimal sizes involved, are layered or coated clusters — like chocolate-covered raisins. "You can start growing gold clusters," says Jess, "interrupt the growth, and then add silver. So you end up with a cluster that's gold on the inside and silver on the outside. Or a semiconductor material could be coated thinly with platinum or gold, so thin that light can penetrate and create

Growing Nanoclusters in Molecular 'Cages'

If nanoclusters can do so much, why aren't people already making use of them? Because they're tricky to create in well-controlled sizes, explains George Samara (1103), and because they're equally tricky to produce in useful quantities. But Sandia research has made progress on both those fronts.

Using a unique method, Jess Wilcoxon (1153) grows clusters in molecular-size "cages" called inverse micelles. The inverse micelles are formed by surfactant molecules — basically, soap — in light oil. (Micelles are formed by surfactants in water; inverse micelles, by surfactants in oil.) Surfactants are large molecules with one end that's attracted to water and one end that's attracted to oil — a structure that explains how they remove grease from an auto mechanic's hand. If a surfactant is put into oil, water-loving (hydrophilic) ends of molecules will group together, trying to avoid the oil. Inside each group of the hydrophilic ends of molecules is a small volume where the nanoclusters can be grown.

"People already knew about these micelles," says George, "and have even grown nanoclusters in them. But usually they had to use water to dissolve the cluster material inside

the micellar cages. Jess found that it's possible to do it without water. That gives better control over size and greatly expands the types of materials that can be grown."

Dissolving Salts in Oil

"Normally, a metal salt such as nickel chloride can't be dissolved in an oil," Jess explains. "But it can be done with the inverse micelles, because of the hydrophilic interior. The surfactant-oil systems are complicated, but once you understand them, you can grow the nanoclusters in a controlled way."

By using the right surfactant and manipulating the temperature, it's possible to start with a salt such as nickel chloride and wind up with clusters of pure nickel, coated with a thin layer of surfactant, suspended in the oil.

The method can be used for many different materials. But to do so takes a thorough understanding of the interactions between surfactants and water or oil. "For example," says Jess, "at a given temperature there might be phase separation. But at other temperatures or compositions, there might be mixing. We have been able to select conditions for accurately controlling the growth and choosing the sizes of the clusters."

Adding or removing a single atom can greatly change a nanocluster's chemical and physical properties.

electron-hole pairs in the semiconductor underneath. That could be useful if the clusters were added to a chemical solution to do photocatalysis."

Better Route from Coal to Petroleum

One promising application is coal liquefaction. Jess has worked with Elmer Klavetter of Process Research Dept. 6212 to investigate the use of nanoclusters. Iron sulfide is a leading candidate in conventional approaches to liquefaction of coal to form petroleum products.

"At this point," says Jess, "iron sulfide in nanocluster form is something that's made at Sandia, and nowhere else in the world. Even in bulk form, iron sulfide is known to be a good catalyst for coal liquefaction. And we've found that in cluster form, only about a tenth the mass of catalyst is needed for the same yield. Besides, it's a cheap catalyst. As we refine the process, we could have something that's commercially viable." ●CS

(Continued from Page One)

SunSolutions

(2884), and Arlyn Blackwell (formerly 2800).

ICE studies in the early 1990s found that no existing software would let Sandians collaborate at a distance as they needed to while taking various Labs products from research to concept to design

Bingaman, Narath Comment About the Partnership

"Sandia and SunSolutions have provided a model for how collaboration between the government and private enterprise can rapidly result in a commercial product. This partnership is an example of technology conversion that we hope can be repeated often in the future."

— US Senator Jeff Bingaman

"Sandia is proud to offer technology to US industry in support of our nation's technology conversion objectives. This partnership advances the goal of more effective collaboration between government and industry, and is a great example of the many technologies available at the national laboratories that can contribute to the nation's economic well-being."

— Sandia President Al Narath

to prototype production. "Basically, we developed what we couldn't buy off the shelf," says Rodema. "Now, users will be able to fill many of their needs with SunSolutions' off-the-shelf software."

"Our partnership shows how government and private-sector organizations can collaborate for the benefit of the economy, US competitiveness, and business," says Scott McNealy, Chairman and Chief Executive Officer of Sun Microsystems. "Sandia created the technology to increase productivity internally. Because of technology transfer legislation, Sun is able to bring application-sharing software to our workstation consumers years before we could have done so on our own. The US is now reaping full benefit from its investment."

The legislation McNealy refers to is the National Competitiveness Technology Transfer Act of 1989. Under the provisions of that act, Sandia and SunSolutions have signed a nonexclusive licensing agreement that allows SunSolutions to



COMMUNICATION AGILITY — Jim Balk (standing) and Han Lin (both 2862) are connected via desktop conferencing software with (at upper right of computer monitor) Rodema Ashby (2862), Chris Montoya (2884), and Brian Behling (2800). (Han also appears on the screen, top center.) The software connecting them is being used for agile manufacturing demonstrations and is the basis of a soon-to-be-released commercial product by SunSolutions.

build on Sandia technology. As part of the agreement, SunSolutions is providing Sandia with the commercialized software to help the Labs continue increasing productivity and reducing costs.

●CS/KFrazier(12630)

Skills Pool Next Move

Strategic Staffing Initiative Takes Another Step Toward Creating Agile Work Force

Sandians have already had a few peeks at facets of the Strategic Human Resources Plan, but the Employee Development Center's (EDC) move to separate quarters last month and the near-future start-up of the Sandia Resource Profile (SRP) provide a much clearer view.

Karen Gillings of Staff Employment and Personnel Policy Dept. 3531, Project Manager of the EDC, says both have been planned for months and will hasten the Labs' goal of placing "the right person in the right job at the right time."

She says the EDC moved into MO219, just east of Bldg. 823, Sept. 21 and will begin putting employee skills into the computerized pool to create the SRP right away.

Employees, Managers Both Benefit

"It's really a very simple process," she says. "Employees will feed their resume information into our computer, and software called Resumix will extract, sort, and categorize skills."

All Sandians — of all job classifications at all locations — will be included in the skills pool, Karen emphasizes.

"Our goal is to meet the requirements of our customers through strategic staffing," she says, "and maintaining the Resource Profile through the EDC is one of the ways we're addressing that goal."

The system is meant to help both employees

and managers, says Karen, by providing employees with information on Labs job opportunities, and managers with information on the skills available for their projects. It will function alongside — not replace — the post-and-bid system already in use.

Both initiatives grew out of the Strategic Human Resources Plan, which Human Resources Center 3500 Director Ralph Bonner described in a Feb. 19 LAB NEWS story as differing from past such plans because it was "developed by the line organizations, with Human Resources providing input and project support."

The strategic plan was adopted in October 1992. It was developed from, among other input, information gleaned during 1991 interviews with all the Labs vice presidents, and surveys of department managers and what were then division supervisors.

A core goal that emerged from that project was to create a more agile Sandia work force, and the Employee Development Center and Sandia Resource Profile were designed to address that goal.

Expanded Showcase for Abilities

Karen says EDC services for employees will include help in resume writing, career counseling, workshops, and inclusion in the center's *Opportunities Bulletin*, a publication designed to augment

existing job information publications such as the *Weekly Bulletin*.

The *Opportunities Bulletin* will provide employees with a venue in which they can present more complete and current information about skills and abilities than they might be able to place in a bid package, while holding their names in confidence.

The advantage to managers, says Karen, is that it will provide them with another search route after

The goal is to place "the right person in the right job at the right time."

finding no qualified bidders on a posted job, and will serve as a venue for publicizing a matrix assignment availability.

"The Energy and Environment Sector job fair held last spring, which was made possible through the sector's teaming with Human Resources, was a good example of our goal of sharing information about opportunities," she says. "But now we'll be providing that service Labs-wide, not just for one sector."

Karen says EDC staff members will be available to answer questions about the new service during an open house planned to show off the new facilities later this year. ●HK

(Continued from Page One)

Blood Gas Monitor

and part by the participating institutions.

More than 2,800 proposals were submitted, and 60 to 80 more winners will be announced in November.

The TRP grant for the blood gas monitor evidences Sandia's growing expertise in biomedical projects. Sandia is also among the participants in two other winning proposals in the Labs' more traditional areas of strength (see "Sandia Doing Wonderful Job, Says Bingaman").

Two representatives from among the winners — including Kathy Alam of Surface/Molecular Spectrometry and Gas Analysis Dept. 1823 — were invited to speak at the Washington ceremony announcing the grants last Friday (Oct. 22). Besides being a Sandian, Kathy is a clinical/research faculty member at the UNM School of Medicine.

President Bill Clinton and Vice President Al Gore also spoke, and Senator Jeff Bingaman, who was responsible for the legislation authorizing TRP, attended the event. The President and Vice President stressed the dual-use nature of projects, such as the blood gas monitor, that mesh defense-funded and private-sector research.

Less Pain, Less Infection Danger

"The blood gas technology is related to another widely publicized technology under development," said Kathy at the ceremony, "the blood glucose monitor, which would allow diabetics to determine their blood sugar levels without pricking their fingers."

The partners in the blood gas project "are poised to progress the technology to the commercial stage," she said. A blood gas monitor would use near-infrared spectroscopy combined with multivariate analysis of the resulting data to give the information that would otherwise have to come from a lab analysis.

Besides reducing the patient's pain, measuring blood gas without drawing blood would reduce the danger of a health care worker's being infected by

a pathogen in the blood. A non-invasive monitor would also give immediate and continuous information. Lab analysis of blood gas can take 15 minutes (not counting the time to get a sample to the lab and results back), too slow to detect rapid changes in a patient's condition.

Avoiding lab analysis may reduce costs, though it's too early to predict the price of a non-invasive monitoring system.

Could Be a Battlefield Life-Saver

Such a monitor could become part of a remote system with military applications. Battlefield trauma coordinators would have instantaneous information to make quick, critical decisions about treating soldiers wounded in combat. A remote version could allow monitoring of many patients from a centralized site.

The new monitor, Kathy told the LAB NEWS in a phone interview from Washington just after the ceremony, grew out of chemometrics research going on in Dept. 1823. "It really began under the glucose monitor project," she said, "when we started looking at other types of non-invasive blood monitors."

The work leading to these new monitors was done by Sandia and UNM researchers that included

Cleveland Advanced Manufacturing Program, Environmental Protection Agency, and Northeast-Midwest Institute. This project will pilot ways for small businesses to access energy and environmental technologies.

Senator Jeff Bingaman, chairman of the subcommittee from which the TRP legislation came, said in a news release about the grants, "Playing a significant role in three projects proves that Sandia is doing a wonderful job of connecting with America's industrial sector. Health care, electronics, environment and energy — this shows the breadth of the Labs' ability to help American industry."

Dave Haaland (1823), Ed Thomas (12323), former Sandian Gary Kepp, and UNM Medical School physicians and researchers Ries Robinson, Phil Eaton, Mark Crowley, and Maxine Dorin.

Robinson has done research at Sandia and is President of Rio Grande Medical Technologies. He stresses that the Sandia/UNM research indicates the feasibility of a non-invasive blood gas monitor but has not yet produced a working model. "This grant is extremely important," says Robinson, "as it will aid our investigation and allow us to progress the technology to a functional prototype device suitable for clinical testing on patients." ●CS

Sympathy

To Pat Standing (10329) on the death of her father in Onawa, Iowa, in late September.

To John Medernach (1332) on the death of his mother in Allentown, Pa., Oct. 4.

To Terry Bisbee (9538) on the death of his mother-in-law in Kansas, Oct. 5.

To Mona Davenport (7615) on the death of her mother in Albuquerque, Oct. 9.

To Pace VanDevender (4700) on the death of his father in Jackson, Miss., Oct. 11.

Winners in Third Round**Latest Corporate ES&H Award Recipients Named**

The third round of winners in the Corporate ES&H Award Program have been announced. Recipients cited for having demonstrated "outstanding Labs-wide contributions to ES&H" will receive their awards from Sandia President Al Narath and Director of ES&H Program Management 7200 Jim Baremore on Nov. 19, at the corporate quality awards ceremony in the Technology Transfer Center (Bldg. 825), 1:30-4:30 p.m.

Another group, recognized for other contributions to ES&H, received awards last month.

Receiving awards in November will be:

- Jeff Bradley (9134) — For outstanding contributions in determining FAA certification requirements of Sandia flight systems for Twin Otter flights and initiative in researching the need for FAA-certified flight physical examinations for regular users of such flights. Jeff took the lead in developing a program of routine FAA Third Class physical exams for the regular users of the Twin Otter, in conjunction with the Medical organization.

- Micheal Gorospe (7815) — For significant

contributions in writing an ES&H SOP for working with lead-paint-contaminated work surfaces, developing an effective mechanism to control all lead sampling activities, and coordinating all lead training activities.

- "CRYOFACS" Team: Daniel Buller (1111), Timothy McCorkendale (2314), Donald Small (2335), and Roger Shrouf (7732) — For exceptional group effort in designing and building a prototype device ("CRYOFACS") capable of detecting abnormal releases of cryogenic liquid and shutting off the source of the liquid. Without this, accidental releases could damage equipment and result in asphyxiation hazards.

Sandians who received awards last month are

- Bruce Berry (2514) — For exceptional efforts in the design and implementation of a Portable Power Tool Inspection Program. Bruce recognized the need for an effective method of meeting requirements of the ES&H Manual regarding periodic inspections of all portable power tools and took the initiative to design an inspection tag that includes all relative information for such inspections. This tag is now available in Just-in-Time for Labs-wide use.

- Merri Lewis (6606) — For outstanding volunteer efforts in defining the ES&H document hierarchy. With this, Merri was a vital player in integrating vertical, horizontal, and lateral consistency of ES&H documents. She also designed and prototyped a Management Surveillance tool that combines periodic requirements of management into a single, in-depth checklist.

- Wendy Johnson (7035) — For intensive efforts in addressing the depleted uranium contamination problem. Wendy chairs a Sandia committee that communicates such

issues to employees and the outside community, making them aware that Sandia is interested in resolving safety and environmental issues. She has also applied benchmarking processes in developing and improving Sandia's current processes.

- Tom Zifer and Marion Hunter (both 8716) — For implementing and refining new and evolving ES&H policies in the areas of chemical storage, chemical use, waste disposal, and waste minimization. Examples of their contributions include developing a chemical labeling scheme, implementing the chemical inventory system, initiating a hood maintenance/safety program, having material safety data sheets (MSDSs) available electronically, and prototyping waste disposal options and the bar code chemical inventory system.

- Compliance Appraisal Team: Carla Mewhinney (6343), Lilith "Sam" Baker (6352), Nicole Willis (summer hire), Herb Myers (7601), Arvil Rhinehart (7612), Joe Ambrulevich, Judy Goltz (both 8532), Ted Hebebrand (8533), Dwayne Mohrman (8604), and Virginia Holtzclaw (8643) — For intensive efforts in conducting internal appraisals of various Sandia sites in preparation for DOE and Department of Transportation audits, giving appraised organizations greater assurance of compliance. This team also prototyped an Appraisal Guide.

- CFC [Chlorofluorocarbon] Elimination Coordination Group: Carol Jones Adkins (1815), Paul Lemke (2400), Gay Dybwad (2411), John Sayre (2472), Carl Pretzel (5362), Hugh Reilly (6216), Robyn Stiefeld (6625), Ed Kjeldgaard (6641), George McLellan (7016), Dorothy Stermer (7054), John Beitia (7218), JoAnne Pigg (7711), Alice Johnson-Duarte (8642) — For crafting a consensus position statement on the elimination of ozone-depleting chemicals (ODCs) for all Sandians, signed by Al Narath and the Sandia Management Council acknowledging the importance of the group's idea. This diversified group has helped prevent crises to existing program commitments due to an impending shortage of key ODCs and kept Sandia informed of changing US Environmental Protection Agency and DOE regulations and ODC usage at the Labs. ●



JEFF BRADLEY of Remote Sensing Systems Applications Dept. 9134 won a Corporate ES&H Award for determining FAA certification requirements of Sandia systems for Twin Otter flights and researching the need for FAA-certified flight physical examinations.

Third Sandian Honored Since '80**Don Cook Wins Fusion Leadership Award**

Don Cook, Director of Pulsed Power Sciences Center 1200, received the Fusion Power Associates (FPA) 1993 Leadership Award during the group's annual meeting and symposium in Oak Ridge, Tenn., Oct. 5-7.

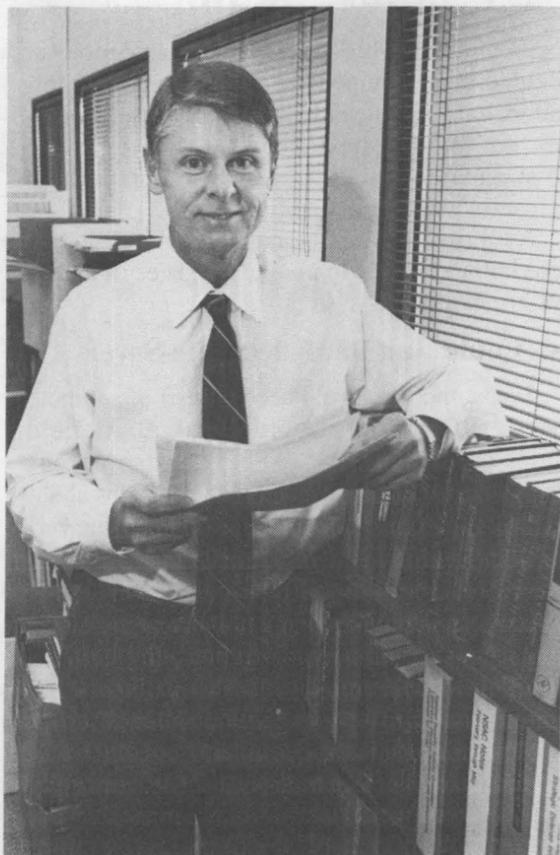
FPA President Stephen Dean said Don was selected because of his "successful, dedicated effort to demonstrate the potential of light ion fusion for both military and civilian applications."

He added, "Through your tireless technical and management efforts, you have provided credibility to this line of development under extreme pressure and in the face of widespread skepticism."

Dean said John Sheffield, Director of the Fusion Energy program at Oak Ridge National Laboratory, also received the award. Past Sandia recipients are Gerry Yonas, Vice President, Systems Applications Div. 9000 in 1984, and the late Sol Buchsbaum in 1980, who was Sandia's Vice President for Research from 1968 to '71 and was a member of the Sandia Board of Directors before his death earlier this year.

FPA Leadership Awards have been presented annually since 1980 "to individuals who have shown outstanding leadership qualities in accelerating the development of fusion," says Dean.

FPA is a non-profit research and educational foundation based in Gaithersburg, Md. ●



DON COOK

Surety Assessment Work Fair

Surety Assessment Center 12300 is sponsoring a work fair, "Surety into the Future," on Thursday, Nov. 4, 8:30 a.m.-4:30 p.m., in the Technology Transfer Center (Bldg. 825) lobby. The work fair includes 15 Center 12300 exhibits, where participants can obtain information about the Surety Assessment Center's capabilities and services, including security, safety, use control, reliability, and quality for design projects. Although the Center's focus has been on weapon projects, organizers say that others can benefit from the services the Center offers. The fair is open to Sandians, DOE employees, military personnel, and others interested in assessment and assurance for their projects. For information about the fair, contact Fred Trussell (12334) on 845-8111.

Congratulations

To Sandy Scannell and Rick Lujan (1332), married at Balloon Fiesta Park, Oct. 6.

To Gail Roper and Tom Salazar (7155), married in Moriarty, Oct. 8.

To Rosalie and Scott (9538) Nichols, twin sons, Michael and Jonathan, Oct. 8.

100,000 Pounds of Scrap Metal Collected**'Clean & Green' Campaign, Phase Two, Is Under Way**

It's a good bet that no one will ever mistake the Sandia/New Mexico site for Shangri-la, but employees in Environment, Safety, and Facilities Management Div. 7000 are working to spruce up the place as part of a two-phase "Clean & Green" campaign.

During the recently completed phase one, called the "sprint" phase, workers picked up and removed oodles of miscellaneous old, unneeded,

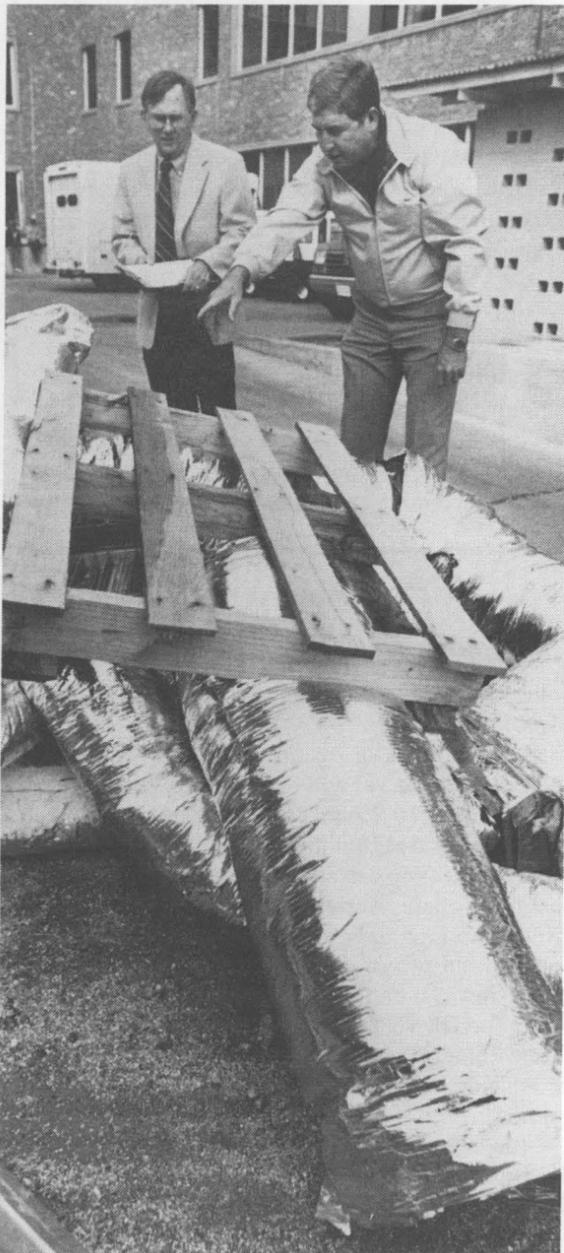
A special effort is being made to tidy up one section every month.

and in some cases hazardous items. These include old switch boxes, mercury switches, antennas, storage cabinets, dead batteries, burned-out fluorescent bulbs, and much more.

Dwight Stockham (7572), project leader for chemical waste management activities in the campaign, says about 100,000 pounds of scrap metal worth about \$15,000 was also removed from shops, offices, and storage areas. The metal — about one and one-half semi-trailer loads — will be sold for recycling.

Also during phase one, about 140 new outdoor butt cans and trash receptacles were distributed around Sandia buildings by Support Services Team 7813-4 to help employees keep the site clean.

On Oct. 1, the campaign shifted into phase two — the "sustaining" phase for keeping Sandia clean



CLUTTER CHECK — Bob Eldredge, Property Systems Dept. 7616 Manager (left), and Frank Comiskey (7616) check a pile of clutter in Tech Area 1 last week that was marked for cleanup as part of the Clean & Green campaign. Frank is coordinating the "sustaining" phase of the campaign, which divides the Sandia/New Mexico site into 12 sections; special cleanup efforts will take place in a new section each month.

Clean & Green: Section Administrators and Schedule

Here are the sections, the month for special cleanup efforts in each section, and section administrators for the sustaining phase of Sandia's Clean & Green campaign. The physical areas comprising the sections are described briefly; if you need to know which section includes your particular building, call Frank Comiskey on 844-0224.

- Section 1 — October, Bob Eldredge (7616), northwest part of Tech Area 1.
- Section 2 — November, Tom Hobart (2473), north central part of Tech Area 1.
- Section 3 — December, Jeff Rhinehart (6100), northeast part of Tech Area 1.
- Section 4 — January, Milton Clauser (1001), west central part of Tech Area 1.
- Section 5 — February, Adele Caldwell (9000), central part of Tech Area 1.
- Section 6 — March, Gerry Lipka (7303), east central part of Tech Area 1.
- Section 7 — April, (person to be announced), southeast part of Tech Area 1.
- Section 8 — May, Ron Syler (9502), south central part of Tech Area 1.
- Section 9 — June, Mary Kay Austin (2500), Tech Area 2.
- Section 10 — July, John Corley (1204), Tech Area 4.
- Section 11 — August, Ted Schmidt (6502), Tech Area 5.
- Section 12 — September, Mark Garrett (2761), Tech Area 3 and Central Training Facility.

and green. Facilities Operations and Maintenance Center Director Ed Graham (7800) explains that the Sandia/New Mexico site is divided into 12 sections (physical areas) and that a special effort is being made to tidy up one section every month.

Bob Eldredge, Manager of Property Management Systems Dept. 7616, worked with Ed to organize the "section of the month" concept. The 12-section concept isn't new — it was used during similar programs in 1985-91 — but it hasn't been

About 140 new outdoor butt cans and trash receptacles were distributed around Sandia buildings.

used since '91 because of other priorities the past two years, Bob says.

Frank Comiskey (7616) is coordinating the sustaining phase, with the help of 12 Sandia section administrators (see box for names and schedule). Administrators represent Sandia divisions that occupy some of the facilities in their respective sections.

Besides organizing phase two, Bob is serving as administrator for section one — the section of the month for October. He says section administrators walk through all buildings in their sections and inspect the grounds and around outdoor storage bins for ES&H concerns. They work with building ES&H coordinators to identify excess furniture and other property that can be sent to Property and Materials Services Dept. 7617 for recycling or reapplication.

Computers and Bikes, Too

Administrators also encourage employees to send outdated personal computers and related equipment to reapplication so it can be sent to area schools to use for student training. They also tag old bicycles, which are removed in a reasonable amount of time unless owners respond first.

Extra attention is given to the sector of the month by employees in several departments in Logistics Management Center 7600 and Facilities Operations and Maintenance Center 7800. Additional helpers have been assigned to pick up items for reapplication, recycling, or disposal.

"With the special help of our section administrators and building ES&H coordinators and with the cooperation of all employees, we can keep the Labs clutter-free and safe," says Frank. "I hope folks around the Labs with questions or suggestions will call me on 844-0224, Bob Eldredge on 844-1566, or any of the section administrators. •LP



SPIFFY-LOOKING new trash receptacles have been placed around Sandia by Support Services Team 7813-4 as part of the Clean & Green campaign to spruce up the Sandia/New Mexico site and keep it that way. Team member Marty Salazar is seen here uncrating some of the receptacles. Team Supervisor Anthony Chavez says the team distributed 18 of these receptacles and 120 new butt cans.

Take Note

The Association for Retarded Citizens of Albuquerque (ARCA) will "host a murder" Wednesday and Thursday, Nov. 3 and 4, at the El Pinto Restaurant. All proceeds will benefit ARCA, a non-profit agency that provides community living, vocational, and specialized support to more than 300 people of all ages with all levels of developmental disabilities or mental retardation. The gala evening of food, fun, and mayhem includes dinner and a mysterious murder. Amateur sleuths will be able to observe events, gather clues, and solve the mystery. Actors will mingle with guests, and the murderer or victim may be the person sitting next to you. Tickets are \$35 per person. Space is limited; all tickets sold in advance. For information, call Cheri Downie at ARCA on 243-3833.

feed **li**back

Q: I offer, for your consideration, the following EEO/AA (Equal Employment Opportunity/Affirmative Action) Sandia policy statements:

(1a) Thus, we recruit, hire, train, and promote people according to their ability to contribute to Sandia, rather than their ethnicity, gender, race, religion, color, age, or disability." (From page 2-1, paragraph 3 of the EEO/AA Manual.)

(1b) "Candidates will be selected on the basis of merit without regard to race, color, religion, sex, national origin, age, or personal disability." (A statement appearing just above "Management Vacancies" in the May 3 Weekly Bulletin.)

(2a) "Sandia will continue to concentrate on advancing and promoting women and minorities into higher job classifications, supervision, and management." (Sandia's AA commitment.)

(2b) "Affirmative Action is taking positive steps to hire and promote women and minorities to achieve a representation at Sandia equal to their presence in the applicable work force." (Sandia's AA definition.)

Please explain why statements 1a and 1b are not inconsistent with statements 2a and 2b. How does the intent of statement 2b differ from that of a quota system? Is numerical "underutilization" of a given group ipso facto evidence of discrimination, or are the powers-that-be at Sandia and the Department of Labor sophisticated enough to recognize that normal fluctuations exist in any limited sample? Thus it is possible, through chance, that a disproportionately large percentage of a particular subset of people of a given ethnic background may be qualified (or unqualified) for a particular position.

Does Sandia now view people as members of groups, rather than as individuals? Is Sandia engaging in tacit stereotyping of white males? Are Appalachian whites considered to be a disadvantaged minority by Sandia?

A: The questions you raise are common ones, and I hope the following explanation will help you better understand Sandia's commitment to achieving a diverse workforce where individuals are recognized for their unique qualities and abilities. The full text of Sandia's EEO/AA policy can be found in SLP [Sandia Laboratories Policy] 4003, dated Aug. 22, 1993.

The concepts of EEO and AA are often used by the public in conjunction with each other, thus leaving many with the perception that they are the same. Although the basic concepts of EEO and AA are similar, their intent and purpose are distinctly different. First of all, EEO simply means equal opportunity in employment for all individuals, regardless of race, gender, color, religion, national origin, sexual orientation, marital status, age, physical or mental disability, or status as a special disabled veteran or veteran of the Vietnam era. This means that all employment-related decisions (i.e., recruitment, hiring, training, transfer, promotion, termination, benefits, compensation, etc.) will be made based on job-related criteria. The concept of EEO is embodied in Title VII of the Civil Rights Act of 1964, which offers protection to all individuals in the employment arena.

AA is different from EEO in that it refers to the positive actions taken by an employer to increase job opportunities for women, minorities, individuals with disabilities, and covered veterans. AA is a commitment to equalize opportunity through good-faith efforts such as the One Year on Campus (OYOC), Secretarial Skills Building (SSB), and Career Opportunity Advancement Training (COAT) programs. Executive Order 11246, which requires federal contractors to take affirmative action with respect to the employment of women and minorities, was enacted in an effort to correct the effects of past discrimination. As a government contractor, Sandia is obligated to practice affirmative action in its employment practices. Progress toward established goals is monitored by the Department of Energy and the

Department of Labor. AA goals are established for women, Asian Americans, American Indians, Blacks, and Hispanics. By definition, individuals not falling within one of the aforementioned ethnic groups are included in the non-minority category regardless of region or country of origin. There is no obligation to set AA goals for non-minorities.

The difference between EEO and AA can best be described as a continuum beginning with discrimination on the far left and progressing toward affirmative action on the far right. Discrimination on the far left of the continuum represents a position where factors such as gender, race, color, etc., are used as a basis for employment decisions. Such decisions are illegal. In the center, EEO represents a neutral position, where all individuals are given equal opportunity and employment decisions are made without regard to gender, race, color, etc. AA on the far right end of the continuum, however, represents a proactive approach to ensure equal opportunity for individuals who have, historically, been discriminated against, intentionally or unintentionally, in the workplace. Naturally, the right side of this continuum is the position where Sandia strives to be.

Based on these concepts, policy statements 1a and 1b represent statements assuring applicants and employees equal opportunity while statements 2a and 2b are statements of Sandia's commitment to achieve a diverse and balanced workforce — a commitment to affirmative action.

Underutilization, in and of itself, is not an indication of discrimination. When underutilization is identified for a particular job classification, this simply tells us that there are opportunities for Sandia to practice affirmatively in recruiting, selecting, and hiring qualified individuals to help Sandia reach its goal of full utilization. The full utilization goal is not a quota — quotas are illegal unless ordered by a court of law. For each job classification, goals are established based on the availability of qualified individuals for positions within the given job classification. Availability calculations are not based on the general population, but take into consideration several factors, including requisite skills to perform the jobs within a given job classification. Availability numbers are calculated based on 1990 US Census data, internal movements, and other factors.

It is not Sandia's intent, or desire, to look at individuals as members of a "group." Sandia's vision of becoming a national leader in the diversity arena has never been stronger. Achieving a diverse workforce is not only the right thing to do, but also serves as a vehicle for the individual and the Laboratories to realize their fullest potential. Diversity refers to the spectrum of differences in all people. When we speak of diversity at Sandia, it means creating a work environment in which individual differences are valued and utilized to improve our performance as a laboratory. Sandia's Affirmative Action Program is but one method by which such diversity will be achieved.

Mike Robles (3600)

Q: Please suggest to the Mailroom manager that Page B7 of the Sandia Directory include the proper way to get Federal Express mail: 1515 Eubank Blvd., SE, Albuquerque, NM 87123.

A: The addresses to be used for Overnight or Express Packages delivered to Sandia are listed on the inside front cover of the *Sandia Directory* under the title "Sandia National Laboratories Telephone Numbers and Addresses." They are referred to on Page B7 with the statement, "See inside front cover for Federal Express return addresses."

Providing address information on one page and referring to it on other pages avoids the problems associated with redundancy, making a change to the information in one place but forgetting to do it in another.

Herb Pitts (7100)

this month in the past...



30 years ago... The LAB NEWS featured Sandia's work on satellite instrument payloads that had been launched on Defense Department satellites to detect nuclear explosions in space. In the early '60s, Sandia and Los Alamos national labs began collaborating to develop these payloads. Los Alamos specialized in the design and development of radiation detectors, and Sandia designed and fabricated data-processing electronics and special equipment to test the payloads before launch. Cooperative work in this area continues between the labs today.

20 years ago... Sandia was gearing up in a big way to help solve the nation's "energy crisis." Don Shuster (now deceased), the Labs' chief energy coordinator, reported that Sandia had just submitted 21 energy research proposals to the Atomic Energy Commission (now DOE). The proposals covered just about every energy technology area, including solar, wind, ocean current, oil shale, coal, magma, and more. One of the proposals had the intriguing title of "In situ thermal stimulation of heavy oil wells by use of accident resistant, solidified radioactive waste canisters" (doesn't exactly sound politically correct today).

10 years ago... In a Sandia speech, George Keyworth, President Reagan's science advisor and director of the Office of Science and Technology Policy, made many points that appear to have been sound advice. "The time has come to broaden your bases, to begin to develop the kind of multidisciplinary research capability that will permit your participation in long-term defense R&D," said Keyworth. The former Los Alamos National Lab division leader also said that Sandia, in thinking of its mission, should remember that any R&D, including civilian, "that strengthens your technical base, that hones your tools, is going to make the Labs that much more competitive in a broader role."

Take Note

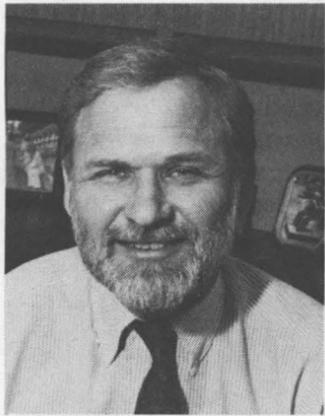
The La Mesa Community Day Care and Pre-School (United Way agency) and the La Mesa Elementary School PTA are hosting a safe, fun alternative to trick-or-treating. A Halloween Carnival and Harvest Festival will be Saturday, Oct. 30, at La Mesa Elementary School (7500 Copper NE), 2-7 p.m. Admission is free, but there is a nominal charge for some events. You can attend in costume and join in a costume parade. Activities include a trick-or-treat village, an arts and crafts fair, face painting, food booths, and other entertainment. Haunted house admission is a canned or boxed food item for the winter food drive. Denny Gallegos (7612) will be the entertainment master of ceremonies. For more information, contact Merri Lewis (6602) on 268-5025.

Junior League of Albuquerque's annual Holiday Olé/Holiday Gourmet, crafts and gourmet food fair, is Nov. 5-7 in the northeast exhibit hall of the Albuquerque Convention Center. Festivities include Celebration Olé at the Albuquerque Hyatt Regency, Nov. 5, 7 p.m.-midnight. Tickets are \$25 a person, which includes admission fees for all three days of Holiday Olé/Holiday Gourmet events at the Convention Center. Daily entrance fee is \$4 for adults, children under 12 free. Holiday Gourmet food samples are 50 cents per sample. Proceeds fund community projects through the Junior League. For more information and a schedule, call 247-1800.

Supervisory Appointments

TOM BLEJWAS to Director of Environmental Operations Center 7500.

Tom joined Sandia in 1980 as a member of the Containment Integrity Division, where he tested models of nuclear reactor containment buildings. He has worked in various departments that support the Yucca Mountain Project (nuclear waste storage project), including field and lab testing, performance assessment, and project management.



TOM BLEJWAS

Tom was promoted to supervi-

sor of the Geotechnical Projects Division in 1985. He was named acting manager of the Nuclear Waste Repository Technology Department in 1990, and in 1992, was promoted to manager of that department. Last April, he was named acting director of Center 7500 (then 7040).

"The new Environmental Operations Center was formed, in part, because our environmental restoration, waste management, and environmental protection work grew rapidly in the last two years," says Tom. "Unlike the rest of our ES&H organizations, 80 percent of our environmental operations is direct-funded."

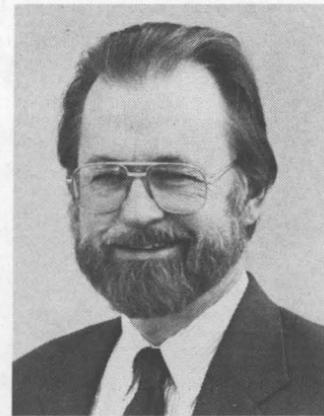
He has a BS in aerospace engineering from Princeton University, an MS in mechanical engineering from the University of Southern California, and a PhD in civil engineering from the University of Colorado. Before coming to Sandia, Tom worked for Oklahoma State University, and

Martin Marietta Aerospace, and was an officer in the Air Force.

ARLAN ANDREWS to Manager of Advanced Manufacturing Initiatives Dept. 2902.

Arlan transferred to Sandia from AT&T Bell Labs in 1989 as a mechanical engineer in the Firing Set and Mechanical Design Department.

In 1992, he was selected as the American Society for Mechanical Engineers (ASME) White



ARLAN ANDREWS

House Fellow and went to Washington to serve 14 months in the Executive Office of the President, Office of Science and Technology Policy. While there, he was a member of the Advanced Manufacturing Working Group. During this assignment, he reported to Sandia's

Technology Transfer Department and then to the Government Relations Program Office.

Arlan has a BS and an MS in mechanical engineering and an ScD in engineering, all from New Mexico State University. Before joining Sandia, he worked for AT&T Bell Laboratories at White Sands Missile Range and at Greensboro, N.C., and for AT&T Consumer Products Laboratories in Indianapolis. He is a Registered Professional Engineer and a member of ASME, Mensa, Sigma Xi, and Pi Tau Sigma.

WARREN COX to Manager of Environmental Restoration Project Dept. 7581.

Warren has been a member of the Environmental Impact and Restoration Department since he joined Sandia in 1991. He was acting supervisor of that division from



WARREN COX

October 1991 to February 1992. He is a hydrologist and specializes in technical program management. He was named acting manager of Dept. 7581 (formerly 7051) in April.

He has a BA in business from California State University and an MS

in hydrology from the New Mexico Institute of Mining and Technology (NMIMT).

Before coming to the Labs, he worked for Reynolds Electrical and Engineering Company, where he was special projects coordinator responsible for site characterization and performance assessment activities for Nevada Test Site Area 5. From 1988 to 1989, he was a research hydrologist for Fenix and Scisson Nevada, and assisted the US Geological Survey project leader in developing and implementing scientific studies for the near-surface characterization of Yucca Mountain. From 1986 to 1988 he was soils laboratory manager for Daniel B. Stephens and Associates and a staff research hydrologist at NMIMT. ●

Sandia News Briefs

Sandians Have Major Roles in Supercomputing '93, Nov. 15-19

Several Sandians have major roles in next month's Supercomputing '93 conference, the sixth in a series of national meetings on high-performance computing and communications. Dona Crawford, Director of Scientific Computing Center 1900, is program committee chair, and Ray Cline, Distributed Computing Dept. 1952 Manager, is a member of the program committee. Richard Allen, Applied & Numerical Mathematics Dept. 1422 Manager, is in charge of the conference's education committee. Other Sandians are speaking and leading sessions. Supercomputing '93 will be held Nov. 15-19 in Portland, Ore. It is sponsored by the Association for Computing Machinery Special Interest Group of Computer Architecture and the IEEE Computer Society Technical Committees on Supercomputing Applications and Computer Architectures. For registration and other information, contact Frank Bielecki (1951) at Sandia/California on 510-294-2674.

Annual Secretarial Conference Scheduled Nov. 1-3

The 1993 Sandia Secretarial Conference is scheduled for Nov. 1-3 at the Sheraton Old Town Hotel. Registration is at 7:45 a.m., and the conference starts at 8:15. Information and registration packets were sent to secretaries in early October. The conference team is led by Tisha Romero (6514). The keynote speaker, psychologist Janet Lapp, will present "Plant Your Feet Firmly in Mid-Air — How to Stay Balanced in Changing Times." She will also make this presentation at Sandia at the Technology Transfer Center (Bldg. 825) Nov. 1 and 2, 1:30-3 p.m. each day. Dr. Larry Clevenger, Director of Occupational Medicine Center 3300, is the host for the TTC presentation, to which all Sandians are invited.

Sandians to Work with UNM Minority Students

Michael Prairie and Jim Pacheco of Sandia's Solar Thermal Technology Dept. 6216 will be working by January with five to seven minority students at the University of New Mexico on research and treatment of hazardous waste. Also working with the students will be UNM chemical engineering professor Dbhaya Datye. The National Science Foundation (NSF) has awarded a grant to UNM for the program. Says Datye, "By working with these students, they will get one-on-one contact with professors, graduate students, and research early in their college careers." Students will work in a laboratory at UNM's Farris Engineering Center, in one of the labs at the Advanced Materials Laboratory at University Research Park, and at Sandia.

Joan Woodard Appointed Trustee on Lovelace Institutes Board

Joan Woodard, Director of Environmental Programs Center 6600, is one of 10 new trustees appointed recently to the Board of the Lovelace Institutes (formerly Lovelace Medical Foundation). Lovelace Institutes is a family of biomedical and health research organizations that investigates the relationship of the environment to human health. Its scientists work in environmental toxicology, the effects of sunlight on the skin and the immune system, the effects of smoking, and the effects of substance abuse on the human body.

Al Narath Named AAAS Fellow

Sandia President Al Narath was recently named a Fellow of the American Association for the Advancement of Science (AAAS) for his contributions to solid-state physics and for administration of numerous aspects of science and technology. Each year, the AAAS Council elects members whose "efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

Secretary O'Leary Signs Energy Agreement with Russia

The US and Russia have agreed to exchange information, technology, and research in areas related to energy efficiency and alternative sources of energy. Secretary of Energy Hazel O'Leary and Russian Minister of Fuels and Energy Yuri Shafrenik signed an agreement in Moscow on Oct. 1. In addition to the exchange of energy information, technology, and research, the US and Russia will conduct technology and resource demonstrations and energy demonstration and commercialization projects. Sandians who want more information about this agreement can contact Ken Bergeron (6907) on 844-2507.

Sandia Singles Club Meets Nov. 1

The next meeting of the Sandia Singles Club is scheduled for Monday, Nov. 1, 5 p.m., at the Coronado Club. The club roster now includes 150 members. If you're single and want to join members in planning upcoming events and parties for the holiday season, come to the meeting or contact Sandy Culler (1323) on 821-4143.

Send potential Sandia News Briefs to LAB NEWS, Dept. 12660.

Take Note

As a safe Halloween alternative, consider taking the kids to the Halloween Extravaganza to benefit Area 5 Special Olympics on Sunday, Oct. 31, 5-10:30 p.m., at the Holiday Inn Pyramid. Activities include game booths, clowns, jugglers, a haunted house, fortune teller, face painting, prize for best costume, music by Stoic Fame, and candy for everyone. Volunteers are needed to operate the booths. For information, call 344-7404.

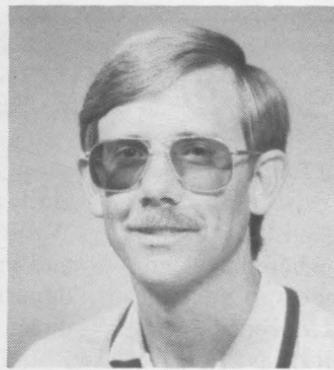
MILEPOSTS

LAB NEWS

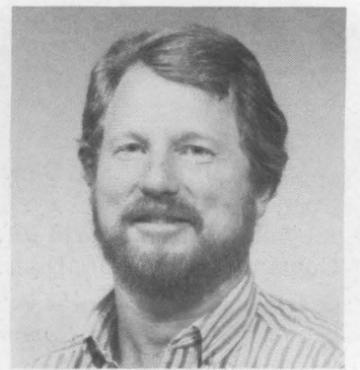
October 1993



Howard Devaney
2641 45



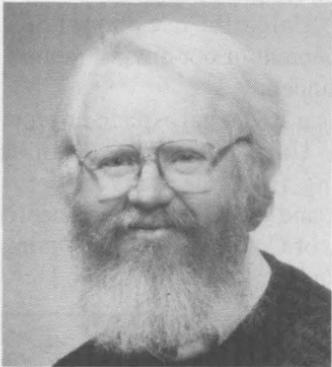
David Glowka
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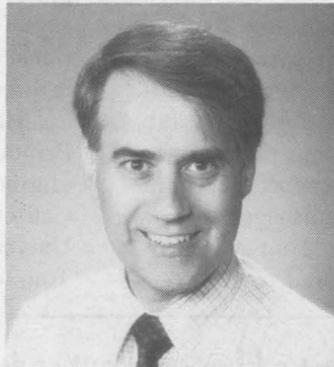
Don South
2883 25



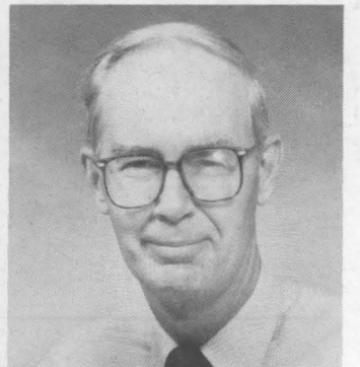
John Arnold
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Pete Roth
6213 15



Art Hull
8454 25



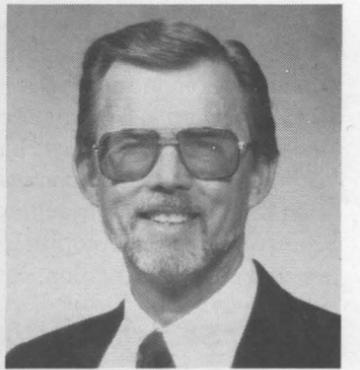
John Jackson
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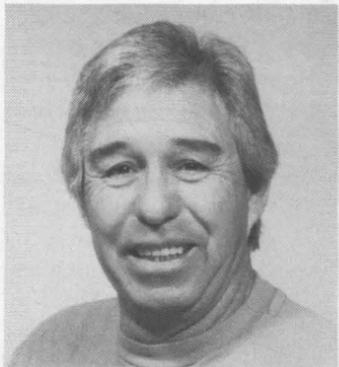
Luther Rivera
10204 30



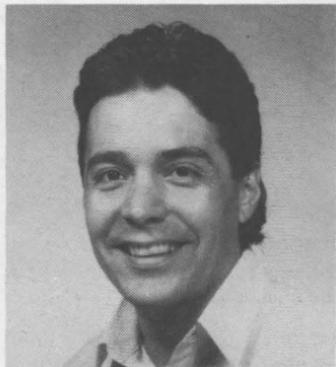
Joanne Volponi
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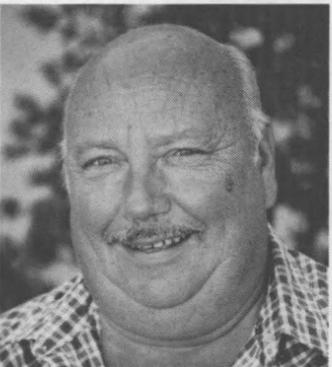
Ted Schmidt
6502 25



Salomon Moya
7818 25



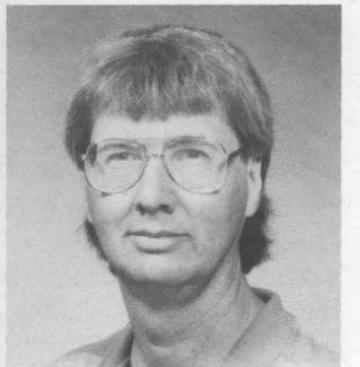
Dave Trujillo
2664 15



Donald Fulton
6343 35



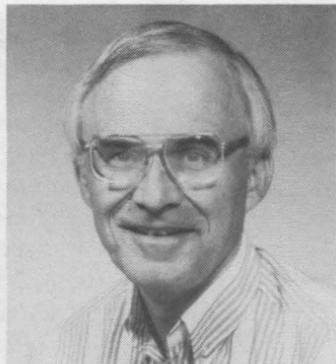
Terry Porter
8114 15



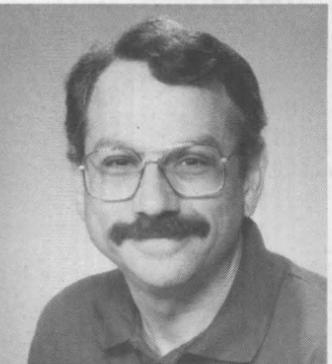
Kerry Sturgeon
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Patty Jojola
7211 15



Dan Blazek
2615 30



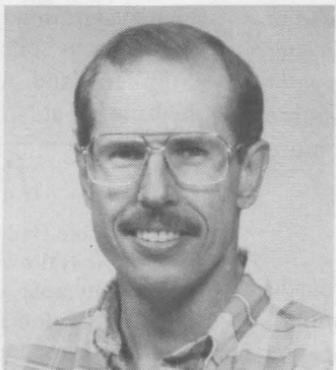
Steven Goods
8714 15



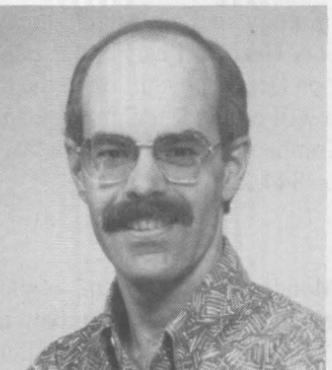
Marylee Adams
12900 30



Paul Plunkett
2252 15



Tom Cabe
2615 20



J. R. Turner
9231 15

Take Note

Holiday bazaars and craft shows that benefit non-profit organizations will be listed in the LAB NEWS on a space-available basis during the coming holiday seasons. If you have an event that you would like listed, mail the information to Janet Carpenter, Employee Communications Dept. 12660, or fax on 844-0645.

Woodcrafts, jewelry, wreaths, decorated baskets, a bake sale, and more will be offered at the **Wreaths and Roses Holiday Bazaar** Nov. 6-7, 10 a.m.-4 p.m., at Georgia O'Keeffe Elementary School (11701 San Victorio NE). The bazaar is organized by the Peppertree/Royal Oak Residents Association as a fund-raiser for both the school's

Parent-Teacher Association and the residents' association. For information, contact Jaye Bullington (5951) on 299-1433.

Retiring and not shown in LAB NEWS photos: Curtiss Moses (5153), 37 years.

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

Deadline: Friday noon before week of publication unless changed by holiday. Mail to Dept. 12660 or fax to 844-0645.

Ad Rules

1. Limit 20 words, including last name and home phone (the LAB NEWS will edit longer ads).
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.
13. "Work wanted" ads limited to student-aged children of employees.

MISCELLANEOUS

SOFA & CHAIRS, matching, attractive southwest colors/earth tones, w/oak trim, 3 yrs. old, good condition, \$260 OBO. Deller, 298-5705.

ELECTRIC RANGE, self-cleaning, w/hood, gold, \$125; mattress, box spring & frame, full-size, \$25; two drafting boards, \$10/ea. Mahmud, 281-0221.

ROBE, southwestern pattern, size large, brand new, great Christmas present, \$75; "Juice Tiger" juicer, slightly used, \$45. Ayers, 888-8922.

GUN, 9mm Steyer GB, semi-auto, DA, 18 + 1 capacity, two clips, great condition, \$350 cash. Davis, 298-3342.

BED FRAME, full-size, w/maple bookcase headboard, \$50. Poulsen, 265-0566 after 5 p.m.

BETA VCR, Sony Model SL-5000, not working, best offer. Smiel, 865-9081.

GE REFRIGERATOR, frostless, 18 cu. ft., brown, \$150. Newman, 266-6928.

FUTON, 6-ft., no frame, good condition, \$80; work desk w/drawer, two wells, \$25. Eckles, 843-8686.

GRAND PIANO, Yamaha Conservatory, 6' 3", purchased new, light usage, professionally maintained, excellent sound, action, and investment. Ginn, 883-0004.

OSCILLOSCOPE, 5Mhz BW, triggered sweep, portable, \$75; digital multimeter, 3-digit resolution, portable, AC-powered, \$35. Stuart, 265-7315.

VCR, portable VHS, battery or AC power, recently cleaned, w/simple handheld camera, \$150. Spears, 266-9782.

TV, portable, B&W, 13-in., works, cheap. Swahlan, 292-3598.

ELECTRIC RADIATOR, De Longhi, oil-filled, in original box, w/instructions, \$25; chrome closet divider/extension rod, \$8. Wagner, 823-9323.

REFRIGERATORS, three, apartment-size, good condition, \$50, \$120, & \$130; office desks, ideal for garage storage, you pick up, free. Chavez, 842-6374.

GAS RANGE, Tappan, w/dual ovens, \$50. Stromberg, 299-8591.

HEADBOARDS & FRAMES: twin-size, \$25; full-size, \$35. Both maple finish, adjustable, on wheels. Stang, 256-7793.

WATERBED, king-size, waveless mattress, 12-drawer underdresser frame w/headboard, padded rails, liner, heater, \$150. Brooks, 265-8612.

CHRISTMAS TREE, artificial, 6-ft., flocked, \$15; stereo system w/speakers, \$25. Miyoshi, 821-9118.

COUCHES, matching, vertically striped earth tones, nubby material, light oak trim, excellent condition, \$600 OBO for the pair. Hallman, 899-2336.

DISHWASHER, GE Model GSC402W, convertible, white, 3-1/2 years old, good condition, \$125. Lee, 237-9248.

WHEATGRASS ELECTRIC JUICER, juice drains into glass, average portion prepared in three minutes, no maintenance needed, good condition. Sparks, 880-0324.

EPSON PRINTER, FX-185NLQ, \$95. Dietzel, 294-4702.

COMPUTERS: Compaq 386 DX20, portable; Intel 386DX16 tower, many features; \$500/ea.; Graphlex camera, 2-1/4 x 3/1-4, \$400 OBO. Scott, 281-4332.

CAMP TRAILER, 17-ft., well-built, good ground clearance, sleeps six, water heater, furnace, oven, commode, new tires, \$1,900 OBO. Schaub, 865-8807.

SOFA, L-shaped, gold fabric, dark wood, w/two matching tables, good condition, \$250 OBO. Bullington, 299-1433.

'78 POP-UP CAMPING TRAILER, Starcraft, sleeps six, excellent condition, like new, \$2,500. Miller, 822-0008.

WEAVING LOOM, Gilmore, 40-in., four-harness, bench w/drawer, four reeds, \$1,000; Whirlpool gas stove, 30-in., continuous cleaning, \$125. Ambabo, 266-2383.

PUPPIES, Golden Retriever, AKC-registered, seven weeks old. Ask for Louis. Chabai, 268-7084.

HAND SCANNER, Logitech Scanman 256, software included, \$220. Luther, 293-4462.

TOY KITCHEN SET, Little Tykes, refrigerator, sink, oven, dishes, and artificial food, \$80. Baca, 867-5402.

MAC-IN-DOS FOR WINDOWS, IBM to Mac exchange software, never used; modem, Atari 1200-baud, \$10. Compton, 899-0679.

SWIVEL ROCKER, light tan, very comfortable, excellent condition. Stoever, 296-3717.

TRAVEL CRIB, Fisher Price, \$50; Petrus double stroller, \$60; Fisher Price rocking horse, \$8. Hammond, 294-2045.

ARTIFICIAL X-MAS TREE, \$15; two metal bed frames, twin and full size, \$10/ea; landscape rake, \$10. Harris, 299-4559.

GOLF PULLCART, Bagboy lightweight, excellent condition, \$45. Underhill, 294-5774.

PADDED RAILS: for queen-size waterbed, gray, \$15; for super single waterbed, brown, \$10. Lucero, 296-2473.

PUPPY, Chow-cross, female, red, curled tail, spotted tongue, 13 wks. old, free. Hrivnak, 898-3886.

CTS EXERCISE MACHINE, w/stepper; 12-string guitar; Peavy column speakers, one pair, 4x10 each; two couches; crimping irons. Rhoden, 293-5301.

ROWER/EXERCISER, Sears Lifestyle 2000 Multifunction Gym, \$75; vaporizer, \$5. Filter, 823-1232.

SEASONED WOOD, 3/4-cord, you haul, \$75; downhill skis, Dynestar freestyle, 160cm, \$50; woman's ski boots, new, size 8-1/2, \$40 OBO. Purcell, 293-5410.

MEAT SLICER, electric, domestic-type, 8-in. wheel, \$40; electric RotoFlo paint sprayer, \$10; electric ice cream maker, \$5. Trace, 292-3118.

MATTRESS & BOXSPRING, king-size, Sealy Posturepedic, w/frame, 1 yr. old, \$500; gun, PT-99-AF, 9mm, semi-automatic, w/holster, two clips, \$350. Furry, 281-1024.

SKIS, 180cm., Kneissel Formel Noir, w/Look 182 bindings, and woman's ski boots, size 6-1/2 to 7, \$80. Hietala, 867-9577.

FISHER STEREO SPEAKERS, two, 18-in. woofer, 4-in. mid-range, 3-in. tweeter, 32"H, \$90 for pair, \$115 w/cabinet. Carpenter, 294-1372.

STEEL WINDOWS, three, \$15/ea.; wood sashes, \$5/ea.; oak painted desk, \$50; upright freezer, \$50; Lowery Magic Gennie 44 organ, \$550. Lanoue, 877-7902.

COMPUTER, 8088, 30MB HD, monitor, mouse, software, \$195; Epson 9-pin printer, 2-yr. warranty, new, unopened, \$110. Dunivan, 296-3937.

HÖHNER BANJO, 5-string, fancy, w/case and shoulder strap, almost new, \$150. Bazar, 898-1467.

BUILDINGS AND ACCESSORIES, discontinued Dicken's Village (Dept. 56), will sell for less than Green Book price. Eaton, 293-0166.

DOG, shepherd-lab cross, two-year-old, great personality, enjoys digging, owner moving, free to good home. Erwin, 888-1659.

WASHER/DRYER, Kenmore, gas, hi-capacity, safety switches, 9 months old, paid over \$1,000, sell for \$600 OBO. Sparling, 821-7267.

VIDEO EDITOR, Videonics DirecED Plus, works with any VCR, generates titles and special effects, \$300 OBO. Montoya, 296-0454.

USED CARPET, 100 sq. yds. plus, beige/light-sand color, good condition, \$250 OBO. Plummer, 828-3028.

KITCHEN TABLE, glass top, white wicker design, w/four cushioned chairs, bought at American Furniture, like new, \$250. Atkins, 821-7989.

GOLF CLUBS, Ping Eye 2, Black Dot 1,3-LW, \$525; Hogan Apex, 3-SW, \$235; Pinseeker, 1-PW, \$225. All excellent condition. Feng, 275-6639.

WASHER/DRYER, Lady Kenmore, apartment size, \$200. Gunkel, 255-9667.

MACHINE TOOLS, Atlas Metal lathe, 6-in., three chucks/tooling, \$400; Enco table mill/drill accessories, \$500. Bear, 881-7128.

BENCH DRILL PRESS, Delta Model 14-040, 14-in., like new condition, new \$360, sell for \$225. Zownir, 256-3753.

COSMETIC TABLE, French white, gold trim, \$75; speaker phone, \$5; answering machine, \$5; trailer jack stands, three, \$10. Hayes, 299-1200.

BAR STOOLS, four, white, \$35/ea. or all for \$125; screen doors, two, 36-in.; plywood, odd sizes; steel shelves, \$2/ea. Garcia, 888-3686.

GARAGE SALE, Sat. Oct. 30, 9 a.m., 7507 Hirsch, KAFB, toys, clothes, VCR, more; Amiga computer, \$200. Kern, 256-4965.

ELECTRICAL WIRE, approximately 5,000 ft., mostly #10 stranded, some #8, some #6, one roll 2/0, \$600 firm. Stove, 298-4641.

COUCH & LOVESEAT, matching, pillow back, medium brown, like new, \$325. Luikens, 881-1382.

TRANSPORTATION

'90 GEO STORM, white, AT, PS, PB, AC, AM/FM stereo, runs great, \$9,000 OBO. Wallner, 344-1320.

RIVER BOAT, 20-ft., 75-hp OB jet, w/trailer, \$2,500. Gunkel, 255-9667.

'92 MAZDA 323, 35K miles, 5-spd., excellent gas mileage, AC, stereo, optional 7-year warranty. Ask for John or Charles. Stuppy, 898-4720.

'93 PLYMOUTH VOYAGER, V6, AC, AT, tilt steering, cruise, tinted windows, integrated child seats. Sanchez, 831-3584 after 7 p.m.

'86 TOYOTA CAMRY LE, loaded, excellent condition, \$5,600. Adams, 823-1845.

WOMAN'S BICYCLE, AMF 26-in., 3-spd., good condition, \$25. Dailey, 299-2284.

BICYCLES: Basso Racing, 56cm, w/Campy Athena Grupo, \$500; Nishiki sport, 19-in. frame, 18-spd., \$140. Chavez, 291-9455.

'87 CAMARO, T-tops, alarm system, stereo, new tires, V8 engine, AT, low miles, must see, \$8,500 OBO. Sparling, 281-7267.

'90 FORD THUNDERBIRD, sporty red, 30K miles, AT, many factory options, all records, excellent condition, book value \$9,150. Dunn, 293-5170.

'89 GRAND CARAVAN SE, 5-spd., dark blue, luxury package, 20-24 mpg, 62K miles, hitch, \$9,500 OBO. Campbell, 296-5792.

'82 CHEV. PICKUP, 250, 6-cyl., 3-spd., runs great, \$2,300 OBO; '78 Honda Accord, parting out or all for \$200. Gurule, 344-7619.

'77 VOLVO 244 DL, 4-dr., standard, AC, AM/FM cassette, 154K miles, clean, runs right along, \$1,950. Payne, 291-0124.

'79 DODGE 024, fastback, 4-cyl., 4-spd., original owner, good condition, \$800. Byers, 298-5189.

'85 CHEV. PICKUP, Scottsdale package, C-20, 4-spd., 350, AC, one owner, excellent condition, \$4,650. Green, 898-3791.

BICYCLE, Schwinn Suburban, 5-spd., new 27-in. knobby tires, good Tech Area transportation, \$60. Kaiser, 828-1660.

'92 S-10 BLAZER, Tahoe, 2-dr., 4WD, 5-spd., 26K miles, AC, PS, PW, maintenance records available, under book, \$15,900. Tweet, 822-9357.

'83 HONDA 450 NIGHTHAWK MOTORCYCLE, windshield, saddlebags, luggage rack, cover, polar hands, owner's and shop manuals, \$1,000. King, 821-4692.

'87 DODGE CARAVAN LE, AT, AC, power everything, AM/FM cassette, tilt, luggage rack, new tires, good condition, \$6,200. McDowell, 888-9485.

'87 HONEY MOTOR HOME, Ford 460 V8, 5K original miles, self-contained, 24-ft., \$21,000, consider trade for super cab pickup and trailer 5th wheel. Martin, 296-8154.

'92 GEO METRO LSI, 2-dr., 5-spd., AC, stereo, 15K miles, 50 mpg, excellent condition, below book, \$6,750. Konkel, 866-0304.

'80 FORD PICKUP F150, new brakes and tires, bedliner, toolbox, \$2,995. Luther, 293-4462.

'87 FORD RANGER, 4x4, 4-cyl., PS, PB, super stereo system, one owner, excellent condition, \$5,000, negotiable. Orzel, 299-4164.

'82 SOUTHWIND, 35-ft., Chev. 454, 45K miles, two ACs, storm windows, 6.5 generator, micro, Michelin tires, center aisle, more. Marker, 298-3985.

RACING BIKE, Gios Torino, 54.5cm, 14-spd., all Campy equipment, like new, few miles, \$950 OBO. Schaub, 865-8807.

'87 DODGE CARAVAN SE, 4-cyl., 2.6L engine, tinted windows, running boards, 105K miles, \$5,450. Hammond, 294-2045.

MOUNTAIN BIKE, woman's, Diamond Back, 20-in. frame, 21-spd., green, ridden 3 times, new cost over \$300, asking \$250. Will hold until X-mas. Pettit, 292-0789.

BICYCLES, Schwinn, 10-spd., red, \$50; Schwinn Cruiser, black, \$50. Harris, 299-4559.

'86 DODGE D-50 RAM PICKUP, long bed, w/camper shell, 5-spd., 4-cyl., new front brakes, \$2,700 OBO. Greene, 299-6302.

'69 VW BUG, good tires, good body, running condition, \$600 OBO. Aragon, 888-3473.

'81 MAZDA GLC HATCHBACK, 3/4 light-second (142K miles), gray, good mechanical condition, reliable, \$948. Hietala, 867-9577.

'87 HONEY RV, 34-ft., fully-equipped, tow bar, twin rear beds, generator, refrigerator, freezer, clean, ready to go, \$20,000. Spatz, 299-0410.

'82 CUTLASS SUPREME BROUGHAM, coupe, AC, AT, new tires, excellent condition, \$2,100. Dramer, 821-8107.

UNICYCLE, used once, make offer. Baca, 867-5402.

'90 JEEP CHEROKEE LAREDO, 4.0L engine, AM/FM stereo cassette, off-road and towing packages, power seats and windows. Brooks, 299-1884.

'90 EAGLE TALON Tsi, turbo, all-wheel drive, immaculate, white/black, extended warranty, extras, 49K miles, \$10,950. Adelman, 899-8699.

REAL ESTATE

40 ACRES, near Rush, Colorado, \$21,000; 40 acres near Thatcher, \$10,700. Might consider trade. Sparks, 880-0324.

3-BDR. MOUNTAIN HOME, Cedar Crest, approx. 2,300 sq. ft., 2-story, 2 baths, prime location, fabulous views. Wilde, 281-4511.

2-BDR. MOBILE HOME, 16 x 60, all appliances, washer & dryer, cathedral ceilings, deck, skirting, in NE. Ask for Eloy. Garley, 828-1741.

3-BDR. HOME, 1-3/4 baths, 2-car garage, 1,820 sq. ft., five miles from SNL, assumable, no qualifying, FHA, \$132,000. Dawson, 292-7969.

LUXURY HOME, 2,700 sq. ft., 180-degree views from the bluff, three miles to downtown, 1,250 sq. ft. basement, 5,500 sq. ft. total, looks new, \$169,000. Castillo, 836-4213.

WANTED

ELECTRONIC KEYBOARD, for former recreational piano player seeking to reclaim skills quietly in limited space. Kercheval, 1-864-6549.

METAL POST OFFICE BOX FRONTS, old, groups or individuals, for collector. Poulsen, 265-0566 after 5 p.m.

BABY NECESSITIES, car seat, crib, etc. You know what I need better than I do. York, 828-9505.

BICYCLE, for adult, any style, cheap; "Cowboy Junkies" tapes. Roeschke, 266-8988.

TI/99-A CARTRIDGES, for kids, will buy if cheap. Barnette, 292-5186.

PORTABLE WHEELCHAIR, will buy or rent. Chavez, 299-5102.

MOVING BOXES, all sizes. Eaton, 293-0166.

EXHIBIT EXPLAINERS, for the Explora Science Center, First Plaza Galleria. Moss, 768-1142.

BATHROOM SINK, round, white, in good condition. Lucero, 296-2473.

LIVESTOCK WATER TROUGH, galvanized, old, need not even hold water. Marrs, 281-9889.

SOMEONE to share home, non-smoker, nice residential area, mountain views, separate, private apartment, \$350 plus 1/2 utilities. Smith, 298-7365.

SHARE-A-RIDE

CEDAR CREST VANPOOL, has openings, Frost Rd., N-14 Tijeras. Yelton, 281-2893 or Burns, 281-3922.

LOST & FOUND

FOUND: Man's black Casio watch, on road near Area 4. Call Harry to claim. Ives, 845-7092.

Sandia in the News

This is a periodic column listing a selection of print and broadcast news reports about Sandia. It is provided by Media Relations Dept. 12630 to give Sandians a sense of what is being said about Labs work in national and international media.

The *New York Times* published a long article Oct. 24 about Sandia and its efforts under Martin Marietta to convert from primarily a weapons lab into a facility that can increasingly help the nation's economy. The piece describes the Labs' technical strengths, tech transfer successes, manufacturing experience, and some problems Sandia faces in working with industry.

Sandia's micro steam engine (world's smallest steam engine) has been a hit in both the popular and trade press. Some publications with recent articles: *Science News*, *San Francisco Examiner*, *Business Week*, *Chicago Tribune*, *Ottawa Citizen*, *The New York Times*, *Vancouver Times*, and the British national daily *The Independent*.

For Your Benefit

Open Enrollment Ends Nov. 5

Benefits Open Enrollment 1994 is in progress and will continue through 6 p.m. (New Mexico time), Friday, Nov. 5.

Open Enrollment gives active and retired Sandians the opportunity to sign up for the health plan of their choice. Enrollment is being conducted by a phone system (information below). If you want to switch plans, this is your chance. Employees and retirees who don't enroll in a plan by Nov. 5 will remain in their current plan.

Enrollment booklets and a personal data sheet showing current health care coverage and dependent information have been sent to all employees and retirees. If you have not received your booklet or data sheet, call Richard Garcia (3543) on (505) 845-9704.

To access the phone enrollment system, dial 845-7957 (1-800-242-8456 first, if out of Albuquerque) and enter your four-digit personal identification number (PIN). Your PIN is the last two digits of your birth year and the two digits of your birth month.

Meetings Scheduled

The following Open Enrollment meetings are scheduled for next week (Nov. 1-5). Please take your enrollment booklet to the meetings you attend.

California Meetings:

Foundation Health Maintenance Organization (HMO) (employees and retirees): Monday, Nov. 1, Bldg. 904 auditorium, 9-9:30 a.m.

Kaiser HMO (employees and retirees): Monday, Nov. 1, Bldg. 904 auditorium, 9:30-10 a.m.

Reimbursement Spending Account: Monday, Nov. 1, 8-9 a.m., Bldg. 904 auditorium.

New Mexico Meetings:

Lovelace HMO, employee meetings (Lovelace Health Plan): Monday, Nov. 1, 8-9 a.m.; Wednesday, Nov. 3, 9-10 a.m.; Friday, Nov. 5, 1-2 p.m.; all meetings at the Technology Transfer Center (TTC).

Lovelace HMO, retiree meetings: Monday, Nov. 1, 6-7 p.m.; Tuesday, Nov. 2, 10-11 a.m.; both meetings at the W. R. Lovelace Educational Building, 5400 Gibson Blvd. SE (directly across from the International House of Pancakes). For additional directions, call Jaralyn Carda on 262-7510, ext. 8026.

Reimbursement Spending Account: Monday, Nov. 1, 9-10 a.m., Technology Transfer Center (Bldg. 825).

National Public Radio's nightly news magazine "All Things Considered" ran an interview with primary micro steam engine inventor Jeff Sniegowski (1325).

Sandia's working analytical model of an internal combustion engine, which was on display at the White House when President Clinton recently unveiled a government alliance with the "big three" automakers, showed up in CNN's coverage of that event.

The Wall Street Journal and *Business Week* printed pieces about Sandia's work on using precise sensor-guided lasers so surgeons can accurately determine the depth of burned skin and efficiently remove it.

Sandia's WeDID program to dismantle nuclear weapons and recycle valuable parts continues to get coverage. Recent pieces are in *Science* magazine and the *San Francisco Examiner*.

The Houston Post highlighted the Labs' energy R&D and work with industry, in particular a Sandia-Chevron project to develop a downhole seismic tool to map geological formations. Chevron official Bjorn Paulsson praises Sandia scientists' experience in building tools for geothermal operations and with metallurgy in "hostile environments."

A piece in *Fortune*, "Why Kids Love Computer Nets," explains how some San Francisco Bay-area seventh and eighth graders have consulted with Sandia/California scientists via e-mail. It's all part of a program, the article explains, designed to put students in contact with scientists.

Jeannette Lloyd (6215) is quoted in *R&D* magazine's piece about process monitoring with smart residual gas analyzers.

Government Computer News printed a detailed feature about Sandia's Virtual Reality Lab compete with a color photo and lots of quotes from Sharon Stansfield (2121).

Coronado Club Activities

Stompin' Good Time: Poorboys Tonight!

AUTUMN DAYS grow cooler, but entertainment like this evening's (Oct. 29) makes for "hot times" as the Isleta Poorboys take the stage once again. The Club menu will "fuel you up" for dancing (or some spirited toe-tapping): New York sirloin strip (\$11.95), grilled halibut (\$10.95), or the almost-world-famous all-you-can-eat buffet for \$6.95. Dinner's served 6-9 p.m., and the 'Boys play from 7 to 11. Reservations: 265-6791.

DON'T COUNT the members of Trio Grande when they're on stage Friday evening, Nov. 5, or you might think your eyes are deceiving you. This four-member "trio" plays country and western specialties from 7 to 11 p.m. Menu specialties will be available, too: a 14-oz. T-bone steak (\$11.95), grilled or Cajun catfish (\$10.95), or the all-you-can-eat buffet (\$6.95). Save yourself a place — call 265-6791 now for reservations.

SPOOKS GALORE — That's what's in store for the children's Halloween party, Sunday evening, Oct. 31, from 6 to 9 p.m. There'll be games and prizes, a low-cost buffet, a haunted house, and a costume parade. Admission is \$1.50 for members' children (12 and under), \$2.50 for child guests, and free for all moms and dads (members or not) who come with the kids.

IT'S NONE TOO EARLY to plan for the Club's always-popular New Year's Eve festivities. Tickets go on sale Monday, Nov. 1: \$25/couple for members, \$35/couple for members' guests. It's gonna be some party! Buy your tickets and reserve your place (when making your plans, remember that there are no refunds on tickets).

Favorite Old Photos



MY FAMILY'S first excursion into New Mexico is the occasion of these photos. In the summer of 1930, my father Charles Caskey and his brother Lowell left the flat farm land of Stratford, Okla., for the mountainous wilds of Cowles, N.M., on the edge of what is now the Pecos Wilderness. Charles is also the father of Billy Caskey (9616). The photo above shows the camp and the '28 Chevy that got the travelers there, and the one at right shows Dad leaning suavely against a tree. This was the year before he got married. Little did he realize the trend he was starting by visiting New Mexico — Billy came to Albuquerque in 1956, I came in 1964, and Dad and Mom came in 1973 after his retirement. In the summer of 1960, Dad, Billy, and I camped at the same spot in Cowles. We just about froze at that 8,000-foot altitude — just as Dad had on his visit in 1930!

David Caskey (9604)

