



WINTER'S COMING — An early December coating of snow on the Sandia Mountains brings welcome thoughts of winter sports and the coming holiday season. A snowstorm hit the Sandias and much of New Mexico, but not Albuquerque itself, last week before heading east to

intensify into an ice storm in the Carolinas and snow for much of the Northeast. The clouds parted just long enough on the morning of Dec. 4 for *Lab News* photographer Randy Montoya to get this wintry image of the Sandias from the Elena Gallegos Picnic Area east of Tramway.

Sandia's Al Zelicoff searches for clues to Soviet super smallpox strain

New details of 1971 outbreak provide unsettling evidence

By John German

The evidence mounting against the Russians isn't definitive. But it's enough to make Labs senior scientist Al Zelicoff (5320) and other non-proliferation experts uneasy.

For almost a year, Al has been trying to track down what he believes is a virulent strain of weaponized smallpox tested by the Soviet Union in the early 1970s — a biological weapon Russian officials today won't acknowledge even when confronted with evidence from their own archives.

The international arms control community wants the Russian government to disclose details about the strain, which Al believes is a particularly potent modification of the virus, so the rest of the world can defend itself from it.

Without the genetic code of the strain, he says, preferably gleaned from a live sample provided by the Russians, doctors and pharmaceutical companies are unable to develop vaccines to blunt the virus' effects should it fall into the wrong hands.

Last week, Al appeared on ABC World News Tonight and NBC Nightly News and was interviewed by a *US News & World Report* reporter about the alleged super strain.

The missing strain became newsworthy early last week when the CIA announced it was following leads provided by an informant who claimed a late Russian bioweapons researcher might have given the smallpox strain to Saddam Hussein's government during a visit she made to Iraq in 1990.

A report published in June by the Monterey

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Sandia's 'being there' visual hardware enhances long-distance collaborations

Huge image data sets examined interactively yet remotely

By Neal Singer

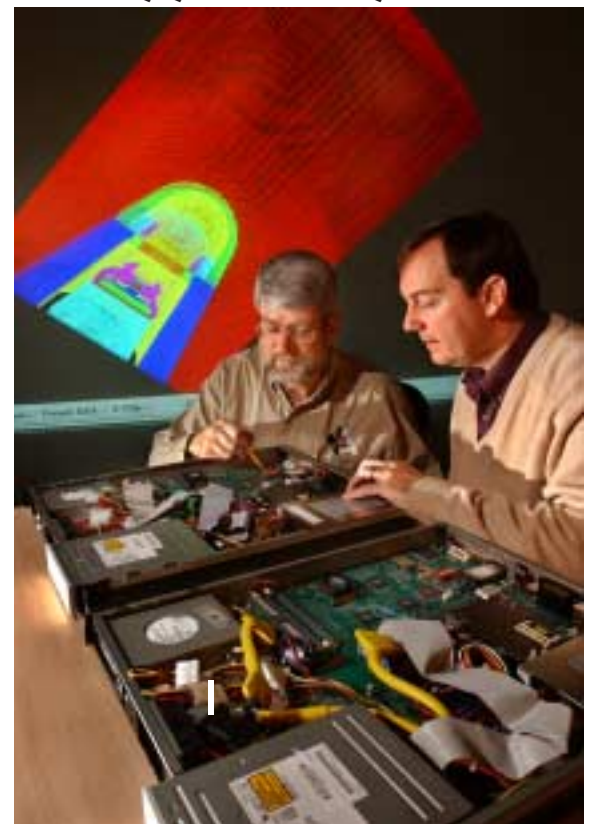
If a surgeon in New York wants the opinion quickly of a specialist in Cairo, she probably would send medical X-ray or MRI files as e-mail attachments or make them accessible in Internet drop zones.

But jointly viewing and interacting with the images — a more effective way to discuss problems — currently takes minutes for each turn of a visualization. This could be too time-consuming to help a patient on the operating table. In less extreme cases, with medical specialists being paid by the clock, the time delays during extensive consultations could soon lead, as the late Senator Everett Dirksen put it, to real money.

Now a team of Sandia engineers has applied for a patent on interactive remote visualization hardware that will allow doctors (or engineers, or oil exploration teams, or anyone else with a need to interact with computer-generated images from remote locations) to view and manipulate images as though standing in the same room. The lag time between action and visible result is under 0.1 second even though the remote computer is thousands of miles away.

"The niche for this product is when the data set you're trying to visualize is so large you can't move it, and yet you want to be collaborative, to share it without sending copies to separate loca-

(Continued on page 5)



CYBERSPACE DOOR — Lyndon Pierson (left) and Perry Robertson examine their group's video encoder and decoder. (Photo by Randy Montoya)

Newest Nobel chemistry prize winner taught Sandia researcher

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Jane Elson era in President's office ends as the new year begins

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Polyurethane grout could help seal fate of geothermal industry

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Holiday helpers are everywhere at Sandia gathering gifts for others

What's what

Self-styled curmudgeon and Groucho Marx fan Bill Murphy (12640) says we need a new strategy for announcing the latest fastest supercomputer.

"IBM and LLNL have announced ASCI Purple, a 100-teraflops machine whose speed rivals the speed of the human brain (says *The Times of London's* breathless headline). Guys, we need to announce our supercomputers a lot faster if we expect to keep up in this game. Let's leapfrog the competition and announce our own petaflops machine – and we need to do it now! We've done ASCI Red and Red Storm; in the game of escalating sexy-sounding names, how about we call our petaflops machine Scarlet Hurricane? (That still leaves us with Maroon Typhoon to use when we go to the next next generation announcement.)

"Boy, these supercomputer announcements are fast!"

* * *

My predecessor in this space, Oklahoma's favorite son Larry Perrine, walked into my office recently, fulminating about a "pet peeve," which is not necessarily a pet peeve of mine, but certainly makes me scratch my head in puzzlement every time I see it. The "it" is the insistence by some to spell the name of our planet with a small "e" rather than the capitalization that at least Larry and I believe it deserves.

We capitalize the names of all the other planets in our solar system – and other solar systems. We capitalize the names of fictional planets, like Superman's home, Krypton. We even capitalize the names of the moons of other planets in our solar system, for crying out loud, not to mention the names of places like Dalies, which is just a location along the BNSF line between Belen and Los Lunas. We capitalize the name of the Mule Barn restaurant, Tucumcari, and Day's Billiard Parlor (a seedy place I liked to hang out in when I was a teenager).

So, what's the deal with the name of the planet we live on? Is there a shortage of big E's, or something?

And while I'm on the subject, does our star have a proper name, or is it just "the sun?" And what about our satellite? Is it as important as Ganymede or Io, or is it just "the moon?"

* * *

Gerry Quinlan (9224) wondered recently if Sandia has become a political party, and with reasonably good reason. Scanning news on the CNN financial website, he found the following from Reuters news service: "A massive supercomputer to be built by Sandia National Laboratories and Cray Inc. will use soon-to-be-available next-generation microprocessors from Advanced Micro Devices Inc. . . ." *Laborites?*

* * *

Retiree John Kirkland sent a note about the piece here a couple of issues back that quoted an e-mail a Sandian received from someone complaining that a "Silicon Neuron Device was implanted into my persons," causing her to be tortured "by means of Satellite Ionizing Radiation."

"Just think," John wrote, "(she) could be rolling toward you on the highway. (She) might be standing next to you somewhere; breathing the same air. . . . Scary, huh?"

Yeah, but still not as scary as having a silicon neuron device torture you with satellite ionizing radiation.

– Howard Kercheval (844-7842, MS 0165, hckerch@sandia.gov)

See you next year

This is our last issue of the year, and the *Lab News* staff wish you all a wonderful holiday season break. (Of course, if you need to contact us, we'll be here until the last day before the break, Dec. 24.) We will resume publication with our Jan. 10, 2003, issue. The classified ad and final news deadline for that is noon, Friday, Jan. 3.

Sandia electronic in/out 'workbox' gets 10,000th user

Sandia's information systems development folks in Center 9500 are excited about a recent milestone involving what they endearingly term the "Sandia workbox."

A workbox, it turns out, is an electronic "in/out" box. It facilitates the flow of work by moving it electronically, instead of using snail mail. The concept is called workflow, and the actual implementation is the workbox. You use the workbox to track work (once it's initiated), review/approve/reject work, and in some cases, actually initiate work right from the workbox.

Oh, the milestone? Well, Sandia student intern Stephen Yao (2612), was the 10,000th person to access the Sandia workbox. He submitted a WebCars request at 1:05 p.m. on Sept. 13.

Here at the Labs the web workbox/workflow capability was initiated in March 1998 to provide automated document routing and approvals. At the time, it was largely a proof-of-concept project with untried technology. Since then, workflow and business process management has become standard industry practice. Sandia now has 22 applications using workflow, including Foreign Travel, Foreign National Request System, WebCARS, and Workflow Enabled Unsatisfactory Reports. In addition, at Sandia, you can access the corresponding Delegation of Authority application from within the workbox.

In FY03 and beyond, proposals are in process to leverage this capability to automate these processes for mission systems. "This growth is evidence of the productivity of the Workflow group and the benefit of the Workflow infrastructure to the Sandia Enterprise," says James Hutchins (now 9514), one of the original workflow gurus. "We are very proud of the current Workflow team and the Workflow pioneers."

Pioneer Team: James Hutchins (9522), Dave Schoch (9523), John Abbott (9322), Larry Kincaid (9512). **Current Team:** Pat Kaufmann, Brian Podolny, Julie Fillingner (all 9515).

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Sandia Annual Report available now

Sandia's 2002/2003 annual report, using the theme "Helping Our Nation Secure a Peaceful and Free World Through Technology," is now available through Public Relations and Communications Center 12600.

The 68-page color publication emphasizes the many ways that Sandia contributes to national security. Information is organized by the Labs' strategic business units and strategic management units, and a final section features Sandia's community involvement programs at both major sites.

Editor Larry Perrine (12640) says the publication features selected Sandia capabilities and technical work that should be of particular interest to Sandia customers and the public, especially projects of special significance since 9/11/01. It does not include administrative accomplishments that are covered in the *Lab News'* annual Labs Accomplishments issue published each February.

More than 2,000 copies have been mailed externally to individuals and groups interested



in Sandia's work. Single copies are sent to all Sandia managers and above, and multiple copies are provided to Sandia's recruiting offices and other selected departments for distribution to prospective employees, customers, and others interested in Sandia's work.

Employees wanting individual copies can call Media Relations and Communications Dept. 12640 at 844-4902. The new annual report and ones from recent years can also be downloaded from www.sandia.gov/news-center/publications/annual-report/index.html.

Sympathy

To Lillie Peters (3532) on the death of her mother, Winnie Brundage, Oct. 27.

To Gila Yaniv (3532) on the death of her mother, Hella Yaniv, Nov. 2.

To Tara Allen (2912) on the death of her mother, Betty Allen, at sea, Nov. 10.

To Glenn Machin (9322) on the death of his father, Ed Machin, in Albuquerque, Dec. 2.

Newest Nobel winner in chemistry taught and continues to influence Sandia researchers

By Nancy Garcia

Bob Gallagher (8361) had a surprise as he planned to visit his old alma mater for a joint recruitment / 150th anniversary event: He learned his thesis adviser had been named a co-recipient of the 2002 Nobel Prize in Chemistry, and found himself helping organize a reception that weekend that he emceed.

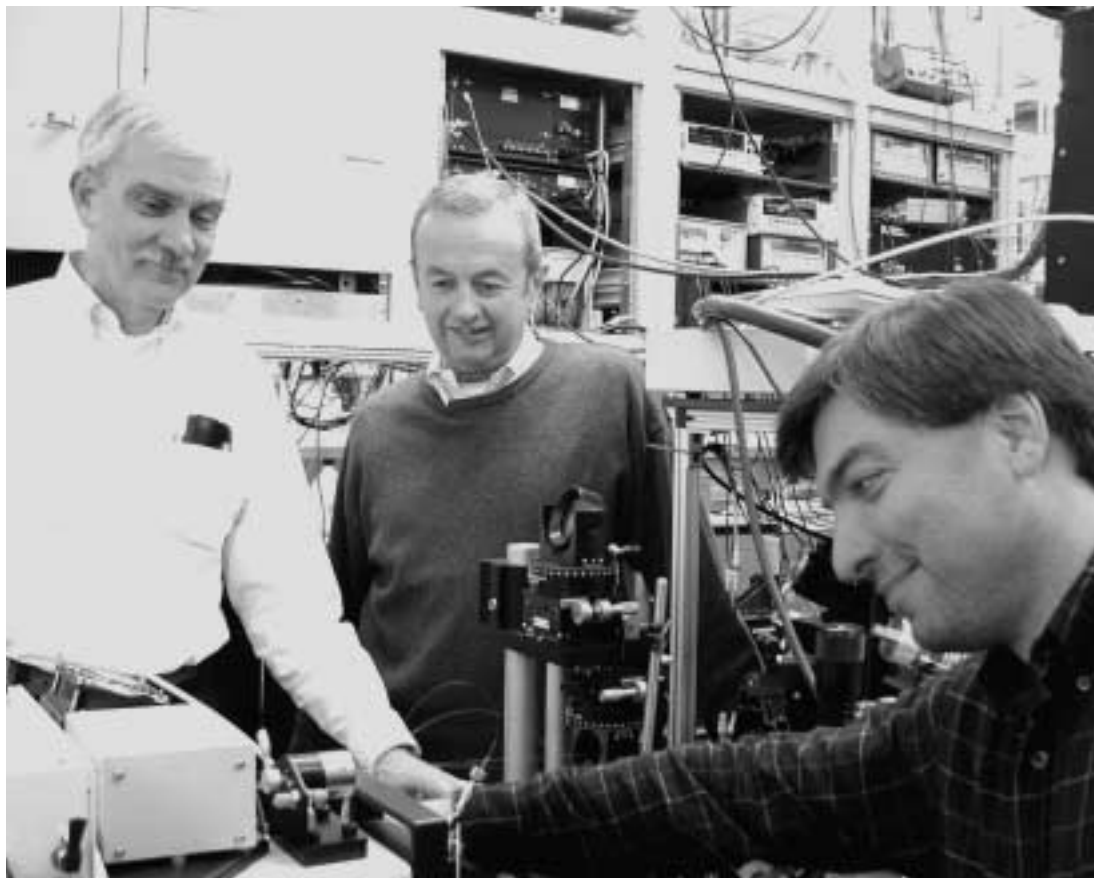
Bob received his doctorate from Yale University's Department of Chemical Engineering. He has been part of Sandia's Campus Executive Program with Julia Phillips (1100), interacting with Dean of Engineering and former Sandia VP Paul Fleury, to foster recruitment, research relationships, and to fund fellowships for Yale students who will spend at least one summer working at Sandia and include a Sandian on their research committee.

Recruiting at Yale

Planning to recruit this fall within Yale's engineering, applied physics, and computer science programs, he arrived a couple of days before a weekend celebration of 150 years of engineering education at Yale. By then, word had arrived that his thesis adviser John Fenn was one of three researchers to receive this year's Nobel Prize in Chemistry for pioneering work that has helped create a new field of biology, proteomics, by speeding chemical analysis of proteins and other large, fragile molecules. Bob arranged for testimonials, including a personal reminiscence by Fenn's daughter, to be delivered at a dinner attended by about 300 people.

He himself spoke that evening as one of Fenn's students; in fact, Bob was Fenn's first doctoral student at Yale, having followed him there from Princeton.

Over the years, Bob says, the pair became good friends, and Fenn — who is now 85 and on the research faculty of Virginia Commonwealth University — was also a Sandia consultant. Bob



CHARGED UP — Gary Kruppa, right, admires the ion electrospray nozzle on the Fourier Transform Ion Cyclotron Resonance mass spectrometer that Rich Behrens, left, obtained for Defense Programs research at the Combustion Research Facility. Their manager, Bob Gallagher, center, did his thesis work with the device's inventor, John Fenn, who shared the Nobel Prize in Chemistry this year for the advance that launched new fields through rapid identification of large, fragile molecules. (Photo by Barbara Troen)



NOBEL LAUREATE
JOHN FENN

"His big breakthrough was figuring out how to ionize these molecules without destroying them," a feat likened to "making elephants fly." If proteins were mishandled, their structure would become scrambled not unlike the way a raw egg is altered by heating in a frying pan.

returns annually to Yale, where "they sort of view me as a member of the family." He completed his thesis work in 1972, about the time Fenn had begun exploring the ideas that led to the Nobel recognition.

When elephants fly

Fenn's invention was to gently ionize jets of large, intact molecules for analysis by mass spectrometry, a tool that identifies molecules based on size and charge as they travel through an electric field.

"His big breakthrough," Bob says, "was figuring out how to ionize these molecules without destroying them." Fenn likened the feat to "making elephants fly." If proteins were mishandled, their

structure would become scrambled not unlike the way a raw egg is altered by heating in a frying pan.

The "electrospray" nozzle he invented was honored along with an analogous method to vaporize large molecules without breaking them. Sharing half the \$1 million prize with Fenn is Koichi Tanaka of the Shimadzu Corp. in Japan, who created a way to use a low-energy laser beam for that purpose.

The other half of the prize was awarded to Kurt Wuthrich of the Swiss Federal Institute of Technology in Zurich for mapping the structure of proteins using nuclear magnetic resonance, similar to the medical imaging technique MRI.

Fenn, Bob recalls, hit his stride some 20 to 25 years ago, as he approached what was then the mandatory faculty retirement age of 70 at Yale (he stayed on until 1994 as a senior research scientist). "He was bringing in more research money than any other member of the department," Bob said, "and his

winning work was coming together."

Bob's thesis explored other aspects of free jets, examining how molecules behaved as they spun, vibrated, and collided within an expanding, cooling jet of vapor. He invited Fenn to deliver a technical talk at Sandia about how free jets are used to study chemical reactions. The talk was also advertised at Lawrence Livermore — although only the title, and not the abstract, was announced.

'Information from deliberate leaks'

"There were a lot more people than we were expecting," Bob says. "I noticed that many in the front two rows were from Lawrence Livermore's intelligence and security areas." They may have been drawn by the title — "Information from Deliberate Leaks." After Fenn launched into a detailed technical recitation, Bob said, "They were totally lost — I think he thoroughly enjoyed it."

Fenn's breakthrough even now has an impact at Sandia. Rich Behrens (8361) purchased an advanced mass spectrometer in 1999 to analyze explosives. The electrospray source that came equipped with the device has also helped biological researchers who are mapping notoriously difficult-to-analyze protein structures that mediate interactions of cells with their surroundings.

"Everybody's trying to analyze their molecules with electrospray now," says Gary Kruppa (8361), who was one of the developers of the advanced mass spectrometer and who now works closely with Rich. "There's been nothing short of a revolution in mass spectrometry. The whole field of high-throughput proteomics could not have been developed without these methods."

Another member of the Sandia/DOE "family" trained by Prof. John Fenn is Vic Reiss, former DOE Assistant Secretary, Office of Defense Programs, who was Fenn's first doctoral student at Princeton.

In California and New Mexico . . .

Open Enrollment changes final deadline is Dec. 31

A reminder from Benefits:

Remember that if you are enrolled in the Health Care or Day Care Reimbursement Spending Account (RSA), or the Vacation Buy Plan during Open Enrollment, you can change or cancel (by selecting a zero amount) your election up until 11:59 p.m. on Dec. 31, 2002. If you cancel your election, you cannot re-enroll in the RSA and/or Vacation Buy Plan until the next Open Enrollment period.

You can also change your medical premium tax election or you can waive your medical coverage through 11:59 p.m. on Dec. 31, 2002. Please remember that if you decide to

waive your medical coverage, you will not be allowed to call back into the system and re-enroll for medical coverage. In addition, if you waive your medical coverage through the phone system, you must also complete the Waive of Medical Coverage Form that is included in your Open Enrollment booklet, and it must be received by the Benefits Customer Service Center by Dec. 31, 2002.

To make any of these changes, call the Open Enrollment Phone System at 844-3200 (if outside Albuquerque, call 1-800-417-2634, then 844-3200).

If you have questions, call the Benefits Customer Service Center at 845-BENE (2363).

Smallpox

(Continued from page 1)

Institute of International Studies' Center for Nonproliferation Studies (CNS), titled "The 1971 Smallpox Epidemic in Aralsk, Kazakhstan, and the Soviet Biological Warfare Program," details efforts by Al and others to track down the alleged strain. The full report is available at <http://cns.miiis.edu/pubs/opapers.htm>.

The report's centerpiece is Al's 10-page epidemiological analysis of a smallpox outbreak in fall 1971 in Aralsk, a port city on the northern shore of the Aral Sea in what was then the Kazakhstan Soviet Socialist Republic.

Al's investigation of the outbreak was aided by new details from a previously secret Soviet medical report turned over late last year to US officials by Prof. Bakyt Atshabar, director of the Mosgut Aikinbaev Kazakh Scientific Center of Quarantine and Zoonotic Infections in Kazakhstan.

These official Soviet documents (circa 1971), also included in the CNS report, include autopsy reports, pathology reports, containment tactics, and an official Soviet analysis of the outbreak's source.

The outbreak

From August to October 1971 in Aralsk, 10 cases of smallpox were recorded, and three people died. Russian officials quarantined the city for weeks.

Nearly 50,000 people were vaccinated in less than two weeks. Many were isolated in a makeshift hospital on the outskirts of town. Homes and belongings were decontaminated or burned.

The person believed to have introduced the virus to Aralsk was a young female ichthyologist who had just returned from a four-week research expedition on the Aral Sea aboard the *Lev Berg*, a small fishing boat.

According to official documents, she was bed-ridden with a fever, headache, and muscle aches aboard the ship beginning Aug. 6, five days before returning to Aralsk on Aug. 11.

Before public health officials diagnosed smallpox as the cause of her illness six weeks later, the young woman had exposed her nine-year-old brother, who had exposed others.

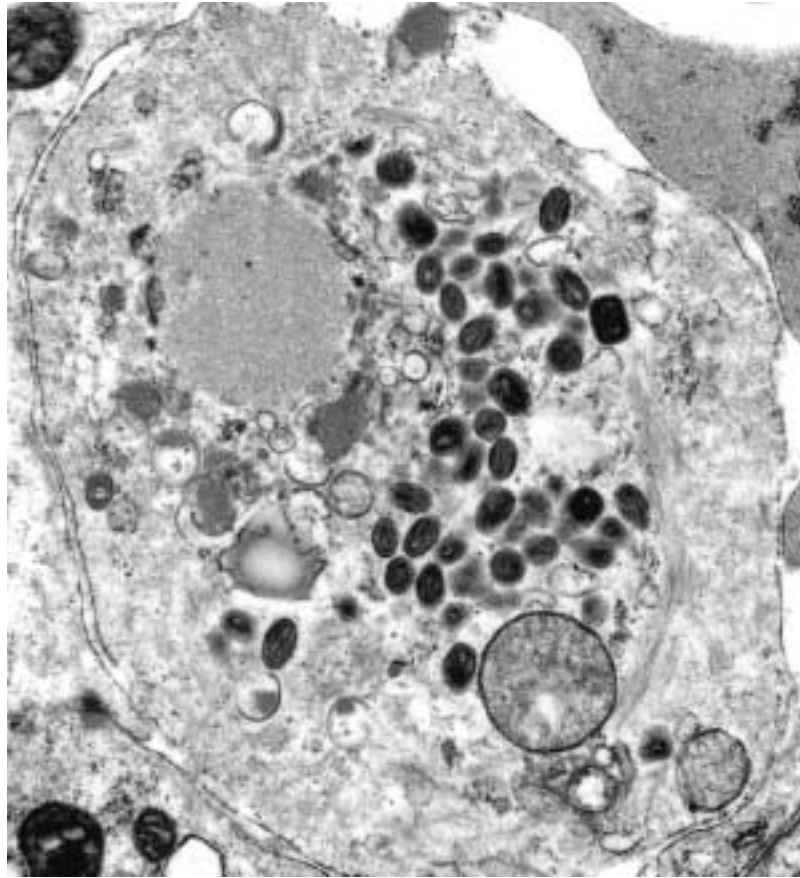
Soviet officials kept the outbreak secret, failing to report it to the World Health Organization as required.

Official accounts

How the young woman, known as "Patient 1" in Al's report to obscure her identity, was exposed to the virus remains a matter of contention.

The Russians claimed, and still do, that Patient 1 most likely was exposed when she disembarked from the *Lev Berg* at one of three ports during the expedition.

Although today smallpox is eradicated from



SMALLPOX VIRUS, growing in the cytoplasm of an infected cell. Thin section of infected chick embryo cell. Mature virions are brick-shaped, but here immature forms are also visible. Smallpox virus was globally eradicated from human populations in 1977 by an international vaccination campaign. Magnification approximately x25,000.

(Micrograph from F. A. Murphy, School of Veterinary Medicine, University of California, Davis)

human populations, in 1971 it persisted endemically in Afghanistan and theoretically might have been brought to Aralsk or to any of the Aral Sea's port cities by migrants.

The Soviet documents relate that Patient 1 left the *Lev Berg* at each port. They detail how she bought a dress, a towel, and some fabric in one city. She possibly contracted smallpox at one of the ports, which she visited eight, six, and two days prior to the appearance her symptoms on Aug. 6, the documents contend.

A different story

But Patient 1, age 54, now a citizen of Kazakhstan, says she never left the *Lev Berg* during the expedition. In fact, she claims, female crew members were forbidden from disembarking. She says she first experienced symptoms on her return to Aralsk on Aug. 11 or 12, not on board the ship on Aug. 6 as stated in the official Soviet account.

The details of her visits to the port cities were fabrications, she told Al, who located her and interviewed her by phone, with help from interpreter Elena Bloomstein (5327), in May 2002.

No one else aboard the *Lev Berg* became ill, so it is unlikely Patient 1 was exposed to smallpox by a crew member who had disembarked from the ship, says Al. And no outbreaks were reported in any of the Aral's ports in 1971, so it seems unlikely the virus made its way to the *Lev Berg*

without infecting a single local, he says.

Biowarfare island

In addition, says Al, the average latency period of smallpox is 13 days, with a range of 11 to 15 days.

According to Patient 1 and official accounts of the *Lev Berg's* expedition, 13 days prior to the onset of Patient 1's symptoms, about July 30, the ship was sailing somewhere south of Vozrozhdeniye Island.

International arms control experts know the Soviet Union conducted offensive biological weapons testing on the island, known as Voz Island, beginning in 1936. By 1971, it was the major proving ground for the Soviet Union's bioweapons program, according to former Soviet officials who worked on the island.

Although historical documents do not detail an open-air test of smallpox on Voz in 1971, the Soviets are known to have been experimenting with the variola virus (the causative agent of smallpox) as an offensive weapon at the time, and several tests of other biological agents dispersed by aerosol sprayers and exploding bombs are recorded during that time.

Al believes the *Lev Berg* might have strayed too close to the island as smallpox viral particles, alighted on the wind by a Soviet weaponizing additive, floated across the ship's decks, where Patient 1 netted fish day and night.

A November 2001 interview in the *Moscow News* of Gen. Pyotr Burgasov, a former chief sanitary physician for the Soviet Union, indicates the Soviet government knew of the mishap. (See "Interview supports Voz Island hypothesis" below left.)

A super strain?

To bolster his case, Al also compared the newly released epidemiological data from the Aralsk outbreak with data from a documented natural outbreak in Kosovo in 1972, and with other data compiled from more than 10,000 cases of smallpox in India published in 1964.

In Aralsk, a significantly greater proportion of infections were of the severe and often fatal hemorrhagic variety of smallpox, he says. In addition, although infants are very rarely stricken by hemorrhagic smallpox, in Aralsk two of the ten victims were infants, and both died from hemorrhagic infections.

The seemingly high percentage of hemorrhagic cases and the skewing of the distribution to very young children suggest that an unusual strain of the virus was responsible, Al's report states.

Further, five of the six adults infected in Aralsk had been vaccinated against smallpox, even though the vaccine is usually 90 percent effective at protecting those exposed. And twice the expected number of "household contacts" of infected persons also became infected, says Al.

Circumstantial evidence

Although Al's conclusions are limited by the small numbers of victims, the Aralsk data at least suggest that an unusually virulent strain might have caused the outbreak, possibly a vaccine-resistant strain, he says.

"For the first time, there is clear circumstantial evidence that the Soviets not only 'weaponized' smallpox, but succeeded in aerosolizing it and, it appears, 'hardening' the virus so that it maintained its infectivity as it traveled downwind over a distance of at least 15 kilometers," Al's report concludes.

"Only a detailed analysis of the Aralsk strain with the most modern tools of molecular biology can guide public health officials and defense planners in formulating appropriate policies and prophylaxis, which may include a concerted effort to produce new vaccines," it states.

With Russia eager to be accepted by the West, it adds, "it is long past time for Moscow to reveal the detailed history of the Soviet BW program. Helping to resolve the numerous uncertainties about the 1971 smallpox outbreak in Aralsk

Interview supports Voz Island hypothesis

A November 2001 interview of Gen. Pyotr Burgasov, a former chief sanitary physician for the Soviet Union, published in the *Moscow News* quoted Burgasov as follows:

"On Vozrozhdeniye Island in the Aral Sea, the strongest formulations of smallpox were tested. Suddenly I was informed that there were mysterious cases of disease in Aralsk.

"A research ship of the Aral fleet came 15 kilometers away from the island (it was forbidden to come any closer than 40 kilometers). The laboratory technician of this ship took samples of plankton twice a day from the top deck.

"The smallpox formulation — 400 grams

of which was exploded on the island — got her and she became infected. After returning home to Aralsk, she infected several people, including children. All of them died [sic].

"I suspected the reason for this and called the chief of the general staff of the Ministry of Defense and requested that the train from Alma-Ata to Moscow be forbidden to stop at Aralsk. As a result, an epidemic around the country was prevented.

"I called Andropov, who at that time was chief of the KGB, and informed him of the exclusive recipe of smallpox in use on Vozrozhdeniye Island. He ordered that not another word be said about it..."

(Continued on next page)

Smallpox

(Continued from preceding page)

would be an important step in that direction.”

Appeal for openness

In July, Al co-signed a letter to Lev Sandakhchiev, Director of VEKTOR, the official Russian repository lab for smallpox. The signatories included Joshua Lederberg, winner of the 1958 Nobel Prize in Physiology and Medicine; Peter Jahrling, Principal Scientific Advisor, US Army Medical Research Institute of Infectious Diseases (USAMRIID); and Tom Monath, Chief Scientific Officer of vaccine maker Acambis Inc.

The letter urged Sandakhchiev to encourage the Russian government to report details of any open-air smallpox tests in 1971 on Voz and to cooperate with international authorities to turn over samples of any undisclosed variola strain.

“This unfortunate outbreak occurred over 30 years ago, under the Soviet regime, and prior to the coming in force of the Biological Weapons Convention,” the letter states. “A new era is upon us, and we hope that information from these dangerous experiments can help us to work with you to prevent the use of smallpox as a biological weapon. We know that you share with us a passionate attachment to that goal. We have little interest in raking up the past, except where that is necessary to protect our future.”

Al says he continues to press the issue with Russian and US officials. He’s briefed numerous government officials, including an individual at the deputy undersecretary level in the US Department of Defense. More important, says Al, Jahrling, the United States’ most respected smallpox expert, has taken the message even higher.

Al’s analysis “provides strong circumstantial corroboration of suspicions that Soviet bioweaponers conducted open air testing of smallpox virus on Vozrozhdeniye Island” and “elevates the theoretical concerns about variola virus as an agent of mass destruction to a new level,” wrote Jahrling in a commentary of the CNS report.

“The main significant finding in Aralsk was that smallpox could be successfully aerosolized over long distances,” says Al of his study conclusions. “That the virus strain in Aralsk may have



AL ZELICOFF talks about smallpox at a recent conference about countering terrorism.

(Photo by Randy Montoya)

“This unfortunate outbreak occurred over 30 years ago, under the Soviet regime, and prior to the coming in force of the Biological Weapons Convention. A new era is upon us, and we hope that information from these dangerous experiments can help us to work with you to prevent the use of smallpox as a biological weapon.”

caused worse-than-usual disease is suggested, but not proved, by the statistical analysis.

“I believe that eventually our Russian friends might come around,” he adds, perhaps as the

result of political pressure, a desire to do the right thing, or both. “After all, this is one area where their help could truly be important and life-saving,” he says.

Visualization

(Continued from page 1)

tions,” says Sandia team leader Lyndon Pierson (9336). “We expect our method will interest oil companies, universities, the military — anywhere people have huge quantities of visualization data to transmit and be jointly studied.”

He adds, “Significant commercial interest [in the new device] has been demonstrated by multiple companies.”

The Sandia hardware leverages without shame the advances in 3-D commercial rendering technology “in order not to re-invent the wheel,” says Perry Robertson (1751).

Graphics cards for video games have extraordinary 2-D and even 3-D rendering capabilities but exercise them only inside the cards. These images are then fed to the nearby monitor — a cozy arrangement that does not solve the problem of how to plug visuals formatted for 60 images a second into a network, says Perry.

Fortunately, the Sandia extension hardware looks electronically just like a monitor to the graphics card, says Perry. “So, to move an image across the Internet, as a first step our device grabs the image.”

The patented Sandia hardware squeezes the video data flooding in at nearly 2.5 gigabits a second into a network pipe that carries less than 0.5

“We expect our method will interest oil companies, universities, the military — anywhere people have huge quantities of visualization data to transmit and be jointly studied.”

gigabits/sec.

“While compression is not hard, it’s hard to do fast. And it has to be interactive, which streaming video typically is not,” says Lyndon.

The Sandia compression minimizes data loss to ensure image fidelity. “Users need to be sure that the things they see on the screen are real, and not some artifact of image compression,” says Lyndon.

The group knew that a hardware solution was necessary to keep up with the incoming video stream. “Without it, the receiver’s frame rate would be unacceptably slow,” says Perry. “We wanted the user to experience sitting right at the supercomputer from thousands of miles away.”

“In an attempt to reduce the need for additional hardware,” says John Eldridge (9336), who wrote the software applications, “we also created software versions of the encoder and decoder units for testing purposes. However, there is only so much you can do in software at these high resolu-

tions and frame rates.”

The custom-built apparatus has two boards — one for compression, the other for expansion. The boards use standard low-cost SDRAM memory, like that found in most PCs, for video buffers. Four reprogrammable logic chips do the main body of work. A single-board PC running Linux is used for supervisory operations. “We turned to Linux because of its networking support and ease of use,” says Ron Olsberg (9336), project engineer.

“We built this apparatus for very complex ASCII visualizations. If we could have bought it off the shelf, we would have,” says Perry.

Funded by ASCI’s [Advanced Scientific Computing Initiative] Problem-Solving Environment, a pair of boards cost about \$25,000, but are expected to cost much less when commercially available.

A successful demonstration took place in late October between Chicago and the Amsterdam Technology Center in the Netherlands. A second demonstration occurred between Sandia locations in Albuquerque and Livermore and the show floor of the Supercomputing 2002 convention in Baltimore in November.

“Now that this technology is out there, we expect other applications will begin to take advantage of it,” says Lyndon. “Their experiences and improvements will eventually feed back into US military capability.”

In addition to Perry, John, Lyndon, and Ron, the design team also included Karl Gass (1751) and Tom Pratt and Edward Witzke (both 9336).

Annual ECP/LEAP campaign exceeds \$2.3 million

'People don't care how much you know until they know how much you care'

By Iris Aboytes

Sandians have done it again. This year's donations to our communities set new records.

"We had a very successful ECP [employee contribution plan] campaign this year, raising a total of \$2,327,000," says Fred Sexton (1762), chairman of the ECP campaign this year. "Because of the generosity of Sandia employees and retirees, we will contribute \$2,092,000 to United Way of Central New Mexico and \$235,000 through the Sandia Livermore LEAP campaign to help the most vulnerable members of our community toward self-sufficiency.

"While this is the fourth year in a row that we have raised a total of more than \$2 million," Fred says, "this is the first time we have broken the \$2M level for the United Way of Central New Mexico contribution. Thanks to everyone who participated in ECP, and thanks especially to those who are new to Sandia. You have joined the long tradition of community involvement that is a part of the Sandia culture. Thanks also to the center and division reps and the core team who worked so hard to make this campaign a success."



The success of the campaign means the disabled will have wheelchairs, children will be able to learn to read and write, the homeless will have shelters, people with Alzheimer's or dementia will have day services, victims of domestic violence will have residential care, victims of sexual assault and abuse will be counseled, and so on. Sandians again came to the aid of their community, in a big way.

When good deeds happen once in a while, it is wonderful. When they happen often, it gets to be a habit. When goals are reached, it is a way of life. The generosity of Sandians makes the impossible possible.

"Sandians care!" says Jack Holmes, President and CEO of United Way of Central New Mexico. "Individually they give thousands of hours and dollars quietly helping those in need in our community. This tremendous commitment is continuous, day after day, year after year. That's when you know people's efforts to care are individual and personal, when it happens consistently and they don't care who gets the credit. I congratulate Sandians for the quality of people they are and the dedication they show to care for those most vulnerable. I also commend those ECP representatives for their extra dedication to make it all work every year."

The planning for this year's campaign began when last year's campaign ended. The success

came because of a variety of people behind the scenes. Programmers who made it easy to enroll, payroll clerks who input data and checked for accuracy, Sandia retirees who helped make our country strong, the mailroom for their accurate information deliveries, the print shop for printing all retiree letters, and so on. The real behind-the-scenes people were Sandians who contributed in a quiet and humble way.

This year's leaders were Fred Sexton, chairman; Juanita Sanchez (12660), project manager; John Merson (9712), 2003 chairman; and VPs Lenny Martinez (14000) and Al Romig (1000), co-champions. Thanks to them for their leadership and guidance.

Sandia President C. Paul Robinson's words ring true, "People don't care how much you know until they know how much you care."

"While this is the fourth year in a row that we have raised a total of more than \$2 million, this is the first time we have broken the \$2M level for the United Way of Central New Mexico contribution."

Can you keep a secret? 'Yes, Virginia, there is a Santa!'

Secret Santas are very rare treasures. You read about them, and wish you would meet or at least know about one. Quite by coincidence, I came across a secret Santa who just happens to work at Sandia. Here is the reality of a secret Santa in his own words.

I guess you want to put something in the Lab News about Santa. But I'm a secret Santa. Just a fat old guy with a white beard who visits the children's hospitals on Christmas Day. I go by the name of Mr. Kringle. Some young people at a restaurant my wife and I visit most weekends are the real heroes.

Mom (Mrs. Kringle) bakes goodies that we put on the bar for donations. The kids collect the money and buy the toys. Then on Christmas Day I get the privilege of being the delivery man. A small group of kids carry the bags. This must be a small thing because of the nature of the place. Sick kids in the hospital over Christmas. Some have been really bad cases. Most are very small and will never know I was there. But the parents will always remember. And a few of the older kids know they have met the big guy!

I don't wear a Santa suit, just a green shirt,

red suspenders, and a Santa hat. And I never say Ho, Ho, Ho! I'm not the guy at the mall, just a real person who cares. And with that said, I can say with confidence, "Yes Virginia, there is a Santa, and there always will be, as long as parents love their children and fat old men have white beards!"

I know you wanted a picture for this story, but I'd rather not give you one. As I looked at some from past years, they are kind of special, and bring back strong feelings. Besides, they would give away my secret. There are a lot of old guys with white beards at the Labs. And maybe they have stories too! So, just let me be an old guy who cares, and leave it at that. No names, no pictures, just a story about a secret Santa.

If you would like to bring toys

for secret Santa to deliver, bring them to Bldg. 811, Room 407 by Dec. 19. Our secret Santa will be happy to deliver them. He says little ones especially like stuffed animals. Next time you see a man (ok, a fat man) with a white beard, be sure to smile, he just might be your very own secret Santa!

— Iris Aboytes



UK visitor to Sandia: An appreciation

We all know Sandians are great people, but it's always nice to get a grateful thank-you from an outside visitor.

"I am writing to acknowledge with appreciation the honesty of an unknown member of the Sandia workforce," says a letter faxed this week to the *Lab News*. It is from Neil Bluett of the UK Ministry of Defence Defence Procurement Agency in Bristol, UK. "During a recent work visit, one lunchtime I had reason to sample the delights of your main staff restaurant. Unfortunately having stuffed myself to the gunwales, and feeling dozy with jet-lag, I left the building but leaving my 'bum-bag' on the back of the chair. You can imagine my feelings when I discovered my loss, with all the travel essentials now missing and a possible security alert for a suspect package imminent!

"After a high-speed return to the scene of the incident, my heart dropped to see a huge fire tender drawn up outside the main entrance. Fortunately this was nothing to do with my black bag, and my spirits were raised to find that some kind soul had indeed handed it in to the cashier for safe keeping. However, I have no name to pass on my thanks to.

"Maybe you could put some words about my experience in your newsletter, in the hope that whoever it was will know that their good deed was much appreciated (and allowed me to get back across the water!!)." We're glad to do that.

Lab News reader service

The Sandia *Lab News* is distributed in-house to all Sandia employees and on-site contractors and mailed to all Sandia retirees.

Retirees (only): To notify of changes in address, contact Carol Wade, Benefits Dept. 3341, at 505-845-9705, e-mail cawade@sandia.gov, or Mail Stop 1021, Sandia National Laboratories, Albuquerque, NM 87185-1021.

Others: To receive the *Lab News* or to change the address (except retirees), contact Michelle Fleming, Media Relations and Communications Dept. 12640, at telephone 505-844-4902, e-mail meflemi@sandia.gov, or Mail Stop 0165, SNL, Albuquerque, NM 87185-0165.

Employees: To change the number of copies of the *Lab News* your Mail Stop is receiving, please call Honario Anaya, Mail Services Team 10268-4, at 844-3796. (At Sandia/California contact the Mail Room at 294-2427.)

Who are you and what have you done with Jane Elson?

By Iris Aboytes

When Sandians return from the holiday break, there will be some obvious changes. Many of our friends will have retired. The year will be 2003 and not 2002. And Jane Elson, the familiar face in the Executive Office, will be gone.

You will be greeted to the executive office by Trudy Blake, who has been at Sandia 10 years. She came to Sandia as an OAA (Office Administrative Assistant), after actually teaching herself shorthand in order to pass the OAA test. She says she valued and enjoyed her time as an OAA. "It is there," she says, "where the nerve center of the entire organization resides."

Most recently Trudy was business manager of Center 5900. As the new assistant to Labs President C. Paul Robinson, she looks forward to learning more about the Labs and increasing her contributions.

After 18 years at Sandia, 11 of those years working with Paul Robinson, Jane is beginning a different phase in her life. She plans on letting her artistic side shine through. Playing the piano, quilting, painting, reading, and spending time with her grandchildren are what she is looking forward to doing. There will be no pools becoming stagnant in this retiree's life.

Jane came to Sandia to help augment her four children's educations. Having done that, her personal challenge to become a better thinker and

"When a crisis comes up, she can go from zero to 60 in 10 seconds. She never stops. She owned this job."



SANDIA PRESIDENT Paul Robinson and Jane Elson have been working together for 11 years. She is retiring and beginning a different phase of her life. (Photos by Randy Montoya)

her love of being part of Sandia's mission as well as her overall pride in Sandia kept her here.

Says Becky Hunter (9103), "When I first began working with Jane, she mentioned, 'I couldn't sleep so I got up at 3 a.m. and baked muffins for the staff meeting.'" Jane makes sure that her time is never wasted.

Asked how she got to the executive office from her arrival through the OAA ranks, Jane just casually answers. "I guess people like work-horses." Jane believes in doing it all, and doing it well. In one of her jobs at the Labs, she would occasionally accompany her boss to the airport and take dictation while he waited for his plane. That was no big deal to her; the work had to get done.

Her 60-hour workweeks give credence to her workhorse ethics and desire to get the job done. She has been accused of having the energy of three people. No, not three people, just Jane's.

"She's a working fool," says Paul Robinson. "When a crisis comes up, she can go from zero to 60 in 10 seconds. She never stops. She owned this job. If we had a problem, she owned the problem for the Laboratory. She prides herself in not mak-

ing mistakes. In the time I have known her, I can count the mistakes on one hand."

Jane always manages to find time and a way to get everything done. Julie Walker (7000) says, "One holiday season, she and I went to Holiday Olé and saw a sweatshirt with a candy cane design on it. Too expensive. Of course, Jane sketched it as we stood there looking at it, and for my Christmas gift that year, she painted a sweatshirt with that design for me."

"Washington personnel always looked forward to talking with her — they knew she could get the answer to anything," says Paul. "That is one of her amazing traits. Since she is a morning person and I am a night owl, together we covered everything for a large part of the day."

Referred to by Paul as the "corporate memory," Jane will be on contract for a year. A self-proclaimed voracious reader, you can rest assured she will have read everything on Sandia she can get her hands on.

So when you visit the executive office next year say "Hi" to Trudy and know that Jane is busy creating the beautiful works of art learned from her mother and grandmother.



TRANSITION TEAM — Trudy Blake sits at her new desk and shares a lighter moment with Paul Robinson and Jane Elson.

Feedback

Q: Recently I have had numerous occasions when I have been trying to fill out an electronic expense voucher and the voucher system is either down and won't allow me to log in or, worse, it allows me to fill out the voucher but won't allow me to save it, wasting the time spent filling it out. Can something be done to fix the system, or better yet, provide a way to fill out a voucher offline and upload it later? The second option would be particularly useful during travel when accessing the network via a dial-up connection.

A: The electronic expense voucher is generally available for use from 6 a.m. to 7 p.m. and may be available during other hours, but unsupported, depending on database backups, routine maintenance, and upgrades to the server, network, and database. Without knowing when and what time the "numerous occasions" occurred when the EER was not available there is not enough information to address your concern about system down time or when the system won't allow you to log in. The application server in which the EER application resides experienced above-normal instability problems during

the weeks leading up to fiscal year-end processing. Should you like more details about availability please contact CCHD at 845-2243 and they will direct your question to the applications support person. If you include your name the support person can contact you directly.

Currently, if you have begun filling out an expense report and need to do some other work or get distracted, you can always go to the last screen and save the report. The saved report can then be retrieved at a later time and you can resume filling out the report. The EER system is being migrated to a more stable application server environment with the migration to be completed by early November 2002. As part of the migration a feature is being added so you will be able to save the expense report you are working on from any expense report screen. However, the availability of the application will remain the same as described above, other than the server environment should be more stable.

Your observation about providing a way to fill out a voucher offline and upload it later is something we have been considering the past 12 to 18 months. Unfortunately, there are a limited number of resources available and any new feature must compete with policy changes and Sandia business needs. Hopefully there will be a lim-

ited number of new process and business changes/needs in the future so suggestions for new features, such as yours, can be addressed.

—Thomas Ferguson (9513)

Q: I am one of the Sandians who comes to work at 6 a.m. Most of the year it is still dark as night when I report to work. Because KAFB is very poorly lit, it is very difficult to see the lines on the street (especially on Hardin) and the paint on the median (turning north off Hardin toward gate 10). Another problem area is the lane designator lines on Randolph Street, which runs east/west in front of the Air National Guard. I take this street because I enter the base through the Truman Gate. It's bad enough that there are not enough streetlights to begin with, but to make matters worse, the lines that designate the lanes and the aforementioned median are badly in need of a fresh coat of reflective paint. It seems like it has been several years since these have been repainted. Would it be possible to arrange for these to be repainted? This is a potentially dangerous situation.

A: Thank you for calling our attention to these areas of concern. Both Hardin and Randolph are USAF property and under their control. They have agreed to evaluate the condition of the center strips and repair as budget allows.

—Ed Williams (10849)

New hope for the geothermal energy industry comes in form of polyurethane grout

Sandia's Geothermal Research Department develops approach to seal voids in fractured rock formations

By Will Keener

Members of Sandia's Geothermal Research Department have added a new approach to aid in the often-difficult task of coaxing usable energy from the earth's crust with a drill bit. Their secret: polyurethane grout. Specially formulated grouts — dense foam-like materials — can now be used to seal voids in fractured rock formations, allowing geothermal drilling to go forward.

A demonstration last year proved the concept can work. Now testing is proceeding to improve the materials and techniques for delivering them, says A. J. "Chip" Mansure (6211).

In the past, rock fractures and voids — termed "lost circulation zones" by drillers — have drained drilling mud away from wells, damaged drill bits, pinched off drilling pipe in the hole, and resulted in collapses and abandonment. These problems mean big bucks — industry-wide as much as 20 percent of geothermal drilling costs.

"Imagine drilling into a wall at home with a long, thin bit and a hand-crank drill," says Chip, who leads Sandia's effort for developing the grout plugs. "If the bit chatters or bends or wobbles or sticks, it creates problems. In the geothermal industry, these problems translate to costs."

Beyond chewing away rocks with a drill bit, successful drilling must bring the rock fragments out of the well bore. To do this, "mud" solution is pumped down the inside of the drill pipe and out through the bit. The mud carries rock chips back up through the well bore to clear the hole. But in a fractured zone, the mud may leak away without bringing the rock chips up, Chip explains.

Heat and pressure — givens for geothermal areas — add to the problems of sealing these zones with most materials. And "cross flows," a condition where fluids enter a well bore from one fracture and leave through another, make it difficult to keep sealants in place long enough to harden.

Zones of lost circulation also make it difficult to cement casing in place in the well. Unlike oil and gas wells, where casing can be "tacked" to the rock formation at key points, the rigors of steam and heat in a geothermal well require that the bore be fully cemented.

Switching gears, changing plans

With colleague Jimmy Westmoreland, Chip had been working on a full-scale experiment to test polyurethane materials as a potential seal, when a phone call from Nevada changed their plans. "We knew that polyurethane had been tried years ago and failed," says Chip. "But we also knew that more recent work on dams and other civil engineering applications with different chemistry had been successful."

Instead of a full-scale test in Tech Area 3, Chip and his colleagues found themselves headed for Rye Patch, Nev. A geothermal well there had been designated by DOE for special funding to resolve a cross-flow problem that had resulted in abandonment of the well. "We took a breath, switched gears, and put a total project together," Chip says. Past experience and laboratory testing had



NEW TECHNIQUE — Jim Westmoreland, left, and Ron Jacobsen strap hoses to drill pipe at the Rye Patch well in Nevada to direct polyurethane grout into the well. The two members of Sandia's Geothermal Research Dept. 6211 were instrumental in proving that the new technique, using polyurethane grout, will work.

shown Chip that successful seals would result only if the loss zone was carefully isolated, or "packed off" in the well bore and then the polyurethane squeezed in to sweep out other debris and fill the void. This called for careful coordination in drilling out a temporary plug in the existing well and testing the new sealant. The Rye Patch project would need to involve the operators of the site, Mount Wheeler Power, the drilling contractor, drilling engineer, project managers, the chemical manufacturers and distributors, and other consultants and helpers. "This was technology transfer right from the beginning," says Chip.

Chip acted as project manager and involved George Staller (now retired) in the design of the project. Ron Jacobson was instrumental in fielding the equipment, and Jim Grossman (all 6211) pro-

vided software and programming support.

Brave new world of geothermal

The project, conducted in spring of 2001, succeeded in sealing the high cross-flow zone. Previously more than 20 attempts with other types of plugs had failed. In addition to the polyurethane grout, the effort used a special drilling rig, which removed rock cuttings with a stream of air, and a nitrogen foam cement to bond the casing to the rock.

"The Rye Patch well demonstrated the suitability of the polyurethane materials," says Chip. But much work remains to be done.

Changes in the geothermal industry as it matures are affecting technology development,

(Continued on next page)

Geothermal potential high in the western US

Existing electrical generation from geothermal power in Hawaii, California, Utah, and Nevada totals more than 2,000 megawatts of installed capacity. Geothermal energy is a unique form of renewable energy as it can be relied upon for firm generation. That is, it operates in a steady state and is available when needed. In fact, capacity factors at many geothermal plants are as high as any other form of electrical generation, including conventional power plants.

Most other Western states — including New

Mexico — are considered to have significant geothermal potential, as well. The key to their exploitation in many cases is cost-effective drilling methods. Geothermal drilling has been adapted from the oil industry in large measure, and advancements that are specific to the industry are now in development. This has become the focus of many of the efforts by Sandia's Geothermal Research Department (6211).

According to DOE figures, geothermal energy generation is equivalent to burning 60 million barrels of oil annually. Geothermal

power displaces emission of 22 million tons of carbon dioxide and 200,000 tons of sulfur dioxide each year. It also offsets 80,000 tons of nitrogen oxides and 110,000 tons of particulate matter, compared to conventional coal-fired generation.

A \$1.5 billion-dollar-per-year industry, geothermal producers provide enough power to meet the electrical needs of 6 million residents. For more information, check out this website: <http://www.eren.doe.gov/geopoweringthewest/geopowering.html>

Geothermal

(Continued from preceding page)

Chip says. Past domination of geothermal production by large multi-resource energy companies has given way to smaller firms with a primary focus in geothermal. At the same time drilling is beginning to require deeper holes, because the known, easily recoverable resources have been exploited. "Drilling costs go up more or less exponentially as you drill deeper," Chip says.

Chip and his colleagues have developed a series of "best practices" as a template to help industry drillers and service companies make best use of the new plugging materials.

Targeting deeper wells

Up to 90 percent of lost-circulation problems are encountered in the early (shallow) going of geothermal wells — at depths of a few hundred feet and temperatures below the boiling point of water. But deeper targets may mean formulations of foam that can be injected at a few thousands of feet and temperatures nearly in the 400 degree F range. "We are now studying what techniques and practices we can use on these deeper targets," Chip explains.

Another issue is working within the economic constraints associated with "real world" drilling projects. "A high-cost chemical in an industrial setting like this isn't going to be feasible," Chip says. "We are working with the manufacturers on cost-effective formulations and we will be testing these." It appears polyurethane plugs can be provided at about 30 percent of the cost of traditional lost circulation sealing methods.

While the Rye Patch project required many people on site as well as a great deal of pre-planning, a more typical application will have to be accomplished by a much smaller crew and on shorter notice. "We are working to design an approach to bring this process more in line with industry practices," says Chip.

"Drilling costs go up more or less exponentially as you drill deeper."

Sandia, small operator 'saved the day'

It was the case of a small operator and a big problem. This was something Martin Booth, managing geologist with Geothermal Development Associates, a consulting firm in Reno, Nev., has seen before. But the operator — Mount Wheeler Power — didn't panic. "They kept their heads," said Booth. "That doesn't always happen." Meanwhile the DOE and Sandia stepped in and "saved the day."

The Rye Patch project, which dated from the 1970s, had been revived in the early 1990s and failed, giving the US geothermal energy industry an "international black eye," Booth said. Problems developing wells for a mostly completed geothermal power plant made investors leery. Mount Wheeler, a small rural electric cooperative, found itself with ownership of a well at the site that lost circulation in a shallow zone. "We lost circulation well before reaching any drilling objective, let alone the main drilling objective," Booth said.

Sandia's team arrived after the well had been abandoned for about a year to plug the lost-circulation zone with a new polyurethane material, while applying other techniques in a comprehensive approach to solve the problem (see main story.) "Sandia worked very well with the operator sharing their expertise and there was a lot of back and forth discussion about the best approach," Booth said. "We were pleased and impressed with the results."

Although the polyurethane material may not be ready for higher temperature and deeper zones in geothermal wells, Booth — who has international experience in the geothermal energy field — believes there are many places where it can be used now. "Although it's going to take more development for use in some situations, it makes a lot of sense and has high value for the industry," he said.

Conference looks at 'strategic indirect warfare'



T.J. Allard, top photo center, Manager of Sandia's new Homeland Security Department (50), makes a point with Peter Probst, left, Vice President and Director of Programs for the Institute for the Study of Terrorism and Political Violence, and M.K. Narayanan, retired director of Intelligence Services in India, during a break at the Sandia-sponsored Strategic Indirect Warfare 2002 Conference last week in Albuquerque. Conference organizer Dick Burcham, an analyst in Weapon Use Control Systems Dept. 2133, says the three-day meeting was held "to bring together experts to understand the nature of the worldwide war on terrorism." Sen. Jeff Bingaman, D-N.M., and U.S. Rep. Heather Wilson, R-N.M., at left, helped kick off the conference. Other speakers included John Alexander, author of *Future War*; Milt Bearden, former CIA agent assigned to the agency's Afghanistan desk; and Ben Stubenberg, Chief, Office of Asymmetric Threats, Missile Defense Agency, Department of Defense. (Photos by Randy Montoya)

Near-site quality child care available to Sandians

Sandia parents make one of their most important decisions in life when they choose a particular child care arrangement for their child or children. Whether in-home care, family child care, or center-based care is chosen, children have basic needs that must be met by the adults who have responsibility for fostering their growth and development.

Sandia believes that to maximize productivity in the national interest the Labs should support quality childcare to the greatest extent possible. With this in mind Sandia has supported two quality childcare resources available to Sandia parents — the development of the La Luz (The Light) Early Childhood Center located in the Research Park complex and the administrative transition of the Shandiin (Navajo for Sunshine) Child Development Center located on base behind the DOE complex.

The past year has been active for both centers. The La Luz Board addressed facility design,

operator selection, and many other activities leading to its grand opening on Aug. 1. Shandiin, on the other hand, was equally busy but was addressing issues concerning the transition from a national chain provider to a board-operated facility. Both were successful in addressing their objectives and are providing quality care for many Sandia parents.

The La Luz center is located inside the new Sandia Laboratory Federal Credit Union building at Research Park. It champions low ratios and quality relationships as program cornerstones. For more information go to <http://www.laluzeccl.org> or call (505) 237-7237. The Shandiin center, located on base behind the DOE complex, continues to promote individualized play-based programs, a family-friendly feeling, and maximizing family participation. Contact Kathy or Desiree at 845-5013 for more information.

Feedback

Q: The doors (inside and outside) to the loading dock of Bldg. 891 are always left open. The building heats the outside in the winter, and cools it in the summer. Seems like a waste of money and energy. Can automatic doors be installed on the loading dock so they work like the wheelchair access doors that are only open for a short period of time and then close? The doors must also be prevented from being held open longer than the automatic setting. I think this will help to conserve energy and money.

A: The doors at the rear of Bldg. 891 have automatic door closers and as such should always be closed. This problem arises due to personnel propping the doors open. Since it is not cost effective to install the type of openers that are already on the west doors of the building, the building manager for 891, Moss Tallant, will send an e-mail to all building occupants indicating that propping these doors open results in negative effects to the heating and cooling systems and

wasting of energy. He will also monitor this situation to make sure that this practice is stopped. Thank you for your notification of this issue.

— Dave Corbett (10800)

Q: It seems I'm supposed to make sure I'm not wearing my badge in public. Why? It makes me feel like I'm trying to hide the fact that I work for Sandia, as if I should be ashamed or something.

A: The purpose of your badge is for identification while on DOE premises. It is good OPSEC not to wear your DOE standard badge in public and more so now, with the present security threat, it makes sense not to advertise where you work. You are not hiding the fact you work at Sandia but you are following basic security guidelines about wearing a DOE standard badge. For more information about wearing your badge, please refer to CPR 400.3.11 and the Security Briefing Booklet dated September 2002.

— Al West (3100)

Mileposts

New Mexico photos by Iris Aboytes
California photos by Bud Pelletier



Craig Boney
20 5712



Jerome Cap
20 9125



Ralph French
25 8941



Johnny Ellison
25 8514



Anthony Baca
20 10861



Jeffrey Bobbe
20 5932



Mark Garrett
20 9122



Jeffrey Kern
20 5710



Martin Carr
20 5932



Ronald Coleman
20 9122



Ronald Franco
20 2664



Terry Garner
20 8517



Ronald McIntosh
20 3132



Jeffery Miller
20 10254



Daniel Pettiford
20 14404



Ray Ortiz
20 2666



David Schroeder
20 14192



Sheldon Tieszen
20 9132



Marilyn Warrant
20 6544



Bruce Winchell
20 12100



David Gardner
15 9233



Donna Edwards
15 8112



Recent Retirees



Fred James
38 2662



Douglas Garbin
31 1612



John Brabson
28 6544



Patrick Drozda
27 9132



Steven Pink
27 2111



Tom Bergstresser
26 1612



Ricardo Garcia
25 2331



Glenna Hickman
21 3031



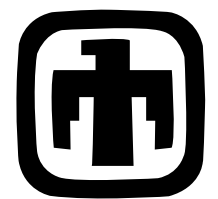
Juanita Valdez
21 10263



Donald Coates
17 10000



Cactus Cooper
12 15412



! Take Note

Retiring and not seen in *Lab News* pictures:
Nellie Denio (5932), 16 years; David Ortiz (9623),
23 years; Roy Palmer (9328), 37 years; and Mary
Ida Romero (9335), 23 years.

Congratulations

To Kathy (8529) and Robin (8727) Gilbert-
O'Neil, a son, Aaron David, Nov. 1.

Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads

MISCELLANEOUS

DRY BAR, oak, marble top, 2 chairs, behind-bar stool, excellent condition, \$500; other misc. items. Hostetler, 898-3785.

AMPS: Phoenix Gold VX-600 & VX-400, \$350 ea. OBO. Chaves, 341-9595, ask for Amanda.

FUR COAT, silver mink, blue fox trim, size medium, excellent condition, \$650. Kilbane, 922-9025.

CASSETTE TAPE DECK, Nakamichi 480, w/head demagnetizer, \$160 OBO. George, 292-5368.

PIANO, self-player, antique, just tuned, \$1,000; electric dryer, \$75; '93 Ford Taurus, 4-dr., 91K miles, good condition, \$4,000. Everett, 256-3844.

KEYBOARD, Casio G1, new, \$175; 10-in TV, black & white, \$50; Lenox radio cassette recorder, \$35. Mueller, 821-6391.

RIDING MACHINE EXERCISER, like new, paid \$300, asking \$125 OBO. Sedillo, 255-0669.

WOOD STOVE, lightweight, suitable for shop or cabin, \$50. Hayes, 299-1200.

PROFESSIONAL LAYOUT TABLE, 40" x 30" surface, adjustable height & tilt, excellent condition, \$50. Reed, 821-7782.

CANINE WHEELCHAIR, barely used, \$365 new, asking \$300 OBO. Young, 821-9852.

PLAYSTATION 2 GAME, Turok Evolution, rated mature, \$25. Heard, 877-3839.

DINING TABLE, w/6 chairs, Autumn Wood oak, chairs have casters, arms, blue hues, \$500. Gjullin, 898-6784.

TABLE, 36-in. drop-leaf, 2 chairs, \$50; bookcase, headboard, double bed, w/like-new box spring, \$75. Peters, 294-0363.

CHILD'S CUSHIONED ROCKER, pink/blue, 25" x 17", \$20; birdcages, 19" x 13" x 15", \$10; Southwest-style pillow couch, \$100. Crosby, 260-1070.

TENT, 4-person, 4-season, Sierra Designs Stretch Prelude, like new, \$350. Thompson, 821-6851, after 5 p.m.

LEER SHELL, fits '99 & newer Ford SuperDuty, short-bed pickups, less than 3 yrs. old, \$550. Potter, 869-4716.

QUEEN-SIZE WATERBEDS, 2, w/6-drawer pedestal, \$50 ea. OBO. Nation, 298-5605.

FIREWOOD, cedar/pinon mix, pickup load delivered & stacked, fundraiser for 12-yr-old student Ambassador, \$150. Cocain, 281-2282.

LUMINARIAS, support the AHS Bulldoggies' Nationals trip to Orlando, order until 12/20, 50 for \$25. Jaramillo-Alfaro, 833-5517.

BABY PALI CRIB, made in Italy, high quality, glossy white, rocks or rolls, drawer, \$390. LeGalley, 797-2643.

STEREO, 6-ft. wood cabinet, AM/FM, plays 4 sizes of records, outlets for all accessories, must sell, \$100. Campbell, 888-3135.

FORMAL DINING ROOM SET, \$400; wicker stand, \$25. Harris, 821-3001.

LOVE SEAT; Kenmore Elite, king-size capacity, heavy-duty, electric dryer. Martinez, 890-3225, ask for Melinda.

PLAYSTATION, used, 2 controllers, snowboarder game, TV, \$100 firm. Miller, 332-4845.

SKIS, Saloman Xscream 700s, w/Saloman 600 bindings, used once, \$285; Nordica boots, \$200, great gift. Jensen, 892-8761.

FIREPLACE, Heatilator, 3-sided glass, w/1 section of double-wall chimney pipe, can be used w/gas logs, \$80. Swahlan, 286-2808.

PRINTER, HP920C, NIB, never used, \$70. Andraka, 294-2618.

MANDOLIN, made by Doce, retired Martin guitar maker, excellent action, light brown w/pickguard, strap & case, \$475 OBO. Newman, 266-6928.

LUMINARIA SALE, support Highland High School softball, delivered by Dec. 21, \$6/doz. Thomas, 262-0171.

HOME GYM, BMI9000, multi-station, 150 lbs. of weights, \$150; Kerosun kerosene heater, 9000 BTUs, fuel gauge/level, \$75. Barnard, 856-1952.

GUITAR AMP, Crate GX20M, reverb, chorus, distortion, almost new, \$225 OBO. Cronin, 299-6747, ask for John.

CAMERA, 35mm, Canon EOS Elan auto, 28-105, 75-300, 1.4 teleconverter, polarizer, remote control, carrying case & extras, \$250. Duvall, 881-4406.

SNAP-ON ENGINE SCANNER, MT2500, 71-'01, foreign & domestic, \$1,500 OBO; air compressor, 12.5-hp, \$1,000 OBO. Trezza, 293-3097.

BEDS: metal bunk beds, 2, red/blue; crib, oak, converts into headboard. Rantanen, 281-7999.

LA-Z-BOY chairs, 2, brown tones, good condition, \$60 ea. Cole, 298-4527.

AUSTRALIAN SHEPHERD PUPPIES, NSDR, blue merles, black tricolors, male & female, see in East Mountains. Watson, 281-9449.

DAYBED, white, \$100; double bed, black, wrought iron, w/canopy attachment, matching vanity, w/bench, excellent condition, \$175. Turner, 839-7335.

STATIONARY RECUMBENT BIKE, 4 yrs. old, Vision Fitness R2000 model, good condition, \$400 new, asking \$250. Tardiff, 293-0462.

RADIAL ARM SAW, 10-in., Sears, old but good condition, w/some accessories, base w/2 drawers, \$150. Hertel, 345-1088.

CAMERA, 35mm, Minolta SRT101, lenses; Konica AutoReflex T3 35mm camera & lenses. Hudson, 821-8988.

WASHER & DRYER, Maytag, \$200; student desk, \$50, all in great condition. Lin, 298-6210.

EXECUTIVE DESK, L-shaped, oak, w/desk-top bookshelf, excellent condition, \$400; Microwave, Tappan, countertop, \$75. Crown, 856-9779.

SEWING & EMBROIDERY MACHINE, w/quilting accessories, Husqvarna Rose, computerized, list price \$2,200+, asking \$1,375. Dietz, 286-8244.

SOUTHWEST AIRLINE TICKET, Rapid Rewards, roundtrip, good until May 23, 2003, \$325. Epperson, 271-9880.

CAMPER SHELL, lightweight, fiberglass, newly screened sliding windows, lock/key, fits older Ford longwide, \$250; storm doors, \$25. Calderone, 291-9484.

GOLDEN RETRIEVER PUPPIES, AKC registered, 4 males, 5 females, available around New Year's, \$225. Nelson, 828-2755.

HP JORNADA 568 PDA, brand new in box, never used, includes 64MB RAM, color screen, \$300. Lunt, 898-9501.

DEEDED TIMESHARE, beautiful White Mountains of Arizona, 2 bdr., 2 baths, spring/fall, 1 wk./yr., in Pinetop, AZ, \$3,900. Olona, 821-3982.

MATTRESS, 69" x 80" pillow-top, replacement for waterbed mattress, Spring Air, excellent condition, \$180. Rogers, 798-0311.

BASS GUITAR, 6-string, Trans-red, quilt maple top, 2 soapbar pickups, gold hardware, great gift, brand new, \$310. Kureczko, 286-4426.

COMPUTER DESK, 3-pc., \$300; single bed, electric, \$1,500; nativity sets; stereo, compact, \$200, all items OBO. Strome, 256-3324.

SOUTHWEST AIRLINE TICKET, roundtrip, includes drink coupons, expires 12/8/03, \$300. Dotson, 450-1889.

CHRISTMAS TREE, 6-1/2-ft., \$40; Casio keyboard, 61-keys, 200 voice, Midi interface, w/AC adapter, \$45; 2 chandeliers, brass/glass, best offer. Mulkern, 296-4050.

SOUTHWEST AIRLINE TICKETS, all roundtrip, three MustRide passes (no restrictions/fees), expire 3/31/03, one Rapid Reward, expires 7/30/03, \$290. Lieberman, 299-7739.

TANDEM-AXLE TRAILER, 16-ft., steel-belted radial tires, 2-in. ball, made by Pero, \$1,050. Hebron, 281-2901.

CAMERA, 35mm, Nikon FG-20, flash, in good shape, \$90. Cassady, 924-2154.

ENTERTAINMENT CENTER, \$85; wooden desk, beautiful, \$145; Qualcomm Sprint PCS cellular phone, \$30; HP LaserJet SL, \$45. Goering, 897-9505.

SOFA SLEEPER & CHAIR, beige, excellent condition, \$1,500 for both OBO. Nieto, 239-3989.

POOL TABLE, 86" x 49", old Brunswick, fully functional, \$225; Southwest Airline ticket, 1/30/03. McGee, 857-0661.

FULL/QUEEN BED, mattress/box spring, dresser w/mirror, chest of drawers, nightstand, excellent condition, \$500 OBO. Zaluga, 897-8183 or 344-1564.

MUSIC EQUIPMENT: 800W Crown PA amp; portable rack mount case; standing guitar support, call for prices. Adams, 281-6767.

TIRES, P205/70R15 radials, good tread, all 4, \$28. James, 345-4006.

BASKETBALL TICKETS, 2, UNM men's, S-26/R-14, 11 games, regularly \$14 ea. both for \$225, save \$83. Chirigos, 298-3837.

TIRE CHAINS, \$20; recumbent exercise bike, \$10; 100 German language & literature books, \$25; prices negotiable. Compton, 899-0679.

DESK, large, 5' x 2-1/2', solid wood; corn snake, w/tank & accessories, etc. Spinello, 292-5681.

CUSTOM TOPPER CAMPER SHELL, 72" x 80", \$250; coffee & end table, \$50; tile kitchen table, w/4 chairs, \$100. Welch, 994-1044, ask for Chris.

SNOWBLOWER, Toro 1132, like new, 31-in. swath, 11-hp, Briggs & Stratton engine, \$1,200. Forslund, 259-9072.

LAWN MOWER, Craftsman, 6-hp, 20-in rear bagger, used very little, w/accessories, just in time for Xmas, \$50. Van Deusen, 291-8196.

How to submit classified ads

DEADLINE: Friday noon before week of publication unless changed by holiday. Submit by one of these methods:

- E-MAIL: Michelle Fleming (classads@sandia.gov)
- FAX: 844-0645
- MAIL: MS 0165 (Dept. 12640)
- DELIVER: Bldg. 811 Lobby
- INTERNAL WEB: On Internal Web homepage, click on News Center, then on Lab News frame, and then on the very top of Lab News homepage "Submit a Classified Ad." If you have questions, call Michelle at 844-4902. Because of space constraints, ads will be printed on a first-come basis.

Ad rules

1. Limit 18 words, including last name and home phone (We will edit longer ads).
2. Include organization and full name with the ad submission.
3. Submit the ad in writing. No phone-ins.
4. Type or print ad legibly; use accepted abbreviations.
5. **One ad per issue.**
6. We will not run the same ad more than twice.
7. No "for rent" ads except for employees on temporary assignment.
8. No commercial ads.
9. For active and retired Sandians and DOE employees.
10. Housing listed for sale is available without regard to race, creed, color, or national origin.
11. Work Wanted ads limited to student-aged children of employees.
12. **We reserve the right not to publish an ad.**

TELESCOPE, Mead model 227NW, refractor, 2 eyepieces, tripod, \$50 OBO; Orley hearth model woodstove, \$400. Zirzow, 281-9896.

ATV LOADING RAMP, super-lite bifold, \$50. Bradley, 281-7086.

WOMEN'S BACKPACK, The North Face, used once, \$150. Spear, 259-6873.

NORDICTRACK EXCEL, like new, \$200. Jones, 797-4894.

JACK RUSSELL TERRIER PUPPIES, full-breed, 6 wks. old, ready to go to good home. Sena-Henderson, 296-3498.

DESK, oak, 4' x 2', \$60; stereo cabinet, oak, 60" x 25" x 17", w/glass doors, \$150; small exercise bike, \$25. Sprauer, 275-0092.

VHS CAMCORDER, power zoom & macro, fade in/out, day/date, high speed shutter, record preview, VCR adapter, manual & case, \$135 OBO. Smith, 296-1908.

SKI & BIKE RACK, Barrecofter Toptotes, 4/5 pair of skis, bike rack is unused, \$50. Dreike, 299-6670.

FULL-SIZE MATTRESS, approx. 2 yrs. old, excellent condition, no stains, feather-top pad included, \$60. Langwell, 293-2728.

STEREO TV, 27-in., \$215; armchair & ottoman, \$225; 50-gal. fish tank, w/accessories, includes yellow cichlids, \$250, all good condition. Chen, 797-0688.

FIREWOOD, 1 cord, cedar/pinon, \$150, will deliver in Albuquerque area. Carrillo, 610-4263.

FURNITURE: 6-pc. living room set, wood dining table, w/4 rolling chairs, \$500 for all. Pasco, 890-1434, ask for Johnny

BIKE TRAILER, Burley d'Lite, 2-passenger, like new, \$200. Tharp, 292-0790.

BED, queen size, Tema oak, high headboard, mattress, \$200. Frazier, 828-1958

TRANSPORTATION

'97 FORD F-150, 4.6L V8, long bed, 4x4, off-road pkg., Lariat pkg., tow pkg., 60K miles, \$15,000 OBO. Vernon, 892-6571.

'97 MITSUBISHI MONTERO, 4WD, AT, AC, PW, PL, PM, gray, approx. 91,300 miles, bids accepted through 12/20/02, right to refuse, sold as is. SLCFU, 237-7254, 7386, or 7384.

'95 FORD CROWN VICTORIA LX, sedan, runs great, Michelin tires, sunroof, below blue book, \$4,200. Williams, 896-1182.

'94 HONDA ACCORD EX, 4-cyl., AT, AC, PS, PB, PL, PW, cruise, tilt, airbags, many extras, fast and furious. Garcia, 292-6930.

'97 JETTA GLX-VR6, loaded w/all accessories, power everything, leather interior, great condition, 74K miles, \$11,500 OBO. Seward, 228-1308.

'88 SUBURU GL, 4-dr., sedan, 4-cyl., 2.0 engine, 35-mpg. Chavez, 248-1821, after 7 p.m.

'88 OLDS DELTA 88, 4-dr., rebuilt transmission, well maintained, 65K miles, NADA retail \$3,000, asking \$2,000. Baker, 898-3206.

'90 TOYOTA PICKUP, deluxe ExtraCab, w/shell, 2WD, 5-spd., AC, 1 owner, records, great condition, 150K miles. George, 440-0606.

'92 TOYOTA PREVIA MINIVAN, 4-cyl., AT, AC, cruise, tilt, AM/FM/cassette, power, captain's chairs, white, great condition. Turner, 292-6819.

'95 FORD WINDSTAR GL, V6, dual AC, PW, PL, new tires, excellent condition, 84K miles, \$4,500. Rutherford, 265-1428 or 363-7793.

'84 MERCEDES BENZ 190E, 2.3L gas engine, excellent body, runs great, 93.7K miles, too many cars, below book, \$2,200 OBO. Miller, 293-4682.

'02 JETTA GIS, 2.0, 5-spd., CD, PW, PL, sunroof, leather, new, 2,100 miles, \$22,000. Harris, 453-4677.

'97 CHEVROLET 1/2-TON, AT, crew cab, 4WD, w/fiberglass shell, green, tow pkg., very clean, 26K miles, \$21,500. Flores, 296-7919.

'02 DODGE 3500, 4-dr., 4x4, DRW, SLT, silver, 31K miles, awesome truck, many options, \$36,500 OBO. Madlener, 323-6022.

'92 NISSAN PATHFINDER XE, V6, 4x4, AC, AM/FM/cassette, tow hitch, conv. racks, 1 owner, clean, 166K miles, \$4,200. Roesch, 281-9751.

'85 DODGE RAM, 2WD, shell, 360 V8, AT, slips when cold, 135K miles, \$2,200 OBO. Watts, 323-5847.

'91 BUICK PARK AVENUE ULTRA, leather, loaded, dealer serviced, 67.5K miles, a cream puff, \$3,500. Gasser, 255-4562 or 269-8852.

'95 FORD THUNDERBIRD, new AT, V8, PW, PL, AC, AM/FM/cassette, 103K miles, \$3,300. Walker, 294-4087.

'97 TOYOTA TERCEL, AT, AC, AM/FM/cassette, runs/looks good, 75K miles, \$5,500 OBO. Aragon, 247-0471.

'02 HONDA ACCORD LX, AT, AC, AM/FM/cassette, cruise, alarm, all options works, runs great, \$4,000. Rule, 884-8762.

'88 LINCOLN TOWN CAR, new intake manifold, fuel injectors, front end, rebuilt engine & transmission, see pics on eBay, possibly deliver, \$2,500. Johnston, 702-294-0006.

'95 FORD MUSTANG GT, convertible, full power, keyless entry, new Michelins, always garaged, 58K miles, \$10,000. Martin, 830-2722.

'90 FORD F150 XLT, 4WD, AT, PS, PB, PW, Lariat, LB, 1 owner, 2 spares, all receipts, excellent condition, 92K miles, \$5,500. Miller, 296-0095.

'93 OLDS ACHIEVA, V6, 4-dr., AT, AC, CC, PL, PS, PB, records available, great shape, 73K miles, \$3,200. Taylor, 266-3302.

'98 CHEVROLET DUALY, 350 Vortex, AT, long bed, 4x4, 1 owner, goose/bumper hitch, white, excellent condition. Arana, 228-4134.

'98 ACURA LEGEND, 4-dr., loaded, AT, sunroof, CD, alarm, leather, new timing belt, 91K miles, \$10,200. Sala, 899-6020.

'93 CADILLAC DEVILLE, sedan, beautiful red, gold series, specialty roof, high mileage, no problem, runs perfectly, \$3,900. Brown, 291-3280.

'99 OLDSMOBILE INTRIGUE, loaded, w/spoiler, excellent condition, must see. Ziska, 821-6930.

'82 FORD MUSTANG, 5.0L, 225K miles, runs, needs a little work, \$1,000 OBO. Gutierrez, 869-3823.

'01 HYUNDAI ACCENT, 2-dr. hatchback, AC, AM/FM/cassette, 27K highway miles, daughter moved to NYC, \$7,200. Armijo, 319-7305.

'01 HYUNDAI ELANTRA, 4-dr., excellent condition, under warranty, \$10,000 OBO. Zamora, 384-3211.

'98 LINCOLN NAVIGATOR, fully loaded, leather interior, moon roof, 5-disc changer, excellent condition. Sanchez, 710-5159, ask for Myra.

'88 VW FOX, AC, excellent body & interior, needs some engine/exhaust work, 114K miles, \$1,050 OBO. Rivera, 323-8505.

'97 FORD F250 HD, SuperCab, 7.5L V8, 4WD, AT, PS, PB, AC, alarm, Tekonsha trailer brake, 74K miles, good condition, \$13,350. Brenkosh, 830-9106.

'00 FORD EXCURSION XLT, V10, like new, 1 owner, 36K miles, divorce, below book, loan \$20,900. Baker, 856-6228 or 319-2719.

'90 VOLVO 740 SEDAN, charcoal gray, excellent mechanical condition, \$5,500. German, 281-1719.

RECREATIONAL

'46 CHEVY TRUCK, appraised at \$10,000, trade for 5th wheel camp trailer or motor home. Martin, 869-1212.

'02 KAWADAKI MOHAVE 250cc, ATV, \$4,200 OBO; '03 Kawasaki Bayou 250cc, \$3,000 OBO, less than 10 hrs. Rohl, 833-3697.

14-FT. BOAT, aluminum, w/trailer & electric motor, \$550. Montoya, 450-2586.

MOUNTAIN BIKE, Specialized Rock Hopper, 15-1/2-in. frame, good condition, purchased, \$720, asking \$125 OBO. Longbotham, 385-5830.

MAN'S BICYCLE, Schwinn, 5-spd., \$35; carrier for 2 bikes, adjustable to fit any car, \$15. Babb, 865-6843.

'00 TITAN PHOENIX, 1589cc, black, w/lots of chrome, 3,300 miles, \$15,000 OBO. Montano, 833-0130 or 459-1313.

'00 KAWASAKI KX250, w/race suspension, good condition, must sacrifice, \$2,500. Bonsack, 872-1102.

REAL ESTATE

3-BDR. HOME, 2 full baths, study, nursery, great room w/fireplace, 2-car garage, Willow Wood area, 10 min. to Sandia. Benavidez, 296-5278, leave message.

3-BDR. HOME, big views, hilltop, stained glass, some old Alvarado, vigas, solar heat, 1/3-acre, +1/3-acre lot. Talbert, 298-9036.

3-BDR HOME, immaculate 2,800 sq. ft., 1,100-sq.-ft. in-law quarters, on 1.78 acres, Peralta, \$315,000. Garrison, 292-8973.

40 ACRES, wooded, 1 mile east off Highway 217 on Gonzales, \$120,000 for 40 acres, \$99,000 for 30 acres. Rowe, 505-259-5386, leave message.

3-OR 4-BDR. HOME, 2 baths, great room, spacious plan, triple garage, 2,430 sq. ft., Rio Rancho, \$289,000. Martinez, 298-7382.

4-BDR. HOME, loft, 2 baths, 2-story, 2,716 sq. ft. awesome city views, La Cueva school district. To, 797-1309.

3-BDR. HOME, loft, 2 FP, 2 living areas, 3,310 sq. ft., w/load of upgrades, High Desert contemporary Southwestern home. Danneels, 858-0479.

2-BDR. HOME, 2 baths, large living spaces, great front porch, 1,400 sq. ft., 1/2-acre wooded, Pecos, N.M., great country getaway. Daigneau, 293-5077.

3-BDR. HOME, 1-3/4 baths, 1,270 sq. ft., 1-car garage, 12200 Morrow NE, \$108,000. Henfling, 292-0794.

3-BDR. HOME, 1-1/2 baths, double garage, beautiful NW location, lots of amenities, excellent condition, ready to move it. Milliman, 256-5312 or 804-4739.

WANTED

LCD MONITOR, go-kart, laser printer, digital camera, new or used. Valenzuela, 344-2024 or 263-8827.

MARTINI GLASSES, Bombay sapphire, from prior years. Duncan, 271-2718.

GOOD HOME, Lab mix, 6 yrs. old, neutered, call for info. Manginell, 298-6188.

GOOD HOME, Australian shepherd/Blue Heeler, 3-1/2-yrs. old, neutered, good with kids & other animals, indoor dog, excellent elderly companion. Schneider, 610-4327.

TENNIS RACKET, Wilson Sting. Ho, 237-2668.

CALCULATOR, Hewlett Packard HP 10B II or HP 17B II or HP 19B II. Stavros, 281-8206.

METAL/WOOD CABINET, 2-dr., for storage in garage, good condition. Rodriguez, 764-8212.

MEN'S BIKE, 10-spd., prefer older model, 23-in to 26-in. frame, worn & torn OK. Mooney, 294-5161.

HOUSEMATE, private furnished apartment in 4 Hills, mountain views, separate entrance, convenient to Sandia, \$350/mo. Smith, 298-7365 or 292-1976.

LOST & FOUND

LOST: gold hoop earring, w/tiny red, green & blue stones, parking lot north of 701, Dec. 3, sentimental value, reward. Tremel, 275-5477.

A note about deadlines

The deadline for submitting ads (see rules above) for the next Lab News is Jan. 3. The next issue will be published Jan. 10.

Holiday helpers are everywhere at Sandia

By Janet Carpenter

Up and down the hallways, in and out the labs, Sandia elves and angels continue a giving tradition of caring about those in our community who would not have a happy holiday without help. Here is a roundup of holiday drives the *Lab News* has learned about. Undoubtedly, there are others.

Giving walls

The Division 10000 Diversity Council sponsored families from United Way agencies Peanut Butter & Jelly Family Services, All Faiths Receiving Home, and Share Your Care Adult Day Care. The agencies provide lists of family members containing clothing sizes and a wish list for adults and children. Sandians select nametags from a "Giving Wall" and deposit their special gift donations in boxes provided in various buildings. The Giving Walls are located in Bldg. 802 (Finance), Bldg. 887 (Procurement & Facilities), Bldg. 957 (Logistics), and Bldg. 875 (Fleet Services).

"It is amazing the response we get from everyone," says drive coordinator Terry Contreras.

"When I call people in the various organizations for help and support, I always get a 'you bet we can help' attitude. For example, the deposit boxes that we use are made and delivered to me by the Logistics-Shipping Department."

Because of security concerns, the gifts provided by employees are not wrapped. "We meet at an off-site area (Research Park) to do all the gift wrapping. I coordinate a date for the agencies to pick up the gifts so they can have them in time for their respective holiday parties," she says.

"I feel that giving is just something that comes natural to us all, and the Org. 10000 family demonstrates its generosity for our holiday giving project," says Terry. "When the agencies pick up all their goodies, the gratitude they express is just never ending."

Gift trees

Stockpile Resource Center 2900 is holding its 44th annual Christmas Gift & Food Drive through Dec. 18. Different schools are contacted and their counselors select the most needy families from their school. "We sponsor 15 to 16 families (40 to 50 children)," says drive chairwoman Paula Sanchez (2944). "A Gift Tree is set up in Bldg. 892 that contains two gift tags for each child, one for a toy and one for clothing. Grocery gift certificates in the amount of \$130 to \$160 are provided for the families."

In the end a wrapping party is held. Volunteers collect gifts, sort, wrap, and package them for the families; then they are picked up and delivered. "Many volunteers are needed to plan, organize, and support this event to make it successful," says Paula, "and the employees at Sandia are truly the most generous." Gift (unwrapped) deadline, Dec. 18; wrapping party, Dec. 19, 1:30 p.m., Bldg. 825 (TTC), with volunteer deliverers' pickup at 3 p.m. Tim Wisely (2992) is the drive co-chair.

Fostering happy holidays

Julia Archibeque-Guerra, Airworthiness Assurance Dept. 6252, responded to a Christmas giving opportunity from Sandia's Volunteer Program Manager Darlene Leonard (12650) for the Children, Youth, and Families agency. Julia's collections from department members will provide gifts for two foster children.

"The department members who participated agreed that we all spend so much money giving 'stuff' to one another for Christmas," says Julia. "In lieu of exchanging gifts with co-workers, I asked that we consider buying gifts for these foster children instead. It is heartwarming to know that we can hopefully make Christmas a little brighter for these children." Eleven-year-old Devin asked for books with photos of animals or baseball players and gift certificates for clothing at Wal-Mart or

Target. Four-year-old Mary wanted a Barbie doll with clothes and accessories.

Julia and her coworkers don't confine the giving spirit to the workplace. "Several of my co-workers, including myself, also participate in other Christmas giving projects through our churches and other organizations," she says.



THEY FIT! — An Albuquerque elementary school student laces up for a test run in her new shoes, courtesy of Sandia's Shoes for Kids program. (Photo by Randy Montoya)

Darlene Leonard provided names and gift wishes of foster children needing help. Sandra Pino in Engineering Services Center 9100 took names and her department bought gifts for 25 foster children; Christine Frazer in Technical Services Program Dept. 10820 took 37 names; Larissa Velasquez took 12 names for Weapons Integration Dept. 2102; Carolyn Lange and Teri Kinloch took 11 names for their coworkers in Executive Staff Director's Office 12100; and Public Relations and Communications Center 12600 employees made donations for seven children. Other organizations also contributing gifts for foster children include Business Systems Support Dept. 9521, Nuclear Safety Assessment Dept. 12332, CSU Operations and Development Dept. 9623, Protective Force Dept. 3114, and Business Systems Dept. 10852.

"In total, 105 foster children were provided with gifts," says Darlene.

From the heart

Employees in the Technical Library, Depts. 9515 and 9516, have chosen to sponsor families supported by From the Heart Foundation, "a non-profit business and educational program that helps low-income people, homeless people, and welfare recipients get jobs. It also provides computer and literacy training, job placement, special needs assistance, and counseling. Coordinators Connie Adams and Sharon Lawson are having donations sent directly to the foundation. Connie and Sharon will announce the grand total on Dec. 18 at a holiday social.

Shiny new shoes

Employees in Media Relations and Employee Communications Dept. 12640 have for the past

few years donated several hundred dollars annually to the Shoes for Kids drive. The Shoes for Kids project began years ago as a holiday gift exchange alternative between two scientists at Sandia who decided they would rather spend the money to provide shiny new shoes for needy children. Dept. 12640 along with many other Sandia individuals and groups keep the tradition alive and growing. Over the years, word spread and the Christmas program escalated to the department level (about 25), then the center level (about 150), and by 1995 a division of 800 employees donated nearly \$5,000 for new shoes. In 1995, Lockheed Martin/Sandia National Laboratories adopted the Shoes for Kids Program as a corporate-sponsored project. Last year employees and retirees donated \$13,073.

Fishing for toys

This is the seventh year that Software Product Realization (SPR) Business Area employees in Depts. 6521, 6522, 6523, 6524 and 6525 have participated in an annual holiday toy drive. This year's drive collected toys for a couple of needy families at a local elementary school and the Santa Day program at Carrie Tingley Hospital, the only hospital in the state specifically devoted to comprehensive care for children and adolescents with complex musculoskeletal and orthopedic conditions, rehabilitation needs, developmental problems, and chronic physical disabilities.

Employees went "fishing" for toy lists off the Fishing Penguin poster in Bldgs. 890 and 855. Each fish listed a toy wished for by a child from a local elementary school or from Carrie Tingley's Wish list. Drive coordinator Cindi Reyes collected the unwrapped gifts.

Neutron Generator Production Center 14400 coordinators, Peggy Rhodes, Stana Kopczak, Paige Briggs, and Elena Holland, select names of children from the Salvation Army Giving Tree in Coronado Center and bring them in for employees to select from and purchase gifts for needy children. Gifts are then returned to Coronado Center.

Look for coordinators in your organizations, conduct your own drive (see Holiday volunteer guidelines), or contact the groups listed here to get involved.



Holiday volunteer guidelines

If you are interested in collecting items from your group for a community agency during the upcoming holidays, here are guidelines established by Community Involvement in conjunction with Security:

1. If you don't have a specific holiday-giving project in mind and wish to identify an agency or group to help, contact Darlene Leonard, 844-8024, to indicate your interest and to be connected with suitable agencies based on your desired focus.
2. Having a drive for money is prohibited.
3. Gifts can be brought into the Tech Area as long as they are not on the prohibited list, i.e., recorders, liquor, etc.
4. Gifts can be wrapped and brought into the Tech Area but would be subject to search (unwrapping) if a mandatory package check was in place. Wrapping in gift bags eliminates that problem.
5. It would be appreciated if drive coordinators would keep track of the total collected and contact Darlene with the results of your giving.