



# Labs Announces Revised Fair Employment Policy

President Morgan Sparks this week released a revised statement of the Labs' policy on fair employment. Text of the statement is reproduced below.

It is the policy of Sandia Laboratories not only to comply with all Federal and State regulations pertaining to equal employment opportunities, but also to develop within the Laboratories the spirit of these Acts. As a result, employees at Sandia Laboratories are recruited, hired and assigned on the basis of merit, without discrimination because of race, color, religion, sex, national origin, or age. Sandia Laboratories encourages all employees in their daily interaction to take into consideration the dignity of the individual and the need to prevent and eliminate discrimination in all personnel policies and practices.

In our affirmative action programs, it is the Laboratories' policy to offer special opportuni-

ty to individuals who have lacked opportunity by seeking out those persons having potential which can be developed with the objective of enabling them to meet competitive employment standards.

In a LAB NEWS interview Mr. Sparks discusses elements of the policy in greater detail.

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*Mr. Sparks, why a revised statement on fair employment — is our policy being changed?*

Not really, our basic policy remains unchanged. But we wanted to update the older statement and to make it less legalistic and more personal. In matters relating to discrimination, I think we've seen an evolution over the years — from our initial concern with overt discrimination and the virtual elimination of this problem, to that which we have today — a concern about the less obvious forms of discrimination. EEOC Chairman Brown sums it up well when he says, "The most important thing to remember is that discrimination needn't be a matter of malicious intent. Not only the courts but the Congress have made it clear that general business rules and procedures may in themselves constitute systematic barriers to minorities and women."

*Would you comment on the phrasing "the spirit of these Acts"?*

This relates to what we were discussing

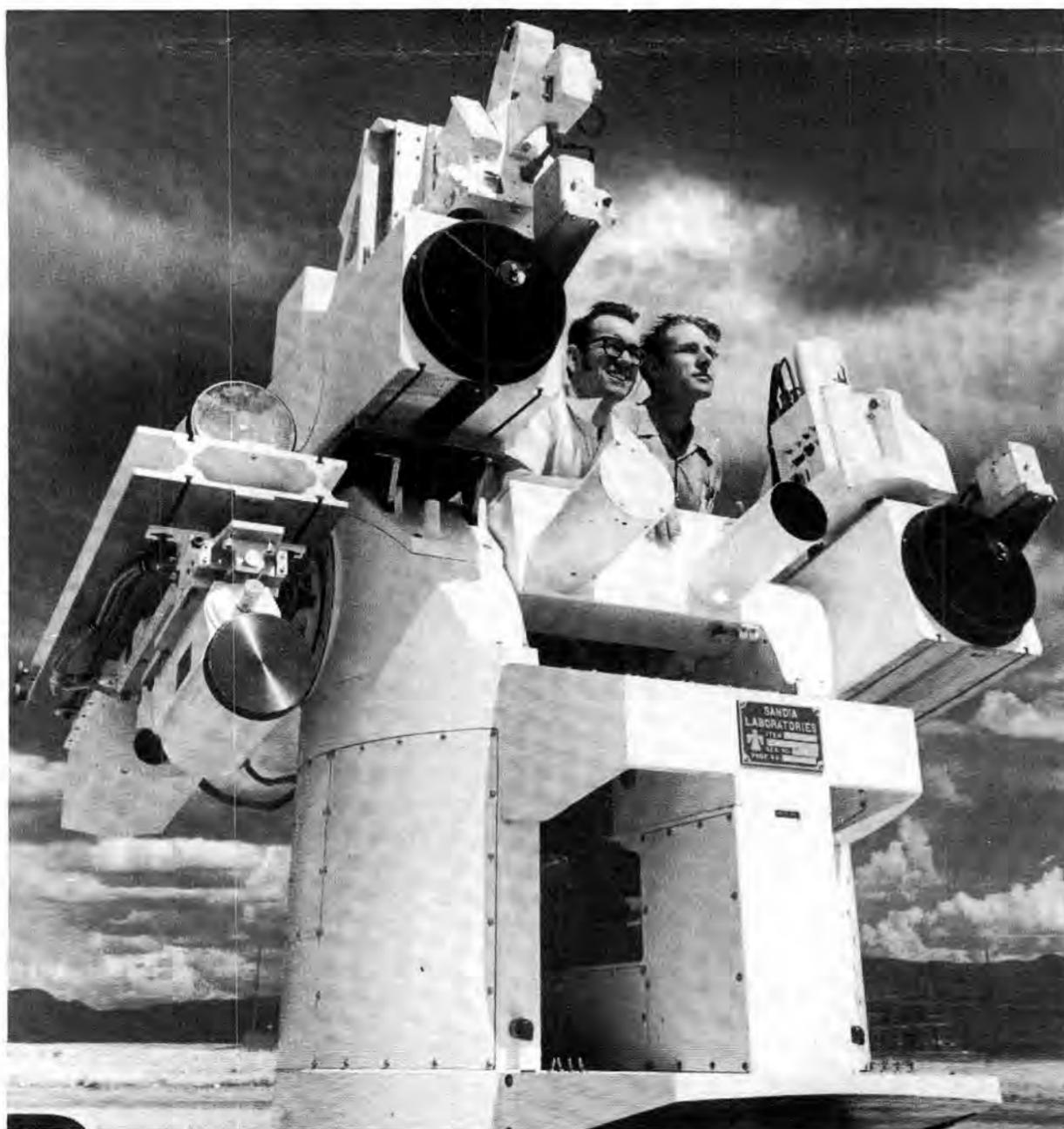
(Continued on Page Two)

## LAB NEWS

VOL. 25, NO. 8

APRIL 19, 1973

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



NEW TRACKING TELESCOPE with automatic television device is put through the paces by its designers — Al Shaut and Grover Hughes of TTR Development Division 9474. This unit, mounted on a trailer, will be used at Tonopah Test Range. A similar unit will be used by Photometrics Division 9312.

## New Mobile Tracking Telescope Developed

Work on two new mobile tracking mounts has just been completed by TTR Development Division 9474 under Leo Scully.

The new units are either truck or trailer mounted and are highly mobile. The tracking rates of these mounts are quite high — one complete revolution from a standing start in less than two seconds.

"This feature, coupled with the mobility and flexible photo optical capabilities of the units, should prove of great value to all types of field testing activities," Leo says.

One unit, truck mounted, will be operated by Photometrics Division 9312 and will cover local and non-TTR tests. It will be equipped with whatever photo optics required for the particular test, including television.

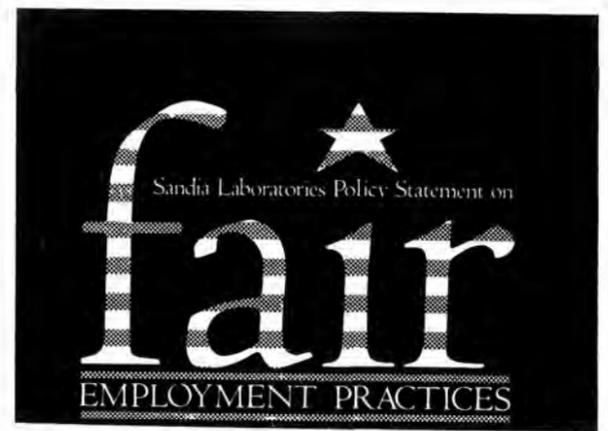
The second unit will be operated by Optical Measurements Division 9472 at Tonopah Test Range. This unit will be equipped with two 60-inch focal length telescopes and associated high speed cameras. Two additional cameras and lenses may be mounted on the unit to provide a total of four film cameras.

In addition, a television unit provides for automatic tracking of the test object once the operator gets the target in view. The missile or rocket has more density on the TV screen than the sky. The vehicle's greater contrast, then, enables the logic circuits of the system to keep the dark object in the center of the screen and to drive the mount's azimuth and elevation controls.

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**SANDIA SPECIAL No. 4** won't look like this Electrobus. But Jeff Gammon, who, with Doc Abernathy (both 7337), helped put the new route together, announces that No. 4 will begin serving the Indian School Road (University to Washington) and Constitution Avenue (Washington to Louisiana) areas on April 23. The schedule: University and Indian School (7:14 a.m.), Washington and Indian School (7:21 a.m.), south on Washington to Constitution, east past San Mateo (7:28 a.m.) with a loop around Mark Twain School to Louisiana (7:35 a.m.). Three stops are planned for Area I: Bldg. 800, Bldg. 832, and Bldg. 880. The route reverses in the evening with the bus leaving Bldg. 880 at 5:05 p.m. The cost: 30 cents exact fare each way. The method: stand on any corner along the route.



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## 'The Literal Observance of The Law Isn't Enough'

earlier (above). I'm sure that people at Sandia realize that the mere literal observance of the law isn't enough. Each of us must show in our attitude and actions that we support this policy of fair employment, and that is why the policy statement explicitly encourages all employees to consider matters such as the dignity of the individuals with whom they interact at work.

*What is meant by the term "special opportunity"?*

We are talking about a positive effort to identify those employees who have unrealized potential and who with training might qualify for better jobs. Thus, our present on-the-job training efforts and our out-of-hours educational courses will certainly be continued and their content examined in the light of our fair employment policy. In addition, the Laboratories' new Employee Relations Department is developing other programs to assist in this area.

*The Labs has had several charges of discrimination. Could you comment on these?*

It's true that a number of employees have made such charges, but this does not necessarily indicate that our efforts in this area have been ineffective. The fact is that the bulk of cases arising from such charges have been resolved favorably for the Labs. But what I want to emphasize here is our hope that a person at Sandia who perceives some problem in this area will feel that he or she can at least explore the problem with supervision or with the union. This would be a sensible first step and, if the person feels for whatever reason that these avenues of complaint are not suitable, we are currently developing other channels of communication that employees will be able to use. The whole point is that Sandia would like to know about — and thus possibly resolve — difficulties with an employee before outside agencies become involved.

*Last year, after a series of meetings, supervisors were asked to conduct orientation sessions with employees on fair employment. Are further efforts in this area planned?*

Yes, we're now developing training material, and there's one factor being emphasized. During the layoff many persons being laid off told me that they had not been kept informed about their job performance and that it came as a surprise to them to learn that their performance was not considered to be up to par. In our next supervisory training sessions, the importance of so informing employees will be emphasized. I feel that regular and planned communication on job performance is an indispensable ingredient of fair employment.

## Authors

R.T. Meyer and A.W. Lynch (both 5324), "Reevaluation of Carbon Vapor Pressures and Third Law Heats of Formation: Triatomic Carbon," Vol. 5, No. 4, HIGH TEMPERATURE SCIENCE.

T.A. Duffey (1544) and D.E. Mitchell (9321), "Containment of Explosion in Cylindrical Shells," March issue, INTERNATIONAL JOURNAL OF MECHANICAL SCIENCES.

J.E. Houston (5114), G.E. Laramore (5151) and R.L. Park (5114), "The Effect of Steps on LEED Intensity Data for the (110) Face of Aluminum," Letter to the Editor, Vol. 34, No. 2, SURFACE SCIENCE.

R.A. Baker, D.E. Bishop and G.C. Stoker (all 9351), "Ultrasonic Characterization and Computerized Analysis of Graphite Billets," Vol. 4, No. 4, INTERNATIONAL JOURNAL OF NONDESTRUCTIVE TESTING.

C.L. Olson (5241), "Cone Focusing of Intense Relativistic Electron Beams," and "Adiabatic Envelope Conservation in Cone Focus Trajectories," April issue, PHYSICS OF FLUIDS.

A.W. Lynch, R.T. Meyer and J.M. Freese (all 5324), "An Explosively Actuated Reaction Vessel for Gas Injection and High Vacuum Applications in Pulsed Energy Experiments," April issue, NUCLEAR INSTRUMENTS AND METHODS.

A.D. Swain (1642), "Design of Industrial Jobs a Worker Can and Will Do," and "An Error Cause Removal Program for Industry," April issue, HUMAN FACTORS.

J.W. Nunziato (5131) and E.K. Walsh (Univ. of Florida), "Shock Wave Propagation in Inhomogeneous Atmospheres," April issue, PHYSICS OF FLUIDS.

D.E. Amos (5122), "Bounds on Iterated Coerror Functions and Their Ratios," Vol. 27, No. 122, MATHEMATICS OF COMPUTATION.

J.B. Gerardo and A.W. Johnson (both 5212), "Electronic Recombination Coefficient of  $^3\text{He}_2^+$  Compared to  $^4\text{He}_2^+$ ," April issue, PHYSICAL REVIEW A.

L.C. Beavis (2413), "Formation of Triatomic Ions of Hydrogen in the Ion Source of Gas Analyzers," Vol. 10, No. 2, JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY.

M.J. Sagartz (9324), "Use of Model Solutions in Elastic Wave Propagation Problems," March issue, AIAA JOURNAL.

## Events Calendar

**April 21** — N.M. Mt. Club, Tent Rocks and Jemez exploratory, Gulf Mart, 8 a.m.

**April 21** — Sandia Bike Ass'n., tour to Corrales, Rio Grande Zoo, 10 a.m.

**April 22** — Spring Corn Dances, San Ildefonso, San Felipe, Santa Ana, Santo Domingo and Santa Clara Pueblos.

**April 23** — Maxwell Museum, UNM, Music Film Series, "North American Indian";

**April 25** — "Africa"; **April 27** — "Asia";

**April 30** — "India and Indonesia," 12:15 p.m.

**April 27-29** — Rodey Theater, "Mass," by Leonard Bernstein, Popejoy Hall, 8:15 p.m.

**April 27-29** — Albuquerque Little Theater, "Kind Lady," (27th-8 p.m.; 28th-6 & 9 p.m.; 29th-2 & 8 p.m.).

**April 28** — Sandia Bike Ass'n., tour to Los Lunas, Univ. and Stadium Blvd., 9 a.m.

**April 28-29** — N.M. Mt. Club, Canyon de Chelly car camp, call Ellen on 266-4851 by April 24.

**April 28-29** — Heights YMCA Aquatic Club Swimming Meet, Valley Municipal Pool, for age group and senior swimmers; morning preliminary events, afternoon finals; spectators welcome.

**April 29** — N.M. Mt. Club, Bandelier National Monument, Gulf Mart, 8 a.m.

*Continued from Page One*

## Tracking Telescope

Tracking mount electronics were designed by Al Shaut. The TV tracking error detector system was the responsibility of Don Greenwell. Grover Hughes was project engineer and performed mechanical design. All are in Division 9474.

## Speakers

R.L. Gerlach (5332) and A.R. DuCharme (5335), Invited Presentation, "Electron Impact Ionization Cross Sections in Auger and Ionization Spectroscopies"; J.P. Brainard (1413), "Electron Emission From Alumina During High Voltage Stress"; J.A. Panitz (5331), "Atom Probe Mass Spectrometry of Anode Whiskers and Their Role in the Electrical Breakdown of Planar Vacuum Gaps"; J.E. Houston (5332), R.L. Park (5331), and G.E. Laramore (5151), "Shift of Core Electron Binding Energies of Surface Atoms Relative to Bulk Values," 33rd Annual Conference on Physical Electronics, March 26-28, Berkeley, Calif.

M.G. Vigil (9322), "Calibration of Sandia Laboratories' 19-Foot-Diameter Explosively Driven Blast Simulator," 19th Annual Meeting of the Institute of Environmental Sciences, April 1-5, Anaheim, Calif.

T.P. Wright (5231), "Whistler Decay Instability in Three Dimensions," International Conference on Waves and Instabilities in Plasmas, April 2-7, Innsbruck, Austria.

R.P. Baker (1931) and E.D. Graham (1933), "A DELTA Criteria for Transistor Screening," 1973 Reliability Physics Symposium, April 3-5, Las Vegas, Nev.

J.L. Jellison (5533), "Investigation of Capacitor Bond Failures in Hybrid Microcircuits," Symposium on Electronic Device Failure Mechanism, April 3-5, Las Vegas, Nev.

H.O. Pierson (5313) and D.M. Schuster (5314), "The Development and Properties of a Polyacrylonitrile (PAN) Fiber Based Carbon Felt," 18th National SAMPE Symposium, April 3-5, Los Angeles.

S.T. Picraux (5111), "Metal-Metal Interactions," Conference on Metal Semiconductor Contacts in Integrated Circuits, Calif. Inst. of Technology, Feb. 22-23, Pasadena.

J.H. Metcalf (3313), "Health Physics Aspects of Underground Nuclear Testing," Rio Grande Chapter of Health Physics Society, March 29, Albuquerque.

J.L. Tischhauser (5440), "Software Procurement — The Make or Buy Decision," Atomic Energy Systems, Operations and Procedures Association, March 27-29, Augusta, Ga.

R.W. Mottern (9351), "Precision Measurements in Assemblies with High Energy X-Ray Sources," American Society for Nondestructive Testing 1973 Spring Conference, March 12-15, Los Angeles.

J.W. Nunziato (5131), "Some Recent Results in Nonlinear Viscoelastic Wave Propagation," University of Texas, March 27, Austin.

R.L. Park, J.E. Houston (both 5114), and G.E. Laramore (5151), "The Characterization of Metal Surfaces," American Chemical Society Meeting, April 8-13, Dallas, Texas.

C.N. Vittitoe (5223), "The Possibility of Enhancement of Sprint Close-In Radial EMP Effects in a Multiple Burst Environment," Atmospheric Effects Symposium, April 9, San Diego, Calif.

D.C. Bickel (9322), "Countermeasure Testing Using A Rocket Powered Trolley," Symposium on Infrared Countermeasures, April 10-11, Naval Ordnance Laboratory, White Oak, Md.

J.H. Graham (7146) and G.R. Elliott (2341), "A Computer System for the Sandia Laboratories Development Shop," Numerical Control Society's Annual Meeting and Technical Conference, April 16-18, New York City.

E.A. Salazar (5511), "Flat Cable Laminate Materials," Cable and Connector Symposium, April 17-18, Albuquerque.

K.J. Touryan (5640), "Terradynamics, A New Discipline In Applied Mechanics," Southwest Graduate Research Conference in Applied Mechanics, NMSU, March 23, Las Cruces.

H.H. Patterson (1230), "Mexico and The Sea of Cortez," March 6, science class, Eldorado High School.

A.D. Swain (1642), "The Motivation of the Volunteer Worker," March 8, Los Altos Kiwanis Club.

K.J. Willis (5000), "Secretarial Requirements and Daily Duties," March 8, secretarial class, Southwest College.

R.J. Baughman (5154), "Crystals and Crystal Growth," March 13, science class, Eldorado High School.

C.S. Johnson (9421), "The Amazing Mystery of the UFO," March 20, PTA, Eubank Elementary School; and "Deceptive Use of Genuine Imitation Truth in Arguments," March 22, Los Altos Kiwanis Club.

H.D. Sivinski (5250), "Man in the Space Environment," March 20, Sons of the American Revolution, and March 27, Men or World Wars, Albuquerque.

G.W. Hughes (9474) and H.C. Monteith (9344), Booth on "Space Science, Physics, and Atomic Energy," March 22, Sandia High School Career Fair.

H.C. Monteith (9344), "ESP Research in Russia, England, and America," March 27, Albuquerque



*JALAPENO PEPPER devotees gather every week or so in the southwest corner of Bldg. 880. Here they consume quantities of their favorite comestible and try to hold back the tears. Obra Phelps (9481 — since retired) doesn't always succeed in the stoic role.*

Science Teachers Association and March 30, Parapsychology Club.

N.J. Pollard (2342), "Electrical Engineering as a Profession," March 30, freshman engineering class, Kansas State University.

R.D. Bland (5114), J.K. Maurin (5522) and S.F. Duliere (5525), "The Effect of DC Substrate Bias on Thick RF-Sputtered Chromium"; J.E. Houston and R.D. Bland (both 5114), "Relationship Between Sputter Cleaning Parameters and Surface Contaminants"; L.G. Haggmark and J.A. Mogford (both 8341), "Theoretical Studies of Techniques for Determining Surface Densities of Oxide Films on Metal Tritides"; A.R. DuCharme and R.L. Gerlach (both 5114), "Theory for the Ionization of Surface Atoms by Electron Scattering"; G.E. Laramore and A.C. Switendick (both 5151), "LEED Intensity Profiles of the (100) Face of Lithium Fluoride"; D.G. Schreiner (5114), G.E. Laramore, J.P. Van Dyke (both 5151), and R.L. Park (5114), "Electron Binding Energies of Thorium and Uranium Surfaces"; J.A. Panitz (5114), "Atom Probe Spectroscopy of Extended Metal Surfaces," Ninth Annual Symposium of the N.M. Chapter of the American Vacuum Society, April 9-11, Albuquerque.

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bill laskar takes/makes pictures*

*&  
in livermore lorena schneider does all*

# LIVERMORE NEWS

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LIVERMORE LABORATORIES

APRIL 19, 1973



**NATIONAL SECRETARIES WEEK, April 22-28.** This coming week Sandia/Livermore joins with other firms across the nation in observing Secretaries Week. Special honors go to the eight Labs secretaries who each have more than 10 years' service. They are (clockwise from left): Edith Milatzo (8260), Joan Madsen (8330), Karen Poor (8440), Joyce Doyal (8250), Val Cowan (8300), Betty Pajari (8430), Vivian Lenz (8421), and (center) Jackie Sparger (8164).

## Speakers

John Kryvoruka (8178) and Bill Ashurst (8354), "Re-entry Vehicle Roll Rate Control: Aerodynamic and Flight Analysis," American Institute of Aeronautics and Astronautics 11th Aerospace Sciences Meeting, Washington, D.C., Jan. 10-12.

Faz Bramlette (8111) and R.R. Smith and N.J. Sliski (both WPAFB), "A Study of Fin-Induced Laminar Interactions on Sharp and Spherically Blunted Cones," 11th Aerospace Sciences Meeting, American Institute of Aeronautics and Astronautics, Jan. 1973.

Jack Wilson (8413), "The Metric System," Curriculum Leadership Meeting, Los Angeles County School District, Los Angeles, Jan. 24.

## Sympathy

To Gordon Bjork (8266) on the death of his father-in-law, March 27 in Hot Springs, Ark.

To Ken Chappell (8411) on the death of his father in Bossier City, La., March 15.

To Jess Castellon (8431) on the death of his mother-in-law in Stockton, Calif., March 8.

## John Costello Named to AEC Reactor Assignment



John Costello of Project Engineering Division 8168 is the fourth Sandia/Livermore engineer leaving the Labs for a two-year assignment with AEC's Director of Regulation in Bethesda, Md., following the recent recruitment program within the AEC complex. The other three Sandians on loan are Sam Cummins, Joe Grant and Dennis Rathbun (LAB NEWS, Feb. 23, 1973).

All four report to the Deputy Director for Technical Review, and they will be involved in licensing activities for nuclear reactor power plants. Their primary responsibility will be to make safety and engineering judgments on proposed nuclear power plants.

John, whose assignment is with the Quality Assurance Branch of the Directorate of Licensing, will review reactor license applications for compliance with the Commission's quality assurance criteria during power plant design, construction and operation. In addition, he will be responsible for developing technical specifications for the reactor facilities. John has over 20 years experience in the quality assurance/quality control field.

## Supervisory Appointment



**MAURICE "MO" ROBERT** to supervisor, Steam Plant, Refrigeration, Pipefitting and Grounds Section 8257-1, effective April 1.

Mo has been with this organization since joining Sandia/Livermore as a pipefitter in October 1960. In 1970 he became a mechanical technician.

After serving with the U.S. Army from 1943-46, including 28 months in India, Mo apprenticed and worked in his father's plumbing business in Pawtucket, R.I., for 10 years. He then worked as a foreman for the D'Amico Plumbing Company in Warwick, R.I., for five years. After moving to California, he was a plumber for Stone & Company in Hayward for a year before joining Sandia.

Mo and his wife Terese and their daughter live at 848 Wagoner Drive, Livermore. A married son resides in Hawaii.

## Congratulations

Mr. and Mrs. Kirby Hammond (8423), a boy, Andrew Eric, March 21.

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## Retiring from Livermore Labs



Ray Shepherd (8423)



Jim Minger (8261)

## Livermore Laboratories Participates in Student Career Day

Sandia/Livermore participated recently in the second annual Career Day service project sponsored by the YMCA Men's Club in cooperation with the local high schools. As part of the project, five high school students spent a day on the job with Evelyn Foote, supervisor of Secretarial and Clerical Development Section 8212-1; Wes Hodges, Visitor Control Section 8261-1; and Don Wagner, Staff Personnel and Industrial Relations Division 8212, for a first-hand look at the work done in these groups. Some 200 students were involved in the project, along with over 100 Valley business people.

## Phone Voices Have Owners Too

We all have certain telephone numbers we dial a lot — for our work or maybe just for information — “why is the flag at half-mast?” “what’s the weather forecast?” “How do I register my new car?”, etc. At Sandia, some phones get especially heavy traffic. Here’s a look at a few of the people on the other end of those lines.

\* \* \* \*

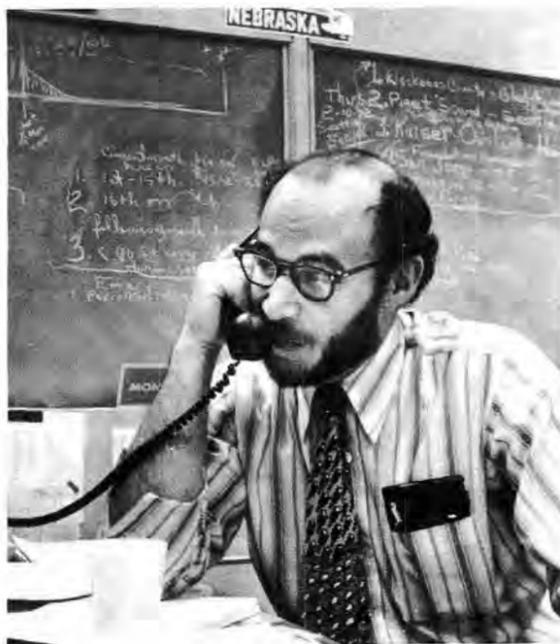
Anyone who has work done by Sandia's Print Shop knows Nancy Sanchez. She's scheduler for the Photolithographic Section 3147-1 and has been at the Labs for 23 years. Most of Nancy's calls relate to printing schedules and questions on the best reproduction method (of printing).

Nancy and her husband Fred, who works at R.T. French Co., have two daughters, ages 13 and 19. The oldest one is attending school at ENMU at Portales. Nancy likes to sew and is a bridge player. She and Fred also enjoy the Coronado Club trips to Mazatlan — they're signed up for the one coming up this fall; it'll be their third.

\* \* \* \*

Tex Ritterbush of Compensation and Benefits Planning Division 4214 has been bombarded with calls on the new health care plans and on tax aspects of the Bell System Savings Plan. He's been with the Labs for 12 years and for the past four years has been with the Benefits group.

Tex and his wife Kathy have three boys — the two oldest are members of the Coronado Club swim team, which also involves Tex and Kathy. They enjoy family camping trips and Tex is active in the Labs volleyball league. He also admits to being a past horseshoe champion at Sandia!



Tex Ritterbush

\* \* \* \*

When your phone call to the Mailroom is answered, you'll hear, “This is Joe,” or “This is Tony, may I help you?” These two assignment clerks — Joe Hernandez and Tony Lopez — in Mail Services Section 3148-1 have been at the Labs 23 and 22 years, respectively. Most calls concern misdirected mail or the non-delivery of a certain piece of mail, which may well still be on the sender's desk. Is mail service improving? “Well, ours is,” they proclaim.

Tony and his wife Senaida have one daughter at home, two married children, and two grandchildren. Tony likes to fish,



Nancy Sanchez

especially at Stone Lake or on the San Juan River.

Joe and his wife Helen also have one daughter at home and two married children. Joe enjoys home projects and spends a lot of time with his family, which now includes three grandchildren.



Joe Hernandez (I) and Tony Lopez

## Take Note

“Multi-Disciplinary Approaches for Teaching Physical Science, Industrial Arts, and Technical Subjects” was the topic of a seminar conducted by Paul Robertson (3132) for graduate students of the UNM College of Education's Industrial Arts Department. Most physical concepts cut across all of the physical sciences, and the aim of the seminar was to identify variables and common concepts in the areas of mechanical movement, mechanical rotation, electricity, fluids, and heat.

\* \* \* \*

The monthly meeting of New Mexico Diabetic Association will be held at Anna Kaseman Hospital, April 26 at 7:30 p.m. A talk on diabetes will be given by Dr. Robert Blizzard, acting chairman, Department of Pediatrics, Johns Hopkins University School of Medicine.

For more information contact Larry Kent (5133), vice president and program chairman of the association. The public is invited.

# People Who 'Manage' Albuquerque Air

From their office, fifth floor City Hall, they usually have a good view of the Sandias. Usually. When they don't, they find out why. "They" are part of Harry Davidson's Air Management Division, technical services section. Under Mike Connolly, their job is to tell what Albuquerque's air is doing — and why. When they identify a worsening trend for a pollutant, they ask their sister section, the enforcement people, to see that the trend gets reversed.

"If," says Mike, "our sampling stations suddenly show an increase in ozone and particulates in the air, we can work with enforcement to locate the industry that's causing it. If we have to, we can close a polluter down, but we've never had to go that far."

The air sampling stations are critical elements, and they're part of the job's frustration. There are a dozen high volume air samplers scattered around town, more or less along the valley and along Central to form a sort of X-Y axis. The samplers measure particulate matter in terms of micrograms per cubic meter. Says Rosemary Thompson, one of the two technicians who works with the devices, "They do a fine job when the stuff ranges between one micron (one-thousandth of a millimeter) and a hundred microns, but they don't handle stuff below one micron very well — and that's the size our lungs don't handle very well either."

"We're hoping to get more sophisticated devices one of these days," says Mike, "but

the newest ones designed to continually sample for all size ranges are simply too expensive yet.

"Actually the whole air sampling area is still a fairly inexact science, primarily because it's dependent on the vagaries of the weather. But we think we're getting a pretty good picture of Albuquerque's air — albeit a *good* picture is sometimes a hazy one. We check for carbon monoxide at three sites with the non-dispersive infrared method, and we're getting a fourth site in the far north valley. We measure ozone in two places with a device that reads the chemiluminescence of ozone in ethylene. And we've got one site where we measure total photochemical oxidants using a coulometric method.

"Those high volume samplers that Rosemary mentioned pull in 50 to 60 cubic feet of air per minute and deposit particulates, including those from some of the heavy metals, on a fiberglass filter paper. After measuring the particulates in the filter, we dissolve them in benzene to get an idea of our hydrocarbon count."

Albuquerque is one of 50 cities in the National Air Surveillance Network, a federal EPA project. Every two weeks, Mike's people submit data from the Broadway and Tijeras test site to an outside lab for comparison with other cities and with Albuquerque's earlier air history. "They even do a radiation analysis," says Mike. "But we don't get the results of any of the tests until six months after we send in the data. Hope there's never an emergency — we'd all be dead without even knowing what killed us."

One tangible bit of evidence of the kind of job being done is a mathematical model (developed by Sandian Bob Luna, 5644) which provides a three-dimensional picture of the pollutant concentration levels attributable to the automobile. The model demonstrates vividly that certain areas of town can become veritable traps for carbon monoxide. "If there aren't any overriding influences," says Mike, "carbon monoxide runs downhill into the valley just like water."

More frustrating than the instrumentation problem is the group's general inability to do much about pollution when the automobile is the culprit. "We've tried," says Mike, "to diminish the number of smog alerts by educating people on what car exhaust does to our air — we publish an atmospheric emissions inventory every year. And we attempted a bond issue which would have set up inspection stations and thus kept the worst offenders off the streets. But the bond issue failed, and we're obviously not doing a perfect job at educating the public. Even with more cars with emissions control devices every year, we're getting worse rather than better — more cars driving more miles."

Contrary to what it may seem, managing air may be easier than managing people. •bh



Bill Caldes

## 30 Years at Sandia

### '43 To '73 — It Was A Very Good Era

Once upon a time a young chemical engineer was sitting tranquilly in his office at Princeton University, thinking about becoming a flyer in the Navy, and a man came in with a message: forget the Navy — pack up — we're heading west. And so the young man packed up, went west, and he lived happily (well, reasonably happily) ever after because he ended up as the senior employee at a place called Sandia Labs.

Bill Caldes (9340) observes his 30th anniversary with Sandia this month and we asked him how come since everybody knows Sandia hasn't been around that long. It's because U. of Cal. (which then as now ran LASL) time is considered good time for service purposes, and it turns out that Bill out-services several Sandians who were also at Los Alamos during WWII but were there in a military capacity.

We were strolling through the Sandia Atomic Museum, noting especially the old newspaper clippings and photos.

"I was at Trinity for the shot," Bill recalled. "In fact, Fermi was in our bunker. You've probably heard how he calculated the yield — dropping bits of paper and noting their displacement as the shock wave passed. His estimate was fairly accurate too. Mostly I remember how bright the flash was — I pushed the heels of my hands into my eye sockets and it was still bright.

"Oppenheimer? I saw him at Princeton after the security flap — he was a broken man. You know, I don't think we could have developed the atom bomb during the war without him. He directed the work of all those top-drawer scientists, and some of them were prima donnas, and he kept them on the track."

One photo shows the active material for the Trinity shot being unloaded from a Plymouth sedan belonging to the Army. Along with other worries, an electrical storm developed after the device was assembled atop the tower, and there was concern about a lightning strike. Fortunately, it never came.

One other memory stands out. It involves Hans Bethe, one of the giants in the bomb's development. Bill relates, "All that morning after the shot, there was Hans, who looked like a German pastry cook, beaming and proclaiming to all with his heavy accent, 'just as we predicted.' He was one happy physicist. . . ." •js



TECHNICIAN ROSEMARY Thompson, of the City's Air Management Division, prepares to remove a filter from a high volume air sampler. She's particular about particulates.





GETTING ADJUSTED is the atomic absorption device under the skilled hand of Donnie Miller and the practiced eye of Ben Seely (both 5521).

### Quick, Precise Quantitative Analysis

## The Atomic Absorption Device

Any R & D lab has to have a way to sort out one element from among a dozen or more in a complex sample and to tell how much of that element is present. At Sandia, the way is a device, specifically an atomic absorption device. It simplifies, even supplants, many of the traditional methods of qualitative (what is it?) and quantitative (how much?) analyses. These methods are quite accurate, but they often necessitated laborious isolation of the element in question; and they used to take the full-time effort of several people in Cecil Russell's Materials Analysis Division. Now, Ben Seely, assisted by Donnie Miller (both 5521), and the atomic absorption device handle the analysis tasks.

The atomic absorption device works on the spectroscopic principle — each element emits a different, and known, wave length. The device compares wave lengths from a known element with those from an unknown sample and makes a very precise (down to fractional parts per billion for some elements) determination of the quantity of that element in the sample.

The known element is contained in a cathode lamp where it can be looked at by the spectroscopic photometer. A twist of a knob sets the photometer to the wave length of the known element — 3520 Angstroms for nickel, for example — and the device is ready for use. The operator usually dissolves the sample of unknown material in acid; a tube then sucks the solution into the flame in the test space. The wave lengths of the known element and those emitted by the atomized sample are compared and registered in the photometer. If the sample is pure, the photometer says 100 percent. If not, the photometer shows, either in terms of transmission or absorption of wave lengths, just how much of the element in question the sample contains.

Atomization of a liquid sample by flame (or heat) is not the only way a sample can be seen. The device can handle a sample that has undergone a chemical reaction to produce a vapor, or it can accommodate a small solid sample (nestled inside a hollow carbon rod). But the atomization process is the simplest for most elements.

A principal feature is the variety of

outputs the device affords. One is a simple dial on which the operator reads the purity of the sample. Another is a strip chart recorder which is a more permanent visual indicator. Still another is a digital counter/print-out device which can be set to average a series of readings over a 10-second span.

"But the major advantages," says Ben, "are accuracy and speed. Even sub-trace elements show up in seconds. If we get a bunch of samples which are pretty similar — all alloys of silver, for example — we can hitch the device to a computer for automated data recording and get a reading on a sample every few seconds. It's a fantastic tool." •bh

## Sparks Named To Academy

Labs President Morgan Sparks has been elected a member of the National Academy of Engineering, Washington, D.C.

Members of the Academy are elected on the basis of significant contributions to engineering theory and practice, or unusual accomplishments in the pioneering of new and developing fields of technology.

The Academy cited Mr. Sparks for his "pioneer work in the invention of the grown junction transistor." Before joining Sandia, Mr. Sparks worked on transistors at Bell Labs, and he holds 10 patents in the field of semiconductor electronics.

The Academy is an organization of some 400 distinguished engineers and scientists from around the country. With the National Academy of Sciences, it shares responsibility for advising the federal government on the nation's changing technical needs, and the resources that can and should be applied to them.

### Classification Group Cited

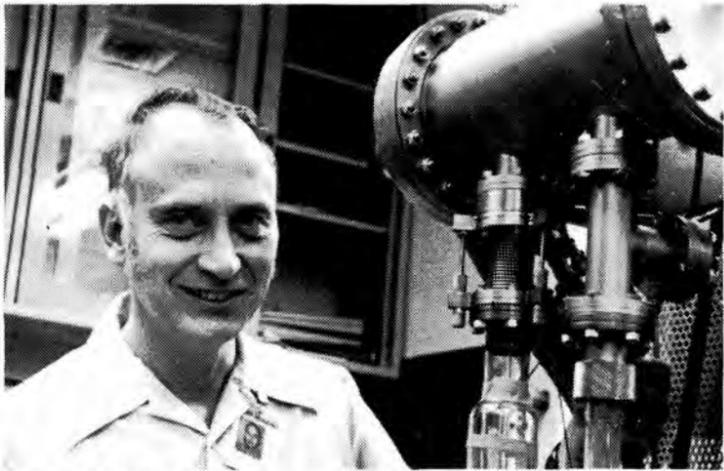
Sandia Labs' Classification Division 3154, headed by Jim Marsh, has been cited by the AEC "in appreciation of your outstanding contribution to the AEC's declassification review program."

Marsh, together with the classification staff — Wright Van Deusen, Chuck Prohaska and Bill Dameron — spent much of January and February of this year at LASL, where they reviewed some of the more than 300,000 documents being considered for declassification. Over 150,000 documents were ultimately declassified.

Similar reviews have been conducted at other AEC laboratories, including Sandia, and will eventually encompass classified records at all of the Commission's installations. The reviews are conducted pursuant to Executive Order 11652, under which as much information as possible regarding the affairs of government is to be made available to the public.



SCIENCE YOUTH DAYS — Recently, 200 outstanding science students from community high schools toured the Laboratories as part of an effort to encourage pursuit of scientific careers. Here a group of youngsters talks with Ed Graeber (5525) in a materials analysis lab in Bldg. 805.



Robert Sallach — 5531

10



Robert Taffe — 1310

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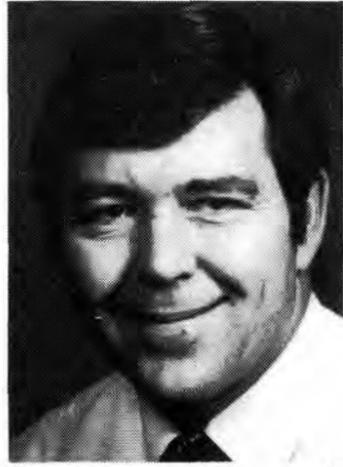
# MILEPOSTS

LAB NEWS April 1973



Claire Haut — 3152

15



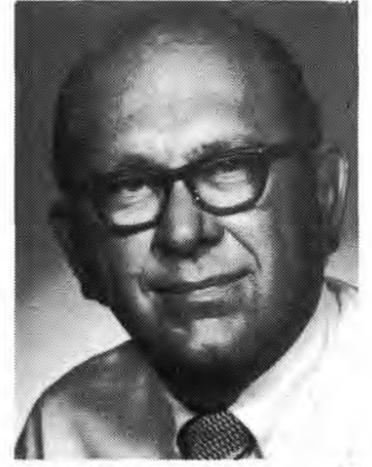
Carl Longerot — 1415

15



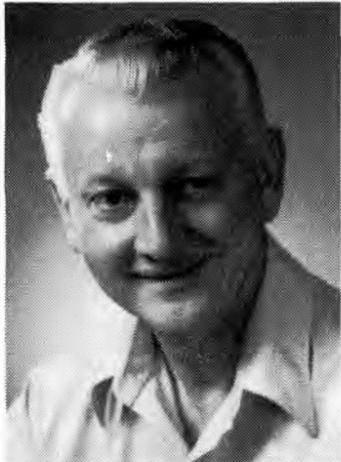
Bill Caldes — 9340

30



Jerry Kennedy — 9110

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Ray Shephard — 8422

10



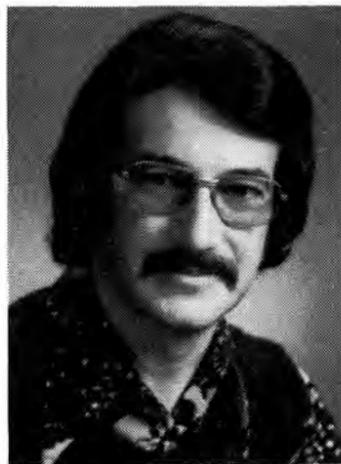
Richard McAvoy — 9323

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Thurman Foreman — 4515

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Al Mederios — 8256

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Mildred Hooker — 1514

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James Wheeler — 7453

25



Del Olson — 1510

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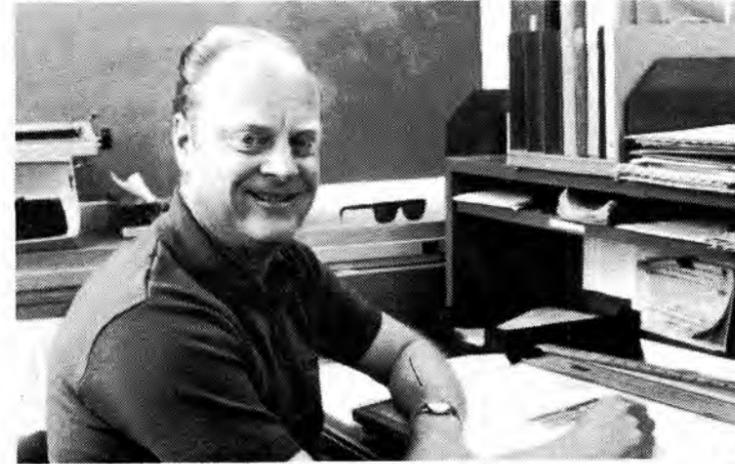
Don Baumann — 8431

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Cecil Littleton — 7422

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Vernon Marsh — 7616

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Ralph Davies — 4364

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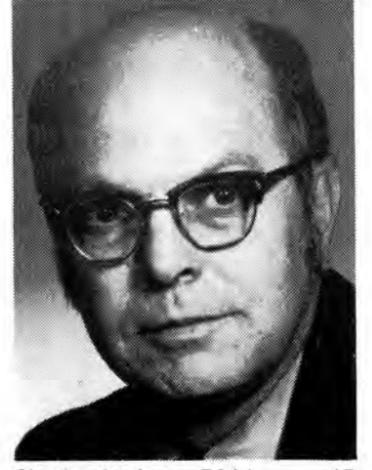
Barry Green — 8421 20



Jim McIntire — 9239 10



Orville Padilla — 9443 20



Charles Arning — 7614 15



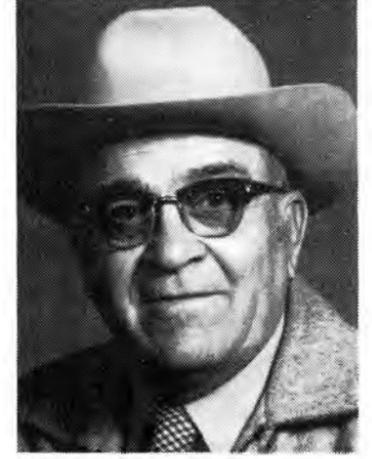
Ken Bennett — 8261 20



Walter Von Rieseemann — 1541 10



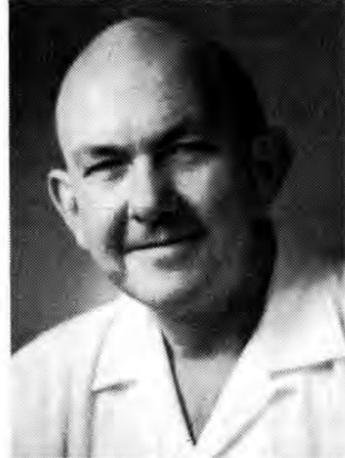
Hugh Taylor — 7544 10



Samuel Salazar — 4515 15



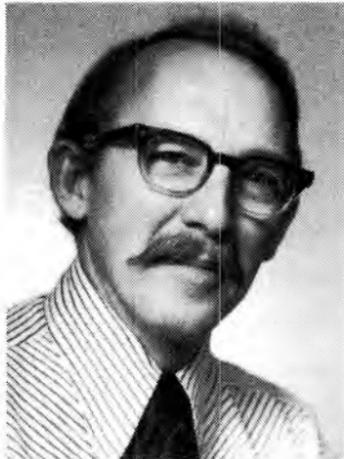
Raymond Clark — 3231 20



Jim Sheley — 8161 10



Dorothy Holloman — 3152 25



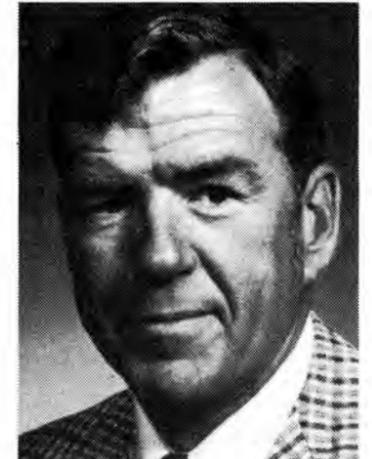
George Ruzicka — 8323 15



Russ Asbury — 7145 20



Jose Montoya — 4623 25



John Willis — 1431 15



Louis Stam — 1223 20



Floyd Coppage — 1934 15



James Williams — 1932 10



Bill Guntrum — 8412 20

# Words of the West



The vernacular of the Southwest is literal, pithy and colorful. Its colloquialisms reflect its heritage — the colorful speech of Indians, Spaniards, cowboys, gamblers, gunmen, freighters, mountain men, even trappers and loggers from the Northwest Territory.

In an area that was sparsely populated, these frontiersmen were often alone and, out of necessity, observant. In their choice of words they relied on comparisons of natural objects or on mental images to help express themselves. Besides creating a picturesque speech, the cowboy, especially, endowed it with subtle humor and not a little exaggeration.

The cowboy lingo really shines in describing food, but the logger runs a close second: axle grease (butter), bear sign (logger's term for berry jam), belly wash (cowboy — weak coffee, logger — soft drink), cackleberries or hen fruit (eggs), canned cow (canned milk), sea plum (oyster), sinker or doughgods (biscuits), skunk eggs (onions), and splatter dabs (hot cakes).



A cook was never a cook. Among other things he was a cookey, doughbelly, hash slinger, swamper or a sourdough. And a dishwasher was a pearl diver or a pot rustler.



When a cowboy died he was buried in Boot Hill, a bone yard, or a bone orchard. He was always boogered up, never crippled. When he failed at anything he was a busted cinch and when he brought home the bacon, he was a success. Sometimes when he was lonely he got cabin fever. If he liked being alone he was a bunch quitter and

if he was downright unsociable he was a ridge runner. He burned the breeze or rode hell-for-leather when in a hurry, cleaned a feller's plow when he fought to teach him a lesson, and then buried the hatchet when they shook hands.

The epizootic might hit the cowhand but he usually recovered, and when he once again was feeling frisky as a new calf he probably attended some fandango just two whoops and a holler away.

The brave man had gravel in his gizzard, one with stamina would always hang in there and rattle, and if he threw a long shadow you knew he was pretty forceful. Hell-on-wheels was trouble, a curly wolf was a tough character, high lonesome was a big drunk, and a combination of any of these usually meant a stay in the hoosegow (from Spanish *juzgado*).

If a feller rolled his own hoop, kept his eyes skinned, his ear to the ground, and rode herd on his compadre, he usually managed to stay out of trouble. If, however, he had to high tail it he headed for the tall timber, tules, boondocks, bojacks, or way out yonder.



Some folks just naturally like to wag their chins and if the listener thought he was stretchin' the blanket, telling a windy or a tall tale, or stringin' a whizzer, he tried to put a spoke in his wheel.

A gambler might play both ends against the middle and usually had an ace in the hole or held the high card, but if he used a deck of cards with square corners, players knew they were getting a square deal.



Some situations were real problems: a man might be up the creek without a paddle, caught in a bind, or between a rock and a hard place. Maybe he just couldn't hack it because he was dumb as a fence post, blind as a bat, didn't know sic'em, and couldn't drive nails in a snowbank.



A prospector's best friend was an Arizona nightingale, a Colorado mockingbird or a desert canary, but a real cowhand probably wouldn't have touched a burro with a 10-foot pole.

The little, useless trinkets saved by a cowboy were his dofunnies and they were always tucked away in his war bag.

Someone raised on prunes and proverbs was fastidious and religiously inclined. But, in a kind of linguistic turnabout from today's meaning, when a cowboy called another man square, he was paying him the highest possible compliment.

If you're interested in reading more about the speech of the west, check your library for Ramon Adams' *Western Words*. • nt

## Recreation Notes

### FUN & GAMES

Fayne Shead (9532), chairman of the Sandia Labs Tennis Association, announces the opening of the 1973 tennis ladder and an upcoming spring tournament, two separate events.

Deadline (for both singles and doubles) to register for the tennis ladder is April 27. Forms are available from John Walter (2326), ext. 7390. Play will start April 30 from the positions on the 1972 ladder with new players starting at the bottom.

The spring tournament will be played May 5-6, singles, and May 19-20, doubles. Registration forms are available from Ron Garin (7623), ext. 4269. Deadline to enter is April 27 for singles, May 11 for doubles.



LOU BERRY, Director of Materials and Processes 5500, made the opening address at the Ninth Annual Symposium of the N.M. Chapter of the American Vacuum Society, held last week at the Hilton Inn. Bob Gerlach (5114), right, was symposium chairman. Theme of the meeting cosponsored by AVS and Sandia Labs, was "Characterization of Thin Films."

# Albuquerque Gardening Tips

Be sure to plant some "Giant, Double, Prize Winning Zinnias," — the grasshoppers love 'em.

In the spring, nothing is as pretty as a bed of iris — all colors, shapes and sizes — until the wind comes along and breaks them off down to the ground.

Plant tulips directly under the roof eaves. You don't have to worry about watering — in fact don't worry at all because when the rain starts pouring off the roof the tulips go splat, face down in the mud.

Spend lots of time on a border planting — maybe daffodils — between the lawn and the sidewalk. This way the kids meandering home from school will have something to pick.

And when the urge comes to putter around with all that green stuff, just lie down — it'll pass. • nt



Forget it! — everything will freeze anyhow, if it hasn't already.

Don't spray your roses — you want the ecologists after you? So let the aphids have 'em.

If your lawn gets out of control — rent a goat.

Or bury it in gravel.

Why be bored about twig borers — don't junipers cause hay fever?

Plant a vegetable garden if you insist — and spend all that time weeding, spraying, dusting, staking, feeding and watering. Then sit back and wait for the bountiful harvest — 2 lousy carrots, 3 worm-eaten tomatoes, a half-dozen pods of overripe peas and 14 million pumpkins.

**GO FLY A KITE** or at least tell your kids (ages 8 to 11) about the Sister City Kite Flying Contest scheduled from 10 to 4 Saturday, April 28. Locations of the contest are Jackson Elementary School and the Heights, Barelás and Los Duranes Community Centers. Winners will be flown May 5 with kites from Sasebo, Japan, and Chihuahua, Mexico. Joe Laval (3163) is a contest judge while Brenda Carrasco (AEC), above, helps with publicity.

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LAB NEWS  
APRIL 19, 1973



## JUNK • GOODIES • TRASH • ANTIQUES • KLUNKERS • CREAM PUFFS • HOUSES • HOVELS • LOST • FOUND • WANTED • & THINGS

**CLASSIFIED ADVERTISING**  
Deadline: Friday noon prior to week of publication unless changed by holiday.  
A maximum of 125 ads will be accepted for each issue.

**RULES**

1. Limit: 20 words.
2. One ad per issue per person.
3. Must be submitted in writing.
4. Use home telephone numbers.
5. For Sandia Laboratories and AEC employees only.
6. No commercial ads, please.
7. Include name and organization.
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

### MISCELLANEOUS

- 6-BAND metal case Hallicrafters radio, separate speaker, model SX-62A, new \$400, sell for \$100. Lerke, 501 Elk Dr. SE, Four Hills Mobile Park, 298-2900.
- CAMPER SHELL, 36" high, fully insulated & paneled, w/full size bed, fits lwb, \$250. Benton, 877-2473.
- PICKUP CAMPER, 10 1/2', w/heater, jacks, extension bumper, \$1350. Mynatt, 299-8819.
- SHOP MANUALS for 1968 Chevrolet trucks, \$6; and for 1949 Chevrolet car, \$2. Caster, 299-1239 after 5:30.
- POWER CONVERTER, works off 12V alternator, 110V output operates AC/DC power tools, up to 3000 watts of light bulbs, new, \$19.95. Tucker, 877-9405.
- 3 TRAVERSE RODS, different lengths. Scheiber, 299-4743.
- SIMMONS single box springs & mattress; folding 4'x8' elect. train board. Priddy, 298-8912.
- BUY my queen box springs wholesale, I'll get you a commercial rate on a mattress of your choice. Lassiter, 298-2461.
- ELECTRIC RANGE; gas range; hassock camper potty. Hansen, 898-3173.
- DINETTE SET, wood grain formica top w/4 chairs. Lisotto, 298-6211 after 6.
- MOBILE HOME, 1972 2-bdr.,

completely furnished including washer & dryer, set up & skirted in Four Hills Mobile Home Park. Havshalter, 299-3321.

EXERCISER, belt type Samson BV2, 2-spd., 1.5 amp motor, \$10; tape deck, Sony 262D, walnut cabinet, \$25. Rainhart, 299-2887.

MARLIN 1894 octagonal barrel rifle, 44/40 cal., fine orig. condition, sell or swap for old dolls. Smitha, 266-9977.

DRAFTING INST., top of the line K-E (Paragon); LeRoy lettering set, complete. Perryman, 247-8485.

COFFEE TABLES: 1 black, 1 walnut finish, \$5 each. Rowe, 296-6295.

TOURITE 14x68 3-bdr., 1 1/2 bath house trailer, skirted, 2 steps, financed through Credit Union. Gleicher, 294-1169.

GOLF CLUBS, 1970 Haig Ultra irons, reg. shaft, D-4 swing weight, \$90. Spalding hand cart, \$10. Mottern, 298-6251.

8' RAISE-UP CAMPER, sleeps 2, has stove, icebox & water tank w/pump, fits short or long bed pickup, \$450. Lackey, 898-5175.

TRAILER, 20' 1969 Santa Fe, self-contained, tandem axle, sink, refrig., furnace, hitch. Hostetter, 256-3803.

17' TRAILER, \$1095; barbells, \$10; pup tent, \$10; Panasonic radio & record player, \$50; .44 mag. RCBS dies & brass, \$10. Gonzales, 242-6264.

BUNK BED, maple. \$45; amplifier for guitar, small, \$20. Gendreau, 268-3436.

HIDE-A-BED, \$100. Novotny, 296-7167.

ELECTRONIC ORGANS: Vox Jaguar, \$200; Realistic, \$75; speaker cabinet w/15" Jensen speakers, \$100; Silvertone 150 amplifier, \$100. Whelchel, 299-1134.

GENERAL PARTNERSHIP RICH '70, averaging 18.6% yield,

worth \$1420 w/annual tax write off, sell \$1040. Schulze, 898-2880.

LHASA APSO DOG, 3 yrs. old, proven stud, AKC reg., extensive championship background. White, 299-6411.

TWIN SIZE SPINDLE BED; 2 box springs; 2 sets lined curtains, 6'x54" w/rods. Nidever, 298-0538.

THERMOS POP TENT for str. wgn.; '72 Terry Travel Trailer, 19', high clearance, elec. brakes, Reese equalizer hitch, used twice. Wolf, 298-7343, 1804 Elizabeth NE.

GE UPRIGHT vacuum cleaner, Model U5, w/attachments & throw-away filter bags, \$20. Shane, 296-4430 after 6.

CANON FTb w/50mm F1.4, 28mm F3.5, 200mm F4.0, Vivitar close-up lenses, filters, system \$475, individual prices available. Hock, 256-0276.

TOY WONDER HORSE; elec. stove; refrigerator; baby & pre-school toys. Fisher, 299-9235.

### TRANSPORTATION

'62 FORD Country Sedan, 9-passenger str. wgn., stick shift, AC, radio, luggage rack, \$150. Champe, 299-0066.

'69 PONTIAC Grand Prix, 35,000 miles, radials, stereo, leather, air, power, etc. Lutheran, 294-3297.

'69 4-DR. BUICK Skylark. Maydew, 294-5663.

'70 CHEV. 3/4-ton CST, 350V8, AT, PS, PB, twin 16G, Aux. tanks, HD rear bumper, other extras. Gonzales, 898-7561.

'66 CHEVELLE Malibu str. wgn., std. shift, AC, \$650. Dossey, 294-1167.

VAN, '70 FORD E-200 w/240 6-cyl., 3-spd., short wide base, windows indoors, carpeted, paneled, insulated, 30,000 miles, \$1900 or offer. Ferguson, 266-4769.

'68 GMC Suburban, deluxe interior, R&H, air, 4-spd., Positraction, V8 engine, tow equip. MacDougall, 299-8496.

10-SPD. ASTRA, full lugged frame, Michelin gum tires, Huret Alluit derailleur, \$80. McDowell, 255-2512.

'72 VW VAN, 39,000, new tires, AM-FM, 7-passenger, 64HP, no down, take over payments or \$2000; '66 Jawa 250cc, needs paint, \$250; 90cc Kawasaki, semi-basket job, \$50. King, 298-2991.

'68 FORD Custom 500, 4-dr. sedan, PS, PB, AC, manual shift, one owner. Sutton, 296-1157.

'71 FORD 1/2-ton pickup, 22,000 miles, 302 CID engine, 3-spd. trans., w/OD, \$2400. Welch, 256-0894 after 5.

'65 VOLKS 2-dr. bug, radio. Gunckel, 299-3543.

5-SPD. boys Sears Screamer bicycle w/deluxe 20" back/16" front wheel, \$35; girls 20" bicycle, \$20; girls 26" bicycle, \$15; boys 26", 3-spd., requires shift cable, \$10. Hart, 266-6811.

'66 CHEV. Caprice, 327, PS, PB, AT, AC, extra wheels, other extras, \$600 or best offer. Self, 296-4137.

GIRLS bicycle, 20", balloon tires, puncture resistant tubes, \$10. Creveling, 898-1530 after 7.

BOAT, 15', 60 hp motor, trailer included, \$500. Iverson, 869-2675.

### REAL ESTATE

LARGE 4-bdr. house in NE heights, paneled den w/custom fp, drapes, carpeted, finished dbl. garage, mountain view, near schools. Palmer, 296-6737 after 5.

ONE ACRE overlooking lake, good access, electricity nearby, terms, mobile homes OK. Austin, 299-6289.

### FOR RENT

SMALL HOUSE adjoining larger residence, lg. br., lr., skylights, walk-in closets, ideal for retired couple. 3412 Dakota NE. Phillips, 265-0296.

FURNISHED 1 & 2-bdr. apts., available now at reduced rent, new deluxe features, convenient location, from \$135. 217 Pennsylvania NE, Apt. E, 266-3955.

### WANTED

A MARY POPPINS to care for two small children, live in or own transportation. Gusinow, 296-5740.

SHOP MANUAL for 1966 Datsun pickup w/1300cc engine, or any model w/1300cc engine. Stuart, 299-9190.

GUITAR PLAYER who can play lead & sing. Forming a western musical group to play nite clubs & record orig. material. Practice during noon hour. Lucero, 243-7517.

PIANO console or upright model, pecan finish desired, will pay good price for the right piano. Borgman, 299-6010 after 5:30.

CLEAN, pre-1967 1/2-ton pickup w/4-spd. trans., any bed style, good condition required. Causey, 299-0089.

### LOST AND FOUND

LOST — Black wallet, silver oval shaped tie clip, man's black leather glove, Air Force flight cap. LOST AND FOUND, Bldg. 832, 264-2757.

FOUND — 3 small master lock keys, gold colored ball point pen, man's brown leather glove, key w/off-set head. LOST AND FOUND, Bldg. 832, 264-2757.

# Soul Session Set April 28

**HAPPY HOURS** — Tonight, Polynesian-Oriental buffet, One Mile Ahead on bandstand, Denny Gallegos in lounge; April 27, shrimp and seafood buffet, Paul Plus II on bandstand, Yolanda Adent in lounge; May 4, German food buffet, Frank Chewiwie on bandstand, Denny in lounge.

\* \* \* \*

**KIDS EASTER EGG ROLL** will start at 10 a.m. Saturday, April 21, for kids six and under. Fun, games and prizes for everyone. Member parents should accompany their youngsters. It's free.

\* \* \* \*

**CINEMA CLASSIC** this month is "Top Hat" starring Fred Astaire and Ginger Rogers. Irving Berlin music is featured for the singing and dancing. Also, a Betty Boop cartoon and a Robert Benchley short subject will be shown. Starting time is 7:30 p.m. on Wednesday, April 25. It's free to members.

\* \* \* \*

**SOUL SESSION** Saturday, April 28, will feature Scorpio on the bandstand from 8:30 to 12:30, Happy Hour prices, and free admission (guests, \$1). Super sandwiches will be available.

\* \* \* \*

**TRAVEL NEWS** — The Mazatlan trip Nov. 5-12 is sold out; however, standby reservations are being taken. In the meantime, the Club has an option on 40 seats for a tour to Mazatlan Nov. 12-19. Cost is \$216 for eight days at the Playa Mazatlan including breakfast and dinner each day. Sign up at the Club office.

Still open is the Mediterranean tour starting Sept. 30, with a week at Palma de Majorca and then a week on board RHMS Queen Frederica with stops at Mediterranean ports. The package fee starts at \$649. Call Bud Wheeler (4214), travel director, ext. 5656, for more details.

Donna Williams



## SAFETY IS — LET THE RIGHT PERSON DO THE JOB!



RETIRING from Sandia Laboratories at the end of this month are (l to r) J.S. Browning (1611), Grover Hartman (7655), Jim McFadden (9312), Edith Moya (4118), Henrietta Waldorf (7131), George Matvichuk (2522), Harold Keith (2433), and Fidel Gonzales (7513). Not shown are Allen Buchanan (9541), Golden Lane (4116), Robert Mueller (7633), Simona Quintana (7611), Ruth Simpson (2630) and Harrison Young (7518).