



**TECHNICAL ILLUSTRATORS** Management Association awards were won recently by these members of Sandia's Technical Art Division 3463: (1 to r, back row) R. H. Newman, C. E. Spriggs, R. K. Strome, (front row) W. J. Wagoner, Gordon Snidow, and T. M. Clark. Exhibit is on tour now.

## AEC Receives Bids For Work to Be Done in Sandia Laboratory Tech Areas

Modification of Bldg. 844 to house a new Radiation Standards Laboratory heads a list of four Sandia Laboratory construction projects announced by the Atomic Energy Commission.

Bldg. 844 will be changed into a laboratory facility. The work involves installation of new ceiling and high density wall surfaces and high light level fluorescent lighting.

Personnel of Nuclear Radiation Standards Section 2411-3 and Test Equipment Section 2442-1 will occupy the new laboratory.

Apparent low bidder for the job is Styron Construction Company of Albuquerque which submitted a bid of \$69,964. Work is to be completed within 90 days after the AEC gives notice to proceed. K. D. Harper (4543-3) is the Plant Engineering Department project engineer.

Second construction project is for modification of an existing process waste disposal system for the Sandia Engineering Reactor Facility in Area III. The Stuckman Company of Albuquerque is the apparent low bidder for this job with a bid of \$27,947.

The project, to be completed 60 days after the contractor receives notice to proceed, includes construction of two holding tanks, a pump pit, a control shelter, and installation of an electrical controls system.

R. M. Simmons (4543-2) is the Plant Engineering Department project engineer.

Third project is construction of a small masonry and reinforced concrete building (to be designated Bldg. 8863) adjacent to Bldg. 865. The new structure, containing 320 sq. ft., will house cooling equipment and controls for Sandia's Plasma Jet Facility which is inside Bldg. 865.

Apparent low bidder for the construction and installation is Marco Construction Company of

Albuquerque, the AEC reported. The firm's bid was \$18,968.

The job is to be completed within 60 days after the contractor receives notice to proceed from the AEC. Plant Engineering Department project engineer is T. W. Eglinton (4543-2).

Wylie Brothers Construction Company of Albuquerque is the apparent low bidder on the fourth project to pave five parking areas around Tech Area I. The firm bid \$96,436.

In addition to some 40,000 sq. yds. of asphalt paving and grading, the project will include installation of 800 parking bumpers, storm sewers, and three drainage structures.

Work is to be completed within 90 days after the AEC gives notice to proceed. Plant Engineering Department project engineer is R. G. Piper (4543-3).

## Two AEC/ALO Service Divisions Are Reorganized

Reorganization of two service divisions into one new division was announced recently by Ralph P. Johnson, Assistant Manager for Administration, Albuquerque Operations Office, Atomic Energy Commission.

The old service divisions of Supply and Contracts have been merged to form the Division of Contracts and Supply. George Udell, former director of Supply Division, heads the new organization.

The new division has responsibility for procurement, property management, contract negotiations, and transportation.

Daniel Higgins is Deputy Director of the new division. Harry G. Prince is Chief of the new Procurement Branch. Rudolph Hoglund is Chief of the new Contracts Branch.

## Technical Illustrators Earn High Honors In Art Competition

Awards were won by six Sandians, all members of Technical Art Division 3463, in the recent ninth annual Technical Illustrators Management Association (TIMA) exhibit.

The exhibit was held at the California State Museum of Science and Industry in Los Angeles. The winning entries are on display this month in several Northern California cities.

There were 26 entries from Sandia Corporation — all artwork created by personnel in connection with Sandia projects.

The local winners and the categories for their entries are: Gordon Snidow, second place, training aids, color slides; C. E. Spriggs and R. H. Newman, first places, animation art; R. K. Strome, honorable mention, black and white airbrush cutaway; W. J. Wagoner, first place, cartoons; and T. M. Clark, second place, operational handbooks.

## Statistical Table Handbook Published for Sandia Author

"Handbook of Statistical Tables" is the title of the most recent book written by D. B. Owen, supervisor of Statistical Research Division 5425.

Published by the Addison-Wesley Company, the handbook is designed for practical statisticians, quality control men, industrial engineers, and research workers as a compact source of information.

"The book was started in March 1959 at the suggestion of Z. W. Birnbaum of the University of Washington, who is consulting editor for the publisher's series of books on statistics," Mr. Owen said.

More than 100 separate tables appear in the book, many for the first time in a collection. A great many journals and reports were examined and tables were selected from these sources and included with the various authors' permission. Other tables had been prepared at Sandia and previously used in Mr. Owen's work in statistical research.

There is an extensive bibliography of some 250 references to other tables and applications of information, the majority being available in Sandia's Technical Library.

Mr. Owen has been at Sandia eight years. He received his



**Don Owen (5425)**  
—new statistics handbook—

Bachelor's, Master's and PhD degrees in mathematics and statistics from the University of Washington. He was co-author with Gerald J. Lieberman of Stanford University of "Tables of Hypergeometric Probability Distribution" and was author of the applications introduction to "Tables of the Bivariate Normal Distribution Function and Related Functions" (National Bureau of Standards Applied Mathematics Series No. 50).

## Seminar Acquaints Suppliers With Sandia Corporation Testing Work

An Environmental Testing Seminar for representatives of Sandia suppliers was conducted last week by Environmental Testing 7300 organization and Technical and Trades Training Division 3132.

Purpose of the five-day meeting was to acquaint suppliers with procedures, standards, requirements, and methods of Sandia testing, according to M. R. Madsen (7324), seminar director.

"This seminar is the third in a program that began about two years ago," Mr. Madsen said. "Because of increasing interest and the large number of supplier personnel desiring to attend the seminars, the program is now organized into periodic formal sessions. The general information covered in the seminar is documented in SC-4452A (M), 'Sandia Corporation Standard Test Methods.'"

Sandia subjects and speakers for the seminar included:

"Basic Vibration Fundamentals and Definitions," J. W. Doggett and J. J. Lochtefeld (both 7324); "Vibration Data Analysis and Signal Interpretation," C. T. Schafer (7324); "Fixture Design," D. R. Kuehl (7324); "Nomenclature, Test Specifications, and Shock Pulse Generation" and "Shock Pulse Response, Future Design, Instrumentation, and

Pulse Interpretation," R. O. Brooks (7324). Mr. Brooks also conducted a Shock Testing Workshop.

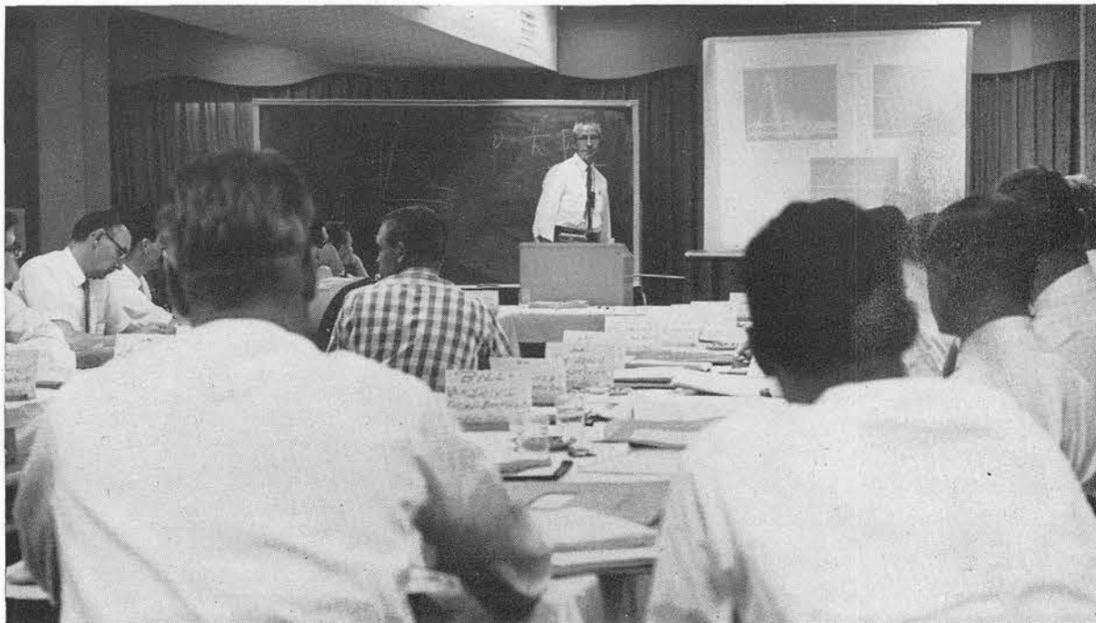
"SC-4452A (M)—Interpretation, Discussion, Equipment Specifications, Description and Principles of Operation," I. K. Petersen (7324); "Discussion of Climatic and Linear Acceleration Environments," R. W. Mottern (7322); and "Calibration Details—Transducers, Meters, Thermocouples, Miscellaneous Instrumentation," C. M. Warthen (7311).

Twenty-four supplier representatives attended the seminar.

Two tours were included in the program — Vibration Lab and General Environmental Lab in Bldg. 860 and the Shock Lab in Bldg. 882.

Welcoming talks were made by W. A. Gardner, Director of Environmental Testing 7300, and by J. R. Sublett, manager of Manufacturing Development Quality Control Department 2560. R. H. Schultz, manager of Environmental Test Operations Department 7320, was the speaker at the final luncheon.

W. H. Bailey (3132) was seminar moderator and Jean Gillette (3132) handled conference arrangements. W. R. Dameron (2563) helped in planning the seminar.



**ENVIRONMENTAL TESTING SEMINAR** for representatives of Sandia Suppliers was held last week in the Coronado Club. Here, I. K. Petersen (7324), center, lectures on standard Sandia test methods.

**Editorial Comment****Horse Power and Horse Sense**

The power lawn mower, boon to the man around the house that it is, places upon its operator the demand of ever-present precautions against the hazards the machine presents.

We aren't very far into the summer and already there are reports of people losing thumbs or fingers while attempting to pull some grass from the blades of mowers. There are also reports of objects being picked up and thrown by mower blades, resulting in serious bodily injury to mower operators or people in mowing areas.

These accidents could be avoided — and they point up the need for a greater regard of power mowers.

The following safeguards, if carefully observed by all operators of power mowers, will prevent accidents and help insure an enjoyable summer:

1. Be well acquainted with the safety and operating rules.
  2. Never allow an inexperienced person to operate a mower.
  3. Do not allow children or pets in the mowing area.
  4. Do not start a self-propelled mower while it is in gear.
  5. Do not leave a mower unattended while the engine is running.
  6. Do not lift or tip the mower while it is running, especially if it is a rotary-blade mower.
  7. Do not reach into the engine or blade while the engine is running.
  8. Do not use any type of refueling container other than an approved Bureau of Underwriters' safety can.
  9. Do not refuel the mower while it is running or still hot from use.
  10. Shut off the engine and disconnect the spark plug wire before cleaning the machine of debris, or making repairs.
  11. Check your mower regularly for dangerous functioning and worn parts.
  12. Shut off and disconnect power before moving mower from one level to another.
  13. Do not pull a mower backwards since it can easily be pulled over the foot.
  14. Mow in daylight hours only, unless you have good artificial light.
  15. Do not use the mower when the grass is wet and slippery. (Never use an electric mower in grass that is even damp.)
  16. Wear spiked, cleated golf shoes or similar shoes which will not slip when cutting grass on slopes or in damp weather.
  17. Be certain of your footing and balance, especially when mowing on an incline, keeping the feet safely away from the mower carriage.
  18. Do not mow the lawn or high grass without first scouting the area for stray bottles, pieces of metal, etc., which may be picked up by the mower and thrown against the operator or someone nearby causing an injury.
  19. Riding mowers should be used with extreme caution on steep inclines, since they might tip over and easily catch fire, trap the operator, or otherwise injure or kill him.
  20. Wear safety toe shoes and safety glasses.
- Since children as well as adults are frequently involved in the mowing project around the home, the responsibility for insuring that hazards are eliminated is doubly high.

**Wedding**

Ruth O. Cushman (3463) and Howard M. Raishe of Albuquerque were married June 8 in an evening ceremony at Los Altos Christian Church. The couple is at home at 1815 Childers Dr. NE. Ruth has worked at Sandia Lab for three and a half years.



Deyoe Stark (3126)

**Take a Memo, Please**

Accidents spend 24 hours a day looking for places to happen. Safety's the only thing that will tie them down.

**Cancer Information Included in Booklet On Racks Next Week**

"Answers to Cancer" is the booklet to be offered on Sandia Laboratory booklet racks during the coming week. It discusses why it is important to detect cancer at earliest stages, offers the latest facts about cancer, and describes the areas where cancer is most likely to strike and the symptoms.

**Congratulations****Born to:**

Mr. and Mrs. Robert S. Frazer (7212) a daughter, Christine Joy, on June 5.

Mr. and Mrs. C. W. Gwyn (5321) a daughter, Karen Jean, on June 7.

Mr. and Mrs. C. C. Fornero, Jr. (3153) a daughter, Gina Louise, on June 5.

Mr. and Mrs. B. G. Neeld (1323) a daughter, Carol Elaine, on June 5.

Mr. and Mrs. Leo A. Doyle (7241-1) a son, Leo A. III.

Mr. and Mrs. Dennis Cordova (4153) a son, Martin Brian, on June 17.

**Sympathy**

To Ciriaco Herrera (4573) for the death of his mother in Socorro, May 31.

To Benny Garcia (4611) for the death of his father in Albuquerque, May 13.

To Harriet Evans (3423-4) for the death of her mother in Pittsburgh, Pa., June 10.

To Joe A. Sanchez (4514-1) for the death of his brother in Albuquerque, June 1.



ENTERTAINMENT at opening of El Granada supper club at the Coronado Club, May 23-26, was observed by numerous guests. Winners of a contest

conducted during the opening were Mrs. E. R. Frye, whose husband is supervisor of Division 1112; and Craig Goodman, a guest at the club.

**Reservations Being Accepted for July 7 Blue Barron Dance**

Blue Barron will bring his 10-piece orchestra and vocalist to play at the Coronado Club on Saturday, July 7.

An advocate of "sweet" music for listening and dancing, Blue Barron has played at major hotels, night clubs, and theaters throughout the nation.

After graduating from Ohio University, he decided that too many of the big bands blared and blasted their way through a piece with little regard for the melody. So Blue Barron organized his own orchestra to combine swing with sweet music and to maintain respect for the eardrums of his audiences.

His "music of yesterday and today" has attracted thousands during the years to such places as the Hotel Astor in New York, the Sahara in Las Vegas, and the Casa Loma Ballroom in St. Louis.

Reservations are being accepted now at the Coronado Club's office, ext. 37275, for an evening with Blue Barron. Tickets are \$2 per person, and dancing will be from 9 p.m. to 1 a.m.

**Coronado Supper Club Open Two Weekends During Month of July**

The Coronado Club has announced that "La Granada" (Supper Club) will be open each Friday and Saturday in July except the 7th (Blue Barron) and the 21st (Luau).

Dinners are served at La Granada from 6 to 10 p.m. at prices from \$1.95 to \$4.50. Dancing on Fridays is from 8 p.m. to midnight with floor shows at 9:30 and 11; and on Saturdays from 9 p.m. to 1 a.m. with floor shows at 10:15 and midnight.

The club's swimming pools will be open through Labor Day. Season tickets purchased after July 1 are \$3.50 for adults and \$1.75 for children.

**Former Kansans To Have Picnic At Bataan Park**

All former residents of the Sunflower State are invited to attend the Kansas Picnic Association's annual outing Sunday, June 24, at Bataan Park.

The picnic will begin at 1 p.m. Recreation will be provided for children while adults will hear a talk by Jack Redman, Congressional candidate.

Max E. Holroyd (4132), past president of the association, is serving on the program committee this year.

Those attending the picnic are requested to bring their own table service.



INTERMISSION BREAK during special June dance at the Coronado Club found local musicians Tommy Kelly (2442), left, and Bob Schowers (2441), visiting with famed jazzman Count Basie.

**Georgia Howard To Retire June 30**

Mrs. Georgia M. Howard, a Corporation employee since January 1951, will retire June 30. She has been on leave of absence for the past 15 months but formerly worked in Library Section 3421-1.



Due to her recent illness Mrs. Howard feels she has already made the adjustment from a busy life to one of leisure. She enjoys cooking, crocheting, embroidery, and reading.

Dr. and Mrs. Howard and their son live at 1017 Dartmouth Dr. NE. A married daughter lives in Las Cruces. "Visits from my two grandsons are bright spots in the month," Mrs. Howard said.

Mrs. Howard is able to make short trips and enjoys boating on Elephant Butte Lake while her husband fishes.

**J. M. Sanchez to Retire from Sandia End of Month**

Jose Manuel Sanchez will retire June 30 after more than 12 years with Sandia Corporation. He



works in Janitor Service Division 4574.

Mr. Sanchez, his wife, and daughter live in Belen, N. M., at 901 W. Aragon. He has a married son and five grandchildren living in Albuquerque and a second son in the Army.

After retirement, Mr. Sanchez plans to visit a brother in California and another one in Denver.

Gardening will also take up a bit of his time. "Between the wind and frost this spring, I've had to plant my garden twice already," he remarked.

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**MAINTENANCE AND REPAIR** of centrifuges was the purpose of a recent four-day training course by a factory representative for Plant Maintenance and 7300 operating personnel. Shown here assembling a small centrifuge in Bldg. 860 are (l to r) Phil Young (7321-1), Henry Welch (4512-2), Martin Serna (4512-2), Charlie Sain (7321-1), and L. McDonald, representative from the factory.



**"FIRE HAZARDS of Atomic Industry"** were discussed in a two-day course at Sandia Laboratory recently by F. L. Brannigan (above right), Industrial Safety and Fire Protection Branch, AEC, Washington. The course was attended by Sandia Laboratory fire inspectors, safety personnel, security guards, and maintenance personnel along with military and city fire department representatives.

### Announce Change In Equipment List For Surplus Sale

There has been a change in the list of surplus equipment and vehicles to be auctioned to the highest bidder tomorrow at 10 a.m. at the area adjacent to the Sandia Laboratory Salvage Yard. The number of Truckster gasoline motor scooters to be offered has been increased from two to three. Prospective bidders may inspect the property prior to the sale. They must also register beforehand and sign a copy of the sales conditions. The sale is open to the public.

### Great Books Discussion Groups Schedule 16 Readings for Year

New members are being sought for Great Books discussion groups to be organized in the fall. Bob Pardee (1124-1), who helped organized the first group in Albuquerque five years ago, explained that the 16 readings for the year are primarily books that have lived through the ages. "We have 12 to 15 registered members in our group, but they don't all come to every meeting," he said. "We have alternate leaders and two co-leaders. There is enough controversial material in the titles to enable us to keep moving to different topics." Boxed editions of each year's selected books are offered at a special rate. The first year's list includes such authors as Plato, Machiavelli, Shakespeare, Milton, Marx, and Thoreau. For further information call Mr. Pardee at AL 5-1998.

### J. A. Baldwin, Jr., Author of Article In Physical Journal

The May issue (Vol. 33) of *Journal of Applied Physics* included a technical article by J. A. Baldwin, Jr. (5311) on "Reversible Flux as a Source of Irreversible Noise in Multipath Cores."

### Softball Success

A team composed entirely of Sandia Corporation employees is competing in the Duke City Night Softball League under the sponsorship of APEX Freight Lines. The team's record through June 14 was 11 wins and four losses, according to Gene Glaze (1431).

## Supervisory Appointments

**DARRELL E. MUNSON** to supervisor of Physics of Solids Section 1113 - 1, Physical Properties Division. Darrell has been working in metal physics in Metallurgical Development Section 1121 - 1 since he joined Sandia eight months ago.



Before coming here he was an assistant professor for two years in the metallurgy department at Washington State University.

He received his PhD and Master's degrees in metallurgy from Stanford University and his BS degree from South Dakota School of Mines and Technology. During his period at Stanford he worked part time and summers at the Stanford Research Institute.

Darrell is a member of the American Institute of Mining, Metallurgical and Petroleum Engineers, American Society for Metals, American Society for Engineering Education, and Sigma Tau and Sigma Xi, honorary societies.

**RICHARD K. STROME** to supervisor of Technical Reports, Illustrations and Visual Aids Section 3463-2, Technical Art Division.



Dick has been a technical illustrator since he came to Sandia in October 1949.

Previously he operated his own advertising business in Chicago for a year. Over a period of three years he also did art work in Chicago for an advertising agency, for "Specialty Salesman" magazine, and for an engraving company.

Dick studied art at the University of New Mexico and attended the American Academy of Art in Chicago for three years.

During World War II, he served three and a half years in the Army Air Corps.

He helped found the Albuquerque Artists Guild.

**ALBERT NARATH** to supervisor of Research Division I, 5151, Physical Sciences Research Department.



Al has worked in Division 5151 during his three years at Sandia. His research projects have been in the field of magnetic interactions in solids.

Prior to coming here, Al received his PhD degree in physical chemistry from the University of California at Berkeley. His BS in chemistry was awarded at the University of Cincinnati.

Al is a member of the American Physical Society.

### Announce First Round Standings In Softball League

Services and Recreation Section 3122-2 has announced first-round softball standings for the following Sandia Laboratory teams:

Team	Wins	Losses
1. 7100-I	9	0
2. 2500, 4100, 4600	8	1
3. 7100, 7200, 7500	5	4
4. 2300, 3100, 3400	4	5
5. 1100	4	5
6. 1300, 1400	3	6
7. 7300	3	6
8. 4400	3	6
9. AEC	2	7
10. 2400, 4200	2	7

A total of three rounds of play is planned. At the completion of the first round of the softball season, the 7100-I team was first. The 2500, 4100, 4600 team finished second, with their only loss to 7100-I by a 14-5 score.

### Albert Narath Writes Article for Physical Review

A technical article by Albert Narath (5151) is scheduled to appear in the August issue of *Physical Review*.

The article is entitled "Nuclear Magnetic Resonance in Cubic Sodium Tungsten Bronzes."

### E. E. Godin Has Article Published in Electronic Design

A short article by E. E. Godin (1312-3) appeared in the "Ideas for Design" section of the May 24 issue of *Electronic Design*. It was entitled "A Self-Biased, High Repetition Rate Blocking Oscillator."

### Sandians on Program of Engineering Education Conference in Colorado

D. R. Morrison (5426) and G. M. Wing (5421) will participate in the annual meeting of the American Society for Engineering Education at the Air Force Academy, Colo., June 18-22. Theme of the conference is "the role of the engineer in advancing knowledge in medicine, biology, and life sciences."

Both Mr. Morrison and Mr. Wing will be chairmen of sessions of a "Workshop in Modern Mathematics." In addition, Mr. Morrison will present a technical paper, "The Language Bridge."

### Service Awards 10 Year Pins

June 23-July 6  
 W. C. Clark 7323, L. E. Doherty 2531, R. E. Fox 1331, J. P. Gallagher 7133, D. E. Gregson 8141, M. D. Hodge 3453, R. S. Pinkham, Jr. 1321, E. H. Simonson 4122.  
 C. E. Smith, Jr. 7513, A. J. Tucker 7324, J. E. Anderson 2631, R. K. Skelley 4513, J. R. Harner 1424, D. W. Miller 1432, B. E. Dieruf 3433, R. V. Peet 7211.  
 W. F. Roberly 5422, E. R. Stepka 7124, R. T. Sylvester 2542, Charles Winter 9130, L. J. Woolrich 7322, B. H. Bueffel, Jr. 1414, R. D. Christopher 7521, N. J. Elliott 2421.  
 A. R. Elwell, Jr. 7322, H. E. Hansen 7111, E. G. Hayes 2534, T. P. Krein 7184, A. A. Lieber 9120, T. C. Looney 7215, J. P. Myers 7144, H. C. Redding 4151.  
 A. B. Lawrence 2411, J. S. Miller 4122, H. Dorothy Mohart 3131, N. L. Vinson 7311, J. J. Harper 4234, and Helen W. Henderson 4151.



**VOLLEYBALL CHAMPIONS** of Sandia Laboratory, Team 7300, display recently awarded trophies. The team won with 13 wins, no losses. Standing, l to r: Robert M. Workhoven (7322), R. L. Posey (7325), Harry J. Blechinger (7325), William V. Hoffman (7323), and Donald W. Bauder (7323). Kneeling: William R. Kampfe (7323), Jerry T. Cole (7325), Leonard A. Hitchcock (7323), George C. Garcia (7323), and William C. Wilson (7325). Managing team for the league victory was Harry Blechinger.

## Promotions

Amador B. Lovato (4574) to Janitor  
 Frances M. Young (3126) to Teletypewriter Operator  
 Thaddeus L. Werner (3444) to Messenger  
 Frank Garcia, Jr. (3444) to Messenger  
 Billy J. King (3452) to Tabulating Equipment Operator  
 M. M. Domolecny (4135) to Invoice Clerk  
 David H. Davis (3452) to Tabulating Equipment Operator  
 Daniel C. Callahan (4335) to Traffic Analyst  
 John Rogers (8242) to Special Handler  
 Emily E. Karfs (8233) to Library Assistant  
 Mac D. Weaver (4413) to Draftsman  
 Leroy R. Plumley (4413) to Draftsman  
 Gerald L. Williams (7324) to Laboratory Assistant  
 Robbie D. Chapman (7324) to Laboratory Assistant  
 Dennis B. Hayes (5112) to Staff Assistant-Technical  
 Charles M. Judd (7246) to Staff Assistant-Technical  
 Bertie E. Huston (3126) to Secretarial Typist  
 Thelma M. Cole (3126) to Secretarial Typist  
 Mae T. Wood (3126) to Secretarial Typist  
 Joyce A. Culverson (3126) to Secretarial Stenographer  
 Dorothy I. Scott (3126) to Secretarial Stenographer  
 Kathleen L. Finn (3423) to Service Clerk  
 Neta I. Tyler (3446) to Document Clerk  
 Antonia M. Garcia (3446) to Production Release Clerk  
 Robert F. Gardner (3446) to Reproduction Service Clerk  
 Donald A. Downey (3446) to Reproduction Service Clerk  
 Judith M. Crider (8212) to Secretarial Stenographer  
 Ellen E. Harsch (8212) to Secretarial Typist  
 Bobby R. Branch (8233) to Library Assistant  
 Cyril D. Moy (8224) to Administrative Clerk  
 Alice R. Jarvis (3453) to Record Clerk  
 Karl O. Waibel (4123) to Senior Auditor  
 Helen J. Lee (8241) to Service Clerk  
 P. O. Rogers, Jr. (7246) to Staff Assistant-Technical  
 Sandra L. Barela (2642) to Senior Clerk  
 Victor E. Pajunen (2563) to Data Reduction Clerk  
 Patricia Anne Lee (7312) to Data Reduction Clerk  
 Mary O. Juzang (1442) to Data Reduction Clerk  
 M. Nadine Sheppard (4423) to Service Clerk  
 Beverly A. H. Foster (2321) to Editorial Assistant  
 June K. Rainwater (4540) to Secretary

**Supervisory Lateral Transfers**  
 J. L. Colp from 5311-1 to 7112-1  
 C. G. Scott from 7233-1 to 1313-1  
 W. W. Arris from 7535-3 to 7536-3  
 T. A. F. Eagar from 7536-3 to 7535-3  
 C. S. Wolowicz from 8114 to 8117  
 K. S. Davis from 2451-2 to 2442-1  
 L. A. Smoli from 2442-1 to 2441-3  
 R. C. Clifton from 4611 to 4613  
 U. M. Karpen from 4613 to 4621  
 W. O. Smitha from 4621 to 4611  
 F. R. Emig from 4413-1 to 4411-1  
 W. E. Melegan from 4411-1 to 4413-1  
 A. E. Winblad from 1322-1 to staff of 9100

# Employees at Livermore Laboratory Earn Master's Degrees at University of California

The first Master's degrees to be awarded Livermore Laboratory employees under the Educational Aids Program went to four Sandians during recent ceremonies at the University of California in Berkeley.

Receiving his MA in physics was Jack D. Foster (8143-2) who attended classes at the University of California Extension part time since 1958, except during last fall when he took leave of absence to attend the university full time. Jack joined Sandia at Livermore Laboratory in 1958, soon after he received his Bachelor's degrees in physics and mechanical engineering from Oregon State University. Gary Sheldon (8151-2) took advantage of the EAP program to earn additional credits toward his MS in mechanical engineering.



J. D. Foster    G. Sheldon    J. R. Hyde    R. M. Morrison

Gary, who received his BS in mechanical engineering from Oregon State University in 1956, has been with Livermore Laboratory since 1956.

An MS in structural mechanics went to Jim R. Hyde (8166-2), who has been commuting 270 miles a week to the University

of California in Berkeley since September 1959. Jim, who has been at Livermore Laboratory since April 1959, received his BS degree in aeronautical engineering from the University of Oklahoma in 1958.

Ralph M. Morrison (8155-2) earned his MS in mechanical engineering after attending the University of California part time since 1959 and attending classes two or three times a week at the Berkeley campus. He received his BS in mechanical engineering from the University of Washington in Washington state in June 1959, and has been at Livermore Laboratory ever since.

# Sandians Participate in 1962 UNM Graduation Exercises



B. O. Allen    D.W. Braudaway    W. P. Brooks



C. W. Cook    S. Gassey    S. E. Harrison



S. Thunborg    W. P. Thomas    Mary Yager

Bachelor's and Master's degrees were awarded a large number of Sandia Laboratory employees last week during University of New Mexico commencement exercises. The majority received assistance under Sandia's Education Aids Program.

Those receiving Master's degrees included:

B. O. Allen (2442-1), MS degree in electrical engineering. He received his BS in EE from the University of Kentucky and has been at Sandia nine years.

David W. Braudaway (2442-3), MS degree in electrical engineering. He graduated from the University of Colorado with a BS degree in EE and has been with the Corporation five and a half years.

W. P. Brooks (5133), MS degree in physics. He obtained his Bachelor's degree in engineering physics from the University of Oklahoma and has worked at Sandia five years.

C. Wayne Cook (7311-4), MS degree in electrical engineering. He graduated from the University of Missouri with a BS degree in EE and has been at Sandia three years.

Sidney B. Gasser (3111), MA degree in business administration. He was awarded his Bachelor's degree in industrial engineering at the University of Oklahoma and has been at Sandia since April 1953.

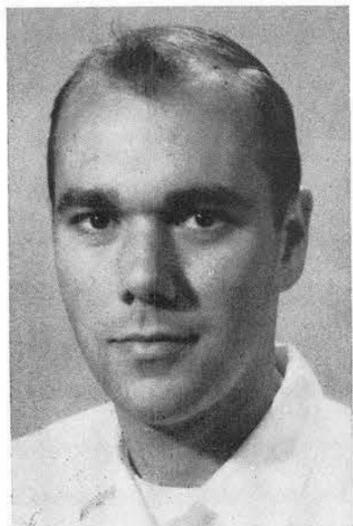
S. E. Harrison (5322-2), MS degree in electrical engineering. He came to Sandia four years ago after receiving his Bachelor's degree in EE from Ohio State University.

William P. Thomas (2542-3), MA degree in business administration. He received his BS degree in electrical engineering and industrial management also from the University of New Mexico and has been at Sandia 13 years.

Sig Thunborg, Jr., (5134-1), MS degree in mechanical engineering. He was awarded his BS degree in ME from the University of Dayton and has been at Sandia Lab for nine years.

Mary Yager (3121-2), MA degree in sociology. Her Bachelor's degree in psychology is also from UNM. She has been at Sandia since November 1950.

Sandians who received their Bachelor's degrees included: C. C. Fornero (3153), business administration; J. E. Fesler (4152-1), accounting.



R. P. Clark

## PhD Awarded to Robert P. Clark By U. of Illinois

Robert P. Clark (1323-2) received his PhD degree in analytical chemistry during the February commencement exercises at the University of Illinois.

"Electromechanical Study of Aromatic Nitro Compounds" was the title of his doctoral dissertation.

He also received his Master's degree at the same school. His BS in chemistry was from the University of Michigan.

Mr. Clark has been at Sandia Laboratory since December 1961.



C. J. MacCallum

## C. J. MacCallum Earns Doctorate At New Mexico

Crawford J. MacCallum (5411) was awarded his PhD degree in physics during commencement exercises at the University of New Mexico June 15.

He previously received his BS in physics at Princeton University in 1951 and took course work for his doctorate at Cornell University before coming to Albuquerque. His doctoral thesis was entitled "Invariant Embedding and Wave Propagation in Inhomogeneous Media."

At Sandia since 1957, Mr. MacCallum was a staff member in Physical Sciences Research Department 5150 until last fall when he transferred to the Theory and Analysis Division of Nuclear Burst Physics Department.

## Sandia Authors Contribute to Encyclopedia

Two Sandians have contributed material for inclusion in the forthcoming *Encyclopedia of X-rays and Gamma Rays*, being compiled by G. L. Clark of the University of Illinois.

J. Read Holland (5132) and James R. Brathovde (5414) provided a section on "Computer Techniques in X-Ray Diffraction" and Mr. Holland, alone, wrote a section on "Pole Figures."

The encyclopedia is one of a series being published by Reinhold Press.

## Tryouts Set for Sandia All-Star Softball Team

Services and Recreation Section 3122-2 has announced that all Sandia Lab and AEC employees are eligible to try out for the Sandia All-Star Softball Team. Tryouts are scheduled for early July.

The All-Star team will represent the Corporation in the annual Interstate Softball Tournament, Aug. 6-8. Last year's Sandia team was runner-up to the state champion Kirtland Flyers.

Employees interested in trying out should contact O. J. Foster or Seyfred Toledo at ext. 29157 before July 1.



J. R. Holland

## Doctor of Engineering Degree Awarded To J. R. Holland

A Doctor of Engineering degree was granted J. Read Holland (5132) during the January commencement exercises at the University of Kentucky.

His doctoral dissertation was "A Study of Preferred Orientations in Warm- and Hot-Rolled Metals."

Mr. Holland previously received a Master of Metallurgy degree from the University of Sheffield in England and a BS degree in metallurgical engineering from the University of Kentucky.

He has been at Sandia since last October.



S. C. Levy

## S. C. Levy Earns PhD at Iowa State

S. C. Levy (1323-2) received his PhD degree in inorganic chemistry during the mid-year commencement at Iowa State University.

His doctoral thesis was entitled "Some Properties of Rare Earth Nitrilotriacetate Complexes."

He received his BA degree in chemistry from Hofstra College, Hempstead, N. Y., and has been at Sandia since December 1961.



PRESENTATION of framed facsimile of coat of arms of King Charles I of England (1600-1649) and commission regarding quality control of arms and armor was made recently by George Hawley (2561-3), chairman of the local chapter of the American Society for Quality Control, at right, to Dr. Val Fie-

genbaum, national president of the ASQC at a national ASQC convention held at Cincinnati, O. The coat of arms and commission were researched by L. E. Snodgrass (2561) and reproduced by Cynthia Kelly (3113-1). The plaque will remain at ASQC National Headquarters. (See Lab News—June 8.)



NATIONAL SCIENCE FAIR OFFICIALS visited Sandia Corporation recently while in Albuquerque, site of the 1963 Fair. L to r: Charles Bragaw, Boulder Laboratories, Boulder, Colo.; Gordon Fister, Call-Chronicle Newspapers, Allentown, Pa.; Joseph H. Kraus, Science Service, Washington, D. C.; Mrs. Dorothy Schriver, Science Service, Washington, D.C.; Howard Weisbrod, San Diego City Schools, San Diego, Calif.; Dr. Clay Smith, New Mexico Institute of Mining & Technology, Socorro.

## Amateur Camera Club Elects Several Sandia Employees Officers; Alice Gates President

The Enchanted Lens Camera Club recently elected four Sandians to top offices to serve during the 1962-63 term.

The new president is Alice Gates (2400). Other officers are R. H. Berg (1423-2), vice president; R. L. O'Nan (1423-1), secretary; and O. D. Belden (2343-1), treasurer.

The amateur camera club is co-sponsor with the New Mexico State Fair Commission of the International Print Salon held annually during the New Mexico State Fair. LeRoy Hassebroek (1423-1) is Sup-

erintendent of the Salon for 1962. Programs and competitions (both color and black and white photos and slides) are held by members alternately every other Thursday from October through May. Field trips and shooting sessions are conducted through July and August. Meetings are held in the Indian Building on the Fairgrounds.

The new president defines the purpose of the club as: to promote amateur photography and to improve general level of photographic quality; to provide an outlet for

creativity in both beginning and advanced amateurs; and to provide assistance and encouragement to those who wish to improve their photographic ability.

In June the Annual Awards Banquet is held with recognition for members accumulating the most points in color and print competitions during the year and for "Best Print of the Year" and "Best Slide of the Year."

Further information for anyone interested in joining the club may be obtained from any of the above mentioned officers.

## Welcome Newcomers

June 4-15

<b>Albuquerque</b>	Marquette H. Ames	3421	<b>Indiana</b>	Elmer N. Leslie, Jr.,	
	Sadie Barola	3446		West Lafayette	2532
	Donald E. Bates	3446		Charles R. Martell, Lafayette	2531
	*Marguerite M. Burrell	3126		Jack D. Rex, Richmond	4112
	Elizabeth L. Compardo	4424		*Richard E. Spalding, West Lafayette	7251
	Marilyn Davies	3126	<b>Iowa</b>	Dallas Laumbach, Lake City	7311
	Nepomuceno J. Gallegos	4574		Bernard E. Martin, Ames	7221
	Michael T. Hamilton	3444	<b>Kansas</b>	Roger R. Eaton, Manhattan	1432
	Leeland H. Hogue	1431		John V. Otts, Lawrence	1325
	Sally T. Huffman	3126		Thomas J. Young, Topeka	1313
	Millicent C. Hulgan	3126	<b>Kentucky</b>	David G. Skogmo, Lexington	1431
	Laura-Donna Kenna	3126	<b>Massachusetts</b>	*Harry C. Hardee, Jr., Arlington	7112
	Karl S. Leary	1431	<b>Mississippi</b>	Charles T. Avant, Starkville	4543
	Virginia W. Lech	3452		Jerry D. Moore, Starkville	7118
	Eulogia H. Lopez	3446	<b>New York</b>	Robert L. Torres, Utica	3311
	Shirley A. Ocozbek	3126	<b>North Carolina</b>	William R. Hale, Charlotte	7243
	A. Janet Shields	3126	<b>Texas</b>	Bobby J. Abel, Hearne	7164
	Ruth F. Whan	5314		Lawrence B. Broadway, Austin	1311
	Lyla M. Williams	3126		Donald D. Isett, Austin	7211
	Thomas J. Wittman	7322		* Denotes rehired	
	Smiles Zepeda, Jr.	3444	<b>Returned from Leave</b>	William D. Adams	7251
<b>California</b>	Jane L. Baltzell, Berkeley	3423		Frank Biggs, Fayetteville, Ark.	5111
<b>Illinois</b>	Charles B. Becherer, Champaign	9130		Richard O. Heinz, Marago, Calif.	1424
	*Terry D. Herther, Wilmette	1322		Robert E. Pearce	1431
				Thomas M. Schultheis	7222
				Gary L. West	7222

## Trout, Turkeys, Rattlesnake Help Enliven Long Hike

High adventure in the Gila Wilderness was experienced by a group of Sandians in early June.

Howard Nunez (7322), Len Bevis (1413), Walter Rice, Ed Machin, and T. J. Williams (all 1431) hiked with packs 40 miles in three days across the wilderness area in southwestern New Mexico. Their route went from the Gila Cliff Dwellings to Willow Creek via the box canyon of the west fork of the Gila River.

Les Balint and Charles Gumley (both 1431) maintained the base camp at Willow Creek with Bob Reineke (1431) and his family arriving the last day.

Along the way three of the party caught trout for supper (Howard Nunez had an 18-in. catch). The party saw a flock of wild turkey and killed a five-ft. diamond-back rattlesnake that came uncomfortably close to one of the hikers.

The Sandians explored the cliff dwellings before starting on the hike.

### SHOPPING CENTER ● SHOPPING CENTER ● SHOPPING CENTER ● SHOPPING CENTER ● SHOPPING CENTER

**CLASSIFIED ADVERTISING**  
 Deadline: Friday noon prior to week of publication unless changed by holiday.

**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 Corporation and AEC employees only
6. No commercial ads, please
7. Include name and organization

**FOR SALE**

30-GAL. HOT WATER HEATER 3 ea. 44x52 wood frame windows; 16-gauge pump shot gun. Calvery, 255-9545.

FRIGIDAIRE refrigerator, \$35. Nogales, 1100 Silver, SE, CH 7-1178.

AUTOMATIC hi-standard Sport King pistol; portable typewriter; alum. camper w/ 58-gal. gas tank capacity. Varey, 2014 Second, NW.

3-BDR, den, 1 1/4 bath, dbl. garage, a/c, carpets, ceramic tile, drapes, built-ins, sprinklers, patio, redwood summer house, \$22,500. Suttman, AX 9-6754.

REFRIGERATED AIR CONDITIONER, 1-ton, 220 wiring and transformer included, adjustable temperature control. Vaughan, 299-5676 after 5 p.m.

MATERNITY CLOTHES, size 12; car bottle warmer; sterilizer; bassinette; bathnet; playpen. Doyle, AX 9-9331.

HAND LAWN MOWER, used one season. Sanchez, AM 8-5427.

POWER MOWER, gear driven, riding type Craftsman, 4 HP 3 cycle motor, 24" rotary blade, \$50 or best offer. Bennett, 265-0547.

ARE YOU looking for togetherness? Here it is. Tandem bicycle, almost new, \$70. Smith, AX 9-6873.

COUCH, CHAIR, newly upholstered, \$75; dining room table w/5 chairs, buffet, \$75. Imrisek, AL 6-9063.

DUAL BASE PORTABLE COOLER and stand, cost \$44, used 3 months, sell for \$20. Boxx, AX 9-7263.

ENGLISH SPRINGER spaniel puppies, purebred, excellent family and hunting companions, registered AKC. Barth, BU 2-3134.

\*60 B.S.A., must sell, can be seen at 1116 Truman, SE, Morrison, AL 6-0378.

GE FILTER-FLO automatic washer, water saver, hot-warm controls, also manuals. Kimball, AX 9-2015.

\*54 BUICK SPECIAL 2-dr., original owner. Edwards, AL 5-2828.

SPORTSMAN CAMPER, fits '59 GMC wide side, short wheel base, canvas w/alum. door, \$30; Casco play pen, folding, \$18. Bassett, AX 9-5685.

UPRIGHT FREEZER, 20 cu. ft., \$200; 5-piece maple dining room set, \$75. Libby, 299-5948.

COLDSPOT REFRIGERATOR, 11 cu. ft., freezer section across top, \$35. Bauer, AM 8-9735.

AIR CONDITIONING for Rambler car. Hayes, AX 9-3704.

SOUTH AMHERST, 2-bdr. house, pitched roof, carpeted, hw/f, fireplace, a/c, garage, low down payment to responsible party. Miller, AL 5-7187.

20-GAL DRUM of Freon, make offer; double bed w/innerspring mattress. Archuleta, AL 5-6781.

BOY'S 26" bicycle, English style, nearly new, \$30. Tucker, CH 7-8687.

3-BDR and den brick home, a/c, w/w carpet throughout, 1112 Arizona, NE. Musser, AL 5-8373.

POWER MOWER, Craftsman 24" reel, 3 1/2 HP Briggs & Stratton engine, \$50. Widows, 1024 Luthy Cl., NE.

\*59 RAMBLER V8 Ambassador station wagon, R&H, factory a/c, PB, PS, push-button trans., \$1500. Freund, AX 9-3716 after 5 p.m.

HOTPOINT RANGE. Rutherford, 298-0773.

15' FIBERGLASS runabout w/35 HP Johnson and trailer. Brock, AX 9-3954.

\*55 FORD 1/2-ton pickup, 4-speed transmission, 6-cyl, 16" wheels, w/box cover (camper), \$495. Andrews, AL 6-7328.

\*56 PLYMOUTH, 2-dr., w/Fury engine, w/w tires, heater, radio w/dual speakers, \$425 cash. Richardson, 268-4439.

\*54 DODGE Coronet, new brakes and battery, \$375. Minor, AX 9-2267.

\*55 OLDS SUPER 88, original owner, 4-dr., tinted glass, radio, Hydramatic, PS, PB, 2-tone paint. Mills, AX 9-2130.

3-BDR, corner lot, 1/4 acre, 6' block wall, hw/floors, carpet, drapes, a/c, FHA financing available, landscaped, recently redecorated. Sanchez, 2221 Frederick Pl., NE, CH 7-4879.

2-BDR, BEL AIR, a/c, hw/f, FHA, completely repainted. Trujillo, 2842 Truman NE, AX 9-3115.

3-BDR, 1 3/4 bath, utility room, a/c, flagstone patio, landscaped, corner lot, near base, schools, \$13,500. Benderman, AX 9-5831.

22 SEMI-AUTOMATIC J. C. Higgins model 80 pistol w/extra clip and holster; small student desk. Colquitt, AX 8-2113.

BABY CRIB and mattress, \$15; Teeter-Babe, \$2; charcoal grill, 24", \$2. Hamlet, AX 9-5124.

\*57 CHEVY BEL AIR 4-dr. HT; 1 set twin headboards; window-type air cooler. Amador, 1406 Eighth NW, CH 2-7649.

KENMORE GAS RANGE, 8 yrs. old. Brownson, 9714 Woodland Ave., NE, AX 9-0449.

\*57 CHEVROLET-210, 2-dr., V8, standard, OD, R&H, 2 new tires, 37,000 miles, make offer. Holben, 255-7016.

OLDS AMBASSADOR CORNET, complete w/carrying case, cleaning kit, and Bach mouth-piece, \$75. Scott, AL 5-6231.

**NEXT DEADLINE**  
 FOR SHOPPING CENTER ADS  
 Thursday Noon, June 28

2 HEALTHY PARAKEETS, 1 white, 1 green, with large standing cage, \$8.50. Swiss, 10309 Norman Ave., NE, AX 9-8755.

MOSSMAN 3-BDR, glassed-in den, hw/f, 1 1/2 bath, fireplace, a/c, landscaped, schools 1/2 block, \$500 below FHA, \$450 down. Baling, AX 9-1346.

\*59 BUICK LeSabre, air, white; 4x27" nylon turps, \$5.50 ea. Dollahan, AX 9-8107.

ROBERSON, 1 1/2 yr., 3-bdr, 1 1/2 bath, family room, fireplace, a/c, sprinklers, landscaped, drapes, carpet, GI, \$18,350, low down. May, 3209 Betts NE, AX 9-2624.

BREAKFAST TABLE and chairs, yellow and chrome, like new, best offer. Gay, AX 9-5625, after 5 p.m.

\*56 PONTIAC 4-dr. sedan, auto. trans., R&H, low mileage, \$425 or best offer. Sonnenberg, AX 9-3859.

SE HEIGHTS, 3-bdr, dining room, 1 1/2 bath, attached garage, 2 blocks schools, base, FHA, GI, or assume existing loan. Mauldin, AL 5-8356.

\*51 CADILLAC 4-dr., rebuilt engine and Hydramatic, \$275. Russell, 2820 Vermont NE.

20" ELECTRIC FAN, 2-speed w/stand, \$20. Beckes, AL 6-3967.

LARGE STORKLINE baby carriage, \$15. Balfour, AM 8-3006.

CAR REFRIGERATOR, embossed aluminum exterior, additional insulation put in, \$3. Hill, CH 3-3493.

\*62 PLYMOUTH FURY 2-dr. sedan, R&H, push-button drive, 4000 miles, \$2300, \$1100 off list price. Hughes, 344-8786.

METAL LATHE, Craftsman w/attachments, 3" swing, 12" between centers, \$75; baseball catchers glove, Nokona, like new, \$15. Costello, AL 6-9702.

1-TON REFRIGERATED type air conditioner w/thermostat control, used 3 seasons, \$65. Mills, AX 9-4752.

TWO 3-drawer desk-chests, \$15 ea.; portable radio-phonograph, single speed w/phone jack to plug in other speeds, \$15. Goodman, AX 8-2287 after 5:30 p.m.

WASHER, automatic Westinghouse, \$60; Royal typewriter, standard size, \$35. Dixon, AX 9-6886.

SEVEN left-handed golf clubs, # 2,4,5,6, 7,8, and 9 irons. Glaze, AX 9-4340.

BABY BED; play pen; bird cage; aquarium w/fish and accessories; buffet; misc. Russell, AX 8-2439.

GAS RANGE 30"; RCA refrigerator; twin-size mattresses. Piraino, 616 Madison, NE.

2-BDR HOUSE, forced air heat, a/c, walled yard, 4 1/2 GI loan w/payment of \$52/mo., no qualifying. Qualle, AM 8-2827.

NOVI air conditioner package for '58 Ford, can be adapted to other makes, compressor needs overhaul. Bowen, AL 5-6759.

THREE ACRES adjoining Individual or all Holiday Hills South 217. Peecher, 898-2249.

AUTOMOBILE AIR CONDITIONER, universal type, \$125. Day, AL 6-6360.

ROYAL JUNIOR portable typewriter, \$25. Gray, AL 6-1560.

COMPLETE SEAR's developing and printing outfit, \$5; 9x12 fiber rug, \$8; portable room air conditioner, \$15. Smith, AX 8-0767.

SINGLE BED, complete, \$20; electric guitar w/amplifier, \$200; baby carbed, \$5; vaporizer, \$5; window car cooler, \$10. Naumann, 298-1953.

RUG, green wool, 9x15, \$35. Carter, 4501 Delamar, NE, DI 4-6563.

SEATTLE FAIR TICKETS, 3 adults, 2 children books, 2 admissions and other events, each book, cost at Fair, \$42.50. sale price, \$27. Martin, AM 8-5464.

3-BDR, a/c, landscaped, fenced yard, patio, no down or closing costs, VA, \$10,300. Arning, 528 Rhode Island SE, AL 6-9229.

3-BDR and den brick home, landscaped, carpeted, drapes, curtains, washer-dryer, dishwasher, disposal. Pearl, 256-6541.

EDISON AMBEROLA phonograph with 20 tubes, \$100. Williams, AX 9-1741.

KODAK BROWNIE movie camera, 500-watt projector, light bar, and lens filter. Chadwick, AX 8-1298.

HOUSE FURNISHINGS, oak dinette set, hollywood twin beds, chest, GE and Norge washers, Philco refrigerator, swivel rocker. Kimball, AX 9-2015.

3-BDR ROBERSON, a/c, fireplace, hw/f, dining room, 1 1/2 bath, sprinklers, landscaped, \$17,000. 2201 Glorieta NE. Struss, AX 9-6430.

YOUTH BED and mattress; GE oscillating fan, 10"; 3 1/2 boxes of .38 special 158 GR shells. Frettem, AX 9-1588.

18" POWER MOWER, Craftsman rotary, Clinton engine, \$25; hand mower, nearly new, cost \$25, sell for \$12.50. Shew, AL 5-0263.

JR. ENCYCLOPEDIA Britannica, w/bookcase and year books. Woodley, AM 8-6871.

AUTOMATIC WASHER, Philco-Bendix, 1960, \$50; Hotpoint dryer, 1958, 110 or 220V operation, \$40. Nix, 298-4282.

COUCH and chair, \$30. Prairie, AX 9-1431.

\*57 T-BIRD, 312 cu. in. engine, 4-barrel carb., R&H, auto. trans., wsw tires, white w/black and white interior, hard and soft tops. Stevens, 298-2894.

BUFFET, blond, 1 yr. old, w/magnetic doors, solid oak, \$49.50. Padilla, AX 9-0460.

TRAILER, 1-wheel utility wood box w/ hitch, \$25; Boy's bike, 26", \$20; wheel for Jeep. Wakeland, 6509 Natalie, NE, AX 9-2519.

\*49 CHEVROLET, new paint, interior, brakes, tires, reconditioned motor. Mancuso, AX 9-5252.

**WANTED**

WILL CARE for children in my home. Elliott, AM 8-1937.

CAMP TENT in good condition, approx. 9'x9' size. Swayze, AM 8-5222.

RIDE from Lomas and Adams to vicinity Bldg. 860. Huelsweede, 265-0969.

RIDE from Cedar Crest Highway 10 north to Sandia Base. McArthur, ext. 49219.

USED SET of golf clubs, 2 woods, 5 irons, will pay up to \$40 for good set. Paul, 256-6228 after 5 p.m.

TEXTBOOKS, Sandia Corporation Technical Institute courses, must be in good condition. Knight, 299-2700.

TRADE clear new house, 3-bdr, w/acre land in Los Chavez for clear house in Albuquerque. Ayala, AM 8-0183.

TO JOIN CAR POOL south valley from Violet SW (off Foothill Rd. between Arenal and Blake) to Area 1. Golding, 877-3165.

RIDE from 2343 Cardenas NE to Bldg. 880. Collins, AM 8-3612.

RIDE or join car pool to 880 parking lot from vicinity of Wyoming and Candelaria NE. Cejka, 299-2441.

NAVY HAMMOCK, usable condition, with clews. Ray, AL 6-6453.

**FOR RENT**

PRIVATE bedroom and bath, attractive, NE Heights, for single woman, household privileges, reasonable. Poole, AX 9-8696.

TRUMBULL, SE, pleasant 2-bdr. apt, stove and refrigerator furnished, couple with children preferred, available July 2, \$75. Shelby, DI 4-5522.

FURNISHED 2-bdr. house, 915 Girard, NE, a/c, walled yard, lighted patio, sprinklers, immediate occupancy. Piper, AX 8-2053.

ROOM for rent in private home for working person. Shead, AL 5-1584.

15' TRAVEL TRAILER, sleeps five, some time still available this summer. Colp, AM 8-8035.

2-BDR HOUSE, lawn, water paid, valley location, \$65/mo. Armijo, AX 9-5836.

**LOST AND FOUND**

LOST—Blue lunch bucket, green lens sunglasses in tan case, 2 Canadian coins in 2x2" envelope, wallet with ID of Dr. Brown, brown snap glass case, silver and turquoise earring. Lost and Found, ext. 26149.

FOUND—Prescription glasses, 5-yr. SC emblem, man's tan top coat with name Ehref, Lady's grey coat left in medical. Lost and Found, ext. 26149.

FOUND—in Tonopah TR coffee-trailer, one month ago, Bausch & Lomb prescription sun glasses, strong lens, bronze finish, size 6 frames, name rubbed out of left temple piece except for final "Y", in brown leather case.

# Engineering Drawing Delivery Time Cut With Adoption of New Filmbank System

A new system for reproducing and dispensing engineering drawings has been initiated at Sandia Laboratory. The system will produce substantial savings of time and money. The full-size drawings are reproduced on 35mm microfilm, and the film is mounted in Electronic Accounting Machine (EAM) aperture cards, which are handled by tab-card methods.

"Considerable yearly savings, increased efficiency and convenience, and a probable cut in production time from eight days to eight hours, make the system advantageous for us," J. H. Hockett, supervisor of Administrative and Personnel Methods Division 4112, commented. "In addition, the new system enables quick delivery of prints. Delays and difficulties are removed, and many improvements have been made all along the line."

The changeover involved coordinated effort by nine Sandia organizations: Administrative and Personnel Methods Division 4112, Drafting and Design Standards Service Section 4423-2, Nomenclature Division 4424, Reproducible Files Section 3446-2, Micro-Reproduction Section 3444-3, Electronic Accounting Machine Section 3452-4, Technical Library Division 3421, Classified Information Control and Communications Center Division 3441, and Reproduction Division 3462.

Formerly, large prints of engineering drawings at Sandia Lab were reproduced and stored in three central files and in many organizational files. Under the new system, the microfilm of the drawing is part of a punched card carrying associated drawing information. These cards are filed in filmbanks at four key locations. Prints are furnished on request at the filmbanks, where the microfilms may also be viewed directly by use of a microfilm reader.

## Cards Are Used

"The entire system utilizes cards," Mr. Hockett continued. "Since it is standardized, it facilitates accountability and expedites the availability of changed drawings."

When drawings are changed, the drawing release card is updated and serves as the control card to create other cards used in the system. The first phase of card production is completed by Nomenclature Division 4424.

"We make a master card for each page of a drawing (or portion of a page in the case of large drawings) that has been changed and is being released," Lee Toller, supervisor of Division 4424, explained. These master cards are used to create aperture cards

which eventually will contain the microfilm copy of the drawing.

The changed drawing and the up-dated master cards are taken to Reproducible Files Section 3446-2 in Bldg. 836. Here, necessary reproducibles for contractors are ordered from Diazo Reproduction Section 3462-2, and the drawings are sorted numerically by size. Drawings are then sent to Micro-Reproduction Section 3444-3 for microfilming. The cards are sent to Electronic Accounting Machine Section 3452-4 for processing.

Microfilm production begins in Section 3444-3. "We photograph the tracings on microfilm, using a 35mm planetary camera, and fine-grain, high-resolution film," E. C. Hirt, supervisor of Section 3444-3, explained. The microfilm is automatically processed and manually checked for resolution and density. After processing and checking, it's ready for mounting in glassine aperture cards.

## Aperture Card

The aperture in the card is a rectangular opening, slightly larger than the microfilm it will carry. The edges of the opening carry adhesive to bond the film to the opening. To preserve the adhesive, the empty window is covered with a translucent protective paper, known as glassine.

While the drawing is being microfilmed, Section 3452-4 proceeds with another aspect of the job. "Using the master card and the drawing release card, we reproduce and keypunch information to create the aperture card in which the film is to be mounted and make other cards to be used for accountability purposes," C. H. Boal, supervisor of Section 3452-4, said.

Each aperture card is punched and printed with information for a given drawing. Section 3452-4 returns the punched and printed glassine and diazo cards to Micro-Reproduction Section 3444-3, where the glassine is removed, the film is mounted in the aperture, and the image is transferred from it to the diazo card.

"One advantage of the system is that many microfilm duplicates of the original microfilm card can be made easily and quickly," Mr. Hirt explained. "We make six diazo copies of the original microfilm card with a card-to-card printer which enables us to produce about 1500 high-quality copies per hour."

Diazo cards of the microfilmed drawings are now ready for distribution to microfilm banks in Sandia Laboratory. "Several Sandia contractors are preparing to



ROLLED reproducibles like these were stored full-sized at banks in Sandia Laboratory. New microfilm-drawing system enables such storage methods to be replaced by compact microfilm card files. Removing a reproducible is B. E. Hickerson, 3446-2 supervisor.

utilize the new system, and to exchange apertures with us instead of full-size reproducibles," Mr. Hockett, supervisor of Division 4112, continued.

## Prompt Copies

Reproducible Files Section 3446-2 distributes cards to the microfilm banks. "The system enables us to provide the requesting individual with a prompt copy of a drawing in microfilm by means of a reader-printer, or a print of the drawing by means of an enlarger printer," Mr. Hockett continued. Microfilm banks are located next to the Central Record File Section 3421-1 in Rm. 125, Bldg. 880; in the print file location in Bldg. 892; and in Rm. 230 in Bldg. 836. A card file is located temporarily on the first floor, East Wing, Rm. 160 of Bldg. 802.

Cards are sent to the microfilm banks accompanied by accountability receipts for classified information. "Once each week, we send certificates of destruction to each bank, listing cards no longer current, and authorizing their destruction," Mr. Hockett concluded. "We also plan to use collating machines to inventory the cards and check their order and completeness in the banks."

## C. P. Mortensen Died June 4

Clarence P. Mortensen, a retired Corporation employee, died suddenly June 4. He was 57.

At the time he retired in 1960, Mr. Mortensen had been with Sandia two years. He worked in the Mechanical Inspection Division.

Survivors include his widow and a married son and daughter living in California.

Burial was in Rockford, Ill.



## Sandia Speakers

Following is a list of speakers, titles, and places of presentation for talks by members of Sandia Corporation.

C. M. Williams (5426), "The Pre-compiler—A Program Which Will Allow Arbitrary Arithmetic Modes in Fortran Programs," Spring Meeting of the Rio Grande Chapter, Association for Computing Machinery, Cloudfcroft, N. M., May 18.

D. L. Field (7513), "The Economic Value of Supplier Surveys" and "Scheduling Supplier Surveys," Quality Assurance group of the Electronic Industries Association, Los Angeles, Calif., May 8.

D. E. Fossum (2412-2), "Microwave Pulse Power Measurements" (compiled from a paper by C. A. Denny, C. L. Mavis, and C. J. Still, all 2412-2), IRE Professional Group for Microwave Theory and Techniques, Albuquerque, May 19.

W. A. Gardner (7300), "Environmental Testing and Engineering," joint meeting of the Northern California chapters of IES and Standards Society, May 7.

R. J. Everett (3311-1), "The Current Problems and Controls of Industrial Hygiene," Joint AEC Health and Safety Conference, Albuquerque, June 6.

R. F. Utter (3132-2), "Sandia's Use of Linear Non-Machine Programs," Second Advanced Workshop on Programmed Instruction in Training, sponsored by McGraw-Hill Book Co., New York City, June 12-13.

J. W. Allen (1422), "Supersonic Radome Rain Erosion Testing and Design Criteria," Aerospace Division-Ohio State University, Electromechanical Window Symposium, Columbus, O., June 4-5.

## Tellers' Windows to Be Closed Until 10 a.m. July 2

Tellers' windows in Financial Department 6020 will be closed until approximately 10 a.m. on Monday, July 2. This is necessary due to year-end closing activities, reports C. Olajos, department manager.

## AEC Offers Preliminary Reports on Three Project Gnome Experiments

The Atomic Energy Commission has published preliminary reports on three of the experiments conducted in conjunction with the Dec. 10 Project Gnome nuclear detonation.

New reports include:

"Resonance Neutron Activation Measurements," 42 pp., \$1, summarizes the Lawrence Radiation Lab's neutron wheel experiment.

"Pre-Shot and Post-Shot Structure Survey," 12 pp., 75 cents, a preliminary summary of the Holmes and Narver, Inc. survey to document pre-and post-event condition of all surface facilities within a 10-mile radius of ground zero.

"Summary of Predictions and Comparison with Observed Effects of Gnome on Public Safety," 16 pp., 50 cents, a preliminary survey of maximum surface accelerations recorded at the time of the Gnome

event in comparison to predicted values.

Previously announced reports include:

"Particle Motion Near a Nuclear Detonation in Halite," 70 pp., prepared by Sandia Corporation, for \$1.75.

"Earth Deformation From a Nuclear Detonation in Salt," 54 pp., prepared by Stanford Research Institute, for \$1.25.

"Seismic Waves From an Underground Explosion in a Salt Bed," 84 pp., prepared by U. S. Coast and Geodetic Survey, for \$2.

"Intermediate Range Earth Motion Measurements," 56 pp., prepared by Stanford Research Institute, for \$1.50.

The reports are available from the Offices of Technical Services, U.S. Dept. of Commerce, Washington 25, D.C.



INSPECTION AND MOUNTING of microfilm in aperture card is completed by William F. Lewis (3444-3), operating a semi-automatic mounter. Before mounting film, he checks its drawing number, issue, and security classification against data on card.



COMPLETED microfilm drawing card is inserted in a rotating-drum file by Carolyn Kinsey of Reproducible Files Section 3446-2. Similar storage facilities are used at film banks located at four Sandia Laboratory locations and at other contractors' locations.

## Sandia's Safety Record

**Sandia  
Laboratory  
HAS WORKED  
1,020,000 MAN HOURS  
OR 29 DAYS  
WITHOUT A  
DISABLING INJURY**

**Livermore  
Laboratory  
HAS WORKED  
1,217,000 MAN HOURS  
OR 209 DAYS  
WITHOUT A  
DISABLING INJURY**