



SANDIA LAB NEWS

VOL. 21, NO. 14, JULY 3, 1969

Warren Search Heads Sandia 4300 Directorate

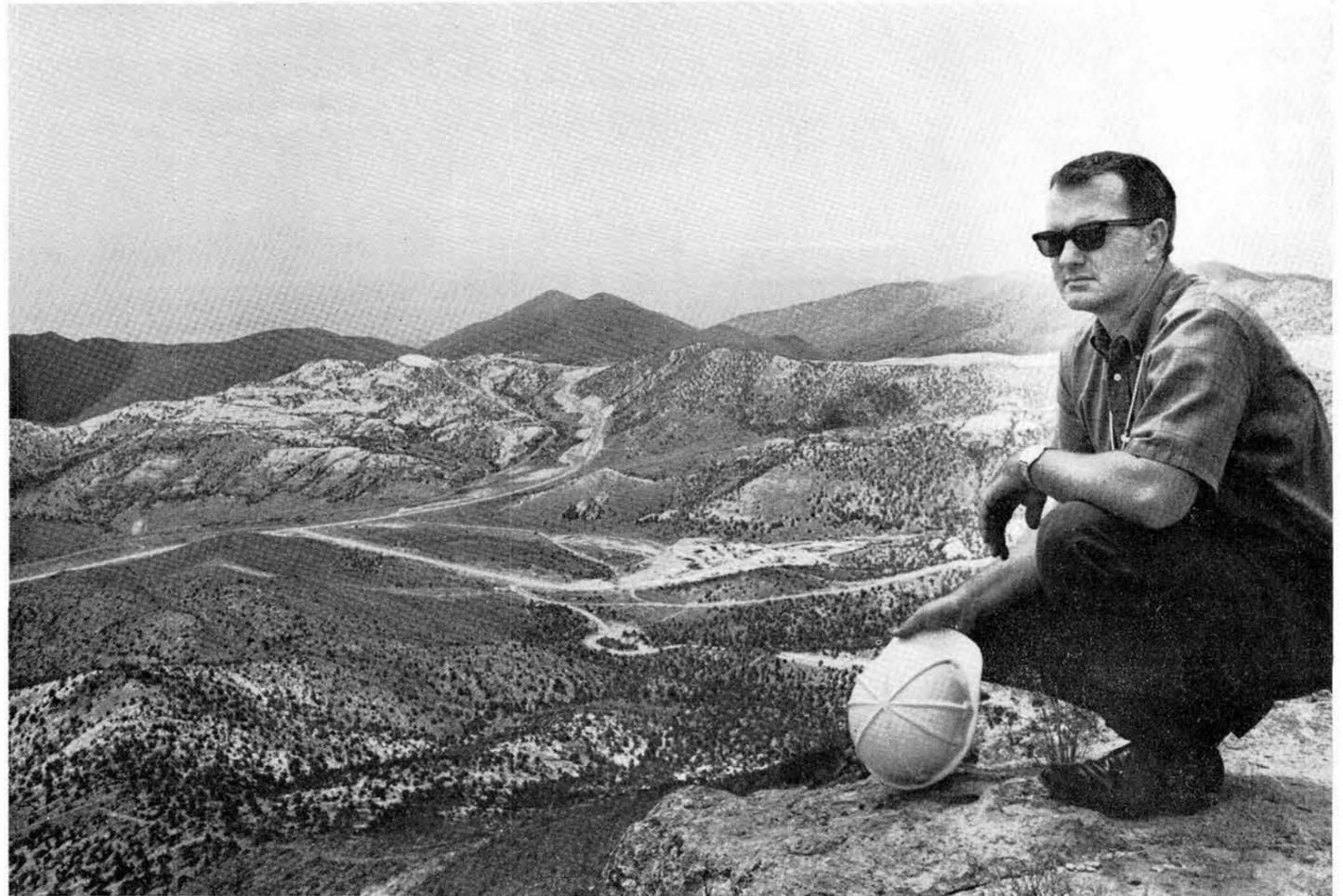
Warren Search, formerly manager — source inspection and product engineering in the Purchasing and Transportation Division of Western Electric Company, became Director of Purchasing and Traffic 4300 at Sandia Laboratories July 1.

Clarence Pritchett who had held the position returned to WE headquarters to be in the Purchasing and Transportation Division.

Mr. Search began his WE career as a buyer's clerk in August 1936. He held various positions in the Purchasing and Transportation Division and in Personnel and Patent Licensing Division as part of a WE management training program. He was named patent license superintendent in October 1962 and manager of purchasing—plastics, chemicals, batteries and textiles in April 1966.

He holds a BA degree in economics from Columbia College and also attended New York University's Graduate School of Business. He served in the U.S. Army Air Corps from 1943 to 1946, advancing from aviation cadet to first lieutenant.

He is married and has three daughters.



WHERE THE ACTION IS—High on a cliff overlooking the Cypress trailer area, Leo Brady (9131) surveys the Nevada Test Site. Sandia is seeking 30 staff assistants to transfer to

Las Vegas and work in instrumentation jobs at NTS and Tonopah Test Range. See article on page six for details.

Technical Knowledge Exchange Between Agencies Is Function of IDEP Service

"Before you begin testing that new component or calibrating that newly-purchased instrument, it might be wise first to spend a little time with IDEP. You just might save yourself and the Laboratories a good deal of time and money and you might find yourself further along with that experiment than you thought."

This is the advice of Jack Cejka (7621), who was recently appointed as the Sandia coordinator of IDEP (Interagency Data Exchange Program). IDEP is an association of more than 200 agencies, mostly Army, Navy, and Air Force agencies or their contractors who pool information in an effort to avoid costly duplication and to provide quick access to new technical knowledge.

Between 40 and 45 thousand technical reports, component evaluations, calibration reports, and many other kinds of technical information are available through IDEP. "The intent of IDEP is to reduce the cost of testing components, systems and equipment," says Jack. Through the use of information or techniques recorded in IDEP files, more than \$14,000 was saved at Sandia, according to documented cost improvement reports.

"However, much of this information is beyond a dollar value," adds Jack. "Its worth is in the savings of time, particularly in preliminary stages of testing and evaluation procedures."

Sandia, the only AEC agency in IDEP, (Continued on Page Four)

Plated Holes in Printed Circuit Boards Tested by New Method

Bernard Stiefeld of Acceptance and Contamination Control Division 5425 has developed a new and accurate nondestructive technique to test the electroplated holes which carry electric current from one side of a printed circuit board (PCB) to the other.

Circuits printed on the surface of a PCB are relatively easy to test with conventional methods; but assessing the current-carrying characteristics of a small hole poses special problems because of its size and inaccessibility. The holes may be as small as five ten-thousandths of an inch in diameter.

When holes are plated with the wrong thickness of conductive metal — and when the plating itself has voids or is contaminated or cracked — the holes will not deliver desired electrical values and may cause electronic components either to malfunction or to cease operating altogether. These values are particularly critical when a hole connects several layers of a PCB.

A number of hole inspection techniques have been devised for PCBs in the past. But these techniques assume that the plating of the holes is as homogenous as that on a test strip processed at the same time, or depend on examination of a cross-section of a sample hole, or rely upon visual examination by an assembly-line worker.

In the Sandia innovation, a 0.1 ampere constant current power supply is used as the electrical input to a pair of contacts positioned on opposite rims of the plated hole. Current then flows through the copper plating from one pair of contacts to the other. After it passes through a 1:100 voltage pre-amplifier, the signal is read on a millivoltmeter.

The system, mounted on a treadle operated "jaw" which opens to allow manual positioning of the PCB, may be adjusted to test holes of different diameters and boards of various thicknesses.

For a hole .050 inch in diameter and plated with .001 inch of copper, the



BERNARD STIEFELD (5425) demonstrates new technique to test electroplated holes in printed circuit boards. In magnified area, the "jaw" of the device is positioned over a hole. A 0.1 ampere constant current is applied and the output signal through the hole is a measure of the thickness of the electroplating.

output signal of the Sandia device should be about 175 microvolts. If the signal is less than 175 microvolts, it is likely that the hole is plated incorrectly, causing some kind of resistance to the flow of current.

The new device is readily adaptable for use with automated data processing systems, and a computer program has been written which provides the optimum relationship between the output reading and plating thicknesses from 0.2 to 2.4 micro-inches.

Estimated cost of the equipment is about \$700.



YOCs and other summer employees were guests of Sandia Laboratories at a luncheon last Friday aimed at stressing the need and importance of education. One of the speakers, U.S. Sen. Joseph Montoya, took time to chat with these Youth Opportunity trainees (l to r) David Mochen (2451) of Las Cruces, Virginia Lucero (3520) of Albuquerque, Tony Chacon (3132) of El Rito, and John MacArthur (4575) of Albuquerque.

State Constitution Will be Drafted



William Warren

It isn't often that players have the chance to change the rules of the game, but on Aug. 5, 70 delegates elected by voters in legislative districts across the state will meet in Santa Fe to begin a 60-day session to revamp New Mexico's constitution.

Local political scientists have called the forthcoming convention the most important undertaking since statehood in 1910.

The delegates, elected on June 17, represent a wide range of professions, skills, and interests. For many it was the first time they had run for public office. William E. Warren, a doctoral-level mathematician in Applied Mathematics Division I, 1721, was the only successful candidate among four Sandians who filed for positions in their districts.

In order to allow the convention as much freedom and flexibility of operation as possible after convening, the State Legislature was intentionally vague in setting up guidelines of authority for the Constitutional Convention. The Enabling Act itself merely states, "The convention shall be called to order by the Governor and shall immediately proceed to elect a president and other officers of the convention."

The number of delegates — one from each legislative district — was the minimum allowed under the present New Mexico constitution; however, the non-partisan aspect of the election here differed from the approach followed in most states

which have undergone constitutional revisions.

While 60 days may seem inadequate to accomplish the task of rewriting the state constitution, a considerable amount of work in this direction has already been done. In 1963, a Constitutional Revision Commission was established to conduct a critical examination of the present constitution and to make recommendations for possible amendments or revisions. In 1967, this committee issued a report containing a proposed revised constitution for New Mexico and further recommending that a Constitutional Convention be held as soon as possible. Robert Esterly (9414) served as Vice Chairman of this commission.

The convention's first business will be to choose a president and other officers and decide upon the duties of each. Within the first few days the committee framework will be determined and appointments will be made. A committee will probably be appointed for each of the major articles contained in the Constitutional Revision Commission Report.

After the first few sessions, committees will hold public hearings on proposals and attempt to reach agreement. Finally, near the end of the authorized 60-day convention, the committees will submit their drafts of articles and reports and, following debate, the convention will vote on proposed final wording of the new constitution.

The proposed constitution must be submitted to the voters between 45 and 60 days after adjournment of the convention. Outcome of the vote will decide whether New Mexico accepts the new constitution.



RUDY LUCERO, left, demonstrates how an aluminum plate attached directly to the power tail gate of the devily truck simplifies the loading job. The heavy safe can be rolled directly onto the gate, impossible to do without the plate. It saves about four minutes per job. At right are Manuel Sanchez and Fidel Gonzales.

A Simple Idea—But It Saves Sandia Labs \$2900 Annually

It's a simple thing, really. But it makes life easier and safer for Rudy Lucero (4575) and his crew of office furniture movers. And it saves Sandia about \$2900 annually.

Rudy designed an aluminum plate to fit on the power tail gate attachment of his delivery truck. With the plate in place, it becomes possible to roll heavy desks, safes and other furniture directly onto the power tail gate which then lifts the load onto the truck.

Previously, the dolly used for this job would not roll up the steep incline of the tail gate. It was necessary for the crew to unload the item, lift it onto the gate and slide it into the truck — a tricky bit of business when the item was a bulky and heavy safe.

Rudy figures the plate saves his three-

man crew about four minutes on each job. Multiply four minutes by three men and project a workload for a year and it adds up to a savings of almost \$2900—a simple idea but extremely valuable.

Time- and money-saving actions should be reported to Engineering Aids and Specifications Division 7621, which is responsible for Sandia's Cost Improvement program. Reuben Minter and Jack Cejka of the Division are consultants and will help you complete the Sandia Laboratories Cost Improvement Action form.

Alan Pope Vs Mess

Thorough City Cleanup Set July 19-26; Volunteers Needed

Albuquerque is scheduled for a city-wide and thorough — really thorough — cleanup this month. The east half of the city (divided by Carlisle Blvd.) will undergo the brush on Saturday, July 19, while the west half is scheduled for July 26. According to Pete Dominici, chairman of the City Commission, the city's resources are committed and help is expected from governmental agencies, civic groups, churches, organizations, Boy Scouts, and other youth groups and private citizens. The city will be clean.

Enthusiastic about the event is Alan Pope (9300) who has been appointed chairman of the cleanup for the southeast quadrant of the city. He is responsible for

the area east of Carlisle Blvd. and south of the Freeway.

"I need help," Alan says. "Volunteers. People who can help organize, people who can provide leadership, and people who can use rakes, hoes and shovels and can haul things. This is going to be a tremendous effort — and well worth it. We're going to haul away every piece of junk and trash in the city."

Alan asks all Sandians to help. Start collecting boxes now, clean your own yards, help your neighbors who might not be physically able to do a thorough job and volunteer to help during the two days of cleanup.

You can contact Alan at home, tel. 255-6702, if you can serve.

Other quadrant chairmen are: Fred Gross, northeast, 299-7019; Gus Trujillo, northwest, 242-1019; and Orlando Padilla, southwest, 242-2574.

Sympathy

To H. H. Dancy (2491-3) for the death of his mother in Phoenixville, Pa.

To Charles Lewis (4574-4) for the death of his wife, June 11.

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Editorial Offices in Albuquerque, N. M.
Area 505 264-1053
ZIP 87115

In Livermore Area 415 447-2387

John Shunny is Editor, Don Graham Ass't. Editor
Cherry Lou Burns & Don Wolfe are Staff Writers
Matt Connors & Lorena Schneider
are Staff Writers in Livermore
Bill Laskar is Photographer
Norma Taylor/ All The Rest

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Industrial Pollution Is Concern Of Newly Formed Group

A number of Sandia scientists and others interested in Albuquerque's growth and environmental problems have formed an ad hoc committee on Planned Industrial Expansion to discuss and, hopefully, help solve such problems.

The group meets during the noon hour at the Coronado Club. It has already been successful in placing one of its members, Don Parker, an industrial hygienist with Environmental Health Department 3310, on the joint AIDS-IFA special committee to investigate air and water pollution associated with the Parsons-Whittemore pulp plant which has been proposed for the Rio Grande Valley.

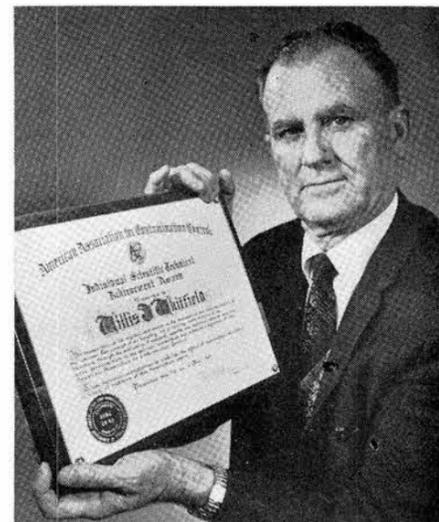
Further information about this ad hoc committee may be obtained from Eric Jones (5114), secretary-treasurer, home tel. 296-1755.

Events Calendar

- July 4—Annual fireworks display, University Stadium, 8:15.
- July 5, 11, 16—Santa Fe Opera presents "Tosca"; July 9, 12, 18, "Cosi Fan Tutte."
- July 7, 14—Lecture Under the Stars series, UNM Administration Bldg.
- July 10-13—Rodeo de Santa Fe.
- July 10-13, 17-20—"The Rope Dancers," Old Town Studio, 1208 Rio Grande NW.
- July 11-13, 18-20 — Tennessee Williams' "Orpheus Descending." Corrales Adobe Theater.
- July 12-13—Campout in the Cabresto area, northwest of Questa. N.M. Mountain Club, leader Bob Babb, tel. 256-9016.
- July 13—Canyoncito on the east side of the Sandias. N.M. Mountain Club, leader George Coen, tel. 268-0085.
- July 14—Corn dance and fiesta, Cochiti Pueblo.

Authors

- C. E. Land (5153), "Ferroelectric Ceramics See the Light," May issue INDUSTRIAL RESEARCH.
- E. D. Jones (5114), "Observation of the ¹⁶⁹Tm and ²⁷Al NMR in Thulium Aluminum Garnet," Vol. 40, No. 3, JOURNAL OF APPLIED PHYSICS.
- J. E. Schirber (5150) and W. J. O'Sullivan (5151), "The Effect of Hydrostatic Pressure on the Fermi Surface of Sb," Vol. 7, No. 9, SOLID STATE COMMUNICATIONS.
- Albert Narath (5100), "Nuclear Magnetic Resonance in Hexagonal Lanthanum Metal: Knight Shifts, Spin Relaxation Rates, and Quadrupole Coupling Constants," Vol. 179, No. 2, PHYSICAL REVIEW.
- R. A. Hill (9342), "A New Plane Grating Monochromator with Off-Axis Paraboloids and Curved Slits," Vol. 8, APPLIED OPTICS.



CLEANEST MAN IN TOWN, Willis Whitfield (1742) displays award recently bestowed by American Association for Contamination Control for his work with laminar flow clean rooms, invented by Willis.

National Technical Society Honors Willis Whitfield

Willis Whitfield (1742), inventor of the laminar air-flow concept for clean rooms and workbenches, was honored by the American Association for Contamination Control at the organization's recent national meeting in New York City.

He was the first recipient of the Individual Scientific Technical Achievement Award which was established to recognize significant contributions by individuals in development of contamination control technology.

Willis was specifically cited for his "original contribution to the development and implementation of laminar flow concept of air handling, his continuing publication of research reports and technical papers, and his active participation in AACC's committees and programs."

The technical society was organized in 1961 and now has about 1200 members.



'Once For All' Program to Benefit National and Local Agencies

This year people at Sandia Laboratories Livermore will have the opportunity to participate in a contribution plan which they helped develop.

For the first time the plan will include local and national health and welfare agencies which are not members of the United Bay Area Crusade (UBAC) — By including these agencies, a "once for all" contribution program can be organized. Previously, contributions made through the annual Sandia fund drive were for UBAC alone.

Many Sandians had come to feel that not enough attention was being given to the needs in the local area. "If individuals wanted to contribute to agencies in the Livermore Valley, or for that matter any non-UBAC agency, they would have to make separate donations, thereby defeating one of the purposes of the Sandia campaign — a single donation through payroll deduction," says Bob Norvill (8233), chairman of this year's fund drive.

With this in mind, an employee study committee, was formed to recommend a plan which would more nearly meet the desires of the majority. A survey was made, and its results are now being used to draft the new contribution plan. Non-UBAC agencies selected and other details of the program will be announced at a later date.

Members of the contribution plan committee, in addition to Chairman Bob Nor-

ered by Health Care Plan). If blood had not been available, the cost would be \$37 (or \$7.40 if covered by Health Care Plan). vill, are: Joe Ambrulevich (8234), Herman Armijo (8222), Sylvester Grisby (8125), Doris Guntrum (8234), Bob Johnsen (8161), Ted Robinson (8223), Lorena Schneider (8216), Carl Schoenfelder (8311), Carl Wackerly (8161), Alec Willis (8335), and Walt Young (8223).

Two Livermore Men Awarded MBA Degree



George Perkins Norman Curry

Sandians Norman Curry (8212) and George Perkins (8234) received Master of Business Administration degrees recently from San Jose State College.

Both completed their graduate courses while attending evening classes at San Jose State under Sandia's Educational Aids Program. Norm attended for about five years and George for three.

A staff member in the compensation organization for the past four years, Norm joined Sandia Laboratories Livermore in 1959 as a program coordinator in product control. About six months later he transferred to business methods where he was a systems and procedures analyst for over five years. Norm graduated from the University of Miami in June 1951 with a BBA degree in industrial management.

George is a staff member in Accounting, Budget, and Financial Division. He received his BS degree in business and industrial management three years ago, after attending evening courses at San Jose State for six years, part of which was also under EAP. He started at Sandia Laboratories Livermore in 1957 as a grade four mail clerk, and subsequently worked as an order analyst, a planning and scheduling coordinator, a staff assistant in the purchasing organization, and a staff member in security administration.

Sandia Blood Bank Program 10 Years Old

For the past 10 years, employees at Sandia Laboratories Livermore have made annual donations of blood to support Sandia's blood bank program. In that 10-year period, nearly 1100 pints of blood have been given to the blood bank for the use of Sandians and their families, including 73 pints processed in the recently completed drive of 1969.

Medical use of the blood has been varied. It includes cases of open-heart surgery (one case, 18 pints, another 26), ulcers, and internal bleeding. Because of the Sandia bank, blood was available when needed and at reduced cost.

Administered by the Alameda-Contra Costa County Medical Association, Sandia's blood bank account allows employees and their dependents to withdraw needed amounts for \$12 per pint (or \$2.40 if cov-



LIVERMORE CENTENNIAL COMMEMORATIVES — Chairman of the Livermore Centennial Committee, Paul Heppner (8154), right, and Dave Bray (8181), chairman of the Commemorative Items Committee, examine beer mugs, stemmed wine glasses, medallions and coins, available during Livermore's 100th year celebration. Commemorative items are on display in the lobby of Administration Bldg. 911 and may be purchased at local stores. All bear the official centennial seal designed by Sandia artist Ed Watchempino (8233).



CERTIFICATE OF APPRECIATION from the City of Livermore is accepted by Alan Campbell (8183) as former-Sandian Gib Magruth, Mayor of Livermore, looks on. As the city's representative on the board of the Valley Communities Economic Opportunity Organization, Alan spent nearly a year administering the program.

Weekend Jaunt Proves People Help People

"This all started as my wife Doris (8253) and I were driving up to South Shore, Lake Tahoe one weekend recently," says Jerry Ward (8182).

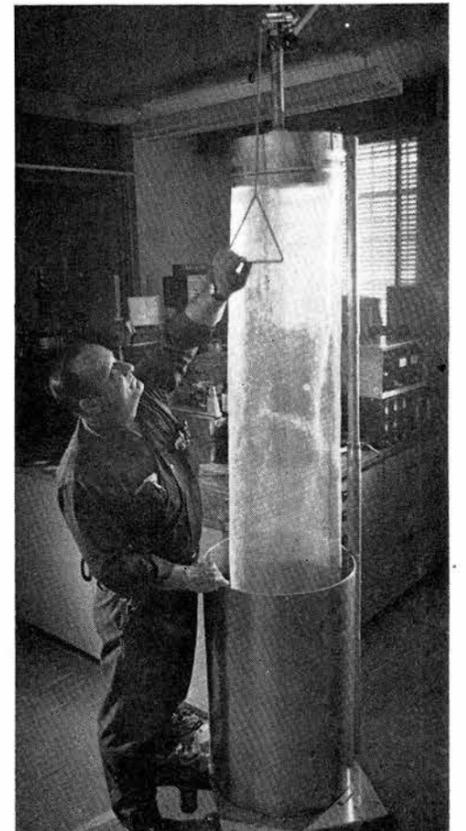
"We were skimming along in a remote area about 14 miles this side of Placerville when we developed car trouble. As we pulled over, a car with an older couple like ourselves came up in front of us and stopped. The man turned out to be a retired automobile mechanic and he and his wife were out looking for a picnic spot. He said he knew there was something wrong when he detected what appeared to be steam coming from the car as we lost speed. We opened the hood of the car and found a water hose had burst.

"Since we belong to an automobile club, they offered to take my wife into Placerville where she would get a tow car. My wife told me later they located a garage, explained the problem and where the car was, made sure she could get something to eat, and then left without giving their name. The garage man came out, towed me in, and before long we were again on our way.

"On our return trip from Tahoe, we stopped at our usual filling station to gas up. A young couple was there with a carry-all, a two-wheel jeep trailer behind that, and a motorcycle — the carry-all and trailer were well loaded. They were fumbling around as the attendant was talking to them, so I asked what the problem was. He said that these people didn't have any money and couldn't find their credit card. I said that someone had helped us out on our trip up and insisted that he charge it to my account, explaining I'd feel as though I'd repaid the favor.

"The couple came over and thanked us. They had been down in Mexico and were now on their way to a look-out station near Susanville. The young man belonged to the Forestry Service and they had all their supplies with them for the next month. They really didn't need any money, but they didn't have a credit card either. They asked for our name and address. Last Monday we received a letter thanking us again for the help. The money was taped to a card in the envelope. The young lady found out that the missing credit card had been left at another filling station and they were able to get it back.

"I think the events of the weekend show that people do help people," Jerry concludes.



MAURICE (MO) ROBERT of General Maintenance Section 8222-2 resets valve of emergency shower after completing a test with Sandia-designed test fixture. One man can now conduct tests without risking water damage to surrounding research equipment.

Fixture Designed for Testing Emergency Showers

Unless handling caustic liquids in a chemistry, plastics or plating laboratory is part of your job, you'd probably never notice nor need an overhead emergency shower. People in these areas know, however, how important water can be if caustic solutions accidentally spill or splash on their clothes or skin.

Making sure that the showers work in an emergency is the concern of Safety Engineering Division 8262. But how can the shower be tested without risking water damage to all areas under it?

Herb Zenger (8262) solved the problem by designing a portable shower test fixture.

Just push a caster-mounted, 40-gallon drum under the shower head. Raise the plastic curtain up to the head, and pull the emergency cord. Water shoots down the plastic curtain and into the drum. Not a drop of water touches sensitive instruments nearby. Wheel the drum to the nearest drain and open the valve. Test complete.

Now, one man can do the job. It used to take two.



CREDIT UNION'S new and permanent home is one step closer with signing of lease for building site land. At left, Doug Ballard (5425), president of the Credit Union, smiles approvingly as Laddie Otski, manager of AEC Sandia Area Office, signs. CU VP Bill Prekker (4122) is at right and new CU manager Bill Bristol looks on. Bill took over from long time manager Dale Bellamy, retiring for health reasons. New building will be in same area as present one and completion is planned for early '70. Alan Pope (9300) is building committee chairman.

Take Note

Among Sandians receiving degrees at the University of New Mexico last month was Bill Nelson (7652-2) who was awarded a BA in mathematics.

A team of Sandians finished second to the U.S. Army Element in a seven-team indoor smallbore rifle competition, sponsored by Sandia Base. The Sandia team included George Edgerly (4221), Doug Loescher (5153), Ken Nowotny (2442), Dave Overmier (9122) and Karl Svensson (7653). Their score was 1146 out of a possible 1200; the Army score was 1165.

(Low man Karl Svensson narrowly escaped lynching by his teammates when the scores were finally totaled. He has since discovered a loose screw in his rifle.)

If you hear Jim Kimbrough (3520) called "Ace" that's because he recently shot his second hole-in-one.

His first ace was in 1966 during a SEGA tournament at Arroyo del Oso (No. 9 hole); then last month he repeated the performance on the 155-yard No. 7 hole at Los Altos. He used a six iron for the feat. Jim has been golfing since he was 14 years old.

The local chapter of the Association of the U.S. Army (AUSA) is offering for sale front automobile bumper plates in the design of the American flag. The plates, which sell for \$1, can be purchased by contacting Bob Williams (4311), Dean Irvin (3121), Fred Leckman (3236), John Richardson (7634), or Frank Baczek (4614). Some 20-25 Sandians are members of the association which is dedicated to the preservation of a strong American army.

(Continued from Page One)

IDEP Serves to Exchange Knowledge

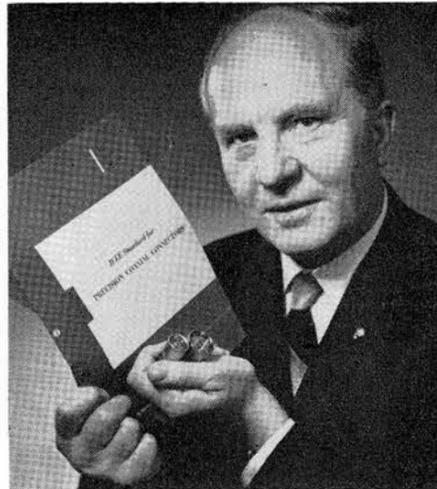
has been a member for over four years. During that time, nearly 400 reports have been submitted for use by other member agencies. In 1967, the Laboratories received an award in recognition of IDEP support through exchange of test data. We would have won again in 1968 if rules did not prohibit awarding the prize to the same agency two years in a row. These awards were largely due to the efforts of Walt Westman (7414), who was IDEP coordinator during that time.

In addition to making microfilmed reports and readers available to Sandians, two other services are available through Jack's office: general report summary sheets, sent routinely to interested people, and VDI's (voluntary data inquiries) which can be sent to all of the 204 agencies in IDEP.

General report sheets contain summaries of reports on specific subjects. For instance, microcircuitry developers can get summaries of work being done in that area by the other agencies.

A VDI is a request for information about a specific subject. If a researcher is beginning a study, or is stumped over a particular problem, he can inquire of the member agencies for the results of similar work not already submitted to IDEP.

IDEP microfilm reports and readers are located in Bldg. 828, room 6, and Bldg. 892, room 7. For assistance or information about IDEP, call Jack Cejka, ext. 4-6070.



DON FOSSUM (3132) displays copy of "IEEE Standard for Precision Coaxial Connectors" recently published. He was chairman of the committee responsible for the new reference work.

Don Fossum's Work On Connectors Now IEEE Standard

Eight years of work gained recognition last month for Don Fossum (3132) when the Institute of Electrical and Electronics Engineers published the "IEEE Standard for Precision Coaxial Connectors."

The publication, now a standard reference, details requirements for coaxial connectors to be used in a laboratory environment, where performance must be highly precise. The requirements are backed up by practical laboratory experience, and all specifications have proven to be attainable in quantity production.

From 1962 through 1966, while heading Sandia's Microwave Standards organization, Don chaired the international committee which drew up the document. He transferred to Employee Training and Education Division 3132 in 1966.

Don also served four years with the IEEE standards committee as a member and as vice chairman.

The document also covers requirements, standards, and test procedures for making precision measurements on coaxial connectors.

Further Honors for Technical Artists

Technical artists Ray Chavez, Leo Ortiz, and Jim Walston (all 3463) have received additional awards for their prize-winning entries in the National Association of Industrial Artists competition.

Last fall the Chavez-Ortiz full color cut-away drawing was judged "best of show" in the NAIA competition and Jim received a second place award for 35mm slide projection art in the projectuals category.

After being part of a traveling exhibit in major Eastern cities, the works were shown at the Third International Technical Art Exhibit, which was part of the recent Society of Technical Writers and Publishers national conference in Washington, D.C. This exhibit included nearly 200 black and white line drawings, full-color illustrations, and industrial photographs—all winners in recognized technical art shows throughout the country. This time around, the two Sandia entries won second prizes.

Supervisory Appointments



DON MORRISON to manager of Mathematics Department 1720, effective July 1.

A supervisor in the computer science area since 1957, Don joined Sandia in 1955 as a staff member in the Systems Analysis Department. His work has been in the design of computer language and processing systems, pattern recognition, and information retrieval systems.

Before joining Sandia, Don was assistant professor of mathematics at Tulane University.

He has a Bachelor of Education from Northern Illinois State Teachers College, and a Master of Philosophy and PhD in math from the University of Wisconsin.

Don is a member and past chairman of the Rio Grande chapter of the Association for Computing Machinery, the Mathematical Association of America, the American Mathematical Association, and the New York Academy of Sciences. He was chairman of a joint MAA-AMA committee on employment opportunities.

A World War II veteran, Don served with the Navy in the South Pacific from 1942-45.

Don and his wife Pat have three children and one grandchild. The Morrisons live at 712 Lagunayra NE.



PAUL STANFORD to manager of Auditing Department 4120, effective June 16.

Paul joined Sandia as a staff member in the auditing organization in 1959. He later was promoted to supervisor of the Reports and Accounting Section of Vouchering Division. He was promoted to supervisor of the Special Assignments Division in 1965 and later was a supervisor of the Plant Accounting Division and the Audits Division.

In 1968, Paul attended the six-month Management Training Program conducted by Western Electric Company in New York City.

Before joining Sandia, Paul was an auditor for the Department of Defense at Sandia Base. He received his degree in accounting from Texas Tech.

He is a member and past director of the Albuquerque Council of the National Association for Accountants.

Paul served six years as Financial Accounting Officer while a member of the New Mexico Air National Guard.

Paul, his wife Betty and their son live at 1121 Cuatro Cerros Trail SE.



DOREEN WESTFALL to supervisor of Coding and Reports Section 4331-1, effective May 16.

Doreen has been at Sandia since 1952 and has worked as a traffic reservations clerk and in the purchasing and quality assurance organizations.

A graduate in history and English from Rochester (Minn.) Junior College, she also attended the University of Minnesota.

During World War II, she served two years in the Women's Army Air Corps as a signal clerk at Alamogordo.

Mrs. Westfall, her husband Dulin (9221), and one son live at 7117 Kiowa Ave. NE. A second son is on active duty in the Army.

New Wing for 800 Now Being Built

A new wing for Bldg. 800 is under construction and will be completed by Oct. 30. The two-story addition, to have 4125 square feet, will extend east from the north end of Bldg. 800.

The addition will be occupied by purchasing and traffic organization 4300.

Ken Harper (4542) is project engineer. The facility was designed by George Wright & Associates and is being built by the G. W. Stuckman Co.



JOE STIEGLER to manager of Instrumentation Applications Department 7280, effective July 1.

Joe hired in at Livermore in 1959 and worked in the field test organization in telemetry and associated instrumentation. In 1963, the organization was transferred to Albuquerque to become part of the Atmospheric Readiness Program. Also in 1963, Joe was promoted to section supervisor and in 1965 became supervisor of what is now known as Test Projects Division I.

A graduate in electrical engineering from the University of Washington, Joe is a member of the IEEE.

During the Korean conflict, from 1951-54, he served as an enlisted man in the Coast Guard and was stationed on a lighthouse in Puget Sound in the state of Washington.

Joe, his wife Jody, and their two daughters live at 8419 Palo Duro NE.



BILL COWAN to manager of Shock Simulation Department 7340, effective July 1.

Bill joined Sandia in 1951 and did weapons effects studies in the nuclear test program for 10 years before being promoted to supervisor of Magneto Physics Research Division 5261. His later work was associated with high magnetic fields.

He has a BS in physics from William Jewell College in Missouri and an MS in physics from UNM. He also has taken some post-masters work at UNM. He is a member of the American Physical Society.

He served in the Army Air Corps from 1944-45 and was a cadet in pilot training when the war ended.

Bill, his wife Jeanne, and two children live at 1107 Stagecoach Rd. SE.



MILO NAVRATIL to supervisor of Electronic Measurements Division 7371, effective July 1.

Milo joined Sandia as a staff assistant in a weapons development group in 1956. He was promoted to staff associate in 1959 and to staff member in 1965. His first few years at Sandia involved weapons design and development work. Later he transferred to telemetry design and development work. He joined the Ordnance Tests Projects Division I in 1968.

He is a graduate of DeVry Technical Institute (Chicago) and has a BS in EE from UNM. From 1963-65 he was in the Technical Development Program and earned an MS in EE, also at UNM. He is a member of IEEE.

He previously worked as a junior engineer for the Motorola Co. in Chicago.

He was an Air Force radar maintenance specialist in Alaska and California from 1950-54.

Milo, his wife Barbara, and their two children live at 9524 Apache NE.



BOB PARKER to supervisor of Electromagnetic Radiation - Electromagnetic Pulse Division 7363, effective July 1.

A Sandian since 1955 when he joined the Radar Research Division and worked on proximity fuze development, Bob transferred to the Electromagnetic Radiation Studies Division in 1957. He has continued working in that area and in 1964 joined Electromagnetic Hazards Division 2627, where he has done lightning studies and electromagnetic pulse studies.

He is a graduate in electrical engineering from the University of Arizona.

Bob served five years in the Navy, from 1946-51, and taught electronics at the Millington Naval Base, Memphis, Tenn.

Bob, his wife Nancy, and their three children live at 9723 Morrow Rd. NE.

Promotions

Jerónimo Alexander (4513) to Plant Technician (Mech.-Pipe.)
 Dorene M. Allen (8174) to Secretarial Typist
 Martha B. Andrews (4131) to Disbursement Auditing Clerk
 Salvador Armijo (4512) to Plant Technician (Electrical)
 Vaun B. Atkins (4511) to Plant Technician (Mech.-Refrig.)
 John Ayala (4513) to Plant Technician (Electrical)
 Levi E. Baca (4512) to Plant Technician (Electrical)
 Jose D. Baldonado (4252) to Machinist (Special Materials)
 Richard G. Carlisle (4512) to Plant Technician (Struc.-Corp.)
 Jack Carnohan (4511) to Plant Technician (Electrical)
 Agnes T. Chavez (4211) to Typist Clerk
 James W. Coughlin (1612) to Staff Assoc. Administrative
 Barbara S. Curry (5230) to Secretary
 Glenda C. Daniels (3256) to Secretarial Steno
 D. C. Davis (4518) to Plant Technician (Mech.-Pipe.)
 Jess Denton (4513) to Plant Technician (Struc.-Corp.)
 Clarence J. Domme (4512) to Plant Technician (Mech.-Pipe.)
 Lavern E. Dumond (4511) to Plant Technician (Mech.-Refrig.)
 Doyle A. Earnest (4513) to Plant Technician (Mech.-Pipe.)
 Dale A. Easton (4512) to Plant Technician (Struc.-Corp.)
 Adana M. Echer (8150) to Secretary
 Walter P. Eden (4512) to Plant Technician (Electrical)
 Hollis P. Elledge (4518) to Plant Technician (Electrical)
 John A. Fackelman (4512) to Plant Technician (Mech.-Refrig.)
 James C. Farmer (4513) to Plant Technician (Struc.-Corp.)
 Joe D. Ferguson (4512) to Plant Technician (Mech.-Pipe.)
 Henry T. Flowers (4518) to Plant Technician (Mech.-Refrig.)
 Antonio Garcia (4252) to Machinist (Soc. Matls.)
 Joseph B. Gonzalez (4513) to Plant Technician (Electrical)
 Delmar V. Gronseth (4512) to Plant Technician (Mech.-Pipe.)
 John L. Gunby (4512) to Plant Technician (Mech.-Refrig.)
 Dorothy P. Hall (3120) to Secretary
 Leroy Henderson (4512) to Plant Technician (Electrical)
 James R. Hollon (4513) to Plant Technician (Struc.-Corp.)
 Walter F. Huebner (4336) to Staff Assoc. Administrative
 Betty L. Jackson (3256) to Secretarial Steno
 Howard R. Johnson (4513) to Plant Technician (Mech.-Pipe.)
 Virginia J. Johnson (1910) to Secretary
 Barcus A. Keller (4513) to Plant Technician (Electrical)
 Lauren G. Kennedy (4211) to Senior Clerk (Records and Typing)
 Robert F. Knight (4222) to Technician (Plastic)
 Frank J. Lesperance (4513) to Plant Technician (Struc.-Corp.)
 Bennie Longfellow (4222) to Technician (Plastic)
 Maxine Lucas (5240) to Secretary
 Pauline A. Kirk (8161) to Secretarial Typist
 William B. MacDowell (4513) to Plant Technician (Elec.)
 Joan F. Madsen (8330) to Secretary
 George W. McClure (4512) to Plant Technician (Mech.-Refrig.)
 Hiram L. McKinney (4513) to Plant Technician (Struc.-Corp.)
 Thomas M. McMahon (4518) to Plant Technician (Mech.-Pipe.)
 Abraham L. Metzgar (4511) to Plant Technician (Mech.-Pipe.)
 John H. Mitchell (4518) to Plant Technician (Mech.-Pipe.)
 William P. Morales (4518) to Plant Technician (Mech.-Refrig.)
 Robert I. Orr (4512) to Plant Technician (Electrical)
 Epiménio G. Ortiz (4511) to Plant Technician (Mech.-Pipe.)
 Donald Peacock (4512) to Plant Technician (Mech.-Refrig.)
 Dale L. Peckum (4513) to Plant Technician (Electrical)
 Elmer R. Pitts, Jr. (4253) to Machinist (App. Inst.)
 Louis J. Price (4511) to Plant Technician (Electrical)
 James E. Robinson (4512) to Plant Technician (Mech.-Refrig.)
 Loy A. Robinson (4513) to Plant Technician (Struc.-Corp.)
 Frances M. Roelle (3256) to Secretarial Steno
 Billie Rogers (4511) to Plant Technician (Mech.-Pipe.)
 Michael P. Ryanczak (4512) to Plant Technician (Electrical)
 Manuel Sanchez (4512) to Plant Technician (Mech.-Pipe.)
 Silas Shane (4512) to Plant Technician (Electrical)
 William Short (4518) to Plant Technician (Electrical)
 Tom Silva, Jr. (4511) to Plant Technician (Electrical)
 Alton L. Simpson (4513) to Plant Technician (Electrical)
 Willie L. Smith (4513) to Plant Technician (Electrical)
 Erwin G. Stewart (4512) to Plant Technician (Mech.-Refrig.)
 Robert A. Stewart (4222) to Technician (Plastic)
 Billy D. Thompson (4511) to Plant Technician (Electrical)
 C. P. Thomson, Jr. (4512) to Plant Technician (Mech.-Refrig.)
 Larry D. Tichenor (4222) to Technician (Plastic)
 Robert A. Velasquez (4336) to Staff Assoc. Administrative
 Mary V. Vivian (3256) to Secretarial Steno
 Malcolm Ward (4518) to Plant Technician (Struc.-Corp.)
 Charles H. Wiedman (4153) to Plant Technician (Struc.-Corp.)
 Kyle B. Williams (4253) to Machinist (App. Inst.)
 Junior A. Woellhart (4511) to Plant Technician (Mech.-Pipe.)
 Mason C. Writtenberry (4513) to Plant Technician (Electrical)
 Conroe Wyman (4512) to Plant Technician (Mech.-Pipe.)



BILL LYNCH (2324) roars ahead in his '36 Chevy "Sportsman."



BOB INGRAM (2452) displays a winner's flag in "claimer" division.

Tired of the Freeway?

Sandians Drive Stock Cars at Speedway

Excitement is the name of the game. It comes on Saturday nights when the cars roar around the three-eighths-mile track at Speedway Park jockeying for position and trying to stay in control in the tight turns.

For a group of Sandians, the thrill of racing is worth the hours spent in building a car and keeping it running.

Bill Lynch is a typical driver-owner of a race car. At Sandia Bill is a staff assistant in Electromechanical Division 2324. At the track, Bill is the demon driver of car No. 33, a sportsman class racer which Bill spent every spare minute building last winter.

He found the original 1936 Chevy in an arroyo in Santa Fe, hauled it to Albuquerque and tore it apart. He put it back together with a 230 cu. in. Chevy 6 engine with high compression pistons, a Racer-Brown camshaft, and an aluminum flywheel. The transmission and a rear end came from a '56 Chevy. He shudders to remember all the time that he's invested in the car. Each weekend of racing requires many additional hours of maintenance.

Bill has been an active racer for the past four years, usually finishing the season among the top 10 drivers. With the new car, he hopes to move up the ranks this year. Currently, his accumulated points rank him about fifth at Speedway.

Drivers win points according to the results of the races. Top points go to the winner of the main event of the evening. Heat races and the number of laps that the car stays in the lead are worth other points. Prize money is distributed according to points earned.

"If you're lucky, you can break even in a season," Bill says. "Racing is really a hobby and like any hobby you can expect to spend money on it."

The rules and regulations of racing are determined by the Speedway Park Stock Car Racing Association, an organization of drivers, mechanics and others who are concerned with the cars.



RACING SANDIANS—This group participates every Saturday night in the stock car races at Speedway Park. From left are Cliff Shaw (4253), Bill Lynch (2324), Bob Ingram (2452), John Rosborough (2451), Billy Palmer (4222) and Dick Doyle (3351).

According to Cliff Shaw (5243), who has been president of the organization for the past four years, safety is a prime concern of the track. Cliff was a driver for five years but has "retired" to coach his son and daughter who race at Speedway.

Bob Ingram (2452) is treasurer of the association and, like Cliff, has been racing for a number of years. He drives "claimers" — cars that, according to the rules, must be sold to anyone who wants them before a race for a flat \$150. This keeps the cars in the "clunker" class and makes it easy for anyone with nerve—and \$150—to try his hand at racing.

Billy Palmer (4222) is secretary of the association and also drives a claimer. This is his first year of racing.

Other Sandians who participate in track activities: John Rosborough (2451) is a flagman. Dick Doyle (3351) is a pitman (mechanic) for a late model racer and serves on the safety and rules committee. Elmer Wendt (2452) serves as a judge for the races. Jerry Pierce (4335) mans the pit gate. Dan Talbert (1221) is a corner flagman.

What's the most dangerous part of car racing? These Sandians agree — "It's that drive home when the races are over."



WRITER'S MARKET is evident from the many society journals and magazines on display in Technical Libraries 3420. Sandians write many technical reports and papers in "SC" series—about a thousand per year according to Walt Roose, chief reference librarian—but should consider journals as well.

Writing Magazine Articles Can be Rewarding Experience

"Very few Sandians write articles for the magazines published by their technical and scientific societies. Which is too bad because these journals have wide distribution and are almost always in need of material. Yet, lots of Sandians write reports and papers in the 'SC' report series—about a thousand per year," notes chief reference librarian Walt Roose (3421-4).

Corry McDonald, supervisor of Sandia Office of Industrial Cooperation Division 3416, suggests that the magazine article provides a creative outlet for the engineer and scientist that is satisfying in a way different from documentation of work in an official report.

"But, be prepared to accept changes or editing of your article by the magazine's editor," says Corry. Usually, the editor will send the author a galley proof of his article shortly before publication — too late for further revision.

To avoid drastic editing of your article, Corry suggests these steps:

—Be sure copy is clear, precise, and to the point. The manuscript should be typed double-space. Writing and editorial assistance of Technical Information Department 3410 is available. This department also assists with the submittal procedures,

including the required classification and public release review.

—Whenever possible, submit informative and imaginative photographs, drawings or other artwork. Photographic Services Department 3450 and Graphic Arts Department 3460 offer their assistance in preparing suitable illustrations.

Journal editors are always happy to receive member-written material, particularly those that are well done and accompanied by interesting or unusual illustrations.

"Writing and publishing an article is a job — but you'll find it a satisfying achievement," states Corry.

Congratulations

Mr. and Mrs. Eddie Vigil (4574-2), a daughter, Mechell Marie, June 18.

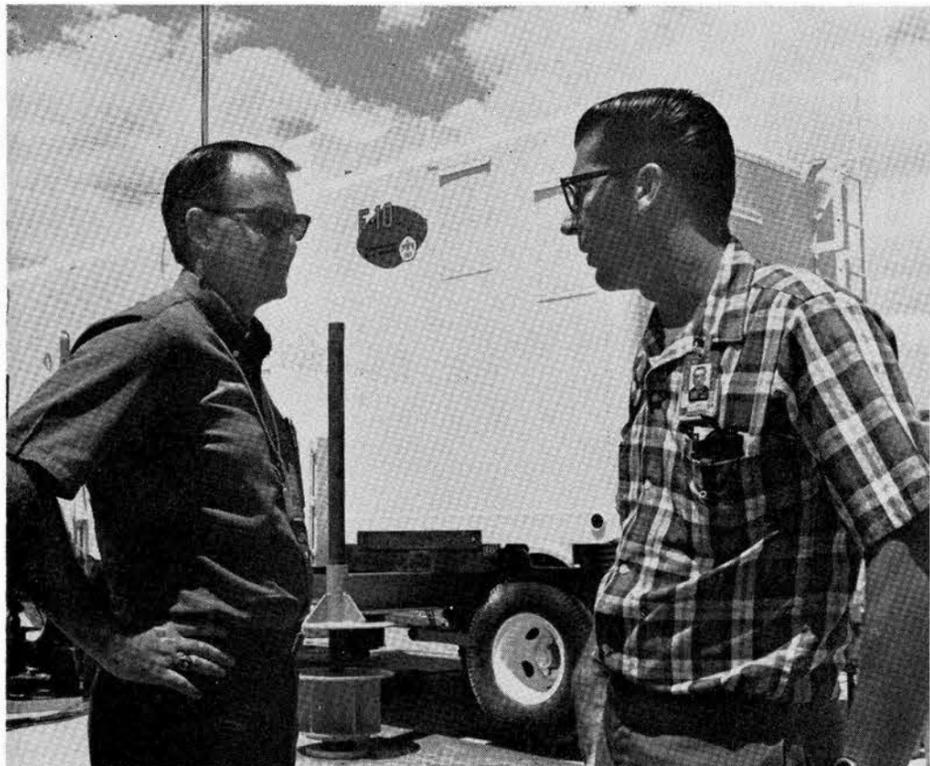
Mr. and Mrs. Ed Starr (9411-3), a daughter, Melissa Ann, June 6.

Mr. and Mrs. Tom Schulthies (7231), a daughter, Karen, May 7.

Mr. and Mrs. Don Pitts (9241), a daughter, Karen Diane, May 28.

Mr. and Mrs. Charles Hall (2317), a son, David Christopher, April 2.

Technicians Needed at Nevada Test Site, TTR



LEO BRADY (9131), left, discusses installation of seismic instrumentation with George Younghans, EG&G field supervisor at Nevada Test Site. In background is a Sandia instrumentation trailer, work location for most NTS instrumentation technicians.



MT. CHARLESTON ski area is only an hour's drive from Las Vegas, has good skiing several months each year.



LAKE MEAD with its 550 miles of shoreline and rugged canyons is a favorite weekend recreation area for Sandians working in Las Vegas. Enjoying the water are Carl Gregory (4612), Marie Therkildson (7230), Pat Bartolucci (REECO employee assigned to Sandia's Las Vegas airport office) and her husband Ray.



LAS VEGAS is a great place to raise kids, says Leo Brady. His four youngsters attend excellent city schools, participate in many supervised recreation programs.

In the coming year, Sandia Laboratories will transfer 30 staff assistants from Albuquerque and Livermore to Las Vegas, Nevada, to handle instrumentation jobs at the Nevada Test Site and at Tonopah Test Range. These are field test jobs, action oriented, and offer unique challenges and responsibilities to qualified men.

Fifteen of the transferees will work at the Nevada Test Site (NTS) and participate in underground testing activities. The other 15 will commute daily to Tonopah Test Range (about an hour in Sandia's chartered F-27 turboprop aircraft) and operate the Range's communications, optical and data systems for development testing activities.

At Tonopah, the men will man tracking telescopes, operate communications and radar data systems, assist with rocket firings, provide instrumentation for Plowshare explosive cratering studies, and operate instrumentation associated with air drops of aerodynamic shapes on the range targets.

Test Range activities are varied and schedules are flexible. When test operations are not scheduled, the men work on new instrumentation systems and calibrate existing equipment. Much of the work involves planning data acquisition for continually-changing types of tests.

The kind of man needed at both locations is primarily an electronics specialist, experienced in Sandia operations, and versatile. He must be able to work under a variety of conditions and with representatives of many agencies and organizations, to assume responsibility for his project in the field, and to contribute to the planning and operation of his organization's mission. He should have a general knowledge of analog-electronic and electromechanical devices or of digital-electronics or of optical systems and hydraulic devices.

Such a man is Leo Brady, staff assistant in NTS Staff Division 9131, who has worked out of Las Vegas for the past four years. Leo has worked in Sandia field test organizations since he joined the company in July 1958. He has held assignments in Albuquerque, Livermore and Las Vegas.

"I prefer Las Vegas," he says, "and when I had the chance to locate here permanently, I grabbed it. Contrary to the popular image, Las Vegas permanent people are family people. It's a great place to raise kids. The schools are excellent."

Leo's four youngsters attend Las Vegas schools and take part in the city's many recreation programs. Leo is a scoutmaster and a troop committeeman. His wife Beverly works with the Girl Scouts.

"There's a park and swimming pool only a couple of blocks from where we live," Leo says, "and plenty of things — organized activities with adult supervision — for the kids to do in the summer." Last year, Leo coached a fifth and sixth grade basketball team, one of 50 teams participating in the city-wide league. In the summer, his

boys play little league baseball.

"So we like Las Vegas as a place to live," Leo says. "It has all the facilities of a big city and some that are unique — supermarkets stay open 24 hours a day, for instance. In addition, this is great country for fishermen, boat enthusiasts, hikers, campers, hunters, even skiers. We have excellent skiing only an hour's drive from Las Vegas in the Mt. Charleston recreation area."

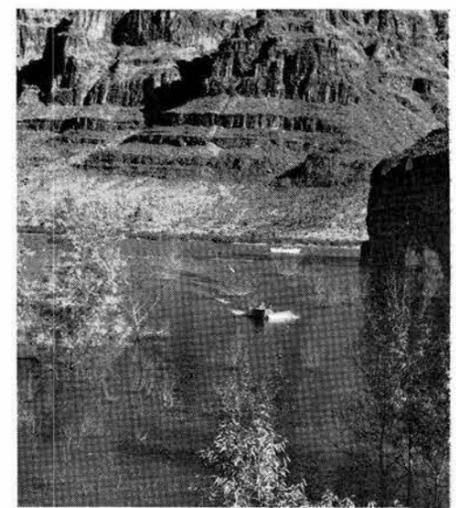
Leo is equally enthusiastic about his work at NTS. He is responsible for several seismic measuring stations and for installation and operation of geophones during underground tests. The sensitive geophones report "cavity collapse" which occurs after a shot when the roof of the cavity created by the nuclear detonation cools and falls to the floor of the spherical chamber.

Leo says that field test work gives you an opportunity to assume responsibility up to your capability — and to keep growing technically. "At NTS we work with the most advanced equipment and techniques," he says. "There is always something new to learn. It's exciting."

In addition, Leo likes one other aspect of his job. This is the extra \$7.50 per day that Sandia pays NTS and Tonopah employees for each working day they report to NTS or TTR.

On the other side of the coin, the field test jobs do require long and exhausting hours (at overtime) on occasion. The commuting does get tiresome. Housing costs more in Las Vegas and some prices are higher, Leo says, but these things are relative (housing is permanent investment) and minor when compared to the satisfaction of being part of one of the most exciting and important projects in the country.

If you are a Sandia staff assistant interested in either the NTS or Tonopah Test Range assignments, contact your supervisor and personnel representative for detailed job descriptions and further details. Inspection trips to the job site and to Las Vegas can be arranged for qualified job applicants who are interested.



FISHING, BOATING, EXPLORING are popular at Lake Mead, about 35 miles distant.



DISNEYLAND FOR GROWN-UPS—And Vegas is reported to have a few friendly pubs.

Service Awards

20 Years



Joe Apodaca
4623



William Austin
7637



Deaudin Griego
4613



Joseph Hernandez
3415



Harlan Lenander
1600



Paul Littell
7214



Max Richter
4615



Hank Willis
3130

15 Years



Henry Black
2634



A. J. Brouillard
9131



Kelly Davis
2451



Carl Frostenson
9241



Joe Garcia
3415



Gibson Guernsey
4252



Fenner Jones
7221



Charlotte Morter
7631



Mario Otero
4613



Clifford Selvage
8180



John Shunmy
3432



Thomas Starr
2444



Lois Swayze
4131



Robert Tockey
8181



Dale Walters
9414



Walt Westman
7414



Willis Whitfield
1742



Eunice Wyer
1500

10 Years

July 4-17

Roy Fitzgerald 1221, Charles Lumpkin 3411, Norman Knudsen 5438, Carl Curtis 7214, Charles Shanbarger 8151, Leslie Jones 8183, Elizabeth Walker 8223.

Robert Fellerhoff 9323, Robert Pace 2343, Paul Stanford 4121, David Barham 5151, Louis Wright 8124, Robert Schaefer 8172, Henry Stratmann 8243, and Kathryn Callow 8223.



SECURE FACSIMILE circuit is now operating between Sandia Albuquerque and Livermore. System can send graphic or other line material through Secret. Rosemary Kilmer (9415) operates the system located in Bldg. 880 computer annex. Another new service is the secure voice network between Albuquerque and Livermore and these locations: AEC Headquarters, AEC/ALO, LASL, LRL and NTS. Arrangements for using the secure facsimile circuit can be made by calling ext. 8051, in Livermore, ext. 2843. To use secure voice network in Bldg. 802 call Rosalie Crawford, ext. 7262; in Bldg. 880, call Blanche Ottinger, ext. 7943. In Livermore call ext. 2843 or 2322.

Speakers

M. M. Sluyter (9343), "New Directions of Research in Continuing Education," annual meeting of the American Society for Engineering Education, June 23-26, Pennsylvania State University; with K. J. Touryan (9340), "The Effect of a Magnetic Field on a Rotating Cone in Compressible Flow," AIAA Fluid and Plasma Dynamics Conference, June 17, San Francisco.

Myron Cowan (7340) and D. A. Freiwald (5261), "Strongly Ionizing High-Explosive Shocks"; A. J. Mulac (9342), "Experimental and Theoretical Investigation of a Low Mach Number Precursor Phenomenon in Argon," Seventh International Shock Tube Symposium, June 23-25, Toronto, Canada.

Research Report Given at Int'l Rare Earth Meet

A technical paper by Eric Jones (5114) was one of about 100 invited papers presented recently at a Rare Earth Elements International Colloquium held in France.

His paper was entitled "Pr¹⁴¹ and Tm¹⁶⁹ Nuclear Magnetic Resonance in Van Vleck Intermetallic Paramagnets." It represented research carried out by him during a previous assignment to Solid State Physics Research Division 5151.

The week-long meeting was sponsored by the National Research Scientific Center for the Study of Rare Earth and sessions were held in both Paris and Grenoble. Most European countries were represented among the attendees as well as scientists from Russia and some of the Arab countries.

Eric also visited laboratory facilities at the University of Orsay and the University of Grenoble.

K. E. Sutton (3250), "Special Employment Needs: PhD Recruiting and Technical Specialists," American Management Association seminar on modern employment procedures: recruiting, interviewing, selecting and orienting new employees, June 18-20, Houston.

M. E. Morris (1742), "Acoustic Dustfeeder," 8th Annual Technical Meeting of the American Association for Contamination Control, May 21, New York City.

R. Y. Lee (1733), "Uniform Simplification of Linear Differential Equation at a Turning Point," Applied Mathematics Colloquium, May 20, University of California at Los Angeles.

R. E. Thompson (7653), "Computer-Aided Precision Graphics," National Conference of the Association for Precision Graphics, June 5-6, Dallas.

Hank Willis to Command Naval Reserve Unit



Hank Willis, head of Organization and Manpower Development Department 3130, assumes command of Naval Reserve Group Command 8-3 (5) on July 9. Hank, a Commander in the Reserve, relieves Captain Kenneth Mount. The Group Command performs staff and command functions relating to other local Naval Reserve units.

SHOPPING CENTER

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.

FOR SALE

MISCELLANEOUS

- 4-PIECE living room sectional. \$80; two table lamps. \$8. Feldman, 344-6114.
- SWING SET w/2 swins, bar. \$15; girl's bike. 24". \$10. Smith, 256-0375.
- CHILDCRAFT encyclopedia. 15 vol., '61 edition. \$50; '57 VW transaxle. \$50. McDonald, 265-2842.
- '66 MOTORCYCLE. Suzuki X-6 250cc, rebuilt engine, \$350 or best offer. DeVore, 256-2159.
- DACHSHUNDS, AKC, miniature black-&-tan male puppies. Halasz, 299-0307.
- '66 250CC High Performance Ducati scrambler, road racer, suitable for street use. \$400. Greulich, 299-8102.
- TOY apricot poodle puppies. 6 weeks, AKC reg., \$100; one white male poodle puppy, 6 mos., \$75. Harris, 298-8969.

- NYLON net playpen, \$10; push-type lawn mower, \$7.50; new bassinet, \$10. Spencer, 298-6482.
- VANITY dresser, limed oak, w/stool & mirror, \$20. Miller, 268-5992.
- STEREO COMPONENTS: Eico RP100 tape deck, Eico HF85 preamplifier, Heath AJ14 stereo tuner, Dynakit ST35 power amplifier, Weathers turntable. Garrison, 256-7267.
- RANGE, electric 30", white, w/utility drawer, \$35; breakfast set, chrome w/formica top, extends to 60". \$35. Burns, 255-3737.
- HOUSEBOAT, 16x42, Conchas, furnished, sleeps 10, butane & electricity, consider camper as part payment; Pomeranian male puppy. Westman, 255-6048.
- 2 GIRLS bicycles, Abeyta, 299-2703 after 5:30.
- 20" SCHWINN Hollywood girl's bicycle, thorn-proof tires, \$25; solid oak school desk w/tilting top, \$10. Erickson, 299-6824.
- TWO rear-view mirrors, telescope type, fit most any car. \$6. Archuleta, 255-6781.
- KONICA III 35mm rangefinder cameras, \$35 or best offer. Thomas, 256-7775.
- GOLF CLUBS, child's 1 & 3 woods, 3 irons plus putter & bag, \$15. Morrison, 855-6244.
- 14' LOGGING CHAIN, 5/8" rod size, weight 60 pounds, \$24. Graves, 344-3008.
- KING TRUMPET; Richards guitar, make offer. Tiefs, 299-2763.
- LABRADOR RETRIEVERS, black, AKC reg., excellent breeding, see sire & dam. Arris, 243-1424 or 265-3506.
- CAMERA, Bell & Howell Canonet 2.8, built in electric eye w/auto. operation, case included, \$30. Norton, 255-9602.
- WIRELESS intercom set, plugs into electrical outlet, \$35; portable air conditioner, \$10; 40-lb. practice bow. \$4.50. Stuart, 265-7315.

- POLAROID "Swinger 20" w/carrying case, \$10. Halliday, 265-2643.
- MAGIC CHEF gas range, \$30. Reuter, 298-7320.
- PEDIGREE poodle puppies, Toy. Littell, 255-2716.
- 327 CU. IN. Chevy engine, complete & in running order, best offer. Dyer, 299-5329 after 5:30.
- BICYCLE, light weight, needs tires, \$15. Linn, 282-3986.
- AKC German Shepherd puppies, excellent bloodlines, just right to take home. Caskey, 282-3220.
- PIANO, walnut, low upright, Gulbransen, \$195, includes metronome & bench. Robery, 296-2618.
- FRIGIDAIRE electric range, \$85. Thompson, 298-0946.
- MINIBIKE, 5 hp, Briggs & Stratton engine, brake, good for trail, \$80. Conrad, 299-5316.
- CAMERA: German-made Kodak Retina II-F, F/2.8, rangefinder, built-in exposure meter & transistor flashgun, \$50. McBride, 299-4347.
- TWO twin-size head boards w/wood legs, white upholstered. Barton, 255-5491.
- DISHWASHER, 3-yr-old, Kenmore, \$80; HiFi equipment; Head skis, make offer. Roache, 268-4686.
- ALFALFA HAY, \$1 per bale. Shank, 877-4497.

REAL ESTATE

- REDECORATED 3-bdr., 1 3/4 baths, new carpet, AC, dbl. garage, sprinklers, wall, FHA appraisal \$16,650, assume 5% FHA or negotiate new loan, 2016 Somervell NE. Romero, 298-8586.
- 3-BDR. & DEN, FR, NE Heights, prof. landscaping, built-ins, garage, fp, 1 3/4 baths, 4 1/2% loan. Lemmon, 255-2028.
- 3-BDR., 1 3/4 baths, den, patio, carpet, garage, 1614 Virginia NE, 5 3/4% loan, \$15,800. Warner, 298-1746.

- 3-BDR. Hoffman brick, will sell at FHA appraisal \$15,800, 6% loan available, terms for down payment. Hayes, 299-6850.
- MOSSMAN 3-bdr., 1 1/2 baths, corner lot, 5 blocks to Coronado Center, assume 4 1/2% GI. 2937 Dakota NE. Hock, 256-0276.

CARS & TRUCKS

- '57 CHEVROLET, 2-dr., AT, \$450. Lucas, 344-1771 days, after 6 299-0255.
- '63 RAMBLER station wagon, rebuilt engine, any offer good at \$600 or above. Carol, 299-4687.
- '50 PLYMOUTH 4-dr. sedan, 6-cyl., new motor, overhaul, \$100. Hake, 299-3940.
- '61 FORD 1/2-ton pickup, 6-cyl., 4-spd., 40,000 miles, long bed, w/rack & tarpaulin cover, \$650. Reed, 299-7425.
- '61 FORD station wagon, 292 V8, AT, \$425. Martin, 256-7015.
- '67 FORD station wagon, 390HP, PS, disc brakes, AC, AT, \$1575. Ortega, 344-2182.
- '57 PLYMOUTH, 6-cyl., 2-dr., new seat covers. \$85. Ault, 282-3280.
- '60 BUICK Invieta, PS, PB, \$175. Wolfe, 268-6864 after 5:30.
- '61 VW Galaxie, engine overhauled but still needs work, first \$150 buys. Houghton, 299-3386.
- '61 CHEV. Impala conv., PS, PB, chrome wheels, needs mech. work on trans., \$275. Denny, 268-0004.
- '58 MERCURY, HT, \$325. Lopez, 256-1203.
- '63 CORVAIR, AT, radio, new tires, shocks, battery & generator, recent valve job, \$450. Asbury, 268-3542.
- '68 VW sq.-back sedan, radio, back-up lights, fuel injection, AC, deluxe interior, average Blue Book. Snidow, 264-6941.

- '60 RAMBLER American 4-dr., std. trans., needs valves ground, make offer. Brown, 299-3189.
- '55 VOLKSWAGEN, 21,000 miles on rebuilt 40 hp engine, \$450 or offer. Toepfer, 296-6758.
- '62 FORD Econoline camper w/expandable top, \$700. Smith, 298-0769 after 5.
- '68 VW sedan, radio, pop-out rear windows. James, 296-2175.
- 4-DOOR Impala Sports Sedan, lt. blue, factory air, power, R&H, below book, \$1050 or best reasonable offer. Marsh, 243-2767.

WANTED

- CHEAP used carpeting, hard, dark colored, will be cut into narrow strips for amateur theatre. MacCallum, 242-4602.
- '22 CAL. conversion kit for Gout model cal. .45 Colt automatic. Harlow, 299-1495.
- WILL baby sit and/or do light housekeeping, have references. Robery, 296-2618.
- PING-PONG table. Doherty, 265-0146.
- PORTABLE sewing machine: Honda 50cc trail sprocket; large outdoor window shutters; electric band saw & sander & polisher. Chandler, 296-3323.
- 2-BDR. HOUSE, unfurnished for rent in Sandia High School district, Aug. 1 occupancy desired. Gasta, 298-4142 after 6.

LOST AND FOUND

- LOST—Gold moon-shaped pierced earring, Rx safety glasses, squash blossom earring, Thunderbird pin set w/turquoise. LOST AND FOUND, tel. 264-2757, Bldg. 610.
- FOUND—Set of 7 keys in green case, Rx safety glasses, 2 keys to '69 Chevy station wagon, Rx black-rimmed glasses. LOST AND FOUND, tel. 264-2757, Bldg. 610.



4th Of July Picnic

Coronado Club
Starting at
11 a.m.

Hot Dogs,
Games,
Swimming

Peggy Stevens (5431)
is the
firecracker girl.

Family Fun and Games

Fourth of July Picnic Tomorrow

Celebrate the Fourth of July tomorrow with the troops and all the kids on the Coronado Club patio. The Club's twin pools open at 11 a.m. while fun and games start at 1:30 p.m. The snack bar will offer an Independence Day special — two hot dogs, baked beans and a soft drink for 40 cents. Prizes will be awarded to winners of the sack race, three-legged race, swim dashes, etc. Other Club facilities will be closed for the holiday.

Teen Dance and Swim Party

A double-barrelled event is scheduled Saturday, July 12, for teenage sons and daughters of Club members. The Club's twin pools will be in the scene for a swim party while a group called "Freddie Pilots Blues" will be plugged into the bandstand making amplified happy music. The fun

starts at 7:30 p.m. and the patio snack bar will be open. Member parents should pick up tickets (25 cents for members, 50 cents for guests) from the Club office by July 11.

Roaring Twenties Party

A costume affair requiring reservations, the annual Roaring Twenties Party is scheduled Saturday, July 19. Gappy Mestas and the group will provide the Charleston and Varsity Drag music while the Club's kitchen staff serves 10-oz. New York cut steaks. Cost to members is \$3.75, guests \$4.25.

Special Luncheon

The Club's special 99-cent luncheon will be served Thursday, July 10. A rib-eye steak will be the main menu feature with oven-browned potatoes, tossed salad, roll and butter, and chocolate pudding rounding out the plate. The special will be available at the Club and at the Bldg. 839 and Area III cafeterias.

Social Hours

A happy hour with special prices in the main lounge (no buffet) will be held tonight starting at 5 p.m. The club facilities will be closed tomorrow in observance of the holiday.

The regular Friday night social hour will resume July 11 with seafood as the buffet feature. Tommy Kelly will make the happy music.

On Friday, July 18, the Club's famous chuckwagon roast beef will be spread while Rod King and the Knights play for dancing.

The mid-week social hours continue on Tuesdays from 5 to 8 p.m. with special prices in the main lounge.

Sanado Women Set Mother-Daughter Lunch At Club on July 8

The annual Mother-Daughter luncheon of the Sanado Womens Club will be held Tuesday, July 8, at 1:15 p.m. at the Coronado Club.

Musical selections and a marionette show will be presented by Ron Day and Mary Kay. Special guests will include Miss New Mexico, Miss Junior Miss of New Mexico and the state's Mother of the Year.

Reservations to attend the affair should be made today with Mrs. V. K. Smith, 1508 Valencia, NE.

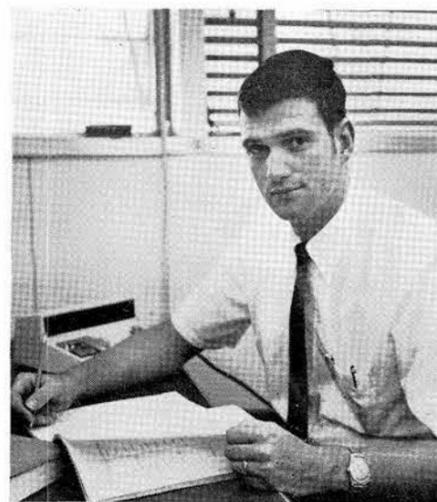
Change from YOC to OYOC Programs Easy for UNM Graduate Edenburn

Changing from YOC to OYOC sounds like the simple addition of a letter, but the meaning of these acronyms emphasizes the vast difference between the two categories.

Mike Edenburn came to Sandia Laboratories the summer of 1967 under YOC (Youth Opportunity Campaign), the program which is designed to give students work experience and make it financially possible for them to continue in school. He is back again, but this time as a staff member who will be a participant in OYOC (One Year on Campus), a plan whereby classes are attended full-time at the graduate schools of one of 18 universities.

Academic honors are nothing new to Mike. During his undergraduate years at the University of New Mexico he maintained a 4.0 (out of a possible 4.0) scholarship index in the Mechanical Engineering School. His senior year he held an UNM Academic Scholarship, Philip Miller Scholarship, Western Electric Scholarship, and Sylvia Farny Scholarship.

Mike is currently assigned to Exploratory Systems Department II, 1220, but will leave in September for the University of Minnesota to work toward his Master's in mechanical engineering. While there, his wife Laurel will also be working on her Master's in education.



FORMER YOC Mike Edenburn (1220) will begin study this fall at the University of Minnesota on a Master's degree in mechanical engineering under Sandia's One Year on Campus program.

Gordon Snidow Wins National Art Honor

Technical artist Gordon Snidow (3463-3) won second prize in the drawing category at the Fourth Annual Cowboy Artists of America Show, held last month at the National Hall of Fame in Oklahoma City.

His large charcoal drawing depicted a cowboy standing beside the "weighing gate."

"Before I begin an oil painting, I normally do a preliminary charcoal sketch of the central figure," Gordon says. "In this case, I haven't started work yet on the oil."

Gordon submitted six paintings to the juried show. All were accepted and will be on exhibit until Sept. 1 in the Western Heritage Center.

Sandia Participates in AEC's Nuclear Science Education Program

For the past five years Sandia Laboratories has been engaged in a program which provides education and training in nuclear science to university students and faculty. The program, financed by AEC and administered by Associated Western Universities (AWU), forms a part of the AEC's continuing effort to make the research facilities of its laboratories available to the university community.

AWU grew out of the activities of the Associated Rocky Mountain Universities (ARMU) which initiated its programs in 1963. Addition of Pacific Coast schools and laboratories in that area led to the expansion of ARMU in 1967. The program offers faculty research opportunities, graduate fellowships, and student summer participation appointments at AEC sites. Numerous graduate students have completed research toward advanced degrees under AWU sponsorship.

Sandia Laboratories formally joined the program in April 1964, although classes were conducted for University of New Mexico students at Sandia's reactor facilities for several years before.

From 1964 to the present, 19 university faculty members, nine graduate students and five undergraduate students have participated in the program at Sandia Laboratories. New assignments for the summer and next fall include eight university faculty, five graduate students and one undergraduate student.

The program is administered at Sandia by Don Hosterman of University Relations Division 3134.

Alaskans Told Plans For Amchitka Tests



Mel Merritt (9150) was among a group of AEC representatives who met with residents of several Alaskan cities last week to discuss the planned underground nuclear tests in Amchitka Island in the Aleutians.

The group, headed by AEC Commissioner Frank Costagliola, met with the Governor of Alaska, civic organizations, members of wildlife and conservation organizations, and interested citizens.

On June 24, Mel was among those who met with Gov. Keith Miller and his staff in Juneau. They also appeared at a public meeting in the Alaska Department of Fish and Game Auditorium.

On Wednesday, June 25, the six-man group held a press conference and a public meeting in Anchorage and on Thursday and Friday met with residents in Fairbanks and Kodiak.



DOUBLE FUN—Melinda and Melissa Meyer (twin daughters of Bill Meyer, 7637) are promoting the dual appeal of the teenage bash scheduled at the Coronado Club Saturday, July 12. The kids can choose to swim or dance (or both).

Sandia Safety Signals

DANGER — MOWER ON!

Don't let a rotary lawnmower become a safety hazard. Here are some simple rules to follow:

Learn how to stop your mower quickly.

Fill gas tank before starting. Filling a hot tank can mean an explosion.

Clear lawn of foreign objects that can be picked up and thrown by mower's blades.

Keep feet well away from blades when starting and running mower.

Wear safety shoes when mowing lawn.

Stop the engine whenever you leave mower.

Never use an electric mower in rain or when grass is wet.

Do not unclog mower while it is running.

On slopes or wet grass, be extra careful of your footing.

Stop engine and disconnect spark wire before checking or working on mower.