D. E. Gregson Elected Director of Livermore Recreation Board

Donald E. Gregson was elected to the board of directors of the Livermore Recreation and Park District in the Nov. 2 election. Seven candidates had filed for the two existing vacancies. One of these candidates, who was re-elected.

To Extend Water Line

The Atomic Energy Commission will call for bids next week to extend the main six-inch water line from Area III to Coyote Test Field. Work is to be completed within 60 days after the contractor is notified to proceed.

ECP Funds to Agencies Now

Total $167,982

With only one more month remaining in the 1964 contribution period, Sands are employees have given a total of $167,982 to the Employees Contribution Plan as of this year. ECP funds are distributed to the United Community Fund and seven other agencies. As of the October checks, totaling $14,254, the following distribution had been made:

<table>
<thead>
<tr>
<th>Agency</th>
<th>ECP Funds</th>
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</thead>
<tbody>
<tr>
<td>United Community Fund</td>
<td>$14,254</td>
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<tr>
<td>American Cancer Society</td>
<td>4,000</td>
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<tr>
<td>American Friends of the Aged</td>
<td>2,500</td>
</tr>
<tr>
<td>American Heart Association</td>
<td>2,000</td>
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<tr>
<td>United Way</td>
<td>2,000</td>
</tr>
<tr>
<td>N.M. Society for Crippled Children</td>
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</tr>
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<td>Detroit Junior Chamber</td>
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<td>National Multiple Sclerosis</td>
<td>1,012</td>
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<tr>
<td>Muscular Dystrophy Foundation</td>
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</table>

To Extend Water Line From Sandia’s Area III

To Coyote Test Field

The Atomic Energy Commission will call for bids next week to extend the main six-inch water line from Area III to Coyote Test Field. The project will include laying approximately 5,900 ft. of six-inch water lines and additional service lines to Bldgs 9297, 9260, and 970. Also included in the project is the installation of miscellaneous interior plumbing, fire hydrants, and a meter pit. Work is to be completed within 60 days after the contractor is notified to proceed by the Field Engineering Department.

SANDIA CORPORATION

PRIME CONTRACTOR TO THE ATOMIC ENERGY COMMISSION

ALBUQUERQUE, NEW MEXICO • LIVERMORE, CALIFORNIA

LAB NEWS

VOL. 16, NO. 25 / NOVEMBER 20, 1964

PLAN FOR PROGRESS guest speaker at Sandia Laboratory was Dr. M. R. Northrup of the Wherton School of Finance and Commerce, University of Pennsylvania. S. F. Schwartz presided over the Sandia Laboratory meetings of all supervisors. The meetings were held to explain Sandia Corporation’s Plan for Progress Agreement with the President’s Committee on Equal Employment Opportunity, its objectives, and methods Sandia is using to attain the objectives. A similar meeting was held at Livermore Laboratory at which B. S. Biggs presided.

Sandia Eligible for Nat’l Safety Council’s Award of Honor

On Nov. 22, 1964, Sandia Laboratory employees completed 91 days without a reportable disabling injury. “During this period 3,349,990 hours were worked, making us eligible for the Award of Honor from both the National Safety Council and the ABC,” says L. J. Jerzmoto, Safety Engineer Department manager. “This is the first time since January 1963 that Sandia Laboratory has qualified for such an award.”

“Any one person or group is responsible for the achievement,” Jerry says. “It has been made possible only through the combined efforts of everyone. However, it is what the record represents, rather than the record itself, of which we should be most proud.”

Water Jet Catapult Provides New Test Capabilities in Area III

Preliminary testing and evaluation of Sandia Laboratory’s new water jet catapult are nearly completed, according to project engineer Robert L. Henderson of Facilities Design Division (7111).

The catapult, located in Area III, creates a high pressure jet of water which propels a test carriage down a short length of track at speeds approaching 400 ft. per second.

“Our tests so far indicate that the catapult will perform as designed,” Bob Henderson says. “Scheduling of test units should begin within a month. The water jet will provide velocities up to 400 ft. per second on 3,000-lb. test units.”

Key features include a 36-in. diameter plenum chamber containing a piston with a maximum stroke of eight and one half ft., four air accumulators which provide the air to activate the piston, and a 150-ft. sled track in front of the chamber.

The accumulator, connected to the chamber by means of a fast-opening valve, has a total capacity of 280 cu. ft. of air held at maximum pressure of 3500 lbs. per sq. in.

The piston ejects a five-and-one-half-in. jet of water from the chamber at a velocity of 3500 ft. per second.

The jet stream of water enters an air plenum and emerges from another opening after a turn of about 135 degrees.

A waterjet is defined as a stream of water emerging from a small nozzle. The waterjet principle was popularized by General Carnot in 1824.

More than a year in construction, the new facility has a maximum capacity of 20,000,000 Ibs. of water, a maximum water volume of 400,000 cu. ft., a jet velocity of 3000 ft. per second, and a maximum water temperature of 100 degrees Fahrenheit.

The jet will have a total capacity of 200,000 lbs. of water, a maximum water volume of 300,000 cu. ft., and be able to reach the end of the track at the end of the track, or with the block removed, the sled will be braked suddenly, causing the test item to fly forward into concrete, dirt, or water. The block will be covered with cushioning materials of varying types of thickness in order to simulate the various shocks a weapon might encounter during handling or delivery.

The catapult differs from other impact test facilities in several respects—it provides greater velocity or test units than that achieved by drop towers, but less velocity than rocket sleds. Other parts of the facility include an equipment building, an assembly and control building, a ten-ton crane for moving test items from the assembly building to the sled, and a remote control building for use during tests of items containing explosives.

More than a year in construction, the new catapult is a $570,000 addition to Sandia’s Area III environmental testing facilities. Plant Engineering Department project engineer for the construction of the facility was C. M. Morrisetti.

Sandian Who Serves

Service Club Member Helps Promote Program for ‘Your Gift of Sight’

“Your gift of sight” is the slogan being used by the Lions Clubs of New Mexico in encouraging donations to their eye bank and research foundation. One of the staunch supporters of this new venture is Sverre Johannesen, a charter member and present secretary of the Paradise Hills Lions Club.

The Lions’ Sight Conservation Committees have been active for years in directing help to the blind and in offering means to prevent blindness. The eye bank was established in Albuquerque to make available to all patients (free of charge) eye tissues required by eye surgeons to perform corneal grafting operations. If a donated eye is diseased and cannot be used for grafting, it is carefully studied in research to help find causes and cures for blindness.

Estimates are that 20,000 blind Americans need corneal transplants, while more than 200,000 persons need corneal grafts to treat corneal disease and to prevent corneal blindness.

“Your Gift Of Sight” is the slogan being used by Sverre Johannesen of Sandia and other New Mexico Lions Club members in getting donors for the organization’s Eye Bank.

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**Editorial Comment**

It’s Christmas Project Time

Each year the Lab News issues a reminder on the subject. Each year, apparently, the reminder is less necessary.

It’s all about the special Christmas custom at both Livermore Laboratory and Sandia Laboratory. Instead of sending Christmas cards to friends seen almost daily, the money saved by not purchasing cards and postage is used to provide a Christmas for those who otherwise might not have one.

That’s where the fun begins—and continues throughout the entire Christmas season.

Individual organizations will be getting names of needy families from churches and welfare agencies. Food, clothing, toys and household equipment will be collected for them.

Sandia Corporation Unions will again sponsor a Christmas party for youngsters at Riverview Elementary School.

Reports will be made in later issues of the Lab News on the undertakings of the season. They will be extensive, heartfelt activities, and in most cases there will be little desire for publicity on the part of the benefactors. And, if the experience of previous years still holds, the whole operation will be carried out with minimum fuss and flurry.

It all started a number of years ago when someone said, “Don’t expect a greeting card from me this year, I’m giving the money to the needy.” That was it all. The Christmas spirit in hundreds of persons carried on from there.

**How To Buy Job Insurance**

Call your insurance agent. Ask him if he has job insurance. He may mention life, health, accident, disability, retirement, or some other kind of insurance, but he won’t have job insurance.

There are billions of dollars annually employed today and none of them can buy a policy insuring continuity of employment. All, however, can increase the possibility their employment will continue, and the more they read and the better material they read the more they will become abreast of modern technology through continuing education.

The more we read and the better material we read the more ideas we will come up with, and the better ideas we can come up with minimum fuss and flurry.

Don’t forget self education—reading. It all sums up to this: It’s top-notch training that can broaden their knowledge of New Mexico aerospace research and development activities.

*A symposium of this sort also presents a means for engineers to meet and exchange ideas with others in their professional fields.* Mr. Carpenter continues. "In addition, it presents experts in certain fields. Dr. John Honebirk, President of Bellcomm, Inc., was one of these experts."

"This year’s symposium was typical of those sponsored by the New Mexico Section of ASME, members of other engineering societies, students, and faculty members could broaden their knowledge of New Mexico aerospace research and development activities."

"The officers of the New Mexico Section, American Society of Mechanical Engineers, say: "We’ve particularly pleased to have had such a positive student response at this year’s symposium," Mr. Carpenter continued. "The Section continually encourages student attendance at reduced rates at symposiums and meetings. Annually, the Section holds a meeting in March to judge student papers and presentations to be entered in competition at the Student Regional Conference. Cash prizes from Section funds are awarded to winners in line with the New Mexico Section policy of encouraging student participation in ASME activities."

The officers of the New Mexico Section, ASME, besides vice chairman C. L. Carpenter, include Joffre Myers, chairman; W. A. Gardner, secretary; Charles Rumpson, treasurer. The directors are Gene Copeland, Lowell Martin (ACP), James O'Hara (O'Hara Manager, ACP), and Capt. David Jones (AF Weapons Laboratory).

ASME provides 27 divisions of professional interest. Full members can select five of these to obtain current information from ASME on a regular basis and may attend the professional division meetings held on these subjects. Applied mechanics, heat transfer, management, aerodynamics, and machine design are examples of the divisions.

The Section usually holds nine meetings a year and one or two field trips. At times, these meetings are held jointly with other engineering societies. The Nov. 17 meeting will be held with the American Society of Quality Control and the American Institute of Industrial Engineers at the Coronado Club.

PAGE TWO

LAB NEWS

NOVEMBER 20, 1964
Engineer Registration an Indicator Of Attitude, Technical Competence

On Dec. 5 the State Board of Registration for Professional Engineers and Land Surveyors announced its semi-annual examinations in Albuquerque and other cities— an event of importance to all engineers seeking recognition on a professional level.

R. W. Henderson, Vice President, Weapon Programs, is serving in a second term as a member of the board. His background as an engineer; his active participation in engineering societies and technical groups on both state and national levels; his awareness of current trends; and his close association with the diversified membership in registration of Professional Engineers gives him strong thoughts on the importance of this study.

"With our own engineers," he states, "the main benefit to Sandia Corporation is the fact that the employee has gone the 'extra mile' in wanting to succeed in his profession. Becoming registered as a Professional Engineer is an indication of his profession. Becoming registered as a Professional Engineer is an indication of his attitude toward the company who is a registered engineer.

"The purpose of the Board of Registration is to improve professional engineering standards, administer state engineering registration laws with the help of the Albuquerque Chapter of the National Society of Professional Engineers and the University of New Mexico annually sponsor a course covering a review of mathematics and the fundamentals of engineering as preparation for the Engineer-in-Training exam."

The first test, the Professional Engineer examination, cannot be taken prior to the completion of four years of engineering activity at the professional level following graduation and concentration on engineering practice. It includes questions in ethics and engineering economics as well as a variety of other questions that are not necessarily professional problems related to the engineer. The second test, the Professional Engineer examination, cannot be taken prior to the completion of four years of engineering activity at the professional level following graduation and concentration on engineering practice. It includes questions in ethics and engineering economics as well as a variety of other questions that are not necessarily professional problems related to the engineer.

"The Professional Engineer examination qualifies the applicant for membership in the National Society of Professional Engineers. The board has initiated surveys of consultants, we can be sure that the questions are representative of the 'state-of-the-art' and adequate to prove depth of engineering capability.

In May, when the eight-hour exams were last given, 26 out of 54 persons successfully completed their test. The Professional Engineer applicant is normally faced with two tests to determine his knowledge of engineering principles and his working ability with this knowledge. The first test, the Engineer-in-Training (or fundamental) examination, is usually taken by an engineer who has just graduated. A degree in engineering is not a mandatory requirement, but every few can pass the exam who have not had four years of college-level work. Since the Engineer-in-Training Practice Act was revised on June 7, 1957, applicants who graduated from an accredited engineering program to be registered for Professional Engineers and Land Surveyors must pass the examination prior to being licensed.

Under state law, an engineer employed by another corporation or similar company is not required to be registered to practice his profession as an "engineer," but if he offers engineering services involved in his employer's business, provide that neither he nor his employer offer engineering services to his public. Governmental engineers are similarly exempt from the registration law but are undergoing their own registration laws, and in the past state where they are employed. In most other instances registration is necessary and an unregistered engineer working for a consulting firm must have his work accepted by the "engineer" of the company who is a registered engineer.

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"The Professional Engineer examination requires months of study and analysis. The test is in depth of the basic engineering fundamentals the student has learned in school," he says.

To assist engineers who did not take the first exam concurrent with finishing college studies, the Albuquerque Chapter of the New Mexico Society of Professional Engineers and the University of New Mexico annually sponsor a course covering a review of mathematics and the fundamentals of engineering as preparation for the Engineer-in-Training exam. The first examination, the Engineer-in-Training test is a close parallel to the British system of comprehensive examinations which cover four years of study. "It is a test in depth of the basic engineering fundamentals the student has learned in school," he says.

Vera B. Reed, End of November

Vera B. Reed of Design Definition Service will retire the end of November after 13 years at Sandia.

In 1947 she moved her first training in electronics to the Iowa State Highway Department when it was established in early 1930's. She moved to Santa Fe in 1954 and lives in Albuquerque. "I married ten miles in Albuquerque."

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Microscopic Aid is required by Virginia Miller in positioning a printed circuit so that it may be successfully welded in the proper location to create an integrated circuit. Parallel gap welding is the method used.

Even Smaller Electronic Systems Possible by New Welding Process

A method of metal joining which makes possible an entire printed circuit system no larger than a single circuit is being utilized by Sandia Laboratory's Printed Circuit Section.

The technique is called "parallel gap welding." Previously, a number of printed circuit cards (sub-systems) would be interconnected by different means to become the final system. The final product would take up about seven inches of space. Now, a single printed circuit board forms the base. Upon it are placed "boxes"—tiny commercially-manufactured components with different functions—which make possible any desired system through use of various combinations. Computer-type circuits are possible, as well as reconfigurable or logic functions. Section supervisor N. A. Cordova expects the next generation of the Vela detection satellites to use these new integrated circuits.

Some changes have been necessary. The copper plating on ordinary printed circuit cards is not compatible with the gold-plated Kovar lead material on the heads. Now the glass epoxy laminate cards are coated with Kovar, nickel, or nickel/zircon.

Unfortunately, the leads are not yet standardized in size, which complicates the welding process," Mr. Cordova said.

Miniature welding equipment is not new, having been used by vacuum tube manufacturers for some time. However, the concept of parallel gap welding and the machines to accomplish it are new. Newberg gap welding electrodes are placed on opposite sides of the materials to be welded. The electric current passes in a straight line through the materials, melting and fusing them together.

In parallel gap welding, the electrodes are placed side-by-side on the leads and the current passes through the material in a U-configuration. The latest parallel gap welding machines have a dynamic welding range and automatically compensate for variations in thickness and width of the leads.

Old printed circuit systems required one to two and one-half hours per circuit to assemble. Resistance-type of weld, required by the integrated systems, is accomplished in a matter of seconds. Usually when there is less mass there is less trouble.

Welcome Newcomers

Albuquerque
Kathleen F. Armstrong . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .1211

INTEGRATED CIRCUIT MODULE for the Vela Vela detection satellite is displayed by N. A. Cordova, supervisor of Sandia's Printed Circuit Section. Recessed rectangles on the printed circuit board are components of different functions which can be combined in many ways to form a desired system.
Nuclear Radiation

What is it?

Scientists know that work with nuclear radiation is accompanied by a certain amount of hazard. This risk is balanced against the benefits made possible by its use. Mutual cooperation has enabled his ability to work safely with nuclear radiation. The safety record for personnel working inside ARC contractor plants has been, in the words of Dr. Glenn T. Seaborg, Chairman of the AEC, "phenomenally good."

Nuclear Radiation

RADIATIONS ARE STREAMS OF FAST PARTICLES OR WAVES WHICH COME FROM THE NUCLEI, OR CENTERS, OF UNSTABLE ATOMS

provided their radiation control programs are adequate to protect public health and safety.

Atomic Energy Commission control, incidentally, is limited by law to radiation from atomic energy activities. The agency has no control over the use of x-rays or radioactive materials in medical applications.

As a primary step in controlling nuclear radiation, the Atomic Energy Commission has established limits of radiation exposure for all who are directly employed in atomic activities. It is the responsibility of radiologic control personnel to ensure that exposure limits are observed.

Under these standards, levels are set for the amount of exposure from external radiation to the entire body and to various parts of the body. Levels for external exposure have been agreed upon for a single human being and for an individual's lifetime. "Possible levels" for radiologic control concentrations in water and air are also established.

Workers in the atomic industry are not permitted to receive more than a limited amount of radiation per year. Many annual limits are deliberately set much lower than any amount that is acceptable taking into account possible physical impairment, even though continued for a long time.

Another standard allows workers to film badges that record any exposure to radiation and a careful record is kept on the total exposure of each individual throughout the period of his employment. Surveys have shown that average levels of exposure experienced by these workers actually fall below the levels that would cause measurable physical impairment, even though continued for a long time.

What about the less penetrating radiation? Even these new, helpful substances, for example, use these new, helpful substances for operations involving radiation so that they will start at 6:30. Music by Rex Elder will be provided from 6-10. Tickets are now available throughout the community and at the box office.

Take Note.

The Coronado Club has been selected for the Dec. 5, 4600 Christmas party. Buffet for the Saturday night dance will start at 6:30. Music by Rex Elder will be provided from 6-10. Tickets are now available throughout the community and at the box office.

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Members of the Coronado Ski Club will meet Monday, Nov. 21, in the gymnasium of the Coronado Club at 7:30 p.m. Speaker will be Mr. Corin plumbing for the Sandia Peak Ski Area, who will discuss New Mexico ski areas. Included in the program will be a film of New Mexico ski attractions. Persons interested in ski club activities are invited.

Qualifying examinations for prospective Ph.D. philosophy candidates in physics and astronomy at the University of New Mexico will be held Monday, Dec. 14 (oral part). Further information may be obtained from Doro-"
Central-Eubank Traffic Problems Met by Best Equipment Available

The intersection of Central Ave. and Eubank is a problem for Central-Eubank employees and so is the intersection problem of traffic delays.

Associate Traffic Engineer Robert Wolfe of the City’s traffic department reports that the employees of these two offices are more vehicles at this intersection during peak hours than the present equipped traffic signal can handle. Thus the traffic tie-ups.

The problem is being met through use of a new traffic-control equipment available. Engineer Wolfe describes how it works:

"The type of control equipment existing at the present intersection is known as a volume density traffic actuated controller. The underlying principle of volume density control is the automatic process of taking no action on the demand on a street having the green light against the one way demand on the street having the red light.

"There are three factors that operate concurrently to limit the extension of the green light during heavy traffic volume periods. These three factors are: 1. The time of the vehicles have waited against a red light, 2. The number of accumulating vehicles at the red light, and 3. The length of the green light on the opposite street.

"If either the number or the time in excess of the time allowed for waiting on the red indication, the allowable gap spacing for vehicles on the stop line is subject to a reduction. This reduction decreases. This means that a greater or equal number of vehicles will be able to proceed on the opposite street as long as the time allowed for waiting on the stop line for the opposing street vehicles as far as gap spacing is concerned in order that they may retain the green indication on their stop line. At the moment that maximum green time is set at 90 seconds, the traffic controller for the opposing street has no factor to provide. If vehicles move in the opposite lane at a speed above the speed limit over a lane detector once every two and one half seconds, the green right of way will be taken from the opposing street.

The City Traffic Department has frequently observed traffic at the corner. Engineers have observed that after the light has been green for about 40-50 seconds, gaps begin to decrease so that the light will be activated to red by traffic on Central Ave. prior to the 90 seconds which will hold the light green for Eubank traffic.

The Traffic Department depends on Rand employees to inform them of equipment malfunctions occurring at the intersection. Employees are requested to contact Bessette and Services Division, tel. 264-2334, when such problems occur.

Sandia Speakers

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


Central-Eubank Traffic Problems Met by Best Equipment Available

Boating Club Members Planning Nautical Thanksgiving Holiday on Lake Mojave

Bringing thanks to a mind of family and friends around a dinner table loaded with the traditional "turkey and trimmings." To a group of Sandias this Thanksgiving will be a gathering of family and friends on a lake with tents and boats as background, plus the traditional "turkey and trimmings." About 50 people, members of the Los Angeles Boating Club, are leaving Las Vegas Nov. 26 for a Thanksgiving at Lake Mojave, Ariz. The group will travel in a caravan style. Three cars will maintain radio contact to keep them together and report any difficulties they might encounter on this 1200-mile round trip.

Activities at the lake will include water skiing, fishing, driving, a tiny boat and seamanship, and the Thanksgiving dinner afloat. Mayor of the trip includes Walt Westman who is commodore of the Sandia

Marigold, Rees, Wanda Curr, Mr. and Mrs. Robert Schowen, Bob Lasiter, and Ruth Bogner. Also accompanying the group will be a writer and photographer from the staff of Sports Illustrated. The magazine plans a future article on the club and their trip.

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Scandia’s Tonopah Families Find Life Different in The Last Frontier

Scandia Corporation has brought a bit of the new west to the town of Tonopah, Nev., but the “old west” atmosphere of the community remains. Tonopah is one of the few true frontier towns left in the country. Despite a few frontier hardships still remaining (more on this later) Scandia Corporation families who have lived in the Nevada town have found the experience exciting, unique, and pleasant.

Tonopah is a town that wouldn’t die when mineral deposits of the area gave out. Jim Butler found silver near the site now occupied by the town on May 10, 1869. By August of that year he had staked out several claims in the area and soon the rush was on.

Within a few years Nye County (where Tonopah is located) was mining $10 million yearly in precious metals. By 1904 gold too was being taken from the ground and the town flourished to the point that a narrow gauge railroad connected it to the Southern Pacific Railroad.

Mining began tapering off about 1914 and only recently has there been increased activity. Tonopah and neighboring communities reverted to semi ghost towns, catering to local ranchers and a few tourists. Remains of the mining boom are still seen in the area.

All was quiet in Tonopah until 1942 when the Army built an air field near the town. Then in 1950 the Air Force set up a radar station. A test program for the Regulus II missile with launchpads from Edwards Air Force Base and impact in the Tonopah area brought activity to the town.

Scandia first used the area for tests in 1956. On Nov. 1 of that year Scandia was granted a temporary permit to use a base site which occupied about seven times the area of Salton Sea Test Base.

Today, there are 35 Scandia families living in Tonopah, and two live in Bishop, Calif. They find in Tonopah just what they had in mind in any mining town. They also have found additional advantages and a few disadvantages. But, as Bob Statler, former supervisor of the Tonopah Range Operations Division, says, “Tonopah was my home for four years. It was a good place to live. My youngsters flourished. I made friends among the many fine residents of Tonopah.”

Tonopah is remote. It’s a 271-mile drive south to Las Vegas. Reno is 247 highway miles away. Residents say they are close enough to the bright lights and they point out that they are close to some of the best hunting and fishing country in the nation.

“Within a hundred miles of Tonopah there are a couple dozen fishing streams,” Bob Statler reports. “And you don’t have to go any farther to get into big game country.”

The Sierra Nevada Mountains are about 120 miles away and one of the country’s finest winter resorts. Death Valley, has its 200-foot salt dome, Spa Valley, its 70 mile by 70 mile salt flat. Tonopah is remote. It’s a 207-mile drive south to Las Vegas. Reno is 247 highway miles away. Residents say they are close enough to the bright lights and they point out that they are close to some of the best hunting and fishing country in the nation.

Tonopah has a hospital and has voted bonds for a new hospital to replace the old one. The town has a new school building, six churches, three hotels, and six motels, four of which are new. The Independent Telephone Company was one of the first in the west to provide complete street distance dialing.

“Look at any town and you can find some reasons for not living there,” Bob Statler says. He lists some disadvantages to Tonopah life—lack of metropolitan atmosphere, limited shopping facilities, high cost of utilities, and considerable distance from a city.

The AEC provides homes for employees at Tonopah Test Range. There are 14 four bedroom homes and 18 two bedroom homes available. Employees are taken to work in the morning and returned at night by bus.

Climate of the area makes it a hay fever paradise. The town is high, 6000 ft., and dry. Only a few inches of moisture are measured yearly. Winter low temperature averages about 20 degrees with an occasional drop lower and infrequently a cold snap to drop the mercury to zero. In the summer, average highs are 85 to 90 degrees with some wind from the Sal- bugueque, but little if any flying dust. Pollen count is about zero.

Qualified employees who would like to be considered for lateral transfer to Sandia’s Tonopah Test Range should contact their supervisors. Presently a staff member...