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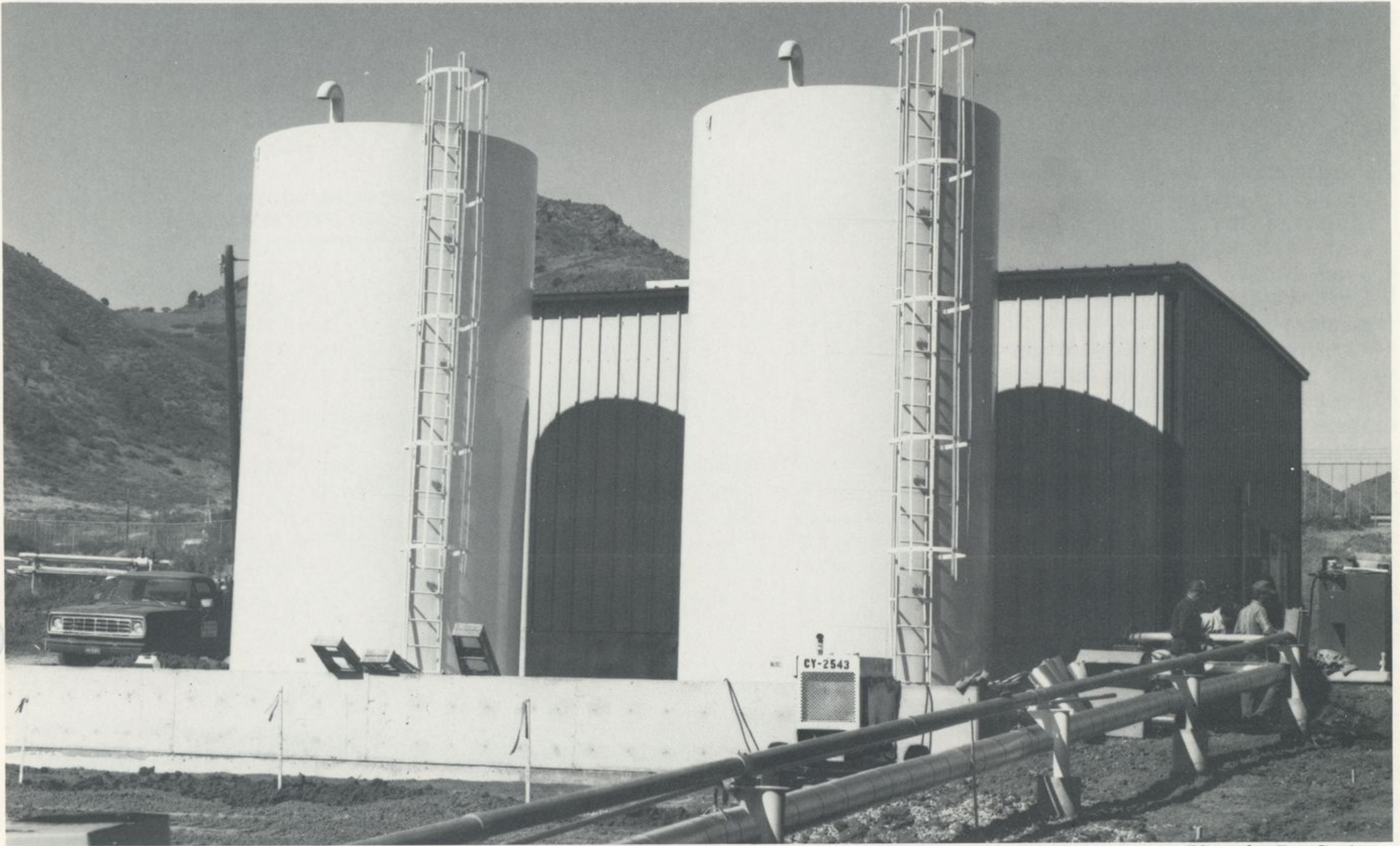


Photo by Pat Corkery

A new \$1-million system built by Denver Aerospace is intercepting and treating contaminated ground water. The system is used to remove volatile organics, including trichloroethylene, from the water. It includes a series of wells on Denver Water Department property to pump contaminated water

from the ground, a pipeline to collect and transport the water, the treatment facility pictured here on Martin Marietta property, and a pipeline to transport the treated water to a discharge point on Brush Creek. An air-stripping process reduces contaminants in the water to nondetectable levels.

Ground water interception and cleanup system begins operation

Denver Aerospace's \$1-million ground water interception and cleanup system has begun operation, and is successfully reducing volatile organics in the water to below detectable levels, report company environmental management officials.

The company built the system after conducting a field investigation earlier this year to identify the extent and concentration of ground water contamination in Filter Gulch, the area between the Waterton plant and the Kassler water treatment facility. The investigation included drilling, sampling, and testing water from 21 monitoring wells in the area; stream sampling and analysis; and using a remote sensing technique to identify the presence of organic

contaminants, including trichloroethylene (TCE).

"We have been committed from the beginning to handle this ground water contamination situation as quickly and expeditiously as possible," said Peter B. Teets, Denver Aerospace president.

"In a matter of months, we investigated the problem, designed a cleanup system, and got it into operation. In fact, we began operation on Sept 27, several months ahead of a schedule agreed to by the U.S. Environmental Protection Agency (EPA) and the Colorado Department of Health."

Martin Marietta developed a system for cleaning up the affected ground water that consists of a well interception system on Denver Water Depart-

ment property, a pipeline to collect and transport the water that is pumped from the ground, a treatment facility on Martin Marietta property, and a pipeline to transport the treated water to a discharge point on Brush Creek.

The system uses a series of 14 wells extending across the contaminant plume to pump water from the ground. The water is then piped approximately 1000 feet to the new treatment plant. The plant, which is totally dedicated to ground water cleanup activities, includes two 21,000-gallon raw water storage tanks surrounded by a containment dike, two air strippers, sumps, and pumps and piping needed to channel the water flow.

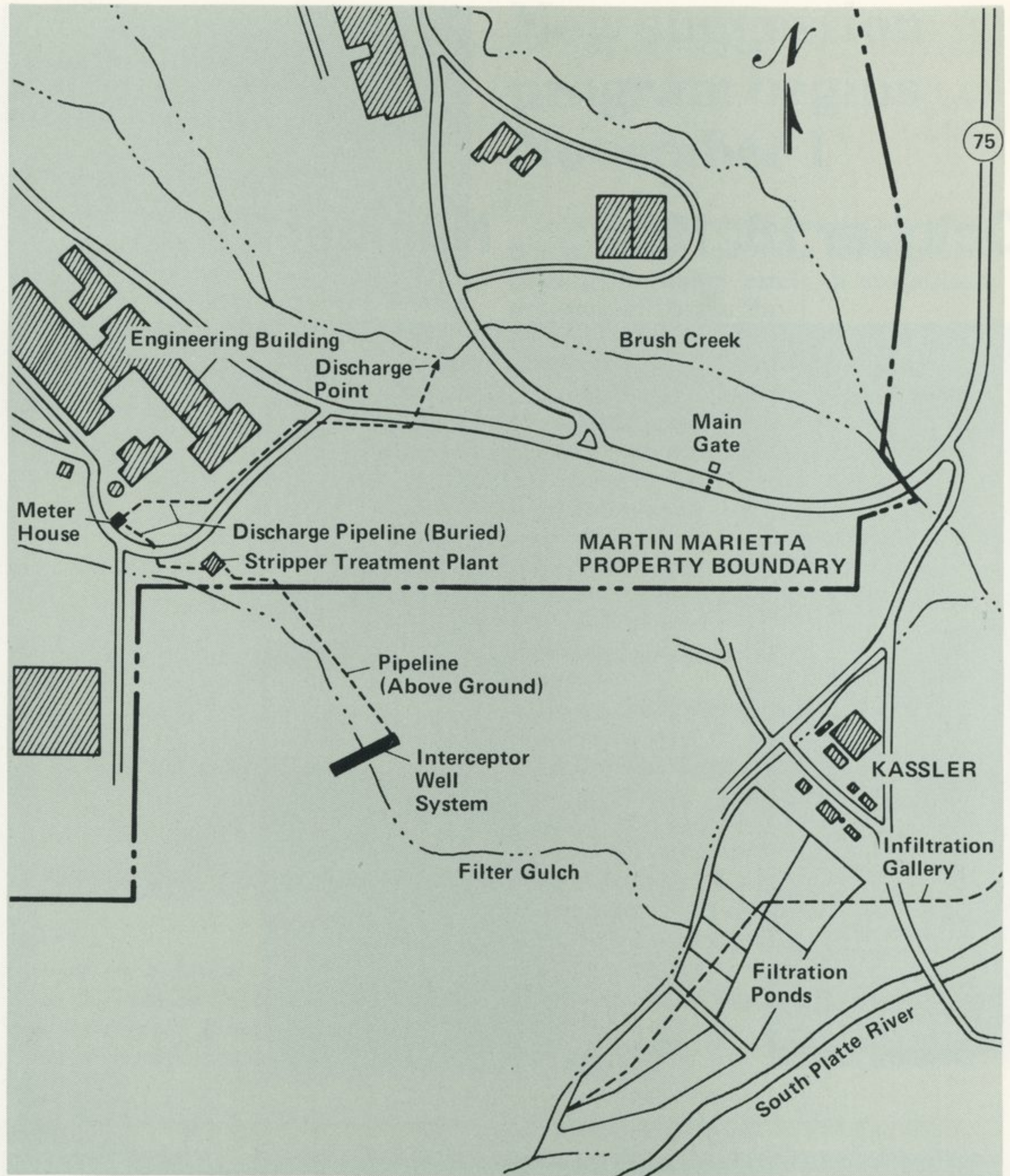
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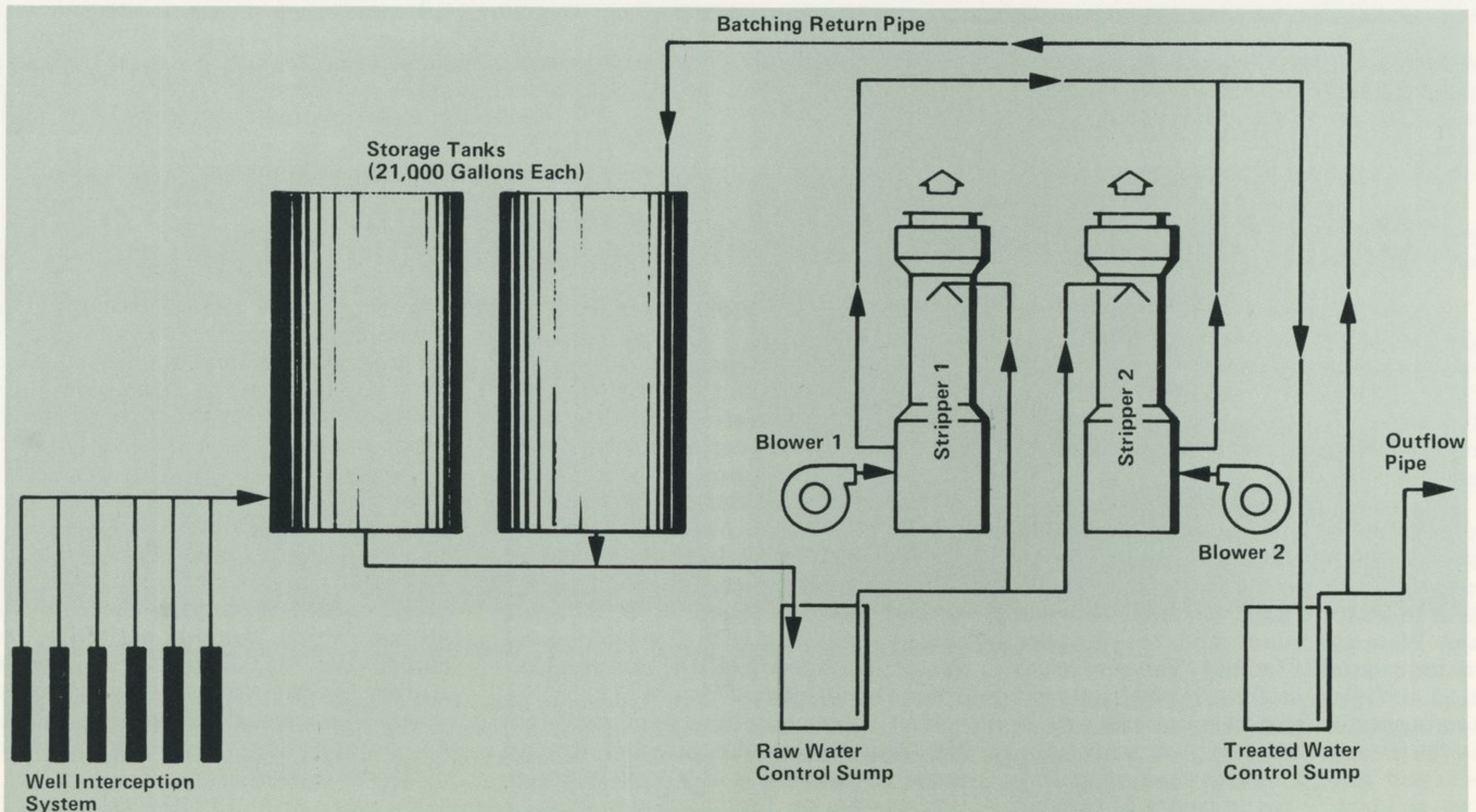
Each stripper consists of a column that contains three concave wire grids. A blower at the base of the column moves air upward as water is sprayed into the top. The contact between the air and water causes the TCE to evaporate and be carried away in the air. The process is permitted and is in full compliance with Colorado air pollution control regulations.

The water can be run through the strippers as many times as necessary to reduce the TCE to nondetectable levels. When tests show that levels of TCE and several other organic compounds are nondetectable, the water is piped from the facility into the company's existing discharge line. From there, it is discharged through a permitted discharge point into Brush Creek. The Colorado Department of Health has approved the discharge.

An estimated 5 percent of the water will be lost during the air stripping process. The company has signed an agreement with the Denver Water Department under which the company purchases and replaces the lost water to prevent any adverse impact on downstream water users.



Map, right, shows locations of treatment systems. Diagram, below, shows Filter Gulch ground water interception and treatment system now in use.



Martin Marietta wins contract for second phase of SDI study

Martin Marietta has been selected to continue concept definition studies related to the Strategic Defense Initiative program. The \$5-million contract award was announced Sept 3 by the Strategic Defense Initiative Organization in the Department of Defense.

The new contract is the second phase of a study program; Martin Marietta was selected with nine other companies for the first phase study in December 1984. Of those initial contractors, five have been selected for the second-phase parallel studies. The five winners are Sparta, Science Applications International Corporation (SAIC), TRW, Rockwell International, and Martin Marietta.

Phase II will entail a detailed definition study of various system architectures during the next 12 months. It will

include technological and functional requirements for the systems and methods to resolve key technical issues.

In announcing the award to Martin Marietta, Gen. James A. Abrahamson, USAF, director of the Strategic Defense Initiative Organization, said that Martin Marietta and its partner, Logicon of San Pedro, CA, "have shown superior capabilities in all aspects of this critical effort."

The Phase II architecture study is under the direction of Dr. Harry Sauerwein; deputy director is William Poole. The Phase II study will provide input to a systems engineering and integration contract, "with the result being a better insight and understanding of the technologies that would support a potential defense against ballistic missiles," Abrahamson said. ■

Denver Aerospace wins ATP study

A Denver Aerospace team will study concepts for an acquisition, tracking and pointing (ATP) platform to be used in an antiballistic missile defensive system. The program is part of the multifaceted studies being conducted under the Strategic Defense Initiative (SDI) program.

The \$2.5-million definition study will concentrate on a variety of concepts for a directed energy defensive weapon that could be deployed to intercept ballistic missiles in their boost phase. Awarded by the Army's Ballistic Missile Defense Advanced Technology Center in Huntsville, AL, the study will begin Sept 17 and last for one year. A similar, parallel contract was awarded to the Honeywell Corporation.

A Phase II study will be awarded to two contractors to focus on one or more of the preferred concepts. A third phase will involve laboratory testing and demonstration of the selected technology.

Approximately 12 people will be involved in the ATP program, headed by Dr. David A. Nichols, reporting to Robert J. Molloy, director of SDI programs at Denver Aerospace.

Denver Aerospace is teamed with the Hughes Electro-Optical and Data Systems group in El Segundo, CA. Other subcontractors to Denver include Sparta, Inc., in Huntsville, AL, and Aerodyne Research, Inc., located near Boston, MA. ■

Michoud becomes separate entity

On October 1, the Michoud Division of Denver Aerospace became Martin Marietta Michoud Aerospace—a separate operation.

Nearly 3,500 employees gathered to hear Dr. William Lucas, director of NASA's Marshall Space Flight Center in Huntsville, Alabama, congratulate all those who had contributed to Michoud's success, calling them "the superstars of the Marshall Space Flight Center contractor team."

"I believe that some of the best aerospace workers in the world came

through the gates of this facility...we're depending on you to keep up the good work that has brought us to this important milestone today," Lucas said.

Michoud has been a division of Denver Aerospace since 1973. The reorganization as a separate operation recognizes 12 years of outstanding accomplishments on the space shuttle external tank project. Michoud people have consistently delivered tanks on or ahead of schedule, at or below contract cost, with an excellent performance record. ■

A chance to help

You can help those in earthquake-ravaged Mexico City by contributing to a special fund established by the American Red Cross.

More than 1,500 buildings collapsed in earthquakes Sept 19 and 20, and another 780 buildings damaged beyond repair. Donated money will go directly towards medical supplies and housing materials.

Make your check out to the American Red Cross for Mexico Relief, and mail it to the Red Cross, P.O. Box 6989, Denver, CO, 80206, attention J. P. Smith.

News briefs

Facilities people help Africa relief effort

A number of employees from the facilities department at Denver Aerospace conducted an independent drive recently to raise funds to aid famine victims in Africa.

Through contributions and aluminum can collections, the group raised more than \$690 to aid the relief effort. The funds went to the U.S.A. for Africa Foundation, for use in drought-stricken areas.

Pownall will address management association

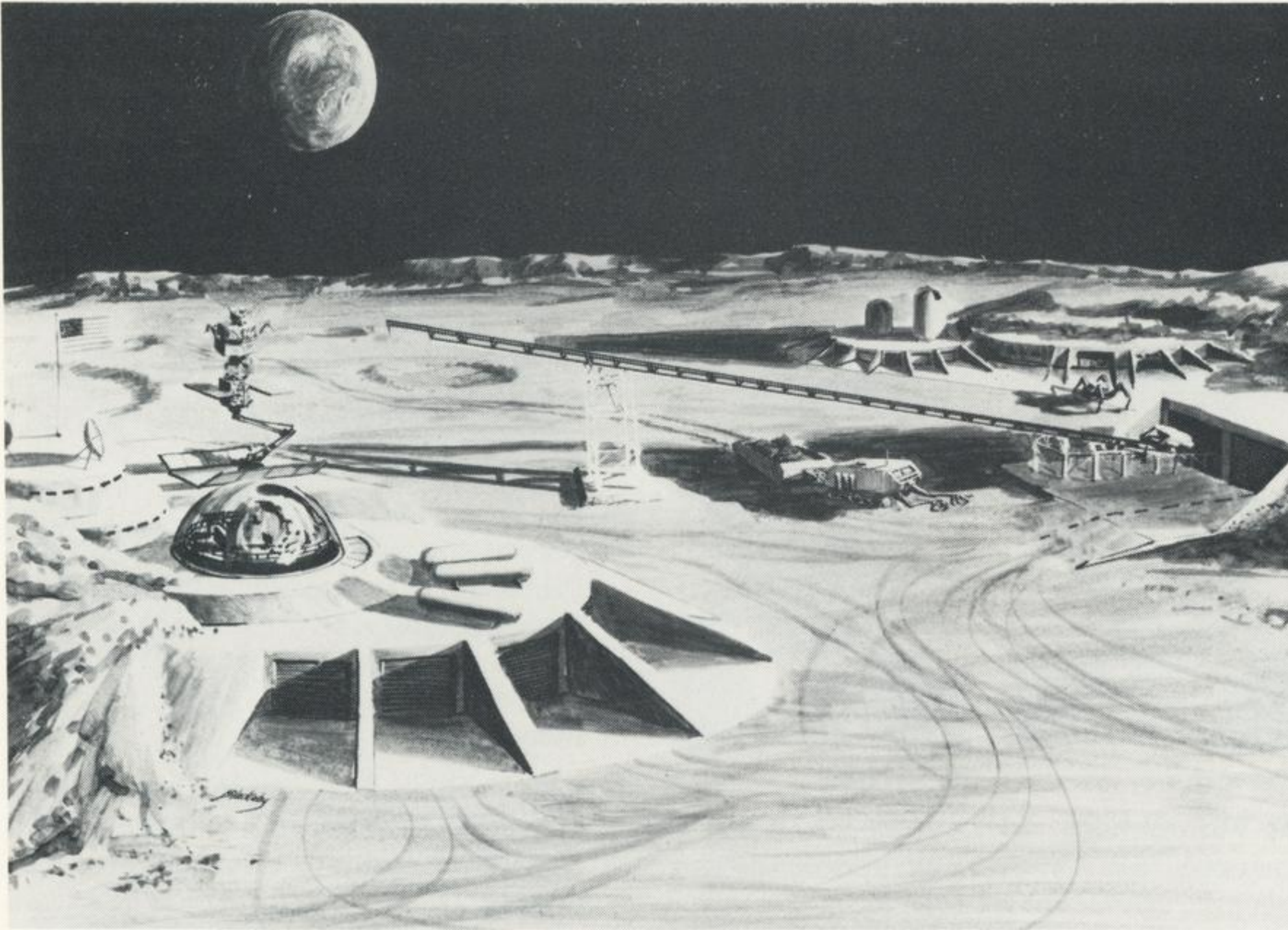
Thomas G. Pownall, chairman and chief executive officer of Martin Marietta Corporation, will be the guest speaker at a special dinner meeting of the Denver Management Association.

Pownall will be featured at 7:30 p.m. on Oct 24 at the Hilton Inn South (I-25 and Orchard Road). Non-members interested in attending will find reservation information in the recreation racks.

Quit-smoking program to be offered to employees

A free, introductory meeting on how to quit smoking will be conducted for Martin Marietta employees at 5 p.m., Wednesday, Oct 23, at Goddard Junior High School, Room 218.

The Smoking Management Clinic, part of Presbyterian-St Luke's Medical Center, runs the program. For more details about the trial period, money-back guarantee, and payment plans, the clinic invites employees to attend the introductory meeting, or to call recreation/employee services, ext 7-6605.



Martin Marietta's lunar base concept, rendered by Rob Blackaby, graphics, could include living quarters, potential manufacturing, a facility for satellite communication, and a way station for further exploration.

Beyond space station: Martin Marietta looks to the future

Gareth D. Flora, vice president, business development, was among aerospace executives from six leading U.S. companies who recently presented their thoughts on where the nation's space program is going in the next 50 years.

Also selected to speak before the presidentially-appointed National Commission on Space meeting in Washington were representatives from Boeing, General Dynamics, Grumman, Lockheed, and Rockwell.

President Reagan has stated that the purpose of the National Commission on Space is "to devise an aggressive civilian space agenda to carry America into the 21st century."

Flora spoke of possible means of reducing the cost of Earth to low-Earth orbit space transportation, space commercialization, possible inner solar system space infrastructure, and advantages and disadvantages of international cooperation on large space projects.

One advantage Flora mentioned was that the costs of future programs would be reduced by sharing and this, in turn, would lead to faster development of programs. He sees the possibility of future settlements on the lunar surface and on Mars. A way station for space exploration using second- and third-generation space stations beyond geostationary orbit will be needed, he said.

Beyond that, he said, missions to the asteroid belt beyond Mars could be undertaken to provide an additional way station for planetary exploration beyond Mars.

A national space strategy exists, Flora said, but multiyear, consistent federal appropriations and private investments are needed to implement that strategy, as well as a national space planning agency, probably within NASA. ■

New peer award program cites three employees

A new award program in Peacekeeper logistics, technical publications, has singled out three employees for outstanding performance commendations.

The Excel Award program, while similar to the spot award program, differs in that recommendations are made by coworkers as well as by supervision and management. A committee of representatives, elected by their peers, evaluates each recommendation. If approved, an award is presented in front of the employee's coworkers and management.

Recipients of the program's initial awards include John Jenkins, requirements specialist, for his effort "in reviewing and documenting a change summary impact that established a high level of credibility within the company and with the customer," said Chuck Corley, Jenkins' supervisor.

Pat Pickering, supplier, data management, earned an award "for initiative in the contracting operations review (COR) audit this year, coordinating all individual inputs into a consistent procedure in a very limited timeframe," said Eileen Hilsenroth, Pickering's supervisor.

Janie Homan, quality circles lead, was recommended for her award by her peers for leadership initiative and extra effort in quickly drafting bylaws for the Excel Awards program. ■

Recreation/ employee services

Karate—The Karate Club meets from 5 to 6 p.m. on Wednesdays and Fridays at the Chatfield YMCA.

Skiing—The Rocky Mountain Alpine Club will hold a Fall Bash at 1 p.m. on Saturday, Oct 19, at the Millbrook Townhomes Clubhouse located west of Platte Canyon on Depew St. Members and prospective members are welcomed to enjoy refreshments and discuss upcoming winter events.

The club plans an Early Bird cross-country ski tour Saturday, Nov 9. Contact Frank Farrell, ext 7-6931 for details.



Mile High United Way
Thanks to you, it works for all of us.

Corporate news

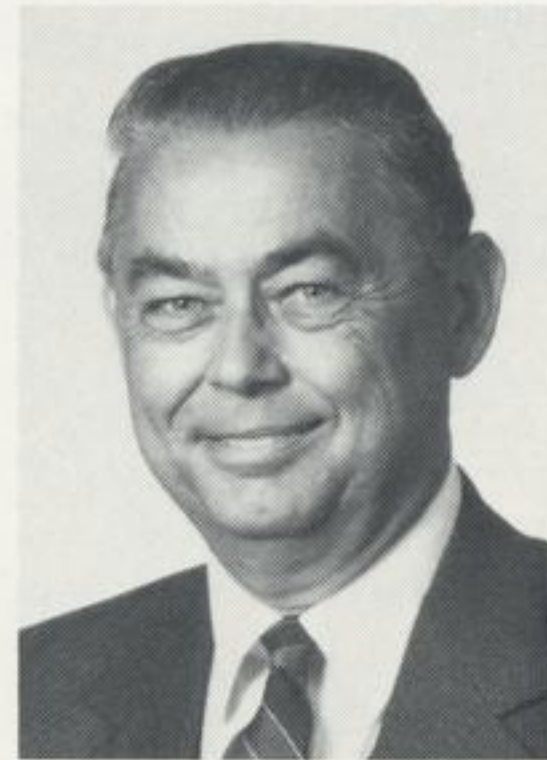
Carnahan will head task force on environmental management

Charles E. Carnahan, vice president of operations at Denver Aerospace, has been named to head a corporation-wide task force on environmental management. As vice president of the task force, Carnahan will report directly to Laurence J. Adams, Martin Marietta president and chief operating officer.

Stanley F. Albrecht, Peacekeeper program director, will assume responsibility for production operations. Albrecht will be succeeded by John P. Murphy, director of the Peacekeeper flight test program at Vandenberg Air Force Base, CA. Michael F. Gaughen, manager of Peacekeeper test operations



Carnahan



Albrecht

at Vandenberg, will assume Murphy's responsibilities. All the appointments became effective Oct 14.

Data Systems to manage computer facilities

Martin Marietta Data Systems has been awarded an \$18.5-million contract by the Department of Energy to provide computer facilities management and automated data processing support services for programs at Albuquerque, NM.

Under the five-year contract, Martin Marietta will provide technical support and management, and staff and operate the Energy Department's Albuquerque operation's central computer, plus word processing, conferencing, and media center facilities.



More than 140 years of service represented at shuttle launch

The operations department selected five employees to attend a recent space shuttle launch. An operations committee regularly selects employees to attend launches, based on their outstanding performance, but this was the first group to have amassed so many combined years of service with Martin Marietta. Standing, left to right, are Lloyd E. Packer, senior maintenance mechanic, 29 years; Henry M. Adams, technician, 29 years; Ken M. Betz, chief, material handling, 28 years; Marion L. Allison, senior machinist, 29 years; and Pat O'Connell, chief, reproduction, 28 years. Fred R. Bennett, Jr. (not shown), manager of capital and facilities support with 33 years of service, escorted the group to Kennedy Space Center, FL.

Three additions made to group medical benefits

The benefits department reports three additions to the new Preferred Provider Option (PPO), which is part of the Martin Marietta Group Medical Plan:

- On Nov 1, Rose Memorial Hospital becomes a participating member of the plan. Employees will have five major hospitals in the Denver area, which provide 100 percent benefits for covered services, with no copayments or deductibles.
- All Preferred Provider physicians (who now number more than 600) will file claim forms for employees covered by the PPO. Patients who take a standard claim form to the doctor and show a PPO card, pay only a \$5 per office visit. Allergy treatments are not considered office visits under the plan and do not require the \$5 charge.
- Physicians under the plan will take responsibility for requesting from the medical plan any preadmission certification (PAC) or continuing stay review (CSR) required for any patient admitted to a hospital. If a member physician does not follow the PAC/CSR procedure or recommendation, no penalties will be assessed to the patient.

"We are very pleased with these new developments," said Carolyn Aldorfer, chief of employee benefits, "and we hope this will aid in providing comprehensive quality medical services to our employees." ■

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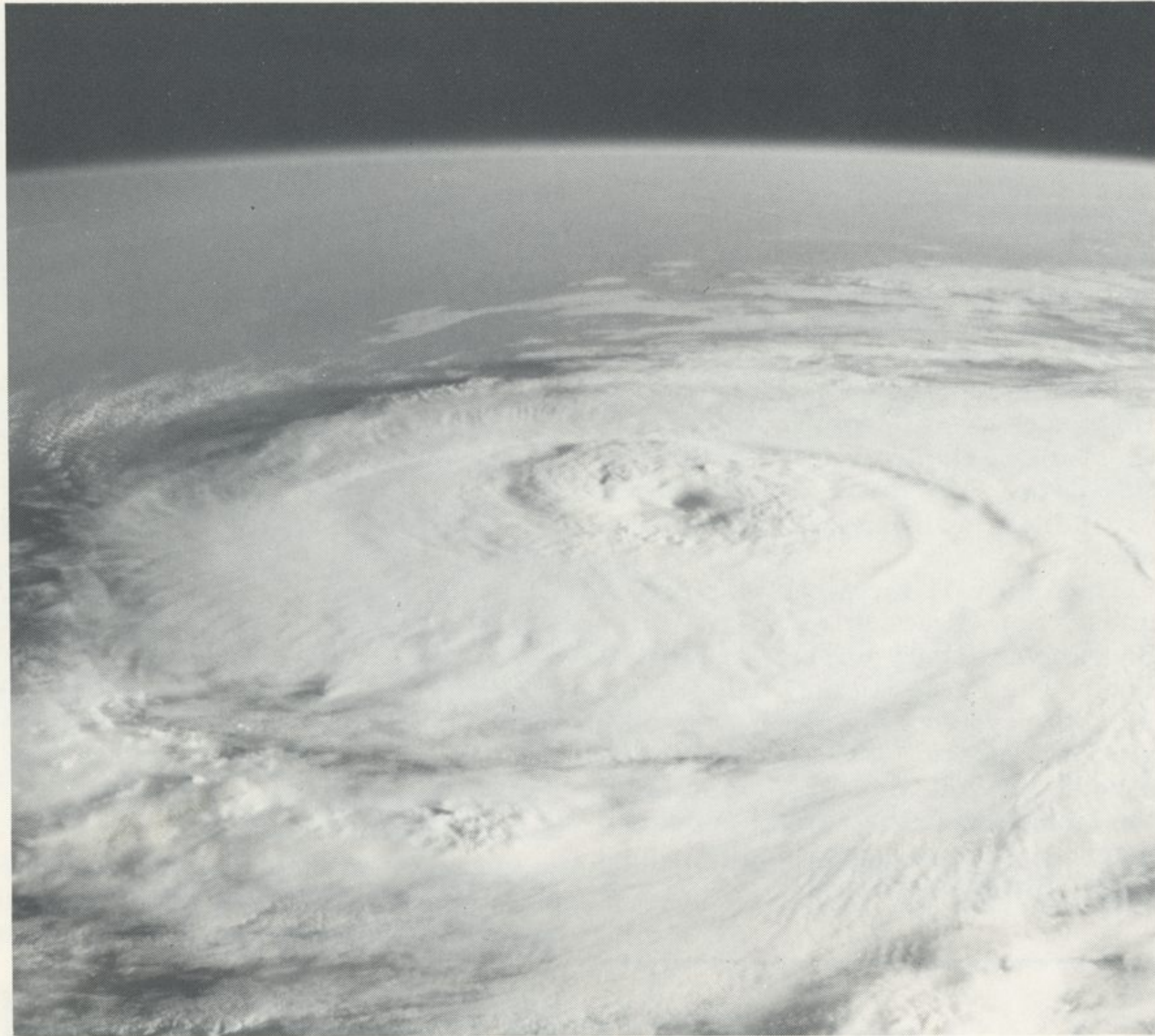
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New suggestion program begins November 1

In response to employee survey questionnaires and following recommendations of a quality circle, a suggestion program will begin Nov 1.

Called Success through Suggestions, the program will provide employees with the opportunity to contribute ideas for improvements and earn recognition and rewards for those ideas.

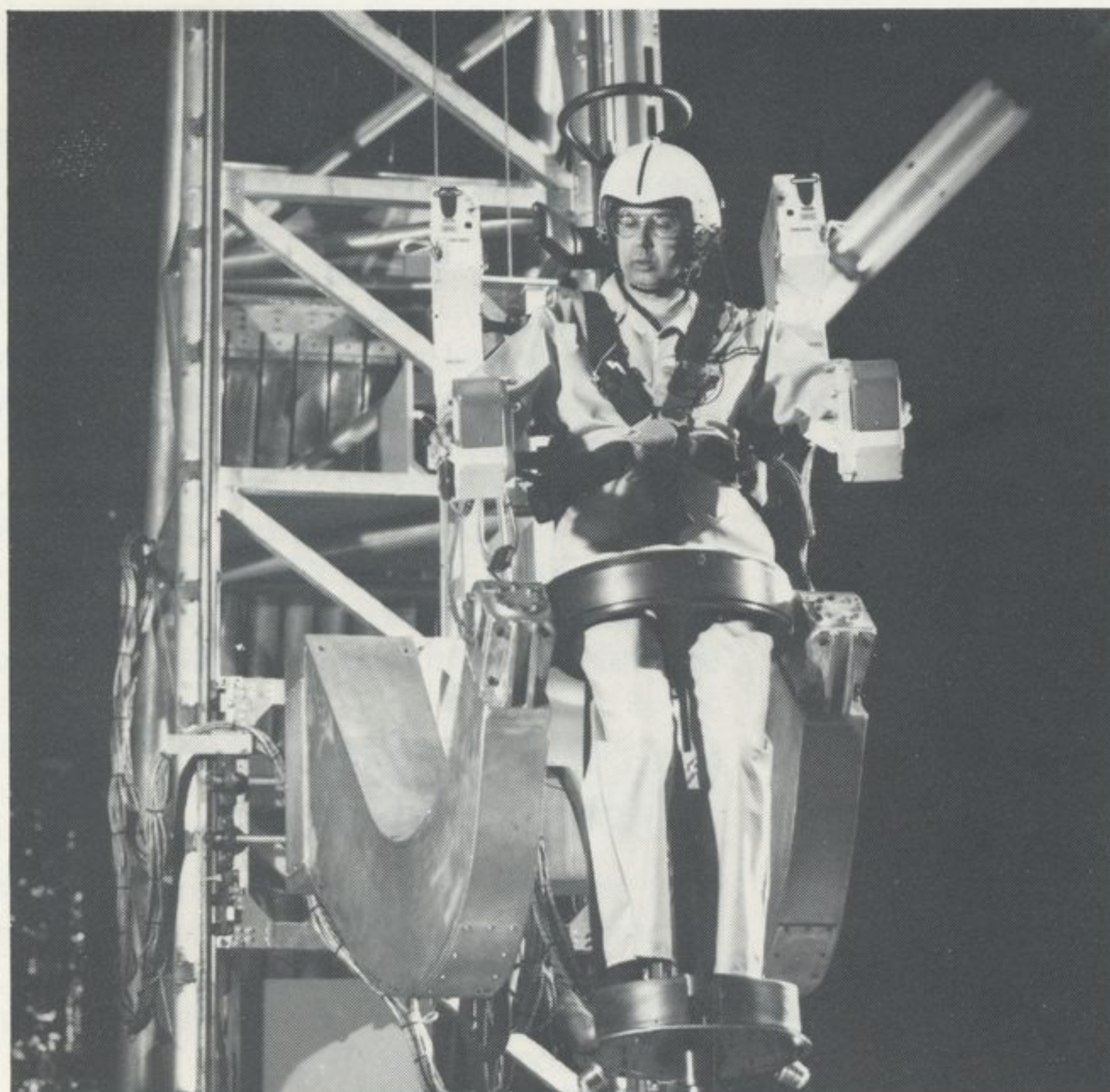
"The program gives employees a way to demonstrate knowledge, ingenuity and initiative beyond the requirements of normal job assignments," said Carol Romero, coordinator of the program. "It also gives the company a way of showing appreciation for that extra effort."

Boxes containing suggestion forms will be located in buildings with high traffic areas. Suggestions will be evaluated by those qualified to judge the merit of the idea, Romero said, and by those with authority to implement it. Upon adoption of a suggestion, the employee receives a cash award and recognition from management.

Future issues of the *Martin Marietta News* will carry more details about the program. ■

Turmoil below/ awesome power above

Astronauts onboard space shuttle 51-I captured an oblique view of Hurricane Elena, photographed with a 70mm camera from the orbiter Discovery Sept 2. The eye of the hurricane hit the Gulf Coast of Mississippi; early warnings caused Michoud Aerospace employees in New Orleans to evacuate the facility and to board up their homes as an emergency precaution.



House science/technology committee, NASA space station officer visit

Congressman Robert S. Walker, R-Pa., left, and Congressman Manuel Lujan Jr., R-N.M., experienced the space operations simulator recently. They and Congressman Bill Nelson, D-Fla., all members of the House Science and Technology Committee, and Phil Culbertson, the NASA associate admin-

istrator for space station, visited Denver Aerospace Sept 24. Congressman Nelson, chairman of the Subcommittee on Space Science and Applications, has an open-ended invitation to fly on a future space shuttle mission.