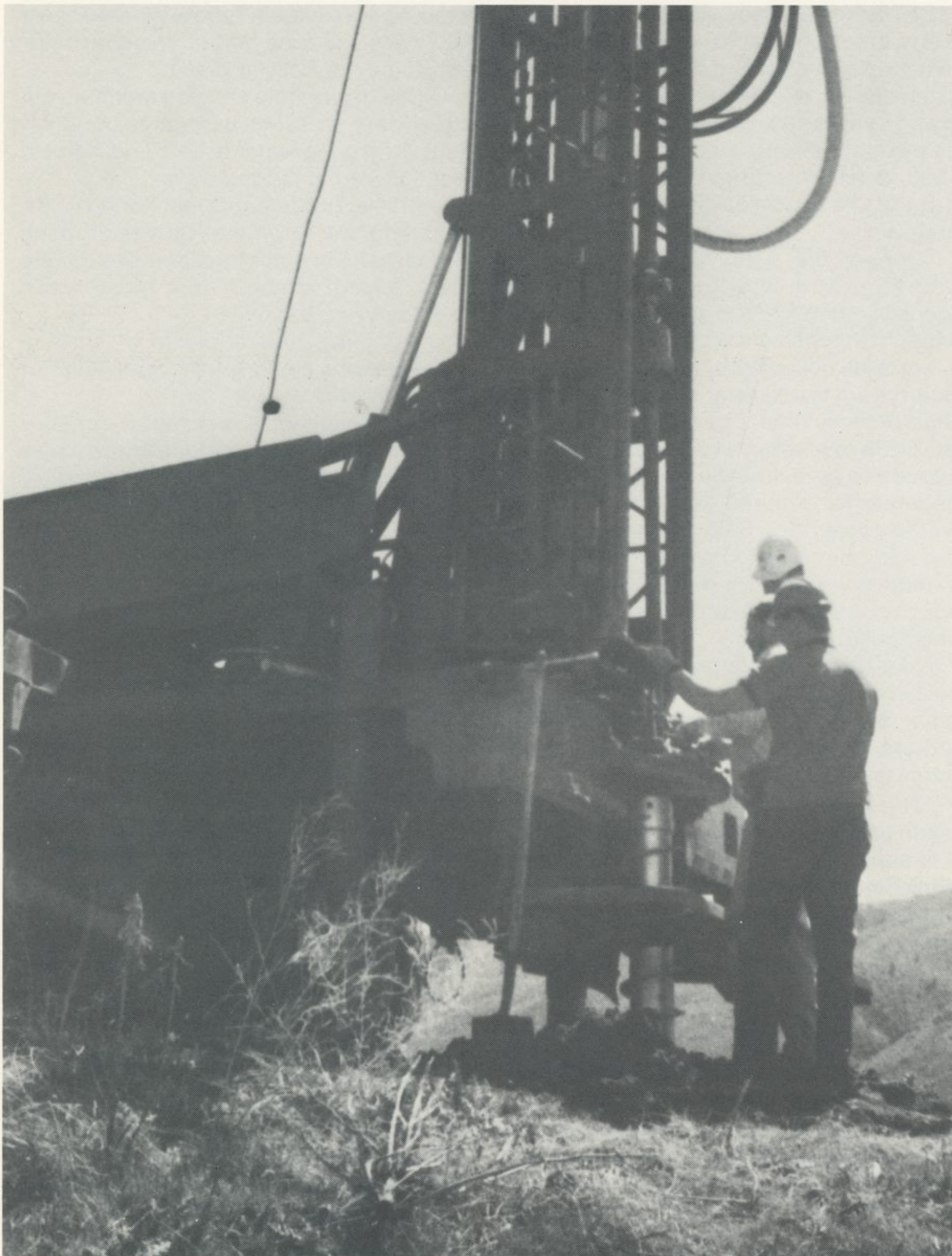


May 3, 1985

Special issue

Environmental monitoring and company cleanup program continues to progress



Martin Marietta drills pollution test wells—Drilling began April 23 on a series of test wells near the Denver Water Department's Kassler water-treatment plant. The company is drilling the wells as part of a comprehensive program to investigate ground and surface-water contamination.

Note: This special issue is devoted to a review of past, present and future activities of Denver Aerospace regarding environmental concerns at the Waterton, Colorado, site. Much has been written and stated recently about environmental concerns at the site. Some of it is distorted and inaccurate. This special edition addresses for employees the facts of the issues that have been raised.

Denver Aerospace is taking a number of steps to ensure that it continues to protect the environment and to prevent contamination of the area's water supply.

A broad-based management team has been put together to address various environmental issues currently facing the company, and some of the top environmental specialists in the country have been hired to help work specific issues.

"Martin Marietta is committed to cleaning this up, and we will do whatever it takes to get the job done," said Peter B. Teets, Denver Aerospace president. "We are very concerned about protecting the environment, and are doing everything we can think of—not just what is legally required—to address these issues."

Dick Weber, vice president, personnel and facilities, said environmental protection always has been a responsibility and concern of Martin Marietta Corporation.

"We have conducted our own ground water monitoring program at Denver Aerospace for more than 20 years, and that program recently led to some evidence of ground water contamination. Our goal now is to determine the extent of the problem and to do whatever is necessary to fix it."

In order to do that, the company has begun implementing a comprehensive ground and surface water investigation plan which has the approval of federal and state health officials. Other measures planned or underway include engineering and retrofitting existing waste handling, transportation, and treatment facilities; developing technologies that will lead to eventual closure of the active hazardous

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waste surface impoundment; and developing a process to eliminate waste as it is processed instead of storing it.

Environmental Team

Denver Aerospace has named Thomas J. Pharo, an experienced technical project manager, to head its environmental team as director of environmental compliance. Other members include Larry D. Fuscher, a chemist; William W. Bath, an hydrologist; William R. Haas, a chemical engineer; and Todd A. Kisling, a biologist. Further personnel additions are being processed.

In addition, the company is using the services of Martin Marietta Environmental Systems, a research organization based in Columbia, MD, that specializes in environmental matters, and has hired Geraghty & Miller, Inc., which will be responsible for all ground water issues; and Clement and Associates, which will conduct a risk assessment.

Arthur D. Little, Inc., has been hired to do a third-party overall assessment of the company's environmental programs, and to assist in decisions related to waste management.

Ground water Investigation Plan

The ground and surface water investigation plan was formulated in response to an emergency order issued by the Colorado Department of Health (CDH) and an administrative order from the U.S. Environmental Protection Agency (EPA). The orders were based on information generated by the company's own ground water monitoring program, which has found trichloroethylene (TCE) and other organics, and the discovery of a trace of TCE by the Denver Water Board in an infiltration gallery at its Kassler water treatment facility.

"Martin Marietta first notified the state of Colorado in September 1983 that its own analysis had shown organics in wells above the Kassler property," said Robert H. Snodgrass, director of facilities and operations. "Since that time, we have continued to work with the state and to provide updated information on the problem to them."

Martin Marietta's plan addresses three areas at Waterton, including the general manufacturing area, Filter Gulch south-east of the plant, and the Brush Creek basin. It focuses on identifying environmental conditions in those areas so that a remedial action program can be developed, and also includes interim measures

to prevent or inhibit the migration of contaminants from the facility.

Pharo said the company began drilling monitoring wells in the vicinity of the Kassler facility last week (April 23). A total of 18 preliminary wells will be drilled in the area, with sampling expected to begin May 1.

Pharo said the wells will be sampled for volatile organic compounds, including TCE.

Denver Aerospace, which along with many other companies, used TCE as an industrial solvent in the past, discontinued its usage in significant quantities more than 15 years ago. However, the company has been working with the state since 1983, after detecting the substance in ground water through its monitoring program.

"One of the goals of our expanded investigation will be to determine precisely how the TCE got into the ground water," Snodgrass said.

Samples collected by the Denver Water Board from the Kassler infiltration gallery reported less than 1 part per billion (ppb) of TCE in raw water, a level generally considered to be below the level that can be accurately measured using current analytical tools. No TCE or other volatile organic compounds have been detected in treated water leaving the Kassler plant, which currently is closed because of pipeline construction.

A limit for TCE in drinking water has not yet been established by the EPA. Although other states have set acceptable levels around 3 ppb., Colorado has not set a permissible level.

"The Denver Water Board always has taken precautions to ensure that the water it is supplying to its customers is safe to drink," said Snodgrass. "Martin Marietta is not contaminating Denver's drinking water, or the drinking water of its employees. The Water Board has stated repeatedly that it is not releasing contaminated water into its distribution system."

The Kassler plant treats surface water obtained from the South Platte River and in peak usage times can also use ground water withdrawn from the infiltration gallery. Although ground water is not currently being pumped from the gallery, it previously had been used to supply from two to four million gallons per day of Denver's drinking water supply.

Pharo said Martin Marietta's plan calls for an investigation to identify all known or potential sources of contamination resulting from past and current activities at

Waterton. The investigation will include an evaluation of aerial photographs, interviews with personnel, and a compilation and evaluation of all spill-leak reports, pertinent inventory logs for process materials, and occasional discharges in excess of permit limitations.

Other key portions of the plan include:

- Evaluation of existing geologic and engineering reports, well logs, and construction details of existing monitoring wells, and water quality data from monitoring wells, surface-water sampling stations, and the Kassler plant;

- Use of a remote sensing technique to identify the presence of organic contaminants in ground water to help find the best location for monitoring wells;

- Drilling of additional monitoring wells, including the 18 on the Kassler property and up to 25 at other locations around the plant, taking samples from those wells, and analyzing them;

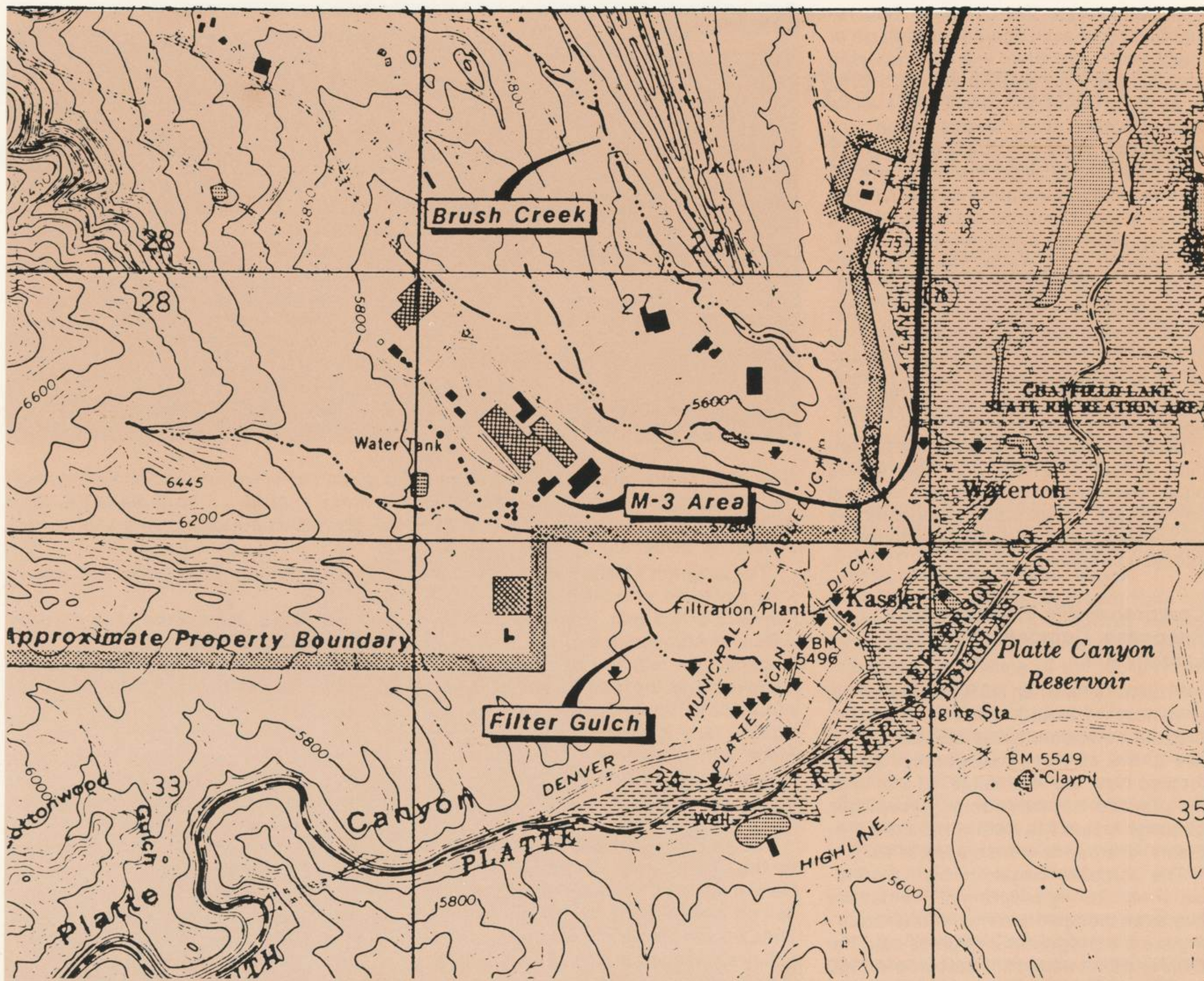
- Sampling and analysis of surface water stations along Brush Creek and Filter Gulch; and

- Installation of a well-point containment system as an interim measure to prevent any further migration of contaminated ground water toward Kassler. The system would pump water out of the ground, and the water would then be treated to remove any contaminants. After the water is treated, a method will be determined to release it.

Resource Conservation and Recovery Act

RCRA governs hazardous waste treatment, storage, and disposal. Most of the hazardous wastes generated at Denver Aerospace come from chemical milling associated with manufacturing operations. Those wastes are piped directly to an industrial waste treatment facility, where they are treated to remove harmful compounds, neutralized, tested, and discharged into Brush Creek (under a National Pollution Discharge Elimination System (NPDES) waste treatment discharge permit). A portion of the wastes that cannot be treated using normal procedures is pumped directly to the hazardous waste surface impoundment (high pond) for storage.

The high pond was built in 1979 to store inorganic materials. The company is studying the feasibility of closing the pond. A comprehensive plan that would allow management and offsite disposal of all industrial wastes within 90 days of generation is being considered.



This map shows the location of the Kassler water treatment relative to Denver Aerospace, along with Filter Gulch and Brush Creek. Arrows indicate locations of 18 preliminary monitoring wells.

All wastes not treated through the industrial treatment facility are collected from Denver Aerospace operations and consolidated at a barrel storage facility designed specifically for hazardous waste operations. Once consolidated, the materials are shipped offsite for incineration or land disposal appropriate at licensed facilities.

Currently, the company is operating its hazardous waste storage and disposal facilities under an interim permit administered by the CDH. RCRA requires that a

final permit be issued by November 5, 1985 — the deadline for facilities throughout the country. Martin Marietta is working on its final permit application at present.

National Pollution Discharge Elimination System

Denver Aerospace has an NPDES permit issued by the state which governs discharge of treated industrial and domestic wastes from the waste treatment facility. In 1984, the company received a revised permit covering the next five years of operations. Effluent limitations are based on in-stream standards established by the state to assure water quality.

Extensive capital investments were made in 1984 to improve the treatment

plant and ensure compliance with the discharge permit. Further capital expenditure are planned this year.

Despite an ongoing effort to comply with the discharge permit, the company on occasion has exceeded the monthly allowable discharge effluent limitations in certain categories, including silver. The CDH recently cited the company for an alleged violation in January of the silver discharge limit.

A new, lower limit for silver discharges was scheduled to have gone into effect, beginning in January, under the permit. However, the company has applied for a variance to the silver discharge limit, on the basis that it feels the best available technology cannot reduce silver to the level the state wants to enforce.

In the interim, the company has re-emphasized that all operations that use or might discharge silver will do everything possible and feasible to avoid putting silver down drains which lead to the waste treatment plant. Silver wastes will be containerized and picked up for disposal.

CDH also has cited the company for another alleged violation of the NPDES permit which occurred March 2 when a six-inch alkaline transfer line from chemical milling to the waste treatment plant broke. Up to 30,000 gallons of rinse water is believed to have spilled into Filter Gulch. The company does not believe that this spill caused any significant damage to the environment or any health hazard, because the water was neutralized before leaving company property.

Denver Aerospace repaired the broken pipe, and plans to install a double-walled pipeline that will include sensors to detect any leakage. Pharo said the pipeline will be above ground to assure adequate inspection capability.

Comprehensive Environmental Response, Compensation, and Liability Act

Prior to 1979, when RCRA was enacted, a variety of liquid wastes, including organic compounds, was disposed of in two of five clay-lined evaporative ponds located near the rifle range. At that time, the practice was considered acceptable, although it does not meet current requirements. The ponds were closed in 1979.

The company began its own groundwater monitoring program at the inactive site, even though there was no law requiring such a program. Snodgrass said the CDH and EPA visited the site twice in 1980 to review the wells and data from the wells.

When the monitoring program was expanded in 1982, data showed ground water contamination by organics. The company engaged Woodward and Clyde, environmental consultants, to obtain additional data so that a remedial action plan could be formulated.

The site is being considered for federal designation under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), which governs releases of hazardous substances from inactive or abandoned hazardous waste disposal sites. Martin Marietta intends to clean up the site independently, using its own resources, whether or not it is designated by EPA as eligible for federal cleanup.



New pipeline was installed at Waterton to replace an alkaline transfer line from chemical milling to the waste treatment plant that broke in March. Future plans call for a double-walled pipeline to be installed above ground. The new pipeline will include sensors to detect any leakage.

"The program's history and future plans were reviewed with the state and EPA in February of this year," Snodgrass said.

Denver Aerospace currently is working to identify the rate and extent of potential migration from the inactive site. Given that information, the company intends to administer any required remedial actions will be administered by the company in cooperation with the EP and CDH.

Air Force Property

The Air Force owns 464 acres adjacent to the company's Waterton property. Denver Aerospace operates several facilities on that property for the government. The Department of Defense (DoD), under a policy agreement with the EPA, has developed the Installation Restoration Program (IRP), which basically parallels CERCLA, but applies to hazardous materials and wastes on DoD-owned industrial facilities and bases.

Under Phase I of the IRP, six sites on the Air Force property have been identified for further investigation, although no analytical data have as yet been generated to verify the nature or extent of suspected problems. The sites include the following:

- a concrete containment pond, used as a water catch basin to divert stream water for use during the Titan test program in the late 1950s and early 1960s;
- a landfill, used after the Titan test program was phased out for disposal of trash, including cement, wire, and other materials;

—Engineering Propulsion Laboratory buildings;

—test cells, valve shop, and a ready storage area; and

—the site of an alleged spill of water contaminated by hydrazine that occurred in about 1964.

"It is important to note that the first phase of this program was designed to identify areas that may warrant further consideration, based on a records search and interviews with employees," Snodgrass said. "Phase II will determine if there really are any environmental problems on its property." Phase II, which will involve ground water, surface water, and soil sampling, will be conducted this summer.

Depending on the results of Phase II, Phase III would involve designing a clean-up plan, which would be implemented in Phase IV.

Although the Air Force has responsibility for administration of the IRP program, activities are being directed through a technical review committee, headed by the EPA. Participating in the committee, in addition to EPA, are the Air Force, Martin Marietta, CDH, and the Denver Water Board.

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