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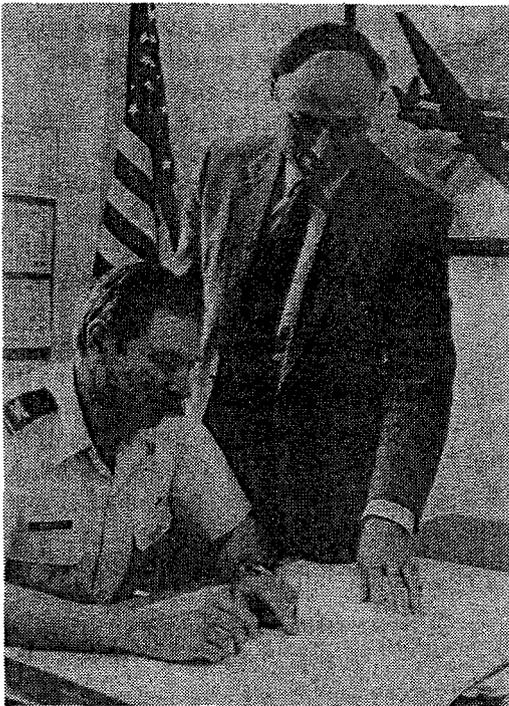
# THE FACTS

Information About  
Environmental Cleanup  
at McClellan AFB.

Produced by McClellan AFB Environmental Management

Number 7

## Environmental Management Directorate Working for a Cleaner World



As the largest industrial employer in Northern California McClellan Air Force Base faces many environmental challenges. These range from cleaning up one of the nation's more contaminated sites due to past waste disposal practices, to changing the way current operations use hazardous materials, and developing technologies to make the Base hazardous waste free in the future.

McClellan's main environmental goal is to protect worker and community health and the environment, while carrying out its Air Force mission. Protecting the environment is a vital part of that mission.

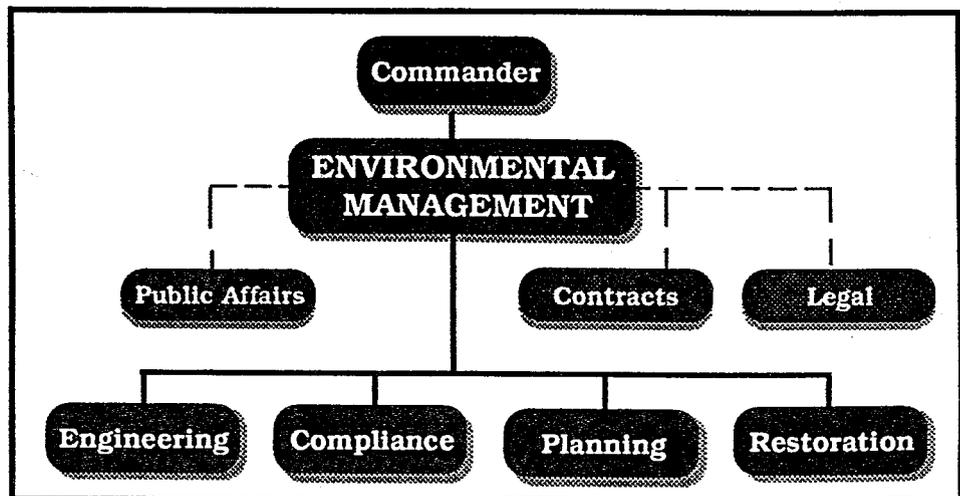
### History

McClellan AFB, also known as the Sacramento Air Logistics Center, has been an aircraft maintenance facility since it was established in 1936. Many base operations have required the use of such hazardous materials as industrial solvents and cleaners, electroplating waste heavy metals, contaminated oils and jet fuels.

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**Environmental Management Director Colonel Keith Findley, and Associate Director, Paul Brunner, lead the Base's efforts to protect worker and community health and the environment.**

**There are four divisions—each responsible for a separate aspect of environmental protection.**





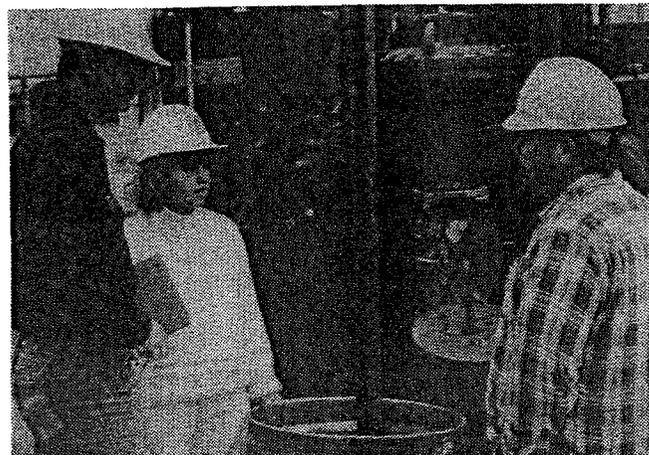
**Linda Trogdon of Public Affairs and Erica Niebauer of Legal provide support to all of Environmental Management.**

In 1979, the Base discovered that drinking water, drawn from wells, was contaminated on and off base. The contamination is primarily the result of past actions: land disposal, operational practices and spillage, and leaking underground storage tanks and sumps.

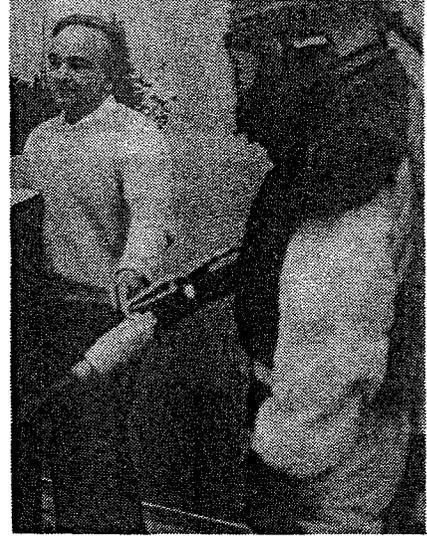
Initially, the Base closed several wells and provided bottled

water to nearby residents. Later, over 550 homes were hooked up to a public water supply system, and the Base paid for residents to permanently abandon their private wells.

In 1985, McClellan became the first Air Force Base to put all environmental activities under one permanent, dedicated organization, the Environmental Man-



**Alex Johnson and Doris Varnadore of Restoration Division oversee construction of extraction wells in the southwest part of the Base.**

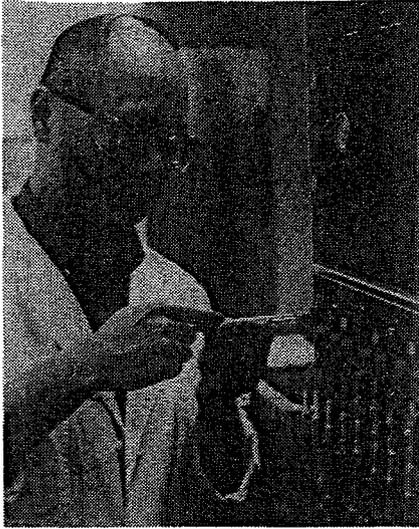


**Al Calise of the Engineering Division demonstrates the use of bead blasting to remove aircraft paint. This new technique uses no hazardous materials—and is another way the Base minimizes its waste.**

agement Directorate. Since then, the Base has spent more than \$61 million on cleanup activities. Groundwater extraction systems have been constructed and now operate in several areas on base. Groundwater on and off base is sampled and analyzed



**Jeannie Moore and Charlie Thorpe of Compliance protect worker health and safety.**



**Compliance Division chemist Jimmy Jew analyzes water samples in the Base's lab.**

regularly. Soil gas investigations have taken place. Throughout the Base underground storage tanks are being removed.

#### **How are we organized?**

The Environmental Management Directorate was set up at the corporate board level, with a direct line to the installation commander. The office was given the resources and people necessary to achieve and maintain compliance--and in 1988 won the Air Force's Thomas D. White Award for its program. EM now comprises four divisions, and more than 50 people, including planners, engineers, chemists, geologists and health physicists. Full-time legal, public affairs and contracting experts were matrixed into the office.

The **Engineering Division** handles current environmental issues. Recent efforts focus on air and waste water pollution control and abatement. Others include hazardous waste minimization and chemical reduc-



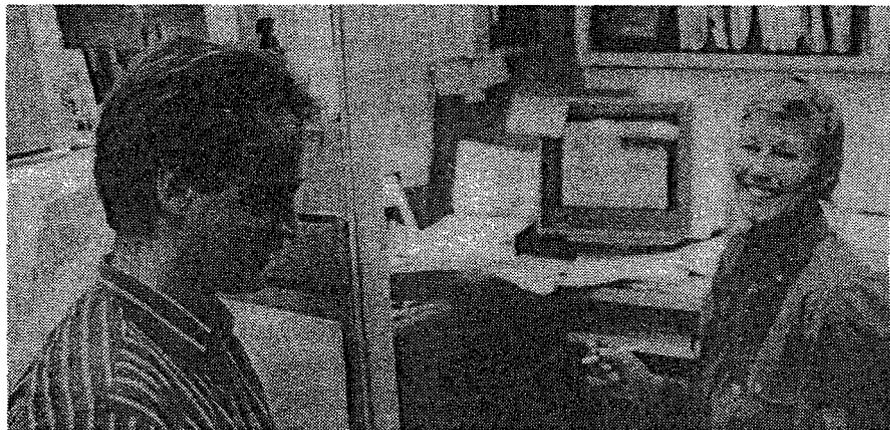
**The Planning Division oversees the Base's natural resources, as Karen Bohn and Jerry Wilson demonstrate.**

tion. McClellan has reduced its hazardous waste by 57% since 1985--well ahead of the Air Force goal of a 50% reduction by 1992.

In some cases, reducing hazardous waste is as simple as cleaning solvent-contaminated rags for reuse rather than throwing them away. But other instances require redesigning industrial processes to eliminate the use of chemicals.

The **Compliance Division** includes full time inspectors, field technicians, and a water laboratory. Compliance staff monitor base facilities to ensure that environmental regulatory requirements are met and employee health is protected. This group initiates audits, and evaluates underground storage tanks and industrial waste lines. It has developed a contaminated soils

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**Doug Mackenzie and Trish Brandt-Robuck confer daily in the management of restoration projects.**



**Compliance Division Secretary Julie Poe keeps the office running smoothly.**



**Mike Swart of the Compliance Division inspects the Industrial Wastewater Treatment Plant.**

management plan, and is conducting a basewide asbestos survey.

The Compliance Division operates the Base's Trace Organics Laboratory, analyzing water and air samples to ensure worker and community safety. The lab continually exceeds all requirements of audits performed by the Environmental Protection Agency (EPA) and the Department of Defense.

The **Planning Division** manages the EM budget, computer information systems, and the natural resources protection program. They coordinate training, conduct environmental assessments, and ensure preservation of base buildings over 50 years old.

The Division's recent vernal pool transplant received national recognition. The transplant was the first of its kind in the Air Force. Vernal pools are unique to California and reflect the distinct climate, geology and plant history of our state.

The **Restoration Division** oversees all cleanup activities related to past waste disposal. It's a big job; the Base is ranked in the top 100 sites of the Superfund list. Preliminary studies indicate that there are over 170 possible contamination sites, ranging from large chemical dump sites to smaller material storage areas. Their cleanup is prioritized based on health risk.

In May, 1990, the Base signed an Interagency Agreement with California Department of Health Services and the EPA. This agreement sets the foundation for cleanup and provides for maximum public participation.

The Division has the ability to get things done. In one office, the staff can design, plan, and execute actions to clean up the Base. For example, the Base's Groundwater Treatment Plant has treated millions of gallons of contaminated water and released it fully cleaned back into the environment. In June 1990, McClellan won national recognition from the private sector for

its groundwater extraction and treatment system.

#### **Environmental Vision**

If the 80's were the decade for successful containment, the 90's will be the decade for cleanup, according to Colonel Keith Findley, Environmental Management Director. "We are aggressively attacking the pollution problem on three fronts," he says. "The past, the present, and the future."

"While we want to right the wrongs of past waste disposal methods, we also want to make sure that we're are doing business cleaner now, so that we don't generate hazardous waste in the first place," Findley says.

Associate Director Paul Brunner holds the same vision. "The only boundaries we have are those we apply to ourselves. When we break down those boundaries, we realize how much we can really accomplish."

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## ENVIRONMENTAL MANAGEMENT

The Directorate of Environmental Management, formed in August 1985, handles all programs and policies relating to the installation's environment. It's mission is to restore the environment while protecting it from future harm. The EM Directorate here was the first one of its kind in the Department of Defense and has served as a role model for other bases.

McClellan is a recognized leader in environmental management and has earned numerous awards for their efforts, including the Renew America Environmental Achievement Award for groundwater restoration, the Air Force's General Thomas D. White Award for Environmental Quality and the California Governor's Award for Historic Preservation.

A team of environmental professionals is developing new and innovative ways to reduce the pollution the base generates as well as restoring the environment on base and in the local community where past waste disposal practices have caused problems. This highly-trained includes environmental engineers, planners, industrial hygienists, specialist, geologists and chemists who ensure that McClellan meets federal, state and local environmental regulations.

EM is divided into three sections: Management Support, Pollution Prevention and Restoration.

Management Support performs the administrative and budget functions.

The Pollution Prevention Division ensures the base is complying with environmental regulations by overseeing all ALC activities related environmental protection, such as air quality, hazardous material/waste and waste water disposal, drinking water quality, and pollution control and abatement. The division also reviews industrial processes and future weapon systems to reduce the use of hazardous materials and chemicals, thus reducing environmental impact.

Since 1980, the center has cut hazardous waste generation by 62 percent and has reduced air emissions of volatile organic compounds by 64 percent. McClellan was the first base in the country to switch to JP-8 jet fuel, a safer and less polluting fuel which will reduce air emissions by 25 tons per year. In addition, the center is recycling cleaning solvents and rags and is eliminating the use of aerosol paints.

The Restoration Division manages the center's Air Force

Installation Restoration Program and the Defense Environmental Restoration Program. Division employees work with Congressional organizations, both AFLC and Air Force headquarters, environmental regulatory agencies and local communities. The division is responsible for monitoring underground tanks on base, preserving and restoring natural and historic resources and handling the Environmental Impact Analysis process.

Since 1980, the center has spent close to \$100 million on environmental cleanup. The base's two groundwater treatment plants typically remove as much as 3,000 pounds of contaminants from the soil each day. Cleaned water is returned to a creek on base and is closely monitored to make sure it's clean. EM specialists are currently working with a UC Berkeley scientists to remove contamination from soil by injecting steam and extracting the contaminated vapor. In addition, McClellan protects 200 acres of wetlands on base, recycles 500 tons of white paper each year. The base headquarters building was recently restored to the way it was when it was built 50 years ago and the base's historic district, comprising more than 50 buildings, is eligible to be listed on the National Register of Historic Places.