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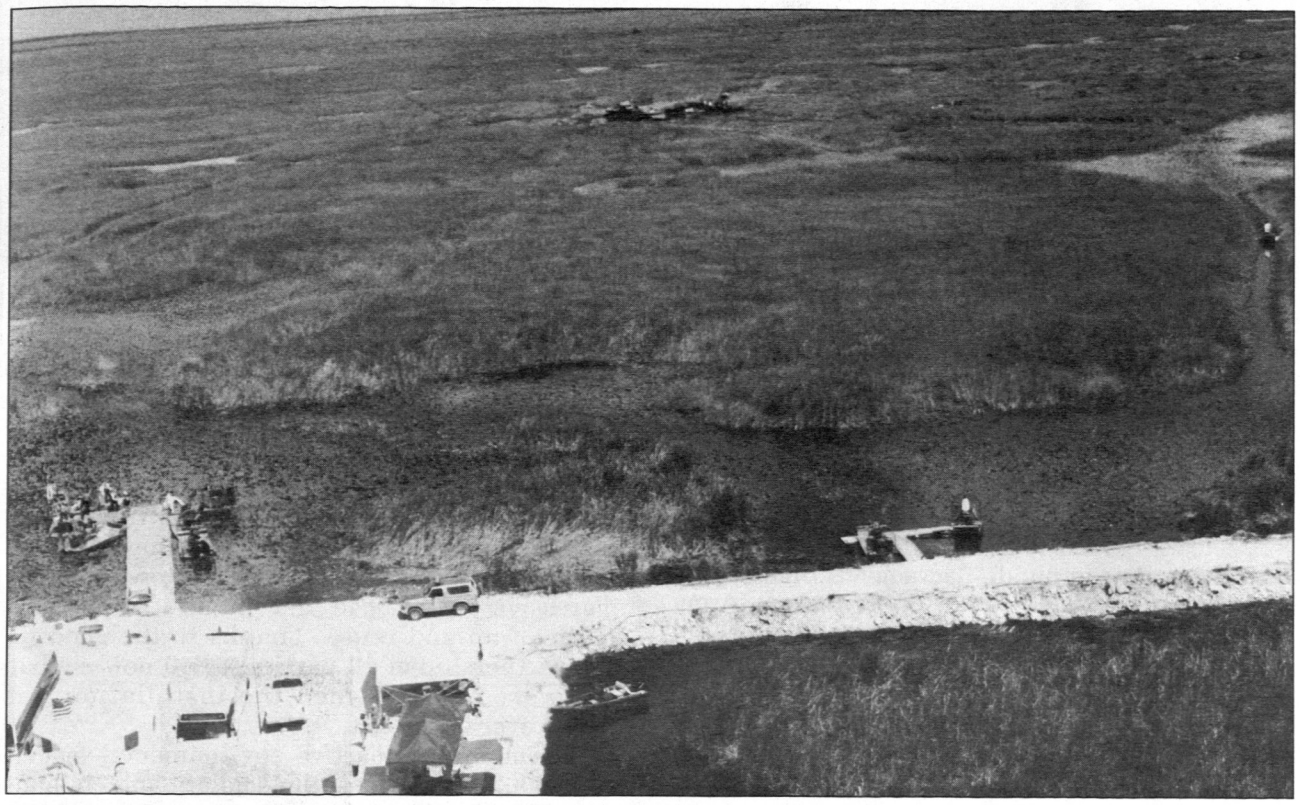


An aerial view shows the ValuJet crash site in the background, and the northern forward command center in the foreground.

Jacksonville District assists at crash site

Article by Christina Plunkett
Photos by Charles Schnepel
Jacksonville District

He fastened the neck of his disposable biohazard suit, glanced down to make sure the plastic boots were secure, and prepared for another 10-hour day airboating through wetlands that have been turned into a macabre mess by the May 11 ValuJet airline crash. The contamination suit protected his body from bacteria and fungus in the murky water, but nothing could shield him from the gut-wrenching emotions that caught him off-guard as he oversaw Jacksonville District's regulatory side of the recovery.

It wasn't a typical day, week, or month for Charles Schnepel, Chief, Miami Regulatory Field Office, South Permits Section, whose job has never required special garb, recovery tents or empathy breaks.

Schnepel, who represented Regulatory Branch, began each day of observation flanked by Metro-Dade police, fire rescue personnel and a multitude of state and federal agency representatives, all part of recovery and salvage operations at the crash site.

Emotion

"You can't think about the devastation, the lives lost, but instead must focus on the job at hand or it's easy to be overcome by the extremity of it all," Schnepel said.

But sometimes it was hard to only think about work as pieces of bodies were found in the Loxahatchee muck that entombed what was left of the DC-9 and the 110 passengers.

The jet went down in the Everglades Restoration Pilot Test Site. Part of Schnepel's job for several weeks was two-fold—coordinating efforts to minimize the possible environmental impacts of the crash, and overseeing the regulatory permitting aspects of the recovery activities.

Environmental concerns

The Corps' main interest was to ensure that the impact area (or "crash crater"), was restored to its previous elevation by the contractor, Resolve Towing and Salvage, Inc.

Any wetland activity involving staging equipment for dredging or filling requires authorization by the Corps, Florida Department of Environmental Protection (FDEP) and South Florida Water Management District (SFWMD). Schnepel was overseeing the contractor's progress for the Corps.

He also participated in the recovery working group of representatives from SFWMD, FDEP, the State Department of Emergency Management, the National Transportation Safety Board (NTSB), ValuJet, Metro Dade Police Department, Metro Dade Fire Department and Florida Game and Fish Commission. This group met daily at the crash site command center to evaluate the recovery and respond to any snags.

Muck

The salvage and recovery effort has been a meticulous, dangerous process with many concerns

Continued on page 3

Division restructuring approved

Secretary of the Army Togo D. West, Jr. has approved a plan to restructure the Corps of Engineers' divisions. The plan, which closes division offices in Honolulu and Chicago; converts the division office in Waltham, Mass., to district status; and realigns the districts under the remaining divisions, will now be transmitted to Congress.

The plan has been developed in accordance with Public Law 104-46, the 1996 Energy and Water Development Appropriations Act, which directs the Corps of Engineers to reduce the number of its divisions.

"Making the decision to close any office was a difficult one, but we were required to do so by the law," said H. Martin Lancaster, Assistant Secretary of the Army (Civil Works). "We adopted criteria which would ensure continued customer service by maintaining a Corps presence in cities where the offices are closed and ensure that management of a watershed basin stays under a single division headquarters. The plan also minimizes work disruptions and personnel turbulence."

Lancaster said the division restructuring plan would eliminate about 175 positions agency-wide, and save the government about $4 to $6 million dollars per year beginning in October 1997. He said that the details of the implementation of restructuring were still being developed and that the Corps would begin implementation in August 1996.

In a separate, but related, initiative, the Corps will also restructure some districts in accordance with guidance also recently approved by the Secretary of the Army. The guidance is a framework consisting of principles, guidelines and responsibilities which has been developed through a cooperative process. Lancaster noted that the district restructuring guidelines provide a flexible framework to provide faster, better, and more cost-effective service to customers and partners.

"Each division commander will be on his own schedule so there is no set implementation date. It's important to note that these changes may also take place over time as the guidance provides a framework for a division commander to continue to refine and hone the organization," Lancaster said. "District restructuring is envisioned as a continuing process. It will provide long-term flexibility to adjust to changes in program dollars and manpower ceilings."

Lancaster said that no district offices in the U.S. would close, and changes would be linked to workload and customer service. "At least some technical competence in the areas of engineering, construction, project management, operations and planning will be maintained in each district office, and the Corps will make greater use of private industry," Lancaster said.

Army Chief of Staff praises Corps

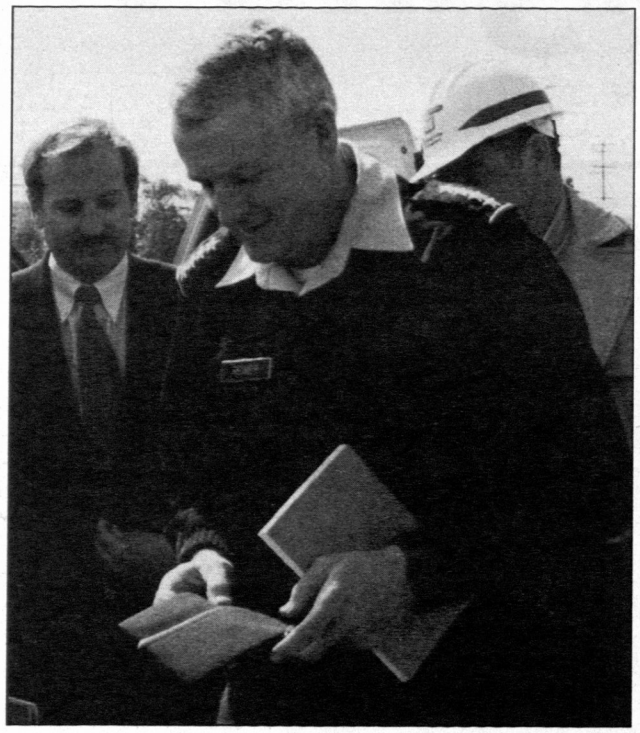
By Dennis J. Reimer
General, U.S. Army
Chief of Staff

In mid-April I was in San Francisco visiting the South Pacific Division of the Corps of Engineers, which covers all or part of eight states in the southwest U.S. I was impressed with the full breadth of USACE's responsibilities. The soldiers and civilians of USACE are an integral part of the fabric of America through their flood control, navigation, recreation, regulatory and other civil works activities.

A major USACE responsibility lies in caring for the environment. The Army is the steward for close to 25 million acres of public lands, much of it in the able hands of the Corps of Engineers. We do not own this land; we are caretakers of the land — and the plant and animal species which inhabit it. The American people entrust it to our care, and we must fulfill their trust. We have a responsibility to conserve and preserve the environment for the future. We must preserve our resources and training areas today, so they will be available to train our soldiers for the challenges of the 21st century.

The nation's desire to improve our environment is being put into action by the soldiers and civilians of the Army Corps of Engineers, which is doing more to restore the environment in the southwestern United States than all other federal agencies combined. The men and women of the Corps of Engineers have undertaken many projects that prove that the Army has adopted the philosophy, "We did not inherit the earth from our parents; we borrow it from our children."

For example, the Sonoma Baylands Project is currently restoring tidal wetlands on 348 acres along San Francisco Bay that had been converted to agriculture. More than two million cubic yards of dredged material were placed on the site to accelerate the restoration of the lands. This project demonstrates that dredged material (sand and mud), which was previously treated as a waste product, can be used for beneficial purposes.



Ken Myers (background), Sacramento District project manager, briefed Gen. Dennis Reimer, Army Chief of Staff, about the Guadalupe River Flood Control Project while enroute from San Francisco. (Photo courtesy of San Francisco District)

Consequently, the soldiers and civilians of the Corps of Engineers can continue its navigation mission of dredging federal shipping channels while benefiting the environment by providing valuable habitat for fish and wildlife, including several endangered species—a win-win proposition.

The Yolo Basin Wetlands Project involves restoring approximately 3,300 acres of wetlands and is being constructed entirely within an operational floodway of the Corps' Sacramento River Flood Control Project. The project is an important element of the North American Waterfowl Plan, providing an important link in the Pacific Flyway. The restoration is designed to improve waterfowl habitat while not hindering the primary flood control function.

The Corps' care for the environment is also evident in military projects, like the Sacramento Army Depot. The rapid conversion of this contaminated installation (it was a Superfund site) to civilian reuse was a direct result of the partnering between the Army and various federal, state and local government organizations, and the general public surrounding the depot. Working with federal and state environmental regulators, the team aggressively developed and maintained a vision for clean-up and reuse. Thanks to the goodwill and partnership of all parties, 3,000 new civilian jobs were created when the installation was turned over to the city.

By combining proactive environmental leadership in all that it does, the soldiers and civilians of the Corps of Engineers set a great example for the Army, and the nation, to follow. Our children, and our children's children, will be the ones who benefit most from this terribly important work.

Military families know fear, uncertainty

By Karen Skellion

(***Editor's note***: *This article is from a speech given by Karen Skellion when her husband, Command Sgt. Maj. James E. Skellion, retired from the Army and the Corps.)*

On this special day, I'd like to say a few words about military spouses. I wouldn't trade my military life or my military family for anything. I've been on a world tour at *mostly* Uncle Sam's expense for 28 years, and I've *mostly* loved every minute!

In the beginning, though, it wasn't easy. I started my education as a military wife by being brought, along with our toddler, to Germany by my wonderful soldier husband. The only person I knew was him and I'd never before been exposed to military life, or another country. And we still considered ourselves newlyweds of sorts.

The apartment we were supposed to have had on our arrival had fallen through, and we had to stay with one of his unit buddies.

Then James left after one week to go to NCO Academy at Baumholder! For six weeks! That was my induction into military life. But since then, it's been a blast!

Military spouses have to be *both* mother and father because, even when our soldiers are home, they are planning the next mission, or field training exercise, or inspection.

How many times have we had to pack the house, unpack the house, put the kids in school, take the kids out of school, while our soldiers have been called to do our great nation's work? We've had to make military housing a home in a matter of days (sometimes hours) to keep the family on an even keel. We've had to be the parent who explained why we are leaving our friends and schools to go to a new adventure.

Even though we might have our doubts about the next move, we always try to hide our own anxiety so that our families can face the new situation with great expectations.

And when our soldier spouses are deployed to faraway and sometimes dangerous places, we swallow our apprehension and dread, our loneliness and burdens, to keep a brave face. We've learned to maintain a delicate balance which requires us to continue to function while keeping our deployed spouses' place open in the family circle.

That means accepting the constant ache of having an empty place at the table while keeping our families whole and working during this difficult time. How many birthdays, anniversaries, New Years, Christmases, Thanksgivings, and other holidays have been missed during our military careers? Halloween was the hardest, somehow getting the kids around to trick-or-treat *and* staying home to give out treats!

I can remember when it took three days to get a phone call through to Korea, just to hear my husband's voice. When he came back from his unaccompanied tour, I cried for a day from relief that I didn't have to do it all by myself anymore.

We military spouses have overcome constant obstacles and restrictions. We've raised productive, positive families, finished our educations, occupied responsible positions in the workplace and our communities, and contributed our talents and time as volunteers.

We've experienced countries and states, their peoples and unique cultures and come away wealthy in ways that cannot be lost or stolen. We've become more gifted and talented individuals as a result.

We've woven all these experiences—the good, the bad and the ugly, the easy and difficult, the joyous and the sad, the exciting and the terrifying—together into a tapestry of life. The dark and difficult threads highlight the bright and beautiful fabric of our lives.

We proudly display this tapestry as our glory and our delight, a beacon to others just embarking on this wonderful life. And it is a fond reminder to our families and our friends of the joy and satisfaction that has been our blessing.

I am grateful for all these years, past and present, and I have no doubt the future will be as wonderful.

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Valujet

continued from page 1

ranging from areas of difficult access to jet fuel contaminating the water. Metro-Dade personnel who collected water samples daily told Schnepel that the water itself is a bacterial and fungal pool. Exposure to it could result in gangrene and ulcerated sores, to name a few maladies.

Another reason the recovery process was one of the most difficult in history is that the wreckage was swallowed in "muck," decayed organic material that's neither solid nor liquid but something in between. The muck's fibrous consistency resisted movement, but it was too fluid to be picked up with a shovel, according to Paul Shafer, Chief, Geotechnical Branch. "Its stringy nature would make vacuuming it up impossible and separating it from the remains through a sieve-type operation difficult," Shafer said. "I'm not aware of the Corps ever being involved in a recovery like this."

In the first 24 hours, after it was established there were no survivors and no rescue needed, the next challenge was how to exhume the wreckage. Picture a submerged island covered in a mire that compares to quicksand and teeming with voracious animals, bacteria, fuel, jagged metal, and the remains of both humans and wildlife. Add heat, humidity, mosquitoes and frequent thunderstorms and the situation gets even more complicated.

District response

Facing this, the NTSB called on Jacksonville District's expertise to provide engineering solutions for the recovery effort.

The Emergency Operations Center was activated upon news of the accident, and began coordinating with various state agencies and Corps officials offering airboats, equipment and technical assistance.

The district immediately began assessing the variables and provided possible engineering solutions for recovering the DC-9. A day after the crash, the district sent engineers and technical experts, including Lt. Col. James Connell, Deputy District Engineer, to the site.

Although no missions were assigned to the Corps, many technical experts from diverse fields in the district provided recovery options to NTSB. Coordinating with the Environmental Protection Agency and the Fish and Wildlife Service, options were reviewed to ensure the operation would not adversely affect endangered species and would minimally impact wetland resources.

Regulations

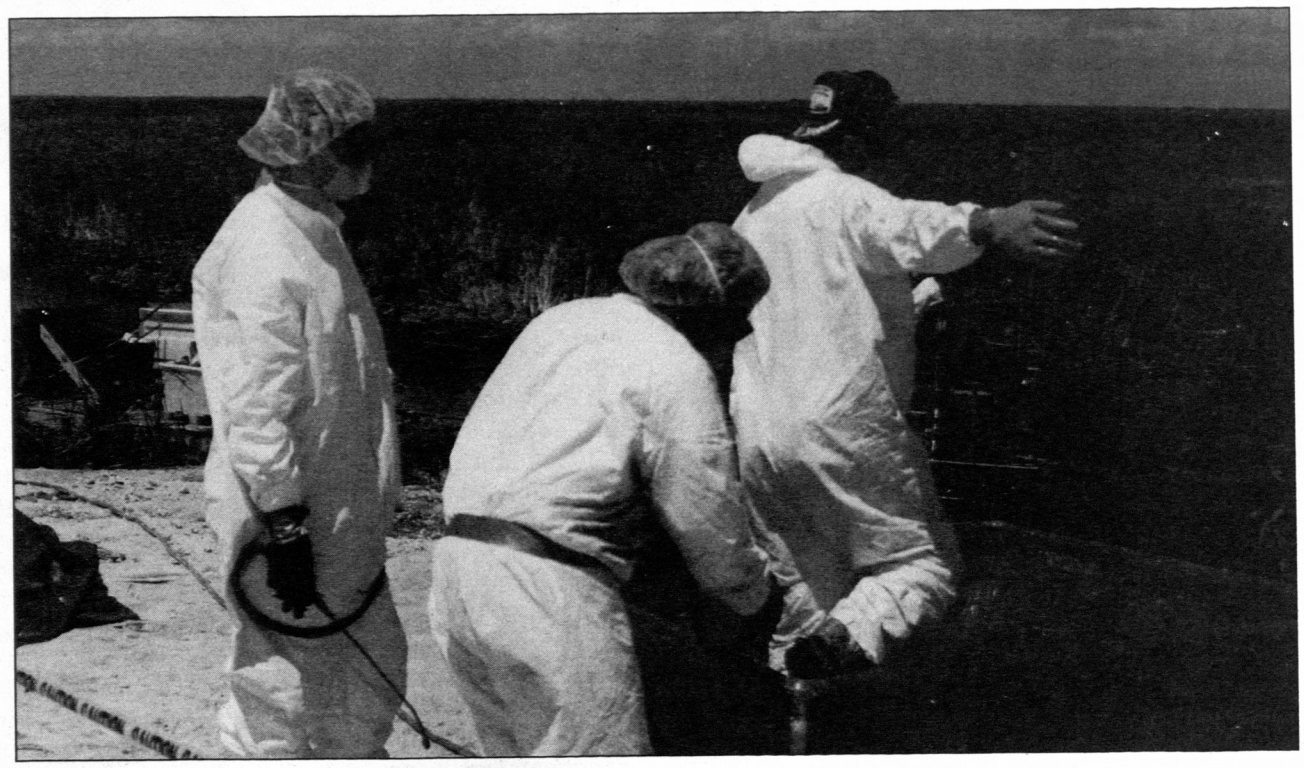
With this in mind, NTSB, working with the contractor, decided that the least environmentally damaging and most expedient recovery method would be a backhoe mounted on pontoons. Once all groups concurred with the proposed plan, the district requested special processing procedures from South Atlantic Division. SAD concurred with the district's request and an emergency permit for recovery activities was issued to NTSB.

The SFWMD, with regulatory jurisdiction in the crash site area, also issued an emergency permit authorizing use of the "works or lands of the Water District."

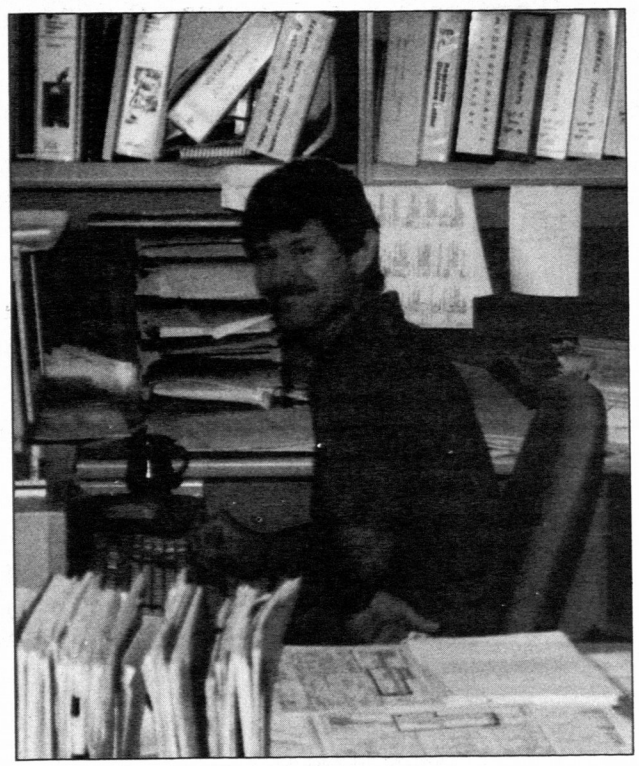
The crash site was in the Central and South Florida project area between levees L-67A and L-67C, north of the Tamiami Trail in the Florida Everglades. The area, teeming with snakes and alligators, is inaccessible except to helicopters and airboats.

Salvage and recovery

The Corps' technical experts returned to district headquarters and Schnepel began monitoring the regulated activities of the recovery. For example, levee 67A was recontoured to create access ramps and install docking facilities to ferry personnel and equipment to the crater and surrounding area.



Decontamination at the ValuJet crash site begins with everyone being sprayed from head to toe with disinfectant.



Charles Schnepel completes daily ValuJet situation reports at the Miami Regulatory Field Office. (Photo by Robert Paulsen, Jacksonville District)

Then the slow, painful process of salvaging wreckage and victims began. Pontoons fastened together to form a platform carried a backhoe to the crash site. The backhoe operator dredged the area with a 2.5 cubic yard bucket. The collected material was loaded into a sand shaker that has a sieve with quarter-inch holes, rather than the usual one-inch openings.

The sludge was hosed with water to locate remains. Any identifiable material was separated into two bins, one for human remains, the other for aircraft parts.

Shoulder-to-shoulder

Alongside the dredging operation were police officers who walked shoulder-to-shoulder slowly across flag-marked grids sectioning off the Everglades muck. It was a sad, gruesome job that, because of the dangerous, difficult conditions, was painstakingly performed inch-by-inch for 30-minute stints.

The dredge work was confined to the rim and inside the crash crater. The splash zone, about 300 by 600 yards in diameter, was covered by the relays of police officers. The searchers expanded from the impact crater to outlying areas and continued until those areas failed to yield any further recovery.

A site was searched as many as five times to recover human remains, personal property and airplane parts.

Even when the salvage operation ended, and the police and rescue personnel returned home, Schnepel continued to monitor the contractor's restoration of the crash site.

"The contractor is meeting best management practices and is overall doing an exceptional job," Schnepel said. "It has been a rewarding experience to support the contractor and the NTSB in overseeing the regulatory process."

Reasons

Each mid-day, Schnepel needed a break from the heat and work. He headed back to a waystation where removing his biohazard suit is as complicated as putting it on. A decontamination crew sprayed him from head to toe with disinfectant.

After the suit, boots and head gear were disposed in plastic bags, Schnepel made his way to the recovery tent. One day, as he cooled off in the air-conditioned tent, gulping Gatorade, he pondered the main reasons behind the recovery.

"I hope the recovery process can provide some relief and purpose to those who lost their loved ones, and the aircraft remains will offer some clues as to why this happened to prevent such a tragedy in the future," Schnepel said.

Operation ends

On June 11, the NTSB ended excavation operations at the crash site. Thirty-six of the 110 victims have been identified and 75 percent of the DC-9 jet has been recovered, according to news reports. Dade County medical examiners continue to identify remains. The NTSB will continue investigating the cause of the crash. Their final report is not expected for several months.

With the contractor completing the salvage and restoration missions, the recent examination of the crash site met the restoration criteria established by the Corps, the FDEP and SFWMD.

The Florida Game and Freshwater Fish Commission has issued an Executive Order closing Water Conservation Area 3B to the public for 90 days to allow the environment to heal. This order is being enforced by patrols from Game and Fish, Metro-Dade police and the Florida Highway Patrol.

Hammer

Three districts win NPR's better government award

Savannah, Huntington and New Orleans districts have all been "Hammered" by the National Performance Review (NPR).

On June 3, the Under Secretary of Defense notified Corps headquarters that Savannah District's Hydrographic Survey and Physical Support Section, Huntington District's Marmet Innovative Design Team, and New Orleans District's Maintenance Management Section had earned Hammer Awards for improving government processes and products.

The Hammer Award recognizes teams who work together to accomplish the principles championed by the NPR effort to reinvent government. The principles include building a better government that costs less by putting customers first, cutting red tape, getting back to basics and empowering employees. The award is a framed carpenter's hammer, a humorous reference to the $400 hammers from the old days of government operation.

Savannah District

The Hydrographic Survey and Physical Support Section earned its Hammer for performing hydrographic surveys for the ports of Savannah and Brunswick, Ga., the Atlantic Intracoastal Waterway and the Kings Bay Naval SUBBASE. The section used current technology, including the Differential Global Positioning System, to reduce the time and personnel needed for a survey.

Technicians also surveyed customers to determine their needs and concerns, and used survey results to change report formats and refine the report reproduction process.

"By combining survey crews and vessel operators into the same division, allowing working personnel to solve problems independently, and by placing responsibility for timeliness and accuracy in the hands of people doing the work, we have enhanced the district's hydro survey function," said T. Allen Garrett, chief of the Hydrographic Survey and Physical Support Section. "We have reduced the costs to the taxpayer by working smarter and increased the usefulness of our products to shippers and the general public."

Huntington District

The Marmet Innovative Design Team earned its Hammer for a study to examine traditional lock design and determine a better, faster, cheaper method for building the Marmet lock replacement.

The team's efforts including meeting with members of the towing industry early in the design process to determine customer needs, hosting workshops with other Corps districts to facilitate a Corps-wide exchange of ideas, refining traditional navigation project design, and investigating and incorporating innovative design and construction techniques to reduce the cost and duration of project construction.

The result of this effort is a cost-effective design that meets projected traffic needs, mitigates the impact on local residents, and reduces construction costs for the study project by more than $44 million.

Study results were applied as a value engineering effort to guard and guardwall construction at Winfield Locks and Dam, saving more than $4 million.

Huntington District also shared innovative lock design concepts with Detroit District, which cut the cost of replacing two locks between Lake Superior and Lake Huron from $400 to $200 million.

New Orleans District

The Maintenance Management Section was selected for examining the process of repairing and maintaining the dredge *Wheeler.*

Their efforts yielded better operating parameters for the diesel engines and a major increase in diesel and dredging system reliability. A rewrite of technical specifications for shipyard contracts emerged, and items frequently overbid by contractors were rewritten to eliminate unknowns. The new procedure also reduces the use of private shipyards and maximizes the ship's forces and in-house hired labor, service contractors and vendors.

The team significantly improved the *Wheeler's* reliability and reduced her average annual repair costs from $9 million to less than $2.5 million in 1995.

'Wheeler' team dredges up big savings

Article by Julie Aitken
Photo by Art Belala
New Orleans District

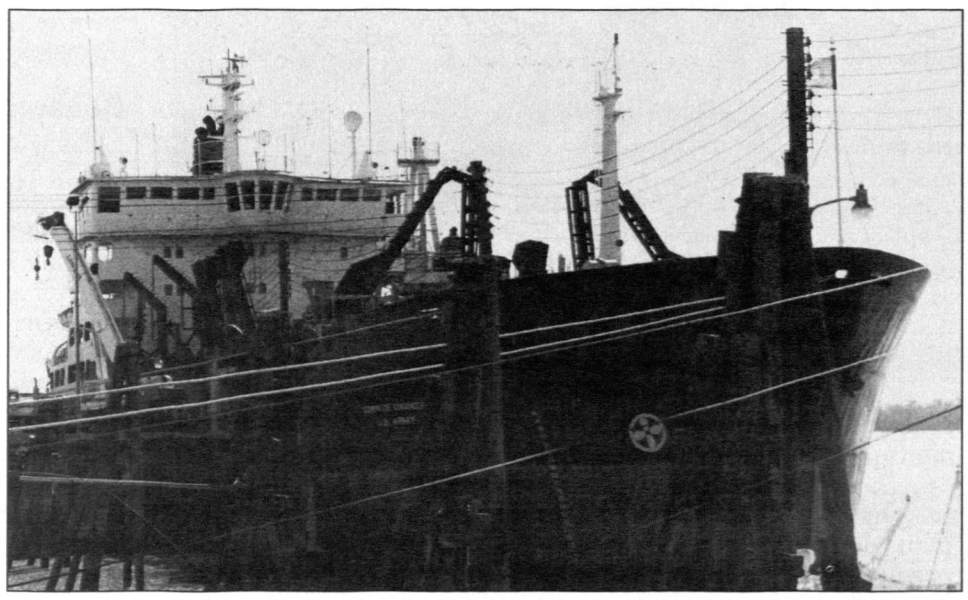
Through innovative project management and finding better ways to do the job, the New Orleans District Operations Division significantly cut the annual maintenance cost for the dredge *Wheeler* and saved almost $6.5 million over three years.

Until 1992, the *Wheeler,* the largest and most productive hopper dredge in the Corps' minimum fleet, averaged $9 million in annual maintenance. But team members took a close look at the contracting process and shaved off $4.5 million by deleting foreseeable costs, an add-on cost in the bid evaluation process.

"That was the first time that we know of where a master marine contract for the Corps of Engineers did not include foreseeable costs for a shipyard overhaul," said Jim Courville, chief of the Marine Management Section.

Richard Baldini, chief of the Physical Support Branch, explained that foreseeable costs penalized East Coast shipyards because of costs in time and fuel needed to move the *Wheeler,* usually from the Gulf to their drydock.

"Previously, Gulf Coast shipyards could inflate their prices and still be lowest bidders because of lack of competition," Baldini said. "By deleting the foreseeable costs, eastern shipyards were able to successfully bid against Gulf Coast shipyards, increasing competition and lowering costs."



The dredge *Wheeler* sits in wet-dock at New Orleans District.

Lower costs also prompted the district to wet-dock the *Wheeler* at New Orleans District this year and subcontract the work, netting another $2 million savings. Subcontracting meant coordinating 21 contracts, along with ship and shop workers.

"It took fortuitous planning and tremendous effort on the part of the project managers and all the team players to pull this off," said Courville.

Because the Coast Guard performed underwater inspection on the *Wheeler* during last year's annual maintenance, it was not required again this year, giving the district the opportunity to wet-dock the ship at New Orleans District's new wharf.

"We didn't have the facilities to do the job last year," Courville said. "But the new wharf, built with the *Wheeler* in mind, is equipped with electricity and space for crane operations needed for this type of job."

Those features of the new wharf enabled the dredge to shut down its service generators which supply electricity to the ship. The generators were overhauled, along with both propulsion engines and the two dredging engines.

Work also included repairs to the valves, pumps, winches, hydraulic system, air conditioning plant, and the switchboard and electrical generators, plus annual servicing.

"We did what the shipyard's superintendent does, and we did a better job and did it on time," said Baldini, referring to the subcontracting.

Baldini and Courville were both pleased with a hidden benefit of the wet-dock and subcontracting efforts — the *Wheeler* left the district much cleaner than when it leaves the shipyard.

"We experienced a quantum leap in the clean-up of the ship," said Courville. "A clean ship results in higher morale. The crew of the *Wheeler* is proud of the ship; they're able to welcome guests aboard and show off the plant."

The ship also underwent topside inspections by the Coast Guard, dock trials, sea trials as it sailed down the Mississippi, and test dredging once it reached Southwest Pass. The *Wheeler* spends most of its time there, keeping the lower Mississippi River navigable.

CSM Porter promotes unity

Article by Nicole Barnes
Photo by F.T. Eyre
HQUSACE

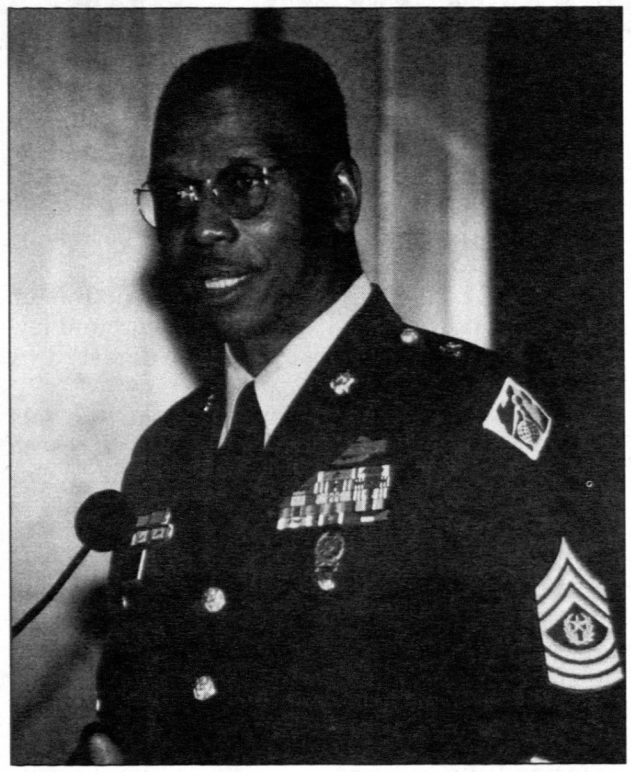
"One Corps, One Regiment, One Fight" is the motto for the unified regiment concept, and making it a reality is one goal for Command Sgt. Maj. Willie H. Porter, the new USACE Command Sergeant Major.

Porter, who began his new job May 17, believes that everyone plays an important role in making this goal a reality. In plain language, Porter says the unified regiment concept is a verbal reminder that we are all engineers, and each person's mission is important.

"All of us, engineer soldiers and civilians, should have the same goals, providing technology that keeps our nation militarily strong and environmentally stable," Porter said. "It doesn't matter if you are working with the brigade task force at the National Training Center, a drill sergeant training engineer soldiers at Fort Leonard Wood, or a civilian technician at the Pulaski Building, we are all members of the engineer team supporting one another."

Porter is the former command sergeant major of the 2nd Armored Division (now the 4th Infantry Division) Engineer Brigade at Fort Hood, Texas. He served in that position since November 1992.

As USACE Command Sergeant Major, Porter feels that a close partnership through communication with the Chief of Engineers and other members of the Chief's staff is important. Porter plans to keep the Chief informed by "anticipating what he needs and wants to know." He also will maintain a communication triangle among the Corps, the school at Fort Leonard Wood and the field. Porter wants the channels of communication open and all members informed.



Command Sgt. Maj. Willie H. Porter is the new USACE command sergeant major.

Porter plans to visit the districts and divisions as much as possible. He recently returned from a visit to Fort Worth District. "Engineers are doing great things; I want to help spread the word," said Porter.

While traveling, he had a chance to visit air defense artillery soldiers who live in new barracks. The Corps of Engineers is playing a major role in the Army's Barracks Modernization Program. "Two important things took place — one, soldiers had the opportunity to meet the folks responsible and two, Corps employees received a verbal pat on the back from the soldiers. That's good stuff," said Porter.

The quality of life for enlisted soldiers is important to Porter. "Everyone benefits from various installation improvements," Porter said. Fresh from the field, he brings first-hand experience and recommendations for improvements for soldiers' barracks. "Improved quality of life is a plus for readiness," Porter said.

Porter plans to evaluate the existing programs and improve them as needed. The noncommissioned officers (NCO)/soldiers program is one of the programs he feels is necessary to keep. The program is open not only for NCOs, but to junior enlisted as well. It is designed to recognize soldiers who demonstrate competence and leadership in the pursuit of professional excellence.

These soldiers are formally recognized at the Annual Soldiers Ball. Porter said any program that recognizes achievements of military as well as civilian personnel is important and he will keep it.

Porter says that he and his wife Brenda are excited and honored by his new assignment. "The nation's capital represents the foundation of freedom for our country," Porter said. "This is where the base is laid for soldiers who lay their lives on the line 365 days of the year so our country can be free."

Porter describes himself as personable. He looks forward to meeting as many members of the Corps family as he can and is interested in learning what each member of the family does to support the Corps mission.

Corps builds Savannah Riverwalk extension

Article by Victoria L. White
Photos by Jonas Jordan
Savannah District

When the Olympic Torch of the 26th Olympiad arrived in Savannah, it was lit on the new section of the city's famous Riverwalk built by Savannah District.

District Engineer Col. Grant M. Smith joined Savannah Mayor Floyd Adams and other dignitaries in cutting the ribbon that officially opened the Riverwalk Extension to the public during a dedication ceremony on June 10. H. Martin Lancaster, Assistant Secretary of the Army for Civil Works, and Brig. Gen. R.L. VanAntwerp, Commander of South Atlantic Division, were among the government and civic dignitaries participating in the dedication.

Construction began on the Riverwalk addition last summer. Congress agreed in 1994 to cost-share the $3.6 million project with Savannah. The federal government paid $2.1 million and Savannah paid $1.5 million, with the Savannah Marriott Riverfront Hotel paying $500,000 of the city's share.

"The project was a cooperative effort by federal and local governments along with private industry," said Daniel L. Parrott, project manager. "It was managed by Savannah District, pulling the resources of the federal and city government to complete the project on time and within budget.

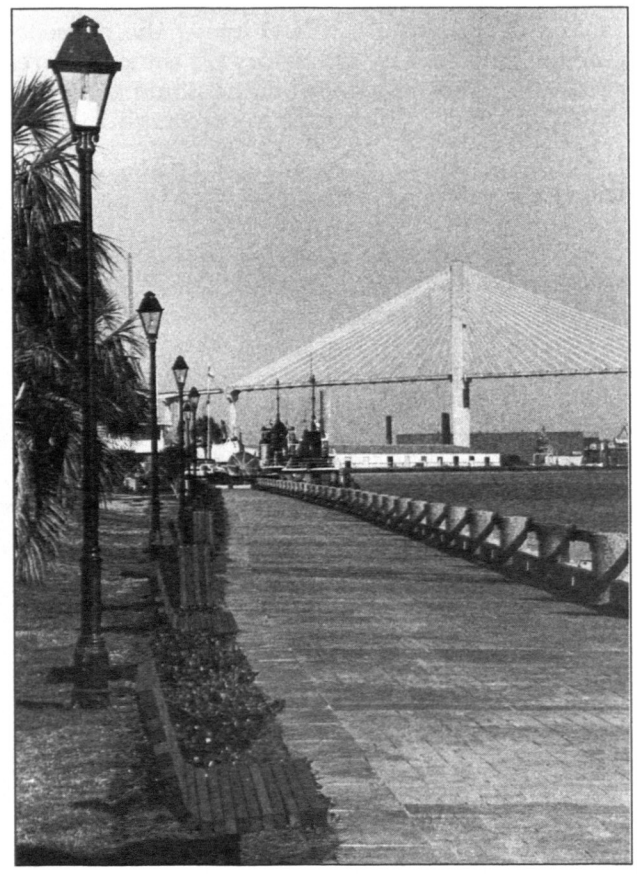
"Innovative management using partnering and open communication was essential to the project's success," Parrott added. "Where the normal civil works process allows linear planning and execution, the planning and design stages for this project were done parallel with each other — engineering plans and specifications, real estate acquisition, environmental and cultural resources approvals and development of the project cooperative agreement were all done at the same time!"

The Savannah Riverwalk extension is 15 feet wide and extends 900 feet along the river from the Turecamo Tugboat Company's dockside border to the Savannah Marriott Riverfront Hotel. Designed by architects at Hussey, Gay, Bell and DeYoung of Savannah, it is built of brick and slate pavings, concrete and granite with light fixtures identical to the present Riverwalk. The Industrial Company, also of Savannah, built the project.

The city will now build an Olympic Awards platform near the statue of the Waving Girl, which was recently removed and restored during construction. The city's famous statue was returned to her foundation two weeks ago.

"This project is indeed a partnership in action," said Lancaster, the featured speaker, addressing about 200 people at the event. "It stands as a shining testament to government and citizens working together for a common goal. Savannah District's team took this project from concept to design in record time and it was completed on time, within budget, and crafted beautifully. The real dedication today is a celebration of the project team's dedication, teamwork, creativity, technical expertise and hard work."

"We've been excited about this project since we were asked to manage it," Smith said. "It was a labor of love for all of us and a beautiful landmark to the partnership between government and the private sector. It attests to the vision and sense of compromise by our partners, who pulled together to do more than they were asked and in less time than they thought possible."



Savannah District built this extension to Savannah's historic Riverwalk.

'Germ warfare' cleans up Pentagon contaminated soil

By Kim C. Speer
Baltimore District

At one time, the Pentagon made contingency plans for biological warfare — the use of germ weapons. So it's ironic that a beneficial form of "germ warfare" is being used to clean petroleum-contaminated soil during the Pentagon's renovation.

Rather than using incineration or other thermal methods, the soil excavated from the Pentagon's Center Courtyard Utilities Tunnel project is undergoing bioremediation off-site. About 70,000 cubic yards of potentially petroleum-contaminated soil is being treated and recycled by RECO Industries of Virginia.

While not the first site to use the process, the Pentagon is one of the first to see large-scale benefits from bioremediation, a process which uses the natural microorganisms found in soil to break down petroleum hydrocarbon compounds into harmless elements (carbon dioxide, water and cell mass).

The process is considered environmentally friendly because there are no byproducts, emissions or fuel usage involved. And, unlike thermal methods, the soil's original characteristics are unchanged so it can be reused.

Bioremediation is not new, but recent refinements in the technology make it more flexible and efficient, according to RECO officials. RECO is one of only three fixed-site bioremediation sites in Virginia. Customarily, bioremediation is performed on-site, but for the Pentagon's Center Courtyard project, space constraints made on-site remediation impossible.

With fixed-site remediation, the company hauls the petroleum-contaminated soil from the Pentagon to its 165,000-square-foot facility in Richmond, Va.

At the facility, the soil is sprayed with a mixture of nutrients and microorganisms, or "bugs" as RECO calls them. RECO keeps the microorganisms on hand by freeze-drying them, and regenerates them for use by adding liquid.

RECO then recirculates air through the soil and fertilizes it to accelerate the feeding process. Recirculating air through the soil prevents vapors from escaping into the atmosphere, and helps maintain a warm, moist environment which is optimum for the microbes to digest the petroleum products.

Once the bugs have digested all the petroleum in the soil, they die off to natural background levels and the resulting cell mass is digested by other microbes in the soil.

Officials calculate and monitor the growth rate for the organisms, and add nutrients or reseed the soil with additional bugs as needed. With this process, RECO can remediate large amounts of soil in two to three weeks.

RECO officials commended Kevin Powell, Center Courtyard resident engineer, for supplying additional soil information (based on his previous experience with Pentagon soil remediation) to them, because it helps speed the process.

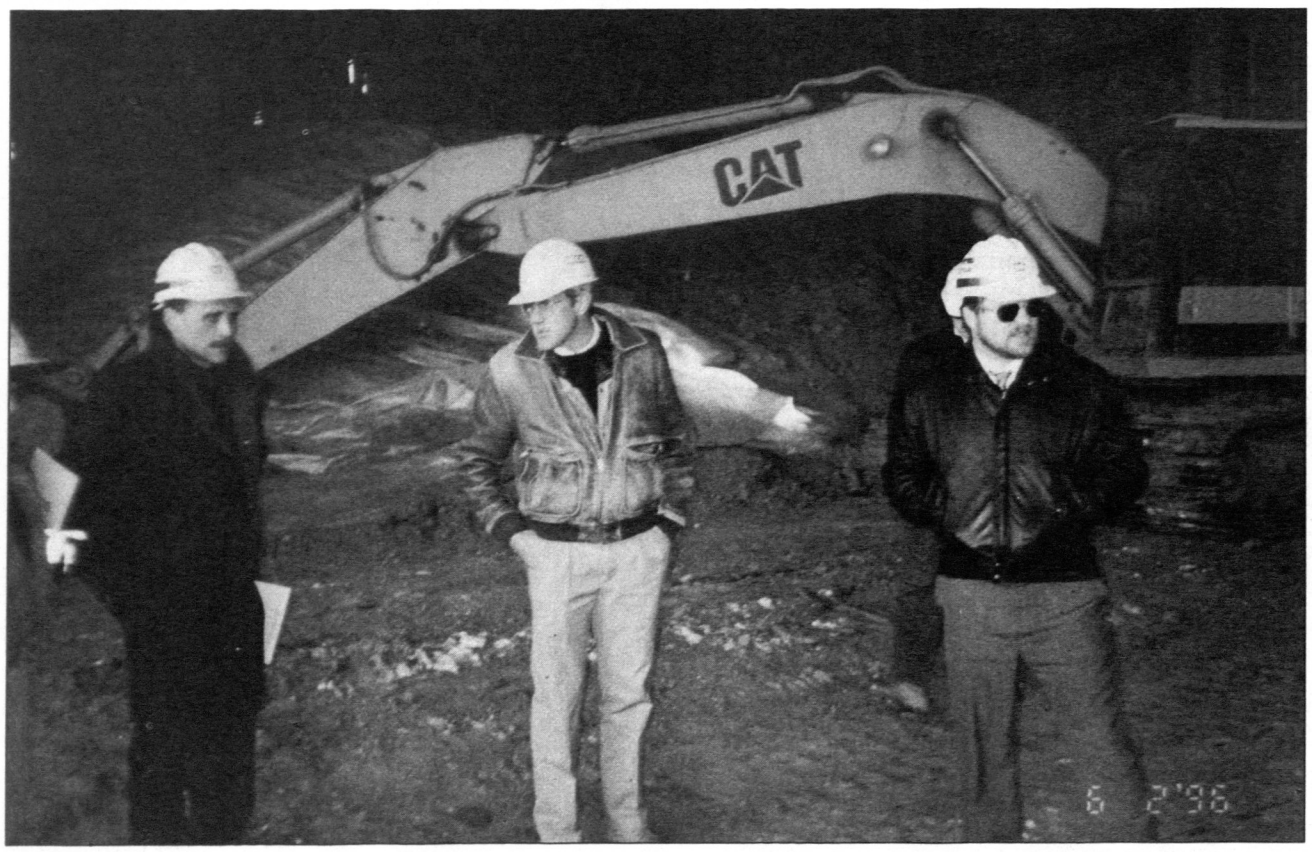
"I've learned that you should always try to give your contractor as much information as possible regarding the soil," said Powell. "Seemingly insignificant facts may be key to a successful remediation."

Following remediation, the soil is tested again for petroleum compounds, halogenated compounds and hazardous metals. The soil, after testing clean, can be reused.

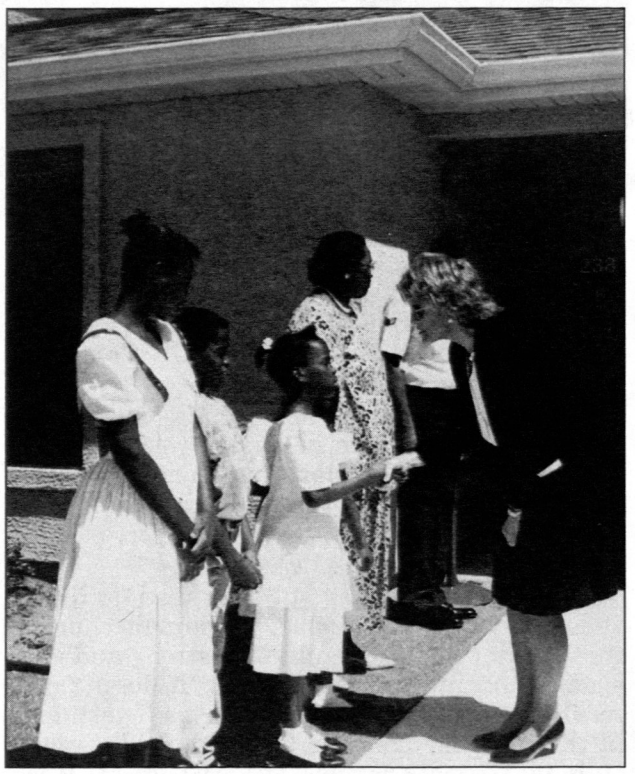
The bioremediated Pentagon soil is perfect for backfill because it retains its good gradation and moisture content after remediation, according to RECO officials.

Recent improvements in bioremediation also make it a price- and time-competitive alternative. Liability issues stemming from disposal are also resolved through the bio-remediation process. "RECO assumes total liability for the Center Courtyard's soil, which makes the project much easier for us," said Powell.

According to RECO officials, the Corps' bioremediated Pentagon soil has been recycled. It has proven to be the perfect backfill for construction of a highway overpass adjacent to the RECO facilities.



Michael Schleinkofer, environmental manager, explains the bioremediation process at the RECO plant. The soil to be treated is in the background. (Photo courtesy of the Pentagon Renovation Office)



Dr. Sheila Widnall, Secretary of the Air Force, greets the first family to move into their new home at the Dyess Air Force Base family housing project. (Photo courtesy of Albuquerque District)

Teamwork builds homes

By Joan Mier
Albuquerque District

The successful completion of the $19.6 million family housing project at Dyess Air Force Base, Texas, is a prime example of two districts working together as a team to produce a quality product. Albuquerque District served as the design agent, Fort Worth District the construction agent, and the boundaries between the two were seamless, according to Bill Pearson, deputy district engineer for project management.

"There were no turf issues; I never heard one complaint," Pearson said. "It was clear from the very beginning that we were the design agents in preparing the Request for Proposal (RFP), and Fort Worth was involved in that process because they were going to be the construction agents. This was not an Albuquerque District project or a Fort Worth District project. It was a Corps project."

The 173-unit complex was the first family housing project awarded by Albuquerque District outside its military boundaries, according to Kent Heyne, project manager.

"The Air Force made a determination based on past experience that project management remain with the district that prepares the RFP to maintain continuity," Heyne said. "To maintain this continuity, the design was reviewed by the same team who prepared the RFP here in the district."

Heyne credited the Dyess Air Force Base project office, and particularly project engineer Ken Atchison, with contributing to the attitude of partnership necessary to achieve success.

"There was a long period of time when Ken and I communicated on a daily basis about this project," Heyne said. "Any request for support was met with a quick response. This was a credit to Glenn Roybal, the technical manager, and the Design Branch."

Since family housing is discretionary work, the Air Force is not required to give it to the Corps, he said.

"Working as a team brings success to everyone and helps ensure that the Air Force continues to bring future projects like this to the Corps," Heyne said.

Mobile overhauls climatic test chamber

By Tim Dugan
Mobile District

One of Mobile District's biggest projects is the $52 million Climatic Test Chamber (CTC) renovation at the McKinley Climatic Laboratory, Eglin Air Force Base, Fla. Built in the 1940s, the extremely deteriorated lab faces its first major overhaul.

National asset

The lab is the largest U.S. indoor environmental test facility for military equipment and aircraft, said project manager Eric Kraus. "It's a national asset facility, the only chamber of its kind."

The American Society of Mechanical Engineers designated it a National Historic Mechanical Engineering Landmark in 1987.

Design

Bechtel National of San Francisco, Calif., developed the overall design — revamping the two largest test chambers, designing new air-handling and low-temperature brine systems and upgrading work space.

Will Williams, the Climatic Lab Resident Office's resident engineer, was involved in the project management group from design to construction. Design began in 1991. The group also included Jim Kastner in Engineering, Kraus in Programs and Project Management, and officials from Bechtel National, the Climatic Lab, the base civil engineer and the Air Force Materiel Command (AFMC).

Thermal vapor barrier

The thermal vapor barrier is a complex wall, ceiling and flooring system that insulates the inside environment from weather and moisture. Without the barrier, moisture would enter, condense and freeze. The barrier is needed to test aircraft and equipment at extreme temperatures.

The freeze-thaw cycle over the years has deteriorated the barrier. "With a 45-year-old building you never know what you're going to face until you tear those covering surfaces off," Williams said. "Things show up which weren't on the original drawings or known during design. We found problems with the structural concrete."

This led to modifications, a cost increase and time delays.

"We pulled the thermal vapor barrier off the southside door and found a lot of corroded steel that will have to be replaced, more than we identified originally," Williams said. They will completely replace the north side of the CTC door.

"The thermal vapor barrier was also deteriorated and posed dangerous working conditions," said Kraus. "The facility was designed for a 20-year life and it's been in service 30 years beyond that."

Before repair, air leaked in to form icicles on the ceiling, causing hazards to workers and aircraft. Caddell Construction Company, of Montgomery, Ala., is the prime contractor for the thermal vapor barrier repair.

Air makeup system

The lab is one of the few places where jet engines can operate at full throttle in a closed hangar. A fresh supply of air must fill the test chamber as quickly as the engine uses it.

One reason for the renovation, Kraus said, was "they don't have enough air makeup capability for modern jet engines."

Air ducts connect the lab's two biggest test chambers to a separate air makeup building, where air enters and is chilled or heated. Six large insulated storage tanks near the air makeup building contain almost 500,000 gallons of brine. They will add a large duct to the main test chamber and a separate air makeup building which will increase air makeup capacity to 1,000 pounds per second. Six insulated tanks with more than two million gallons of brine will also be built.

"We're adding the second air makeup unit for aircraft that will be developed past the year 2000," Williams said.

Technical challenges

The project presented diverse technical difficulties.

"From a technical standpoint it's the most demanding job we've ever had in the 22 years I've been at Eglin and the Gulf Coast area," said Charles Bolen, Gulf Coast Area Office area engineer. "It's also a highly visible project."

When engineers removed the thermal vapor barrier they found the under-structure greatly deteriorated.

"The freeze-thaw cycle caused major deterioration," said Hoyet Holder, assistant resident engineer. "About 12 beams have to come out and four columns need major repair. We'll have to resurface some columns."

The first stage in construction was demolition. Then came structural repair and then replacing the insulation and the remaining surfaces.

The contractor set up a metal shop in the chamber to build panels. The renovated floor is composed of eight-inch concrete slab, then 15 inches of foam glass insulation, then 12 inches of concrete slab.

Insulation is being staggered. "All joints are overlapped," Holder said. "The floors get a harder on them." It's sealed with mastic, which water cannot migrate through. The foam glass has bubbles for added insulation.

"It has expansion joints at every 10 feet," Holder said. "The temperature goes from 165 Fahrenheit to 65 below so it has to be able to move."

Those joints allow metal to expand and contract under the extreme temperatures. A wood break between surfaces prevents the transfer of heat and cold.

Cooling units were gutted and everything was replaced.

The challenges also included electrical equipment needs. "Some equipment hasn't been tested for those temperature ranges," Williams said.

Partnering

Partnering started during design and it continues through construction. Partners include AFMC, the Corps of Engineers, the operating contractor, the base civil engineer, Bechtel and Caddell.

"Coordination is a big challenge," Holder said. "Everything has to be done in a certain sequence. When you get out of that sequence it can create problems."

Partnering has been essential, Williams said. "We partnered through design. It's not all pleasant conversation. It gets a little heated at times."

But partnering has kept the group working together.

"They maintain a group of engineers at the lab who have run it for more than 40 years," Kraus said. "We've incorporated a lot of preferences they had for design."

A Bechtel representative was brought on site during construction to help manage the project. "That relationship we developed during design makes it easier during construction to work out problems," Williams said.

One big challenge will be controlling construction costs, Kraus said.

Test chamber

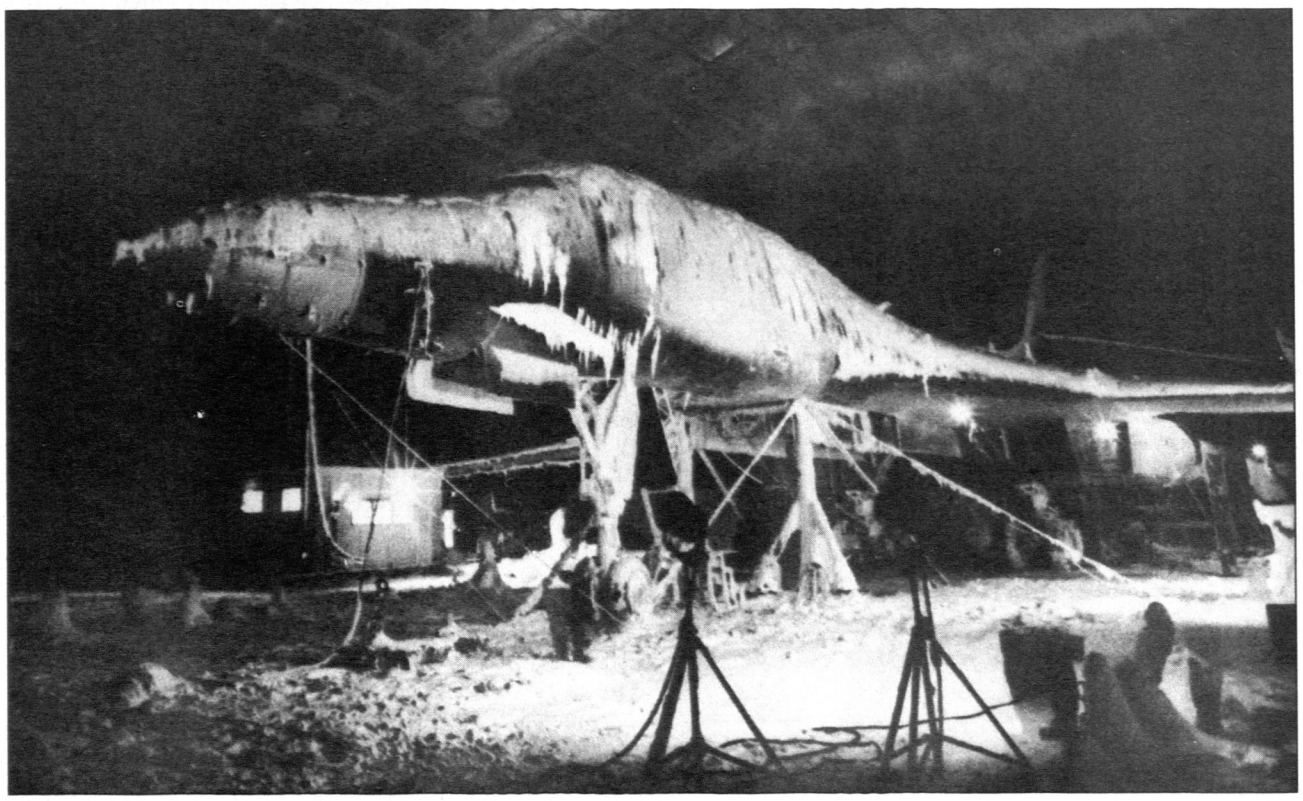
Testing aircraft in extreme temperatures enables technicians to identify problems early. The CTC can simulate rain, snow, ice, sandstorms and expose equipment to solar radiation, humidity and thermal shock.

"It's like a deep freeze," Holder said. "They bring an aircraft in here and run it through both extremes before they take it up to fly."

Since the lab opened in 1947, nearly every model of military aircraft has been tested there. A smaller chamber tests equipment.

Renovation will include office space, an elevator, a new roof, a handicapped entrance, new windows and a reception area. They will repair a 115-kilovolt substation and add a new 480-volt substation.

There are 61 subcontractors. The project is scheduled to be completed next December and is expected to cost $56 million.



A B-1 bomber drips icicles during low-temperature testing in the test facility. (U.S. Air Force photo)

Historic lighthouse takes a step back

Article by Sue Douglas
Photo by Jonathan Freedman
New England Division

During the next seven months, Highland Lighthouse in Truro, Mass., will be on the move.

Under the terms of a $1.5 million contract recently awarded by New England Division, International Chimney Corp. of Buffalo, N.Y., will relocate the lighthouse 450 feet inland from its present position.

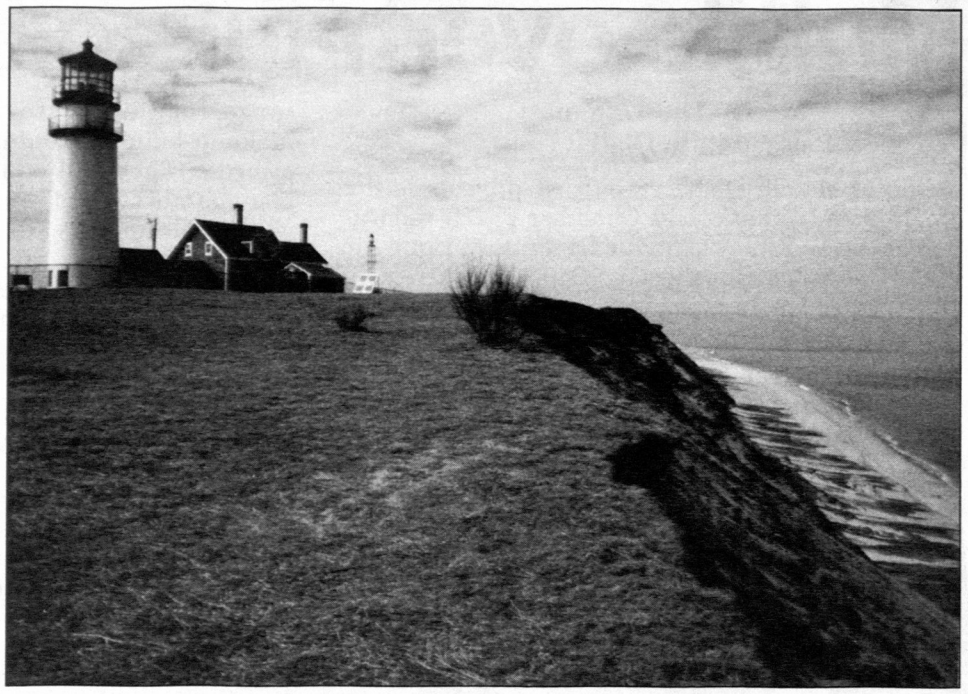
Listed on the National Register of Historic Places, the Highland (or Cape Cod) Light was originally established in 1797 and rebuilt in 1857. The 66-foot-tall cylindrical brick light tower has an attached single-family Cape-style home that was built during the 1950s and served as the lightkeeper's residence.

The beacon, the oldest on Cape Cod, was originally situated 500 feet from the cliff on a 10-acre parcel of land. Due to erosion, the cliff edge is now within 110-120 feet of the structure.

Under the new contract, the 650-ton lighthouse will be moved to a new site 450 feet from its present location (570 feet from the bluff). Since the tower is masonry and the house is framed with wood, the two structures will be moved separately.

Both will be braced, the area beneath them excavated, and the buildings separated from their existing foundations using a variety of methods, including diamond cable saw. They will be pushed to the new site on steel rails by a series of 30-ton hydraulic rams and the new foundation built underneath.

This system was successfully used by International Chimney to relocate Block Island's Southeast Lighthouse in 1993-1994. That lighthouse, with its attached brick dwelling, weighs four million pounds and was moved as a single unit. That effort, also supervised by New England Division, was recognized by the National Trust for Historic Preservation in 1994 with its National Preservation Honor Award.



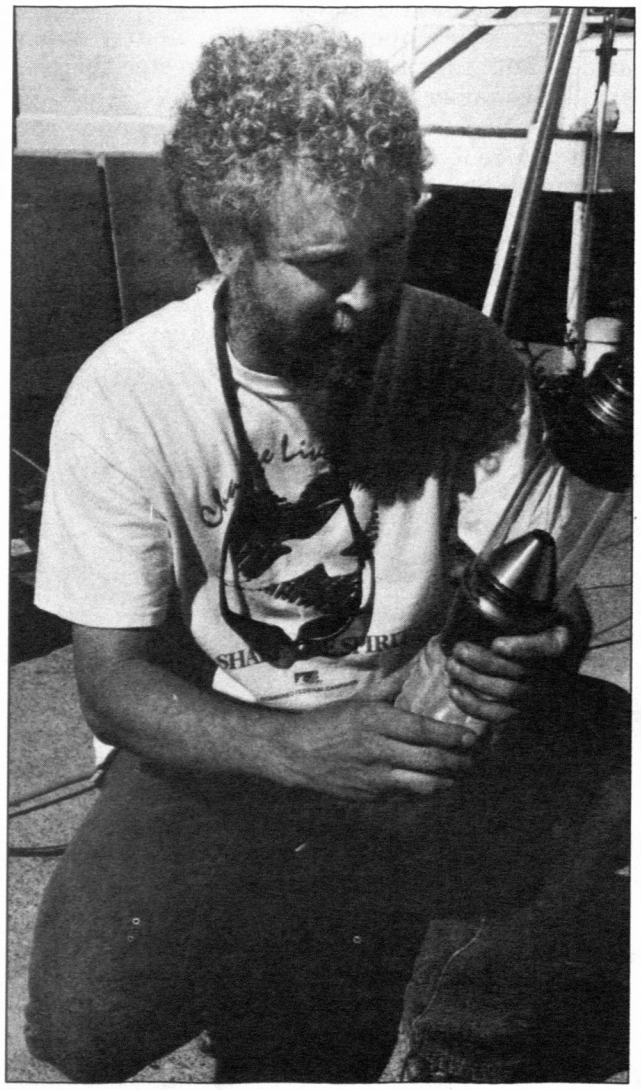
The contract to move Highland Lighthouse will place the building 570 feet from the cliff edge.

Funding for the Highland Lighthouse relocation is being provided by the Coast Guard, the National Park Service, the Massachusetts Department of Environmental Management and the Truro Historical Society.

All work on Highland Lighthouse will supervised by an experienced Corps of Engineers' construction manager to assure compliance with contract requirements.

Downhole view

Special camera provides needed data



SWD lab technician Keith Bond checks the specially adapted unit that allows the downhole camera to view all sides of a hole.

Article and Photos
By Sally S. Anderson
Southwestern Division

Sometimes what you can't see causes problems, but Southwestern Division laboratory is seeing more and more with a special color video camera.

SWD lab experts have looked down monitoring wells, relief wells and core borings for decades, but the lab has updated and customized its equipment to get better pictures providing more data, said Harlan Karbs, Geotechnical Branch chief.

The old black-and-white still and video cameras produced valuable information, but SWD's new color video system is a big improvement. The camera has many applications in environmental, geological and geotechnical projects, said Stephen Brooks, SWD's lab director.

Downhole photography is a cumbersome, tricky business and fewer Corps offices are keeping up with the technology. In fact, SWD's lab is doing work for the Corps nationwide. Keith Bond, the primary field operator, has taken the camera to projects for Nashville, Albuquerque, Fort Worth, Tulsa, Little Rock, Mobile, Los Angeles, Jacksonville and other districts, and New England Division and Waterways Experiment Station.

The lab also works for other agencies like the Environmental Protection Agency and the International Boundary and Water Commission. SWD's equipment has supplemented a Corps-related project for a town in New York and the Superconducting Super Collider at Waxahachie, Texas.

The downhole video camera stays in the field 10 to 15 weeks each year. With preparations for each project, that keeps the camera busy about half the year, Brooks said. The lab's customers pay for the camera's use, which is critical since the lab supports itself with income from its services.

The lab keeps the downhole camera service cost-effective by not having a full-time position for it. Instead it's a "sideline" for Bond, the lab's head concrete technician and unofficial photographer. This keeps costs down.

Although the need for downhole video is limited, maintaining the equipment at the lab has proven cost-effective. On several projects, private sector services would have been considerably more expensive. For one Tulsa District project, the contractor's estimate to check three monitoring wells was 10 times what the SWD lab would charge.

The lab's new color video equipment costs about $45,000, but it's more rugged and "technician friendly" than the black-and-white video system. The old equipment required frequent field repairs and adjustments. "It wasn't designed for the hostile environment" created by hot sun, rainy weather or bouncing around in a four-wheel drive vehicle to get to remote locations, Bond said.

The new camera uses computer technology rather than tubes, and it isn't as fragile. "But you still don't take chances with the camera," Bond said.

The camera can't be let down an uncased hole with soft soil or loose rock. The black-and-white camera got stuck once when a hole collapsed, damaging the equipment. It was recovered.

The equipment is built to look down holes, but has been modified to give a 360-degree view. Bond adapted modifications designed years ago by Bill Tanner, retired lab director, to view full-circle slices of a hole. The camera focuses on a cone-shaped mirror reflecting all sides of a four-to-10-inch boring or well. A floating compass reports the orientation of the images.

The 360-degree view is "important with geological work like at the Portuguese Dam (in Puerto

Continued on page 9

Disabled employee talks to computer

Ann Marie Reyes
New England Division

Technology that allows people with disabilities to dictate work to their computers verbally has been getting attention lately. The news media recently has trumpeted DragonDictate, a dictation program for personal computers because movie star Christopher Reeves, injured in a horse accident last year, has begun to use it.

But at New England Division, DragonDictate has been in use for some time.

Since December 1994, Robert MacDonald of Engineering Directorate has used the program to assist his word processing. Twelve years ago MacDonald was involved in a near-fatal accident that left his coordination and speech impaired.

MacDonald learned of DragonDictate through a friend who saw the program demonstrated at a conference. MacDonald requested a demonstration for both he and his supervisor, Engineering Director Dick Reardon.

At first, Reardon was concerned that, because of MacDonald's speech difficulties, the program would not work. "When we saw how the program worked, Dick thought the program would be perfect for me," said MacDonald.

Reardon wasted no time ordering the program. "He has been very supportive of my adaptation requirements to do my job," said MacDonald, adding that Reardon recently purchased a motorized cart, or shuttle, so MacDonald could get around better.

Reardon insists that MacDonald's initiative and drive prompted purchase of the support equipment. "Bob has come a long way since the accident," he said. "He's a determined individual."

MacDonald said the dictation program has been a big help. "I'm still a novice," he said. "Right now, I use it for word processing, but the program can do much more."

DragonDictate is compatible with MS-DOS 5.0 and 6.0, WordPerfect 5.1 and 6.0, Microsoft Word 5.5, Lotus 1-2-3 2.4, Quicken 6.0, and dBASE IV 1.5.

The program can be activated by telling it to "wake up," and can be exited by telling it to "go to sleep," through a microphone. "Oops" will tell the program that a mistake must be corrected. The microphone can be deactivated for phone calls and visitors and reactivated with the plus key.

MacDonald says he has "taught" the program many words based on his voice pattern. It matches words against a built-in vocabulary with acoustic and language models which can be personalized to match the input of the user.

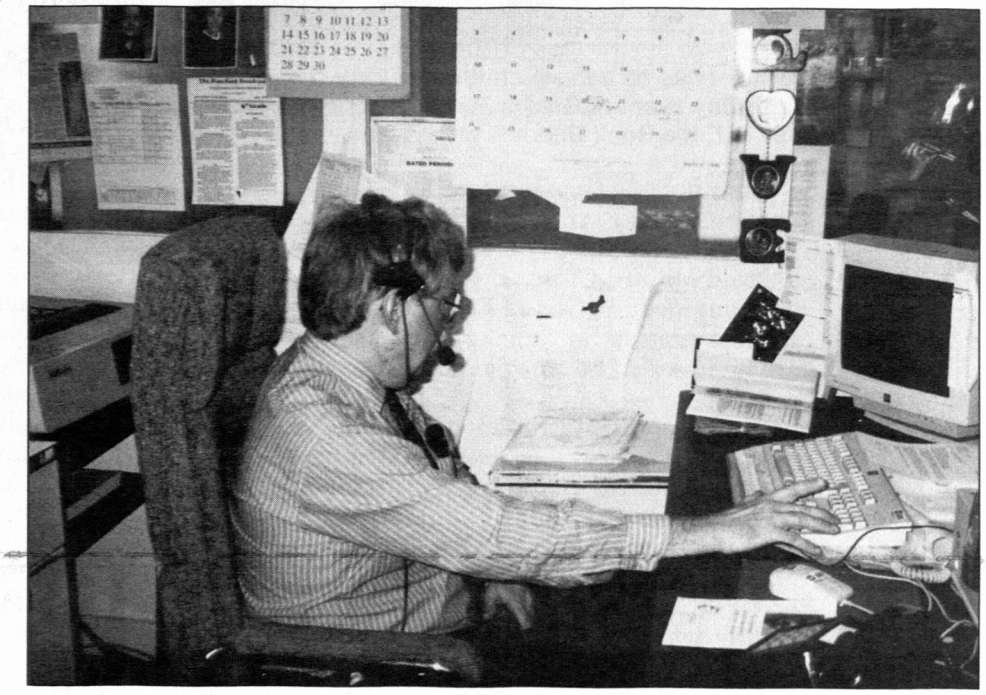
The vocabulary can be customized to include names and jargon. The program also has a 110,000-word backup dictionary that can access additional words. The dictionary contains speaker-independent acoustic models and syntactic information that will recognize speech patterns.

DragonDictate also will scan existing word processing documents to determine which words are used most often and the context where they are used. The program automatically incorporates the custom vocabulary from its backup dictionary to minimize manual custom programming.

The program is designed for people who do not have the use of their hands and people in keyboard-intensive jobs who risk repetitive stress injuries like carpal tunnel syndrome.

The program requires a 386 or higher computer, six megabytes of memory, and at least 12 megabytes of space on a hard-drive. DragonDictate is a product of Dragon Systems in Newton, Mass.

According to Reardon, purchasing the program was an excellent investment in a valued employee. "Bob is an important element in Engineering," said Reardon. "He's talented and the program has enhanced his efficiency tremendously."



Bob MacDonald demonstrates the DragonDictate software. By speaking into a headset, he can dictate all his word processing documents.

Camera

Continued from page 8

Rico), where they have thin fractures," Bond said. The Corps is using a special cement to seal tiny fractures in the dam foundation, and the camera provides data to determine whether the fractures are two-hundredths of an inch wide. That's important because cement needed to penetrate fractures less than two-hundredths of an inch wide is more expensive.

The old still camera was automated to click a still shot every hundredth of a foot. "It could take all day to do a hundred-foot hole," Bond said. Then it could take a day or two to get the film processed.

The new color video camera system gives immediate feedback, and the lab makes back-up videotapes for the lab and customer. Colors in the images provide more information about material in fractures, the degree of weathering in rock, and types of materials clogging well screens.

Taking measurements from the video images unravels the subsurface geology, said Rich Adamson, lab geologist. The floating compass helps the geologist determine the direction of a fracture or rock layers. Based on the diameter of the hole, he can calculate the slope angle by recording where the fracture or other feature enters and exits the video image.

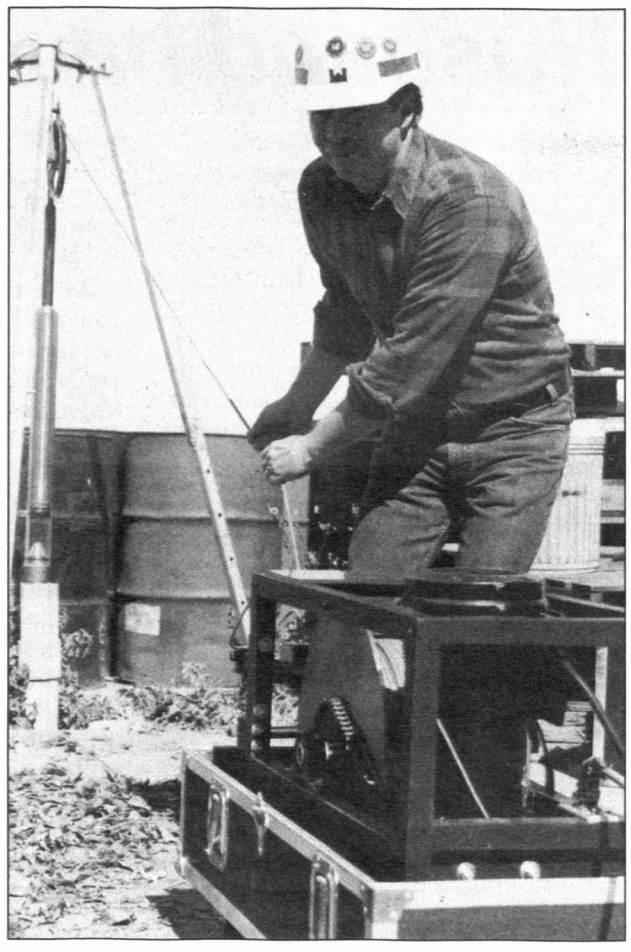
The lab uses Corps-developed computer software to calculate and plot the orientations. That allows geologists and engineers to design better foundations, Adamson said.

The downhole video camera helps check the integrity of old wells, Bond said. For quality assurance, the lab prefers to run the camera down recent monitoring wells, which gives the project a baseline of information.

Running the downhole camera isn't the "thrill of operating a video camera," Bond said. After the fourth or fifth project, "the curious get tired," and the work becomes monotonous and "really kind of boring." But it's a challenge outside of Bond's usual work, and it meshes with his photography hobby.

Finding the unexpected adds spice, Bond said, and the camera has found more than muddy water at some projects. It has found that the customer didn't get the quality job they paid for; and the camera has found grout leaking through a monitoring well's screens. Once Bond unraveled a mystery when a drill rig dropped a drill rod 50 or 60 feet and couldn't find it. The camera gave engineers more information about the cavern they had drilled into.

Bond has no specialized training to operate the camera, just his 18 years of experience of working with downhole camera techniques with Tanner. The equipment isn't difficult to use, but requires a "certain ability to see what's going to happen," Bond said. It's all part of seeing more and more of the little things down holes.



Richard Adamson, geologist, adjusts a cable to lower the downhole video camera into a monitoring well.

Garner closes era at Greers Ferry Lake

By Jennifer Patrick
Little Rock District

Carl Garner and Greers Ferry Lake. Think of one and you almost automatically think of the other.

Under Garner's supervision, and through community volunteer projects such as the Greers Ferry/Little Red River Cleanup and Earth Day, Greers Ferry Lake has become one of the best-known projects in the Corps.

That era came to an end in May when Garner stepped down as resident engineer of Greers Ferry Lake, a position he held since the project was built in 1959.

"It's the hardest thing I've ever done in my life, deciding to retire," Garner said. "When you've been in it for so long, it's hard to turn loose. Retiring is almost like losing half of yourself, but a part of me is still looking forward to it."

Talking to Garner is like listening to an oral history of the district. Garner, who has more than 57 years of federal service, came to Little Rock District straight out of college, building levees on a tributary of the Black River.

"I was a rivers, harbors and waterway construction inspector, and I started as a temporary employee because, at that time, it was the only way to get employed with the Corps," Garner said. "I worked two years before I became a permanent employee."

He spent the next few years traveling in Arkansas staking out proposed dam sites on the White River and in Kansas doing survey work for the district.

During World War II, Garner spent two years in New York mapping the Canadian border.

After World War II, "the district was reduced from 900 employees to 300 in a three-month period," Garner said. "I was one of those who was laid off."

He spent six months working for a private contractor before returning to the district where he began work on the levee and floodwall at Fort Smith.

From there, he worked on the big dam projects of Bull Shoals, Table Rock and then Greers Ferry where he was chief of Engineering Division.

Garner talks to school children during the annual Earth Day event at Greers Ferry Lake. (Photo courtesy of Little Rock District)

When it came time to name a resident engineer for the Greers Ferry project, Garner went to the chief of Operations Division to ask for the job.

"I told Millard Cross, 'If you select me to be resident engineer at Greers Ferry, I'll make it one of the best projects in the Corps,'" Garner said. Before he knew it, he was committed to keeping his promise.

One thing that has made Greers Ferry so successful is the close relationship between the project office and the community, a relationship that started when President John F. Kennedy dedicated the project. Besides the Secret Service, dignitaries and media, about 10,000 people attended the 1963 dedication.

"This was the first big cooperation effort between the project office and the community," Garner said. "Our relationship has continued to grow through cooperative efforts. We've made an effort to be a part of their projects and events, and they've made an effort to be a part of ours."

Garner has seen many improvements during his career, but the biggest has been in environmental stewardship.

"In the '40s, when we started the big construction projects, we were not good environmentalists," Garner said. "We would just leave the construction sites with little or no restoration. But from the time we built Bull Shoals to the time we built Greers Ferry, we had become much more environmentally minded."

Garner has been an environmentalist, even when being green wasn't the rage.

"I've dedicated my whole career to the preservation and conservation of resources so that future generations can enjoy them," Garner said.

Garner is proof that you're only as old as you feel. While Garner looks like a spry 60-year-old, he's actually 80. When most people his age are taking it easy, what has kept Garner working?

"I've kept working because I love the work and the people I work with," Garner said. "It's been a challenge, and I live on challenges. We've taken a lot of risks here."

One of the best examples of a risk that worked is the Greers Ferry/Little Red River Cleanup. The project has become a model for volunteer projects and is the predecessor of the National Public Lands Cleanup Day.

"In the beginning, the Corps was the primary sponsor of the cleanup," Garner said. "Since then, hundreds of sponsors and participants have become involved. Now it's the public's lake. We've worked hard to make sure they feel that way, and projects like the cleanup have helped foster that sense of ownership and pride."

Garner doesn't plan to slow down.

"Even though I enjoy the work and the job, there are other things I want to do."

He plans to stay active in the community and national organizations that he has supported through the years. He also plans to spend time fishing, gardening, taking pictures and enjoying his home on Greers Ferry Lake with his wife, Jean, who is also a district retiree.

Husband has a 'Cracker Jack' hobby

Article by Larry N. Crump
Photo by Ruth Marshall
Kansas City District

People find a lot of fun things in Cracker Jack boxes, but Dan Hearnen found a marriage and a hobby.

Hearnen, a technical manager in Kansas City District's Environmental Branch, likes Cracker Jack, the caramel-popcorn-and-peanut snack that's been around for years. Not that he eats a lot of them, but the sight of a Cracker Jack box brings back memories of his courting days, and he likes those little prizes in each box.

In fact, he has a growing collection of Cracker Jack memorabilia that includes his proposal to his wife, Kelly, and toys, cards and trinkets he has bought, traded and received as gifts.

It started in Hearnen's bachelor days when Kelly's father asked if the two were engaged. Hearnen's off-the-cuff response was, "No, I've been opening Cracker Jack boxes for a month now and I haven't yet found a ring."

Shortly after "I got the idea of how I would propose," said Hearnen. "I worked in Washington, D.C., and she lived in Chicago. In February, 1990, we arranged to meet in New York City."

At a restaurant there he gave Kelly a box of Cracker Jack, which he earlier had carefully opened and replaced the prize inside with his Valentine's note of proposal.

Kelly at first thought it was a gag, but after realizing it was no joke, she accepted. A year later she gave Hearnen a box of Cracker Jack that contained baseball cards and the collection had begun.

Today Hearnen visits auctions, sale barns and estate sales and searches ads for Cracker Jack collectibles. Most of his collection is in a small antique case, but two baseball bats and a collection of baseball cards are displayed on a wall in his home. One of the bats dates to 1915 while the other is dated 1970.

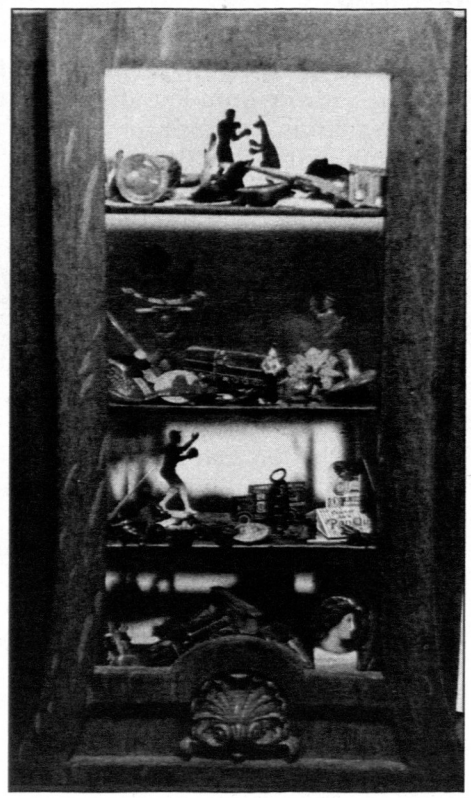
Everything in his collection has either "CJ" or "Cracker Jack" on them, authenticating them as the real thing. His collection includes a Lady Liberty pin, buttons, post cards, a "fortune wheel," miniature train engines, a truck, a violin, and a myriad other prizes that have been found inside Cracker Jack boxes since 1912.

The Cracker Jack story began at a one-popper stand in Chicago during the clean-up of the Great Fire of 1871. In 1908 composer Albert Von Tilzer and lyricist Jack Norworth launched the snack into immortality with their famous song, "Take Me Out to the Ball Game."

Cracker Jack is the world's largest user of toys, with than 17 billion given out since 1912. Twenty-five million toys of a particular series are purchased and rotated each year to provide variety. All the toys are manufactured in the U.S. and some old Cracker Jack prizes are valued at more than $7,000.

While the value of the toys interests Hearnen, that's not the reason he collects Cracker Jack prizes.

"Yeah, it would be nice to find a high-dollar piece, but I collect the pieces because it's fun," said Hearnen. "And there are the nice memories of New York, too."



This small antique case holds many of Dan Hearnen's Cracker Jack toy collection.

Around the Corps

Army Chief of Staff at SPD

Gen. Dennis J. Reimer, Army Chief of Staff, visited South Pacific Division (SPD) recently to meet with civil works sponsors and San Francisco Bay area Army commanders.

"This was an extremely rare opportunity for the Corps to show the Chief of Staff our civil works mission," said Brig. Gen. Bruce K. Scott, SPD Commander. "General Reimer saw first-hand our projects, met our project managers, and talked with our local sponsors."

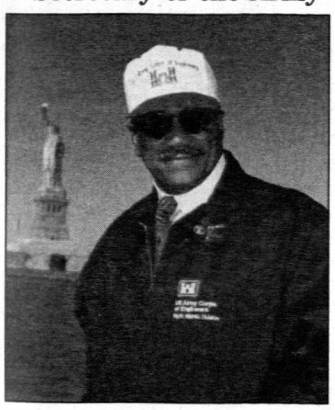
Reimer's visit to SPD was the first by the Army Chief of Staff in more than six years. Major briefings focused on environmental cleanup and restoration activities at the Presidio of San Francisco, Hamilton Army Airfield, wetland restoration at Yolo Basin near Davis, Calif., and Sonoma Baylands on San Francisco Bay's northern shoreline.

Reimer's visit included stops at the Port of Oakland and the Guadalupe River Flood Control Project. The visit to the port included a boat tour of the inner and outer harbors which are currently being deepened.

Reimer then flew by helicopter to San Jose for an aerial and ground-level tour of construction at the Guadalupe River project.

Secretary of Army at NAD

Secretary of the Army Togo West visited New York City recently. He was given a tour of the Port of New York and New Jersey by Maj. Gen. Milton Hunter, North Atlantic Division Commander, and Col. Gary Thomas, New York District Commander.



Hon. Togo West

The briefings included discussions of dredging issues including disposal of contaminated material and the need for ships to await high tide before using crucial federal channels.

New R&D director

The Secretary of the Army has approved the reassignment of Dr. Lewis (Ed) Link from Director, Cold Regions Research and Development Laboratory, to Director, Research and Development at HQUSACE. Link will assume his new duties this summer, exact date to be determined. Until then, Dr. Donald Leverenz will continue to serve as acting director.

SES reassignment

Dwight L. Burns has been selected as the Deputy to the Commander for Programs and Technical Management in the Huntsville Engineering and Support Center. He will report in August. Burns is currently the Chief of Engineering Division in Huntington District.

Construction Management Excellence Awards

On May 24, the Corps presented the annual USACE Award for Construction Management Excellence. Established in 1993, this award recognizes district construction personnel exhibiting excellence in construction management or contract administration duties, regardless of whether their duties and responsibilities include construction quality assurance. One award is given to a person from each division.

This year's winners were Milton Carrol, Fort Worth District; Paul Cooper, New England Division; LeRoy Corey, Rock Island District; Joseph Elwell Jr., Pittsburgh District; Mark Herse, Omaha District; Vidya Lal, Japan District; David Opbroek, Walla Walla District; Dennis Pritchett, Baltimore District; Don Skipper, Mobile District; Larry Smith, Sacramento District; Kenneth Wunsche, Wiesbaden District Office; and Robert Wylie, Vicksburg District.

TERC

South Atlantic Division (SAD) has awarded a Total Environmental Restoration Contract (TERC) to International Technology Corp. for an estimated $325 million to clean up hazardous waste sites at Redstone Arsenal, Ala., and at locations in the SAD area, Puerto Rico, and the Virgin Islands. The contract will span 10 years if all renewal options are exercised.

The contract is the first TERC for the SAD area and the second largest for the Corps. Savannah District will manage the contract and administer all pre-construction phases of the clean-up. All work will be done through delivery orders, with payment based on the actual cost of the work rather than a pre-determined cost.

The first delivery order, issued along with the TERC, is for an estimated $2.6 million. The work order is for remedial investigations, culminating in a design plan for cleaning up six sites, installing monitoring wells to determine the effectiveness of a cap on an arsenic pond, a pilot study to determine the effectiveness of a soil vapor extraction system used to decontaminate soil at a burn trench, and installation of perimeter wells.

More than 200 hazardous waste sites have been identified at Redstone Arsenal, where both conventional and chemical munitions were built and some later disposed of on-post following World War II. The chemical munitions were mainly blister agents, mustard gas and lewisites. In June 1994, the arsenal was placed on the Environmental Protection Agency's National Priorities List.

Historical Vignettes

Do you know that the Corps of Engineers' concern for endangered species includes the buffalo? In 1845 the Topographic Engineers warned of their demise.

Do you know why the Corps of Engineers toasts "the eagle that looks like a duck?" What did Mark Twain say about the Corps and the Mississippi? How did the Corps print maps that could withstand the moon's temperature extremes and still fit in an astronaut's pocket?

These stories and more are included in *Historical Vignettes, Vol. 2,* published by the Office of History. This 86-page booklet is free to all Corps employees. Ask for EP 870-1-1. Fax (301) 394-0084 or write:

U.S. Army Corps of Engineers
Publications Depot
2803 52d Avenue
Hyattsville, MD. 20781-1102.

MRC History Center

The Mississippi River Commission (MRC) History Center officially opened to the public at a dedication ceremony April 9 in Vicksburg, Miss.

Brig. Gen. Robert B. Flowers, Lower Mississippi River Valley Division commander and president-designee of the Mississippi River Commission, hosted the event. Mississippi Governor Kirk Fordice was keynote speaker.

The history center offers displays and unique research collections that document the programs and activities of the Corps of Engineers in the Lower Mississippi Valley since 1824. The center's collections include rare books, reports, articles, correspondence, oral history interviews, newspaper clippings, plans, drawings and maps.

Some of the items displayed in the facility include map-making tools, field notes developed by survey parties and a lantern and shovel used during the historic 1927 flood. The ship's bell from the dredge *Barnard* is another exhibit. The *Barnard* assisted in the Mississippi River cutoffs program during the 1930s.

One of the center's most recent additions is a transit that was used to conduct surveys of the Mississippi River during the 1880s. A popular item with researchers and historians is the "bible" — a map folio used to record changes in the river's channel from the 1880s to 1915.

PVA partnership

The Paralyzed Veterans of America (PVA) and the Corps of Engineers have established a partnership to improve accessibility to Corps recreation areas for individuals with disabilities. The joint effort will be called Recreation for Everyone.

Together, PVA and the Corps will identify sites to develop or improve accessibility for individuals through teams that will include representatives from PVA chapters, local Corps offices, local businesses and fraternal organizations.

"PVA's expertise in sports and recreation programs for people with mobility impairments, barrier-free design, fund-raising and other assistance for veterans with spinal cord injury will add value to our efforts to provide accessible facilities," said H. Martin Lancaster, Assistant Secretary of the Army (Civil Works).

"It is my hope that we can improve our facilities and dedicate these improvements to our veterans. Accessible trails at our 463 lakes could provide not only a public service but also honor the men and women who served America," Lancaster said. "Now we must work together to find sponsors to help fund these improvements."

"We are seeking innovative ways to improve accessibility in an era of fiscal constraints," said Richard Grant, PVA president. "We will help develop projects through the Corps' Challenge Cost Sharing Program, promote volunteerism and establish other partnerships."

"PVA's commitment to sports and recreation programs to improve the quality of life for our members will be greatly augmented by this partnership with the Corps of Engineers," Grant said.

Hard Hat Awards

May 24 marked the ninth annual presentation of the USACE Hard Hat of the Year Award. Established in 1987, this award recognizes outstanding field employees responsible for managing quality construction in each Corps division.

This year's awardees were Dale Bestgen, Kansas City District; Joseph Flynn, Los Angeles District; John Granchie, Tulsa District; Clare Jaeger, Alaska District; Albert Mathis, Savannah District; Conrad Menard, New England Division; Gary Moody, Memphis District; Lionel Nagata, Honolulu District; Donald Peterson, Louisville District; Carl Platz, Detroit District; William C. Ricketts, Europe District; and Grady Wesson, Norfolk District.

Corps earns Army safety award

Fatalities drop in one year

By Bernard W. Tate
HQUSACE

Attention to the details of safety, like those used by this drill crew at a hazardous waste site, earned the Army Chief of Staff MACOM Safety Award. (Photo by Jonas Jordan, Savannah District)

The Corps of Engineers is a much safer place to work thanks to a revamped accident plan. The Corps has the numbers, and the Army Chief of Staff's Major Army Command (MACOM) Safety Award, to prove it.

That wasn't always the case. If a federal agency can be said to display grim determination, the Corps did after its fatality rate soared in fiscal year 1994 (FY94). That year, six Corps employees and 11 contractors died in work-related accidents.

"Although we have injury rates lower than both the nation's and the Army's overall rates, the fatalities that occurred over the past year cause me concern," wrote Lt. Gen. Arthur E. Williams, Chief of Engineers. "We must re-energize our accident prevention efforts to save lives and prevent injury."

Williams' words reflected the Corps' attitude as it set out to revamp its accident prevention program.

The Corps turned it around in FY95. There were no fatalities in that year, although an explosion at the very end of the FY caused injuries which claimed one Corps employee at the beginning of FY96. Contractor fatalities fell from 11 to seven.

The Corps' public fatality record was the best in recent history, dropping from 206 in FY94 to 158 in FY95. A 20-year trend in reducing public fatalities earned the Corps the National Water Safety Congress President's Award.

In FY95, the Corps reduced its accident frequency rate (the number of lost-time accidents per 100 employees) from 1.76 to 1.69. Since 1988 the Corps has maintained an accident frequency rate of 1.56 to 1.89 per hundred, while the Army's and federal government's rate for the same period was 2.46 and 2.67 per hundred, respectively.

The improvement took Corps-wide commitment to a workable plan. The Chief of Engineers pushed the effort and Connie K. DeWitte, Chief of the Safety and Occupational Health Office at HQUSACE, was his advocate.

"If I had to put it in one word, I'd say that attention turned it around for us," said DeWitte. "Attention to the things that would prevent accidents.

"Visibility would be another word," she said. "The command was involved from the Chief on down, and therefore everyone else was involved, too."

Creation of the USACE Safety and Occupational Health Council was concrete proof of the command's emphasis on safety. The council is chaired by the Deputy Chief of Engineers and made up of the deputy division commanders, key people in HQUSACE, and safety and occupational health officers from each division in the Corps. They meet quarterly by video teleconference to discuss Corps-wide health and safety issues.

"The council is ... the vehicle by which we jointly, at all three command levels, work safety issues to prevent accidents and integrate safety into all that we do in the Corps," DeWitte said.

The 14-point Accident Prevention Plan, brainchild of the council, was the blueprint for the Corps' safety turn-around.

"The council reached a consensus on which important issues we should concentrate on," DeWitte said. "We took a lot of input from people throughout the Corps at divisions, districts, labs and HQUSACE."

The Accident Prevention Plan outlined 14 separate actions which the Corps would take to prevent accidents. Many of the action items involve strengthening or emphasizing accident prevention tools already in use, such as activity hazard analyses, trends analysis and countermeasure development, and meaningful safety criteria on performance appraisal requirements. Other points either reestablished programs which had been discontinued, or introduced innovations.

"If there's an on-duty government employee death, the commander is required to brief the Chief of Engineers face-to-face," DeWitte said. "Also, one point requires each organization that produces courses or written material to review that material and integrate safety and accident prevention into it."

Actions which led to improving the Corps' safety record were not limited to headquarters. District initiatives played a big role as well.

"The Hammer Award given to the Harry S. Truman Powerhouse in Kansas City District comes to mind," said DeWitte. "That was about employees cutting costs and increasing efficiencies, but safety was well integrated into that project and into the Hammer Award justification."

In Vicksburg District, the teams on the mat-sinking units receive a cash bonus for going an entire work season without injuries.

Charleston District entered into a partnering agreement with East Coast dredging contractors to eliminate dredging accidents. A broader follow-on meeting including 18 dredging contractors from the East and Gulf coasts, all South Atlantic Division districts and Huntsville Division (now Huntsville Program Center) resulted in specific objectives.

All this hard work and more contributed to the Corps receiving the MACOM Safety Award. The Army Material Command also received the award this year for its safety improvements.

"Normally, they present it at the Army Safety Conference which is held in November of each year," said DeWitte. "But because of budget constraints they're not going to have one this year. We looked for other opportunities to formally present the award and there weren't any. So I said I'd be glad to present it on behalf of the Chief of Staff of the Army at the next CMR (Command Management Review)." DeWitte presented the award to Maj. Gen. Pat Stevens, Acting Chief of Engineers, at the CMR on June 5.

The MACOM Safety Award is given annually to MACOMs which make significant improvements in at least four major accident areas compared with their accident rate record for the previous year. The judging panel is at least four safety directors or safety managers from different MACOMs or installations.

"I'd like to emphasize that safety offices didn't do this all by themselves," said DeWitte. "There was a lot of teamwork with the Chief of Engineers, commanders at every level, Public Affairs, Civil Works, Military Programs and the Office of Chief Counsel in many extra efforts in raising safety awareness at all levels."