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AD-P004 137	Compatible Goals: Defense and Environmental Protection.
AD-P004 138	Environmental and Energy Audits of Air Force Government Owned-Contractor Operated Installations.
AD-P004 139	Strategies for Preparing and Submitting Part B Application for a DoD Facility.
AD-P004 140	Assessment of Environmental Costs at Ordnance Activities.
AD-P004 141	Remedial Action of Hazardous Waste, U.S. Corps of Engineers, Anniston, Alabama.
AD-P004 142	Incineration of Explosives Contaminated Soils.
AD-P004 143	Polymeric Liner Selection for Military Waste Impoundments.
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AD-P004 146	Treatment of Wastewater (Red Water) Resulting from TNT (Trinitrotoluene) Purification.
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AD-P004 149	The Hazardous Materials Technical Center.
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COMPATIBLE GOALS : DEFENSE AND ENVIRONMENTAL PROTECTION

AD-P004 137

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It is an honor for Fort McClellan to present this paper to this prestigious group dedicated to peace and security. We hope to show how our environmental program at Fort McClellan is not only compatible with that goal, but an adjunct to that goal. We believe that Fort McClellan is symbolic of the Army's environmental program.

Located adjacent to the city of Anniston, Alabama and in the foothills of the Appalachians, Fort McClellan is 80 miles West of Atlanta, Georgia and 60 miles East of Birmingham, Alabama.

The terrain of Fort McClellan generally is mountainous ranging from 305 to 632 meters above sea level. The valley in which the cantonment lies is in an area spotted with rolling hills through which small creeks run through the year. These creeks are fed by springs flowing from underlying limestone strata. Scattered throughout the area are natural wetlands that provide spawning grounds and habitats for fish and wildlife as well as flood control.

The climate, area and character of Fort McClellan make it one of the most picturesque training sites in the United States and has led to its being called the "military Showplace of the South."

Fort McClellan is the home of two major Army schools. Our primary mission is to house and support the training of soldiers. This includes entry level and advanced training for soldiers in nuclear, biological and chemical defense, initial entry level and professional training of Military Police and selected personnel of the Navy, Air Force, Marine Corps and NATO. The secondary mission of Fort McClellan is the training of the US Army

Reserves, National Guard and Reserve Officer's Training Corps units.

Fort McClellan consists of three main bodies of Government-owned leased land. The main installation is 7,570 hectares. Pelham Range, which is used for both live fire weapons and maneuver training, is 8,898 hectares, and the leased Choccolocco Corridor, which provides additional training areas, is 1,795 hectares. As a trustee of 18,400 hectares in the Appalachian foothills, Fort McClellan goals are to properly manage resources that are renewable and conserve those that are not. From a list

Further, we also strive to reduce the environmental insult that is so common when man manipulates the natural environment in pursuit of commonly held needs and values. These broad goals have been developed during the maturation stage of our environmental program and have been finely honed into five specific objectives:

1. To provide environmental education to the widest of audiences with the subject matter tailored to the audience;

2. Prevent material from entering the waste stream. Anything entering the waste stream will be recycled if possible.

3. Actively seek a zero-discharge installation and maintain surface water to the same good biological quality as the water entering the installation.

4. Conserve fossil fuel energy to the highest degree possible to reduce the degrading effect of the natural environment. Further, this recognition is vital to a mobile Army whose readiness is intensely fossil fuel dependent.

5. Preserve the historical character and the cultural resources on Fort McClellan lands.

To summarize the basic tenants of our program, environmental education is the cornerstone that provides support to all our environmental activities. Through this educational process, we must impart an increased awareness of the relationship of our environment to our own welfare. Through an intensely managed education program the Environmental Office has a direct effect on every age group and all disciplines.

An integral part of this program is an outdoor classroom at the Post Elementary School. Through use of this classroom, teachers have gained an increased ability and confidence to teach environmental systems. Fort McClellan has set aside a 50 plus hectares "Environmental Study Area" for the use of local high school and university students. This study area is the result of an interservice support agreement between the US Army and Jacksonville State University.

At Fort McClellan, the Environmental Management Office is the central coordinator for National Environmental Policy Act implementation and compliance. The Environmental Management Office aids the project proponent in development of necessary environmental documentation. For the past five years, the installation has been accumulating data so that adequate assessments and statements can be prepared in a timely manner.

It is our contention that NEPA did not intend for agencies to develop reams of paper in analysis of the environment. We believe the intention of NEPA is to quickly get to the point of conflict between the proposed project and the affected environment. Therefore, we extensively use the 28 categorical exclusions developed by the Department of the Army. The US Army Training and Doctrine Command Form 161-R provides a quick, concise method to insure consideration of the affected environment without lengthy paperwork.

There are times the categorical exclusions do not fit the project. Using a multi-disciplined approach, Fort McClellan coordinated the Environmental Assessment entitled, "Proposal To Construct A Chemical Decontamination Training Facility". We invited the U.S. Army Chemical School to discuss the concept with the Battelle Memorial Institute, the Alabama Department of Environmental Management Chiefs of Air, Water and Hazardous Waste and the Jacksonville State University Archaeologist. Through this meeting, we defined the issues involved, and Battelle began to develop a design concept. With the concept developed and the potential environmental impacts identified, we published our Environmental Assessment in the Federal Register, because of potential national concern.

The Fort McClellan Public Affairs Office arranged TV, radio and newspaper interviews to fully discuss the project locally. At the end of 30 days, we held a meeting at Fort McClellan that included the Post Staff, the Mobile District Corps of Engineers, Battelle, EPA Region IV Offices of Water, Air, Federal Facility Coordinator, the Alabama Department of Environmental Management Offices of Air, Hazardous Waste and Water. The Calhoun County, Health Department, and the City of Anniston. There was a candid exchange of views; everyone agreed it was a proper but daring way to discuss a project.

Through this process a dialogue was established with the community, the proponent and the regulatory agencies. The result of this effort is a project that has gone through 90% design with no public objections or unfavorable interagency comment. NEPA has never hampered our military mission nor slowed any of our projects.

NEPA means good planning, and this is where conflict resolution must begin. For example, it is obviously an expensive burden to conduct site-specific archaeological surveys for every project. Our solution was to develop a model that could predict

the likelihood of significant archaeological data. We contracted with the University of Alabama to survey 30 random grid squares. From this survey we can predict what may be found on the remainder of our 18,000 hectares. For those sites with a high probability of containing significant archaeological data, a specific site survey will be conducted by the Professor of Archaeology from Jacksonville State University.

The problem with NEPA is this: the acquisition, management and analysis of environmental data at Army Facilities is difficult, given the time constraints placed on the analyst and the resources available. To improve the data base and efficiently manage and analyze environmental data within these constraints, Fort McClellan, in conjunction with the US Army Construction Engineering Research Lab, has purchased a microcomputer system. This system has many environmental management tools already incorporated in a pilot mode. The 16 bit microprocessor will support multi-terminal use, i.e., Environmental Coordinator, Master Planner, Forester and Land Manager. The data has been loaded by the US Army Construction Engineering Research Lab. Some of the data already digitized is Geology, Archaeology, Soils and Wetlands. Through the efficient use of technology, the decision-maker will have more exact data upon which to make crucial decisions, affecting our environment without being constrained by labor-intensive methods.

With 18,400 hectares and 17,000 individuals responding to the environment, we have had our problems and will continue to have problems. The handling of waste motor oil presents disproportionate problems to both operators and the environment. When spills occur, the cumulative effect often belies its significance in the eyes of the operator. Additionally, this represents an unusual economic burden for the requirement to clean-up the small spill. Without due recognition and appropriate response, the small spill can become the nemesis of any large organization.

In 1982, Fort McClellan awarded a contract to install underground waste oil storage tanks at all oil-using facilities. The underground tanks will minimize potential spills. The storage tank system has a catch basin that can be maneuvered under the crankcase of any type vehicle. When the oil is changed, it goes into a catch basin connected to underground oil storage tanks, thus precluding the probability of the small spill. Quarterly testing of underground tanks will reveal leakage. Yearly, a contract will be let to sell the accumulated oil.

In an effort to identify and protect wetlands, color infrared imagery was completed in 1979. The second phase, on-the-ground confirmation was begun in the fall of 1981. In coordination with the Regional Office of the National Wetlands Inventory, US Fish and Wildlife Service, the mapping of the installation wetlands is now complete. Phase three is the publishing of a field guide that will allow non-botanists to survey prospective project sites to determine their wetland status. This survey and

series of studies will be used by Fort McClellan for an ongoing effort to protect the wetlands.

The installation sanitary landfill has had a turbulent history. In 1979, the Alabama Department of Public Health threatened to close the facility. This had the potential of disrupting the military mission of the installation. Fort McClellan contracted with the Alabama Geologic Survey to assess potential alternative sites.

Based on the findings, Fort McClellan requested Army pollution abatement funds to relocate the landfill to an environmentally acceptable site. Coordination was accomplished with the Solid Waste Division of Alabama Department of Public Health and preliminary approval was granted for the new site. Contractors drilled test wells and the site was found to have shallow bedrock and water. Efforts to upgrade the existing site were producing good results, but investigations for a new site continued.

In 1980, The State of Alabama was sufficiently impressed with the corrections at the existing site to issue an operating permit. That same year, Alabama Geological Survey located an acceptable, but small site for future landfill use. Due to the acceptability of corrective actions, current plans are to continue use of the existing landfill and hold the new site identified by Alabama Geological Survey for future use. In retrospect, the computer discussed earlier could expedite the search for an alternative site.

Fort McClellan is currently working with the Corps of Engineers on the acceptability of a solid waste incinerator. If the incinerator proves to be effective, the project will greatly reduce the amount of refuse entering the new smaller site, while providing an energy source for the installation.

The generation and handling of hazardous waste is another problem. If hazardous wastes cannot be disposed of on the installation, then an environmentally designed hazardous waste storage facility is the cornerstone of management. With such a facility, hazardous wastes are manageable.

Fort McClellan has constructed one hazardous waste storage facility for PCBs and a second building is programmed for FY 84. However, current thought within the defense community calls for the Defense Logistics Agency to build a hazardous waste storage facilities.

In June 1983 Fort McClellan sponsored an on-site oil and hazardous material handling storage and spill class for users, operators and managers. The education of these groups should reduce the spill potential throughout the installation.

One of the largest potential contributors of toxic chemicals into the environment has traditionally been from Pest Control

Operations. Implementation of an integrated pest management program not only significantly reduces the amount of chemicals used to control pests, but also dramatically increases the efficiency and effectiveness of a pest management program. In 1981, a professional Entomologist was assigned to the Pest Control Section, Directorate of Engineering and Housing. He was the first professional Entomologist employed at Fort McClellan. The existing pest management program was then expanded to include formal inspections of dining facilities, service clubs and other food establishments to ascertain pest populations. Pesticides are a short term treatment for the symptoms, not a long term cure for the disease.

Primary emphasis has been placed on increased sanitation and elimination of harborages through structural modification. All wooden storage shelves have been removed from dining facilities and replaced with movable stainless steel shelves. When pesticides are used, appropriate dosages and advanced application procedures reduce environmental insult.

The increased emphasis on education, better sanitation, elimination of harborages and increased training for Pest Controllers have led to a more effective, less labor and spray-intensive pest management program. Personnel who handle or dispense pesticides or herbicides are trained and re-certified bi-annually.

A pesticide waste water facility was procured in 1982 as a Research and Development project through the US Army Bio-Medical Research and Development Laboratory at Fort Dietrich, Maryland. The concept is to recycle pesticide waste water through carbon columns and use that water as a diluent. The system is expected to reduce the pesticide residues entering the storm sewer system.

In the U.S. alone, soil is being eroded at the rate of 202.94 tons per second. In cooperation with the US Soil Conservation Service and using the universal soil loss equation, Fort McClellan documented the average loss of 280 tons of soil per year on unvegetated slopes. Steep slopes, easily erodible soils, intense rainfall and other natural man-made conditions have combined to cause soil erosion problems at Fort McClellan. This represents loss of training lands and less paramount concern to both environmentalists and military planners.

In 1982, the Environmental Management Office contracted to have 37 critically eroding acres hydroseeded. Although hydroseeding is not a new technology, it had never been used at Fort McClellan. The cost of \$1,000 per acre also included extensive reshaping.

After the hydroseeding, again using the universal soil loss equation, an average of 99.81% reduction of erosion had been realized. These startling figures prompted an investigation of the cost-effectiveness of purchasing a hydroseeder. Our cost

comparisons show that an in-house ability to hydroseed will reduce the cost by 50%. The amortization of the hydroseeder is 2.76 months.

Based on these figures, Fort McClellan submitted a request for funding for a hydroseeder to the TRADOC Quick Return On Investment Program Coordinator. We received funding in July 1983 and received the hydroseeder in August 1983. We have forwarded our QRIP documentation to several other installations and hope they will be as successful at combating erosion as we feel we have.

There are many environmental problems of a serious nature that we, as people are faced with. The Department of Defense is trustee of large and ecologically diverse public lands. We must do our part in solving the environmental problems related to that trusteeship. The point of beginning for the problem solving process is at the installation level. We well realize the earth is a planet of finite resources and because of these and many other equally important factors, it is the responsibility of not only the installation, but the individual as well that we attempt to solve these problems.

