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RESEARCH EFFORT TO DEVELOP OPERATIONAL IMPROVEMENTS TO  
BIOLOGICAL RECORDS(U) ADVANCED COMPUTER TECHNIQUES CORP  
ARLINGTON VA T J SCULLY 05 APR 79 DADA17-68-C-8106

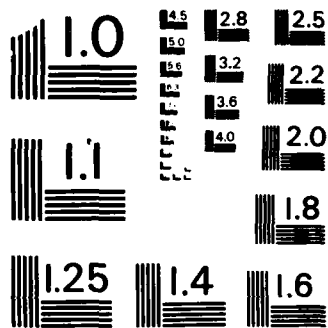
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REPORT NUMBER 13

RESEARCH EFFORT TO DEVELOP OPERATIONAL IMPROVEMENTS  
TO BIOLOGICAL RECORDS

ANNUAL REPORT  
1 September 1977 - 30 March 1979

ACT TECHNICAL STAFF

Timothy J. Scully  
Principal Investigator

April, 1979

Supported by

U.S. ARMY MEDICAL RESEARCH & DEVELOPMENT COMMAND  
Fort Detrick, Frederick, Maryland 21701

CONTRACT NO. DADA17-68-C-8106

Advanced Computer Techniques Corporation  
1501 Wilson Blvd., Arlington, Virginia 22209

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FORWARD

The present contractual effort is a continuation of a research project initiated in August of 1967.

This research is conducted under the overall cognizance of Col. Craig J. Canfield, M.D., Director of the Division of Experimental Therapeutics, and is conducted under the immediate direction of Lt. Col. David Davidson, head of the Department of Parasitology.



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## I. INTRODUCTION

Walter Reed Army Institute of Research (WRAIR) had developed a complex network of computer programming systems for the storage, retrieval and association of chemical structures information and related data resulting from biological tests. These tests were (and are) performed at various universities and other laboratories and the results reported to WRAIR. Walter Reed is faced with accommodating it into a format that can be processed on the CDC 3500.

Since August 1967, Advanced Computer Techniques Corporation has been providing systems analysis and programming services to WRAIR staff in the implementation of computer based systems to quantify and generally assist in the research efforts conducted by the Division of Experimental Therapeutics. In December 1978, William H. Smith was replaced as principal investigator by Timothy J. Scully.

*Cont'd*  
During the contractual period covered by this report, the following efforts were enacted:

- A. Modifications to the new CDC 3500 biology system
  - Integration of all test systems into a single processing system
  - Implementation of modern random access capabilities
  - Improvement in data storage requirements
- B. Minor modifications to old biology programs to accommodate test system changes
- C. System and program documentation and
- D. Production assistance as required. Keywords:

*See D01473*

## II. OBJECTIVES

- A. Accommodate changes in laboratory procedures employed by researchers to the biology system.
- B. Implement new test systems as new research is initiated.
- C. Convert from sequential file processing to random processing.
- D. Document the biology system.

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III. ACCOMPLISHMENTS DURING THE YEAR

- A. Modifications to biology programs to process new compressed formats of biological test result master files and transaction files.
- B. Modifications to biology programs to modularize the system. This permits new test systems to be added with minimal effect on existing systems.
- C. Implementation of an Overdue Processing System to identify non-receipt of biological results on samples shipped for tests.
- D. Completion of interface to the CHEMSTRUCTS and Inventory systems.
- E. Documentation of changes.
- F. Provided production assistance as required during the contract period.

IV. CONCLUSIONS

At the end of the current contract period, the new biology system was delivered. The system and programming documentation was turned over to WRAIR for further testing, production and maintenance.

REPORT DOCUMENTATION PAGE

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BEFORE COMPLETING FORM

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)  
**Biology, Information Processing, Chemical Structure, Computer Information System.**

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  
**This is a synopsis of activities performed by Advanced Computer Techniques Corporation in developing a new computer system for storage and retrieval of biological test data produced by antiparasite and antiradiation drug development projects of the Division of Experimental Therapeutics, WRAIR.**

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