



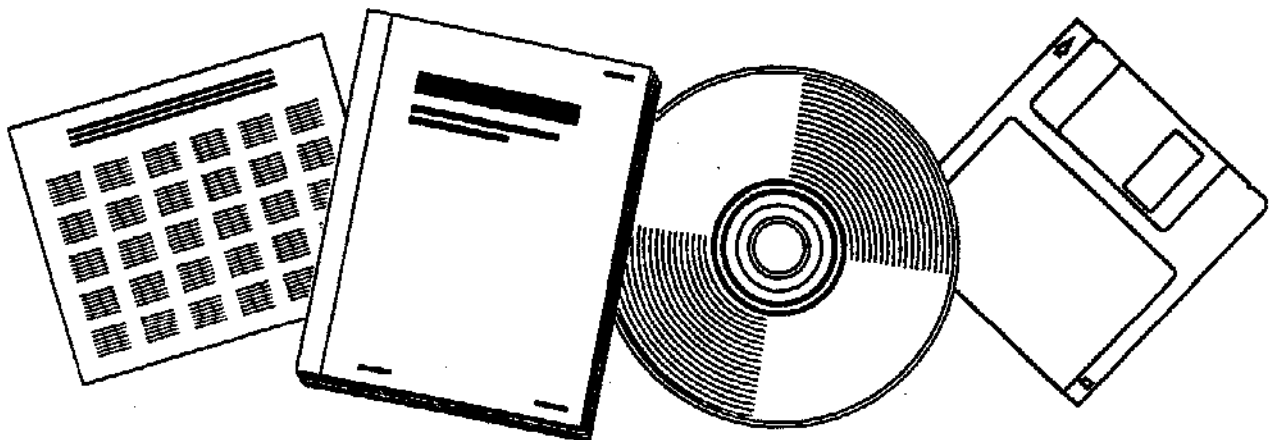
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FUTURE SYNTHETIC FUELS. A SCIENTIFIC AND TECHNICAL APPLICATIONS FORECAST

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SEP 1975



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FUTURE SYTHETIC FUELS

- 1975 -

SCIENTIFIC AND TECHNICAL APPLICATION FORECAST

OFFICE OF THE CHIEF OF RESEARCH, DEVELOPMENT AND ACQUISITION
DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20310

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Future Synthetic Fuels		5. TYPE OF REPORT & PERIOD COVERED Final Report July 1973 to Sept. 1975
		6. PERFORMING ORG. REPORT NUMBER DAA05-73-C-0559
7. AUTHOR(s) William F. Taylor Homer J. Hall		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Exxon Research and Engineering Company Government Research Laboratory Linden, NJ 07036		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Department of the Army Office of the Chief of Research, Development and Acquisition, Washington, D.C. 20310		12. REPORT DATE September, 1975
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		13. NUMBER OF PAGES 142
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) This document has been approved for public release and sale; its distribution is submitted.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES FIGURES SUBJECT TO CHANGE		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Fuels Shale Liquids Fuels Forecast Coal Liquids Synthetic Fuels Tar Sand Liquids		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This STAF reviews the broad problem of the impact on the U.S. Army of the use of synthetic fuels (defined as a non-petroleum derived fuel) over the time period of 1975 to 2000. The STAF is divided into three basic parts. The first part involves a forecast of which synthetic fuels will have a major impact in the time period under study. In the second part of the STAF, those alternate fuels identified as the most feasible synthetic fuels in the future were subjected to detailed analyses. The third part of the STAF consists of		

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the identification of a number of areas which appear to offer promise for fruitful R&D in the synthetic fuel area.

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FUTURE SYNTHETIC FUELS *

A Scientific and Technical Applications Forecast *

for the

Office of the Chief of Research, Development and Acquisition
Department of the Army
Washington, D.C. 20310

By

William F. Taylor
Homer J. Hall

Exxon Research and Engineering Company
Government Research Laboratory
Linden, New Jersey 07036

Contract No. DAAD05-73-C-0559

September 1975

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FOREWORD

The documents known as Scientific and Technical Applications Forecasts (STAF) form a series designed to supplement the annual U.S. Army Long Range Technological Forecast. A STAF is intended to provide an insight into one specific field, and is for use by persons in and outside of the Department of the Army who have need for such background information. A STAF is primarily an encyclopedic summary of the current knowledge and a projection of the expected technological environment during the next 20 years. Its purpose is to allow scientifically, technically and operationally oriented individuals to communicate relevant ideas and learn of potentialities in the cited field.

STAF's, while generally comprehensive, are not exhaustive. Hence, the treatment may be properly considered an overall introduction to the current state of the art and an extrapolation to forecast the technological environment of 10-20 years in the future. An extensive bibliography is included in each STAF to document the current knowledge and to provide references for further detailed study.

This particular STAF is an effort to examine alternate sources of fuels for use by the Army in an era of declining resources and increasing costs. Processes which may not appear attractive from an extraction, processing or financial point of view may indeed become so with the passage of time. Some of the recommendations in the report have been implemented by the Army's research community prior to the issuance of this STAF and others will undoubtedly follow.

The conclusions of the authors are subject to modification in the light of new developments and information. Accordingly, readers are urged to submit comments in order to fill in possible gaps, report additional findings or applications, and suggest changes.

U.S. Army RDT&E agencies are encouraged to publish STAF's on specific scientific and technical subjects falling within their area of assigned responsibilities. Additionally, recommendations concerning desired subjects for STAF treatment are solicited and should be addressed to:

Headquarters, Department of the Army
Office of the Chief of Research, Development and Acquisition
Attn: Office of the Chief Scientist
Washington, D.C. 20310

HAROLD F. DAVIDSON
Physical Scientist

EXXON RESEARCH AND ENGINEERING COMPANY

P.O. BOX 8, LINDEN, N.J. 07036

GOVERNMENT RESEARCH LABORATORY

M. BERGER
Director

PREFACE

This Scientific and Technical Applications Forecast (STAF) on Future Synthetic Fuels constitutes the final report in accordance with Contract DAAD05-73-C-0559, dated July 1, 1973. Mr. Harold F. Davidson of the Office of the Chief of Research, Development and Acquisition conceived the project and monitored its progress. The project was carried out in the Government Research Laboratory of Exxon Research and Engineering Company in Linden, New Jersey.

The principal investigator was Dr. William F. Taylor, assisted by Dr. H. J. Hall. Contributions were made by the following personnel from Exxon Research and Engineering Company: R. H. Salvesen, F. H. Kant, E. M. Magee, J. K. Appeldoorn, W. A. Herbst, A. L. Schrier, A. H. Popkin, R. C. Green and C. Jahmig. Contributions were made by the following government personnel: H. L. Ammlung, M. E. LePera, C. Schwarz, R.D. Quillian, Jr., R. G. Dodd, K. F. Smith, Capt. T. D. Balliett, Maj. M. Pedersen, R. Furgurson, E. Easterling, R. Burrows, J. A. Krynitsky, R. Lynch, F. Lux, E. March, W. Bryzik and D. Weidhuner. The project was administered by Dr. R. R. Bertrand of Exxon Research and Engineering Company.

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