



PB80128572

**NTIS**<sup>®</sup>  
Information is our business.

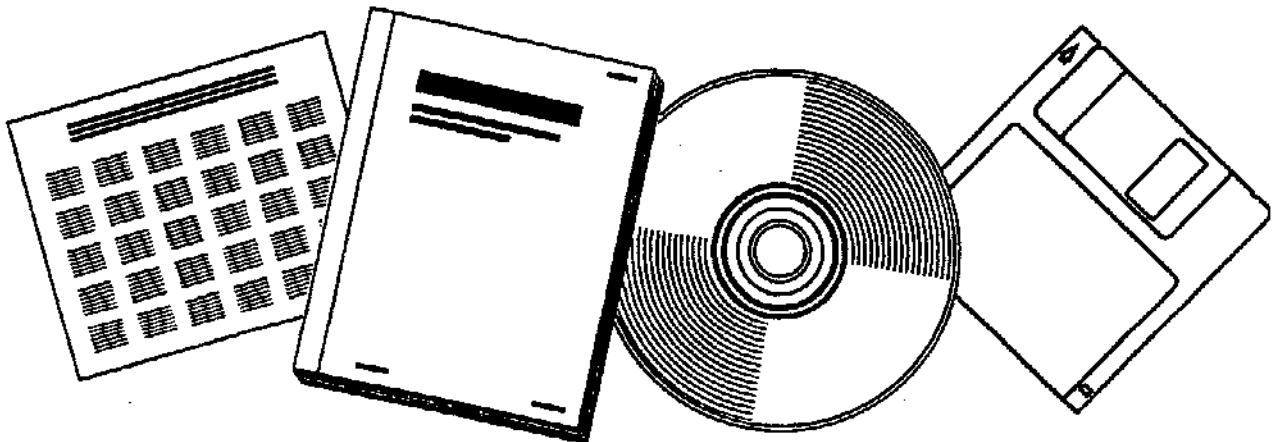
---

---

## PATENT PROFILES: SYNTHETIC FUELS

PATENT AND TRADEMARK OFFICE, WASHINGTON,  
DC. OFFICE OF TECHNOLOGY ASSESSMENT AND  
FORECAST

DEC 1979



U.S. DEPARTMENT OF COMMERCE  
National Technical Information Service

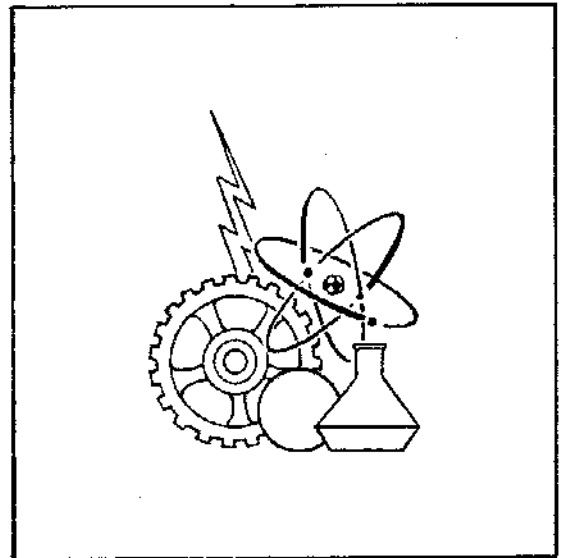
---

---

# PATENT PROFILES

a publication from the—

OFFICE OF  
TECHNOLOGY ASSESSMENT  
& FORECAST



U.S. DEPARTMENT OF COMMERCE

Luther H. Hodges, Jr.

Under Secretary

Jordan J. Baruch

Assistant Secretary for Science and Technology

Patent and Trademark Office

Lutrelle F. Parker

Acting Commissioner of Patents  
and Trademarks

William S. Lawson

Director, Office of Technology  
Assessment and Forecast

---

For sale by the Superintendent of Documents, U.S. Government Printing Office  
Washington, D.C. 20402

Stock Number 003-004-00566-1

## NOTICE

THIS DOCUMENT HAS BEEN REPRODUCED FROM THE BEST COPY FURNISHED US BY THE SPONSORING AGENCY. ALTHOUGH IT IS RECOGNIZED THAT CERTAIN PORTIONS ARE ILLEGIBLE, IT IS BEING RELEASED IN THE INTEREST OF MAKING AVAILABLE AS MUCH INFORMATION AS POSSIBLE.

## TABLE OF CONTENTS

INTRODUCTION	1
EXPLANATION OF DATA AND FORMAT	3
PROFILES:	
I. In Situ Conversion	
A. Mines	7
B. Wells	
1. Thermal Exploitation by Fluid Injection or Combustion	17
2. Thermal Exploitation by Methods Other Than Fluid Injection or Combustion	37
3. Recovery of Solid Hydrocarbons or Other Valuable Material with Desired Liquid or Gaseous Hydrocarbons	51
II. In Vitro Conversion	
A. Obtaining Liquid Hydrocarbons	
1. Processes	63
2. Apparatus	113
B. Obtaining Fuel Gas	
1. Processes	135
2. Apparatus	167
C. Processes Involving Synthesis Gas	
1. Conversion to Synthesis Gas	185
2. Reacting Synthesis Gas	203
APPENDIX A - Explanatory Notes	218
APPENDIX B - Obtaining Previous OTAF Publications	220
APPENDIX C - Obtaining Additional Information or Special Reports	222
APPENDIX D - Acknowledgements	230