

**FILM STUDY GROUP**  
**REPORT ON MICROFILM REEL NO. 9**  
**Prepared by**  
**PHILLIPS PETROLEUM COMPANY**

UNITED STATES GOVERNMENT TECHNICAL OIL

MISSION MICROFILM REEL 9

by

George N. Cade, Donald R. Blumer, and Mildred K. Lambeth

S U M M A R Y

Reel 9 (Bag 2733, Target #30/4.11) of the microfilm obtained by the United States Government Technical Oil Mission was examined in response to a request from the Technical Advisory Committee of the Petroleum Industry War Council. The contents of the reel, which relate to German wartime oil technology, were classified into three categories: material of technical value, which was completely translated; material of possible technical value, which was abstracted; and material of no technical value, which was simply listed by subject. In addition, a short supplementary vocabulary of German technical terms not found in dictionaries was compiled.

The contents of Reel 9 that appear to be of greatest value relate to uses of gasholders, construction of paste presses, determination of sulfides by titration with potassium ferricyanide, construction of underground plants, and explosibility of oil-air mixtures.

Dr. A. E. Miller

DEC 14 1945

This copy of this report has been released for private information only, and with the understanding that any other use of the subject matter, in whole or in part, by reference or otherwise, shall be only with the knowledge of Phillips Petroleum Company and with the approval of that company first obtained; and with the further understanding that this report is prepared and submitted for informative purpose only and that any suggestions and recommendations contained herein shall not be understood or construed as, in any sense, guarantees or warranties of any method, product or device.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
<b>I. INFORMATION OF TECHNICAL VALUE</b>	
Reasons for Using Gasholders	2
Information on Paste Presses for Use at 700 Atmospheres	8
The Applicability of Potassium Ferricyanide to the Quantitative Determination of Hydrogen Sulfide	10
The Quantitative Determination of Cadmium Sulfide with Potassium Ferricyanide	15
Conversation with Dr. Wessel, Director of the Poelitz Hydrogenation Plant, Concerning the Project Schwalbe VII	20
Suggestions for the Preliminary Project of Partial Removal of the Poelitz Hydrogenation Plant into the Chalk Quarry East of Sagard on Ruegen	22
Conference with Mineraloelbau G.m.b.H. January 12 and 13, 1945	32
Determination of Explosibility of Oil-Air Mixtures and Prevention of Explosions by Addition of Inert Gases	34
Supplementary Vocabulary	37
<b>II. INFORMATION OF POSSIBLE TECHNICAL VALUE</b>	
Refining of Gas-Phase Gasoline	38
Refining Experiments on High-Cut Gas-Phase Gasoline	40
Chlorine Balance for Sump-Phase Chambers 52 and 108 for May 1944	43
Product Balance for Sump-Phase Chambers 52 and 108 for June 1944	44
Changes in Production and in Balances for Increased Gasoline Production	46
Conditions in Sump-Phase Hydrogenation System in Which Gas Hydrates Formed	47
Flow Sheet for Sump-Phase Hydrogenation at 700 Atmospheres	Fig. 1
Liquid Hydrocarbons other than Propane and Butane in the Expansion Gas from the Extraction Unit	48
Flow Sheet for Production of Extract and Electrode Coke	Fig. 2
Process for Recovery of Extract	Fig. 3
Regeneration of Extraction Solvent in the Gas Phase at 700 Atmospheres	49
Regeneration of Extraction Solvent	51
Determination of Iron Carbonyl in Fischer-Tropsch Gases	52
Summary of Experimental Results of Gas-Phase Hydrogena- tion of Material from Liquid Separator at 500-600 Atmospheres	53
Balance Sheet for Coal Extraction at 752 F for 2 Hours	Fig. 4
<b>III. INFORMATION OF NO TECHNICAL VALUE</b>	
	54

PHILLIPS PETROLEUM COMPANY  
RESEARCH DEPARTMENT  
BARTLESVILLE, OKLAHOMA

UNITED STATES GOVERNMENT TECHNICAL OIL

MISSION-MICROFILM REEL 9

INTRODUCTION

This report consists of translations, abstracts, and subjects of the information, on German wartime oil technology, in Reel 9 (Bag 2733, Target #30/4.11) of the microfilm obtained by the United States Government Technical Oil Mission. It also contains a supplementary vocabulary of German technical terms, with suggested English equivalents, which were not found in dictionaries.

Reel 9 was examined in response to a request from the Technical Advisory Committee of the Petroleum Industry War Council. The reel, which contained about 1000 frames, was preliminarily scanned, and the contents were classified in three categories: information of technical value; information of possible technical value; and information of no technical value. The contents classified in the first category were translated completely. Those classified in the second were abstracted or, if in the form of brief articles, were translated almost completely. Those classified in the third were simply listed by subject.

Messrs. R. D. Snow, Alfred Clark, F. H. Johnson, and T. A. Matthews gave technical advice regarding classification of the contents of the reel.