

**United States Department of the Interior  
BUREAU OF RECLAMATION**

# **LOWER COST CANAL LININGS**

**A progress report on the development of  
lower-cost linings for irrigation canals**

**Denver, Colorado, June 1948**

## FOREWORD

Because of the increasing urgency of conserving water lost from unlined irrigation canals, the Lower-Cost Canal Lining Program was inaugurated by the Bureau of Reclamation in June 1946 as a concerted effort to develop lower-cost linings. An interim report, issued in 1946, outlined the broad scope of the program and presented information available at that time on types of linings and their service records. In the past two years, the program has been advanced by laboratory and office research, surveys of installations, seepage determinations, field experiments, and equipment development.

This report records the progress made in developing lower-cost linings. In many phases of the program, accomplishment has been limited, and the many problems that remain unsolved emphasize the complexity of the undertaking. Although prepared primarily for use within the Bureau of Reclamation, this progress report may be of interest to others concerned with irrigation, as the problem of canal seepage losses is common and important to other agencies, water users' organizations, and individuals. Copies of this report, therefore, are made available for selective distribution outside the Bureau.

The report was prepared in the office of the Chief Engineer by T. V. Woodford, M. C. Lipp, and H. M. Sult, under the direction of R. F. Blanks, H. R. McBirney, and H. S. Meissner. Information on the laboratory investigations and tests was supplied by the concrete, bituminous, earth materials, and hydraulic laboratories. Data on the condition of existing linings and much of the information on experimental installations were reported by project offices. Many of the field trial installations involving new materials and techniques were made possible through the cooperation of a number of equipment manufacturers, the Asphalt Institute and affiliated organizations, and the Portland Cement Association.

## CONTENTS

	<u>Page</u>
Introduction - - - - -	1
Seepage determinations - - - - -	3
Seepage loss measurements - - - - -	3
Preliminary investigations - - - - -	5
Canal lining materials and construction methods - - - - -	8
Concrete and mortar linings - - - - -	8
Cast-in-place - - - - -	8
Cost of concrete linings - - - - -	11
Concrete reinforcement steel - - - - -	13
Contraction joints - - - - -	16
Thickness of concrete linings - - - - -	19
Concrete finishing - - - - -	20
Precast-concrete lining - - - - -	21
Pneumatically applied portland cement mortar linings - - - - -	23
Asphaltic canal linings - - - - -	26
Hot mix - - - - -	27
Cold mix - - - - -	29
Prime-membrane - - - - -	29
Buried membrane - - - - -	31
Prefabricated surfaces - - - - -	31
Pneumatically applied - - - - -	32
Injection and cutoff walls - - - - -	33
Earth material linings - - - - -	34
Compacted in-place soils - - - - -	34
Mechanical stabilization - - - - -	34
Loosely placed earth borrow - - - - -	34
Compacted earth borrow - - - - -	35
Siltng - - - - -	37
Bentonite - - - - -	37
Soil cement - - - - -	39
Resin and chemical stabilization - - - - -	42
Brick linings - - - - -	44
Stone linings - - - - -	45
Synthetic plastics - - - - -	46
Soil sterilization - - - - -	47
Canal construction equipment - - - - -	48
Excavating - - - - -	48
Trimming - - - - -	49
Lining - - - - -	50
Design of lined canal sections - - - - -	54
Types of cross-section - - - - -	54
Proposed standardization - - - - -	55
Freeboard, top width and berm - - - - -	58
Subgrade preparation - - - - -	59
Construction tolerances - - - - -	60
General economics of canal linings - - - - -	62
Value of water lost - - - - -	62
Drainage problems - - - - -	63
Operation and maintenance - - - - -	64
Construction costs - - - - -	66
Economic analysis - - - - -	67
Summary - - - - -	71
Bibliography	

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