

TABLE OF CONTENTS

Chapter		Page
1	THE PULP AND PAPER INDUSTRY IN SOUTH AFRICA	1
	1.1 Introduction	1
	1.2 Paper and Pulp Production in South Africa	1
	1.3 Water and Waste-water in the Pulp and Paper Industry	2
2	THE PULP MANUFACTURING PROCESS	2
	2.1 Raw Materials	2
	2.2 Debarking	4
	2.3 Chipping	4
	2.4 Pulping	4
3	BLEACHING	6
	3.1 Conventional Bleaching	6
	3.2 Oxygen Bleaching	7
	3.3 Bleach Effluent Quality	7
	3.4 Colour	7
4	PAPER MANUFACTURE FROM PULP AND WASTE PAPER	9
	4.1 Stock Production	9
	4.2 Paper Machine Feed	9
	4.3 Coating	9
	4.4 Tissue Paper	10
	4.5 Paper Production from Waste Paper	10
5	SURVEY RESULTS	10
	5.1 Introduction	10
	5.2 Water and Waste-water Management	11

TABLE OF CONTENTS

Chapter	Page	
6	WATER REUSE	14
	6.1 Reducing Water Consumption	14
	6.2 Reuse of Water	14
7	WASTE-WATER CHARACTERISTICS OF PULP AND PAPER MILLS	15
	7.1 Suspended Solids	15
	7.2 Dissolved Solids	16
8	WASTE-WATER TREATMENT PRACTICES	17
	8.1 Waste-water Treatment Technologies	17
	8.2 Biological Waste-water Treatment of Pulp and Paper Waste Waters	17
9	POLLUTION CONTROL - RESEARCH AND DEVELOPMENT	18
	BIBLIOGRAPHY	20