

## CONTENTS

	Page
1. GENERAL INTRODUCTION	1
2. MEDIUM AND INCUBATION CONDITIONS FOR <i>T. FERROOXIDANS</i> CULTURES	7
3. POPULATION SIZES AND GROWTH CHARACTERISTICS OF IRON-OXIDIZING BACTERIA IN ACID SEEPAGE FROM A GOLD MINE SAND DUMP	24
4. EFFECT OF MINE DUMP SAND ON GROWTH OF <i>T. FERROOXIDANS</i> IN HJJ MEDIUM	41
5. INHIBITION OF <i>T. FERROOXIDANS</i> AND IRON-OXIDIZING BACTERIA FROM MINE DUMP SEEPAGE BY SYNTHETIC CHEMICALS. A. ANIONIC SURFACE-ACTIVE AGENTS	44
6. INHIBITION OF <i>T. FERROOXIDANS</i> AND IRON-OXIDIZING BACTERIA FROM MINE DUMP SEEPAGE BY SYNTHETIC CHEMICALS. B. CATIONIC SURFACE-ACTIVE AGENTS	53
7. INHIBITION OF <i>T. FERROOXIDANS</i> BY SYNTHETIC CHEMICALS. C. FOOD PRESERVATIVE ORGANIC ACIDS	59
8. INHIBITION OF <i>T. FERROOXIDANS</i> BY SYNTHETIC CHEMICALS. D. SODIUM LIGNOSULPHONATE AND POLYACRYLIC ACID	65
9. DISTRIBUTION OF IRON-OXIDIZING BACTERIA IN GOLD MINE SAND DUMPS	68
10. ANALYSIS OF TOTAL SULPHUR IN MINE DUMP 3A8 SAND SAMPLES	81
11. EFFECT OF MINE DUMP SAND DRYING ON THE VIABILITY OF <i>T. FERROOXIDANS</i> AND IRON-OXIDIZING BACTERIA FROM MINE DUMP SEEPAGE	85
12. ADSORPTION OF SLS BY GOLD MINE DUMP SAND	91
13. CONCLUSIONS	98
14. REFERENCES	101
15. APPENDIX: COMPLETE RESULTS OF LABORATORY STUDIES OF CHEMICAL INHIBITION OF FERROUS IRON OXIDATION BY <i>T. FERROOXIDANS</i> OR CHEMOLITHOTROPHIC IRON-OXIDIZING BACTERIA FROM ACID SAND DUMP SEEPAGE	109