



INTERNATIONAL JOURNAL OF

MINERAL PROCESSING



ELSEVIER

Volume 72, 2003

Index Volume 72, 2003

122

123

124

125

126

127

128

129

130

131

132

133

134

135

136

137

138

139

140

141

142

143

144

145

146

147

148

149

150

151

152

153

154

155

156

157

158

159

160

161

162

163

164

165

166

167

168

169

170

171

172

173

174

175

176

177

178

179

180

181

182

183

184

185

186

187

188

189

190

191

192

193

194

195

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Int. J. Miner. Process. 72 (2003) vii–ix

INTERNATIONAL JOURNAL OF
MINERAL PROCESSING

www.elsevier.com/locate/ijminpro

Special Issue

To Honor Professor Douglas W. Fuerstenau

edited by

Ken Han^a, Thomas W. Healy^b, Peter King^c^aSouth Dakota School of Mines, USA^bThe University of Melbourne, Victoria, Australia^cUniversity of Utah, USA

CONTENTS

Preface	1
The adsorption of alkyl and alkylbenzene sulfonates at mineral oxide–water interfaces	
T.W. Healy, P. Somasundaran and D.W. Fuerstenau	3
Surface crystal chemistry in selective flotation of spodumene ($\text{LiAlSi}_3\text{O}_8$) from other aluminosilicates	
K.S. Moon and D.W. Fuerstenau	11
Flocculation and flotation characteristics of fine hematite with sodium oleate	
J. Shibata and D.W. Fuerstenau	25
Modeling flocculation of colloidal mineral suspensions using population balances	
P. Somasundaran and V. Runkana	33
Settling velocities of particulate systems: 14. Unified model of sedimentation, centrifugation and filtration of flocculated suspensions	
P. Garrido, F. Concha and R. Bürger	57
Rational polymer design for solid–liquid separations in mineral processing applications	
H.T. Chen, S.A. Ravishankar and R.S. Farinato	75
Interactions of amphoteric amino phosphoric acids with calcium-containing minerals and selective flotation	
Y. Hu and Z. Xu	87
Molecular modeling and rational design of flotation reagents	
Pradip and B. Rai	95
Atomistic simulation of the surface structure of wollastonite and adsorption phenomena relevant to flotation	
T.K. Kundu, K. Hanumantha Rao and S.C. Parker	111
Surface modification at the molecular level in mineral beneficiation	
E. Mielczarski and J.A. Mielczarski	129
A brief review of pulp potentials in sulfide flotation	
S. Chander	141

Electrochemical potential controlling flotation	151
R. Woods	
Interaction of thiol collectors with pre-oxidised sulfide minerals	163
A.N. Buckley, S.W. Goh, R.N. Lamb and R. Woods	
Surface modification studies on sulphide minerals using bioreagents	175
S. Subramanian, D. Santhiya and K.A. Natarajan	
Surface chemical studies on 'Acidithiobacillus' group of bacteria with reference to mineral flocculation	189
K.A. Natarajan and A. Das	
Physical and chemical interactions in coal flotation	199
M. Polat, H. Polat and S. Chander	
Attraction between hydrophobic surfaces studied by atomic force microscopy	215
A.V. Nguyen, J. Nalaskowski, J.D. Miller and H.-J. Butt	
Calculation of the flotation rate constant of chalcopyrite particles in an ore	227
J. Duan, D. Fornasiero and J. Ralston	
Investigations of bubble-particle interactions	239
C.M. Phan, A.V. Nguyen, J.D. Miller, G.M. Evans and G.J. Jameson	
A study of bubble coalescence in flotation froths	251
S. Ata, N. Ahmed and G.J. Jameson	
Modelling flotation froths	257
S.J. Neethling and J.J. Cilliers	
Fundamental properties of the polyoxypropylene alkyl ether flotation frothers	269
J.S. Laskowski, T. Tilcone, P. Williams and K. Ding	
Kinetics of enhanced gold dissolution: activation by dissolved silver	281
M.E. Wadsworth and X. Zhu	
Solution chemistry factors for gold thiosulfate heap leaching	293
R.-Y. Wan and K.M. LeVier	
The importance of controlling oxygen addition during the thiosulfate leaching of gold ores	305
M.I. Jeffrey, P.L. Breuer and C.K. Chu	
Ultimate recovery in heap leaching operations as established from mineral exposure analysis by X-ray microtomography	317
J.D. Miller, C.L. Lin, C. Garcia and H. Arias	
Mechanical activation in hydrometallurgy	329
P. Baláž	
Dissolution behavior of metals from binary alloys	341
K.N. Han and M.C. Fuerstenau	
Dissolution of copper thin films in hydroxylamine-based solutions	353
W. Huang, S. Tamilmani, S. Raghavan and R. Small	
Pyrite oxidation in alkaline solutions: nature of the product layer	365
C.L. Caldeira, V.S.T. Ciminelli, A. Dias and K. Osseo-Asare	
Ion flotation—its potential for hydrometallurgical operations	377
F.M. Doyle	
Electrochemical cleaning of soil contaminated with a dichromate lixiviant	389
M. Manna, K. Sanjay and R. Shekhar	
The development of a resin-in-pulp process for the recovery of nickel and cobalt from laterite leach slurries	401
M.J. Nicol and Z. Zainol	
Ball and granulation kinetics revisited	413
P.C. Kapur and V. Runkana	
Laboratory studies for improving green ball strength in bentonite-bonded magnetite concentrate pellets	425
S.K. Kawatra and S.J. Ripke	
Modeling the size-density partition surface of dense-medium separators	437
B. Venkoba Rao, P.C. Kapur and R. Konnur	
Staged solid-solid separations revisited	449
P.T. Luckie	
Predicting granule behaviour through micro-mechanistic investigations	461
S.J.R. Simons, X. Pepin and D. Rossetti	
Characterization of relative homogeneity in particulate mixtures	473
R. Hogg	

Contents

ix

<i>Keyword Index Terms Volume 72, 2003</i>	489
<i>Author Index Volume 72, 2003</i>	493
<i>Keyword Index Volume 72, 2003</i>	497
<i>Contents Volume 72, 2003</i>	499