

TABLE OF CONTENTS

FOREWORD.....	v
SYMPOSIUM ON THE MINERALOGY AND PETROLOGY OF THE UPPER MANTLE	
Ultramafic rocks and the upper mantle.....	<i>Peter J. Wyllie</i> 3
Partial fusion products in alpine-type peridotites: Serrania de la Ronda and other examples.....	<i>John S. Dickey Jr.</i> 33
An hypothesis for the origin of kimberlite.....	<i>Ian D. MacGregor</i> 51
Garnet peridotites and the system $\text{CaSiO}_3\text{-MgSiO}_3\text{-Al}_2\text{O}_3$	<i>F. R. Boyd</i> 63
The fine structure of the basalt-eclogite transition.....	<i>Keisuke Ito and George C. Kennedy</i> 77
Petrology of the mantle.....	<i>Don L. Anderson</i> 85
Origin of the garnet pyroxenite xenoliths at Salt Lake Crater, Oahu.....	<i>Melvin H. Beeson and Everett D. Jackson</i> 95
Creep in the upper mantle.....	<i>C. Barry Raleigh and Stephen H. Kirby</i> 113
SYMPOSIUM ON SULFIDES	
Crystallography and chemical bonding of sulfide minerals.....	<i>Linus Pauling</i> 125
Sulfur isotope geochemistry and fractionation between coexisting sulfide minerals.....	<i>H. G. Thode</i> 133
Physical properties of sulfide materials.....	<i>Stanley J. Pickart</i> 145
A chemical and thermodynamic model of ore deposition in hydrothermal systems.....	<i>Harold C. Helgeson</i> 155
Sulfide petrology.....	<i>Paul B. Barton Jr.</i> 187
Sulfide phase relations.....	<i>Gunnar Kullerud</i> 199
Observations on the symposium on sulfides.....	<i>Howard T. Evans Jr.</i> 211
SYMPOSIUM ON THE MINERALOGY AND GEOCHEMISTRY OF NON-MARINE EVAPORITES	
Chemistry and origin of the brines of Lake Magadi, Kenya.....	<i>Hans P. Eugster</i> 215
Silicate reactions in three lithofacies of a semi-arid basin, Olduvai Gorge, Tanzania.....	<i>Richard L. Hay</i> 237
Salt crystallization temperatures in Searles Lake, California.....	<i>George I. Smith, Irving Friedman, and Sadao Matsuo</i> 257
Geochemical evidence for the origin of mirabilite deposits near Hobbs Glacier, Victoria Land, Antarctica.....	<i>C. J. Bowser, T. A. Rafter, and R. F. Black</i> 261
The evolution of closed-basin brines.....	<i>Lawrence A. Hardie and Hans P. Eugster</i> 273
Chemical equilibria and evolution of chloride brines.....	<i>Abraham Lerman</i> 291
Bromide geochemistry of some non-marine salt deposits in the southern Great Basin.....	<i>William T. Holser</i> 307