

INDEX, VOLUME 59*

Absorption coefficients		Albite, continued	
attapulgitic	1113	low-, comparison with ussingite	341
clay minerals	1113	melting in multispecies fluid	598
dickite	274	Alexandrite, chromium III centers in	159
halloysite	274	ALLAN, DAVID	
hectorite	1113	with V. Brown, and J. Stark, <i>Rocks</i>	
illite	1113	and <i>Minerals of California</i> ; reviewed	
kaolinite	274	by J. Murdoch	387
metabentonite	1113	Allemontite, see stibarsen	1331
nontronite	1113	ALLMAN, MICHAEL	
smectite	1113	with D.F. Lawrence, <i>Geological</i>	
Absorption spectra		<i>Laboratory Techniques</i> ; reviewed by	
alexandrite, synthetic	159	F.H. Manley and W.R. Powers	1142
apophyllite	621	Allophane	
garnet	563	dehydration, DTA, infrared spectra	1094
olivine	244	Almandine	
rhodonite, shocked	177	overgrowth by grossularite-	
Acmite, Ti-, phase relations of	536	spessartine	558
Actinolite		American Crystallographic Association,	
coexisting with hornblende	529	abstracts, Spring meeting, 1974	1127
in metamorphic rocks, optical		Amphiboles	
properties	22	actinolite	22, 529
Activity coefficients		Al-Ca-amphibole	22
of coexisting pyroxenes	204	compositions	22
ADAMS, HERBERT G.		coordination polyhedra of <i>M</i> site	
with L.H. Cohen, and W. Klement, Jr.;		atoms in	1083
High-low quartz inversion: Thermal		hornblende	1, 22, 529, 604
analysis studies to 7 kbar	1099	magnesoarfvedsonite (authigenic)	830
ADAMS, JOHN W.		refraction indices	22
with T. Botinelly, W.N. Sharp, and		richterite, Mg-Fe-	518
K. Robinson; Murataite, a new		AMSTUTZ, G.C.	
complex oxide from El Paso County,		with A.J. Bernard, Eds., <i>Ores in</i>	
Colorado	172	<i>Sediments</i> ; reviewed by P.B. Barton	881
Errata	640	ANDERSEN, C.A.	
Aenigmatite		<i>Microprobe Analysis</i> ; reviewed by	
in volcanic complex, composition,		A.E. Bence	1334
and X-ray data	820	Andradite	
AHRENS, THOMAS J.		stability relations with quartz	1016
with R.V. Gibbons, and G.R. Rossman;		Andremeyerite, new mineral (abstr.)	381
Shock-produced color change in		ANGINO, ERNEST E.	
rhodonite	177	review of <i>Marine Evaporites</i> , ed.	
AKIMOTO, SYUN-ITI		Kirkland and Evans	880
with T. Yagi, and F. Marumo;		Anglesite	
Structures of spinel polymorphs		synthesis from aqueous solution	1209
of Fe ₂ SiO ₄ and Ni ₂ SiO ₄	486		
Albite			
comparison with danburite	79		
high-, binary solvi with sanidine			
[<i>Am. Mineral.</i> 58:1009]: Errata	640		

* Prepared by Wen H. Haug, Department of Geology, University of South Florida, Tampa, Florida 33620; and by Maureen S. Foulds, Department of Geological Sciences, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061.

- Anleitung zur Allgemeinen und Polarisations - Mikroskopie der Festkoerper im Durchlicht* (Rinne-Berek), 3rd. ed. by H. Schumann; reviewed by D.J. Fisher 1142
- ANNERSTEN, HANS
Mössbauer studies of natural biotites 143
- Annite
crystal structure [*Am. Mineral.* 58:889]: Errata 221
- Anorthite
comparison with danburite 79
comparison with hurlbutite 1267
- Anorthosites, intergrowths 673
- Antimonides
arsenopalladinite (abstr.) 1330
atheneite (abstr.) 1330
isomertieite (abstr.) 1330
- Apatite formation
electron microscopic study (abstr.) 1136
- Apatites, lunar 231
- Apophyllite, absorption spectra 621
- ARAKI, TAKAHARU
with P.B. Moore; Atomic arrangement of roweite 60
_____, with P.B. Moore; Bjarebyite: Atomic arrangement 567
_____, with P.B. Moore; Jahnsite: A novel stereoisomerism 964
_____, with P.B. Moore; Montgomeyite: Its crystal structure and relation to vauxite 843
_____, with P.B. Moore; Pinakiolite, warwickite, and wightmanite 985
_____, with P.B. Moore; Stewartite: Its atomic arrangement 1272
_____, with P.B. Moore; Trolleite 974
- AREM, JOEL E.
Man-Made Crystals; reviewed by W.R. Skinner 1337
- ARISTARAIN, LORENZO F.
with R.C. Erd and G.D. Eberlein; Roweite from Franklin, New Jersey: A restudy 66
- Aristarainite
new mineral from Argentina 647
- Armalcolite
in Apollo 17 breccias, chemical composition 681
ortho- and para-, new minerals (abstr.) 632
- ARMBRUSTMACHER, THEODORE J.
with N.G. Banks; Clouded plagioclase in metadolerite dikes, Southeastern Bighorn Mountains, Wyoming 656
- Armstrongite, new mineral (abstr.) 208
- Arsenates
arseniosiderite 48, 640
irhtemite (abstr.) 209
metalodevite 210
picropharmacolite 807
troegerite 763
- Arsenides
arsenopalladinite (abstr.) 1330
atheneite (abstr.) 1330
isomertieite (abstr.) 1330
- Arseniosiderite
optical and X-ray data 48
composition 640
- Arsenopalladinite
new X-ray and microprobe data (abstr.) 1332
- Atheneite, new mineral (abstr.) 1330
- Atlas of Quartz Sand Surface Textures* (Krinsley and Doornkamp); reviewed by F.D. Bloss 386
- Atlas of the Textural Patterns of Granites, Gneisses, and Associated Rock Types* (Augustithis); reviewed by R.V. Dietrich 217
- Atomic arrangement
see crystal structure
- Attapulgitite, absorption coefficients 1113
- Augite
composition 120, 249
crystallization and zoning 120
titan-, crystal structure and sector zoning 127
- AUGUSTITHIS, STYLIANOS S.
Atlas of the Textural Patterns of Granites, Gneisses, and Associated Rock Types; reviewed by R.V. Dietrich 217
- Baddeleyite
in gabbroic rocks, composition 249
- Ba-feldspar
lunar 231
synthetic, phase transformation and hourglass pattern 139
- BAHAT, DOV
Phase transformation and development of hourglass pattern in synthetic barium feldspar 139

- BAILEY, EDGAR H.
review of *Geology of Leech Lake*, J. Suppe 1143
- BALÁZS, L.
with others; Investigation of the steps of apatite formation by electron microscopic methods (abstr.) 1136
- BANCROFT, PETER
The World's Finest Minerals and Crystals; reviewed by F.D. Bloss 387
- BANKS, NORMAN G.
with T.J. Armbrustmacher; Clouded plagioclase in metadolerite dikes 656
- BANSAL, G.K.
with A.H. Heuer; Precipitation in non-stoichiometric magnesium aluminate spinel (abstr.) 1137
- BARBER, D.J.
HVTEM studies of deformed carbonate rocks and crystals (abstr.) 1135
- Barite
synthesis from aqueous solution 1209
- BARKER, W.W.
with J. Graham; The crystal chemistry of complex niobium and tantalum oxides: V. Electrostatic energy calculations 1051
- BARNA, Á., and P.B. BARNA
with others, Investigation of the steps of apatite formation by electron microscopic methods (abstr.) 1136
- BARNES, H.L.
review of *Geochemical Tables*, Rössler and Lange 214
- BARNES, MILDRED A., and V.E. BARNES
Tektites; reviewed by D.R. Chapman 214
- BARTON, PAUL B., Jr.
review of *Ores in Sediments*, ed. Amstutz and Bernard 881
- BAUR, WERNER H.
review of *Röntgen-, Elektronen-*, ed. Wondratschek 1148
- BAYLISS, PETER
review of *DTA*, vol. 2, *Applications*, ed. Mackenzie 386
- Bellingrite
crystal structure (abstr.) 1130
- BENCE, A.E.
review of *Microprobe Analysis*, C.A. Andersen 1334
- BENSON, WILLIAM E.
Memorial of William Thomas Pecora 420
- BERENDSEN, PIETER
with E.E. Foord, and L.O. Storey; Corderoite, first natural occurrence of $\alpha\text{-Hg}_3\text{S}_2\text{Cl}_2$ 652
- BERNARD, A.J.
with G.C. Amstutz, Eds. *Ores in Sediments*; reviewed by P.B. Barton 881
- Beryl, electron microscopic studies 1
- BETHKE, PHILIP M.
Report of the Treasurer for 1972A and 1973 1341
- Biabsorption coefficients
measurement in pleochroic crystals 359
- Bicchulite, new mineral (abstr.) 1330
- BIDEAUX, RICHARD A.
with W.J. McLean, and R.W. Thomssen; Yedinite, new mineral 1157
- BIGARELLA, JOÃO JOSÉ
with others, *Minerals of Brazil*; reviewed by E. Ingerson 639
- BIGELOW, WILBUR C.
with D.R. Peacor, E.J. Essene, and W.B. Simmons, Jr.; Kellyite, a new serpentine, and new data on grovesite 1153
- Bikitaite
composition and structure 71
- Binary solvi, see solvi
- Biotite
composition 143, 783
inclusion in diamond 783
Mg and Fe^{2+} in coexisting garnet 201
Mössbauer spectra 143
X-ray data 783
- Biringuccite, crystal structure 1005
- BISWAS, T.D.
with S.K. Mukherjee, Eds. *Mineralogy of Soil Clays and Clay Minerals*; reviewed by W.D. Keller 1146
- Bjarebyite
atomic arrangement 567
new mineral (abstr.) 873
- BLATT, HARVEY
review of *Stability of Heavy Minerals*, Ffichtbauer, Lisitzyn, Milliman, and Seibold 1333
- BLOSS, F. DONALD
Report of the Editor for 1973 441
_____, review of *Atlas of Quartz Textures*, Krinsley and Doornkamp 386

- BLOSS, F. DONALD, continued
 review of *Crystal Structure Data*,
 Pies and Weiss 1142
 —, review of *Minerals in World
 Affairs*, A. Sutulov 218
 —, review of *World Directory of
 Mineral Collections*, P.C. Zwaan,
 Ed., with others 1149
 —, review of *World's Finest
 Minerals*, P. Bancroft 387
- BLOUNT, ALICE M.
 The crystal structure of crandallite 41
- BLOUNT, CHARLES C.
 Synthesis of barite, celestite,
 anglesite, witherite, and
 strontianite from aqueous
 solutions 1209
- BOLSANELLO, AURÉLIO
 with others, *Minerals of Brazil*;
 reviewed by E. Ingerson 639
- Book of Minerals*
 (Magnus), translated by D. Wyckoff;
 reviewed by G.T. Faust 636
- Book Reviews, see Reviews
- Borates
 aristarainite, new mineral 647
 biringuccite 1005
 garrelsite (abstr.) 632
 pinakiolite 985
 roweite 60, 66
 warwickite 985
 wightmanite 985
- Borovskite, new mineral (abstr.) 873
- BOTINELLY, THEODORE
 with J.W. Adams, W.N. Sharp, and
 K. Robinson; Murataite, a new
 complex oxide 172
 Errata 640
- BRADY, JOHN B.
 Coexisting actinolite and hornblende
 from West-Central New Hampshire 529
- BREGER, IRVING
 with C. Milton, and B. Ingram;
 Authigenic magnesioarfvedsonite
 from the Green River Formation 830
- BRETT, ROBIN
 with K. Keil; Heideite, a new
 mineral 465
- BRICE, J.C.
The Growth of Crystals from Liquids,
 reviewed by J. Ito 637
- BRINDLEY, G.W.
 with T.-S. Chang; Development of
 long basal spacings in chlorites
 by thermal treatment 152
- BROCK, KENNETH J.
 Zoned lithium-aluminum mica
 crystals from the Pala Pegmatite
 District 1242
- Bromides, see Halides
- Bronzite
 clino-, zoning and inversion 374
- BROUSSARD, L.
 with others; Zeolite "RHO" and
 the SIGMA transformation (abstr.) 1127
- BROWER, W.S.
 with H.S. Parker and R.S. Roth;
 Reexamination of synthetic parkerite
 and shandite 296
- BROWN, GORDON E.
 with A.S. Radtke; Frankdicksonite,
 a new mineral 885
- BROWN, VINSON
 with D. Allan and J. Stark, *Rocks
 and Minerals of California*;
 reviewed by J. Murdoch 387
- BROWN, W.L.
 with C. Willaime and M.C. Perucaud;
 Orientation of strain ellipsoids in
 feldspars 457
- Buetschliite
 crystal structure, properties, and
 synthesis 353
- BULAKH, A.G.
The Graphics of Crystals (in Russian);
 reviewed by J. Macek and P. Černý 638
 —, with A.A. Mazalov; Accessory
 thorianite from the massifs of
 alkaline rocks and carbonatites of
 the Turja Peninsula (Kola
 Peninsula) 378
- BURNHAM, CHARLES W.
 with R.M. Hazen; Crystal structures
 of gillespite I and II 1166
 —, with R.M. Hazen; The crystal
 structures of one-layer phlogopite
 and annite [*Am. Mineral.* 58:898]:
 Errata 221
- BURNS, ROGER G.
 The polarized spectra of iron in
 silicates: Olivine. A discussion of
 neglected contributions from Fe²⁺
 ions in M(1) sites 625
- BUSECK, PETER R.
 with S. Iijima; Aspects of high
 resolution electron microscopy of
 minerals (abstr.) 1131
 —, with S. Iijima; High resolution
 electron microscopy of silicates 1

- Calcjarlite, new mineral (abstr.) 873
- CALDWELL, W.G.E.
Memorial of James Robert Smith 424
- CALVO, C.
with R. Faggiari; A re-investigation
of the crystal structures of
chevkinite and perrierite 1277
- CAMERON, EUGENE N., Ed.
*The Mineral Position of the United
States, 1975-2000*; reviewed by
A.C. Samuelson 879
- Canadian Mineralogy, Contributions to,
microfilm available* 1150
- Carbonates
buetschliite 353
crystal growth by silica gel
technique 947
dolomite epitaxial growth on mica
fairchildite 871
norsethite 353
norsethite 471
strontianite 1209
studtite, not a uranyl carbonate 166
TEM studies of deformation
structures (abstr.) 1135
witherite 1209
- Carbonatite
oxygen fugacity geothermometry 314
- Carbon film thickness in electron
microprobe analysis (*Am. Mineral.*
58:920), comment 1121
- CARMAN, JOHN H.
Synthetic sodium phlogopite and its
two hydrates: Stabilities,
properties, and mineralogical
implications 261
- Carrollite
composition and X-ray data 302
- CAWTHORN, R. GRANT
with K.D. Collerson; The recalculation
of pyroxene end-member parameters
and the estimation of ferrous and
ferric iron content from electron
microprobe analyses 1203
- Celestite
synthesis from aqueous solution 1209
- Celsian
synthetic, transformation and
hourglass pattern 139
- ČERNÝ, P.
with J. Macek; review of
The Graphics of Crystals (in
Russian), A.G. Bulakh 638
- Chalcanthite
morphology (abstr.) 1128
- Chalcanthite, continued
synthetic, crystal habit 1105
- CHAMPNESS, P.E.
with P.A. Copley; Phase
transformations in the pyroxenes
(Ca,Mg,Fe)₂Si₂O₆ (abstr.) 1135
- CHANG, TIEN-SHOW
with G.W. Brindley; Increased basal
spacings in dehydroxylated
chlorites 152
- CHAPMAN, DEAN R.
review of *Tektites*, V.E. Barnes
and M.A. Barnes, Eds. 214
- Charge-transfer spectra, Fe³⁺ and
Mn²⁺ in forsterite 1259
- CHARLES, ROBERT W.
The physical properties of the
Mg-Fe richterites 518
- CHASEN, EDITH
with C.W. Wolfe; Crystal habit of
synthetic chalcanthite (copper
sulfate pentahydrate) as related
to position and orientation in
growth solution 1105
- Chemical Bonds in Solids*
(Sirota, Ed.); reviewed by
R.M. Munn 1339
- The Chemistry of Imperfect Crystals,*
Volume 1, *Preparation, Purification,*
Crystal Growth and Phase Theory
(Kroger); reviewed by D.K. Smith 1336
- CHERNOSKY, JOSEPH V., Jr.
The upper stability of clinocllore at
low pressure and the free energy of
formation of Mg-cordierite 496
- Chevkinite, crystal structure 1277
- CHINNER, G.A.
Memorial of Cecil Edgar Tilley 427
- Chlorides, see Halides
- Chlorites,
clinocllore 496
composition 152
composition, in metamorphic rocks 22
development of long basal spacing 152
optical properties in metamorphic
rocks 22
- Chondrodite
B in, by ion microprobe mass
analysis 1123
- CHRISTIE, JOHN M.
Transmission electron microscopy of
deformation structures in minerals
(abstr.) 1131

- Chromite
 alteration from dunite 608
 in Apollo 15 samples 1220
 composition 1220, 1236
 serpentinization 1236
- Chromium III centers
 in synthetic alexandrite 159
- CLARK, ALAN H.
 Hypogene and supergene cobalt-copper
 sulfides, Carrizal Alto, Atacama,
 Chile 302
- CLARK, JOAN R.
 Proceedings of the fifty-fourth
 annual meeting of the Mineralogical
 Society of America 438
 _____, Report of the Secretary, 54th
 annual meeting, MSA 440
- Clay minerals
 allophane 1094
 corrensite 623
 dickite 274
 halloysite 274, 365
 kaolinite 274, 365
 palygorskite 508
 pyrophyllite 254
 stability in relation to weathering 365
 vermiculite-1-ornithine⁺ complexes 790
 visible and near-infrared
 absorption coefficients 1113
- CLIFF, G.
 with G.W. Lorimer; Analytical
 electron microscopy of minerals
 (abstr.) 1137
- Clinobronzite, zoning and inversion 374
- Clinochlore
 stability at low pressure, and X-ray
 data 496
- Clinoenstatite
 polymorphism of enstatite 345
- Clinopyroxene
 coordination polyhedra of M site
 atoms in 1083
- Clinzoisite, infrared spectra 1249
- COHEN, ALVIN J.
 with F. Hassan; Biaxial color centers
 in amethyst quartz 709
 _____, with F. Hassan; Ferrous and
 ferric ions in synthetic α -quartz
 and natural amethyst 719
- COHEN, LEWIS H.
 with W. Klement, Jr., and H.G. Adams;
 Yet more observations on the high-
 low quartz inversion: Thermal
 analysis studies to 7 kbar with
 single crystals 1099
- COLLERSON, KENNETH D.
 with R.G. Cawthorn; Recalculation of
 pyroxene end-member parameters and
 estimation of ferrous and ferric
 iron content 1203
- Color centers, in amethyst quartz 709
- Committees, MSA officers and, see
 Mineralogical Society of America
- Composition of Fluid Inclusions*
 (E. Roedder); reviewed by E.
 Ingerson 1340
- COPLEY, P.A.
 with P.E. Champness; Phase trans-
 formations in pyroxenes (abstr.) 1135
- CORAZZA, EGIZIO
 with S. Menchetti and C. Sabelli;
 The crystal structure of biring-
 uccite, Na₄[B₁₀O₁₆(OH)₂]·2H₂O 1005
- Corderoite
 first natural occurrence,
 composition and properties 652
- Cordierite
 electron microscopic studies and
 microprobe analysis 1
 Mg-, Gibbs free energy of formation 496
- CRAIG, JAMES R.
 with D.J. Vaughan; Properties of iron
 in a monosulfide solid solution 926
- Crandallite
 crystal structure refinement, IR
 spectra, identity with deltaite 41
- CRISWELL, DAVID R., Ed.
*Proceedings of the Third Lunar Science
 Conference, Volume 3, Physical
 Properties*; reviewed by R.M. Housley 635
- Cryptoperthite lamellae
 stress and strain, in alkali
 feldspars 1299
- Crystal chemistry
 epistilbites 1055
 high T, clinohypersthene 1069
 monosulfide solid solution 926
 niobium oxide 1026
 pinakiolite 985
 tantalum oxide 1026
 warwickite 985
 wightmanite 985
- Crystal field spectra
 olivine, Ni²⁺ in 244
- Crystal Growth: An Introduction*
 (P. Hartman, Ed.); reviewed by
 R.S. Feigelson 878

Crystal growth			
CaCO ₃ by silica gel technique	947		
Crystal habit, chalcantite	1105		
Crystallization trends, pyroxene	120		
<i>Crystals and the Polarising Microscope</i>			
4th ed. (Hartshorne and Stuart);			
reviewed by D.M. Henderson	216		
Crystal structure			
annite [<i>Am. Mineral.</i> 58:898]: Errata	221		
bellingrite (abstr.)	1130		
bikitaite	71		
biringuccite	1005		
bjarebyite	567		
buetschliite	353		
chevkinite	1277		
Co ₂ SiO ₄ , polymorphs	475		
crandallite	41		
danburite	79		
fergusonite	1045		
gillespite at high pressure	1166		
herderite	919		
howieite	86		
jagowerite	291		
jahnsite	964		
mica, high <i>T</i> (abstr.)	1128		
mica, trioctahedral (abstr.)	1128		
Mn ₂ GeO ₄ , β-	475		
olivine, α-	475		
orthophosphate, ferrous (abstr.)	1129		
paratacamite (abstr.)	1129		
perrierite	1277		
phlogopite, one-layer [<i>Am. Mineral.</i>			
58:898]: Errata	221		
pyroxene, Ca-Tschermak's-	549		
quenstedtite	582		
role in partitioning Mg and Fe ²⁺			
between garnet and biotite	201		
roweite	60		
spinel	475		
Sr-feldspar	1319		
stewartite	1272		
spinel polymorphs	486		
titanaugites	127		
trolleite	974		
ussingite	335		
veszelyite	573		
wenkite (abstr.)	1135		
wodginite	1040		
yedlinite	1160		
zeolites (abstr.)	1127		
<i>Crystal Structure Data of Inorganic</i>			
<i>Compounds</i> , Parts a and g (Pies and			
Weiss); reviewed by F.D. Bloss	1142		
CUDWORTH, J.R.			
Memorial of Thomas Newkirk McVay	417		
Cuprospinel, new mineral (abstr.)	381		
Cyanides, kafehydrocyanite (abstr.)	209		
DALLMEYER, R.D.			
The role of crystal structure in			
controlling the partitioning of			
Mg and Fe ²⁺ between coexisting			
garnet and biotite	201		
Danburite			
compared with hurlbutite	1267		
comparison with anorthite, albite,			
and reedmergnerite	79		
crystal structure	79		
DAVIS, TERRY E.			
review of <i>Geochronology</i> , ed. Harper	881		
de ABELEDO, MARIA E.J.			
with M.A.R. de Benyacar; Phase tran-			
sition in synthetic troegerite at			
room temperature	763		
de BENYACAR, MARIA A.R.			
with M.E.J. de Abeledo; Phase tran-			
sition in synthetic troegerite at			
room temperature	763		
Decomposition features			
use of photoemission electron			
microscopy (abstr.)	1136		
Deformation structures			
in carbonates, TEM studies of			
(abstr.)	1135		
in minerals, by TEM (abstr.)	1131		
peridotites (abstr.)	1134		
Dehydration, allophane	1094		
DELL, C.I.			
with J.O. Nriagu; Diagenetic forma-			
tion of phosphates	934		
Deltaite, identity with crandallite	41		
DESBOROUGH, GEORGE A.			
with R.A. Sheppard, A.J. Gude, 3rd,			
and J.S. White, Jr.; Levyne-			
offretite intergrowths from basalt	837		
Diamond			
biotite inclusion in	783		
gas released from	775		
DICKEY, JOHN S., Jr.			
with M. Obata; Graphitic hornfels			
dikes in the Ronda high-temperature			
peridotite massif	1183		
Dickite			
optical absorption coefficients	274		
DIDIER, J.			
<i>Granites and Their Enclaves</i> ;			
reviewed by G.H. Haddock	385		

- DIETRICH, R.V.
 review of *Atlas of Textural Patterns*, S.S. Augustithis 217
- Differential thermal analysis
 allophane 1094
- Differential Thermal Analysis*, Volume 2, *Applications* (R.C. Mackenzie, Ed.); reviewed by P. Bayliss 386
- Dimorphite, new X-ray data (abstr.) 632
- Diopside-orthoenstatite
 two phase region in the system
 $\text{CaMgSi}_2\text{O}_6\text{-Mg}_2\text{Si}_2\text{O}_6$ 98
- Discredited Minerals
 khuniite (abstr.) 633
 kolskite (abstr.) 212
 neotantalite (abstr.) 212
 sungulite (abstr.) 212
- Dislocation structures
 hedenbergite (abstr.) 1132
- DMITRIK, A.L.
 with N.I. Organova and V.A. Drits;
 Selected area electron diffraction study of a type II "valleriite-like" mineral 190
- DOLANSKI, JOSEPH
 Sulvanite from Thorpe Hills, Utah 307
- Dolomite, epitaxial growth on mica 871
- DONNAY, GABRIELLE
 with J.D.H. Donnay; Chalcanthite morphology (abstr.) 1128
- DONNAY, J.D.H.
 with G. Donnay; Chalcanthite morphology (abstr.) 1128
- DOORNKAMP, JOHN C.
 with D.H. Krinsley, *Atlas of Quartz Sand Surface Textures*; reviewed by F.D. Bloss 386
- DOWTY, ERIC
 with C.E. Nehru, M. Prinz, and K. Keil; Spinel-group minerals and ilmenite in Apollo 15 rake samples 1220
- DRICKAMER, H.G.
 with C.W. Frank, *Electronic Transitions and the High Pressure Chemistry and Physics of Solids*; reviewed by S. Ghose 217
- DRITS, V.A.
 with N.I. Organova and A.L. Dmitrik;
 Selected area electron diffraction study of a type II "valleriite-like" mineral 190
- Drysdallite, new mineral (abstr.) 1139
- DUBINS, M. IRA
 review of *Nature of Earth Materials*, A.C. Tennissen 1147
- DURRANCE, ERIC MICHAEL
 A simple method for the measurement of biabsorption coefficients in pleochroic crystals using a normal petrological microscope 359
- DYBWAD, JENS P.
 with L.M. Logan and K.P. Zinnow;
 Infrared reflection spectroscopy of microscopic mineral grains 604
- EBERLEIN, G. DONALD
 with L.F. Aristarain and R.C. Erd;
 Roweite from Franklin, New Jersey: A restudy 66
- EDGAR, ALAN D.
Experimental Petrology: Basic Principles and Techniques; reviewed by W.A. Elders 878
- ELDERS, WILFRED A.
 review of *Experimental Petrology*, A.D. Edgar 878
- Electron diffraction study
 "valleriite-like" mineral type II 190
- Electron microprobe analyses
 amphiboles in metamorphic rocks 22
 chlorite in metamorphic rocks 22
 cordierite 1
 enstatite 1
 epidotes in metamorphic rocks 22
 feldspars in metamorphic rocks 22
 hornblende 1
 idocrase 1
 muscovite in metamorphic rocks 22
 scapolite 1
- Electron microscopic studies
 beryl 1
 cordierite 1
 enstatite 1
 hornblende 1
 idocrase 1
 muscovite 1
 orthoenstatite 1
 sample preparation for petrography 183
 scapolite 1
- Electron microscopy
 analytical (abstr.) 1137
 of augite exsolution lamellae in enstatite (abstr.) 1132
 photo-emission, use of on decomposition features (abstr.) 1136
 structure images (abstr.) 1131
 tool in geology (abstr.) 1130

- Electronic Transitions and the High Pressure Chemistry and Physics of Solids* (Drickamer and Frank); reviewed by S. Ghose 217
- Electrostatic energy calculations niobium and tantalum oxides 1051
- EL-RAKHAWY, A.
with F. Hassan; Chromium III centers in synthetic alexandrite 159
- EMERSON, R.W.
with C.V. Guidotti; New X-ray and chemical data on C.G. Hewlett's feldspar suite 615
- EMILIANI, CESARE
review of *Mediterranean Sea*, D.J. Stanley, Ed. 385
_____, review of *Strontium Isotope Geology*, Faure and Powell 1337
- Enstatite
electron microscopic studies 1
exsolution lamellae in (abstr.) 1132
microprobe analysis 1
polymorphs of, unit cell 345
solubility of Al₂O₃ in 110
- Epidotes
composition, in metamorphic rocks 22
infrared spectra 1249
optical properties in metamorphic rocks 22
tanzanite 613
- Epistilbite, crystal chemistry 1055
- Equilibria
metamorphic mixed-volatile (H₂O-CO₂) 729
- Equilibrium
across coherent interface in stressed crystal 1286
- Equilibrium calculations
C-O-H-N system 587
- ERD, RICHARD C.
with L.F. Aristarain and G.D. Eberlein; Roweite from Franklin, New Jersey: A restudy 66
_____, with C.S. Hurlbut, Jr.; Aristarainite, a new mineral 647
- ESSENE, E.J.
with D.R. Peacor, W.B. Simmons, Jr., and W.C. Bigelow; Kellyite, a new serpentine, and new data on grovesite 1153
_____, with C. Ritz, and D.R. Peacor; Metavivianite, a new mineral 896
- EVANS, ROBERT
with D.W. Kirkland, Eds. *Marine Evaporites: Origin, Diagenesis, and Geochemistry*; reviewed by E.E. Angino 880
- Experimental Petrology: Basic Principles and Techniques* (A.D. Edgar); reviewed by W.A. Elders 878
- Exsolution lamellae
in enstatite (abstr.) 1132
feldspars (abstr.) 1133
- Eylettersite, new mineral (abstr.) 208
- FAGGIANI, R.
with C. Calvo; Crystal structures of chevkinite and perrierite 1277
- Fairchildite, synthesis and properties 353
- FALLIS, SUSAN M.
with O.C. Kopp; Corrensite in the Wellington Formation, Kansas 623
- FANG, JEN H.
with J.N. Thomas and P.D. Robinson; Crystal structure of quenstedtite 582
- FARKAS-JAHNKE, M.
with others; Investigation of apatite formation by electron microscopy (abstr.) 1136
- FAURE, G.
with J.L. Powell, *Strontium Isotope Geology*; reviewed by C. Emiliani 1337
- FAUST, GEORGE T.
review of *Book of Minerals*, A. Magnus 636
- FEIGELSON, ROBERT S.
review of *Crystal Growth*, P. Hartman, Ed. 878
- Feldspars
alkali-, Hewlett's suite 615
microcline 604
stress and strain in cryptoperthite lamellae 1299
unit cell at liquid nitrogen temperature 1327
anorthosite 673
barium, celsian 139
lunar 231
exsolution lamellae (abstr.) 1133
nepheline as a metasomatic product 690
orientation of strain ellipsoids of plagioclase 457
albite 79, 341, 598, 640
anorthite 79
composition 22, 249
labradorite phenocrysts in basalt 666
from lunar rocks 1062
occurrence in metadolerite dikes 656
TEM (abstr.) 1133
Sr-, crystal structure 1319
ternary, TEM (abstr.) 1133
- The Feldspars. Proceedings of A NATO Advanced Study Institute, Manchester, 11-21 July, 1972* (MacKenzie and Zussman, Eds.); reviewed by F. F. Foit 1333

- Feldspathoids, nepheline 365
- FENN, PHILIP M.
with W.C. Luth; Calculation of
binary solvi of sanidine-high
albite solvus [*Am. Mineral.* 58:
1009]: Errata 640
- Fergusonite, crystal structure 1045
- Ferrobustamite, new mineral (abstr.) 632
- FINCH, CABELL B.
with R.A. Weeks and J.C. Pigg;
Charge-transfer spectra of Fe³⁺
and Mn²⁺ in synthetic forsterite 1259
- FINNERTY, TONY A.
with D. Rumble, III; Devonian
grossularite-spessartine over-
growths on ordovician almandine 558
- FINNEY, J.J.
review of *X-ray Crystallography*,
G.H.W. Milburn 215
- FISHER, D. JEROME
review of Rinne-Berek: *Anleitung
zur Allgemeinen . . .*, 3rd ed. by
H. Schumann 1142
- FLEET, M.E.
The crystal structure of
paratacamite--Cu₂(OH)₃Cl (abstr.) 1129
- _____, Distortions in the coordination
polyhedra of M site atoms in
olivines, clinopyroxenes, and
amphiboles 1083
- FLEISCHER, MICHAEL
New mineral names (abstrs.) 208,
381, 632, 873, 1139, 1330
- Fluorite
frankdicksonite, new mineral 885
- FLOWER, MARTIN F.J.
Phase relations of titan-acmite in
the system Na₂O-Fe₂O₃-Al₂O₃-TiO₂-
SiO₂ at 1000 bars total water
pressure 536
- Fluorides, see Halides
- FOIT, F.F., Jr.
review of *The Feldspars*; MacKenzie
and Zussman, Eds. 1333
- FOORD, EUGENE E.
with P. Berendsen, and L.O. Storey;
Corderoite, first natural
occurrence of α-Hg₃S₂Cl₂, from the
Cordero Mercury Deposit, Humboldt
County, Nevada 652
- FORNÉS, VICENTE
with J.A. Rausell-Colom; Mono-
dimensional Fourier analysis of
vermiculite-1 ornithine⁺ complexes 790
- Forsterite
charge-transfer spectra of Fe³⁺ and
Mn²⁺ in 1259
- FRÁKNÓY-KORÖS, V.
with others; Investigation of apatite
formation by electron microscopy
(abstr.) 1136
- FRANCO, RUI RIBEIRO
with others, *Minerals of Brazil*;
reviewed by E. Ingerson 639
- FRANK, C.W.
with H.G. Drickamer, *Electronic
Transitions and the High Pressure
Chemistry and Physics of Solids*;
reviewed by S. Ghose 217
- Frankdicksonite
new mineral from Nevada 885
- FRICKER, PETER
with K. Keil; Baddeleyite in gabbroic
rocks from Axel Heiberg Island 249
- FRIEL, JOHN J.
with G.C. Ulmer; Oxygen fugacity geo-
thermometry of the Oka carbonatite 314
- FROESE, EDGAR
with T.M. Gordon; Activity
coefficients of coexisting
pyroxenes 204
- FRYE, K.
Modern Mineralogy; reviewed by
E.P. Meagher 1337
- FUCHS, LOUIS H.
review of *The Opaque Minerals*,
P. Ramdohr 213
- FÜCHTBAUER, H.
with others, *Stability of Heavy
Minerals*; reviewed by H. Blatt 1333
- Gabbro
baddeleyite in 249
zircon in 249
- Gadolinites
synthesis, spectra, and X-ray data 700
- GAIT, ROBERT I.
with V. Kocman and J. Rucklidge;
Crystal structure of bikitaita 71
- Galkhaite, new mineral (abstr.) 208

- GALLI, ERMANNO
with R. Rinaldi; The crystal chemistry of epistilbites 1055
- GARIBYANTS, A.A.
with V.S. Golubev, *Heterogeneous Processes of Geochemical Migration*; reviewed by A.W. Hofmann 1338
- Garnets
almandine 558
andradite, stability with quartz 1016
Fe²⁺ in 563
Mg and Fe²⁺ in coexisting biotite 201
solubility of Al₂O₃ for spinel and garnet peridotite compositions 110
- Garrelsite
new microprobe data (abstr.) 632
- GAY, PETER
Memorial of Sir (William) Lawrence Bragg 408
- GELENCSÊR, P.A.
with others; Investigation of apatite formation by electron microscopy (abstr.) 1136
- Genesis of Precambrian Iron and Manganese Deposits. Proceedings of the Kiev Symposium, 20-25 August 1970*; reviewed by R.W. Marsden 1144
- Geochemical Tables* (Rösler and Lange); reviewed by H.L. Barnes 214
- Geochronology-Radiometric Dating of Rocks and Minerals* (Harper, Ed.); reviewed by T.E. Davis 881
- Geological Laboratory Techniques* (Allman and Lawrence); reviewed by F.H. Manley and W.R. Power 1142
- Geology of the Leech Lake Mountain-Ball Mountain Region, California* (J. Suppe); reviewed by E.H. Bailey 1143
- Geothermometry, oxygen fugacity 314
- GESZTI-HERKNER, O.
with others; Investigation of apatite formation by electron microscopy (abstr.) 1136
- GHOSE, SUBRATA
review of *Electronic Transitions*; Drickamer and Frank 217
_____, with S.R. Leo and C. Wan; Structural chemistry of copper and zinc minerals. Part I. Veszelyite, (Cu,Zn)₂ZnPO₄(OH)₃·2H₂O: A novel type of sheet structure and crystal chemistry of copper-zinc substitution 573
- GHOSE, SUBRATA continued
_____, with F.P. Okamura and H. Ohashi; Structure of calcium Tschermak's pyroxene, CaAlAlSiO₆ 549
_____, with C. Wan; Stereochemistry of copper (II) and iodine (V) in bellingerite (abstr.) 1130
- GIARDINI, A.A.
with V.J. Hurst, C.E. Melton, and J.C. Stormer, Jr.; Biotite as a primary inclusion in diamond: Its nature and significance 783
_____, with C.E. Melton; Gas released from natural diamonds 775
- GIBBONS, C.S.
with E.P. Meagher and J. Trotter; Crystal structure of jagowerite 291
- GIBBONS, REX V.
with T.J. Ahrens and G.R. Rossman; A spectrographic interpretation of the shock-produced color change in rhodonite (MnSiO₃): The shock-induced reduction of Mn(III) to Mn(II) 177
- Gibbs free energy
cordierite, Mg- 496
palygorskite 508
- GIBBS, G.V.
with G.A. Lager; Crystal structure of herderite 919
_____, with J.T. Lindbloom and P.H. Ribbe; Crystal structure of hurlbutite 1267
_____, with M.W. Phillips and P.H. Ribbe; Crystal structure of danburite: Comparison with anorthite, albite, and reedmergnerite 79
- GIBSON, RICHARD I.
Descriptive human pathological mineralogy 1177
- GILLESPIE, JAMES B.
with J.D. Lindberg and M.S. Smith; Visible and near-infrared absorption coefficients of montmorillonite and related clays 1113
- Gillespite
crystal structure at high pressure 1166
- GLOVER, LYNN, III
review of *Studies in Earth and Space Sciences*, R. Shagam and others, Eds. 876
- GOLDSMITH, JULIAN R.
with R.C. Newton and P.B. Moore; Silicate-nitrate compounds: High pressure synthesis and stability of a nitrate scapolite 768

- GOLUBEV, V.S.
with A.A. Garibyants, *Heterogeneous Processes of Geochemical Migration*; reviewed by A.W. Hofmann 1338
- GORDON, T.M.
with E. Froese; Activity coefficients of coexisting pyroxenes 204
- GOURLEY, J. TERRY
with W.A. Runciman and D. Sengupta; Polarized spectra of iron in silicates. II. Olivine. A reply 630
- GRAF, DONALD L.
X-ray cells for diffraction analysis of flat powder mounts in contact with liquid at elevated temperature and pressure 851
- GRAHAM, J.
The crystal chemistry of complex niobium and tantalum oxides: III. Relationship between *M*, *T*, and *M'* fergusonite structures 1045
_____, with W.W. Barker; Complex niobium and tantalum oxides: V. Electrostatic energy calculations 1051
_____, with M.R. Thornber; Crystal chemistry of complex niobium and tantalum oxides:
I. Structural classification of MO_2 phases 1026
II. Composition and structure of wodginite 1040
IV. The metamict state 1047
- Granites and Their Enclaves* (Didier); reviewed by G.H. Haddock 385
- The Graphics of Crystals* (in Russian), (Bulakh); reviewed by J. Macek and P. Cerný 638
- Graphite, in peridotite massif 1183
- GRAY, NORMAN H.
with A.R. Philpotts; Inverted clinobronzite in eastern Connecticut diabase 374
- GREEN, HARRY W., II
Deformation mechanisms in peridotites: A review of transmission electron microscopy studies (abstr.) 1134
- GREEN, JOHN C.
with T. Konda; Clinopyroxenes from the Keweenaw lavas 1190
- GROVE, TIMOTHY L.
A TEM study of labradorite-anorthite intergrowths in metamorphic plagioclase feldspars (abstr.) 1133
- GROVE, TIMOTHY L. continued
_____, with R.M. Hazen; Alkali feldspar unit-cell parameters at liquid nitrogen temperatures: Low temperature limits of the displacive transformation 1327
- Grovesite
new X-ray and powder diffraction data 1153
- The Growth of Crystals from Liquids* (J.C. Brice); reviewed by J. Ito 637
- GRUNDY, H.D.
with J. Ito; The refinement of the crystal structure of a synthetic non-stoichiometric Sr feldspar 1319
- GÜBELIN, E.
Internal World of Gemstones; reviewed by J. Sinkankas 1146
- GUDE, ARTHUR J., 3rd
with R.A. Sheppard, G.A. Desborough, and J.S. White, Jr.; Levyne-offretite intergrowths from basalt 837
- GUIDOTTI, CHARLES V.
with R.W. Emerson; New data on C.G. Hewlett's feldspar suite 615
- GUTMANN, JAMES T.
Tubular voids within labradorite phenocrysts from Sonora, Mexico 666
- GÜVEN, N.
Factors affecting the symmetry of SAD patterns from micas (abstr.) 1134
- HADDOCK, GERALD H.
review of *Granites and Their Enclaves*, Didier 385
- HAFNER, STEFAN S.
with J. Ito; Synthesis and study of gadolinites 700
- HAGGERTY, STEPHEN E.
review of *Proceedings of the Third Lunar Science Conference*, Volume 1, *Mineralogy and Petrology*, E.A. King, Jr. Ed. 634
- Halides
calcjarlite (abstr.) 873
chlorides, hematophanite (abstr.) 384
- Halloysite
optical absorption coefficients 274
stability in relation to weathering of feldspars and nepheline in aqueous solution 365
- HARPER, C.T., Ed.
Geochronology-Radiometric Dating of Rocks and Minerals; reviewed by T.E. Davis 881

- HARTMAN, P., Ed.
Crystal Growth: An Introduction;
reviewed by R.S. Feigelson 878
- HARTSHORNE, N.H.
with A. Stuart, *Crystals and the
Polarising Microscope*, 4th ed.;
reviewed by D.M. Henderson 216
- HASSAN, F.
with A.J. Cohen; Biaxial color
centers in amethyst quartz 709
_____, with A.J. Cohen; Ferrous and
ferric ions in quartz and
amethyst 719
_____, with A. El-Rakhawy; Chromium
III centers in synthetic
alexandrite 159
- Haxonite, new mineral (abstr.) 209
- HAZEN, ROBERT M.
with C.W. Burnham; The crystal
structures of gillespite I and II:
A structure determination at high
pressure 1166
_____, with C.W. Burnham; The crystal
structures of one-layer phlogopite
and annite [*Am. Mineral.* 58:898]:
Errata 221
_____, with T.L. Grove; Alkali feldspar
unit-cell parameters at liquid
nitrogen temperatures 1327
- Hectorite, absorption coefficients 1113
- Hedenbergite
dislocation structures (abstr.) 1132
- Heideite
new mineral in Bustee enstatite
achondrite 465
- HEINRICH, E. Wm.
Memorial of Edward Henry Kraus 402
- Hellandite
new optical and X-ray data (abstr.) 212
- Hematite, electronic structure 319
- Hematophanite
new crystal structure data (abstr.) 384
- HENDERSON, D.M.
review of *Crystals and the Polarising
Microscope*, Hartshorne and Stuart 216
- Herderite, crystal structure 919
- Heterogeneous Processes of Geochemical
Migration*, V.S. Golubev and A.A.
Garibyants; reviewed by A.W.
Hofmann 1338
- Heterogenite-2H, new mineral (abstr.) 381
- HEUER, A.H.
with G.K. Bansal; Precipitation in
non-stoichiometric magnesium
aluminate spinel (abstr.) 1137
_____, with G.L. Nord; TEM of lunar
minerals and rocks (abstr.) 1131
_____, with B.J. Pletka and T.E.
Mitchell; Work hardening and solid
solution hardening of sapphire
(abstr.) 1137
- HEWINS, ROGER H.
Pyroxene crystallization trends and
contrasting augite zoning in the
Sudbury Nickel Irruptive 120
- HEWITT, DAVID A.
review of *The Oxide Handbook*, G.V.
Samsonov, Ed. 636
- Hewlett's feldspar suite
unit cell, chemical and X-ray data 615
- Heyite, new mineral (abstr.) 382
- HEYMANN, DIETER, Ed.
*Proceedings of the Third Lunar Science
Conference. Volume 2, Chemical and
Isotope Analyses: Organic Chemistry*;
reviewed by P.D. Nunes 634
- HIETANEN, ANNA
Amphibole pairs, epidote minerals,
chlorite and plagioclase in meta-
morphitic rocks, northern Sierra
Nevada, California 22
- HINTHORNE, JAMES R.
with P.H. Ribbe; Determination of
boron in chondrodite by ion
microprobe mass analysis 1123
- HOEFS, JOCHEN
Stable Isotope Geochemistry, Volume
9, *Minerals, Rocks, and Inorganic
Materials*; reviewed by Y. Horibe 1148
- HOFMANN, A.W.
review of *Heterogeneous Processes
of Geochemical Migration*, V.S.
Golubev and A.A. Garibyants 1339
- HOLLAND, HEINRICH D.
Memorial of Harry Hammond Hess 415
- HOLLOWAY, JOHN R.
with S.E. Kesson; Generation of
N₂-CO₂-H₂O fluids. II. Melting of
albite in a multispecies fluid 598
_____, with R.L. Reese; The generation
of N₂-CO₂-H₂O fluids for use in
hydrothermal experimentation. I.
Experimental method and equilibrium
calculations in the C-O-H-N system 587

- HOOD, WILLIAM C.
with P.F. Steidl and D.G. Tschopp;
Precipitation of norsethite at
room temperature 471
- HORIBE, YOSHIO
review of *Stable Isotope
Geochemistry*, J. Hoefs 1148
- Hornblende
coexisting with actinolite 529
electron microscopy and microprobe
analysis 1
infrared spectra from thin section 604
optical properties 22
- HOUSLEY, R.M.
review of *Proceedings, 3rd Lunar
Science Conference*, Volume 3,
D.R. Criswell, Ed. 635
- Howieite
new mineral, crystal structure 86
- HUANG, WEN H.
Stabilities of kaolinite and
halloysite in relation to weathering
of feldspars and nepheline in
aqueous solution 365
- Human pathological mineralogy 1177
- Humites
chondrodite, B in, by ion
microprobe mass analysis 1123
- HURLBUT, CORNELIUS S. Jr.
with R.C. Erd; Aristarainite,
 $\text{Na}_2\text{O}\cdot\text{MgO}\cdot 6\text{B}_2\text{O}_3\cdot 10\text{H}_2\text{O}$, a new
mineral from Salta, Argentina 647
- Hurlbutite, crystal structure 1267
- HURST, V.J.
with A.A. Giardini, C.E. Melton,
and J.C. Stormer, Jr.; Biotite as
a primary inclusion in diamond 783
- Hydration
phlogopite, effects of layer charge
location on 491
- Hydroxides, see also oxides
hematophanite (abstr.) 384
heterogenite-2H (abstr.) 381
psilomelane fibers, hypogene 206
- Hypogene psilomelane fibers
genesis of 206
- Idocrase, see also vesuvianite
microprobe and electron microscope
studies 1
- IIJIMA, SUMIO
with P.R. Buseck; High resolution
electron microscopy of minerals
(abstr.) 1131
_____, with P.R. Buseck; High resolution
electron microscopy of silicates 1
- IYYAMA, J. TOSHIMICHI
with H. Kodama, G.J. Ross, and J.-L.
Robert; Potassium exchange and
hydration of micas 491
- Illite, absorption coefficients 1113
- Ilmenite
in Apollo 15 samples 1220
composition 681
occurrence in Apollo 17 breccias 681
- Infrared spectra
allophane 1094
aristarainite 647
clinozoisite 1249
crandallite 41
epidote 1249
feldspar in thin section 604
gadolinites 700
granodiorite in thin section 604
hornblende in thin section 604
lawsonite 799
magnesoarfvedsonite (authigenic) 830
metavivianite 896
microcline in thin section 604
orthozoisite 1249
oxonium ions in minerals 811
phlogopite 491
picroparmacolite 807
quartz in thin section 604
zoisite 1249
- INGERSON, EARL
review of *Composition of Fluid
Inclusions*, E. Roedder 1340
_____, review of *Minerals of Brazil*,
Franco, Leprevost, Bigarella, and
Bolsanello 639
- INGRAM, BLANCHE
with C. Milton and I. Breger;
Authigenic magnesoarfvedsonite from
the Green River Formation 830
- Intergrowths, in anorthosites 673
- Internal World of Gemstones. Documents
from Space and Time*, E. Gübelin;
reviewed by J. Sinkankas 1146
- Iodides, see Halides
- Ion exchange
phlogopite, effect by layer charge
location 491

- Irhtemite, new mineral (abstr.) 209
- IRVING, ANTHONY J.
with P.B. Moore and A.R. Kampf;
Whitmoreite, a new species 900
_____, with I.M. Steele and J.V. Smith;
Lunar noritic fragments and
associated diopside veins 1062
- Isomertieite, new mineral (abstr.) 1330
- ITO, JUN
review of *Growth of Crystals*,
J.C. Brice 637
_____, with H.D. Grundy; The refinement
of the crystal structure of a
synthetic non-stoichiometric Sr
feldspar 1319
_____, with S.S. Hafner; Synthesis and
study of gadolinites 700
- Jadeite
lavender-, optical spectra 868
- Jagowerite, crystal structure 291
- Jahnsite
crystal structure 964
new phosphate mineral 48
- JOESTEN, RAYMOND
Pseudomorphic replacement of melilite
by idocrase in a zoned calc-silicate
skarn, Christmas Mountains, Big
Bend Region, Texas 694
- JOHNSON, K.H.
with J.A. Tossell and D.J. Vaughan;
MO calculations for the electronic
structure of rutile, wustite, and
hematite 319
- JOHNSTON, ROBERT
*Stereographic Projection of Crystals:
An Elementary Introduction and
Practical Guide For Students*;
reviewed by H.E. Wenden 390
- Kafehydrocyanite, new mineral (abstr.) 209
- KAMPF, ANTHONY R.
with P.B. Moore and A.J. Irving;
Whitmoreite, a new species 900
- Kanemite, new mineral (abstr.) 210
- Kaolinite
optical absorption coefficients 274
stability in relation to weathering
of feldspars and nepheline in
aqueous solution 365
- Karibibite, new mineral (abstr.) 382
- KARUP-MØLLER, SVEN
with E. Makovicky; Skinnerite,
 Cu_3SbS_3 , a new sulfosalt from the
Ilimaussaq alkaline intrusion,
South Greenland 889
- KEIL, KLAUS
review of *Meteorites and Their
Origins*, G.J.H. McCall 876
_____, with R. Brett; Heideite,
 $(Fe,Cr)_{1+x}(Ti,Fe)_2S_4$, a new
mineral in the Bustee enstatite
achondrite 465
_____, with P. Fricker; Baddeleyite (ZrO_2)
in gabbroic rocks from Axel Heiberg
Island, Canadian Arctic Archipelago 249
_____, with C.E. Nehru, M. Prinz, and
E. Dowty; Spinel-group minerals and
ilmenite in Apollo 15 rake samples 1220
- K-feldspar, lunar 231
- KELLER, W.D.
review of *Mineralogy of Soil Clays*,
Mukherjee and Biswas, Eds. 1146
- Kellyite
new member of serpentine group 1153
- KERRICK, DERRILL M.
Review of metamorphic mixed-volatile
(H_2O-CO_2) equilibria 729
- KESSON, S.E.
with J.R. Holloway; The generation of
 $N_2-CO_2-H_2O$ fluids for use in hydro-
thermal experimentation. II. Melting
of albite in a multispecies fluid 598
- Khuniite, discredited (abstr.) 633
- Killalaite, new mineral (abstr.) 1331
- KILLINGLEY, JOHN S.
with D.W. Muenow; A mass spectro-
metric method for the determination
of the size distribution of CO_2
inclusions in olivine 863
- KING, ELBERT A., Jr. Ed.
*Proceedings of the Third Lunar Science
Conference*. Volume 1. *Mineralogy and
Petrology*; reviewed by S.E. Haggerty 634
- KIRKLAND, DOUGLAS W.
with R. Evans, Eds., *Marine
Evaporites: Origin, Diagenesis, and
Geochemistry*; reviewed by E.E.
Angino 880
- KITAGAWA, YASUO
Dehydration of allophane and its
structural formula 1094

- Kleibelsbergite
new X-ray data (abstr.) 875
- KLEMENT, W., Jr.
with L.H. Cohen and H.G. Adams;
High-low quartz inversion: Thermal
analysis studies to 7 kbar 1099
- KOCMAN, VLADIMIR
with R.I. Gait and J. Rucklidge;
The crystal structure of bikitaite,
 $\text{Li}[\text{AlSi}_2\text{O}_6] \cdot \text{H}_2\text{O}$ 71
- KODAMA, HIDEOMI
with G.J. Ross, J.T. Iiyama, and
J.-L. Robert; Effect of layer charge
location on potassium exchange and
hydration of micas 491
- KOHATSU, JUDITH J.
with B.J. Wuensch; Semseyite
($\text{Pb}_9\text{Sb}_8\text{S}_{21}$) and the crystal
chemistry of the pligionite group,
 $\text{Pb}_{3+2n}\text{Sb}_8\text{S}_{15+2n}$ (abstr.) 1127
- KOHLSTEDT, D.L.
with J.B. Vander Sande; An electron
microscopy study of augite ex-
solution lamellae in enstatite
(abstr.) 1132
- Kolskite, = mixture (abstr.) 212
- KONDA, TADASHI
with J.C. Green; Clinopyroxenes from
the Keweenawan lavas of
Minnesota 1190
- KOPP, OTTO C.
with S.M. Fallis; Corrensite in the
Wellington Formation, Lyons,
Kansas 623
- KOSTINER, E.
with J.R. Rea; Crystal structure of
ferrous orthophosphate, $\text{Fe}_3(\text{PO}_4)_2$
(abstr.) 1129
- KOTO, KICHIRO
with N. Morimoto, M. Tokonami, and
M. Watanabe; Structures of three
polymorphs of Co_2SiO_4 475
- KRINSLEY, DAVID H.
with J.C. Doornkamp, *Atlas of Quartz
Sand Surface Textures*; reviewed
by F.D. Bloss 386
- KROGER, F.A.
The Chemistry of Imperfect Crystals,
Volume 1, *Preparation, Purification,*
Crystal Growth, and Phase Theory, 2nd
ed. rev.; reviewed by D.K. Smith 1336
- Krutaite, new mineral (abstr.) 210
- KULLERUD, GUNNAR
Presentation of the Roebling Medal
of the Mineralogical Society of
America for 1973 to George Tunell 394
- LABOTKA, THEODORE C.
with G.R. Rossman; The infrared
pleochroism of lawsonite: The
orientation of the water and
hydroxide groups 799
- Labradorite, in basalt 666
- LAGER, GEORGE A.
with G.V. Gibbs; A refinement of the
crystal structure of herderite,
 CaBePO_4OH 919
- LANGE, H.
with H.J. Rösler, *Geochemical Tables*,
translated by H. Liebscher;
reviewed by H.L. Barnes 214
- LANGER, K.
with M. Raith; Infrared spectra of
 $\text{Al-Fe(III)-epidotes}$ and zoisites,
 $\text{Ca}_2(\text{Al}_{1+p}\text{Fe}^{3+p})\text{Al}_2\text{O}(\text{OH})[\text{Si}_2\text{O}_7]$
 $[\text{SiO}_4]$ 1249
- LANGMUIR, DONALD
review of *Oxidation-Reduction
Potential*, M.F. Stashchuk 389
- Larosite, new mineral (abstr.) 382
- Latrappite
 fO_2 plots, petrogenesis 314
- LAUGHON, ROBERT B.
with M.M. Wood and W.J. McLean;
Crystal structure and composition
of yedlinite 1160
- LAVES, F.
On the use of photo-emission electron
microscopy (PEEM) on decomposition
features in minerals and other
materials (abstr.) 1136
- LAWRENCE, DAVID F.
with M. Allman, *Geological Laboratory
Techniques*; reviewed by F.H. Manley
and W.R. Power 1142
- Lawsonite
orientation of H_2O and OH groups,
infrared spectra 799
- LEE, FLORENCE
The submicroscopic structure of
wenkite (abstr.) 1135

- LEO, SANDRA R.
with S. Ghose and C. Wan;
Veszelyite: A novel type of
sheet structure and crystal
chemistry of copper-zinc
substitution 573
- LEONARD, B.F.
with M. Fleischer; New mineral
names (abstracts) 1330
- LEONARSEN, ERIK S.
with O.V. Petersen; The unit cell
of volborthite 372
- LEPREVOST, ALSEDO
with others, *Minerals of Brazil*;
reviewed by E. Ingerson 639
- LEUNG, IRENE S.
Sector-zoned titanagites:
Morphology, crystal chemistry,
and growth 127
- Levyne
composition and X-ray data
intergrowths with offretite in
basalt 837
- LINDBERG, JAMES D.
with J.B. Gillespie and M.S. Smith;
Absorption coefficients of mont-
morillonite and related clays
_____, with M.S. Smith; Visible and
near infrared absorption
coefficients of kaolinite and
related clays 1113
- LINDBLOOM, J.T.
with G.V. Gibbs and P.H. Ribbe;
The crystal structure of
hurlbutite: A comparison with
danburite and anorthite 1267
- LIOU, JUHN G.
Stability relations of andradite-
quartz in the system Ca-Fe-Si-O-H 1016
- LISITZYN, A.P.
with others, *Stability of Heavy
Minerals*; reviewed by H. Blatt 1333
- LOGAN, LLOYD M.
with J.P. Dybwad and K.P. Zinnow;
Reflection spectroscopy of
microscopic mineral grains 604
- LORIMER, G.W.
with G. Cliff; Analytical electron
microscopy of minerals (abstr.) 1137
- Lovdarite, new mineral (abstr.) 874
- Lovozerite
new X-ray and chemical data (abstr.) 633
- Lunar Mineralogy
heavenly detective story,
(presidential address) 231
- Lunar minerals 231
TEM (abstr.) 1131
- LUTH, WILLIAM C.
with P.M. Fenn; Calculation of binary
solvi with special reference to the
sanidine-high albite solvus [*Am.
Mineral.* 58:1009]: Errata 640
_____, with R.D. Warner; Diopside-
orthoenstatite two-phase region 98
- MACEK, J.
with P. Černý; review of *The Graphics
of Crystals*, A.G. Bulakh 638
- MacGREGOR, IAN D.
The system MgO-Al₂O₃-SiO₂: Solubility
of Al₂O₃ in enstatite for spinel and
garnet peridotite compositions 110
- MACKENZIE, R.C., Ed.
Differential Thermal Analysis. Volume
2, *Applications*; reviewed by
P. Bayliss 386
- MACKENZIE, W.S.
with J. Zussman, Eds., *The Feldspars.
Proceedings of a NATO advanced Study
Institute, Manchester, 11-21 July,
1972*; reviewed by F.F. Foit, Jr. 1333
- Magnesioarfvedsonite
authigenic, composition, optical,
physical, infrared, and X-ray data 830
- Magnetite
fO₂ plots, petrogenesis 314
- MAGNUS, ALBERTUS
Book of Minerals, translated by D.
Wyckoff; reviewed by G.T. Faust 636
- MAKOVICKY, EMIL
with S. Karup-Møller; Skinnerite, a
new sulfosalt 889
- MANLEY, FREDERICK H.
with W.R. Power, review of *Geological
Laboratory Techniques*, Allman and
Lawrence 1142
- Man-Made Crystals*
J.E. Arems; reviewed by W.R. Skinner 1337
- MANOR, P. C.
with others; Zeolite "Rho" and the
Sigma transformation (abstr.) 1127

- Marine Evaporites: Origin, Diagenesis, and Geochemistry*, D.W. Kirkland and R. Evans, Eds.; reviewed by E.E. Angino 880
- MARSDEN, RALPH W.
review of *Genesis of Precambrian Iron and Manganese Deposits* 1144
- MARUMO, FUMIYUKI
with T. Yagi and S. Akimoto;
Structures of spinel polymorphs of Fe₂SiO₄ and Ni₂SiO₄ 486
- MASON, BRIAN
Aluminum-titanium-rich pyroxenes, with special reference to the Allende meteorite 1198
- MATEEN, ABDUL
with R.W.T. Wilkins and G.W. West;
Spectroscopic study of oxonium ions in minerals 811
- Mattagamite, new mineral (abstr.) 382
- MAZALOV, ALEKSEI A.
with A.G. Bulakh; Accessory thorium from the massifs of alkaline rocks and carbonatites of the Turja Peninsula (Kola Peninsula) 378
- McCALL, G.J.H.
Meteorites and Their Origins; reviewed by K. Keil 876
- McCALL, JAMES L.
with W.M. Mueller, Eds.
Microstructural Analysis: Tools and Techniques; reviewed by D.F. Parsons 388
- McCAULEY, JAMES W.
with R. Roy; Controlled nucleation and crystal growth of various CaCO₃ phases by the silica gel technique 947
- McLAREN, A.C.
Transmission electron microscope investigation of ternary feldspars (abstr.) 1133
- McLEAN, W. JOHN
with R.A. Bideaux and R.W. Thomssen;
Yedlinite, a new mineral from the Mammoth Mine, Tiger, Arizona 1157
_____, with M.M. Wood and R.B. Laughon;
Crystal structure and composition of yedlinite 1160
- MEAGHER, E.P.
review of *Modern Mineralogy*, K. Frye 1337
_____, with C.S. Gibbons and J. Trotter; The crystal structure of jagowerite: BaAl₂P₂O₈(OH)₂ 291
- The Mediterranean Sea*, D. J. Stanley, Ed.; reviewed by C. Emiliani 385
- Melilite, pseudomorphic replacement by idocrase 694
- MELTON, CHARLES E.
with A. A. Giardini; The composition and significance of gas released from natural diamonds from Africa and Brazil 775
_____, with A.A. Giardini, V.J. Hurst, and J.C. Stormer, Jr.; Biotite as a primary inclusion in diamond 783
- Memorials of
William Frank Bradley 404
Sir (William) Lawrence Bragg 408
Kent Combs Brannock 411
Martin L. Ehrmann 414
Harry Hammond Hess 415
Edward Henry Kraus 402
Thomas Newkirk McVay 417
William Thomas Pecora 420
James Robert Smith 424
Cecil Edgar Tilley 427
- MENCHETTI, SILVIO
with E. Corazza and C. Sabelli;
Crystal structure of biringuccite 1005
- Merwinite, composition, optical and X-ray data, twinning 1117
- Metabentonite, absorption coefficients 1113
- Metaldevite, new mineral (abstr.) 210
- Metamictization, for niobium and tantalum oxides 1047
- Metavivianite, new mineral from South Dakota 896
- Meteorites and Their Origins*, G.J.H. McCall; reviewed by K. Keil 876
- Mica
composition, in pegmatite 1242
crystal structure, trioctahedral, high temperature (abstr.) 1128
dolomite growth on 871
zoned Li-Al, from pegmatite 1242
- Micas
annite [*Am. Mineral.* 58:889]:Errata 221
biotite 143, 201
biotite inclusion in diamond 783
muscovite 1, 22
phlogopite 221, 261, 491
SAD patterns (abstr.) 1134
- Microcline, infrared spectra from thin section 604
- Microprobe Analysis*, C.A. Andersen, Ed.; reviewed by A.E. Bence 1334

- Microstructural Analysis: Tools and Techniques*, J.L. McCall and W. M. Mueller, Eds.; reviewed by D. F. Parsons 388
- MILBURN, G. H. W.
X-Ray Crystallography. An Introduction to the Theory and Practice of Single Crystal Structure Analysis; reviewed by J. J. Finney 215
- MILLHOLLEN, GARY L.
Synthesis of scapolite under magmatic conditions 618
- MILLIMAN, J. D.
with others, *Stability of Heavy Minerals*; reviewed by H. Blatt 1333
- Millosevichite, new X-ray and chemical data (abstr.) 1140
- MILTON, CHARLES
with B. Ingram and I. Breger; Authigenic magnesioarfvedsonite from the Green River Formation, Duchesne County, Utah 830
- Mineral Optics, Principles and Techniques*, W.R. Phillips; reviewed by A. Rosenzweig 387
- The Mineral Position of the United States, 1975-2000*, E.N. Cameron, Ed.; reviewed by A.C. Samuelson 879
- Mineralogical Society of America Award Acceptance by Paul Brian Moore Presentation to P.B. Moore (J.V. Smith) 399 398
- MINERALOGICAL SOCIETY OF AMERICA
List of officers and committees 228, 454, 645, 883, 1151
Photograph identification contest 380, 447, 641
Proceedings, 54th annual meeting in Dallas, Texas 438
Roebing Medal, see Roebing Medal Scholarships 643
- Mineralogy of Soil Clays and Clay Minerals*, S.K. Mukherjee and T.D. Biswas, Eds.; reviewed by W. D. Keller 1146
- Minerals in World Affairs*, A. Sutulov; reviewed by F.D. Bloss 218
- Minerals of Brazil*, R.R. Franco, A. Leprevost, J.J. Bigarella, and A. Bolsanello; reviewed by E. Ingerson 639
- MITCHELL, T. E.
with others; Work hardening and solid solution hardening of sapphire (abstr.) 1137
- Mitridatite
composition 640
optical and X-ray data 48
- Mn₂GeO₄, β-, crystal structure 475
- Models in Structural Inorganic Chemistry*, A.F. Wells; reviewed by C. J. Schneer 637
- Modern Mineralogy*, K. Frye; reviewed by E. P. Meagher 1337
- Molecular orbital calculations for rutile, wustite, and hematite 319
- MOLIN-CASE, JOANN
with P. B. Moore; Crystal chemistry of wylleite 280
- Montgomeryite, structure and relation to vauxite 843
- Montmorillonite, see smectite
- MOORE, PAUL BRIAN
Acceptance of Mineralogical Society of America Award for 1973 399
I. Jahnsite, segelerite, and robertsite, three new transition metal phosphate species. II. Redefinition of overite, an isotope of segelerite. III. Isotypy of robertsite, mitridatite, and arseniosiderite 48
Addenda 640
_____, with T. Araki; Bjarebyite, Ba(Mn,Fe)₂²⁺Al₂(OH)₃[PO₄]₃: Its atomic arrangement 567
_____, with T. Araki; Jahnsite, CaMn²⁺Mg₂(H₂O)₈Fe₂³⁺(OH)₂[PO₄]₄: A novel stereoisomerism of ligands about octahedral corner chains 964
_____, with T. Araki; Montgomeryite; its crystal structure and relation to vauxite 843
_____, with T. Araki; Pinakiolite, warwickite, wightmanite: Crystal chemistry of complex 3Å wallpaper structures 985
_____, with T. Araki; Roweite: its atomic arrangement 60
_____, with T. Araki; Stewartite: its atomic arrangement 1272
_____, with T. Araki; Trolleite: a very dense structure with octahedral face-sharing dimers 974
_____, with J.R. Goldsmith and R.C. Newton; Synthesis and stability of a nitrate scapolite 768
_____, with A.R. Kampf and A.J. Irving; Whitmoreite, a new species: its description and atomic arrangement 900
_____, with J. Molin-Case; Contribution to pegmatite phosphate giant crystal paragenesis: II. The crystal chemistry of wylleite, a primary phase 280

- MORIMOTO, NOBUO
with M. Tokonami, M. Watanabe, and
K. Koto; Crystal structures of
three polymorphs of Co_2SiO_4 475
- MOROSIN, B.
with H. Takeda; Prediction of tri-
octahedral mica structure at
high temperature (abstr.) 1128
- Mössbauer Spectra
biotites 143
gadolinite 700
- MUELLER, WILLIAM M.
with J.L. McCall, Eds. *Micro-
structural Analysis: Tools and
Techniques*; reviewed by D.F.
Parsons 388
- MUENOW, DAVID W.
with J.S. Killingley; Determination
of the size distribution of CO_2
in olivine 863
- MUKHERJEE, S. K.
with T.D. Biswas, Eds. *Mineralogy
of Soil Clays and Clay Minerals*;
reviewed by W. D. Keller 1146
- MUNN, R. M.
review of *Chemical Bonds in Solids*,
N.N. Sirota, Ed. 1339
- Murataite, new complex oxide 172, 640
- MURDOCH, JOSEPH
Review of *Rocks and Minerals of
California*, V. Brown, D. Allan,
and J. Stark 387
- MURTHY, INKOLLU S. N.
with Y. J. Rao; Nepheline as a
metasomatic product 690
- Muscovite
composition, in metamorphic rocks 22
electron microscopic studies 1
- NAESER, C. W.
with J. M. Saul; Fission track dating
of tanzanite 613
- NAFZIGER, RALPH H.
review of *Thermodynamics of Rock-
Forming Crystalline Solutions*,
S. K. Saxena 389
- Nature of Earth Materials* (Tennissen);
reviewed by M. I. Dubins 1147
- NAWAZ, RAB
with J. Preston; Optical orientation
and twinning of merwinite: A
restudy 1117
- NEHRU, C. E.
with M. Prinz, E. Dowty, and K. Keil;
Spinel-group minerals and ilmenite
in Apollo 15 rake samples 1220
- Neotantalite, = microlite (abstr.) 212
- Nepheline
a metasomatic product 690
in aqueous solution, stability with
respect to weathering 365
- New Minerals
andremeyerite (abstr.) 381
aristarainite from Argentina 647
armalcolite, ortho- and para- (abstr.) 632
armstrongite (abstr.) 208
atheneite (abstr.) 1330
bicchulite (abstr.) 1330
bjarebyite 567, 873
borovskite (abstr.) 873
calcjarlite (abstr.) 873
corderoite 652
cuprospinel (abstr.) 381
drysdallite (abstr.) 1139
eylettersite (abstr.) 208
ferrobustamite (abstr.) 632
frankdicksonite 885
galkhaite (abstr.) 208
haxonite (abstr.) 209
heideite 465
heterogenite-2H (abstr.) 381
heyite (abstr.) 382
howieite 86
irhtemite (abstr.) 209
isomertieite (abstr.) 1330
jahnsite 48
kafehydrocyanite (abstr.) 209
kanemite (abstr.) 210
karibibite (abstr.) 382
killalaite (abstr.) 1331
krutaite (abstr.) 210
larosite (abstr.) 382
lovdarite (abstr.) 874
mattagamite (abstr.) 382
metalodevite (abstr.) 210
metavivianite 896
murataite 172, 640
osumilite-(K,Mg) (abstr.) 383
paolovite (abstr.) 1331
paraboleite (abstr.) 211
quetzalcoatlite (abstr.) 874
robertsite 48, 640
sapphirine-1Tc (abstr.) 632
schneiderhöhnite (abstr.) 1139
segelerite 48
skinnerite 889
stibarsen (abstr.) 1331
stumpflite (abstr.) 211

- New Minerals, Continued
 tantal-aeschnite (abstr.) 1331
 tellurantimony (abstr.) 382
 tulameenite (abstr.) 383
 uduminelite [*Am. Mineral.* 58:806]:
 Errata 212
 urea (abstr.) 874
 vanuralite [*Am. Mineral.* 56:640]:
 Errata 384
 vincentite (abstr.) 1332
 vuonnemite (abstr.) 875
 wyllieite (abstr.) 211
 yedlinite 1157, 1160
- New Minerals, Unnamed
 Ag-Pb-Bi-S (abstr.) 1139
 bismuth- (abstr.) 1139
 K₂ZrSi₂O₇ (abstr.) 1140
 Na₂ZrSi₂O₇ (abstr.) 1140
 oxychloride, lead (abstr.) 211
 phosphate (abstr.) 1140
 Sr-Ti silicate (abstr.) 1140
 sulfide, lead iron- (abstr.) 1140
 telluride, Ag-Sb- (abstr.) 384
 uranium phosphate (?) (abstr.) 212
- NEWNHAM, ROBERT E.
 Domains in minerals 906
- NEWTON, ROBERT C.
 with J.R. Goldsmith, and P.B. Moore;
 Synthesis and stability of a
 nitrate scapolite 768
- Nitrate, scapolite, synthesis and
 stability 768
- Nontronite, absorption coefficients 1113
- NORD, G. L.
 with A. H. Heuer; TEM of lunar
 minerals and rocks (abstr.) 1131
- NORRISH, KEITH
 with A. Singer; Palygorskite occur-
 rences in Australia 508
- Norsethite, synthesis at room
 temperature 471
- NRIAGU, J. O.
 with C. I. Dell; Diagenetic formation
 of iron phosphates in recent sedi-
 ments 934
- Nuclear magnetic resonance, oxonium
 ions in minerals 811
- Nuffieldite, new structure data (abstr.) 633
- NUNES, PAUL D.
 review of *Proc. 3rd Lunar Science
 Conf.*, Volume 3, D. Heymann, Ed. 634
- OBATA, MASAOKI
 with J.S. Dickey; Graphitic
 hornfels dikes 1183
- Officers and committees, MSA
 see Mineralogical Society of America
- Offretite
 composition, X-ray data, intergrowths
 with levyne 837
- OGILVIE, R.A.
 with others; Zeolite "Rho" and the
 Sigma transformation (abstr.) 1127
- OHASHI, HARUO
 with F.P. Okamura and S. Ghose;
 Structure and crystal chemistry of
 calcium Tschermak's pyroxene,
 CaAlAlSiO₆ 549
- OKAMURA, FUJIO PETER
 with S. Ghose, and H. Ohashi;
 Structure and crystal chemistry
 of calcium Tschermak's pyroxene,
 CaAlAlSiO₆ 549
- Olivine
 CO₂ inclusions by mass spectra 863
 coordination polyhedra of M site
 atoms in 1083
 α-, crystal structure 475
 Fe²⁺ in, by polarized spectra
 (discussion) 625
 Fe²⁺ in, by polarized spectra
 (reply) 630
 forsterite, charge-transfer spectra 1259
 Ni²⁺ in 244
 oxygen fugacity 314
- ONYEAGOCHA, ANTHONY C.
 Alteration of chromite from the Twin
 Sisters dunite, Washington 608
- The Opaque Minerals in Stony Meteorites*
 (P. Ramdohr); reviewed by L.H. Fuchs 213
- Optical orientation, merwinite 1117
- Optical properties
 actinolite 22
 aristarainite 647
 arseniosiderite 48, 640
 chlorite 22
 corderoite 652
 epidote 22
 frankdicksonite 885
 hornblende 22
 jahnsite 48
 magnesioarfvedsonite, authigenic 830
 mitridatite 48, 640
 plagioclase 22
 richterites, Mg-Fe 518
 robertsite 48, 640
 roweite 66
 segelerite 48
 yedlinite 1157
- Optical spectra, jadeite, lavender- 868

- Ores in Sediments. VIII International Sedimentological Congress, Heidelberg, August 31-September 3, 1971, (Amstutz and Bernard, Eds.); reviewed by P.B. Barton, Jr.* 881
- ORGANOVA, N.I.
with V.A. Drits and A.L. Dmitrik;
Selected area electron diffraction study of a type II "valleriite-like" mineral 190
- Orthoenstatite
diopside-, two phase region in the system $\text{CaMgSi}_2\text{O}_6\text{-Mg}_2\text{Si}_2\text{O}_6$ 98
electron microscopic studies 1
polymorphism of enstatite 345
- Orthozoisite, infrared spectra 1249
- Osumilite-(K,Mg), new mineral (abstr.) 383
- Overite, composition 48
- Oxalates
human pathological concretions 1177
- The Oxidation-Reduction Potential in Geology* (M.F. Stashchuk), translated by J.P. Fitzsimmons; reviewed by D. Langmuir 389
- The Oxide Handbook* (G.V. Samsonov), translated by C.N. Turton and T.I. Turton; reviewed by D.A. Hewitt 636
- Oxides, see also hydroxides
alexandrite 159
armalcolite 681
armalcolite, ortho- and para-, new minerals (abstr.) 632
baddeleyite 249
fergusonite 1045
hematite 319
ilmenite 231, 681, 1220
khuniite, discredited (abstr.) 633
latrapite 314
murataite 172, 640
niobium oxide 1026
perovskite, niobian 314
pseudobrookite, lunar 231
rutile 319
sapphire, hardening, by TEM (abstr.) 1137
spinel
chromite 231, 608
cuprospinel (abstr.) 381
magnetite 314
 MgAl_2O_4 , lunar 231
solubility of Al_2O_3 for spinel and garnet peridotite compositions 110
spinel 475
ulvöspinel, lunar 231
- Oxides, continued
tantal-aeschnyite (abstr.) 1331
tantalum oxide 1026
thorianite 378
wodginite 1040
wustite 319
- Oxonium ions
in minerals by NMR and IR 811
- Oxyhalides and Hydroxyhalides
hematophanite (abstr.) 384
- PABST, ADOLF
Synthesis, properties, and structure of $\text{K}_2\text{Ca}(\text{CO}_3)_2$, buetschliite 353
- Palygorskite
solubility, stability, Gibbs free energy 508
- Paolovite, new mineral (abstr.) 1331
- Paraboleite, new mineral (abstr.) 211
- Paratacamite, crystal structure (abstr.) 1129
- PARKER, H.S.
with W.S. Brower and R.S. Roth;
Synthetic parkerite and shandite 296
- Parkerite, synthesis and X-ray data 296
- PARSONS, DONALD F.
review of *Microstructural Analysis*, McCall and Mueller, Eds. 388
- PEACOR, DONALD R.
with E.J. Essene, W.B. Simmons, Jr., and W.C. Bigelow; Kellyite, a new Mn-Al member of the serpentine group from Bald Knob, North Carolina, and new data on grovesite 1153
_____, with C. Ritz and E.J. Essene;
Metavivianite, a new mineral 896
- Peridotite, graphite in 1183
- Peridotites
deformation structures, TEM studies (abstr.) 1134
- Perovskite
niobian, $f\text{O}_2$ plots, petrogenesis 314
- Perrierite, crystal structure 1277
- PERUCAUD, M.C.
with C. Willaime and W.L. Brown;
Orientation of strain ellipsoids in feldspars 457
- PETERSEN, OLE V.
with E.S. Leonardsen; Unit cell of volborthite 372

Phase relations		Photograph Identification Contest	
acmite, Ti-, at 1000 bars total			380, 447, 641
water pressure	536	Physical properties	
Phase transformation		buetschliite	353
in pyroxenes (abstr.)	1135	richterites, Mg-Fe-	518
troegerite at room temperature	763	sulvanite	307
PHILLIPS, MICHAEL W.		thorianite	378
with G.V. Gibbs and P.H. Ribbe; The		Picropharmacolite	
crystal structure of danburite: A		infrared spectra, OH group, and	
comparison with anorthite, albite,		structure	807
and reedmergnerite	79	PIES, WOLFGANG	
PHILLIPS, WILLIAM REVELL		with A. Weiss, <i>Crystal Structure</i>	
<i>Mineral Optics, Principles, and</i>		<i>Data of Inorganic Compounds, Parts</i>	
<i>Techniques</i> ; reviewed by A.		<i>a and g</i> ; reviewed by F.D. Bloss	1142
Rosenzweig	387	PIGG, JAY C.	
PHILPOTTS, ANTHONY R.		with R.A. Weeks and C.B. Finch;	
with N.H. Gray; Inverted clinobronzite		Charge-transfer spectra of Fe ³⁺	
in eastern Connecticut diabase	374	and Mn ²⁺ in synthetic forsterite	1259
Phlogopite		Pinakiolite, crystal chemistry	985
infrared spectra	491	Plagioclase	
Na-, synthetic, composition,		see also Feldspars, plagioclase	
refractive indices, unit cell,		clouded, in metadolerite dikes,	
X-ray data	261	composition and X-ray data	656
one-layer-, crystal structure [<i>Am.</i>		Plagionite (abstr.)	1127
<i>Mineral.</i> 58:898]: Errata	221	Pleochroic crystals	
potassium exchange and hydration	491	measurement of biabsorption	359
Phosphate		PLETKA, B.J.	
iron-, diagenetic formation in		with others; Work hardening and	
recent sediments	934	solid solution hardening of	
Phosphates		sapphire (α -Al ₂ O ₃) (abstr.)	1137
apatite formation, by electron		Polymorphism, enstatite	345
microscopy (abstr.)	1136	POWELL, J.L.	
apatites, lunar	231	with G. Faure; <i>Strontium Isotope</i>	
bjarebyite	567, 873	<i>Geology</i> ; reviewed by C. Emiliani	1337
crandallite	41	POWER, W. ROBERT	
deltaite	41	with F.H. Manley; review of	
eylettersite (abstr.)	208	<i>Geological Laboratory Techniques,</i>	
herderite	919	Allman and Lawrence	1142
human pathological concretions	1177	Presidential address, part 1,	
hurlbutite	1267	54th Annual Meeting, MSA, November	
jagowerite	291	1973	231
jahnsite	48, 964	PRESTON, JOHN	
metavivianite	896	with R. Nawaz; Optical orientation	
mitridatite	48, 640	and twinning of merwinite: Restudy	1117
montgomeryite	843	PRINZ, MARTIN	
orthophosphate, ferrous (abstr.)	1129	with C.E. Nehru, E. Dowty, and K.	
robertsite	48, 640	Keil; Spinel-group minerals and	
segelerite	48	ilmenite in Apollo 15 rake	
stewartite	1272	samples	1220
trolleite	974		
vezelyite	573		
whitmoreite	900		
wyllieite	211, 280		
unnamed new mineral (abstr.)	1140		

<i>Proceedings of the Third Lunar Science Conference</i>	
Volume 1. <i>Mineralogy and Petrology</i> (E.A. King, Ed.); reviewed by S.E. Haggerty	634
Volume 2. <i>Chemical and Isotope Analyses: Organic Chemistry</i> (D. Heymann, Ed.); reviewed by P.D. Nunes	634
Volume 3. <i>Physical Properties</i> (D.R. Criswell, Ed.); reviewed by R.M. Housley	635
Protoenstatite polymorphism of enstatite	345
Psilomelane, occurrence	206
Pyrophyllite, solid solutions in	254
Pyroxene	
clino-, coordination polyhedra of M site atoms in	1083
clino-, in lava, composition	1190
Pyroxenes	
acmite, Ti-	536
activity coefficients of Al-Ti-rich, in Allende meteorite	204
augite	1198
composition, Al-Ti-rich	120, 249
clinobronzite inverted-clinoenstatite	1198
clinohypersthene, high-temperature crystal chemistry	374
composition	345
crystal chemistry and structure	1069
crystallization trends and contrasting augite zoning	98
diopside from lunar rocks	549
diopside-ortho-enstatite two phase region	120
enstatite	1062
Fe ²⁺ and Fe ³⁺ in	98
hedenbergite (abstr.)	112
jadeite	1132
ortho-enstatite	868
orthopyroxenes from lunar rocks	1, 345
phase transformations (abstr.)	1062
recalculation of end-members	1135
synthesis	1203
synthetic	549
titanaugites	98
Pyroxenoids, ferrobustamite (abstr.)	127
Quartz	
amethyst, color centers in	632
amethyst, Fe ²⁺ and Fe ³⁺ in	709
amethyst, Fe ²⁺ and Fe ³⁺ in	719
Quartz, continued	
amethyst, polarized absorption spectra	709
high-low inversion	1099
infrared spectra from thin section	604
stability relations with andradite	1016
synthetic Fe ²⁺ and Fe ³⁺ in	719
Quenstedtite, crystal structure	582
Quetzalcoatlite, new mineral (abstr.)	874
RADCLIFFE, DENNIS	
Genesis of hypogene psilomelane fibers from the Tower Mine Area, New Mexico	206
RADTKE, ARTHUR S.	
with G.E. Brown; Frankdicksonite, BaF ₂ , a new mineral from Nevada	885
RAITH, M.	
with K. Langer; Infrared spectra of Al-Fe(III)-epidotes and zoisites	1249
RAMDOHR, PAUL	
<i>The Opaque Minerals in Stony Meteorites</i> ; reviewed by L.H. Fuchs	213
RAO, Y. JANARDAN	
with I.S.N. Murthy; Nepheline as a metasomatic product	690
Rare Earth Minerals, gadolinite	700
RAUSELL-COLOM, JOSE A.	
with V. Fornés; Monodimensional Fourier analysis of some vermiculite-1 ornithine ⁺ complexes	790
REA, J.R.	
with E. Kostiner; Crystal structure of ferrous orthophosphate (abstr.)	1129
Reedmergnerite	
comparison with danburite	79
REESE, ROBERT L.	
with J.R. Holloway; Generation of N ₂ -CO ₂ -H ₂ O fluids. I. Experimental method and equilibrium calculations in the C-O-H-N system	587
Refractive indices	
amphiboles	22
chlorite	22
epidotes	22
phlogopite, Na-, synthetic	261
Reviews	
M. Allman and D.F. Lawrence, <i>Geological Laboratory Techniques</i>	1142
G.C. Amstutz and A.J. Bernard, Eds. <i>Ores in Sediments</i>	881

Reviews, continued

- C.A. Andersen, Ed., *Microprobe Analysis* 1334
 J.E. Arem, *Man-Made Crystals* 1337
 P. Bancroft, *The World's Finest Minerals and Crystals* 387
 J.C. Brice, *The Growth of Crystals from Liquids* 637
 V. Brown, D. Allan, and J. Stark, *Rocks and Minerals of California* 387
 A. G. Bulakh, *The Graphics of Crystals* (in Russian) 638
 E.N. Cameron, Ed., *The Mineral Position of the United States, 1975-2000* 879
 D.R. Criswell, Ed., *Proceedings of 3rd Lunar Science Conf. Vol. 3, Physical Properties* 635
 J. Didier, *Granites and their Enclaves* 385
 A.D. Edgar, *Experimental Petrology: Basic Principles and Techniques* 878
 R.R. Franco, A. Leprevost, J.J. Bigarella, and A. Bolsanello, *Minerals of Brazil* 639
 K. Frye, *Modern Mineralogy* 1337
 G. Faure and J.L. Powell, *Strontium Isotope Geology* 1337
 H. Füchtbauer, A.P. Lisitzyn, J.D. Milliman, and E. Seibold, *Stability of Heavy Minerals Genesis of Precambrian Iron and Manganese Deposits* 1144
 V.S. Golubev and A.A. Garibyants, *Heterogeneous Processes of Geochemical Migration* 1338
 E. Gübelin, *Internal World of Gemstones. Documents from Space and Time* 1146
 C.T. Harper, Ed., *Geochronology-Radiometric Dating of Rocks and Minerals* 881
 P. Hartman, Ed., *Crystal Growth: An Introduction* 878
 D. Heymann, Ed., *Proc. 3rd Lunar Science Conference. Volume 2* 634
 J. Hoefs, *Stable Isotope Geochemistry* 1148
 R. Johnston, *Stereographic Projection of Crystals: An Elementary Introduction and Practical Guide for Students* 390
 E.A. King, Jr., Eds., *Proc. 3rd Lunar Science Conference. Volume 1* 634
 D.W. Kirkland and R. Evans, Ed., *Marine Evaporites: Origin, Diagenesis, and Geochemistry* 880
 D.H. Krinsley and J.C. Doornkamp, *Atlas of Quartz Sand Surface Textures* 386
 F.A. Kroger, *The Chemistry of Imperfect Crystals, Volume 1, Preparation, Purification, Crystal Growth and Phase Theory* 1336

Reviews, continued

- R.C. Mackenzie, Ed., *Differential Thermal Analysis, Volume 2, Applications* 386
 W.S. MacKenzie and J. Zussman, Eds., *The Feldspars* 1333
 A. Magnus, translated by D. Wyckoff, *Book of Minerals* 636
 G.J.H. McCall, *Meteorites and their Origins* 876
 J.L. McCall and W.M. Mueller, Eds., *Microstructural Analysis: Tools and Techniques* 388
 S.K. Mukherjee and T.D. Biswas, Eds., *Mineralogy of Soil Clays and Clay Minerals* 1146
 W.R. Phillips, *Mineral Optics, Principles and Techniques* 387
 W. Pies and A. Weiss, *Crystal Structure Data of Inorganic Compounds, Parts a and g* 1142
 Rinne-Berek (3rd ed. by H. Schumann), *Anleitung zur Allgemeinen und Polarisations-Mikroskopie der Festkoerper im Durchlicht* 1142
 E. Roedder, *Composition of Fluid Inclusions* 1340
 G.V. Samsonov, *The Oxide Handbook* 636
 S.K. Saxena, *Thermodynamics of Rock-Forming Crystalline Solutions* 389
 R. Shagam, Ed., with others, *Studies in Earth and Space Sciences - A Memoir in Honor of Harry Hammond Hess, 1906-1969* 876
 N.N. Sirota, Ed., *Chemical Bonds in Solids* 1339
 D.J. Stanley, Ed., *The Mediterranean Sea* 385
 M.F. Stashchuk, *The Oxidation-Reduction Potential in Geology* 389
 J. Suppe, *Geology of the Leech Lake Mountain-Ball Mountain Region, California* 1143
 A.C. Tennen, *Nature of Earth Materials* 1147
 A.F. Wells, *Models in Structural Inorganic Chemistry* 637
 H. Wondratschek, Ed., *Röntgen-, Elektronen- und Neutronenbeugung an Gläsern* (in German) 1148
 P. C. Zwaan, Ed., with others, *World Directory of Mineral Collections* 1149
 Rhodonite, composition 177
 shock-produced color change in 177
 RIBBE, PAUL H.
 A comparison of bonding effects in ussingite and low albite 341
 Exsolution phenomena in feldspars: An overview (abstr.) 1133

- PAUL H. RIBBE, continued
 with J. R. Hinthorne, Determination of boron in chondrodite 1123
 _____, with J.T. Lindbloom and G.V. Gibbs, Crystal structure of hurlbutite 1267
 _____, with M.W. Phillips and G.V. Gibbs, Crystal structure of danburite: Comparison with anorthite, albite, and reedmergnerite 79
- Richterites, Mg-Fe-, optical and physical properties, X-ray data, unit cell 518
- RINALDI, ROMANO
 with E. Galli, Crystal chemistry of epistilbites 1055
- RINNE-BEREK
 (third ed. by H. Schumann) *Anleitung zur Allgemeinen und Polarisations-Mikroskopie der festkoerper im Durchlicht*; reviewed by D. J. Fisher 1142
- RITZ, CHARLES
 with E.J. Essene, and D. R. Peacor, Metavivianite, a new mineral 896
- ROBERT, JEAN-LOUIS
 with H. Kodama, G.J. Ross, and J.T. Iiyama, Potassium exchange and hydration of micas 491
- Robertsite, new phosphate mineral 48, 640
- ROBIN, PIERRE-YVES F.
 Stress and strain in cryptoperthite lamellae and the coherent solvus of alkali feldspars 1299
 Thermodynamic equilibrium across a coherent interface in a stressed crystal 1286
- ROBINSON, KEITH
 with J.W. Adams, T. Botinelly, and W.N. Sharp, Murataite, new complex oxide 172
 Errata 640
- ROBINSON, PAUL D.
 with J.N. Thomas and J.H. Fang, Crystal structure of quenstedtite 582
- ROBSON, H. E.
 with others, Zeolite "Rho" and the Sigma transformation (abstr.) 1127
- Rocks and Minerals of California*, 3rd rev. ed., V. Brown, D. Allan, and J. Stark; reviewed by J. Murdoch 387
- ROEBLING MEDAL, 1973
 Acceptance by George Tunell 394
 Presentation to George Tunell (G. Kullerud) 394
 1370
- ROEDDER, EDWIN
Composition of Fluid Inclusions; reviewed by E. Ingerson 1340
Röntgen-, Elektronen- und Neutronenbeugung an Gläsern (H. Wondratschek, Ed.); reviewed by W. H. Baur 1148
- ROSENBERG, PHILIP E.
 Pyrophyllite solid solutions in the system $Al_2O_3-SiO_2-H_2O$ 254
- ROSENZWEIG, ABRAHAM
 review of *Mineral Optics*, W. R. Phillips 387
- RÖSLER, H. J.
 with H. Lange, *Geochemical Tables*; reviewed by H.L. Barnes 214
- ROSS, G. JOHN
 with H. Kodama, J.T. Iiyama, and J. L. Robert, Potassium exchange and hydration of micas 491
- ROSSI, GUISEPPE
 with V. Tazzoli, and L. Ungaretti, The crystal structure of ussingite 335
- ROSSMAN, GEORGE R.
 Lavender jade. The optical spectrum of Fe^{3+} and $Fe^{2+} \rightarrow Fe^{3+}$ inter-valence charge transfer in jadeite from Burma 868
 _____, Optical spectroscopy of green vanadium apophyllite from Poona, India 621
 _____, with R. V. Gibbons and T.J. Ahrens, Shock-produced color change in rhodonite 177
 _____, with T. C. Labotka, Infrared pleochroism of lawsonite: Orientation of water and hydroxide groups 799
- ROTH, R. S.
 with W. S. Brower and H.S. Parker, Synthetic parkerite and shandite 296
- Roweite
 composition, optical properties, and unit cell 66
 crystal structure 60
 X-ray diffraction data 60, 66
- ROWLAND, RICHARDS A.
 with H. Steinfink, Memorial of William Frank Bradley 404
- ROY, RUSTUM
 with J. W. McCauley, Growth of $CaCO_3$ phases by the silica gel technique 947
- RUCKLIDGE, JOHN
 with V. Kocman and R. I. Gait, Crystal structure of bikitaitite 71

- RUMBLE, DOUGLAS, III
with T.A. Finnerty; Devonian grossularite-spessartine overgrowths on ordovician almandine from Eastern Vermont 558
- RUNCIMAN, W. ALAN
with D. Sengupta; The spectrum of Fe²⁺ in silicate garnets 563
_____, with D. Sengupta and J.T. Gourley; The polarized spectra of iron in silicates: II. Olivine. A reply 630
- Rutile, electronic structure 319
- SABELLI, CESARE
with E. Corazza and S. Menchetti; Crystal structure of biringuccite 1005
- SAD patterns, micas (abstr.) 1134
- SAMSONOV, G.V.
The Oxide Handbook; reviewed by D.A. Hewitt 636
- SAMUELSON, ALAN C.
review of *The Mineral Position of the U.S.*, E.N. Cameron, Ed. 879
- Sanidine
binary solvi with a high albite [*Am. Mineral.* 58:1009]: Errata 640
- Sapphire
work hardening, by TEM (abstr.) 1137
- Sapphirine-1Tc, new mineral (abstr.) 632
- SAUL, JOHN M.
with C.W. Naeser; Fission track dating of tanzanite 613
- SAXENA, S.K.
Thermodynamics of Rock-Forming Crystalline Solutions; reviewed by R.H. Nafziger 389
- Scapolite
electron microscopic and microprobe studies 1
synthesis and stability 768
synthesis under magmatic conditions 618
- Schirmerite
new optical and X-ray data (abstr.) 384
- SCHNEER, CECIL J.
review of *Models in Structural Inorganic Chemistry*, A.F. Wells 637
- Schneiderhöhnite, new mineral (abstr.) 1139
- Scholarships, MSA 643
- SCHUMANN, HILMAR, Ed.
(Orig. Rinne-Berek), *Anleitung zur Allgemeinen und Polarisations-Mikroskopie der Festkörper im Durchlicht*, 3rd ed.; reviewed by D.J. Fisher 1142
- Sector zoning, see zoning
- Segelerite, new phosphate mineral 48
- SEIBOLD, E.
with others, *Stability of Heavy Minerals*; reviewed by H. Blatt 1333
- Selected area diffraction, see SAD
- Semseyite (abstr.) 1127
- SENGUPTA, DIPANKAR
with W.A. Runciman; Spectrum of Fe²⁺ in silicate garnets 563
_____, with W.A. Runciman and J.T. Gourley; Polarized spectra of iron in silicates: II. Olivine. A reply 630
- Serpentines, grovesite, new data 1153
- SHAGAM, REGINALD, Ed.
with others; *Studies in Earth and Space Sciences: A Memoir in Honor of Harry Hammond Hess, 1906-1969*; reviewed by L. Glover, III 876
- Shandite
synthesis and X-ray data 296
- SHARP, W.N.
with J.W. Adams, T. Botinelly, and K. Robinson; Murataite, new complex oxide 172
Errata 640
- SHEPPARD, RICHARD A.
with A.J. Gude, 3rd, G.A. Desborough, and J.S. White, Jr.; Levyne-offretite intergrowths from basalt near Beech Creek, Grant County, Oregon 837
- Shock effects, rhodonite 177
- SHOEMAKER, D.P.
with others; Zeolite "Rho" and the Sigma transformation (abstr.) 1127
- Silica minerals
quartz 604
amethyst 709, 719
high-low inversion 1099
stability relations with andradite 1016
- SIMMONS, WILLIAM B., Jr.
with D.R. Peacor, E.J. Essene, and W.C. Bigelow; Kellyite, a new serpentine, and new data on grovesite 1153
- SINGER, ARIEH
with K. Norrish; Pedogenic palygorskite occurrences in Australia 508
- SINKANKAS, JOHN
review of *Internal World of Gemstones*, E. Gübelin 1146

- SIROTA, N.N., Ed.
Chemical Bonds in Solids;
reviewed by R.M. Munn 1339
- SKINNER, WILLIAM R.
review of *Man-Made Crystals*,
J.E. Arem 1337
- Skinnerite, new mineral from Greenland 889
- Smectite, absorption coefficients 1113
- SMITH, DEANE K.
review of *The Chemistry of Imperfect
Crystals*, Volume 1, F.A. Kroger 1336
_____, with S.-C. Yu; Dislocation sub-
structures in a hedenbergite from
Sweden (abstr.) 1132
- SMITH, JOSEPH V.
Lunar mineralogy: A heavenly detective
story. Presidential Address, Part I 231
_____, Presentation of the Mineralogical
Society of America Award for 1973
to Paul Brian Moore 398
_____, with A.J. Irving and I.M. Steele;
Lunar noritic fragments 1062
_____, with I.M. Steele; Intergrowths
in lunar and terrestrial anortho-
sites with implications for lunar
differentiation 673
- SMITH, MICHAEL S.
with J.B. Gillespie and J.D. Lindberg;
Absorption coefficients of mont-
morillonite and related clays 1113
_____, with J.D. Lindberg; Absorption
coefficients of kaolinite and
related clays 274
- Smolyaninovite, new X-ray data (abstr.) 1141
- SMYTH, JOSEPH R.
Experimental study on the polymorphism
of enstatite 345
The high temperature crystal chemistry
of clinohypersthene 1069
- Solid solution
Fe-Ni-S system, magnetic properties
of Fe in 926
pyrophyllite 254
- Solubility
Al₂O₃ in enstatite 110
palygorskite 508
- Solvi
diopside-orthoenstatite 98
sanidine-high albite, direct cal-
culation [*Am. Mineral.* 58:1009]:
Errata 640
- SOUTHER, JACK GORDON
with K. Yagi; Aenigmatite from Canada 820
- Spinel, MgAl, by TEM (abstr.) 1137
- Spinels, see also Oxides
chromite, composition 1220, 1236
serpentinization 1236
polymorphs of Co₂SiO₄ 475
polymorphs of Fe₂SiO₄ and Ni₂SiO₄ 486
solubility of Al₂O₃ for spinel and
garnet peridotite compositions 110
ulvöspinel, lunar 231
- SPRINGER, G.
The role of carbon film thickness in
electron microprobe analysis: A
comment 1121
- Stability
clinocllore 496
halloysite 365
kaolinite 365
palygorskite 508
phlogopite, Na- 261
- Stability of Heavy Minerals* (Füchtbauer,
Lisitzyn, Milliman, and Seibold);
reviewed by H. Blatt 1331
- Stability relations
andradite-quartz 1016
iron phosphates 934
- Stable Isotope Geochemistry* (Hoefs);
reviewed by Y. Horibe 1148
- STANLEY, DANIEL J., Ed.
The Mediterranean Sea; reviewed by
C. Emiliani 385
- STARK, JAMES
with V. Brown and D. Allan, *Rocks
and Minerals of California*;
reviewed by J. Murdoch 387
- STASHCHUK, MIKHAIL F.
*The Oxidation-Reduction Potential in
Geology*; reviewed by D. Langmuir 389
- STEELE, IAN M.
Ilmenite and armalcolite in Apollo
17 breccias 681
_____, with A.J. Irving and J.V. Smith;
Lunar noritic fragments 1062
_____, with J.V. Smith; Intergrowths in
lunar and terrestrial anorthosites 673
- STEIDL, PETER F.
with W.C. Hood and D.G. Tschoopp;
Precipitation of norsethite 471
- STEINFINK, HUGO
with R.A. Rowland; Memorial of
William Frank Bradley 404

- Stereographic Projection of Crystals: An Elementary Introduction and Practical Guide for Students* (Johnston); reviewed by H.E. Wenden 390
- Stewartite, atomic arrangement 1272
- Stibarsen, new mineral name (abstr.) 1331
- STOREY, LESTER O.
with E.E. Foord and P. Berendsen;
Corderoite, first natural occurrence
of α -Hg₃S₂Cl₂ 652
- STORMER, JOHN C., Jr.
with A.A. Giardini, V.J. Hurst, and
C.E. Melton; Biotite as a primary
inclusion in diamond 783
- Strain ellipsoids
orientation in feldspars 457
- Stressed crystal
equilibrium across coherent interface 1286
- Strontianite
synthesis from aqueous solution 1209
- Strontium Isotope Geology* (Faure and
Powell); reviewed by C. Emiliani 1337
- Structure, see crystal structure
- STUART, A.
with N.H. Hartshorne, *Crystals and
the Polarising Microscope*; reviewed
by D.M. Henderson 216
- Studies in Earth and Space Sciences;
A Memoir in Honor of Harry Hammond
Hess, 1906-1969* (R. Shagam, Ed., with
others); reviewed by L. Glover,
III 876
- Studtite
composition and crystal structure 166
- Stumpflite, new mineral (abstr.) 211
- Sulfates
anglesite, synthesis 1209
barite, synthesis 1209
celestite, synthesis 1209
chalcantite 1105, 1128
quenstedtite 582
wenkite (abstr.) 1135
- Sulfides
carrollite 302
dimorphite (abstr.) 632
heideite 465
krutaite (abstr.) 210
larosite (abstr.) 382
linnaeite-carrollite series 302
- Sulfides, continued
nuffieldite (abstr.) 633
parkerite, synthetic 296
plagionite (abstr.) 1127
schirmerite (abstr.) 384
semseyite (abstr.) 1127
shandite 296
skinnerite 889
Sn-shandite 296
sulvanite 307
tochilinite 190
troilite, lunar 231
unnamed Ag-Pb-Bi-S (abstr.) 1139
unnamed lead iron- (abstr.) 1140
- Sulfosalts, see sulfides
- Sulvanite,
composition, properties, and X-ray
data 307
- SUMIN de PORTILLA, VALENTINA I.
OH groups and the structure of
picropharmacolite by IR
spectroscopy 807
- Sungulite, = mixture (abstr.) 212
- SUPPE, JOHN
*Geology of the Leech Lake Mountain-
Ball Mountain Region, California*;
reviewed by E.H. Bailey 1143
- SUTULOV, ALEXANDER
Minerals in World Affairs; reviewed
by F.D. Bloss 218
- SWITZER, GEORGE S.
Memorial of Martin L. Ehrmann 414
- Synthesis
anglesite, from aqueous solution 1209
barite, from aqueous solution 1209
buetschliite 353
celestite, from aqueous solution 1209
fairchildite 353
feldspar, Ba-, celsian 139
gadolinites 700
norsethite 471
parkerite 296
phlogopite, Na- 261
pyroxene 98, 549
scapolite 618, 768
shandite 296
strontianite, from aqueous solution 1209
troegerite 763
witherite, from aqueous solution 1209
- TAKEDA, HIROSHI
with B. Morosin; Prediction of the
trioctahedral mica structure at
high temperature (abstr.) 1128

- Tantal-aeschnite, new mineral (abstr.) 1331
- Tanzanite, fission track dating 613
- TARSHIS, ANDREW L.
with D. Wachs; A technique of sample preparation for petrographic investigation by electron microscopy 183
- TAYLOR, PAMELA R.
with K. Toman; Epitaxial growth of dolomite on mica 871
- TAZZOLI, VITTORIO
with G. Rossi and L. Ungaretti; Crystal structure of ussingite 335
- Tektites* (Barnes and Barnes, Eds.); reviewed by D.R. Chapman 214
- Tellurantimony, new mineral (abstr.) 382
- Telluride, Ag-Sb-, unnamed (abstr.) 384
- TEM
in ceramics and mineralogy (abstr.) 1136
deformation in carbonates (abstr.) 1135
deformation structures (abstr.) 1131
feldspars, plagioclase (abstr.) 1133
ternary (abstr.) 1133
in MgAl spinel (abstr.) 1137
lunar minerals (abstr.) 1131
peridotites (abstr.) 1134
- TENNISSSEN, ANTHONY C.
Nature of Earth Materials; reviewed by M.I. Dubins 1147
- Thermodynamics of Rock-Forming Crystalline Solutions* (Saxena); reviewed by R.H. Nafziger 389
- Thermogravimetric data, chlorite 152
- THOMAS, G.
with O. Van der Biest; Transmission electron microscopy in ceramics and mineralogy (abstr.) 1136
- THOMAS, JIMMY N.
with P.D. Robinson and J.H. Fang; Crystal structures and mineral chemistry of hydrated ferric sulfates. IV. The crystal structure of quenstedtite 582
- THOMSEN, RICHARD W.
with W.J. McLean and R.A. Bideaux; Yedlinite, a new mineral 1157
- Thorianite
morphology and physical properties 378
- THORNBUR, M.R.
with J. Graham; Complex niobium and tantalum oxides.
I. Classification of MO_2 phases 1026
II. Wodginite 1040
IV. The metamict state 1047
- Titanaugite, sector-zoned 127
- Tochilinite, SAD study 190
- TOKONAMI, MASAYASU
with N. Morimoto, M. Watanabe, and K. Koto; Structures of three polymorphs of Co_2SiO_4 475
- TOMAN, KAREL
with P.R. Taylor; Epitaxial growth of dolomite on mica 871
- TOSSELL, J.A.
with D.J. Vaughan and K.H. Johnson; The electronic structure of rutile, wustite, and hematite from molecular orbital calculations 319
- Transmission Electron Microscopy, see TEM
- Troegerite
phase transition at room temperature 763
synthesis 763
- Trolleite, crystal structure 974
- TROTTER, J.
with E.P. Meagher and C.S. Gibbons; Crystal structure of jagowerite 291
- TSCHOPP, DAVID G.
with W.C. Hood and P.F. Steidl; Precipitation of norsethite 471
- Tulameenite, new mineral (abstr.) 383
- Tundrite, new analysis (abstr.) 633
- TUNELL, GEORGE
Acceptance of the Roebling Medal of the Mineralogical Society of America for 1973 395
- Treasurer's Report for 1972A and 1973, Philip M. Bethke 1341
- Twinning, mimetic-, in minerals 906
- Uduminelite
new mineral [*Am. Mineral.* 58:806 (abstr.)]: Errata 212
- ULMER, GENE C.
Alteration of chromite during serpentinization in the Pennsylvania-Maryland District 1236

- ULMER, GENE C., continued
with J.J. Friel, Oxygen fugacity
geothermometry 314
- UNGARETTI, LUCIANO
with G. Rossi, and V. Tazzoli,
Crystal structure of ussingite 335
- Unit Cell
actinolite-hornblende crystals 529
alkali feldspars at liquid
nitrogen temperature 1327
annite [*Am. Mineral.* 58:898]: Errata 221
arseniosiderite 48
bikitaite 71
enstatite polymorphs 345
feldspar, alkali-, Hewlett's suite 615
gadolinites 700
heideite 465
jahnsite 48
kellyite 1153
levyne 837
merwinite 1117
mitridatite 48
offretite 837
overite 48
phlogopite
synthetic Na- 261
[*Am. Mineral.* 58:898]: Errata 221
pyroxenes, synthetic 98
richterites, Mg-Fe- 518
robertsite 48
roweite 66
segelerite 48
skinnerite 889
studdite 166
titanaugite 127
trolleite 974
volborthite 372
whitmoreite 900
wylleite 280
- Urea, new mineral (abstr.) 874
- Ussingite
comparison of bonding effects
with low albite 341
crystal structure 335
- "Valleriite-like" mineral, electron
diffraction study 190
- Vanadates
heyite (abstr.) 382
vanuralite [*Am. Mineral.* 58:640]:
Errata 384
volborthite 307, 372
- VAN DER BIEST, O.
with G. Thomas, TEM in ceramics
and mineralogy (abstr.) 1136
- VANDER SANDE, J. B.
with D. L. Kohlstedt, Electron
microscopy study of augite ex-
solution lamellae in enstatite
(abstr.) 1132
- Vanuralite, new mineral [*Am. Mineral.*
56:640 (abstr.)]: Errata 384
- VAUGHAN, DAVID J.
with J. R. Craig, The crystal chem-
istry and magnetic properties of
iron in the monosulfide solid solu-
tion of the Fe-Ni-S system 926
_____, with J.A. Tossell and K. H.
Johnson, MO calculations for the
electronic structure of rutile,
wustite, and hematite 319
- Vauxite, relation to montgomeryite 843
- Vermiculite, organic complexes,
Fourier analysis 790
- Vesuvianite, melilite replaced by
idocrase 694
- Veszelyite, crystal chemistry and
structure 573
- Vincentite, new mineral (abstr.) 1332
- Volborthite, unit cell and X-ray data 372
- Vuonnemite, new mineral (abstr.) 875
- WACHS, DANIEL
with A. L. Tarshis, Sample prepara-
tion for petrographic investigation
by electron microscopy 183
- WALENTA, KURT
On studdite and its composition 166
- WAN, CHE'NG
with S. Ghose, Stereochemistry of
Cu (II) and Iodine (V) in
bellingerite (abstr.) 1130
_____, with S. Ghose and S. R. Leo,
Veszelyite: A novel type of sheet
structure and crystal chemistry of
copper-zinc substitution 573
- WARNER, RICHARD D.
with W. C. Luth, The diopside-
orthoenstatite two-phase region
in the system $\text{CaMgSi}_2\text{O}_6$ - $\text{Mg}_2\text{Si}_2\text{O}_6$ 98
- Warwickite, crystal chemistry 985
- WATANABE, MAMORU
with N. Morimoto, M. Tokonami, and
K. Koto, Structures of three poly-
morphs of Co_2SiO_4 475
- WEEKS, ROBERT A.
with J.C. Pigg, and C. B. Finch,
Charge-transfer spectra of Fe^{3+}
and Mn^{2+} in synthetic forsterite 1259
- WEISS, ALARICH
with W. Pies, *Crystal Structure
Data of Inorganic Compounds*;
reviewed by F. D. Bloss 1142

- WELLS, A. F.
Models in Structural Inorganic Chemistry; reviewed by C.J. Schneer 637
- WENDEN, HENRY E.
 review of *Stereographic Projections of Crystals*, R. Johnston 390
- WENK, H. -R.
 Electron microscopy as a tool in geology (abstr.) 1130
 Howieite, a new type of chain silicate 86
- Wenkite, crystal structure (abstr.) 1135
- WEST, GEOFF W.
 with R.W.T. Wilkins and A. Mateen, Spectroscopic study of oxonium ions in minerals 811
- WHITE, JOHN S., JR.
 Memorial of Kent Combs Brannock _____, with R.A. Sheppard, A.J. Gude, 3rd, and G.A. Desborough, Levyne-offretite intergrowths from basalt 837
- Whitlockite, lunar 231
- Whitmoreite, new phosphate species 900
- Wightmanite, crystal chemistry 985
- WILKINS, RONALD W. T.
 with A. Mateen and G.W. West, The spectroscopic study of oxonium ions in minerals 811
- WILLAIME, C.
 with W.L. Brown, and M.C. Perucaud, On the orientation of the thermal and compositional strain ellipsoids in feldspars 457
- Witherite, synthesis from aqueous solution 1209
- Wodginite, composition and crystal structure 1040
- WOLFE, C. W.
 with E. Chasen, Crystal habit of synthetic chalcantite 1105
- WONDRATSCHEK, H., Ed.
Röntgen-, Elektronen- und Neutronenbeugung an Gläsern; reviewed by W. H. Baur 1148
- WOOD, BERNARD J.
 Crystal field spectrum of Ni²⁺ in olivine 244
- WOOD, MICHAEL M.
 with W.J. McLean and R. B. Laughon, The crystal structure and composition of yedlinite 1160
- World Directory of Mineral Collections* (P.C. Zwaan, Ed. with others); reviewed by F. D. Bloss 1149
- The World's Finest Minerals and Crystals* (P. Bancroft); reviewed by F. D. Bloss 387
- WUENSCH, B. J.
 with J. J. Kohatsu, Semseyite and the crystal chemistry of the plagionite group (abstr.) 1127
- Wüstite, electronic structure 319
- Wyllieite
 new mineral (abstr.) 211
 crystal chemistry and X-ray data 280
- X-Ray Cells, for clay-brine systems 851
- X-Ray Crystallography. An Introduction to the Theory and Practice of Single Crystal Structure Analysis* (Milburn); reviewed by J. J. Finney 215
- X-ray diffraction analysis, X-ray cells for 851
- X-ray Diffraction Data
 aenigmatite in Canada 820
 aristarainite 647
 arseniosiderite 48, 640
 biotite inclusion in diamond 783
 carrollite 302
 chlorite 152
 clinochlore 496
 corderoite 652
 feldspar, Hewlett's suite 615
 frankdicksonite 885
 gadolinite 700
 heideite 465
 jahnsite 48
 levyne 837
 magnesioarfvedsonite, authigenic 830
 merwinite 1117
 mitridatite 48, 640
 murataite 172, 640
 offretite 837
 parkerite, synthetic 296
 phlogopite, Na-, synthetic 261
 plagioclase, clouded 656
 richterites, Mg-Fe- 518
 robertsite 48, 640
 roweite 60, 66
 segelerite 48
 shandite, synthetic 296
 skinnerite 889
 studtite 166
 sulvanite 307
 volborthite 372
 wyllieite 280
 yedlinite 1157
- YAGI, KENZO
 with J.G. Souther, Aenigmatite from Mt. Edziza, British Columbia, Canada 820

YAGI, TAKEHIKO with F. Marumo and S. Akimoto, Crystal structures of spinel poly- morphs of Fe ₂ SiO ₄ and Ni ₂ SiO ₄	486	ZINNOW, KARL P. with J.P. Dybwad, and L.M. Logan, Reflection spectroscopy of microscopic mineral grains	604
Yedlinite crystal structure	1160	Zircon, in gabbroic rocks	249
new mineral from Arizona	1157	Zoisite, infrared spectra	1249
YU, SHU-CHENG with D. K. Smith, Observations on the dislocation substructures in a hedenbergite from Nordmark, Sweden (abstr.)	1132	Zoning augite	120
Zeolites epistilbites, crystal chemistry	1055	clinobronzite	374
levyne	837	hourglass, synthetic barium feldspar	139
offretite	837	sector, titanaugite	127
RHO structure (abstr.)	1127	ZUSSMAN, J. with W. S. MacKenzie, Eds. <i>The Feldspars</i> ; reviewed by F.F. Foit	1333
		ZWAAN, PIETER C., Ed. with others, <i>World Directory of Mineral Collections</i> ; reviewed by F.D. Bloss	1149

As many of you know, F. Donald Bloss has requested that he be relieved of the editorship of the AMERICAN MINERALOGIST in late 1975. The Society accepts his resignation with deep regret, and solicits your suggestions for his successor.

Please send the names of potential candidates—as well as your reasons for support of the candidate—to the Chairman of the Publications Committee,

Professor William C. Kelly
Department of Geology and Mineralogy
University of Michigan
Ann Arbor, Michigan 48104.

Your help in filling this important post will be greatly appreciated.

ARNULF MUAN, PRESIDENT
MINERALOGICAL SOCIETY OF AMERICA