

REFERENCES CITED

- Alexander, E. C., Jr.; Davis, P. K.; Reynolds, J. H. and Srinivasan, B. (1973) Radiogenic Xenon and Argon in 14318 and implications Lunar Science IV. The Lunar Science Institute. p. 30
- Alexander, E. C., Jr. and Kahl, S. B. (1974) $^{40}\text{Ar}/^{39}\text{Ar}$ studies of lunar breccias Proc. Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1353-1374
- Allen, R. O. Jr.; Jovanovic, S. and Reed, G. W., Jr. (1972) ^{204}Pb in Apollo 14 samples and inferences regarding primordial Pb lunar geochemistry Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1645-1651
- Andersen, C. A. and Hinthorne, J. R. (1972) U, Th, Pb and REE abundances and $^{207}\text{Pb}/^{206}\text{Pb}$ ages of individual mineral returned lunar material by ion microprobe mass analysis Earth and Planetary Science Letters Vol. 14 p. 195
- Andersen, C. A. and Hinthorne, J. R. (1973) $^{207}\text{Pb}/^{206}\text{Pb}$ ages and REE abundances in returned lunar material by ion microprobe mass analysis Lunar Science IV. The Lunar Science Institute. p. 37
- Andersen, C. A. and Hinthorne, J. R. (1973) $^{207}\text{Pb}/^{206}\text{Pb}$ ages of individual mineral phases in LUNA 20 material by microprobe mass analysis Geochim. Cosmochim. Acta. Vol. 37 p. 745
- Anderson, A. T., Jr.; Braziunas, T. F.; Jacoby, J. and Smith, J. V. (1972) Thermal and mechanical history of breccias 14306, 14063, 14270, and 14321 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 819-837
- Apollo Soil Survey (1971) Apollo 14 - nature and origin of rock types in soil from Fra Mauro Formation Earth and Planetary Science Letters Vol. 12 p. 49
- Axon, H. J. and Goldstein, J. I. (1973) Metallic particles of high cobalt content in Apollo 15 soil samples Earth and Planetary Science Letters Vol. 18 p. 173
- Baedecker, P. A.; Chou, C. L.; Grudewicz, E. B. and Wasson, J. R. (1973) Volatile and siderophile trace elements in Apollo 15 samples - geochemical implications and characterization of the long-lived and short-lived extra-lunar materials Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1177-1196
- Baedecker, P. A.; Chou, C. L. and Wasson, J. T. (1972) The extra lunar component in lunar soils and breccias Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1343-1361
- Bailey, N. G., and Ulrich, G. E. (1975) Apollo 14 voice transcript pertaining to the geology of the landing site U. S. Geol. Survey, Branch of Astrology, Flagstaff, Arizona p. 104
- Baldwin, R. B. (1974) On the origin of mare basins Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 1-10
- Bansal, B. M.; Gast, P. W.; Hubbard, N. J.; Nyquist, L. E.; Rhodes, J. M.; Shih, C. Y. and Wiesmann, H. (1973) Lunar rock types Lunar Science IV. The Lunar Science Institute. p. 48

- Barnes, I. L.; Carpenter, B. S.; Garner, E. L.; Gramlich, J. W.; Kuehner, E. C.; Machlan, L. A.; Maienthal, E. J.; Moody, J. R.; Moore, I. J.; Murphy, T. J.; Paulsen, P. J.; Sappenfield, K. M. and Shields, W. R. (1972) Isotopic abundance ratios and concentrations of selected elements in Apollo 14 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1465-1472
- Becker, R. H. and Clayton, R. N. (1975) Nitrogen abundances and isotopic compositions in lunar samples Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 2131-2150
- Becker, R. H. and Clayton, R. N. (1973) Nitrogen abundances and isotopic compositions in lunar samples Lunar Science VI. The Lunar Science Institute pp. 31-33
- Begemann, F.; Born, W.; Palme, H.; Vilcsek, E. and Wanke, H. (1972) Cosmic-ray produced radioisotopes in Apollo 12 and Apollo 14 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1693-1703
- Behrmann, C. J.; Drozd, R. J. and Hohenberg, C. M. (1973) Extinct lunar radio activities: Xenon from ^{244}Pu and ^{129}I in Apollo 14 Breccias Earth and Planetary Science Letters Vol. 17 pp. 446-455
- Bell, P. M. and Mao, H. K. (1972) Crystal-field effects of iron and titanium in selected grains of Apollo 12, 14, and 15 rocks, glasses and fine fractions Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp 545-555
- Bence, A. E. and Papike, J. J. (1972) Pyroxenes as recorders of lunar basalt petrogenesis; Chemical trends due to crystal-liquid interaction Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 431-471
- Berdot, J. L.; Chetrit, G. C.; Lorin, J. C.; Pellas, P.; and Poupeau, G. (1972) Irradiation studies of lunar soils: 15100, LUNA 20, and compacted soil from Breccia 14307 The Apollo 15 Lunar Samples. The Lunar Science Institute. pp. 333-335
- Birck, J. L. and Allegre, O. J. (1973) $^{87}\text{Rb}/^{87}\text{Sr}$ age of fragments and soils from lunar Sea of Fertility Geochim. Cosmochim. Acta. Vol. 37 pp. 2025-2031
- Boynton, W. V.; Baedecker, P. A.; Chou, C. L.; Robinson, K. L. and Wasson, J. T. (1975) Mixing and transport of lunar surface materials - evidence obtained by determination of lithophile, siderophile, and volatile elements Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 2241-2260
- Boynton, W. V.; Chou, C. L.; Bild, R. W. and Wasson, J. T. (1975) Surface correlation of volatile elements in Apollo 16 soils Lunar Science VI. The Lunar Science Institute. pp. 74-76
- Brown, G. M.; Emeleus, C. H.; Holland, J. G.; Peckett, A. and Phillips, R. J. (1972) Mineral-chemical variations in Apollo 14 and Apollo 15 basalts and granitic fractions Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 141-159
- Brown, G. M. and Peckett, A. (1971) Selective volatilization on the lunar surface: evidence from Apollo 14 feldspar-phyric basalts Nature Vol. 234 pp. 262-266

- Brown, R. W.; Reid, A. M.; Ridley, W. I.; Warner, J. L.; Jakes, P.; Butler, P., Williams, R. J. and Anderson, D. H. (1971) Microprobe Analyses of glasses and minerals from Apollo 14 sample 14259 Nasa Technical Memorandum X-58080 p. 89
- Brunfelt, A. O.; Heir, K. S.; Nilssen, B.; Sundvoll, B. and Steinnes, F. (1972) Distribution of elements between different phases of Apollo 14 rocks and soils Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1133-1149
- Busche, F. D.; Prinz, M.; Keil, K. and Kurat, G. (1972) Lunar Zirkelite-Urbanium-bearing phase Earth and Planetary Science Letters Vol. 14 p. 313
- Cameron, K. L. and Fisher, G. W. (1975) Olivine-matrix reactions in thermally metamorphosed Apollo 14 breccias Earth and Planetary Science Letters Vol. 25 pp. 197-207
- Carr, M. H. and Meyer, C. E. (1972) Chemical and petrographic characterization of Fra Mauro soils Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 1015-1029
- Chao, E. C. T. (1973) Geologic implications of the Apollo 14 Fra Mauro breccias and comparison with ejecta from the Ries Crater, Germany Journal Research U. S. Geologic Survey Vol. 1 #1 pp. 1-18
- Chao, E. C. T.; Minkin, J. A. and Best, J. B. (1972) Apollo 14 breccias: General characteristics and classification Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 645-659
- Chao, E. C. T.; Best, J. B. and Minkin, J. A. (1972) Apollo 14 glasses of impact origin and their parent rock types Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 907-927
- Chao, E. C. T.; Boreman, J. A. and Desborough, G. A. (1971) Unshocked and shocked Apollo II and 12 microbreccias: Characteristics and some geologic implications Proc. Second Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 797-816
- Chao, E. C. T.; Soderblom, L. A.; Boyce, J. M.; Wilhelms, D. E. and Hodges, C. A. (1973) Lunar light plains deposits (Cayley Formation) -- a reinterpretation of origin Lunar Science IV. The Lunar Science Institute. pp. 127-128
- Christian, R. P.; Berman, S.; Dwornik, E. J.; Rose, H. J., Jr. and Schnepfe, M. M. (1976) Composition of some Apollo 14, 15, and 16 lunar breccias and two Apollo 15 fines Lunar Science VII. The Lunar Science Institute. Part 1 pp. 138-140
- Christie, J. M.; Griggs, D. T.; Heuer, A. H.; Nord, G. L., Jr.; Radcliffe, S. V.; Lally, J. S and Fisher, R. M. (1973) Electron petrography of Apollo 14 and 15 breccias and shock produced analogues Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. pp. 365-382
- Church, S. E.; Bansal, B. M. and Wiesmann, H. (1972) The distribution of K., Ti, Zr, U and Hf in Apollo 14 and 15 materials The Apollo 15 Lunar Samples. The Lunar Science Institute. pp. 210-213
- Church, S. E.; Tilton, G. R. and Wright, J. E. (1976) Volatile element depletion and $^{39}\text{K}/^{41}\text{K}$ fractionation in lunar soils Lunar Science VII. The Lunar Science Institute. Part 1 pp. 146-148

- Chyi, L. L. and Ehmann, W. D. (1973) Zirconium and Hafnium abundances in some lunar materials and implication of their ratios Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1219-1226
- Clayton, R. N.; Hurd, J. Mo and Mayeda, T. K. (1972) Oxygen isotopic compositions and Oxygen concentrations of Apollo 14 and Apollo 15 rocks and soils Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1455-1465
- Clayton, R. N. and Mayeda, T. K. (1975) Genetic relations between the moon and meteorites Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1761-1770
- Cliff, R. A.; Lee, Hu C. and Wetherill, G. W. (1972) Rubidium-Strontium isotope characteristics of lunar soils Journal of Geophysical Research Vol. 77 p. 2007
- Compston, W.; Vernon, M. J.; Berry, H.; Rudowski, R.; Gray, C. M. and Ware, N. (1972) Apollo 14 mineral ages and the thermal history of the Fra Mauro Formation Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1487-1503
- Compston, W.; Vernon, M. J.; Berry, H. and Rudowski, R. (1971) Age of Fra Mauro Formation - radiometric older limit Earth and Planetary Science Letters Vol. 12 p. 55
- Crozaz, G.; Drozd, R.; Graf, H.; Hohenberg, C. M.; Monnin, M.; Ragan, D.; Ralston, C.; Seitz, M.; Shirek, J.; Walker, R. M. and Zimmerman, J. (1972) Uranium and extinct ²⁴⁴Pu effects in Apollo 14 materials Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1623-1637
- Czank. M.; Girgis, K.; Harnik, A. B.; Laves, F.; Schmid, R.; Schulz, H. and Weber, L. (1972) Crystallographic studies of lunar plagioclase from samples 14053, 14163, and 14310 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 603-615
- Dence, M. R. and Plant, A. G. (1972) Analysis of Fra Mauro samples and the origin of the Imbrium Basin Proc. Third Lunar Sci. Conf. Geochim. Cosmochim. Acta. Vol. 1 pp. 379-399
- Des Marais, D. J.; Basu, A.; Hayes, J. M. and Meinschein, W. G. (1975) Carbon isotope contents of size fractions of 14240,17 Lunar Science VI. The Lunar Science Institute. pp. 187-189
- Des Marais, D. J.; Basu, A.; Hayes, J. M. and Meinschein, W. G. (1975) Evolution of carbon isotopes, agglutinates, and the lunar regolith Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 235.3-2374
- Des Marais, D. J.; Hayes, J. M.; and Meinschein, W. G. (1973) The distribution in lunar soil of carbon released by pyrolysis Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1543-1558
- Drake, M. J.; Stoesser, J. W. and Goles, G. G. (1973) Unified approach to a fragmental problem - petrological and geochemical studies of lithic fragments from Apollo 15 soils Earth and Planetary Science Letters Vol. 20 pp. 425-439
- Drozd, R.; Hohenberg, C. Mo and Morgan, C. (1975) Kr and Xe in lunar breccias Lunar Science VI. The Lunar Science Institute. pp. 211-213

- Drozdz, R.; Hohenberg, C. M. and Morgan, C. (1975) Krypton and Xenon in Apollo 14 samples - Fission and neutron capture Effects gas-rich samples Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1857-1878
- Duncan, A. R., Grieve, R. A. F. and Weill, D. F. (1975) The life and times of Bit Bertha: lunar breccia 14321 Geochim. Cosmochim. Acta. Vol. 39 pp. 265-273
- Eberhardt, P.; Geiss, J.; Grogler, N. and Stettler, A. (1973) Ar^{39}/Ar^{40} ages and Ar^{37}/Ar^{38} exposure ages of lunar samples Lunar Science IV. The Lunar Science Institute. p. 206
- Eggleton, R. E. (1964) Preliminary geology of the Rhiphaeus Quadrangle of the Moon. Astrogeol. Stds., Annual Prog. Report August, 1962 - July, 1963, Part A, U.S.G.S. Open file Report pp. 46-63
- Eggleton, R. E. and Offield, T. W. (1970) Geologic maps of the Fra Mauro region of the moon. U.S.G.S. Misc. Geol. Invest. Map 1-708
- Eglinton, G.; Mays, B. J.; Pillinger, C. T.; Agrell, S. C.; Scoon, J. H.; Maurette, M.; Bowell, E.; Dollfus, A.; Geake, J. E. and Schultz, L. (1974) The history of lunar breccia 14267 Proc. of Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1159-1180
- Ehmann, W. D.; Chyi, L. L.; Garg, A. N.; Hawke, B. R.; Ma, M. S.; Miller, M. D.; James, W. D., Jr. and Pacer, R. A. (1975) Chemical studies of the lunar regolith with emphasis on Zirconium and Hafnium Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1351-1362
- Ehmann, W. D.; Gillum, D. E. and Morgan, J. W. (1972) Oxygen and bulk element composition studies of Apollo 14 and other lunar rocks and soils Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1149-1161
- Ehmann, W. D.; Janghorbani, M.; Chyi, L. L. and Miller, M. D. (1973) Elemental abundance studies of lunar samples with particular reference to Oxygen abundances and the Zirconium/Hafnium ratio Lunar Science IV. The Lunar Science Institute. p. 212
- Ehmann, W. D.; Janghorbani, M. and Gillum, D. E. (1972) Elemental abundance studies of Apollo 15 and some Fra Mauro Formation lunar samples The Apollo 15 Lunar Samples. The Lunar Science Institute. pp. 214-216
- Eisentraut, K. J.; Black, M. S.; Hileman, F. D.; Sievers, R. E. and Ross, W. D. (1972) Beryllium and Chromium abundances in Fra Mauro and Hadley-Apennine lunar samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1327-1335
- El Goresy, A.; Ramdohr, P. and Taylor, L. A. (1971) The geochemistry of opaque minerals in Apollo 14 crystalline rocks Earth and Planetary Science Letters Vol. 13 p. 121
- El Goresy, A.; Taylor, L. A. and Ramdohr, P. (1972) Fra Mauro crystalline rocks: mineralogy, geochemistry, and subsolidus reduction of the opaque minerals Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 333-349
- Eldridge, J. S.; O'Kelly, G. D. and Northcutt, K. J. (1972) Abundances of primordial and cosmogenic radionuclides in Apollo 14 rocks and fines Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1651-1659

- Engelhardt, W. V., Arndt, J.; Stoffler, D. and Schneider, H. (1972) Apollo 14 regolith and fragmental rocks, their compositions and origin of impacts Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 753-771
- Epstein, S. and Taylor, H. Po, Jr. (1972) $^{30}\text{Si}/^{28}\text{Si}$, $\text{C}^{13}/\text{C}^{12}$, and D/H studies of Apollo 14 and 15 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1429.-1455
- Eugster, O. (1971) Li, Be and B abundances in fines from Apollo 11, Apollo 12, Apollo 14, and Apollo 16 missions Earth and Planetary Science Letters Vol. 12 p. 273
- Fabel; G. W., White, W. B.; White, E. W. and Roy, R. (1972) Structure of lunar glasses by Raman and soft x-ray spectroscopy Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 939-953
- Fields, P. R.; Diamond, H.; Metta, D. N.; Rokop, D. J. and Stevens, C. M. (1972) ^{237}Np , ^{236}U , and other actinides on the moon Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1637-1645
- Fields, P. R.; Diamond, H.; Metta, D. N. and Rokop, D. J. (1973) Reaction products of lunar Uranium and cosmic rays Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 2123-2130
- Fields, P. R.; Diamond, H.; Metta, D. N. and Rokop, D. J. (1973) The reaction products of lunar Uranium and cosmic rays Lunar Science IV. The Lunar Science Institute. p. 239
- Fields, P. R.; Diamond, H.; Metta, D. N. and Rokop, D. J. (1972) Lunar actinides - ^{236}U , ^{237}Np , ^{244}Pu , ^{239}Pu and ^{238}Pu The Apollo 15 Lunar Samples. The Lunar Science Institute. pp. 360-363
- Finger, L. W.; Hafner, S. S.; Virgo, D. and Warburton, D. Distinct cooling histories and reheating of Apollo 14 rocks Lunar Science III. The Lunar Science Institute. pp. 259-261
- Finkelman, R. B. (1973) Analysis of the sub-37 micrometer fraction of the Apollo 14 soil Lunar Science IV. The Lunar Science Institute. p. 245
- Finkelman, R. B. (1973) Analysis of the ultra fine fraction of the Apollo 14 regolith Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 179-190
- Fireman, E. L. (1972) Depth variation of ^{37}Ar and ^{39}Ar in lunar material The Apollo 15 Lunar Samples. The Lunar Science Institute. pp. 364-367
- Fireman, E. L.; D'Amico, J. and Defelice, J. (1973) Depth variation of ^{37}Ar , ^{39}Ar , and ^3H in Apollo 16 material Lunar Science IV. The Lunar Science Institute. p. 248
- Floran, R. J.; Cameron, K. L.; Bence, B. and Papike, J. J. (1972) Apollo 14 breccia 14313 - a mineralogic and petrologic report Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 661-673
- Ganapathy, R.; Laul, J. C.; Morgan, J. W. and Anders, E. (1972) Moon - possible nature of body that produced Imbrium Basin, from composition of Apollo 14 samples Science Vol. 175 p. 55

- Ganapathy, R.; Morgan, J. W.; Higuchi, H.; Anders, E. and Anderson, A. T., Jr. (1974) Meteoritic and volatile elements in Apollo 16 rocks and in separated phases from 14306 Lunar Science V. The Lunar Science Institute. Part 1 pp. 257-259
- Ganapathy, R.; Morgan, J. W.; Higuchi, H.; Anders, E. and Anderson, A. T., Jr. (1974) Meteoritic and volatile elements in Apollo 16 rocks and in separated phases from 14306 Proc. Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1659-1684
- Ganapathy, R.; Morgan, J. W.; Krahenbuhl, U. and Anders, E. (1973) Ancient meteoritic components in lunar highland rocks - clues from trace elements in Apollo 15 and 16 samples Proc. Fourth Lunar Sci., Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1239-2362
- Gancarz, A. J.; Albee, A. L. and Chodos, A. A. (1972) Comparative petrology of Apollo 16 sample 68415 and Apollo 14 samples 14276 and 14310 Earth and Planetary Science Letters Vol. 16 p. 307
- Gancarz, A. J.; Albee, A. L. and Chodos, A. A. (1972) Petrologic and mineralogic investigation of some crystalline rocks returned by Apollo 14 mission Earth and Planetary Science Letters Vol. 12 p. 1
- Garg, A. N. and Ehmann, W. D. (1976) Chemical fractionation in the lunar crust with emphasis on Zirconium and Hafnium Lunar Science VII. The Lunar Science Institute. Part 1 pp. 281-283
- Garner, E. L.; Machlan, L. A. and Barnes, I. L. (1975) The isotopic composition of Lithium, Potassium, and Rubidium in some Apollo 12, 14, 15 and 16 samples Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1845-1856
- Gault, D. E.; Herz, F. and Hartung, J. B. (1972) Effects of microcratering on the lunar surface Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 3 pp. 2713-2734
- Gault, D. E.; Quaide, W. C. and Oberbeck, U. L. (1968) Impact cratering mechanics and structures in Shock Metamorphism of Natural Materials Mono Book Corp., Baltimore, Md. pp. 87-89
- Gay, P.; Bown, M. G. and Muir, I. D. (1972) Mineralogical and petrographic features of two Apollo 14 rocks Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 351-363
- Ghose, S.; Ng, G. and Walter, L. S. (1972) Clinopyroxenes from Apollo 12 and 14 - exsolution, domain structure, and order Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 507-533
- Gibson, E. K. and Hubbard, N. J. (1972) Thermal volatilization studies on lunar samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 2003-2014 Supplement 3
- Gibson, E. K., Jr. and Moore, G. W. (1973) Carbon and Sulphur distributions and abundances in lunar fines Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1577-1586

- Gibson, E. K., Jr. and Moore, G. W. (1973) Inorganic gas release investigations and total Sulfur abundances in lunar samples Lunar Science IV. The Lunar Science Institute. p. 283
- Gilbert, G. K. (1893) The moon's face Phil. Soc. of Washington Bull. Vol. XII pp. 241-292
- Glass, B. P. (1976) High (>60%) SiO₂ lunar glasses Lunar Science VII. The Lunar Science Institute. Part 1 pp. 296-297
- Goldstein, J. I.; Axon, H. J. and Agrell, S. O. (1975) The structure and thermal history of five large metal particles from the regolith Lunar Science VI. The Lunar Science Institute. pp. 303-305
- Goldstein, J. I.; Axon, H. J. and Yen, C. F. (1972) Metallic particles in the Apollo 14 lunar soil Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 1037-1065
- Gopalan, K. and Rao, M. N. (1976) Solar cosmic ray effects in heavy noble gases of lunar soils and breccias Lunar Science VII. The Lunar Science Institute. Part 1 pp. 316-318
- Gose, W. A.; Pearce, G. W.; Strangway, D. W. and Larson, E. E. (1972) Magnetic properties of Apollo 14 breccias and their correlation with metamorphism Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 3 pp. 2387-2395
- Graf, H.; Hohenberg, C. M.; Shirck, J.; Sun, S. and Walker, R. M. (1973) Astrology of Apollo 14 extinct isotope breccias Lunar Science IV. The Lunar Science Institute. p. 312
- Green, D. H.; Ringwood, A. E.; Ware, N. G. and Hibberson, W. O. (1972) Experimental petrology and petrogenesis of Apollo 14 basalts Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 197-207
- Green, D. H.; Ware, N. G. and Hibberson, W. O. (1972) Experimental evidence against role of selective volatilization on lunar surface Nature Vol. 238 p. 450
- Grieve, R. A. (1975) Petrology and chemistry of the impact melt at Mistastin Lake Crater, Labrador Geol. Soc. Am. Bull. Vol. 86 pp. 1617-1629
- Grieve, R. A.; McKay, G. A.; Smith, H. D. and Weill, D. F. (1975) Lunar polymict breccia 14321: a petrographic study Geochim. Cosmochim. Acta. Vol. 39 pp. 229-245
- Griffin, W. L.; Amli, R. and Heier, K. S. (1972) Whitlockite and Apatite from lunar rock 14310 and from Odegarden, Norway Earth and Planetary Science Letters Vol. 15 p. 53
- Haggerty, S. E. (1972) Apollo 14 subsolidus reduction and compositional variations of spinels Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 305-333
- Hart, H. R., Jr.; Comstock, G. M. and Fleischer, R. L. (1972) The particle track record of Fra Mauro (abs) Lunar Science III p. 360
- Hawke, B. R. and Head, J. W. (1977) Pre-Imbrium history of the Fra Mauro region and Apollo 14 sample provenance Proc. Eighth Lunar Sci. Conf., Geochim. Cosmochim. Acta. pp. 2741-2761
- Head, J. W. and Hawke, B. R. (1975) Geology of the Apollo 14 region (Fra Mauro): Stratigraphic history and sample provenance Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 3 pp. 2483-2501

- Helmke, P. A.; Haskin, L. A.; Korotev, R. L. and Ziege, K. E. (1972) Rare earths and other trace elements in Apollo 14 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1275-1293
- Helz, R. I. (1972) Rock 14068 - an unusual lunar breccia Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 865-887
- Herpers, U.; Herr, W.; Kulus, H.; Michel, R.; Thiel, K. and Woelfle, R. (1973) Manganese-53 profile, particle track studies and the Rhenium-187 isotopic anomaly of breccia 14305 Lunar Science IV. The Lunar Science Institute. p. 360
- Herpers, U.; Herr, W.; Kulus, H.; Michel, R.; Thiel, K. and Woelfle, R. (1973) Manganese-53 profile, particle track studies and the Rhenium-187 isotopic anomaly of breccia 14305 Proc. Fourth Lunar Sci. Conf. Vol. 2 pp. 2157-2170
- Hlava, P. F.; Prinz, M. and Keil, K. (1972) Niobian Rutile in an Apollo 14 KREEP fragment Meteoritics Vol. 7 p. 479
- Horz, F.; Morrison, D. A. and Hartung, J. B. (1972) The surface orientation of some Apollo 14 rocks Modern Geology Vol. 3 pp. 93-104
- Hubbard, N. J.; Gast, P. W.; Meyer, C. E.; Nyquist, L. E.; Shih, C. Y. and Wiesmann, H. (1971) Chemical composition of lunar anorthosites and their parent liquids Earth and Planetary Science Letters Vol. 13 p. 71
- Hubbard, N. J. and Gast, P. W. (1971) Chemical composition and origin of nonmare lunar basalts Proc. Second Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 999-1020
- Hubbard, N. J.; Gast, P. W.; Rhodes, J. M.; Bansal, B. M.; Wisemann, H. and Church, S. E. (1972) Nonmare basalts Part II Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1161-1181
- Hubbard, N. J.; Nyquist, L. E.; Rhodes, J. M.; Bansal, B. M., Wiesmann, H. and Church, S. E. (1972) Chemical features of LUNA 16 regolith sample Earth and Planetary Science Letters Vol. 13 p. 423
- Hubbard, N. J.; Rhodes, J. M.; Gast, P. W.; Bansal, B. M.; Shih, C. Y.; Wiesmann, H. and Nyquist, L. E. (1973) Lunar rock types - the role of plagioclase in non-mare and highland rock Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1297-1312
- Hughes, T. C.; Keays, R. R. and Lovering, J. F. (1973) Siderophile and volatile trace elements in Apollo 14, 15, and 16 rocks and fines - evidence for extra lunar component Tl-, Au-, and Ag-enriched rocks in the ancient lunar crust. Lunar Science IV. The Lunar Science Institute. p. 400
- Husain, L.; Schaeffer, O. A.; Funkhouser, J. G. and Sutter, J. F. (1972) The ages of lunar material from Fra Mauro, Hadley Rille, and Spur Crater Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1557-1569
- Husain, L.; Sutter, J. F. and Schaeffer, O. A. (1971) Ages of crystalline rocks from Fra Mauro Science Vol. 173 p. 1235

- Inamura, M.; Nishiizumi, K.; Homda, M.; Finkel, R. C.; Arnold, J. R. and Kohl, C. P. (1974) Depth profiles of S3Mn lunar rocks and soils Proc. Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 2093-2104
- Imbrium Consortium (1976) Interdisciplinary Studies by the Imbrium Consortium, Wood, J. A., leader Center for Astrophysics, 60 Garden Street, Cambridge, Massachusetts, 02138 Vol. I, 155 pp.; Vol. 2, 125 pp.
- Jackson, E. D. and Wilshire, H. G. (1972) Classification of the samples returned from the Apollo 14 landing site Lunar Science III. The Lunar Science Institute. Contr. 88 pp. 418-420
- James, O. B. (1973) Crystallization history of lunar feldspar basalt 14310 U.S.G.S. Prof. Paper 841 22 pp.
- Janghorbani, M.; Miller, M. D.; Ma, M. S.; Chyi, Lo L. and Ehmann, W. D. (1973) Oxygen and other elemental abundance data for Apollo 14, 15, 16, and 17 Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1115-1126
- Jovanovic, S.; Jensen, K. and Reed, G. W., Jr. (1976) Trace elements and the evolution of lunar rocks Lunar Science VII. The Lunar Science Institute. Part 1 pp. 437-439
- Jovanovic, S.; Jensen, K. and Reed, G. W., Jr. (1976) Trace elements and the evolution of lunar rocks Lunar Science VII abstracts, in press
- Juan, V. C.; Chen, J. C.; Huang, C. K.; Chen, P. Y. and Wang-Lee, C. M. (1972) Petrology and chemistry of some Apollo 14 lunar samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 687-707
- Kesson, S. E. (1975) Experimental investigation of reaction coronas on olivine in Apollo 14 high-grade breccias Earth and Planetary Science Letters Vol. 28 pp. 56-68
- King, E. A., Jr.; Martin, R. T. and Nance, W. (1970) Tektite glass not in Apollo 12 sample Science Vol. 170 p. 199
- King, E. A., Jr.; Butler, J. C. and Carman, M. F. (1972) Chondrules in Apollo 14 samples and size analysis of Apollo 14 and 15 fines Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 673-686
- Klein, C., Jr. and Drake, J. C. (1972) Mineralogy petrology and surface features of some fragmental material from the Fra Mauro site Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 1095-1115
- Kovach, R. L.; Watkins, J. S. and Landers, T. (1971) Active seismic experiment Apollo 14 Prelim. Sci. Rpt., NASASP-272 pp. 163-174
- Kurat, G.; Keil, K.; Prinz, M. and Nehru, C. E. (1972) Chondrules of lunar origin Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 707-723
- Kurat, G.; Keil, K. and Prinz, M. (1974) Rock 14318: A polymict lunar breccia with chondritic texture Geochim. Cosmochim. Acta. Vol. 38 pp. 1133-1146
- Kushiro, I.; Ikeda, Y. and Nakamura, Y. (1972) Petrology of Apollo 14 high-Alumina basalt Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 115-131

- Laul, J. C.; Wakita, H.; Showalter, D. L.; Boynton, W. V. and Schmitt, R. A. (1972) Bulk, rare earth, and other trace elements in Apollo 14 and 15 and LUNA16 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1181-1201
- Levy, C.; Levy, M. C.; Picot, P. and Caye, R. (1972) A new Titanium and Zirconium oxide from the Apollo 14 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 1115-1121
- Lindsay, J. F. (1972) Sedimentology of clastic Rx from the Fra Mauro region of the moon Journal of Sedimentary Petrology Vol. 42 #1 pp. 19-32
- Lindstrom, M. M.; Duncan, A. R.; Fruchter, J. S.; McKay, D. S.; Stoesser, J. W.; Goles, G. G. and Lindstrom, D. J. (1972) Compositional characteristics of some Apollo 14 clastic materials Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1201-1215
- Longhi, J.; Walker, D. and Hays, J. F. (1972) Petrography and crystallization history of basalts 14310 and 14072 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 131-141
- Lovering, J. F. and Wark, D. A. (1975) The lunar crust-chemically defined rock groups and their Potassium-Uranium fractionation Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1203-1218
- Lovering, J. F.; Wark, D. A.; Gleadow, A. J. W. and Sewell, D. K. B. (1972) Uranium and Potassium fractionation in pre-Imbrium lunar crustal rocks Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 281-295 LSPET (1971) Preliminary examination of lunar samples from Apollo 14 Science Vol. 173 p. 681
- LSPET (1971) Preliminary examination of lunar samples Apollo 14 Prelim. Sci. Rpt. NASASP-272 pp. 109-131 Lugmair, G. W. and Marti, K. (1971) Neutron capture effects in lunar Gadolinium and irradiation histories of lunar rocks Earth and Planetary Science Letters Vol. 13 p. 32
- Mark, R. C.; Cliff, R. A.; Lee, H. C. and Wetherill, G. W. (1973) Rb-Sr studies of lunar breccias and soils Lunar Science IV. The Lunar Science Institute. p. 499
- Mark, R. K.; Cliff, R. A.; Lee-Hu, C. and Wetherill, G. W. (1973) Rb-Sr studies of lunar breccias and soils Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1785-1796
- Mark, R. K.; Lee-Hu, C. and Wetherill, G. W. (1974) Rb-Sr measurements on "lunar igneous rocks and breccia clasts Lunar Science V. The Lunar Science Institute. Part II pp. 490-492
- Mark, R. K.; Lee-Hu, C. and Wetherill, G. W. (1975) More on Rb-Sr in lunar breccia 14321 Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1501-1508
- Mark, R. K.; Lee-Hu, C. and Wetherill, G. W. (1974) Equilibration and ages - Rb-Sr studies of breccias 14321 and 15265 Proc. Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1477-1486
- Marvin, U. B. (1976) Geological setting of the Apollo 14 site Interdisciplinary Studies by the Imbrium Consortium Vol. 1 pp. 15-19

- Mason, B.; Fredricksson, K.; Henderson, P.; Jarosewich, E.; Melson, W. G.; Towe, K. M. and White, J. S., Jr. (1970) Mineralogy and petrology of lunar samples Proc. Apollo II Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 655-660
- Mason, B. and Melson, W. G. (1970) Comparison of lunar rocks with basalts and stony meteorites Proc. Apollo II Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 661-671
- Masuda, A.; Nakamura, N.; Kurasawa, H. and Tanaka, T. (1972) Precise determination of rare-earth elements in the Apollo 14 and 15 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1307-1315
- McKay, D. S.; Greenwood, W. R. and Morrison, D. A. (1970) Origin of small lunar particles and breccia from the Apollo II site Proc. Apollo 11 Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 673-693
- McKay, D. S.; Heiken, G. H.; Taylor, R. M.; Clanton U. S.; Morrison, D. A. and Ladle, G. H. (1972) Apollo 14 soils - size distribution and particle types Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 983-995
- McKay, D. S. and Morrison, D. A. (1971) Lunar breccias Journal of Geophysical Research Vol. 76 pp. 5658-5669 McKay, D. S.; Morrison, D. A.; Lindsey, J. and Ladle, G. (1971) Apollo 12 soil and breccia Proc. Second Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 755-773 McKay, G.; Wiesmann, H.; Wooden, J. and Bansal, B. (1978) Petrology, trace element chemistry, and chronology of KREEP-rich melt rock 14078 Lunar Science IX. The Lunar Science Institute. pp. 726-728
- Megrué, G. H. (1973) Spatial-distribution of $^{40}\text{Ar}/^{39}\text{Ar}$ Ages in lunar breccia 14301 Journal of Geophysical Research Vol. 78 p. 3216 Merlivat, L.; Nief, G. and Roth, E. (1972) Deuterium content of lunar material Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1473-1479 Meyer, C., Jr. (1977) Petrology, mineralogy and chemistry of KREEP basalt Phys. Chem. Earth Vol. 10 pp. 239-260
- Meyer, C., Jr.; Anderson, D. H. and Bradley, J. G. (1974) Ion microprobe mass analysis of plagioclase from non-mare lunar sample Lunar Science V. The Lunar Science Institute. Part II pp. 506-508
- Modzeleski, V. E.; Modzeleski, J. E.; Mohammed, M. A.; Nagy, L. A.; Nagy, B.; McEwan, W. S.; Urey, H. C. and Hamilton, P. B. (1973) Carbon-compounds in Pyrolysates and Amino-acids in extracts of Apollo 14 lunar samples Nature-Physical Science Vol. 242 p. 50
- Moore, C. B.; Lewis, C. F.; Cripe, J. D.; Delles, F. M.; Kelly, W. R. and Gibson, E. K., Jr. (1972) Total Carbon, Nitrogen and Sulphur in Apollo 14 lunar samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 2051-2059
- Morgan, J. W.; Ganapathy, R.; Higuchi, H.; Krahenbuhl, U. and Anders, E. (1974) Lunar basins-tentative characterization of projectiles from meteoritic elements in Apollo 17 boulders Proc. Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1703-1736
- Morgan, J. W.; Laul, J. C.; Krahenbuhl, U.; Ganapathy, R. and Anders, E. (1972) Major impacts on the moon-characterization from trace element in Apollo 12 and 14 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1377-1397

- Morrison, D. A.; McKay, D. S.; Heiken, G. H. and Moore, H. J. (1972) Microcraters on lunar rocks Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 3 pp. 2767-2791
- Morrison, R. H. and Oberbeck, V. R. (1975) Geomorphology of crater and basin deposits -- emplacement of the Fra Mauro Formation Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 3 pp. 2503-2530
- Muller, O. (1973) Chemically bound Nitrogen contents of Apollo 16 and Apollo 15 samples Lunar Science IV. The Lunar Science Institute. p. 546
- Muller, O. (1972) Alkali and alkaline earth elements, La and U in Apollo 14 and Apollo 15 samples The Apollo 15 Lunar Samples. The Lunar Science Institute. pp. 240-243
- Muller, O. (1975) Lithophile trace and major elements in Apollo 16 and 17 lunar samples Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1303-1312
- Muller, O.; Grallath, E. and Tolg, G. (1975) Nitrogen in lunar igneous rocks Lunar Science VII. The Lunar Science Institute. Part II pp. 580-582
- Nagata, T.; Fisher, R. M.; Schwerer, F. C.; Fuller, M. C. and Dunn, J. R. (1975) Effects of meteorite impact on magnetic properties of Apollo lunar materials Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 3 pp. 3111-3122
- Nelen, J.; Noonan, A. and Fredriksson, K. (1972) Lunar glasses, breccias, and chondrules Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 723-737
- Nyquist, L. E.; Hubbard, N. J.; Gast, P. W.; Church, S. E.; Bansal, B. M. and Wisemann, H. (1972) Rb-Sr systematics for chemically defined Apollo 14 breccias Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. pp. 1515-1530
- Nyquist, L. E.; Hubbard, N. J.; Gast, P. W.; Bansal, B. M.; Wisemann, H. and Jahn, B. (1973) Rb-Sr systematics for chemically defined Apollo 15 and 16 materials Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1823-1846
- Nyquist, L. E.; Hubbard, N. J.; Gast, P. W.; Wisemann, H.; Bansal, B. M.; Church, S. E. and Jahn, Bo M. (1973) Rb-Sr systematics for chemically defined Apollo 15 and 16 materials Lunar Science IV. The Lunar Science Institute. p. 567
- Oberbeck, V. R.; Hörz, F.; Morrison, R. H.; Quaide, W. L. and Gault, D. E. (1974) Smooth plains and continuous deposits of craters and basins Proc. Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. III-136
- Offield, T. W. (1970) Geologic map of the Fra Mauro region of the moon U. S. Geol. Surv. Misc. Geol. Inv. Map 1-708, sheet 1 of 2
- Pai, S. I.; Hsieh, T. and O'Keefe, J. A. (1972) Lunar ash flows - how they work Third Lunar Sci. Conf. - extended abstracts. The Lunar Science Institute. pp. 593-595
- Papanastassiou, D. A. and Wasserburg, G. J. (1971) Rb-Sr ages of igneous rocks from Apollo 14 mission and age of Fra Mauro Formation Earth and Planetary Science Letters Vol. 12 p. 36
- Papike, J. J. and Bence, A. E. (1972) Apollo 14 inverted pigeonites - possible samples of lunar Plutonic rocks Earth and Planetary Science Letters Vol. 14 p. 176

- Peckett, A.; Phillips, R. J. and Brown, G. M. (1972) New Zirconium-rich minerals from Apollo 14 and Apollo 15 lunar rocks Nature Vol. 236 p. 215
- Pepin, R. O.; Bradley, J. G.; Dragon, J. C. and Nyquist, L. E. (1972) K-Ar dating of lunar fines Apollo 12, Apollo 14, and LUNA 16 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1569-1589
- Philpotts, J. A.; Schnetzler, C. C.; Nava, D. F.; Buttino, M. L.; Fullagar, P.; Thomas, H. H.; Schuhmann, S. and Koons, C. W. (1972) Apollo 14 - some geochemical aspects Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1293-1307
- Phinney, W. C.; McKay, D. S.; Simonds, C. H. and Warner, J. L. (1976) Lithification of vitric - and clastic - matrix breccias; SEM petrography Proc. Seventh Lunar Sci. Conf., Geochim. Cosmochim. Acta. pp. 2469-2492
- Phinney, W. C.; Warner, J. L. and Simonds, C. H. (1977) Lunar highland rock types: their implications for impact induced fractionation Soviet-American Conference on Cosmochemistry of the Moon and Planets Part 1 NASASP-370 pp. 91-126
- Phinney, W.; Simonds, C. and Warner, J. (1975) Description, Classification, and Inventory of the Comprehensive Sample from Apollo 14 NASA, 69 pp.
- Powell, B. N. and Weiblen, P. W. (1972) Petrology and origin of lithic fragments in the Apollo 14 regolith Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 837-853
- Prinz, M.; Nehru, C. E.; Kurat, G.; Keil, K and Conrad, G. H. (1973) Electron microprobe analyses of lithic fragments, glasses, chondrules, and minerals in Apollo 14 lunar samples University of New Mexico, Department of Geology and Institute of Meteorites Vol. SP No. 6, 1973
- Quaide, W. L. and Bunch, T. W. (1970) Impact metamorphism of lunar surface materials Proc. Apollo II Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 711-730
- Quaide, W. L. and Wrigley, R. C. (1972) Mineralogy and origin of Fra Mauro fines and breccias Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 771-785
- Rancitelli, L. A.; Perkins, R. W.; Felix, W. D. and Wogman, N. A. (1974) Solar flare and lunar surface process characterization at the Apollo 17 site Proc. Fifth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 2185-2204
- Rancitelli, L. A.; Perkins, R. W.; Felix, W. D. and Wogman, N. A. (1972) Lunar surface processes and cosmic ray characterization from Apollo 12-15 lunar sample analyses Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1681-1693
- Reed, G. W., Jr. and Jovanovic, S. (1973) Fluorine in lunar samples - implications concerning lunar Fluorapatite Geochim. Cosmochim. Acta. Vol. 37 p. 1457
- Reed, G. W., Jr.; Jovanovic, S. and Fuchs, L. H. (1971) Fluoride and other trace-elements in lunar plagioclase concentrates Earth and Planetary Science Letters Vol. II p. 354
- Rees, C. E. and Thode, H. G. (1972) Sulphur concentrations and isotope ratios in lunar samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol II pp. 1479-

- 1487 Reid, A. M. and Jakes, P. (1974) LUNA16 revisited - the case of aluminous mare basalts Lunar Science V. The Lunar Science Institute. Part II pp. 627-629
- Reid, A. M.; Ridley, W. I.; Harmon, R. S. and Jakes, P. (1973) Major element chemistry of glass in Apollo 14 soil 14156 Geochim. Cosmochim. Acta. Vol. 37 p. 695
- Reid, A. M.; Ridley, W. I.; Harmon, R. S.; Warner, J. L.; Brett, R.; Jakes, P. and Brown, R. W. (1972) Highly aluminous glasses in lunar soils and nature of lunar highlands Geochim. Cosmochim. Acta. Vol. 36 p. 903
- Reid, A. M.; Ridley, W. I.; Jakes, P. and Warner, J. L. (1971) Microprobe analyses of glasses from Apollo 14 sample 14156 Nasa Technical Memorandum Nasa TM X-58081 p. 27
- Reynolds, J. H.; Alexander, E. C.; Davis, P. K. and Srinivasan, B. (1974) Studies of K-Ar dating and xenon from extinct radio activities in breccia 14318; implications for early lunar history Geochim. Cosmochim. Acta. Vol. 38 pp. 401-417
- Rhodes, J. M.; Blanchard, D. P.; Adams, J. B.; Charette, M.; Brannon, J. C. and Rodgers, K. V. (1976) The chemistry of agglutinate fractions in lunar soils - Part II Apollo 14 soil Lunar Science VII. The Lunar Science Institute. Part II pp. 733-735
- Ridley, W. I. (1975) On high-Alumina mare basalts Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 131-146
- Ridley, W. I. (1975) Petrology of aluminous mare basalts in breccia 14063 Lunar Science VI. The Lunar Science Institute. pp. 668-670
- Ridley, W. I.; Brett, R.; Williams, R. J.; Takeda, H. and Brown, R. W. (1972) Petrology of Fra Mauro basalt 14310 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 159-171
- Roedder, E. and Weiblen, P. W. (1972) Petrographic features and petrologic significance of melt inclusions in Apollo 14 and 15 rocks Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 251-281
- Roedder, E. and Weiblen, P. W. (1972) Occurrence of Chromian, Hercynitic spinel (Pleonaste) in Apollo 14 sample and its petrologic implications Earth and Planetary Science Letters Vol. 15 p. 376
- Rose, H. J., Jr.; Cuttitta, F.; Annel, C. S.; Carron, M. K.; Christian, R. P.; Dwornik, E. J.; Greenland, L. P. and Ligon, D. T., Jr. (1972) Compositional data for twenty-one Fra Mauro lunar materials Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1215-1231
- Rosholt, J. N. (1974) Isotopic composition of Thorium in lunar samples Lunar Science V. The Lunar Science Institute. Part II pp. 648-650
- Russ, G. P., III; Burnett, D. S.; Lingenfelter, R. E. and Wasserburg, G. J. (1971) Neutron capture on ¹⁴⁹Sm in lunar samples Earth and Planetary Science Letters Vol. 13 p. 53
- Russell, W. A.; Papanastassiou, D. A. and Tombrello, T. A. (1976) Absolute Ca isotopic compositions in a lunar soil Lunar Science VII. The Lunar Science Institute. Part II pp. 752-754

- Ryder, F. and Bower, J. F. (1976) Poikilitic KREEP impact melts in the Apollo 14 white rocks Proc. Seventh Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1925-1948
- Schaal, R. B.; Hörz, F. and Gibbons, R. V. (1976) Microprobe analyses of micrometeoroid impact glasses Lunar Science VII. The Lunar Science Institute. Part II pp. 764-766
- Schnetzler, C. C. and Nava, D. F. (1971) Chemical composition of Apollo 14 soils 14163 and 14259 Earth and Planetary Science Letters Vol. II p. 345
- Schonfeld, E. and Meyer, C., Jr. (1973) The old Imbrium hypothesis Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 Supplement 4 pp. 125-138
- Schurmann, K. and Hafner, S. S. (1972) Distinct subsolidus cooling histories of Apollo 14 basalts Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 493-507
- Scoon, J. H. (1972) Chemical analyses of lunar samples 14003, 14311, and 14321 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1335-1337
- Sewell, D. K. B.; Gleadow, A. J. W.; Britten, R.; Cundari, A. and Lovering, J. F. (1974) Composition of rock clasts and their constituent minerals from Apollo 14 lunar breccias Department of Geology, University of Melbourne, Publication No. 2 pp. 1-23
- Shoemaker, E. M.; Hart, M. H.; Swann, G. A.; Schleicher, D. L.; Schaber, G. G.; Sutton, R. L.; Dahlem, D. H.; Goddard, E. N. and Waters, A. C. (1970) Origin of the lunar regolith at Tranquility Base Proc. Apollo II Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 3 pp. 2399-2412
- Silver, L. T. (1972) U-Th-Pb abundances and isotopic characteristics in some Apollo 14 rocks and soils Lunar Science III. The Lunar Science Institute. p. 704
- Simonds, C. H.; Phinney, W. C.; Warner, J. L.; McGee, P. E.; Geeslin, J.; Brown, R. W. and Rhodes, J. M. (1977) A14 revisited, or Breccias Aren't So Bad After All Proc. Eighth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1869-1893
- Smith, J. V.; Anderson, A. T.; Newton, R. C.; Olsen, E. J.; Crewe, A. V.; Isaacson, M. S.; Johnson, D. and Wylie, P. J. (1970) Petrologic history of the moon inferred from petrography, mineralogy and petrogenesis of Apollo II rocks Proc. Apollo II Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 897-925
- Steele, I. M. (1972) Chromian spinels from Apollo 14 rocks Earth and Planetary Science Letters Vol. 14 p. 190
- Steele, I. M. and Smith, J. B. (1976) Complex breccia studies - 14063 Lunar Science VII. The Lunar Science Institute. Part II pp. 836-838
- Steele, I. M. and Smith, J. V. (1972) Compositions and mineralogy of lithic fragments in 1-2 mm soil samples 14002,7 and 14258,33 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 971-983
- Stettler, A.; Eberhardt, P.; Geiss, J.; Grogler, N. and Maurer, P. (1973) $^{39}\text{Ar}/^{40}\text{Ar}$ ages and $^{37}\text{Ar}/^{38}\text{Ar}$ exposure ages of lunar rocks Proc. Fourth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1865-1888

- Stoffler, D.; Knoll, H. D.; Reimold, W. V. and Schulien, S. (1976) Grain size statistics, composition and provenance of fragmental particles in some Apollo 14 breccias Proc. Seventh Lunar Sci. Conf., Geochim Cosmochim. Acta. pp. 1965-1985
- Strasheim, A.; Jackson, P. F. S.; Coetzee, J. H. J.; Strelow, F. W. E.; Wybeng, A. F. T.; Gricius, A. J.; Kokot, M. L. and Scott, R. H. (1972) Analysis of lunar samples 14163, 14259, and 14321 with isotopic data for $^7\text{Li}/^6\text{Li}$ Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1337-1343
- Sutter, J. F.; Husain, L. and Schaeffer, O. A. (1971) $^{40}\text{Ar}/^{39}\text{Ar}$ ages from Fra Mauro Earth and Planetary Science Letters Vol. II p. 249
- Sutton, R. L.; Batson, R. M.; Larson, K. B.; Schafer, J. P.; Eggleton, R. E. and Swann, G. A. (1971) Documentation of the Apollo 14 samples U. S. Dept. of Interior Geol. Survey Interagency Report: 29
- Sutton, R. L.; Hait, M. H. and Swann, G. A. (1972) Geology of the Apollo 14 landing site Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 27-38
- Swann, G. A.; Bailey, N. G.; Batson, R. M.; Eggleton, R. E.; Hait, M. H.; Holt, H. E.; Larson, K. B.; McEwen, M. C.; Mitchell, E. D.; Schaber, G. G.; Schafer, J. P.; Shepard, A. B.; Sutton, R. L.; Trask, N. L.; Ulrich, G. E.; Wilshire, H. G. and Wolfe, E. W. (1971) Interagency Report: 29, Preliminary geologic investigations of the Apollo 14 landing site Apollo 14 Prelim. Sci. Report. NASA SP-272 pp. 39-108
- Swann, G. A.; Bailey, N. G.; Batson, R. M.; Eggleton, R. E.; Hait, M. H.; Holt, H. E.; Larson, K. B.; Reed, V. S.; Schaber, G. G.; Sutton, R. L.; Trask, N. J.; Ulrich, G. E. and Wilshire, H. G. (1977) Geology of the Apollo 14 landing site in the Fra Mauro Highlands Geol. Survey Prof. Paper 880 103 pp.
- Swann, G. A.; Trask, N. J. and Sutton, R. S. (1971) Geologic setting of the Apollo 14 samples Science Vol. 173 pp. 716-719
- Takeda, H. and Ridley, W. I. (1972) Crystallography and chemical trends of orthopyroxene-pigeonite from rock 14310 and coarse fine 12033 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 423-431
- Tatsumoto, M.; Hedge, C. E.; Doe, B. R. and Unruh, D. M. (1972) U-Th-Pb and Rb-Sr measurements on some Apollo 14 lunar samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1531-1557
- Taylor, G. J. and Marvin, U. B. (1971) A dunite-norite lunar microbreccia Meteoritics Vol. 6 p. 173 Taylor, G. J.; Marvin, U. B.; Reed, J. B., Jr. and Wood, J. A. (1972 b) Noritic fragments in the Apollo 14 and 12 soils and the origin of Oceanus Procellarum Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 995-1014
- Taylor, S. R.; Kaye, M.; Muir, P.; Nance, W.; Rudowski, R. and Ware, N. G. (1972 a) Composition of the lunar uplands - chemistry of Apollo 14 samples from Fra Mauro Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1231-1251
- Taylor, S. R.; Muir, P. and Kaye, M. (1971) Trace-element chemistry of Apollo 14 lunar soil from Fra Mauro Geochim. Cosmochim. Acta. Vol. 35 p. 975

- Tera, F. and Wasserburg, G. J. (1972) U-Th-Pb systematics in 3 Apollo 14 basalts and problem of initial Pb in rocks Earth and Planetary Science Letters Vol. 14 p. 281
- Tera, F. and Wasserburg, G. J. (1972) U-Th-Pb analyses of soil from the Sea of Fertility Earth and Planetary Science Letters Vol. 13 p. 457
- Thiel, K; Herr, W. and Becker, J. (1972) Uranium distribution in basalt fragments of 5 lunar samples Earth and Planetary Science Letters Vol. 16 p. 31
- Thode, H. G. and Rees, Co E. (1972) Sulphur concentrations and isotope ratios in Apollo 14 and 15 samples The Apollo 15 Lunar Samples. The Lunar Science Institute. pp. 402-403
- Trzcinski, W. E., Jr. and Kulick, C. G. (1972) Plagioclase and Ba-K phases from Apollo samples 12063 and 14310 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 591-603
- Tsay, F. D.; Norris, J. R. and Katz, J. J. (1976) Characterization of lunar metallic iron phases by electron spin resonance Lunar Science VII. The Lunar Science Institute.
- Turner, G.; Huneke, J. C.; Podosek, F. A. and Wasserburg, G. J. (1971) $^{40}\text{Ar}/^{39}\text{Ar}$ ages and cosmic-ray exposure ages of Apollo 14 samples Earth and Planetary Science Letters Vol. 12 pp. 19-35
- Turner, G.; Huneke, J. C.; Podosek, F. A. and Wasserburg, G. J. (1972) $^{40}\text{Ar}/^{39}\text{Ar}$ systematics in rocks and separated minerals from Apollo 14 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1589-1613
- Twedell, D.; Feicht, S.; Carlson, I. and Meyer, C., Jr. (1978) Lithological maps of selected Apollo 14 breccia samples JSC 13842 89 pp.
- Wahlen, M.; Finkel, R. C.; Imamura, M.; Kohl, C. P. and Arnold, J. R. (1973) ^{60}Co in lunar samples Earth and Planetary Science Letters Vol. 19 pp. 315-320
- Wakita, H.; Showalter, D. L. and Schmitt, R. A. (1972) Bulk, REE, and other abundances in Apollo 14 soils (3), Clastic (1), and Igneous (1) Rocks (Abstract) Lunar Science III (editor C. Watkins) Lunar Science Institute Contr. No. 88 pp. 767-769
- Wanke, H.; Baddenhausen, H.; Balacescu, A.; Teschke, F.; Spettel, B.; Dreibug, G.; Palme, H.; Quijano-Rico, M.; Kruse, H.; Wlotzka, F. and Begemann, F. (1972) Multi-element analyses of lunar samples and some implications of the results Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1251-1269
- Wark, D. A.; Reid, A. F.; Lovering, J. F. and El Goresy, A. (1973) Zirconolite (versus Zirkelite) in lunar rocks Lunar Science IV. The Lunar Science Institute. p. 764
- Warner, J. and Heiken, G. (1972) Metamorphism and Surface Mapping of Lunar Sample 14321 NASA Manned Spacecraft Center Houston, Texas 77058
- Warner, J. L. (1972) Metamorphism of Apollo 14 breccias Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 623-643
- Warner, J. L.; Simonds, C. H. and Phinney, W. C. (1974) Impact-induced fractionation in the lunar highlands Proc. 5th Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 379-397

- Wasserburg, G. J. and Papanastassiou, D. A. (1971) Age of an Apollo 15 mare basalt - lunar crust and mantle evolution Earth and Planetary Science Letters Vol. 13 p. 97
- Wasson, J. T.; Chou, C. L.; Bild, R. W. and Baedeker, P. A. (1973) Extra lunar materials in Cone Crater soil 14141 Geochim. Cosmochim. Acta. Vol. 37 pp. 2349-2353
- Weigand, P. W. and Hollister, L. S. (1972) Pyroxenes from breccia 14303 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 471-481
- Wenk, H. R.; Ulbrich, M. and Muller, W. F. (1972) Lunar plagioclase, a mineralogical study Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 569-581
- Wiik, H. B.; Maxwell, J. A. and Bouvier, J. L. (1973) Chemical composition of some Apollo 14 lunar samples Earth and Planetary Science Letters Vol. 17 p. 365
- Wilhelms, D. E. (1970) Summary of lunar stratigraphy - telescopic observation U.S.G.S. Prof. Paper 599-F pp. 1-47
- Wilhelms, D. E. and McCauley, J. F. (1971) Geologic map of the nearside of the moon U. S. Geol. Surv. Misc. Inv. Map 1-703
- Williams, R. J. (1972) The lithification and metamorphism of lunar breccias Earth and Planetary Science Letters Vol. 16 #2 pp. 250-256
- Willis, J. P.; Erlank, A. J.; Gurney, J. J.; Theil, R. H. and Ahrens, L. H. (1972) Major, minor, and trace element data from some Apollo 11, 12, 14 and 15 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1269-1275
- Wilshire, H. G. and Jackson, E. D. (1972) Lunar "dunite", "pyroxenite", and "anorthosite" Earth and Planetary Science Letters Vol. 16 pp. 396-400
- Wilshire, H. G. and Jackson, E. D. (1972) Petrology and stratigraphy of the Fra Mauro Formation at the Apollo 14 site U. S. G. S. Prof. Paper 785 p. 26
- Wlotzka, F.; Jagoutz, E.; Spettel, B.; Baddenhausen, H.; Balacescu, A. and Wanke, H. (1972) On lunar metallic particles and their contribution to the trace element content of Apollo 14 and 15 soils Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 1077-1085
- Wood, J. A.; Dickey, J. S.; Marvin, U. B. and Powell, B. N. (1970) Lunar anorthosites and a geophysical model of the moon Proc. Apollo II Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 965-988
- Wosinski, J. F.; Williams, J. P.; Korda, E. J.; Kane, W. T.; Carrier, G. B. and Schreurs, J. W. H. (1972) Inclusions and interface relationships between glass and breccia in lunar sample 14306,50 Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 1 pp. 853-865
- Yokoyama, Y.; Reys, J. L. and Guichard, F. (1975) $^{22}\text{Na}/^{26}\text{Al}$ studies of lunar regolith Proc. Sixth Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. 2 pp. 1823-1844
- York, D.; Kenyon, W. J. and Doyle, R. L. (1972) $^{40}\text{Ar}/^{39}\text{Ar}$ ages of Apollo 14 and 15 samples Proc. Third Lunar Sci. Conf., Geochim. Cosmochim. Acta. Vol. II pp. 1613-1623