

SELECTED PUBLICATIONS - Doug Smith

A complete list of peer-reviewed publications can be found in my CV file.

- Smith, D., 2020, Trace elements in Cr-pyrope from the Navajo volcanic field of the Colorado Plateau, SW USA, and implications for the mantle wedge during low-angle subduction. *Lithos* v 362-363, 105460, doi: 10.1016/j.lithos.2020.105460
- Behr, W. M., and Smith, D., 2016, Deformation in the mantle wedge associated with Laramide flat-slab subduction. *Geochemistry, Geophysics, Geosystems* 10.1002/2016GC006361
- Smith, D., 2013, Olivine thermometry and source constraints for mantle fragments in the Navajo Volcanic Field, Colorado Plateau, southwest United States: Implications for the mantle wedge, *Geochemistry, Geophysics, Geosystems* 14, doi: 10.1002/ggge.20065
- Smith, D., 2010, Antigorite peridotite, metaserpentine, and other Inclusions within diatremes on the Colorado Plateau, SW USA: Implications for the mantle wedge during low-angle subduction. *Journal of Petrology*, v 51, p 1355-1379. doi: 10.1093/petrology/egq022
- Smith, D., and Griffin, W. L., 2005, Garnetite xenoliths and mantle-water interactions below the Colorado Plateau, Southwestern United States. *Journal of Petrology*, v 46, p 1901-1924.
- Smith D., Connelly J. N., Manser K., Moser D. E., Housh T. B., McDowell F. W., Mack L.E., 2004, Evolution of Navajo eclogites and hydration of the mantle wedge below the Colorado Plateau, southwestern United States. *Geochemistry Geophysics Geosystems* 5, No. 4, Q040050, doi: 10.1029/2003GC000675
- Smith, D., 2000, Insights into the evolution of the uppermost continental mantle from xenolith localities on and near the Colorado Plateau and regional comparisons. *Journal of Geophysical Research*, v 105, p 16,769-16,781.
- Smith, D., 1999, Temperatures and pressures of mineral equilibration in peridotite xenoliths: Review, discussion, and implications. In *Mantle Petrology: Field Observations and High Pressure Experimentation: A tribute to Francis R. (Joe) Boyd*. Eds. Fei, Y., Bertka, C. M., and Mysen, B. O., *Geochemical Society Special Publication no. 6*, p 171-188.
- Smith, D. and Riter, J. C. A., 1997, Genesis and evolution of low-Al orthopyroxene in spinel peridotite xenoliths, Grand Canyon field, Arizona, USA. *Contributions to Mineralogy and Petrology*, v 127, p 391-404.
- Davis, L. L., Smith, D., McDowell, F. W., Walker, N. W., and Borg, L. E., 1996, Eocene potassic magmatism at Two Buttes, Colorado, with implications for Cenozoic tectonics and magma generation in the western United States. *Geological Society of America Bulletin*, v 108, p 1567-1579.
- Smith, D., Arculus, R. J., Manchester, J. M., and Tyner, G. N., 1994, Garnet--pyroxene--amphibole xenoliths from Chino Valley, Arizona, and implications for continental lithosphere below the Moho. *Journal of Geophysical Research*, v 99, p 683-696.
- Smith, D. and Barron, B. R., 1991, Pyroxene---garnet equilibration during cooling in the mantle. *American Mineralogist*, v 76, p 1950-1963.
- Smith, D., Griffin, W. L., Ryan, C. G., and Sie, S. H., 1991, Trace-element zonation in garnets from The Thumb: heating and melt infiltration below the Colorado Plateau. *Contributions to Mineralogy and Petrology*, v 107, p 60-79.
- Wittke, J. H., Smith, D. and Wooden, J. L., 1989, Origin of Sr, Nd, and Pb isotopic systematics in high-Sr basalt from central Arizona. *Contributions to Mineralogy and Petrology*, v 101, p 57-68.
- Wilkerson, A., Carlson, W. D., and Smith, D., 1988, Eclogite remnants in Purdy Hill quadrangle, Mason County, Texas: P-T implications for the Llano Uplift. *Geology*, v 16, p 391-394.

- Smith, D., 1988, Implications of zoned garnets for the compositional evolution of sheared lherzolites: examples from northern Lesotho and the Colorado Plateau. *Journal of Geophysical Research*, v 93, p 4895-4905.
- Smith, D. and Boyd, F. R., 1987, Compositional heterogeneities in a high-T lherzolite nodule and implications for mantle processes. In *Mantle Xenoliths*, P. H. Nixon, ed., John Wiley & Sons, New York, p 551-561.
- Tyner, G. N. and Smith, D., 1986, Peridotite xenoliths in silica-rich, potassic latite from the transition zone of the Colorado Plateau in north-central Arizona. *Contributions to Mineralogy and Petrology*, v 94, p 63-71.
- Wilson, C. R. and Smith, D., 1984, Cooling rate estimates from mineral zonation: resolving power and applications. In *Kimberlites. II. The Mantle and Crust--Mantle Relationships* (J. Kornprobst, ed.), p 265-275.
- Smith, D. and Ehrenberg, S. N., 1984, Zoned minerals in garnet peridotites from the Colorado Plateau: implications for mantle metasomatism and kinetics. *Contributions to Mineralogy and Petrology*, v 86, p 274-285.
- Hunter, W. C. and Smith, D., 1981, Garnet peridotite from Colorado Plateau ultramafic diatremes: hydrates, carbonates, and comparative geothermometry. *Contributions to Mineralogy and Petrology*, v 76, p 312-320.
- Smith, D. and Roden, M. F., 1981, Geothermometry and kinetics in a two-spinel peridotite nodule, Colorado Plateau: *American Mineralogist*, v 66, p 334-345.
- Smith, D., 1979, Hydrous minerals and carbonates in peridotite inclusions from the Green Knobs and Buell Park kimberlitic diatremes on the Colorado Plateau. In *The Mantle Sample: Inclusions in Kimberlites and Other Volcanics*, Boyd, F. R., and Meyer, H. O. A., eds., American Geophysical Union: Proceedings Second International Kimberlite Conference, v 2, p 345-356.
- Roden, M. F., Smith, D., and McDowell, F. W., 1979, Age and extent of potassic volcanism on the Colorado Plateau. *Contributions to Mineralogy and Petrology*, v 43, p 279-284.
- Arculus, R. J., and Smith, D., 1979, Eclogite, pyroxenite and amphibolite inclusions in the Sullivan Buttes Latite, Chino Valley, Yavapai County, Arizona. In *The Mantle Sample: Inclusions in Kimberlites and Other Volcanics*, Boyd, F. R., and Meyer, H. O. A., eds., American Geophysical Union: Proceedings Second International Kimberlite Conference, v 2, p 309-317.
- Smith, D., 1977, The origin and interpretation of spinel-pyroxene clusters in peridotite. *Journal of Geology*, v 85, p 476-482.
- Smith, D. and Levy, S., 1976, Petrology of Green Knobs diatreme, New Mexico, and implications for the mantle below the Colorado Plateau. *Earth Planetary Science Letters*, v 19, p 107-125.
- Smith, D. and Silver, L. T., 1975, Potassic granophyre associated with Precambrian diabase, Sierra Ancha, central Arizona. *Geological Society of America Bulletin*, v 86, p 503-513.
- Smith, D., 1974, Pyroxene-olivine-quartz assemblages in rocks associated with the Nain anorthosite massif, Labrador. *Journal of Petrology*, v 15, p 58-78.
- Smith, D. and Lindsley, D. H., 1971, Stable and metastable augite crystallization trends in a single basalt flow. *American Mineralogist*, v 56, p 225-233.
- Boyd, F. R. and Smith, D., 1971, Compositional zoning in pyroxenes from lunar rock 12021, Oceanus Procellarum. *Journal of Petrology*, v 12, p 439-464.
- Smith, D., 1970, Mineralogy and petrology of the diabasic rocks in a differentiated olivine diabase sill complex, Sierra Ancha, Arizona. *Contributions to Mineralogy and Petrology*, v 27, p 95-113.
- Smith, D. and Albee, A. L., 1967, Petrology of a piemontite-bearing gneiss, San Gorgonio Pass, California. *Contributions to Mineralogy and Petrology*, v 16, p 189-203.