KIGLAPAIT BIBLIOGRAPHY

13 October 2011

BOOKS


RESEARCH PAPERS Author: S. A. Morse unless otherwise noted.


3. 1977  **Berg, J. H.** Regional geobarometry in the contact aureoles of the anorthositic Nain Complex, Labrador. J. Petrology 18, 399-430. (First ever pressure estimates for anorthosites, and the KI. Pressures later reduced by 2 kb; see Berg & Docka 1983, below.)


5. 1979a  Kiglapait geochemistry I: Systematics, sampling, and density. J. Petrology 20, 555-590. (Contains maps of sampling traverses and an overall summary description of the intrusion.)


7. 1979c  **Huntington, H. D.** Kiglapait mineralogy I: Apatite, biotite, and volatiles. J. Petrology 20, 625-652. (H2O 68 ppm!)


(Definitive treatment showing the Falls Brook Group as part of the contact aureole, with observed and calculated $T$ gradients in agreement.  Cites $P = 2.2$ kb but a review of all JHB comments suggests best estimate of pressure is 2.5 kb.)

(Hairbrained idea but now conceivable in light of evidence for an internal reservoir in the magma chamber.)


(We have stereo plots and thin sections at UMass.)

(Most or all modal layering is lensoïd, with max. length ~200 meters.)

(Oxygen isotope ratios those of normal mafic igneous rocks.)


(Isotopes good; modeling updated in Morse 2008.)

(Examples from KI)


(Quantification of rates and scales from Kiglapait.)


29. 1986f  Kalamarides, R. I.  High-temperature oxygen isotope fractionation among the phases of the Kiglapait Intrusion, Labrador, Canada.  Chemical Geology 58, 303-
310.
32. 1989  Chaussidon, M., Albarède, F. & Sheppard, S. M. F. Sulfur isotope variations in the mantle from ion microprobe analyses of micro sulfide inclusions. Earth and Planetary Science Letters 92, 144-156. ($\delta^{34}S = -1 \pm 1 \%$ for Kiglapait sulfides, hence meteoritic within uncertainty.)
34. 1991  (Morse, S. A., Rhodes, J. M., & Nolan, K. M.) Redox effect on the partitioning of nickel in olivine. Geochim. et Cosmochim. Acta 55, 2373-2378. (Note: this effect has recently been shown by Chusi Li and Ed Ripley to be due to the presence of S in the melt.)
36. 1996  Kiglapait mineralogy III: Olivine compositions and Rayleigh fractionation models. J. Petrology 37, 1037-1061. (Recognizes that summation liquids have $X_{Mg}$ unlike the equilibrium liquids.)
40. 2002  Higgins, M. D. A crystal size-distribution study of the Kiglapait layered mafic intrusion, Labrador, Canada: evidence for textural coarsening. Contrib Mineral Petr 144 (3): 314-330. (Sampling bias may affect results)
41. 2002  Barmina G.S, Ariskin A.A. Estimation of chemical and phase characteristics for the initial magma of the Kiglapait troctolite intrusion, Labrador, Canada. Geochem Int+ 40 (10): 972-983. (Includes old OBZ in model)
44. 2006  Multiphase Rayleigh fractionation. Chemical Geology 226, 212-231. (Examples from KI. Superseded by Morse 2008.)


IN PROGRESS: Kiglapait feldspars I, II (plagioclase, then ternary feldspars)
KI Upper Border Zone I, II (petrography, geochemistry)

DERIVATIVE OR COLLATERAL PAPERS, MOSTLY ON MAGMA DYNAMICS
1990a On the differentiation of the Skaergaard intrusion: a discussion of Hunter & Sparks [Contributions to Mineralogy & Petrology 95:451-461], Contributions to Mineralogy & Petrology 104, 240-244. (Comparisons to KI)
1990b (Olson, K.E. & Morse, S. A.) Regional Al-Fe magmas associated with anorthosite-bearing terranes. Nature 344, 760-762. (Magmas similar to KI)
1993 Behavior of a perched crystal layer in a magma ocean. J. Geophysical Research (Planets), 98, 5347-5353.
2000 A double magmatic heat pump at the core-mantle boundary. American Mineralogist 85, 1589-1594.
2001 Porous sediments at the top of the Earth’s core? Science 291, 2090-2091.


THESES (unless substantial portions published, as above)
1975 Shirey, S.B. Sulfides and sulfur content of the Kiglapait layered intrusion, Labrador. MS thesis, University of Massachusetts, 75 pp. (The definitive work, long overdue for publication.)
1981 Schuh, M. L. Geology of the Avakutakh Iron Formation, Labrador. MS Thesis, Northern Illinois University, DeKalb, 192 pp. (Further defines the Falls Brook Group, replacing the KI OBZ. Copy in Morr. Rm.12.)
1984 Allison, J. P. Petrography of the Upper Border Zone of the Kiglapait intrusion, Labrador. MS thesis, University of Massachusetts, 220 pp. (Vast amounts of interesting data. Lacks whole-rock chemistry.)
2000 Peterson, A. L. Quest for the liquid line of descent of the Upper Zone of the Kiglapait intrusion, Labrador, Canada: an experimental study. MS thesis, University of Massachusetts, 80 pp.
2008 McIntosh, D. C. B. An experimental study exploring the magmatic source region of the Kiglapait layered intrusion, Labrador, Canada. (Will either be summarized in comments above or written up as a paper for publication.)

ELECTRONIC DATABASE

ABSTRACTS not listed,