

Virginia B. Sisson

Education:

Ph.D., Princeton University, 1985, Dissertation: Contact Metamorphism and Fluid Evolution Associated with the Ponder pluton, Coast Plutonic Complex, British Columbia, Canada

M.A., Princeton University, 1981

A.B., Bryn Mawr College *cum laude* with honors in geology, 1979

Research Interests and Skills:

Field oriented petroctectonic studies in Alaska and Guatemala on convergent margins, triple junction interactions, granite emplacement, subduction zone metamorphism and exhumation processes, and jadeitite formation. Have also done field work in Venezuela, British Columbia, India, Malaysia, Norway, California, Washington, Montana, Nevada, Maine, Pennsylvania, and Myanmar Fluid inclusion studies and boron geochemistry of metamorphic rocks Languages Spanish and French at a basic level.

Employment:

2008 - present Research Associate Professor, Director Geology Field Course, Co-Director Learning Center, Department of Earth and Atmospheric Sciences, University of Houston

2001 - present Research Associate, American Natural History Museum

2003 - present Research Associate, Department of Geology, University of Utah

2001 - 2004 Research Scientist, Department of Earth Science, Rice University

2001 - 2003 Research Associate Professor, Department of Geology, University of Utah

1999 - 2001 Clinical Assistant Professor, Department of Geology and Geophysics, Rice University

1999 - 2001 Advisor for Encyclopedia Britannica on Rocks and Minerals

1992 - 1999 Assistant Professor, Department of Geology and Geophysics, Rice University

1987 - 1992 Lecturer, Department of Geology and Geophysics, Rice University

1986 - 1987 Research Associate, Department of Geology and Geophysics, Rice University

1986 - 1995 WAE appointments to U.S. Geological Survey, Menlo Park and Anchorage

1986 - 1995 Consultant for fluid inclusion studies for Exxon, ARCO, and Texaco

1985 - 1986 Research Associate, Department of Geology and Geophysics, Princeton University

1979 NASA Summer Intern, Ames Research Center, CA

Honors and Awards:

Elected Fellow in Geological Society of America, 1997

Elected Life Fellow in Mineralogical Association of America, 1996

Rice University Women's Center Impact Award, 1998: for excellence in teaching and mentoring women on campus

Outstanding Faculty Associate, Lovett College, Rice University 1998: for outstanding participation in undergraduate advising and college affairs

Professional Activities:

Board of Trustees, Geological Society of America Foundation, 2000-2010; Chair of Nominations Committee and member of Executive Committee

Yellowstone-Bighorn Research Association Council Member, 1996-1998, 1999-2001 Vice President, 2001-2004, President, 2005-present

Mineralogical Society of America, Student Awards Committee 2004-2007
Co-convener for symposium on “Minerals, Melts and Magmas: A tribute to Maria Luisa Crawford”,
Annual Geological Society of America Meeting, Philadelphia PA 2006
Editorial Board for *Geology*, 1993-1995; 1996-1998
Geological Society of America, Penrose Conference Committee, 1995-1997, Chair 1996
Co-convener, Geological Society of America/Joint Oceanographic Institutions Penrose conference on
“Triple junction interactions with convergent margins”, 1994
Reviewer, Environmental Protection Agency STAR Fellowships, 1999-2001, 2003
Mineralogical Society of America, Short-Course Committee 1997-2000, Chair 1999 & 2000
Mineralogical Society of America, Grants Committee 1994
President, Society of Luminescent Microscopy and Spectroscopy, 1997, Vice President, 1995-1996,
Chair Grants committee, 1997-2000
Reviewer, Geological Society of America Annual Meeting abstracts in 1993, 1995, & 1996
Co-convener for workshop on “Evolution of the eastern Caribbean - South American plate boundary
zone: Transpression, volcanic arc accretion and orogenic float” 1997, Houston TX
Co-organizer of symposium and theme session on Caribbean tectonics, Annual Geological Society of
America Meeting, New Orleans, LA 1995
Co-organizer of symposium on Grenville basement, South-Central Section of Geological Society of
America Meeting 1992
Association of Women Geoscientists, National Nominations Committee, 1997-1999
American Women in Science, Houston Chapter Grants Committee 1995-1996
Steering committee ILIAD (Investigations in Lithospheric Architecture and Development) workshop,
Taos, NM, 1995
Convener for workshop on “Processes in the Lower Crust”, Princeton, NJ 1982

Professional Affiliations:

American Geophysical Union (AGU) 1980, Geological Society of America (GSA) 1980 elected fellow
1997, Mineralogical Society of America (MSA) 1981 elected Life Fellow 1996, Sigma Xi 1985,
American Women in Science (AWIS) 1986, Association of Women Geoscientists (AWG) 1988,
Mineralogical Association of Canada (MAC) 1981

Courses Taught:

Graduate Courses: Metamorphic petrology (6 times), Fluid inclusion techniques (6 times), Electron
microprobe techniques (8 times), Graduate mineralogy, Cordilleran tectonics seminar, Caribbean
tectonics seminar (3 times), Geology and geophysics of the lower crust seminar, Felsic magma
seminar, Birth and death of sea floor seminar; Alpine geology and tectonics seminar
Undergraduate courses: Petrology (10 times), Optical mineralogy (3 times), Economic geology of ore
deposits (2 times), Introductory geology laboratory (4 times), Understanding environmental issues,
and Understanding environmental systems
Field courses: Yellowstone-Bighorn Research Association Geological Field Camp (8 summers)

Theses and Student Research Directed:

Between 1992-1999, I served on 39 academic advising committees at Rice University. This represents
65% of all student academic committees.

Principal advisor, three M.S. theses

Layla Styles, 2000, *Geochemical evidence for island-arc origin of the Villa de Cura belt, Venezuela*
Anne R. Poole, 1997, *Age and geochemical constraints on ridge subduction for igneous rocks of the eastern Chugach Mountains, Alaska*

Chad A. Smith, 1996, *Metamorphism, deformation, and geochronology of Cretaceous blueschists, Villa de Cura belt, Venezuela*

Co-advisor, 2 Ph.D. and 2 M.S. theses

Saijin Huang, 2002, Ph.D., *Thermal models and geochemical evolution of subducted oceanic crust* (co-advisor with W.P. Leeman)

Darrell Todd Woodford, 1995, M.S., *Boron metasomatism in the Alta stock contact aureole, Utah* (co-advisor with W.P. Leeman)

Gretchen Kohler, M.S., 1995, *Structural evolution of metamorphic tectonites beneath the Silver Peak - Lone Mountain detachment fault, west-central Nevada* (with J.S. Oldow)

Ann Moran, 1993, Ph.D., *Effect of metamorphism on the trace element composition of subducted oceanic crust* (co-advisor with W.P. Leeman)

Committee member, 11 Ph.D. theses (10 in Geology and Geophysics, 1 in Chemistry)

Laurel Kirkland, 1999, Ph.D., *Infrared spectroscopy of Mars*

Peeter Ackberg, 1999, Ph.D., *Estimation of stochastic parameters from crustal seismic data*

Jeffery Gillis, 1998, Ph.D., *Composition of lunar far side maria*

Phillip Bart, 1998, Ph.D., *Controls on sedimentation in Antarctica and Florida*

Laura Banfield, 1998, Ph.D., *Late Quaternary evolution of the Rio Grande system, offshore south Texas*

Michael Quinn, 1997, Ph.D., *Pre-tertiary stratigraphy, magmatism, and structural history of the Central Jackson Mountains, Humboldt County, Nevada*

Kristen Etheredge, Ph.D., 1996, *Chemistry, Synthesis, characterization and magnetic property studies of copper-based phosphate and silicate compounds containing nanosize transition metal oxide frameworks*

Joseph Satterfield, 1995, Ph.D., *Mesozoic geology of the Sand Springs Range, west-central Nevada*

Jun Zhu, 1995, Ph.D., *Petrogenesis of late Cenozoic volcanic rocks from the Raton-Clayton volcanic field, northeastern New Mexico and southeastern Colorado*

Lawrence Guth, 1992, Ph.D., *Kinematic analysis of the deformational structures on eastern Isla de Margarita, Venezuela*

Marino Ostos, 1990, Ph.D., *Tectonic evolution of the south-central Caribbean based on geochemical data*

Committee member, 19 M.S. theses (13 in Geology, 2 in Environmental Science, 1 in Materials Science, 1 in Chemistry)

Diana Dana, 2001, M.S., *Shallow level seismic investigations of a porphyry copper deposit, southern New Mexico*

Amy Miller Komen, 2000, M.S., *Computing three dimensional strain history and application to the San Andreas Fault, northern California*

Lisa La Flame, 1999, M.S., *Estimating crustal heterogeneity in the north Basin and Range*

Joy Roth, 1999, M.S., *The Caribbean carbonate crash at the middle to late Miocene Transition*

Sharon Barker, 1998, M.S., *Trace element geochemistry of basalts from the Oregon Cascades range: Implications for magma generation and possible variations in the sub-arc mantle*

- Jennifer Snow**, 1998, M.S., *Late Quaternary highstand and transgressive deltas of the ancestral Colorado River: Eustatic and climatic controls on deposition*
- James Loughridge**, 1998, M.S., *Application of seismic tools and techniques to ground-penetrating radar (GPR) studies*
- Riju John**, 1998, M.S., *New inversion techniques in 3D seismic processing*
- Stephen Friedfeld**, 1997, M.S., Environmental Engineering and Science, *The temperature and ionic strength dependence of the solubility product constant of ferrous phosphonate*
- Mary Anne Brown**, 1996, M.S., *The pre-tertiary geology, structural evolution, and geochronology of the Pueblo Mountains, Nevada-Oregon*
- James Schrawtz**, 1996, M.S., *Late Quaternary periplatform sediments and paleoenvironmental analysis of Pedro Channel, Northeastern Nicaragua Rise, Caribbean Sea*
- Tara Rampersad**, 1996, M.S., *Crossline migration of 3-D prestack data*
- Cynthia Smith**, 1996, M.A., Chemistry, *The nickel catalyzed reconstruction of diamond (110) surfaces in hydrogen and the TGA investigation of iron and nickel catalyzed etching of diamond particles in hydrogen*
- Xia Yang Sheng**, 1996, M.E., Materials Science, *Degradation of optical properties in anodic coatings exposed to vacuum-ultraviolet radiation*
- Michael Hamilton**, M.S., 1995, *Detailed facies analysis of the Brazos wave-dominated delta, Freeport, Texas*
- Jana de Silva**, M.S., 1995, *Seismic facies investigation and Late Quaternary glacial history of the Chilean shelf and fjords and Antarctic Peninsula fjords*
- Jennifer Rogers**, 1995, M.S., $^{13}\text{C}/^{12}\text{C}$ ratios in surface water and sea ice organic matter: variability and contributions to the sediments of the Ross Sea, Antarctica
- Laura Banfield**, M.S., 1994, *Seismic facies investigation of the late Cenozoic glacial history of Bransfield Basin, Antarctica*
- A.J. Gerbino**, M.S., 1994, Environmental Engineering and Science, *The adsorption of diethylenetriamine penta(methylenephosphonic acid) on clay and metal oxide surfaces*

External examiner, two Ph.D. theses

- Sharana Basava**, 2004, University of Mysore, India, *Metamorphic history of granulite grade lithologies and associated igneous rocks viz., carbonatites and syenites around Periyakulam and Varushandadu localities: Implications for the evolution of the 550 Ma old southern granulite terrain*
- Thiru S. Balakumar**, 1999, University of Madras, India, *Geology, Structure, and Geochemistry of the area between Uttangarai and Singarapettai, Dharamapuri district, Tamil Nadu, India*

External examiner, one M.S. thesis

- Kevin Smart**, 1992, University of New Orleans, *Deformational history of the Border Ranges Fault system, Glacier Bay National Park, Alaska*

Advisor for 15 undergraduate research projects

- Lesley Dalrymple**, 1999, *Boron distribution in clastic sediments*
- Eric Horsman**, 1998-1999, *Emplacement of granite in the Sierra Nevada batholith, central California*
- Elizabeth Zenker**, summer 1998, *Web page on Geology of Rice Campus and Geochemistry of metamorphosed mafic rocks, northern Venezuela*
- Gunnar Person**, 1998, *Trace element zoning of garnet*

Clyde J. Reddig, Leadership Rice mentor, 1997, *Aviation at Rice, developed Weiss College course for private pilot training at Rice given Fall 1998*

Elizabeth A. Johnson, summer 1995, Rice University Scholars Program senior research, 1996-1997, *Petrology of the Quannah granite, Oklahoma*

Jill E. Weinberger, Rice University Scholars Program, 1996-1997, *Fluid inclusion constraints of the brittle/ductile transition, southern Alaska*

Rebecca Kessler, summer 1996, *Fluid inclusion constraints on exhumation of northern Venezuela*

Pendleton Wickersham, 1995-1996, *Apatite chemical controls on fission track closure ages, Beaufort Sea region, Canada*

Paula Ruthruff, 1994, *Fission track ages for the Villa de Cura Group, Venezuela*

Caren Chaika, summer 1992, 1993 and Rice University Scholars Program senior research, 1993-1994, *Fluid Inclusions from the Araya Peninsula, Venezuela and Sand Springs Range, Nevada*

Nancy R. Harris, summer 1991, and 1991-1992 *Isotope geochemistry of tonalites, southern Alaska*

Andrew C. Gordon, 1989-1990, summer 1990 and 1990-1991, *Boron geochemistry of the San Juan Island subduction complex, Washington*

Leslie L. Baker, 1989-1990, *Geochemical constraints on the amphibolite-to-granulite transition, southern Norway*

Claire E. Closmann, 1987 and 1988-1989, *Boron geochemical studies: (1) Progressive low-pressure metamorphism, central Maine and (2) Migmatite formation, Colorado Front Range, Colorado*

Laboratory Management Experience:

1992-1999: Electron Microprobe, X-ray diffraction and fluorescence facilities,

I was responsible for supervising technician and providing the ~\$35,000/year annual operating budget through grants and service work for the electron microprobe.

1990-1999: Petrographic Microscopes, Fluid Inclusion, and Fission Track Facilities,

I was responsible for: (1) maintaining and upgrading facilities, (2) radiation license, and (3) managing the annual operating budget of ~\$5000/year.

Departmental Service at University of Houston:

Materials Committee 2008

Rice University Service:

Envision Grant Selection Committee 1995-2006, Chair, 2002-2003

Committee to Respond to Board of Governors' Resolution on Sexual Harassment Spring 1998

Committee for President's Lecture Series 1996-1998

Subcommittee for Natural Sciences Division Environmental Strategic Plan 1997

This subcommittee created a new second major in Environmental Natural Sciences

Rice Women's Commission 1995-1998

Committee for Chance Teaching Award, 1996-1998

Election Committee 1997

Associate Lovett College 1995-present

Distinguished Associate for 1996-1997, 1999-2003

Lovett College divisional advisor for Natural Sciences, 1996-1999

Steering Committee for Schlumberger Initiative for Women, 1996-1998

Mentor for Mellon Minority Undergraduate Fellowship in Science program 1995-1997

Departmental Service at Rice University:

Search Committee for Low-Temperature Geochemistry position, 1997-1998
Search Committee for Structural Geology position, 1996
Geology Graduate Student Admissions Committee, 1997-1998
Undergraduate Advisor in Geology, 1993-1999
Geology Undergraduate Curriculum Committee, 1991-1999
Geology Undergraduate Equipment Enhancement Committee, 1995-1999
Committee for Lecture Series, Spring 1997
Team leader for Project Kaleidoscope (PKAL) geology teaching reform workshop, 1995
Geology Research Facilities Committee, 1992-1999
Geology 5 Year Plan Committee, 1993

Community Service:

Participant in Boston Museum of Science, Science-by-Mail Pen Pal program for 5th - 9th grade students, 1989-2000
Participant in "Ask-A-Scientist" Cu-See-Me Videoconference, Spring 1997

Invited Technical and Public Lectures:

University of Houston (9/2008); Houston Philosophical Society (4/2008); Lone Star Chapter of AWG (5/2004); Texas A & M University (4/2004); University of Utah (3/2003); Corpus Christi Gemological Society (11/2002); Virginia Technological University (9/2000); California Institute of Technology (4/2000); University of Missouri (11/1997); University of Texas at Austin (9/1996); Clear Lake Gem and Mineral Society (11/1996); Exxon Production Research Co (5/1993); University of Utah (2/1993); Queen's University (1/1993); Wrangell-St. Elias National Park and Preserve (8/1992 and 9/1993); Texas A & M University (10/1992); Southern Methodist University (3/1991); Louisiana State University (10/1990); University of New Orleans (3/1990); Glacier Bay National Park and Preserve to Park Service Naturalist staff (8/1990); University of Cincinnati (3/1987); Northern Arizona University (4/1989); University of Arizona (4/1988); Bryn Mawr College (1/1984)

PUBLICATIONS

Books:

Sisson, V. B., Kleinspehn, K., and O'Reilly, G., 1992, Planning for Field Safety. American Geological Institute, 197 pp.

Sisson, V. B., Roeske, S. M., Pavlis, T. P., editors, 2003, Geological consequences of ridge-trench interactions in the northern Pacific, Geological Society of America Special Paper 371, 388 pp. with one CD.

Avé Lallemant, H.G. and *Sisson, V. B.*, editors, 2005, South American/Caribbean plate interactions in northern Venezuela, Geological Society of America Special Paper 394, 331 pp. with 2 plates

Refereed Publications:

Sisson, V. B., Crawford, M. L., and Thompson, P. H., 1981, CO₂-brine immiscibility at high temperatures, evidence from calcareous metasedimentary rocks. *Contributions to Mineralogy and Petrology*, 78, 371-378

Plafker, G., Nokleberg, W. J., Lull, J. S., Coleman, R. B., Pavlis, T. L., Pessel, G. H., Roback, R. C., *Sisson, V. B.*, and Winkler, G. R., 1985, Summary of Trans Alaskan Crustal Transect (TACT) geologic studies in the northern Chugach Mountains and southern Copper River Basin. U. S. Geological Survey Circular 967, 76-79

Sisson, V. B., and Onstott, T. C., 1986, Dating blueschist metamorphism: A combined ⁴⁰Ar/³⁹Ar and electron microprobe approach. *Geochimica et Cosmochimica Acta*, 50, 2111-2117

Sisson, V. B., 1987, Halogen chemistry as an indicator of metamorphic fluid interaction with the Ponder pluton, Coast Plutonic Complex, British Columbia, Canada. *Contributions to Mineralogy and Petrology*, 95, 123-131

Hollister, L. S., Grissom, G. C., Peters, E. K., Stowell, H. H., and *Sisson, V. B.*, 1987, Confirmation of the empirical correlation of Al in hornblende with pressure of solidification of calc-alkaline plutons. *American Mineralogist*, 72, 231-239

Sisson, V. B., and Hollister, L. S., 1988, Low-pressure facies series metamorphism in an accretionary sedimentary prism, southern Alaska; *Geology*, 16, 358-361

Sisson, V. B., Hollister, L. S., and Onstott, T. C., 1989, Petrologic constraints on the origin of a low pressure/high temperature complex, eastern Chugach Mountains, Alaska. *Journal of Geophysical Research*, 94, 4392-4410

Onstott, T. C., *Sisson, V. B.*, and Turner, D., 1989, Initial argon in amphiboles from the Chugach Mountains, southern Alaska. *Journal of Geophysical Research*, 94, 4361-4372

- Sisson, V. B., and Hollister, L. S., 1990, Fluid inclusion study of pelitic schists and metamorphosed carbonate rocks, south-central Maine. American Mineralogist, 75, 59-70*
- Roeske, S. M., Pavlis, T. L., Snee, L., and Sisson, V. B., 1992, $^{40}\text{Ar}/^{39}\text{Ar}$ Isotopic Ages from the combined Wrangellia-Alexander Terrane along the Border Ranges Fault System in the Eastern Chugach Mountains and Glacier Bay, Alaska. in Geologic Studies in Alaska by the U. S. Geological Survey, 1990, ed by D. C. Bradley and A. B. Ford, U. S. Geological Survey Bulletin 1999, 180-195*
- Leeman, W. P., Sisson, V. B., and Reid, M. R., 1991, Boron geochemistry of the lower crust: Evidence from granulite terranes and deep crustal xenoliths. Geochimica et Cosmochimica Acta, 56, 775-788*
- Moran, A. E., Sisson, V. B., Leeman, W. P., 1992, Boron depletion in subducted oceanic crust and sediments: Effects of metamorphism and implications for arc magma compositions. Earth and Planetary Science Letters, 111, 331-349*
- Pavlis, T. L., Sisson, V. B., Foster, H., Nokleberg, W. J., and Plafker, G., 1993, Constraints on crustal extension in the western Yukon-Tanana terrane, central Alaska. Tectonics, 12, 103-122*
- Sisson, V. B., Lovelace, R. L., Maze, W. B., and Bergman, S. C., 1993, Direct observations of fluid inclusion growth. Geology, 21, 751-754*
- Sisson, V. B., and Pavlis, T. L., 1993, Geological consequences of plate reorganization: an example from the Eocene forearc, Gulf of Alaska. Geology, 21, 913-916*
- Avé Lallemant, H. G., and Sisson, V. B., 1993, Caribbean-South American plate interactions: constraints from the Cordillera de la Costa belt, Venezuela. in Gulf Coast Section Society of Economic Paleontologists and Mineralogists, 13th Annual Research Conference Proceedings, J. L. Pindell and B. E. Perkins (eds.), 211-219*
- Sisson, V. B., and Avé Lallemant, H. G., Uplift history of blueschists and eclogites in the Cordillera de la Costa belt, Venezuela, Part 1: Petrological constraints. Transactions of the 13th Caribbean Conference (Pinar del Rio, Cuba), final copy accepted 1993 (not published due to lack of funds)*
- Avé Lallemant, H. G., and Sisson, V. B., Uplift path of blueschists and eclogites in Cordillera de la Costa Belt, Venezuela, Part 2: Deformational constraints. Transactions of the 13th Caribbean Conference (Pinar del Rio, Cuba), final copy accepted 1993 (not published due to lack of funds)*
- Sisson, V. B., Pavlis, T. L., and Prior, D. J., 1994, Effects of triple junction interactions on convergent plate margins: results of a Penrose conference. Geological Society of America Today, 4, 248-249*

- Sisson, V. B.*, 1994, Effects of triple junction interactions discussed. JOI/USSAC Newsletter, 7, no. 2, 5
- Pavlis, T. L. and *Sisson, V. B.*, 1995, Structural history of the Chugach Metamorphic Complex in the Tana River region, eastern Chugach Mountains, Alaska: A record of tectonic processes during Eocene subduction of the Kula-Farallon spreading center. Geological Society of America Bulletin, 107, 1333-1355
- Harris, N. R., *Sisson, V. B.*, Wright, J. E., and Pavlis, T. L., 1996, Evidence for mafic underplating during forearc intrusive activity associated with Eocene accretion, eastern Chugach mountains, Alaska. *Geology*, 24, 263-266
- Leeman, W. P., and *Sisson, V. B.*, 1996, Geochemistry of boron and its implications for crustal and mantle processes. *in* Boron Mineralogy and Geochemistry, edited by E. S. Grew and L. M. Anovitz, Mineralogical Society of America Reviews in Mineralogy, 33, 645-708
- Smart, K. J., Pavlis, T. L., *Sisson, V. B.*, Roeske, S. M., and Snee, L. W., 1996, The Border Ranges fault system in Glacier Bay National Park, Alaska: Evidence for major late Mesozoic-early Cenozoic dextral strike-slip motion, *Canadian Journal of Earth Science*, 33, 1268-1282
- Sisson, V. B.*, Ertan, I. E., and Avé Lallemant, H. G., 1997, High-pressure (~2000 MPa) metamorphism of pelitic and mafic assemblages from the Cordillera de la Costa belt, Venezuela. *Journal of Petrology*, 38, 65-83
- Avé Lallemant, H. G., Gottschalk, R. R., *Sisson, V. B.*, and Oldow, J. S., 1998, Structural analysis of the Kobuk Fault Zone, north-central Alaska. Geological Society of America Special Paper 324, 261-268
- El-Shazly, A., and *Sisson, V. B.*, 1999, Fluid inclusion evidence for exhumation of eclogites and blueschists from Northeast Oman. *Chemical Geology*, 154, 193-223
- Smith, C. A., *Sisson, V. B.*, Avé Lallemant, H. G., and Copeland, P., 1999, Two contrasting P-T-t paths in the Villa de Cura blueschist belt, Venezuela: a record of ~97 Ma subduction in the Caribbean," *Geological Society of America Bulletin*, 111, 831-848
- Woodford, D. T., *Sisson, V. B.*, and Leeman, W. P., 2001, Boron metasomatism at the Alta Stock Contact Aureole, Utah, *American Mineralogist*, 86, 513-533
- Seitz, R., Harlow, G. E., *Sisson, V. B.*, and Taube, K. E., 2001, Formative jades and expanded jade sources in Guatemala. *Antiquity*, v. 75, no. 290, 687-688
- Sisson, V. B.*, 2002, Re-Discovery of Olmec blue jade, *Houston Geological Society Bulletin*, v. 45, no. 2, 23-25.
- Sisson, V.B.*, 2003, The Geology of North America, in *Earth and Atmospheric Science, Geology* (EOLSS theme 6.15. topic 2 and 7), edited by Kurt Stüwe and Bernhard Grasemann,

Encyclopedia of Life Support Systems (EOLSS), Developed under the auspices of the UNESCO, Eolss Publishers, Oxford, UK, web only publication available at <http://www.eolss.net> or <http://www.eolss.net/E6-15-toc.aspx>.

- Sisson, V. B., Poole, A. R., Burner, H. C., Pavlis, T. L., Copeland, P., Donelick, R. A., W, McClelland, 2003, Magmatic and geochronologic constraints for genesis of a tonalite-trondhjemite suite and associated mafic intrusive rocks in the eastern Chugach Mountains, Alaska: a record of ridge-transform subduction, in Sisson, V. B., Roeske, S. M., Pavlis, T. P., editors, Geological consequences of ridge-trench interactions in the northern Pacific, GSA Spec Publication 371, 293-326.*
- Sisson, V. B., Pavlis, T. P., Roeske, S. M., Thorkelson, D. J., 2003, An overview of ridge-trench interactions in modern and ancient settings, in Sisson, V. B., Roeske, S. M., Pavlis, T. P., editors, Geological consequences of ridge-trench interactions in the northern Pacific, GSA Spec Publication 371, 1-17.*
- Weinberger, J., and Sisson, V. B., 2003, Fluid inclusion study of the brittle/ductile transition in the Chugach Metamorphic Complex, in Sisson, V. B., Roeske, S. M., Pavlis, T. P., editors, Geological consequences of ridge-trench interactions in the northern Pacific, GSA Spec Publication 371, 217-236.*
- Bowman, J. R., Sisson, V. B., Pavlis, T. L., and Valley, J. W., 2003, Oxygen isotope constraints on fluid infiltration associated with high temperature--low pressure metamorphism (Chugach Metamorphic Complex) within the Eocene southern Alaska fore-arc, in Sisson, V. B., Roeske, S. M., Pavlis, T. P., editors, Geological consequences of ridge-trench interactions in the northern Pacific, GSA Spec Publication 371, 237-252.*
- Pavlis, T. L., and Sisson, V. B., 2003, Development of a subhorizontal detachment horizon in a transpressional system, Chugach Metamorphic Complex, Alaska: Evidence for rheological stratification of the crust, in Sisson, V. B., Roeske, S. M., Pavlis, T. P., editors, Geological consequences of ridge-trench interactions in the northern Pacific, GSA Spec Publication 371, 191-216.*
- Pavlis, T. L., Marty, K., and Sisson, V. B., 2003, Eocene dextral strike-slip within the Chugach Terrane, southern Alaska: Evidence from fabric studies along the Richardson Highway, in Sisson, V. B., Roeske, S. M., Pavlis, T. P., editors, Geological consequences of ridge-trench interactions in the northern Pacific, GSA Spec Publication 371, 171-190.*
- Harlow, G.E., Sisson, V. B., Avé Lallemand, H.G., Sorensen, S. S., 2003, High-pressure, metasomatic rocks along the Motagua Fault Zone, Guatemala, Ofioliti, 28 (2), 115-120.*
- Harlow, G.E., Hemming, S.R., Avé Lallemand, H.G., Sisson, V.B., Sorensen, S.S., 2004, Two HP-LT serpentinite-matrix mélange belts, Motagua fault zone, Guatemala: A record of Aptian and Maastrichtian collisions, Geology, 32, 17-20.*

- El-Shazly, A., and *Sisson, V. B.*, 2004, Fluid inclusions in carpholite-bearing metasediments and blueschists from NE Oman: Constraints on P-T evolution, *European Journal of Mineralogy*, 16, 221-233.
- Taube, K.E., *Sisson, V.B.*, Harlow, G.E., Seitz, R., 2004, The sourcing of Mesoamerican jade: Expanded geological reconnaissance in the Motagua region, Guatemala, *in* *Jade in the Dumbarton Oaks Collection*, Taube, K.E., Harvard University Press, Cambridge MA, p. 203-220.
- Sisson, V. B.*, Avé Lallemant, H.G., Ostos, M., Copeland, P., Snee, L., Blythe, A., Donelick, R. A., Wright J. E., and Guth, L., 2005, New U/Pb, Sr/Rb, Ar/Ar, zircon and apatite fission-track, and C¹⁴ ages in northern Venezuela, *in* Avé Lallemant, H. G., and *Sisson, V. B.*, editors, *Caribbean / South American plate interactions*, Venezuela, GSA Spec Publication no. 394, 91-118.
- Sisson, V. B.*, Chaika, C., Kessler, R., 2005, Fluid inclusion constraints on exhumation of high-pressure belts in northern Venezuela, *in* Avé Lallemant, H. G., and *Sisson, V. B.*, editors, *Caribbean / South American plate interactions*, Venezuela, GSA Spec Publication no. 394, p. 157-172.
- Avé Lallemant, H.G., *Sisson, V.B.*, 2005, Exhumation of eclogites and blueschists in northern Venezuela: Constraints from kinematic analysis of deformation structures *in* Avé Lallemant, H. G., and *Sisson, V. B.*, editors, *Caribbean / South American plate interactions*, Venezuela, GSA Spec Publication no. 394, p. 193-206.
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