

## JOHN W. VALLEY

Charles R. Van Hise Professor of Geology

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### EDUCATION

The University of Michigan      PhD 1980, MS 1977  
Dartmouth College              AB 1970

### PROFESSIONAL EXPERIENCE

The University of Wisconsin- Madison: Charles R. Van Hise Professor 2005-; Chair 1996-1999;  
Full Professor 1989-; Associate Professor 1985-89; Assistant Professor 1983-85  
California Institute of Technology: Visiting Scientist 2000  
University of Edinburgh: Fulbright Scholar, 1989-90  
Rice University: Assistant Professor, 1980-83

### PROFESSIONAL SERVICE AND AFFILIATIONS

American Geophysical Union: Member 1975-; Nominating Committee 1990-91; 1992-93;  
Dept. of Energy: Review Panel for Project Assessment 1993; Comm. of Visitors BES 2011  
Elements: Past-Editors Advisory Panel 2016-  
Geochemical Society: Member 2001-; Committees: Program 1988-91, Goldschmidt Medal 2003-07  
Geological Society of America: Member 1985-; Program Committee 1988-91; Penrose & Day  
Medal Committees 2008-12  
Gemological Institute of America: Board of Governors 2014-  
Mineralogical Society of America: President 2005-2006; Member 1974-, Committees: Committees  
1986-87, 1999-00, 2004-04; Research Grants, Chair 1994-95; Search for Editor of American  
Mineralogist 1987-88, 1992-93; Awards 1990-91; Roebling Medal, Chair, 1993-94; Nominating  
1987-88, 1992-93, Chair 1995-96; Short Courses, Chair 2001-03; MSA Council 1993-96  
NSF: Review Panel, Division of Earth Sciences, 1985-88, 1991; Committee of Visitors, Earth  
Sciences 2001; Committee of Visitors, Major Research Instrumentation 2005  
NRC Committee on the Scientific Context for the Exploration of the Moon 2006-07

### EDITORIAL POSITIONS

Proceedings of the National Academy of Sciences, Associate Editor 2019-  
American Journal of Science: Associate Editor 1996- present  
Elements: Principal Editor 2011-2015, Guest Editor 2006, Advisory Board 2004-07  
MSA/GS Reviews in Mineralogy & Geochemistry: Editor vol. 43, 2001  
Journal of Geophysical Research: Associate Editor 1992  
GSA Bulletin: Associate Editor 1985-91  
MSA Reviews in Mineralogy: Editor vol. 16, 1986

### AWARDS AND HONORS

Day Medal, Geological Society of America 2019  
National Academy of Sciences, elected member 2019  
Fellow, Wisconsin Academy of Sciences, Arts & Letters 2018  
New mineral, valleyite (Ca<sub>4</sub>Fe<sub>6</sub>O<sub>13</sub>), discovered by H. Xu, approved by IMA 2017  
Hilldale Award for career achievement in research, teaching & service, UW-Madison 2017  
Fellow, American Association for Advancement of Science 2016  
Honored Instructor Award for teaching Introductory Geology 2013, 2016  
Fellow, Geochemical Society 2011  
Fellow, European Association of Geochemistry 2011  
Fellow, American Geophysical Union 2006  
President, Mineralogical Society of America 2005-06

## JOHN W. VALLEY

WARF Named Professorship (Charles R. Van Hise Professor) 2005-  
N.L. Bowen Award, American Geophysical Union 2003  
Original Member, I.S.I. Highly Cited Researcher 2002- present  
Biography in *A to Z of Earth Scientists* (150 notable Earth scientists, 18th century to present), 2002  
Kellett Mid-career Award, University of Wisconsin 2001  
Vilas Associate, University of Wisconsin 1999  
Fellow, Mineralogical Society of America 1993  
Fellow, Geological Society of America 1992  
Fulbright Scholar, University of Edinburgh 1989-90  
Romnes Faculty Fellowship, University of Wisconsin 1989  
Hobbs Fellow 1978, Rackham Fellow 1979, University of Michigan

### PhD STUDENTS Advised by J.W. Valley (\*co-advised)

Adam Denny	2019	
Tyler Blum	2019	NSF Fellow, UW-Madison & MPIE-Düsseldorf
Ben Linzmeier*	2017	Post-doc, Northwestern University
Phil Gopon*	2016	Post-doc, Oxford University
Chloe Bonamici	2013	Assistant Professor, UW-Madison
Anthony Pollington	2013	Scientist, Los Alamos Natl. Lab.
Ian Orland	2012	Research Scientist, Wisconsin Geological & Nat. History Survey
Aaron Cavosie	2005	Research Fellow, Curtin University
Jade Star Lackey	2005	Associate Professor, Pomona College
Elizabeth King	2001	Associate Professor, Illinois State University, retired
William Peck	2000	Professor, Colgate University
John E. Eiler	1994	Sharp Distinguished Professor, California Institute of Technology
Don Elsenheimer	1992	Senior Planner, Minn. Dept. Natural Resources
Douglas Crowe*	1990	Professor, University of Georgia
Steve R. Dunn	1989	Professor, Mt. Holyoke College
Julie K. Vry*	1989	Lecturer, University of Wellington, New Zealand
Jean Morrison	1988	Provost and Professor of Geology, Boston University
Claudia I. Mora	1988	Dean, Jackson School of Earth Science, UT-Austin, Deputy Division Leader, LANL; Prof. Emerita, U. of Tennessee
Will Lamb	1987	Professor, Texas A&M University

### MS STUDENTS Advised by J.W. Valley

Rachelle Turnier	2017	Jason Huberty*	2010	Jade-Star Lackey	2000	Dan Harlov	1988
Emma Cameron	2017	Dayanidi Ortiz	2010	Salma Monani	1999	Don Elsenheimer	1988
Adam Denny	2016	Ian Orland	2008	Elizabeth King	1997	Lee Riciputi	1987
Jake Cammack	2015	Penny Lancaster	2007	William Peck	1996	AM Hazelwood	1987
David McDougal*	2015	Jacque Kelly	2006	Carrie Gilliam	1996	J.S. Park	1986
Tyler Blum	2013	Jake Eaton	2004	Katrina Edwards	1996	Will Lamb	1983
Ben Linzmeier*	2012	Beth Valaas	2004	Nami Kitchen	1995	Claudia Mora	1983
Ashley Russell	2011	J. Thakurta	2003	Martha Gerdes	1991		
Raiza Quintero	2011	Cory Clechenko	2001	John Eiler	1991		

### POST-DOCS Advised by J.W. Valley, Dates at U.W., Present Position (\*co-advised)

Ben Linzmeier	2019-	Post-doc, UW-Madison
Tyler Blum	2019-	Post-doc, UW-Madison
Maria Scicchitano	2018-	Post-doc, UW-Madison
Akizumi Ishida	2016-17	Assistant Professor, Tohoku University
Huan Cui	2015-18	Research Scientist, Univ. of Brussels
Ian Orland	2014-16	Research Scientist, Wisc. Geol. & Nat. History Survey
Navot Morag	2013-14	Geochemist, Geol. Survey of Israel

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Maciej Sliwinski	2013-18	Self-employed
Kevin Lepot	2011	Assistant Professor, Univ. of Lille
Ayumi Hyodo	2010-11	Research Scientist, Texas A&M
Ariel Strickland	2010-12	Adj. Prof., Lone Star College
Ken Williford	2010-12	Staff Scientist, JPL-Caltech
Kouki Kitajima	2010-13	Research Scientist, UW-Madison
Anne-Sophie Bouvier	2009	Director, SIMS Lab. Univ. Lausanne
Craig Grimes	2008-09	Assistant Professor, Ohio University, retired
Philipp Heck	2008-09	Curator of Meteorites, Field Museum, Chicago
Reinhard Kozdon	2007-15	Research Scientist, Lamont-Doherty, Columbia Univ.
Takayuki Ushikubo*	2006-13	Research Scientist, JAMSTEK, Japan
Zeb Page	2005-07	Associate Professor, Oberlin
Bin Fu	2004-07	Research Scientist, Australian Natl. Univ.
Yaron Katzir	1999-02	Associate Professor, Ben-Gurion Univ.
Ilya Bindeman	1998-03	Professor, Univ. of Oregon
Vicki McConnell	1997-98	Exec. Director of GSA; Oregon State Geologist Emerita
Biswajit Mukhopadhyay	1994-95	Environmental Geology
Matthew Kohn	1991-96	Professor, Boise State University
Bryce Winter*	1991-93	Environmental Geochemist
Ian Cartwright	1986-88	Professor, Monash University
Steve Komor	1986-88	Geochemist, USGS, retired

## PUBLICATIONS

### BOOKS & SPECIAL VOLUMES

- Paulikas GA, Pieters CM, Valley JW, 17 others (2007) Scientific Context for Exploration of the Moon, NRC/NAS, National Academies Press, 114p.
- Valley JW, ed. (2006) Early Earth issue of Elements. #4. vol 2, p. 210-233.
- Valley JW and Cole DR, eds. (2001) Stable Isotope Geochemistry. Reviews in Mineralogy and Geochemistry, Vol. 43, 662 p.
- Valley JW, Taylor HP, and O'Neil JR, eds. (1986) Stable Isotopes in High Temperature Geological Processes. Reviews in Mineralogy, Vol. 16, 570 p

### PAPERS

#### 2020

- Denny, AC; Kitajima, K; Ishida, A; Kita, NT; Valley, JW. (2020) Black Shale Framboid Sulfur Isotope Population Analyses: Observations and Insight from the Bakken Formation, in review.
- Blum TB, Spicuzza MJ, Nasdala L, Chanmuang C, Coble MA, Cavosie AJ, Valley JW (2020) Resolving the thermal, structural and chemical histories of lunar zircon through correlative SIMS, EBSD, and Raman spectroscopy. In review
- Husson JM, Linzmeier BJ, Kitajima K, Ishida A, Maloof AC, Schoene B, Peters SE, Valley JW (2020) Large isotopic variability at the micron-scale in 'Shuram' excursion carbonates from South Australia. Earth and Plan. Sci. in review.
- Cameron EM, Valley JW, Blum TB, Nasdala L, Kitajima K, Cavosie AJ, Orland IJ, Kita NT (2020) Preservation of Igneous Composition in Hadean Zircon, in review.

409. Haroldson EL, Brown PE, Ishida A, Valley JW (2020) SIMS oxygen isotopes indicate Phanerozoic fluids permeated a Precambrian gold deposit. Chem Geol. Accepted Nov. 22, 2019
408. Denny AC; Orland IJ; Valley JW (2020) Regionally Correlated  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  Zonation in Diagenetic Carbonates of the Bakken Formation. Chem. Geol., 531: 1-20.  
<https://doi.org/10.1016/j.chemgeo.2019.119327>

#### 2019

407. Denny AC, Fall A, Orland IJ, Valley JW, Eichhubl P, Laubach S (2019) A Prolonged

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- History of Pore Water Oxygen Isotope Evolution in the Cretaceous Travis Peak Formation in East Texas. *GSA Bull.* 00:1-13. <https://doi.org/10.1130/B35291.1>
406. Zhang Q, Ding L, Kitajima K, Valley JW, Zhang B, Xu X, Willems H, Kluegel A (2020) Large Magnitude of the Carbon Isotope Excursion During the Paleocene-Eocene Thermal Maximum. *Global and Planetary Change.* 184: 13 p. <https://doi.org/10.1016/j.gloplacha.2019.103049>
405. Turnier RB, Katzir Y, Kitajima K, Orland IJ, Spicuzza MJ, Valley JW (2019) Calibration of oxygen isotope fractionation and calcite-corundum thermometry in emery at Naxos, Greece. *J Meta Geol.* 00: 1-18. <https://doi.org/10.1111/jmg.12512>
404. Ryan-Davis J, Lackey JS, Gevedon M, Barnes JD, Lee CTA, Kitajima K, Valley JW (2019) Andradite skarn garnet records of exceptionally low  $\delta^{18}\text{O}$  values within an Early Cretaceous hydrothermal system, Sierra Nevada, CA. *Contr. Min. Pet.*, vol 174. [doi.org/10.1007/s00410-019-1602-6](https://doi.org/10.1007/s00410-019-1602-6)
403. Page FZ, Cameron EM, Flood CM, Dobbins JW, Spicuzza MJ, Kitajima K, Strickland A, Ushikubo T, Mattinson CG, and Valley JW (2019) Extreme oxygen isotope zoning in garnet and zircon from a metachert block in mélangé reveals metasomatism at the peak of subduction metamorphism. *Geology.* 47: 655-658. [doi.org/10.1130/G46135.1](https://doi.org/10.1130/G46135.1)
402. Price TD, Spicuzza MJ, Orland IJ, Valley JW (2019) Instrumental investigation of oxygen isotopes in human dental enamel from the Bronze Age battlefield site at Tollense, Germany. *J. Archaeological Sci.*, 105: 70-80.
401. Watts KE, John DA, Colgan JP, Henry CD, Bindeman IN, Valley JW (2019) Oxygen isotopic investigation of silicic magmatism in the Stillwater caldera complex, Nevada: Generation of large volume, low- $\delta^{18}\text{O}$  rhyolitic tuffs and assessment of their regional context in the Great Basin of the western United States. *GSA Bull.* 131: 1133-1156. <https://doi.org/10.1130/B35021.1>
400. Cavosie AJ, Valley JW, Wilde SA (2019) The Oldest Terrestrial Mineral Record: Thirty Years of Research on Hadean Zircon From Jack Hills, Western Australia. In: *Earth's Oldest Rocks.* MJ Van Kranendonk (ed.), Elsevier, p 255-278. [doi.org/10.1016/B978-0-444-63901-1.00012-5](https://doi.org/10.1016/B978-0-444-63901-1.00012-5)
399. Lepot K, Williford KH, Philippot P, Thomazo C, Ushikubo T, Kitajima K, Mostefaoui S, Valley JW (2019) Extreme  $^{13}\text{C}$ -depletions and organic sulfur content argue for S-fueled anaerobic methane oxidation in 2.72 Ga old stromatolites. *Geochim Cosmochim Acta* 244: 522-547.
- 2018**
398. Panter KS, Paterno C, Krans S, Deering C, McIntosh W, Valley JW, Kitajima K, Kyle K, Hart S, Blusztajn J (2018) Melt origin across a rifted continental margin: a case for subduction-related metasomatic agents in the lithospheric source of alkaline basalt, northwest Ross Sea, Antarctica. *J. Petrol.* 59: 517-558. [doi.org/10.1093/petrology/egy036](https://doi.org/10.1093/petrology/egy036)
397. Piilonen, PC; Sutherland FL; Danišik M; Poirier G; Valley JW; Ralph R (2018) Zircon Xenocrysts from Cenozoic Alkaline Basalts of the Ratanakiri Volcanic Province (Cambodia), Southeast Asia—Trace Element Geochemistry, O-Hf Isotopic Composition, U-Pb and (U-Th)/He Geochronology—Revelations into the Underlying Lithospheric Mantle. *Minerals.* 8: 566 (33 p.) [doi:10.3390/min8120556](https://doi.org/10.3390/min8120556)
396. Wycech JB, Kelly DC, Kitajima K, Kozdon R, Orland IJ, Valley JW (2018) Combined Effects of Gametogenic Calcification and Dissolution on  $\delta^{18}\text{O}$  Measurements of the Planktic Foraminifer *Trilobatus sacculifer*. *Geochem Geophys Geosyst*, 19: 4487-4501. <https://doi.org/10.1029/2018GC007908>
395. Nasdala L, Corfu F, Schoene B, Tapster SR, Wall CJ, Schmitz MD, Ovtcharova M, Schaltegger U, Kennedy AK, Kronz A, Reiners P, Yang Y-H, Wu F-Y, Gain SEM, Griffin WL, Szymanowski D, Chanmuang C, Enge M, Valley JW, Spicuzza MJ, Wanthanachaisaeng B and Giester G (2018) GZ7 and GZ8 – two Zircon Reference Materials for SIMS U–Pb Geochronology. *Geostd. and Geoanalytical Res.* [doi: 10.1111/ggr.12239](https://doi.org/10.1111/ggr.12239)

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394. Oye OJ, Aplin AC, Jones SJ, Gluyas JG, Bowen L, Orland IJ, and Valley JW (2018) Vertical effective stress as a control on quartz cementation in sandstones. *Marine and Petroleum Geol.* 98: 640-652.
393. Cernuschi F, Dilles JH, Grocke SB, Valley JW, Kitajima K, Tepley FJ III (2018) Rapid formation of porphyry copper deposits evidenced by diffusion of oxygen and titanium in quartz. *Geology.* 46: 611-614. [doi.org/10.1130#104C978](https://doi.org/10.1130#104C978)
392. Helsler T, Kastle C, McKay J, Orland IJ, Kozdon R, Valley JW (2018) Evaluation of micromilling/conventional isotope ratio mass spectrometry and secondary ion mass spectrometry of  $\delta^{18}\text{O}$  in fish otoliths for sclerochronology. *Rapid Comm. in Mass Spectrometry.* 32: 1781-1790. DOI: 10.1002/rcm.8231
391. Cui H, Kitajima K, Spicuzza MJ, Fournelle JH, Ishida A, Denny A, Zhang F, Valley JW (2018) Questioning the Biogenicity of Neoproterozoic Superheavy Pyrite by SIMS. *Am. Mineral.* 103, 1362–1400. <https://doi.org/10.2138/am-2018-6489>
390. Chapman JB, Dafov MN, Gehrels G, Ducea MN, Valley JW, Ishida A (2018) Lithospheric architecture and tectonic evolution of the southwestern U.S. Cordillera: constraints from zircon Hf and O isotopic data. *GSA Bull.* 130: 2031-2046. [doi.org/10.1130/B31937.1](https://doi.org/10.1130/B31937.1).
389. Linzmeier BJ, Landman NH, Peters SE, R Kozdon R, Kitajima K, Valley JW (2018) Ion microprobe stable isotope evidence for ammonite habitat and life mode during early ontogeny. *Paleobiology.* 2018: 1-25. DOI: 10.1017/pab.2018.21.
388. Kozdon R, Kelly DC, Valley JW (2018) Diagenetic Attenuation of Carbon Isotope Excursion Recorded by Planktic Foraminifers during the Paleocene-Eocene Thermal Maximum. *Paleocean. & Paleoclim.*, 33: 367-380. [doi.org/10.1002/2017PA003314](https://doi.org/10.1002/2017PA003314)
387. Shirai K, Otake T, Amano Y, Kuroki M, Ushikubo T, Kita NT, Murayama M, Tsukamoto K, Valley JW (2018) Temperature and depth distribution of Japanese eel eggs estimated using otolith oxygen stable isotopes. *Geochim Cosmochim Acta.* 236: 373-383.
386. Wycech J, Kelly DC, Kozdon R, Orland I, Spero HJ, Valley JW (2018) Comparison of  $\delta^{18}\text{O}$  Analyses on Individual Planktic Foraminifer (*Orbulina universa*) Shells by SIMS and Gas-Source Mass Spectrometry. *Chem. Geol.* 483:119-130. <https://doi.org/10.1016/j.chemgeo.2018.02.028>
385. Ishida A, Kitajima K, Williford KH, Kakegawa T, Valley JW (2018) Simultaneous in situ analysis of carbon and nitrogen isotope ratios in the organic matter by secondary ion mass spectrometry. *Geostandards and Geoanalytical Research*, 42 (2): 189-203. DOI: 10.1111/ggr.12209
384. Rehman HU, Kitajima K, Valley JW, Chung S-L, Lee H-Y, Yamamoto H, Khan T (2018) Low- $\delta^{18}\text{O}$  mantle-derived magma in Panjal Traps overprinted by hydrothermal alteration and Himalayan UHP metamorphism: revealed by SIMS zircon analysis. *Gondwana Res.* 56: 12-22. [doi.org/10.1016/j.gr.2017.12.004](https://doi.org/10.1016/j.gr.2017.12.004).
383. Saxey DW, Moser DE, Piazzolo S, Reddy SM, Valley JW (2018) Atomic worlds: current state and future of atom probe tomography in geoscience. *Scripta Materialia* 148: 115-121, [doi.org/10.1016/j.scriptamat.2017.11.014](https://doi.org/10.1016/j.scriptamat.2017.11.014)
382. Cui H, Kitajima K, Spicuzza MJ, Fournelle JH, Ishida A, Brown PE, Valley JW (2018) Searching for the Great Oxidation Event in North America: A Reappraisal of The Huronian Supergroup by SIMS Sulfur Four-Isotope Analysis. *Astrobiology*, 18 (5): 519-538, DOI: 10.1089/ast.2017.1722
381. Cammack JN, Spicuzza MJ, Cavosie AJ, Van Kranendonk MJ, Hickman AH, Kozdon R, Orland IJ, Kitajima K, Valley JW (2018) SIMS Microanalysis of the Strelley Pool Formation Cherts and the Implications for the Secular-Temporal Oxygen-isotope Trend of Cherts. *Precambrian Research* 304: 125-139.
380. Blum TB, Reinhard DA, Chen Y, Prosa TJ, Larson DJ, Valley JW (2018) Uncertainty and Sensitivity Analysis for Spatial and Spectral Processing of Pb Isotopes in Zircon by Atom Probe Tomography. In: *Microstructural Geochronology: Planetary Records Down to Atom Scale*, Eds: D Moser, F Corfu, J Darling, S Reddy and K Tait. AGU Geophysical Monograph 232: 327-350.

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379. Blum TB, Darling JR, Kelly TF, Larson DJ, Moser DE, Perez-Huerta A, Prosa TJ, Reddy SM, Reinhard DA, Saxley DW, Ulfing RM, Valley JW (2018) Best Practices for Reporting Atom Probe Analysis of Geological Materials. In: *Microstructural Geochronology: Planetary Records Down to Atom Scale*, Eds: D Moser, F Corfu, J Darling, S Reddy, and K Tait. AGU Geophysical Monograph 232: 369-373.
378. Brodie MW, Aplin AC, Hart B, Orland I, Valley JW, Boyce AJ (2018) Oxygen Isotope Microanalysis by Secondary Ion Mass Spectrometry Suggests Continuous 300 Million Year History of Calcite Cementation and Dolomitization in the Devonian Bakken Formation. *J. Sed. Res.* 88: 91-104.
377. Schopf JW, Kitajima K, Spicuzza M, Kudryavtsev A, Valley JW (2018) SIMS Analyses of the Oldest Known Assemblage of Microfossils Document Their Taxon-Related Carbon Isotope Compositions. *Proc. Natl. Acad. Sci.* 115: 53-58. doi: 10.1073/pnas.1718063115
376. Śliwiński, M. G., Kitajima, K., Spicuzza, M. J., Orland, I. J., Ishida, A., Fournelle, J. H. and Valley, J. W. (2018), SIMS Bias on Isotope Ratios in Ca-Mg-Fe Carbonates (Part III):  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  Matrix Effects Along the Magnesite–Siderite Solid-Solution Series. *Geostand Geoanal Res*, 42: 49-76. doi:[10.1111/ggr.12194](https://doi.org/10.1111/ggr.12194)
- 2017**
375. Schopf JW, Kudryavtsev AB, Osterhout JT, Williford KH, Kitajima K, Valley JW, Sugitani K (2017) An anaerobic ~3400 Ma shallow-water microbial consortium: presumptive evidence of Earth's Paleoarchean anoxic atmosphere. *Precamb Res.* 299: 309-318. DOI.org/10.1016/j.precamres.2017.07.021
374. Denny AC; Kozdon R; Kitajima K; Valley JW (2017) Isotopically Zoned Carbonate Cements in Early Paleozoic Sandstones of the Illinois Basin:  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  Records of Burial and Fluid Flow. *Sed. Geol.*, 361: 93-110. DOI.org/10.1016/j.sedgeo.2017.09.004
373. Helser, T, Kastle C, Crowell A, Valley J, Orland I, Kozdon R, Ushikubo T (2017) A 200-year archaeozoological record of Pacific cod (*Gadus macrocephalus*) life history as revealed through ion microprobe oxygen isotope ratios in otoliths. *Archaeological Science*, [doi.org/10.1016/j.jasrep.2017.06.037](https://doi.org/10.1016/j.jasrep.2017.06.037)
372. Decker M, Schwartz JJ, Stowell HH, Klepeis KA, Tulloch AJ, Kitajima K, Valley JW, Kylander-Clark A (2017) Slab-Triggered Arc Flare-up in the Cretaceous Median Batholith and Growth of Lower Arc Crust, Fiordland, New Zealand. *J Petrol.* 58: 1145-1171. DOI: 10.1093/petrology/egx049
371. McDougal D, Nakashima D, Tenner TJ, Kita NT, Valley JW, Noguchi T (2017) Intermineral oxygen three-isotope systematics of silicate minerals in equilibrated ordinary chondrites. *Meteoritics and Planetary Science*, 52: 2322-2342. DOI: 10.1111/maps.12932
370. Ankney ME, Bacon CR, Valley JW, Beard BL, Johnson CM (2017) Oxygen and U-Th isotopes and timescales of hydrothermal exchange and melting in granitoid wallrocks at Mt. Mazama, Crater Lake, Oregon. *Geochim Cosmochim Acta.* 213: 137-154. [doi.org/10.1016/j.gca.2017.04.043](https://doi.org/10.1016/j.gca.2017.04.043)
369. Quinn, RJ, Kitajima, K, Nakashima, D, Spicuzza, MJ, & Valley, JW (2017). Oxygen isotope thermometry using quartz inclusions in garnets. *Journal of Metamorphic Geology*, 35: 231-252, doi:10.1111/jmg.12230.
368. Śliwiński MG, Kitajima K, Kozdon R, Spicuzza MJ, Denny A and Valley JW (2017) In situ  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$  microanalysis by SIMS: A method for characterizing the carbonate components of natural and engineered  $\text{CO}_2$ -reservoirs. *International Journal of Greenhouse Gas Control*, 57: 116-133. doi.org/10.1016/j.ijggc.2016.12.013
367. Louyakis AS, Mobberley JM, Vitek BE, Visscher PT, Hagan PD, Reid RP, Kozdon R, Orland IJ, Valley JW, Planavsky NJ, Casaburi G, and Foster JS (2017) Spatial heterogeneity of thrombolites using molecular, biochemical, and stable isotope analyses. *Astrobiology*, 17: 413-430. DOI: 10.1089/ast.2016.1563.

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366. Etzel TN, Bowman JR, Moore JN, Valley JW, Spicuzza MJ, McCulloch JM (2017) Oxygen Isotope Systematics in an Evolving Geothermal System: Coso Hot Springs, California. *J Volc. Geotherm. Res.*, 329: 54-68. doi.org/10.1016/j.jvolgeores.2016.11.014
365. Oster JL, Kitajima K, Valley JW, Rogers B, Maher K (2017) An evaluation of paired  $\delta^{18}\text{O}$  and  $(^{234}\text{U}/^{238}\text{U})_0$  in opal as a tool for paleoclimate reconstruction in semi-arid environments. *Chem. Geol.* 449: 236-252.
364. Mendybaev RA, Williams CD, Spicuzza MJ, Richter FM, Valley JW, Fedkin AV, Wadhwa M (2017) Thermal and chemical evolution in the early Solar System as recorded by FUN CAIs: Part II - Laboratory evaporation of potential CMS-1 precursor material. *Geochim. Cosmochim. Acta.* 201: 49-64. doi.org/10.1016/j.gca.2016.08.034
363. Hogan JD, Kozdon R, Blum MJ, Gilliam JF, Valley JW, McIntyre PB (2017) Reconstructing larval growth and habitat use in an amphidromous goby using otolith increments and microchemistry. *Journal of Fish Biology*, 90: 1338-1355. doi:10.1111/jfb.13240

2016

362. Rasoazanamparany C, Widom E, Siebe C, Guilbaud NM, Spicuzza MJ, J.W. Valley JW, Valdez G, Salinas S (2016) Temporal and compositional evolution of Jorullo volcano, Mexico: Implications for magmatic processes associated with a monogenetic eruption. *Chem. Geol.* 434: 62-80.
361. Blum TB, Kitajima K, Nakashima D, Strickland A, Spicuzza MJ, **Valley JW** (2016) Oxygen isotope evolution of the Lake Owyhee volcanic field, Oregon, and implications for low- $\delta^{18}\text{O}$  magmatism of the Snake River Plain - Yellowstone hotspot and other low- $\delta^{18}\text{O}$  large igneous provinces, *Contributions to Mineralogy and Petrology*, 171:92, 23p, DOI 10.1007/s00410-016-1297-x.
360. Nasdala, L., Corfu, F., Valley, J.W., Spicuzza, M.J., Wu, F.-Y., Li, Q.-L., Yang, Y.-H., Fisher, C., Münker, C., Kennedy, A.K., Reiners, P.W., Kronz, A., Wiedenbeck, M., Wirth, R., Chanmuang, C., Zeug, M., Váczi, T., Norberg, N., Häger, T., Kröner, A. & Hofmeister, W. (2016) Zircon M127 – a homogeneous reference material for SIMS U–Pb geochronology combined with Hf-, O-, and potentially Li-isotope analysis. *Geostandards and Geoanalytical Research.* 40: 457-475. doi: 10.1111/ggr.12123
359. Haines S, Lynch E, Mulch A, Valley JW, van der Pluijm B (2016) Meteoric fluid infiltration in crustal-scale normal fault systems as indicated by  $\delta^{18}\text{O}$  and  $\delta^2\text{H}$  geochemistry, and Ar dating of neofomed clays in brittle fault rocks. *Lithosphere.* 8: 587-600. Doi:10.1130/L483.1
358. Svojtka M, Ackerman L, Medaris Jr. LG, Hegner E, Valley JW, Hirajima T, Jelínek E, Hrstka T (2016) Petrological, geochemical and Sr-Nd-O isotopic constraints on the origin of garnet and spinel pyroxenites from the Moldanubian Zone of the Bohemian Massif. *J Petrol.*, p 1-25, doi: 10.1093/petrology/egw025.
357. Linzmeier BJ, Kozdon R, Peters SE, Valley JW (2016) Oxygen isotope variability within growth bands suggests daily depth migration behavior is recorded in *Nautilus* shell aragonite, *PLOS One*, p 1-31. DOI:10.1371/journal.pone.0153890
356. Hertwig A, McClelland WC, Kitajima K, Schertl H-P, Maresch WV, Stanek K, Valley JW and Sergeev SA (2016) Inherited igneous zircons in jadeitite predate high-pressure metamorphism and jadeitite formation in the Jagua Clara serpentinite mélange of the Rio San Juan Complex (Dominican Republic), *Contr Min Pet.* 171 p 1-26. Doi 10.1007/s00410-016-1256-6
355. Gaschnig RM, Rudnick RL, McDonough WF, Kaufman AJ, Valley JW, Hu Z, Gao S, Beck ML (2016) Compositional evolution of the upper continental crust through time, as constrained by ancient glacial diamictites. *Geochim Cosmochim Acta*, 186: 316-343. DOI:http://dx.doi.org/10.1016/j.gca.2016.03.020
354. Quinn RJ, Valley JW, Page FZ, Fournelle JH (2016) Accurate Determination of Ferric Iron in Garnets. *Am. Mineral.*, 101, 1704-1707
353. Oerter EJ, Sharp WD, Valley JW, Kozdon R, Orland IJ, Hellstrom J, Woodhead JD, Hergt JM, Chadwick OA, Amundson R (2016) Pedothen carbonates reveal anomalous North

## JOHN W. VALLEY

- American atmospheric circulation 70,000 to 55,000 years ago. Proc. Natl. Acad. Sci, 113: 919-924 <http://www.pnas.org/content/early/2016/01/05/1515478113>
352. Morag N, Williford KH, Kitajima K, Philippot P, Van Kranendonk MJ, Lepot K, Thomazo C, Valley JW (2016) Microstructure-specific carbon isotopic signatures of organic matter from ~3.5 Ga cherts of the Pilbara Craton support a biologic origin, *PreCamb Res*, DOI: 10.1016/j.precamres.2016.01.014
351. Pollington AD, Kozdon R, Anovitz LM, Georg RB, Spicuzza MJ, Valley JW (2016) Experimental calibration of silicon and oxygen isotope fractionation between quartz and water at 250°C by in situ microanalysis of experimental products and application to natural samples. *Chem. Geol.* 421: 127-142
350. Ebeling A, Oerter E, Valley JW, and Amundson R (2016) Relict Soil Evidence for Profound Quaternary Aridification of the Atacama Desert, Chile. *Geoderma*, 267: 196-206
349. Sliwinski MG, Kitajima, K, Kozdon, R, Spicuzza, MJ, Fournelle, JH, Valley, JW (2016a) Secondary Ion Mass Spectrometry Bias on Isotope Ratios in Dolomite-Ankerite, Part I:  $\delta^{18}\text{O}$  Matrix Effects. *Geostandards and Geoanalytical Research*, 40: 157-172. doi: 10.1111/j.1751-908X.2015.00364.x
348. Śliwinski MG, Kitajima K, Kozdon R, Spicuzza MJ, Fournelle JH, Denny A, Valley JW (2016b) SIMS *bias* on isotope ratios in dolomite-ankerite, Part II:  $\delta^{13}\text{C}$  matrix effects. *Geostandards and Geoanalytical Research*. 40: 173-184. doi: 10.1111/j.1751-908X.2015.00380.x
347. Śliwiński MG, Kozdon R, Kitajima K, Denny A, and Valley JW (2016c) Microanalysis of carbonate cement  $\delta^{18}\text{O}$  in a  $\text{CO}_2$ -storage system seal: insights into the diagenetic history of the Eau Claire Formation (Upper Cambrian), Illinois Basin. *AAPG Bulletin*, 100: 1003-1031, DOI:10.1306/02031615065
346. Williford KH, Ushikubo T, Lepot K, Kitajima K, Hallmann C, Spicuzza MJ, Kozdon R, Eigenbrode JL, Summons RE, Valley JW (2016) Isotopic signatures of ancient life and environment at the microbial scale: Neoproterozoic shales and carbonates. *Geobiology*, 14: 105-128, DOI: 10.1111/gbi.12163
- 2015**
345. Ibanez-Mejia M, A Pullen, J Arenstein, GE Gehrels, JW Valley, MN Ducea, AR Mora, M Pecha, J Ruiz (2015) Unraveling crustal growth and reworking processes in complex zircons from orogenic lower-crust: The Proterozoic Putumayo Orogen of Amazonia. *Precambrian Research*; 267:285-310.
344. Orland, I. J., J. W. Valley, and N. T. Kita (2015), High-resolution tools advance study of paleoclimate archives, *Eos*, 96, doi:10.1029/2015EO040911. Published on 8 Dec. 2015.
343. Orland IJ, Edwards RL, Cheng H, Kozdon R, Cross M, and Valley JW (2015) Direct measurements of deglacial monsoon strength in a Chinese stalagmite. *Geology* 43: 555-558.
342. Valley JW (2015) Time's Arrow and Time's Cycle. *Elements*. 11, 2, 83-84.
341. Gottardi R, Teyssier C, Mulch A, Valley JW, Spicuzza MJ, Vennemann TW, Quilichini A, Heizler M (2015) Strain and permeability gradients traced by stable isotope exchange in the Raft River detachment shear zone, Utah. *J Struct. Geol.* 71:41-57.
340. Frierdich AJ, Beard BL, Rosso KM, Scherer MM, Spicuzza MJ, Valley JW, Johnson CM (2015) Low Temperature, Non-Stoichiometric Oxygen-Isotope Exchange Coupled to Fe(II)-Goethite Interactions. *Geochim. Cosmochim. Acta*, 160: 38-54
339. Bonamici CE, Fanning CM, Kozdon R, Fournelle JH, Valley JW (2015) Combined oxygen isotope and U-Pb zoning studies of titanite: New criteria for age preservation. *Chem. Geol.* 298: 70-84.
338. Kita NT, Sobol PE, Kern JR, Lord NE, and Valley JW (2015) UV light microscope: Improvements in optical imaging for a Secondary Ion Mass Spectrometer. *Journal of Analytical Atomic Spectrometry*, DOI: 10.1039/C4JA00349G, 30 (5) 1207-1213.
337. Schopf JW, Kudryavtsev AB, Walter MW, Van Kranendonk MJ, Williford KH, Kozdon R, Valley JW, Gallardo VA, Espinoza C, Flannery DT (2015) A fossil sulfur-cycling microbiota from the 1.8 Ga Duck Creek Formation provides promising evidence of



## JOHN W. VALLEY

- evolution's null hypothesis. PNAS. 112 (20) E2560, doi:10.1073/pnas.1419241112.
336. Valley JW, Reinhard DA, Cavosie AJ, Ushikubo T, Lawrence DF, Larson DJ, Kelly TF, Snoeyenbos D, Strickland A (2015) Nano- and Micro-geochronology in Hadean and Archean Zircons by Atom-Probe Tomography and SIMS: New Tools for Old Minerals. Am. Mineral, 100: 1355-1377. doi.org/10.2138/am-2014-5134.
- 2014**
335. Wang X-L, Coble MA, Valley JW, Shu X-J, Kitajima K, Spicuzza MJ, Sun T (2014) Influence of radiation damage on late Jurassic zircon from southern China: Evidence from in situ measurement of oxygen isotopes, laser Raman, U-Pb ages, and trace elements. Chem. Geol., 389: 122-136.
334. Schwartz JJ, Johnson K, Mueller P, Valley JW, Strickland A, and Wooden JL (2014) Time scales and processes of Cordilleran batholith construction and high-Sr/Y magmatic pulses: Evidence from the Bald Mountain batholith, northeastern Oregon. Geosphere, 10 (6) 1456-1481, doi:10.1130/GES01033.1
333. Ferry JM, Kitajima K, Strickland A, Valley JW (2014) Ion microprobe survey of the grain-scale oxygen isotope geochemistry of minerals in metamorphic rocks. Geochim. Cosmochim. Acta, 144: 403-433. DOI: 10.1016/j.gca.2014.08.021
332. Hyodo A, Kozdon R, Pollington AD, Valley JW (2014) Evolution of Quartz Cementation and Burial History of the Eau Claire Formation Based on *In Situ* Oxygen Isotope Analysis of Quartz Overgrowths. Chem. Geol. 384: 168-180.
331. Ushikubo T, Williford KH, Farquhar J, Johnston D, Valley JW (2014) In situ sulfur four-isotope analysis of detrital pyrite from the Paleoproterozoic Turee Creek Group, Western Australia. Chem. Geol. 383: 86-99.
330. Valley JW (2014) Playthings vs. the killer rock? Elements. 10: 75.
329. Vetter, L., Kozdon, R., Valley, J. W., Mora, C. I., & Spero, H. J. (2014) SIMS measurements of intrashell  $\delta^{13}\text{C}$  in the cultured planktic foraminifer *Orbulina universa*. Geochim Cosmochim Acta 139: 527-539.
328. Valley JW (2014) Asteroid, What? Elements. 10: 3.
327. Blumenthal SA, Chritz KL, Cerling CE, Bromage TG, Kozdon R, Valley JW (2014) Stable isotope time-series in mammalian teeth: in situ  $\delta^{18}\text{O}$  from the innermost enamel layer. Geochim Cosmochim Acta, 124:223-236
326. Pernet-Fisher JF, Howarth GH, Liu Y, Barry PH, Carmody L, Valley JW, Bodnar RJ, Spetsius ZV, Taylor LA (2014) Komsomolskaya diamondiferous eclogites: evidence for oceanic crustal protoliths. Contr Min Petrol 167 (3): 1-17. DOI 10.1007/s00410-014-0981-y
325. Bonamici CE, Kozdon R, Ushikubo T, Valley JW (2014) Intragrain oxygen isotope zoning in titanite by SIMS: Cooling rates and fluid infiltration along the Carthage-Colton Mylonite Zone, Adirondack Mountains, NY, USA, J Meta Geol. 32:71-92
324. Valley JW, Cavosie AJ, Ushikubo T, Reinhard DA, Lawrence DF, Larson DJ, Clifton PH, Kelly TF, Wilde SA, Moser DE, Spicuzza MJ (2014) Hadean age for a post-magma-ocean zircon confirmed by atom-probe tomography. Nature Geosci 7: 219-223.
323. Valley JW, Spicuzza MJ, Ushikubo T (2014) Correlated  $\delta^{18}\text{O}$  and [Ti] in Lunar Zircons: A Terrestrial Perspective for Magma Temperatures and Water Content on the Moon. Contr Min Petrol, vol 167 (1): 1-15. doi:10.1007/s00410-013-0956-4.
322. Singer B, Jicha B, Fournelle J, Beard B, Johnson C, Smith K, Greene S, Kita N, Valley J, Spicuzza M, Rogers N (2014) Lying in Wait: Deep and shallow evolution of dacite beneath Volcan de Santa Maria, Guatemala, in: Georg F. Zellmer (ed) Orogenic Andesites and Crustal Growth, Geol. Soc. Lond., Sp. Pub. 385: 209-234
321. Orland IJ, Bursytn Y, Bar-Matthews M, Reinhard Kozdon R, Ayalon A, Matthews A, Valley JW (2014) Seasonal climate signal in a modern Soreq Cave stalagmite (1990-2008) revealed by high-resolution geochemical analysis. Chem Geol, 363: 322-333
320. Page FZ, Essene EJ, Mukasa SB, Valley JW (2014) A garnet-zircon oxygen isotope record of subduction and exhumation fluids from the Franciscan Complex, California. J Petrol, 55:103-131. doi:10.1093/petrology/egt062

## JOHN W. VALLEY

2013

319. Li, W., Huberty, J.M., Beard, B.L., Kita, N.T., Valley, J.W., & Johnson, C.M. (2013) Contrasting behavior of oxygen and iron isotopes in banded iron formations revealed by *in situ* isotopic analysis. *Earth and Planetary Science Letters*, 384: 132-143.
318. Konstantinou A, Valley J, Strickland A, Miller EL, Fisher C, Vervoort J, Wooden J (2013) Geochemistry and geochronology of the Jim Sage volcanic suite, southern Idaho: Implications for Snake River Plain magmatism and its role in the history of Basin and Range extension. *Geosphere* 9: doi:10.1130/GES00948.1
317. Russell AK, Kitajima K, Strickland A, Medaris Jr. LG, Schulze DJ, and Valley JW (2013) Eclogite-facies Fluid Infiltration: Constraints from  $\delta^{18}\text{O}$  Zoning in Garnet. *Contr. Min. Pet.*, 165: 103-116.
316. Limburg KE, Hayden TA, Pine WE, Yard MD, Kozdon R, Valley JW (2013) Of Travertine and Time: Otolith Chemistry and Microstructure Detect Provenance and Demography of Endangered Humpback Chub in Grand Canyon (USA), *PLoS ONE*, 8/12, DOI: 10.1371/journal.pone.0084235
315. Konstantinou A, Valley JW, Strickland A, Miller EL, Fisher C, Vervoort J, Wooden J (2013) Syn-extensional magmatism leading to crustal flow in the Albion - Raft-River - Grouse Creek metamorphic core complex, northeastern Basin and Range. *Tectonics*, 32: 1387-1403.
314. Kozdon R, Kelly DC, Kitajima K, Strickland A, Fournelle JH, Valley JW (2013) *In situ*  $\text{d}^{18}\text{O}$  and Mg/Ca analyses of diagenetic and foraminiferal calcite: Implications for paleoceanographic proxy records. *Paleoceanography* 28:517-528
313. Nakashima D, Kita NT, Ushikubo T, Noguchi T, Nakamura T, and Valley JW (2013) Oxygen three-isotope ratios of silicate particles returned from asteroid Itokawa by the Hayabusa spacecraft: A strong link with equilibrated LL chondrites. *Earth Plan Sci Lett.* 379: 127-136.
312. Grimes CB, Ushikubo T, Kozdon R, and Valley JW (2013) Perspectives on the origin of plagiogranite in ophiolites from oxygen isotopes in zircon. *Lithos.* 179: 46-66
311. Mendybaev RA, Richter FM, Georg RB, Janney PE, Spicuzza MJ, Davis AD, Valley JW (2013) Experimental evaporation of Mg- and Si-rich melts: Implications for the origin and evolution of FUN CAIs. *Geochim Cosmochim Acta*, 123:368-384
310. Valley JW (2013) Journey towards the Center of the Earth. *Elements* 9(4): 243-244
309. Errico JC, Barnes JD, Strickland A, Valley JW (2013) Oxygen isotope zoning in garnets from Franciscan eclogite blocks: evidence for rock-buffered fluid. *Contr. Min. Pet.*, 166: 1161-1176. DOI 10.1007/s00410-013-0915-0
308. Harwood J, Aplin AC, Fialips CI, Iliffe JE, Kozdon R, Ushikubo T, Valley JW (2013) Quartz Cementation History Of Sandstones Revealed By High Resolution SIMS Oxygen Isotope Analysis. *J Sed Research.* 83: 522-530, DOI:http://dx.doi.org/10.2110/jsr.2013.29
307. Medaris LG Jr., Jelinek E, Beard BL, Valley JW, Spicuzza MJ and Strnad L (2013) Garnet pyroxenite in the Biskupice peridotite: anatomy of a Variscan high-pressure cumulate. *Journal of Geosciences.* 58: 3-19.
306. Lepot K, Williford KH, Ushikubo T, Sugitani K, Mimura K, Spicuzza MJ, Valley JW (2013) Biogenicity of 3.4 Gyr old carbon indicated by texture-specific isotopic compositions. *Geochim. Cosmochim. Acta*, 112: 66-86. doi.org/10.1016/j.gca.2013.03.004.
305. Vetter L, Kozdon R, Mora CI, Eggins SM, Valley JW, Hönisch B and Spero HJ (2013) Micron-scale intrashell oxygen isotope variation in cultured planktic foraminifers. *Geochim Cosmochim Acta*, 107: 267-278
304. Valley JW (2013) The Age of the Earth. *Elements.* 9: 3-4.
303. Kita NT, Welten KC, Valley JW, Spicuzza MJ, Nakashima D, Tenner TJ, Ushikubo T, MacPherson GJ, Welzenbach L, Heck PR, Davis AM, Meier MMM, Weiler R, Caffee MW, Laubenstein M, Nishiizumi K (2013) Fall, classification, and exposure history of the Mifflin L5 chondrite. *Meteoritics & Plan Sci.* doi:10.1111/maps.12077
302. Schulze DJ, Harte B, EIMF, Page FZ, Valley JW, Channer DMDR, and Jaques AL (2013) Anticorrelation of isotope signatures of carbon in eclogitic diamonds and oxygen in their

## JOHN W. VALLEY

silicate mineral inclusions requires subducted source material for eclogitic diamonds. *Geology*. 41: 455-458.

301. Matta M. E., Orland I. J., Ushikubo T., Helser T. E., Black B. A., and Valley J. W. (2013) Ontogenetic Migration of an Eastern Bering Sea Yellowfin Sole *Limanda Aspera* Detected by Otolith Oxygen Isotope Analysis Via Ion Microprobe. *Rapid Comm. Mass Spec.* 27: 691-699.
300. Williford KH, Ushikubo T, Schopf JW, Lepot K, Kitajima K, Valley JW (2013) Preservation and detection of microstructural and taxonomic correlations in the carbon isotopic compositions of individual Precambrian microfossils, *Geochim Cosmochim Acta*, 104: 165-182.
299. Strickland A, Wooden JL, Mattinson CG, Ushikubo T, Miller DM, Valley, JW (2013) Proterozoic evolution of the Mojave crustal province as preserved in the Ivanpah Mts, SE California. *Precamb. Res.* 224: 222-241.
298. Peres P, Kita NT, Valley JW, Fernandes F, and Schuhmacher M (2013) New Sample Holder Geometry for High Precision Isotope Analyses. *Surface and Interface Analysis* 45: 553-556. (SIMS Proceedings) DOI 10.1002/sia.5061.

### 2012

297. Gordon, S.M., Luffi, P., Hacker, B., Valley, J., Spicuzza, M., Kozdon, R., Kelemen, P., Ratsbacher, L., Minaev, V. (2012) The thermal structure of continental crust in active orogens: insight from Miocene eclogite and granulite xenoliths of the Pamir Mountains. *J. Meta. Geol.*, 30(4): 413-434.
296. Kitajima K, Ushikubo T, Kita NT, Maruyama S and Valley JW (2012) Trace elements and oxygen isotope ratios of zircon from Archean rhyolite, Panorama Formation, North Pole Dome, Pilbara Craton, Western Australia. *Chem. Geol.*, v 332-333, p 102-115.
295. Valley JW (2012) Migma vs. Magma. *Elements*. 8: 243-244.
294. Ushikubo T, Kimura M, Kita NT, and Valley JW (2012) Primordial oxygen isotope reservoirs of the solar nebula recorded in chondrules in Acfer 094 carbonaceous chondrite. *Geochim. Cosmochim. Acta* 90: 242-264.
293. Orland IJ, Bar-Matthews M, Ayalon A, Matthews A, Kozdon R, Ushikubo T, Valley JW (2012) Seasonal resolution of Eastern Mediterranean climate change since 34 ka from a Soreq cave speleothem. *Geochim Cosmochim Acta*, 89: 240-255. DOI.10.1016/j.gca.2012.04.035.
292. D'Errico ME, Lackey JS, Surpless BE, Loewy SL, Wooden JL, Barnes JD, Strickland A, and Valley JW (2012) A detailed record of shallow hydrothermal fluid flow in the Sierra Nevada magmatic arc from low- $\delta^{18}\text{O}$  skarn garnets: *Geology*, v. 40, p. 763-66.
291. Olson IC, Kozdon R, Valley JW, Gilbert PUPA (2012) Mollusk Shell Nacre Ultrastructure Correlates with Environmental Temperature and Pressure. *J. Am. Chem Soc.* 134, 7351-7358
290. Cunningham LC, Page FZ, Simonson BM, Kozdon R, and Valley JW (2012) Ion microprobe analyses of  $\delta^{18}\text{O}$  in early quartz cements from 1.9 Ga granular iron formations (GIFs): a pilot study. *Precamb. Res.*, v 214-215, 258-268.
289. Lackey JS, Romero GA, Bouvier AS, Valley JW (2012) Dynamic Growth of Garnet in Granitic Magmas. *Geology* 40: 171-174, doi:10.1130/G32349.1
288. Huberty JM, Konishi H, Heck PR, Fournelle JH, Valley JW, Xu H (2012) Silician Magnetite from the Dales Gorge Member of the Brockman Iron formation, Hamersley Group, Western Australia. *Am Mineral*, 97: 26-37.
287. Bouvier A-S, Ushikubo T, Kita NT, Cavosie AJ, Kozdon R, Valley JW (2012) Li isotopes and trace elements as a petrogenetic tracer in zircon: insights from Archean TTG's and sanukitoids. *Contr. Min. Pet.* 163: 745-768.

### 2011

286. Bowman JR, Moser DE, Valley JW, Wooden, JL, Kita NT, and Mazdab F (2011) Zircon U-Pb isotope,  $\delta^{18}\text{O}$  and trace element response to 80 m.y. of high temperature formation. *Am J Sci*, doi 10.2475/04.2011.00, 311: 719-772.
285. Noguchi T, Nakamura T, Ushikubo T, Kita NT, Valley JW, Yamanaka R, Kimoto Y and Kitazawa Y (2011) A chondrule-like object captured by space-exposed aerogel on the international space station. *Ear & Plan Sci Lett.* 309: 198-206

JOHN W. VALLEY

284. Pollington, A.D., Kozdon, R., and Valley, J.W. (2011) Evolution of quartz cementation in the Illinois Basin during burial of the Cambrian Mt. Simon Sandstone: *In situ* microanalysis of  $\delta^{18}\text{O}$ . *Geology*, 39: 1119-1122.
283. Heck PR, Huberty JM, Kita NT, Ushikubo T, Kozdon R, Valley JW (2011) High-Precision Silicon and Oxygen Isotope SIMS analyses of Quartz in Archean and Paleoproterozoic Banded Iron Formations. *Geochim Cosmochim Acta* 75: 5879-5891
282. Bonamici CE, Kozdon R, Ushikubo T, and Valley JW (2011) High-resolution P-T-t paths from  $\text{d}^{18}\text{O}$  zoning in titanite: A snapshot of late-orogenic collapse in the Grenville of New York. *Geology*, 39: 959-962.
281. Strickland A, Miller EL, Wooden JL, Valley JW (2011) Syn-extensional plutonism and peak metamorphism in the Albion-Raft-River-Grouse Creek metamorphic core complex. *Am J Sci*, 311: 261-314.
280. Williford KH, Van Kranendonk MJ, Ushikubo T, Kozdon R, Valley JW (2011) Sulfur three-isotope micro-distribution in pyrite deposited during Paleoproterozoic atmospheric oxygenation in glaciogenic sediments of the Turee Creek Group, Western Australia. *Geochim. Cosmochim. Acta*, 75: 5686-5705. doi:10.1016/j.gca.2011.07.010.
279. Sobolev NV, Schertl HP, Valley JW, Page FZ, Kita NT, Spicuzza MJ, Neuser RD, Logvinova AM (2011) Oxygen isotope variations of garnets and clinopyroxenes in a layered diamondiferous calcsilicate rock from Kokchetav Massif, Kazakhstan: a window into the geochemical nature of deeply subducted UHPM rocks. *Contr Min Pet.* 162: 1079-1092. DOI 10.1007/s00410-011-0641-4.
278. Schmitz B, Heck PR, Alwmark C, Kita NT, Peucker-Ehrenbrink B, Ushikubo T, Valley JW (2011) Determining the impactor of the Ordovician Lockne crater: Oxygen and neon isotopes in chromite versus sedimentary PGE signatures. *Ear Plan Sci Lett*, DOI 10.1016/j.epsl.2011.04.028. 306: 149-155
277. Ferry JM, Ushikubo T, Valley JW (2011) Formation of forsterite by silicification of dolomite during contact metamorphism. *J. Petrol.* 52:1619-1640. Doi.10.1093/petrology/egr021
276. Kozdon R, Kelly DC, Kita NT, Fournelle JH, Valley JW (2011) Use of Ion Microprobe Technique to Minimize the Effects of Diagenesis on Oxygen Isotope Records from Early Paleogene Planktonic Foraminifera. *Paleoceanography*, v26: PA3206 doi:10.1029/2010PA002056.
275. Nakashima D, Ushikubo T, Gowda RN, Kita NT, Valley JW, and Nagao K (2011) Ion microprobe analyses of oxygen three isotope ratios in chondrules from the Sayh al Uhaymir 290 CH chondrite using a multiple hole disk. *Meteoritics & Plan. Sci.*, 46: 857-874, doi:10.1111/j.1945-5100.2011.10198.x.
274. Cavosie AJ, Valley JW, Kita NT, Spicuzza MJ, Ushikubo T, Wilde SA (2011) The origin of high  $\delta^{18}\text{O}$  zircons: Marbles, megacrysts, and metamorphism. *Contr Min Pet*, 162: 961-974, doi.org/10.1007/s00410-011-0634-3
273. Hazen RM, Bekker A, Bish DL, Bleeker W, Downs RT, Farquhar J, Ferry JM, Grew ES, Knoll AH, Papineau D, Ralph JP, Sverjensky DA, Valley JW (2011) Needs and opportunities in mineral evolution research. *Am Mineral.* 96:953-963. DOI:10.2138/am.2011.3725.
272. Lackey JS, Erdman S, Hark JS, Nowak RM, Murray KE, Clarke DB, Valley JW (2011) Tracing Garnet Origins in Granitoid Rocks by Oxygen Isotope Analysis: Examples From The South Mountain Batholith, Nova Scotia. *Can. Min.*, DOI : 10.3749/canmin.49.2.000
271. Goodrich CA, Kita NT, Spicuzza MJ, Valley JW, Zipfel J, Mikouchi T, Miyamoto M (2011) The Northwest Africa 1500 meteorite: Not a ureilite, maybe a brachinite. *Meteor. Plan. Sci.* 45:1906-1928.
270. Grimes CB, Ushikubo T, John BE, Valley JW (2011) Uniformly mantle-like  $\delta^{18}\text{O}$  in zircons from oceanic plagiogranites and gabbros, *Contr. Min. Pet.* 161: 13-33
269. Kita NT, Huberty JM, Kozdon R, Beard BL, and Valley JW (2011) High precision SIMS oxygen, sulfur and iron stable isotope analyses of geological materials: Accuracy, surface topography and crystal orientation. *SIMS XVII Proceedings, Surface and Interface Analysis*, v 43: 427-431, DOI 10.1002/sia.3424.

JOHN W. VALLEY

2010

268. Gaillou E, Devouard B, Vielzeuf D, Boivin P, Rochault J, Valley J, Harris C (2010) Le Mont Coupet, Menet et Le Sioulot: Trois Gisements de Saphirs du Massif Central. *Le Regne Mineral*. No. 93, p. 28-36.
267. Kita NT, Nagahara H, Tachibana S, Tomomura S, Spicuzza MJ, Fournelle JH and Valley JW (2010) High precision SIMS oxygen three isotope study of chondrules in LL3 chondrites: Role of ambient gas during chondrule formation. *Geochim. Cosmochim. Acta*, doi.org/10.1016/j.gca.2010.08.011, 74: 6610-6635.
266. Peck WH, Clechenko CC, Hamilton MA, Valley JW (2010) Oxygen Isotopes In The Grenville And Nain AMCG Suites: Regional Aspects Of The Crustal Component In Massif Anorthosites. *Canad. Min*, DOI : 10.3749/canmin.48.4.000, 48: 763-786.
265. Huberty JM, Kita NT, Kozdon R, Heck PR, Fournelle JH, Spicuzza MJ, Xu H, Valley JW (2010) Crystal Orientation Effects on Instrumental Bias of  $\delta^{18}\text{O}$  in Magnetite by SIMS, *Chem. Geol.* 276: 269-283. doi:10.1016/j.chemgeo.2010.06.012.
264. Kozdon R, Kita NT, Huberty JM, Fournelle JH, Valley JW (2010) *In situ* sulfur isotope analysis of sulfide minerals by SIMS: Precision and Accuracy. *Chem. Geol.*, doi:10.1016/j.chemgeo.2010.05.015, 275: 243-253.
263. Heimann A, Johnson CM, Beard BL, Valley JW, Roden EE, Spicuzza MJ, Beukes NJ (2010) Fe, C, and O isotope compositions of banded iron formation carbonates demonstrate a major role for dissimilatory iron reduction in ~2.5 Ga marine environments. *Ear. Plan. Sci. Lett.*, doi:10.1016/j.epsl.2010.02.015, 294: 8-18.
262. Ferry JM, Ushikubo T, Kita NT, Valley JW (2010) Assessment of grain-scale homogeneity and equilibration of carbon and oxygen isotope compositions of minerals in carbonate-bearing metamorphic rocks by ion microprobe. *Geochim Cosmochim Acta*. doi.org/10.1016/j.gca.2010.08.039, 74: 6517-6540.
261. Liu Y, Spicuzza MJ, Craddock PR, Day JMD, Valley JW, Dauphas N, Taylor LA (2010) Oxygen and iron isotope constraints on near-surface fractionation effects and the composition of lunar mare basalt source regions. *Geochim Cosmochim Acta*, doi:10.1016/j.gca.2010.08.008, 74: 6249-6262
260. Heck PR, Ushikubo T, Schmitz B, Kita NT, Spicuzza MJ, Valley JW (2010) A Single Asteroidal Source For Extraterrestrial Ordovician Chromite Grains from Sweden and China: High-Precision Oxygen Three-Isotope SIMS Analysis. *Geochimica et Cosmochimica Acta*, 74: 497-509.
259. Page, F.Z., Kita, N.T., and Valley, J.W. (2010) Ion microprobe analysis of oxygen isotopes in garnets of complex chemistry. *Chem. Geol.*, 270: 9-19. doi.org/10.1016/j.chemgeo.2009.11.001
258. Fu, B., Valley, J. W., Kita, N. T., Spicuzza, M. J., Paton, C., Tsujimori, T., Bröcker, M., and Harlow, G. E. (2010) Multiple origins of zircons in jadeitite. *Contrib. Min. Pet.*, 159: 769-780, DOI 10.1007/s00410-009-0453-y

2009

257. Nakamura T, Noguchi T, Tsuchiyama A, Ushikubo T, Kita NT, Valley JW, Zolensky ME, Kakazu Y, Sakamoto K, Mashio E, Uesugi K, Nakano T (2009) Chondrules in short-period comet 81P/Wild 2 recovered by the Stardust mission. *Japan. Geochem. Soc. Mag.*, 43, 143-153 (in Japanese).
256. Dattagupta S, Schaperdoth I, Montanari A, Mariani S, Kita N, Valley JW, and Macalady JL (2009) A Recently Evolved Symbiosis Between Chemoautotrophic Bacteria and a Cave-dwelling Amphipod, *Int. Soc. Microbial Ecology J.*, 1-9.
255. Richter FM, Watson EB, Mendybaev R, Dauphas N, Georg B, Watkins J, Valley J (2009) Isotopic fractionation of the major elements of molten basalt by chemical and thermal diffusion. *Geochim. Cosmochim. Acta*, 73: 4250-4263.
254. Knight, K. B., Kita, N. T., Mendybaev, R. A., Richter, F. M., Davis, A. M., and Valley, J. W., 2009. Silicon isotope fractionation of CAI-like vacuum evaporation residues. *Geochim. Cosmochim. Acta*, doi:10.1016/j.gca.2009.07.008, 73: 6390-6401.
253. Liu Y, Taylor LA, Sarbadhikari A, Valley JW, Ushikubo T, Spicuzza MJ, Kita N, Ketchum R, Carlson W, Shatsky V, Sobolev, NV (2009) Metasomatic origin of diamonds in the

## JOHN W. VALLEY

- world's largest diamondiferous eclogite. *Lithos*, doi:10.1016/j.lithos.2009.06.036, 261: 140-154.
252. Cavosie, AJ, Kita NT, and Valley JW (2009) Primitive oxygen isotope ratio recorded in magmatic zircons from the Mid-Atlantic Ridge. *Am. Mineral.* 94: 926-934.
251. Hofmann AE, Valley JW, Watson EB, Cavosie, AJ, Eiler JM (2009) Sub-micron scale distributions of trace elements in zircon. *Contrib. Mineral. Petrol.* DOI 10.1007/s00410-009-0385-6, 158: 317-335.
250. Nuriel, P., Katzir, Y., Abelson, M., Valley, J.W., Matthews, A., Spicuzza, M.J., Ayalon, A., 2009. Fault-related oceanic serpentinization in the Troodos ophiolite, Cyprus: Implications for a fossil oceanic core complex. *Earth and Planetary Science Letters* 282, 34-46.
249. Valley JW and Kita NT (2009) *In situ* Oxygen Isotope Geochemistry by Ion Microprobe, In: Fayek M. (ed) MAC Short Course: Secondary Ion Mass Spectrometry in the Earth Sciences, v 41, 19-63
248. Kita NT, Takayuki Ushikubo, Bin Fu and John W. Valley (2009) High Precision SIMS Oxygen Isotope Analyses and the Effect of Sample Topography, *Chemical Geology*, doi:10.1016/j.chemgeo.2009.02.012. 264: 43-57.
247. Be-eri-Shlevin Y, Katzir Y, Valley JW (2009) Crustal evolution and recycling in a juvenile continent: Oxygen isotope ratio of zircon in the Arabian Nubian Shield. *Lithos*, 107: 169-184.
246. Blank JG, Green SJ, Blake D, Valley JW, Kita NT, Treiman A, Dobson PF (2009) An alkaline Spring System within the Del Puerto Ophiolite (California, USA): a Mars Analog Site. *Planetary and Space Science*, doi:10.1016/j.pss.2008.11.018.
245. Liu D, Wilde SA, Wan Y, Wang S, Valley JW, Kita N, Dong C, Xie H, Yang C, Zhang Y and Gao L (2009). Combined U-Pb, hafnium and oxygen isotope analysis of zircons from meta-igneous rocks in the southern North China Craton reveal multiple events in the Late Mesoproterozoic-Early Neoproterozoic. *Chemical Geology*, 261: 140-154. doi:10.1016/j.chemgeo.2008.10.041
244. Bowman JR, Valley JW, Kita NT (2009) Constraints on mechanisms of oxygen isotopic exchange and isotopic evolution of  $^{18}\text{O}/^{16}\text{O}$ -depleted periclase zone marbles in the Alta aureole, Utah—Insights from ion microprobe analysis of calcite. *Contr. Min. Petrol.* 157: 77-93.
243. Fu B, Mernagh TP, Kita NT, Kemp AIS and Valley JW (2009). Distinguishing magmatic zircon from hydrothermal zircon: a case study from the Gidginbung high-sulphidation Au-Ag-(Cu) deposit, SE Australia. *Chemical Geology* 259: 131-142. doi:10.1016/j.chemgeo.2008.10.035
242. Kozdon R; Ushikubo T; Kita NT; Spicuzza M; Valley JW (2009) Intratest oxygen isotope variability in planktonic foraminifera: New insights from in situ measurements by ion microprobe. doi:10.1016/j.chemgeo.2008.10.032, *Chem. Geol.*, **258**, 327-337.
241. Orland IJ, Bar-Matthews M, Kita NT, Ayalon A, Matthews A, Valley JW (2009) Climate deterioration in the eastern Mediterranean from 200 BC to 1100 AD as revealed by ion microprobe analysis of speleothems from Soreq Cave, Israel. *Quat. Res.*, 71: 27-35.
240. Lancaster PJ, Fu B, Page FZ, Kita NT, Bickford ME, Hill BM, McLelland JM, Valley JW (2009) Genesis of metapelitic migmatites in the Adirondack Mts., New York, *J Meta Geol*, 27: 41-54.
239. Jicha BR, Hart GL, Johnson CM, Hildreth W, Beard BL, Shirey SB, Valley JW (2009) Isotopic and Trace Element Constraints on the Petrogenesis of Lavas from the Mount Adams Volcanic Field, Washington. *Contr. Min. Petrol.* DOI 10.1007/s00410-008-0329-6, 157: 189-207.
- 2008**
238. Peck, WH, and Valley, JW (2008) Archean Environments, In: *Encyclopedia of Paleoclimatology and Ancient Environments* (V. Gornitz, ed.). Springer, Dordrecht, The Netherlands, p. 34-38.

## JOHN W. VALLEY

237. King EM, Trzaskus AP, Valley JW (2008) Oxygen isotope evidence for magmatic variability and multiple alteration events in the Proterozoic St. Francois Mountains, Missouri. *Precam. Res.*, 165: 49-60.
236. Steinitz, A, Katzir, Y, Valley, JW, Be'eri, Y, Spicuzza, MJ (2008) The origin, cooling and alteration of A-type granites in southern Israel (northernmost Arabian-Nubian Shield): a multi-mineral oxygen isotope study. *Geol. Mag.*, doi:10.1017/S0016756808005566.
235. Nasdala L, Hofmeister W, Norberg N, Mattinson J, Corfu F, Dorr W, Kamo S, Kennedy A, Kronz A, Reiners P, Frei D, Kosler J, Wan Y, Gotze J, Hager T, Kroner A, Valley JW (2008) Zircon M257- A homogeneous natural reference material for the ion microprobe U-Pb analysis of zircon. *Geostand Geoanal Res* 32: 247-265.
234. Spetsius, Z.V., Taylor, L.A., Valley, J.W., DeAngelis, M.T., Spicuzza, M., Ivanov, A.S., and Banzeruk, V. I., 2008. Diamondiferous xenoliths from crustal subduction: garnet oxygen isotopes from the Nyurbinskaya pipe, Yakutia. *Eur. Jour. Mineral.*, 20, 375-385.
233. Valley, J.W. (2008) The Origin of Habitats. *Geology*, 36:911-912.
232. Lackey JS, Valley JW, Chen JH, Stockli DF (2008) Dynamic Magma Systems, Crustal Recycling, and Alteration in the Central Sierra Nevada Batholith: The Oxygen Isotope Record. *J Petrol.* Doi:10.1093/petrology/egn030, 49:1397-1426.
231. Ushikubo T, Kita NT, Cavosie AJ, Wilde SA, Rudnick RL, and Valley JW (2008) Lithium in Jack Hills zircons: Evidence for extensive weathering of Earth's earliest crust. *Ear. Plan. Sci. Lett.*, 272: 666-676.
230. Nakamura T, Noguchi T, Tsuchiyama A, Ushikubo T, Kita NT, Valley JW, Zolensky ME, Kakazu Y, Sakamoto K, Mashio E, Uesugi K & Nakano T (2008) Chondrule-like objects in short-period comet 81P/Wild 2. *Science*, 321: 1664-1667.
229. Downes H, Mittlefehldt DW, Kita NT, Valley JW (2008) Evidence from polymict ureilite meteorites for a disrupted and re-accreted single ureilite parent asteroid gardened by several distinct impactors. *Geochim. Cosmochim. Acta*, 72:4825-4844.
228. Wilde SA, Valley JW, Kita NT, Cavosie AJ, Liu D (2008) SHRIMP U-Pb and CAMECA 1280 oxygen isotope results from ancient detrital zircons in the Caozhuang quartzite, Eastern Hebei, N. China Craton: Evidence for crustal reworking 3.8 Ga ago. *Am. J. Sci.* 308:185-199.
227. Fu B, Page FZ, Cavosie AJ, Fournelle J, Kita NT, Lackey JS, Wilde SA, Valley JW (2008) Ti-in-zircon thermometry: applications and limitations. *Contr. Min. Petrol.* 156:197-215.
226. Bindeman IN, Fu B, Kita NT, Valley JW (2008) Origin and evolution of silicic magmatism at Yellowstone based on Ion microprobe analysis of isotopically zoned zircons. *J Pet* 49: 163-193.
225. Moser DE, Bowman JR, Wooden J, Valley JW, Mazdab F, Kita N (2008) Creation of a Continent recorded in zircon zoning. *Geology* 36:239-242.
224. Valaas Hyslop E, Valley JW, Johnson CM, Beard BL (2008) The effects of metamorphism on O and Fe isotope compositions in the Biwabik Iron formation, northern Minnesota. *Contr Min Pet*, DOI 10.1007/s00410-007-0244-2, 155: 313-328.
- 2007**
223. Weidel BC, Ushikubo T, Carpenter, SR, Kita, NT, Cole, JJ, Kitchell, JF, Pace, ML, Valley, JW (2007) Diary of a bluegill (*Lempomis macrochirus*): daily  $\delta^{13}\text{C}$  and  $\delta^{18}\text{O}$  records in otoliths by ion microprobe. *Can J Fish Aquat Sci* 64: 1641-1645
222. Katzir Y, Litvinovsky BA, Jahn BM, Eyal M, Zanzivlevich AN, Valley JW, Vapnik Y, Beeri Y, Spicuzza MJ (2007) Interrelations between coeval mafic and A-type silicic magmas from composite dikes in bimodal suite of southern Israel. *Lithos* 97: 336-364.
221. Cavosie AJ, Valley JW, Wilde SA (2007) The oldest terrestrial mineral record: A review of 4400 to 4000 Ma detrital zircons from the Jack Hills, Western Australia. In: MJ van Kranendonk, RH Smithies, VC Bennett (eds). *Earth's Oldest Rocks*. *Devel Precam Geol* 15: 91-111.
220. Eiler JM, Schiano P, Valley JW, Kita NT, Stolper EM (2007) Oxygen-isotope and trace element constraints on the origins of silica-rich melts in the sub-arc mantle. *G<sup>3</sup>: Geochemistry Geophysics Geosystems*, v 8, #9, 21p, DOI:10.1029/2006GC001503.

## JOHN W. VALLEY

219. Kelly JL, Fu B, Kita NT, Valley JW (2007) Optically Continuous Silcrete Cements Of The St. Peter Sandstone: Oxygen Isotope Analysis By Ion Microprobe And Laser Fluorination. *Geochem. Cosmochim. Acta.* 71:3812-3832.
  218. Page FZ, Ushikubo T, Kita NT, Riciputi LR, Valley JW (2007) High precision oxygen isotope analysis of picogram samples reveals 2- $\mu$ m gradients and slow diffusion in zircon. *Am. Mineral.* 92:1772-1775.
  217. Katzir Y, Eyal M, Litvinovsky BA, Jahn BM, Zanzivilevich AN, Valley JW, Beeri Y, Pelly I, Shimshilashvili E (2007) Petrogenesis of A-type granites and origin of vertical zoning in the Katharina pluton, Gebel Musa (Mt Moses) area, Sinai, Egypt. *Lithos*, 95: 208-228
  216. Page FZ, Fu B, Kita NT, Fournelle J, Spicuzza MJ, Schulze DJ, Viljoen V, Basei MAS, Valley JW (2007) Zircon from kimberlites: New insights from oxygen isotopes, trace elements, and Ti in zircon thermometry. *Geochim. Cosmochim. Acta*, 71:3887-3903.
  215. King EM, Beard BL, Valley JW (2007) Strontium and oxygen isotopic evidence for strike/slip movement of accreted terranes in the Idaho Batholith. *Lithos*, 96:387-401.
  214. Desbois G, Ingrin J, Kita NT, Valley JW, And Deloule E (2007) New constraints on metamorphic history of Adirondack diopsides (NY, USA): Al and  $\delta^{18}\text{O}$  profiles. *Am. Mineral.* 93:453-459.
  213. Spicuzza MJ, Day JMD, Taylor LA, Valley JW (2007) Oxygen Isotope constraints on the origin and differentiation of the Moon. *Ear Plan Sci Lett* 253:254-265.
  212. Utsunomiya S, Valley JW, Cavosie AJ, Wilde SA, Ewing RC (2007) Radiation damage and alteration of zircon from a 3.3 Ga porphyritic granite from the Jack Hills, Western Australia. *Chem. Geol.* 236: 92-111.
- 2006**
211. Valley JW (2006) Uerde- Sauna oder Glutholle? *Spektrum der Wissenschaft.* p. 70-81.
  210. Bindeman IN, Schmidt AK, Valley JW (2006) U-Pb geochronology of silicic tuffs from Timber Mt./Oasis Valley caldera complex, Nevada: rapid generation of large volume magmas by shallow-level remelting. *Contr. Min. Pet.* 152:649-665.
  209. Cavosie AJ, Valley JW, Wilde SA, EIMF (2006) Correlated microanalysis of zircon: Trace element,  $\delta^{18}\text{O}$ , and U-Th-Pb isotopic constraints on the igneous origin of complex >3900 Ma detrital grains. *Geochim Cosmochim Acta* 70: 5601-5616.
  208. Valley JW (2006) Early Earth. *Elements* 2:201-204.
  207. Valley JW, Cavosie AJ, Fu B, Peck WH, Wilde SA (2006) Comment on "Heterogeneous Hadean Hafnium: Evidence of Continental Growth at 4.4 to 4.5 Ga". *Science* 312:1139a.
  206. Vogel TA, Patino LC, Eaton JK, Valley JW, Rose WI, Alvarado GE, Viray EL (2006) Origin of silicic magmas along the Central American volcanic front: Genetic relationship to mafic melts. *J Volcan. Geotherm. Res.* 156:217-228.
  205. Lackey JS, Valley JW, Hinke HJ (2006) Deciphering the source and contamination history of peraluminous magmas using  $\delta^{18}\text{O}$  of accessory minerals: examples from garnet bearing plutons of the Sierra Nevada batholith. *Contr. Mineral. Petrol.* 151: 20-44.
- 2005**
204. Taylor LA, Spetsius ZV, Wiesli R, Spicuzza M, Valley JW (2005) Diamondiferous peridotites from oceanic protoliths: Crustal signatures from Yakutian kimberlites. *Russian Geol. & Geophysics.* 46: 1198-1206.
  203. Lackey JS, Valley JW, Saleeby JB (2005) Supracrustal input to magmas in the deep crust of the sierra Nevada batholith: Evidence from high  $\delta^{18}\text{O}$  zircon. *Ear. Plan. Sci. Lett.* 235:315-330.
  202. Vielzeuf, D, Champenois M, Valley JW, Brunet F, Devidal JL (2005) SIMS analysis of oxygen isotopes: Matrix effects in Fe-Mg-Ca garnets. *Chem. Geol.* 223: 208-226.
  201. Goldstein, A., Selleck, B., Valley JW (2005) Pressure, temperature, and composition of syntectonic fluids in a low-grade metamorphic terrane. *Geology* 33: 421-424.
  200. Valley JW (2005) A Cool Early Earth? *Scientific American*, October 2005, 58-65.
  199. Valley JW, Lackey JS, Cavosie AJ, Clechenko CC, Spicuzza MJ, Basei MAS, Bindeman IN, Ferreira VP, Sial AN, King EM, Peck WH, Sinha AK, Wei CS (2005) 4.4 billion years



## JOHN W. VALLEY

of crustal maturation: Oxygen isotopes in magmatic zircon. *Contr. Mineral. Petrol.* 150:561-580.

198. Cavosie AJ, Valley, JW, Wilde, SA (2005) Magmatic  $\delta^{18}\text{O}$  in 4400-3900 Ma detrital zircons: A record of the alteration and recycling of crust in the Early Archean. *Ear. Plan. Sci. Lett.* 235:663-681.

### 2004

197. McLelland JM, Bickford ME, Hill BM, Clechenko CC, Valley JW, Hamilton MA (2004) Direct dating of Adirondack massif anorthosite by U-Pb SHRIMP analysis of igneous zircons: Implications for AMCG complexes. *Geol. Soc. Am. Bull.* 116: 1299-1317.
196. Utsunomiya S, Palenik CS, Valley JW, Cavosie AJ, Wilde SA, Ewing RC (2004) Nanoscale occurrence of Pb in an Archean zircon. *Geochim. Cosmochim. Acta.* 68:4679-4686.
195. Schulze DJ, Harte B, Valley JW, Channer DMD (2004) Evidence of subduction and crust-mantle mixing from a single diamond. *Lithos.* 77:349-358
194. Peck WH Valley JW (2004) Quartz-garnet thermometry in the Adirondack Highlands. *J Meta. Petrol* 22: 763-773.
193. Cavosie AJ, Wilde SA, Liu D, Valley JW, Weiblen PW (2004) Internal zoning and U-Th-Pb chemistry of the Jack Hills detrital zircons: a mineral record of early Archean to Mesoproterozoic (4348-1576 Ma) magmatism. *Precambrian Research*, 135:251-279.
192. Peck WH, Valley JW, Corriveau L, Davidson A, McLelland J, Farber DA (2004) Oxygen-isotope constraints on terrane boundaries and origin of 1.18-1.13 Ga granitoids in the southern Grenville Province. *Geol. Soc. Am. Mem.* 197: 163-182.
191. Wiedenbeck M, Hanchar JM, Peck WH, Sylvester P, Valley J, Whitehouse M, Kronz A, Morishita Y, Nasdala L (2004) Further characterization of the 91500 zircon crystal. *Geostandards and Geoanalytical Research* 28: 9-39.
190. Cole DR, Horita J, Polyakov VB, Valley JW, Spicuzza MJ, Coffey DW (2004) An experimental and theoretical determination of oxygen isotope fractionation in the system magnetite-H<sub>2</sub>O from 300 to 800°C. *Geochim Cosmochim Acta.* 68:3569-3585.
189. Bindeman IN, Ponomareva VV, Bailey JC, Valley JW (2004) Volcanic arc of Kamchatka: a province with high  $\delta^{18}\text{O}$  magma sources and large-scale  $^{18}\text{O}/^{16}\text{O}$  depletion of the upper crust. *Geochim. Cosmochim. Acta.* 68:841-865.
188. Black LP, Kamo SL, Allen CM, Davis DW, Aleinikoff JN, Valley JW, Mundil R, Campbell IH, Korsch RJ, Williams IS, Foudoulis C (2004) Improved  $^{206}\text{Pb}/^{238}\text{U}$  microprobe geochronology by the monitoring of a trace-element related matrix effect; SHRIMP, ID-TIMS, ELA-ICP-MS, and oxygen isotope documentation for a series of zircon standards. *Chemical Geology*, 205, 115-140.
187. King, EM, Valley, JW, Stockli, DF, and Wright, JE (2004) Oxygen isotope trends of granitic magmatism in the Great Basin: Location of the Precambrian boundary as reflected in zircons. *Geol. Soc. Am. Bull.* 116: 451-462.
186. Lackey, JS and Valley, JW (2004) Complex patterns of fluid flow during wollastonite formation in calcareous sandstones at Laurel Mountain, Mt. Morrison pendant, California. *Geol. Soc. Am. Bull.* 116: 76-93

### 2003

185. Bowman, J.R., Sisson, V.B., Valley, J.W., and Pavlis, T.L., 2003, Oxygen isotope constraints on fluid infiltration associated with high temperature--low pressure metamorphism (Chugach Metamorphic Complex) within the Eocene southern Alaska fore-arc: *Geological Society of America Special paper* 371, p. 237-252.
184. Clechenko, CC and Valley, JW (2003) Oscillatory zoning in garnet from Willsboro wollastonite skarn, Adirondack Mts, NY: a record of shallow hydrothermal processes preserved in a granulite facies terrane. *J Meta. Geol.* 21: 771-784.
183. Ferreira, VP, Valley, JW, Sial, AN, Spicuzza, MJ (2003) Oxygen isotope compositions and magmatic epidote from two contrasting metaluminous granitoids, NE Brazil. *Contr. Min. Pet.* 145: 205-216.

## JOHN W. VALLEY

182. Taylor, LA, Snyder, GA, Keller, R, Remley, DA, Anand, M, Wiesli, R, Valley, J and Sobolev, NV (2003) petrogenesis of group A eclogites and websterites; evidence from the Obnazhennaya kimberlite, Yakutia. *Contr. Mineral. Petrol.* 145: 424-443.
181. DeStasio, G, Frazer, BH, Gilbert, B, Richter, KL, and Valley, JW (2003) Compensation of charging in X-PEEM: a successful test on mineral inclusions in a 4.4 Ga old zircon. *Ultramicroscopy* 98:57-62.
180. Schoeninger, MJ, Hallin, K, Valley, JW and Fournelle, J (2003) Isotopic alteration of mammalian tooth enamel. *Intl. J Osteoarcheology* 13: 11-19.
179. Schulze, DJ, Valley, JW, Spicuzza, MJ, and Channer, DMDR (2003) Oxygen isotope composition of peridotitic garnet xenocrysts from the La Ceniza kimberlite, Guaniamo, Venezuela. *Intl. Geol. Rev.* 45: 968-975.
178. Valley, JW (2003) Oxygen isotopes in zircon. In: Hanchar, JM and Hoskin, PWO (eds) *Zircon. Rev. Mineral. Geochem.* 53: 343-385.
177. Valley, JW, Bindeman, IN, Peck, WH (2003) Empirical calibration of oxygen isotope fractionation in zircon (2003) *Geochim. Cosmochim. Acta* 67: 3257-3266.
176. Peck, WH, Valley, JW, Graham, CM (2003) Slow oxygen diffusion rates in igneous zircons from metamorphic rocks. *Am. Mineral.* 88: 1003-1014.
175. Bindeman, IN, Valley, JW (2003) Rapid generation of high- and low-  $\delta^{18}\text{O}$ , in large-volume silicic magmas at the Timber Mountain/oasis Valley caldera complex, Nevada. *GSA Bulletin* 115: 581-595.
174. Schulze, DJ, Harte, B, Valley, JW, Brenan, JM, Channer, DMR (2003) Extreme crustal oxygen isotope signatures preserved in coesite in diamond. *Nature* 423: 68-70.
173. Valley, JW (2003) Presentation of the Mineralogical Society of America Award for 2002 to John M. Eiler. *Am. Mineral.* 88: 940-941.
172. Gilbert, B, Frazer, BH, Naar, F, Fournelle, J, Valley, JW, De Stasio, G (2003) X-ray absorption spectroscopy of silicates for in situ, sub micrometer mineral identification. *Am. Mineral.* 88: 763-769.
- 2002**
171. Skelton, A, Annersten, H, Valley, JW (2002)  $\delta^{18}\text{O}$  and yttrium zoning in garnet: time markers for fluid flow? *J Meta Geol* 20: 457-466.
170. Bindeman, IN, Valley, JW (2002) Oxygen isotope study of the Long Valley magma system, California: isotope thermometry and convection in large silicic magma bodies. *Contr Min Petrol* 144: 185-205.
169. Clechenko, CC, Valley, JW, McLelland, J (2002) Timing and depth of intrusion of the Marcy anorthosite massif: Implications from field relations, geochronology, and geochemistry at Woolen Mill, Jay Covered Bridge, Split Rock Falls, and the Oak Hill Wollastonite Mine. *New England Intercol. Geol. Conf./ NY State Geol. Assoc.*, C1-1 – C1-17.
168. Barth, MG, Rudnick, RL, Horn, I, McDonough WF, Spicuzza MJ, Valley, JW, Haggerty SE (2002) Geochemistry of xenolithic eclogites from W Africa, part 2: origins of high MgO eclogites. *Geochim Cosmochim Acta* 66: 4325-4345.
167. Katzir, Y, Valley, JW, Matthews, A, Spicuzza, MJ (2002) Tracking fluid flow during deep crustal anatexis: metasomatism of peridotites (Naxos, Greece). *Contr. Mineral. Petrol.* 142: 700-713.
166. Bindeman, IN, Vinogradov, VI, Valley, JW, Wooden, JL, Natal'in, BA (2002) Archean protolith and accretion of crust in Kamchatka: SHRIMP dating of zircons from Sredinny and Ganal massifs. *J. Geol.* 110: 271-289.
165. Putlitz, B, Valley, JW, Matthews, A, Katzir, Y (2002) Oxygen isotope thermometry of quartz  $\text{Al}_2\text{SiO}_5$  veins in high-grade metamorphic rocks on Naxos island, Greece. *Contr. Mineral. Petrol.* 143: 350-359.
164. Johnson, EA, Rossman, GR, Dyar, MD, Valley, JW (2002) Correlation between OH concentration and oxygen isotope diffusion rate in diopsides from the Adirondack Mountains, NY. *Amer. Mineral.* 87: 899-908.
163. Valley, JW, Peck, WH, King, EM, Wilde, SA (2002) A cool early Earth. *Geology* 30: 351-354.

## JOHN W. VALLEY

162. Eiler, JM, Valley, JW, Graham, CM, Fournelle, J (2002) Two populations of carbonate in ALH84001: Geochemical evidence for discrimination and genesis. *Geochim. Cosmochim. Acta* 66:1285-1303.
161. Wei, CS, Zheng, YF, Zhao, ZF, Valley, JW (2002) Oxygen and neodymium isotope evidence for recycling of juvenile crust in Northeast China. *Geology* 30: 375-378
- 2001**
160. Schulze, DJ, Valley, JW, Bell, DR, Spicuzza, MJ (2001) Oxygen isotope variations in Cr-poor megacrysts from kimberlite. *Geochim. Cosmochim. Acta* 65: 4375-4384
159. Putlitz, B, Katzir, Y, Matthews, A, Valley, JW (2001) Oceanic and orogenic fluid-rock interaction in  $^{18}\text{O}/^{16}\text{O}$ -enriched metagabbros of an ophiolite (Tinos, Cyclades). *Earth and Plan. Sci. Letts.* 193: 99-113.
158. Baumgartner LP, Valley JW (2001) Stable Isotope Transport and contact Metamorphic Fluid Flow: In: Valley JW and Cole DR (eds) *Stable Isotope Geochemistry, Reviews In Mineralogy and Geochemistry*, vol. 43, p. 415-468.
157. Valley JW (2001) Stable Isotope Thermometry at High Temperatures: In: Valley JW and Cole DR (eds). *Stable Isotope Geochemistry, Reviews In Mineralogy and Geochemistry*, vol. 43, p. 365-414.
156. King EM, Valley JW (2001) Source, magmatic contamination, and alteration of the Idaho batholith. *Contrib. Mineral Petrol.* (2001) 142: 72-88.
155. Bindeman IL, Fournelle JH, Valley JW (2001) Low- $\delta^{18}\text{O}$  tephra from a compositionally zoned magma body: Fisher caldera, Unimak Island, Aleutians. *J. Volcan. Geotherm. Res.* 111:35-53.
154. Barth, MG, Rudnick RL, Horn I, McDonough WF, Spicuzza MJ, Valley JW, Haggerty, SE (2001) Geochemistry of Xenolithic eclogites from W Africa, Part 1: a link between low MgO eclogites And Archean crust formation. *Geochim. Cosmochim. Acta* 65:1499-1527.
153. Peck, W.H., Valley, J.W., Wilde, S.A., Graham, C.M. (2001) Oxygen isotope ratios and rare earth elements in 3.3 to 4.4 Ga zircons: Ion microprobe evidence for high  $\delta^{18}\text{O}$  continental crust and oceans in the Early Archean. *Geochim. Cosmochim. Acta.* 65; 4215-4229
152. McLelland, J.M., Valley, J.W., Essene, E.J. (2001) Very high temperature, moderate pressure metamorphism in the New Russia gneiss complex, metamorphic aureole to the Marcy anorthosite: Discussion. *Can. J. Ear. Sci.* 38: 465-470.
151. King, E.M., Valley, J.W., Davis, D.W. Kowalis, B.J. (2001) Empirical determination of oxygen isotope fractionation factors for titanite with respect to zircon and quartz. *Geochimica et Cosmochimica Acta* 65:3165-3175.
150. Bindeman, I.N, Valley, J.W. (2001) Low  $\delta^{18}\text{O}$  rhyolites from Yellowstone: magmatic evolution based on analysis of zircons and individual phenocrysts. *J. Petrol.* 42:1491-1517.
149. Bindeman, I.N., Valley, J.W., Wooden, J.L., Persing, H.M. (2001) Post-caldera volcanism: in situ measurement of U-Pb age and oxygen isotope ratio in Pleistocene zircons from Yellowstone caldera. *Earth and Planetary Science Letters* 189:197-206.
148. Wei, C.S., Zheng, Y., Zhao, Z., Valley, J.W. (2001) Oxygen isotope Evidence for two-stage water-rock interactions of the Nianzishan a-type granite in NE China. *Chinese Sci. Bull.* 46: 727 731.
147. Wiesli, R.A., Taylor, L.A., Valley, J.W., Tromsdorff, V, Kurosawa, M (2001) Geochemistry of Eclogites and Metapelites from Trescolmen, Central Alps, as Observed from Trace Elements and Oxygen isotopes. *Int. Geol. Rev.*43: 95-119.
146. Monani, S, Valley JW. (2001) Oxygen isotope ratio of zircon: magma genesis of low  $\delta^{18}\text{O}$  granites from the British Tertiary Igneous Province, western Scotland. *Earth and Planetary Science Letters*, 184, 377-392.
145. Wilde, S.A., Valley, J.W., Peck, W.H., and Graham, C.M. (2001) Evidence from detrital zircons for the Existence of continental crust and oceans on the Earth 4.4 Gyr ago. *Nature*, 409, 175-178.
- 2000**
144. Schoeninger, M.J., Kohn, M.J. and Valley, J.W. (2000) Tooth oxygen isotope ratios as paleoclimate Monitors in Arid Ecosystems. In: Ambrose and Katzenberg (eds) *Biogeochemical Approaches to Paleodiet Analysis*, Kluwer, 117-140.

## JOHN W. VALLEY

143. Schulze, D.J., Valley, J.W., and Spicuzza, M.J. (2000) Coesite eclogites from the Roberts Victor kimberlite, South Africa. *Lithos*, 54, 23-32.
142. Peck, W.H., King, E.M., and Valley, J.W. (2000) Oxygen isotope perspective on Precambrian crustal growth and maturation. *Geology*, 28, 4, 363-366.
141. Peck, W.H. and Valley, J.W. (2000) Genesis of cordierite-gedrite gneisses, central metasedimentary belt boundary thrust zone, Grenville Province, Ontario, Canada. *The Canadian Mineralogist*, 38, 511-524.
140. Eiler, J.M., Crawford, A., Elliott, T., Farley, K.A., Valley, J.W., and Stolper, E.M. (2000) Oxygen Isotope Geochemistry of Oceanic-Arc Lavas. *Journal of Petrology*, 41, 2, 229-256.
139. Skelton, A.D.L., Valley, J.W., Graham, C.M., Bickle, M.J., and Fallick, A.E. (2000) The correlation of reaction and isotope fronts and the mechanism of metamorphic fluid flow. *Contrib. Mineral. Petrol.*, 138, 364-375.
138. Peck, W.H. and Valley, J.W. (2000) Large crustal input to high  $\delta^{18}\text{O}$  anorthosite massifs of the southern Grenville Province: New evidence from the Morin Complex, Quebec. *Contrib. Mineral. Petrol.*, 139, 402-417.
137. Bindeman, I.N. and Valley, J.W. (2000) Formation of low- $\delta^{18}\text{O}$  rhyolites after caldera collapse at Yellowstone, Wyoming, USA. *Geology*, 28, 719-722.
136. Skelton, A.D.L., and Valley, J.W. (2000) The relative timing of serpentinisation and mantle exhumation at the ocean-continent transition, Iberia: Constraints from oxygen isotopes. *Earth and Planetary Science Letters*, 178, 327-338.
135. Yardley, B.W.D. and Valley, J.W. (2000) Reply: The Petrologic Case for a Dry Lower Crust. *Journal of Geophysical Research*, 105, B3, 6065-6068.
134. Putlitz, B., Matthews, A., and Valley, J.W. (2000) Oxygen and hydrogen isotope study of high-pressure metagabbros and metabasalts (Cyclades, Greece): Implications for the subduction of oceanic crust. *Contrib. Mineral. Petrol.*, 138, 114-126.
133. Sitzman, S.D., Banfield, J.F., and Valley, J.W. (2000) Microstructural characterization of metamorphic magnetite crystals with implications for oxygen isotope distribution. *American Mineralogist*, 85, 14-21.
132. King, E.M., Valley, J.W., and Davis, D.W. (2000) Oxygen isotope evolution of volcanic rocks at the Sturgeon Lake volcanic complex, Ontario. *Can. J. Earth Sci.*, 37, 39-50.
- 1999**
131. Roselle, G.T., Baumgartner, L.P., and Valley, J.W. (1999) Stable Isotope Evidence of Heterogeneous Fluid Infiltration at the Ubehebe Peak Contact Aureole, Death Valley National Park, California. *American Journal of Science*, 299, 93-138.
130. Upton, B.G.J., Hinton, R.W., Aspen, P., Finch, A., and Valley, J.W. (1999) Megacrysts and Associated Xenoliths: Evidence for Migration of Geochemically Enriched Melts in the Upper Mantle beneath Scotland. *Journal of Petrology*, 40, 6, 935-956.
129. Gerdes, M.L., Baumgartner, L.P., and Valley, J.W. (1999) Stable isotopic evidence for limited fluid flow through Dolomitic Marble in the Adamello Contact Aureole, Cima Uzza, Italy. *Journal of Petrology*, 40, 6, 853-872.
- 1998**
128. Smith, M.P., Savary, V., Yardley, B.W.D., Valley, J.W., Royer, J.J., and Dubois, M. (1998) The evolution of the deep flow regime at Soultz-sous-Forêts, Rhine Graben, eastern France: Evidence from a composite quartz vein. *Journal of Geophysical Research*, 103, B11, 27, 223-237.
127. Kohn, M.J., Schoeninger, M.J., and Valley, J.W. (1998) Variability in oxygen isotope compositions of herbivore teeth: Reflections of seasonality or developmental physiology? *Chemical Geology*, 152, 97-112.
126. King, E.M., Valley, J.W., Davis, D.W., and Edwards, G.R. (1998) Oxygen isotope ratios of Archean plutonic zircons from granite-greenstone belts of the Superior Province; Indicator of magmatic source. *Precambrian Research*, 92, 4, 365-387.
125. Valley, J.W., Kinny, P.D., Schulze, D.J. & Spicuzza, M.J. (1998) Zircon Megacrysts from Kimberlite: Oxygen isotope heterogeneity among mantle melts. *Contrib. Mineral. Petrol.*, 133, 1-11.
124. Kohn, M.J. and Valley, J.W. (1998) Obtaining equilibrium oxygen isotope fractionations from rocks: theory and examples. *Contrib. Mineral. Petrol.* 132, 209-224.

## JOHN W. VALLEY

123. Graham, C.M., Valley, J.W., Eiler, J.M., and Wada H. (1998) Timescales and mechanisms of fluid infiltration in a marble: an ion microprobe study. *Contrib. Mineral Petrol.*, 132, 371-389.
  122. Kohn MJ & Valley JW (1998) Oxygen isotope geochemistry of the amphiboles: Isotope effects of cation substitutions in minerals. *Geochim Cosmochim Acta*, 62, 11, 1947-1958.
  121. Kohn MJ & Valley JW (1998) Effects of cation substitutions in garnet and pyroxene on equilibrium oxygen isotope fractionations. *J. Metamorphic Geol.*, 16, 625-639.
  120. Valley, J. W., Graham, C. M., Harte, B., Kinny, P., and Eiler, J. M. (1998) Ion microprobe analysis of oxygen, carbon, and hydrogen isotope ratios. In: McKibben, M.A., et al. (eds), *Soc. Econ. Geol. Rev. in Econ. Geol.* 7, 73-98.
  119. King, E. M., Barrie, C. T., and Valley, J. W. (1998) Hydrothermal alteration of oxygen isotope ratios in quartz phenocrysts, Kidd Creek mine, Ontario: Magmatic values preserved in zircons: Comment and Reply. *Geology*, 763-764.
  118. Eiler, J. M., McInnes, B., Valley, J. W., Graham, C. M., and Stolper, E. M. (1998) Oxygen isotope evidence for slab-derived fluids in the sub-arc mantle. *Nature*, 393, 777-781.
  117. Ghent, E. D. and Valley, J. W. (1998) Oxygen isotope study of quartz-Al<sub>2</sub>SiO<sub>5</sub> pairs from the Mica Creek area, British Columbia: implications for the recovery of peak metamorphic temperatures. *J. Metamorphic Geol.* 16, 223-230.
  116. Edwards, K. J. and Valley, J. W. (1998) Oxygen isotope diffusion and zoning in diopside: The importance of water fugacity during cooling. *Geochim. Cosmochim. Acta*, 62, 2265-2277.
  115. Spicuzza, M. J., Valley, J. W., Kohn, M. J., Girard, J. P., and Fouillac, A. M. (1998) The rapid heating, defocused beam technique: A CO<sub>2</sub>-laser based method for highly precise and accurate determination of  $\delta^{18}\text{O}$  values of quartz. *Chemical Geology*, 144, 195-203.
- 1997**
114. Eiler, J. M., Valley, J. W., and Graham, C. M. (1997) Oxygen and carbon isotope analysis by SIMS: A case study of the Martian Meteorite ALH84001. In: Gillen, G., Larean, R., Bennett, J., and Stevie, F. (eds.) *SIMS XI Meeting*, Wiley, NY, 47-50.
  113. Buseck, P. R., Galdobina, L. P., Kovalevski, V. V., Rozhkova, N. N., Valley, J. W., and Zaidenberg, A. Z. (1997) Shungites: C-rich rocks of Karelia, Russia. *Canadian Mineralogist*, 35, 1363-1378.
  112. Reeder, R. J., Valley, J. W., Graham, C. M., and Eiler, J. M. (1997) Ion microprobe study of oxygen isotopic compositions of structurally nonequivalent growth surfaces on synthetic calcite. *Geochim. Cosmochim. Acta*, 61, 5057-5063.
  111. Gilliam, C. E. and Valley, J. W. (1997) Low  $\delta^{18}\text{O}$  magma, Isle of Skye, Scotland: Evidence from Zircons. *Geochim. Cosmochim. Acta*, 61, 4975-4981.
  110. King, E. M., Barrie, C. T., and Valley, J. W. (1997) Hydrothermal alteration of oxygen isotope ratios in quartz phenocrysts, Kidd Creek mine, Ontario: Magmatic values are preserved in zircon. *Geology*, 25, 1079-1082.
  109. Schulze, D. J., Valley, J. W., Viljoen, K. S., Stiefenhofer, and Spicuzza, M. (1997) Carbon isotope composition of graphite in mantle eclogites. *Jour. Geol.*, 105, 379-386.
  108. Schedl, A., Fullagar, P. D., and Valley, J. W. (1997) Implications of geochemical and gravity data for the nature of strata beneath the Blue Ridge-Piedmont thrust sheet, USA. *Earth Planet. Sci.* 146, 165-179.
  107. Kohn, M. J., Spear, F. S., and Valley, J. W. (1997) Dehydration-Melting and Fluid Recycling during Metamorphism: Rangeley Formation, New Hampshire, USA. *Jour. Petrol.*, 38, 9, 1255-1277.
  106. Eiler, J. M., Graham, C., and Valley, J. W. (1997) SIMS analysis of oxygen isotopes: matrix effects in complex minerals and glasses. *Chemical Geol.* 138, 221-244.
  105. Zhang, C., Liu, S., Phelps, T. J., Cole, D. R., Horita, J., Fortier, S. M., Elless, M., and Valley, J. W. (1997) Physicochemical, mineralogical, and isotopic characterization of magnetite-rich iron oxides formed by thermophilic iron-reducing bacteria. *Geochim. Cosmochim. Acta*, 61: 4621- 4632.
  104. Eiler, J. M., Farley, K. A., Valley, J. W., Hauri, E., Craig, H., Hart, S. R., and Stolper, E.M. (1997) Oxygen isotope variations in Ocean Island Basalts. *Geochim. Cosmochim. Acta*, 61, 2281-2293.

## JOHN W. VALLEY

103. Yardley, B. W. D. and Valley, J. W. (1997) The petrologic case for a dry lower crust. *J. Geophys. Res.*, 102: 12173-12185.
102. McConnell, V. S., Valley, J. W., and Eichelberger, J. C., (1997) Oxygen isotope compositions of intracaldera rocks: Hydrothermal history of the Long Valley Caldera, California. *Jour. Vol. Geotherm. Res.*, 76, 83-109.
101. Valley, J. W., Eiler, J. M., Graham, C. M., Gibson, E. K., Romanek, C. S., and Stolper, E. M. (1997) Low temperature carbonates in the Martian meteorite, ALH84001. *Science*, 275, 1633-1638.

### 1996

100. Eiler, J. M., Farley, K. A., Valley, J. W., Hofmann, A., and Stolper, E. M. (1996) Oxygen Isotope constraints on the sources of Hawaiian volcanism, *Earth. Planet. Sci. Letts.*, v. 144, 453-468.
99. Graham, C. M., Valley, J. W., and Winter, B. L. (1996) Ion microprobe analysis of  $^{18}\text{O}/^{16}\text{O}$  in authigenic and detrital quartz in St. Peter sandstone, Michigan Basin and Wisconsin Arch, USA: Contrasting diagenetic histories. *Geochim. Cosmochim. Acta*, 24. 5101-5116.
98. Kohn, M. J., Schoeninger, M. J., and Valley, J. W., (1996) Herbivore tooth oxygen isotope compositions: Effects of diet and physiology. *Geochim. Cosmochim. Acta*, 60, 3889-3896.
97. Van Wyck, N., Valley, J. W., and Austrheim, H. (1996) Oxygen and carbon isotopic constraints on the development of eclogites, Holsnøy, Norway. *Lithos*, v. 38, 129-145.
96. Peck, W. H. and Valley, J. W. (1996) The Fiskenaesset Anorthosite Complex: Stable isotope evidence for shallow emplacement into Archean ocean crust. *Geology*, v. 24, n. 6, 523-526.
95. Eiler, J. M., Valley, J. W., and Stolper, E. M. (1996) Oxygen isotope ratios in olivine from the Hawaii scientific drilling project. *Jour. Geophys. Res.*, v. 101, n. B5, 11807-11813.
94. Valley, J. W. and Graham, C. M. (1996) Ion microprobe analysis of oxygen isotope ratios in quartz from Skye granite: healed micro-cracks, fluid flow, and hydro-thermal exchange. *Contr. Mineral. Petrol.*, 124, 3/4, 225-234
93. Dunn, S. R. and Valley, J. W. (1996) Polymetamorphic fluid-rock interaction, the Tudor gabbro and adjacent marble, Ontario. *Amer. Jour. Science*, v. 296, 244-295.

### 1995

92. Bol, L. C. G., Nijland, T. G., Sauter, P. C. C., Jansen, J. B. II, and Valley, J. W. (1995) Preservation of premetamorphic oxygen and carbon isotopic trends in granulite facies marbles from Rogaland, southwest Norway. *Amer. Jour. Science* v. 295, 1179-1219.
91. Safonov, O. G., Valley, J. W., and Perchuk, L. L. (1995) Isotopic and chemical composition of coexisting minerals in the metagabbro of the highland series, Sri Lanka: P-T interpretation. *Petrology* v. 3, n. 5, 478-486.
90. Medaris, L. G., Beard, B. L., Johnson, C. M., Valley, J. W., Spicuzza, M. J. and Misar, Z. (1995) Garnet pyroxenite and eclogite in the Bohemian Massif: geochemical evidence for Variscan recycling of subducted lithosphere. *Geol. Rundsch.* 84, 489-505.
89. Eiler, J. M., Farley, K. A., Valley, J. W., Stolper, E. M., Hauri, E. H., and Craig, H. (1995) Oxygen isotope evidence against bulk recycled sediment in mantle sources of Pitcairn Island lavas. *Nature* 377, 138-141.
88. Eiler, J. M., Valley, J. W., Graham, C. M., and Baumgartner, L. P. (1995) The Oxygen Isotope Anatomy of a Slowly Cooled Metamorphic Rock. *Amer. Mineral.* 80, 757-764.
87. Winter, B. L., Johnson, C. M., Simo, J. A., and Valley, J. W. (1995) Paleozoic Fluid History of the Michigan Basin: Evidence from Dolomite Geochemistry in the Middle Ordovician St. Peter Sandstone. *Jour. Sediment. Research* A65, n. 2, 306-320
86. Valley, J. W., Kitchen, N. E., Kohn, M. J., Niendorf, C. R., and Spicuzza, M. J. (1995) UWG-2, A Garnet Standard for Oxygen Isotope Ratio: Strategies for High Precision and Accuracy with Laser Heating. *Geochim. Cosmochim. Acta* 59, 5223-5231.
85. Kitchen, N. E. and Valley, J. W. (1995) Carbon isotope thermometry in marbles of the Adirondack Mountains, New York. *Jour. Meta. Geol.* 13, 577-594
84. Fortier, S. M., Cole, D. R., Wesolowski, D. J., Riciputi, L. R., Paterson, B. A., Valley, J. W., and Horita, J. (1995) Determination of the magnetite - water equilibrium oxygen isotope

## JOHN W. VALLEY

fractionation factor At 350°C: A comparison of ion microprobe and laser fluorination techniques. *Geochim. Cosmochim. Acta* 59, 3871-3875

83. Eiler, J. M., Valley, J. W., Graham, C. M., and Baumgartner, L. P. (1995) Ion Microprobe Evidence for the Mechanisms of Stable-Isotope Retrogression in High-Grade Metamorphic Rocks. *Contr. Mineral. Petrol.* 118, 365-378.
82. Winter, B. L., Valley, J. W., Simo, A., Nadon, G. C., and Johnson, C. M. (1995) Hydraulic Seals Their Origin: Evidence from the Stable Isotope Geochemistry of Dolomites in the Middle Ordovician St. Peter Sandstone, Michigan Basin. *AAPG Bull.* 79, n. 1, 30-48.

### 1994

81. Drzewiecki, P. E., Simo, J. A., Brown, P. E., Castrogiovanni, E., Nadon, G. C., Sheppard, L., Valley, J.W., Vandrey, M. R., Winter, B., and Barnes, D., (1994) Diagenesis, Diagenetic Banding, and Porosity evolution of Middle Ordovician St. Peter Sandstone and Glenwood Formations in the Michigan Basin. In: P. Ortoleva (ed.) *Basin Compartments and Seals*, *Am. Assoc. Petrol Geol. Mem.* 61, 179-199.
80. Eiler, J. M. and Valley, J. W. (1994) Preservation of Pre-metamorphic Oxygen Isotope Ratios in Granitic Orthogneiss from the Adirondack Mts., N.Y. *Geochim. Cosmochim. Acta* 58, 5525-5535.
79. Kohn, M. J. and Valley, J. W. (1994) Oxygen Isotope Constraints on Metamorphic Fluid Flow, Townshend Dam, Vermont, USA. *Geochim. Cosmochim. Acta* 58, 5551-5566.
78. Valley, J. W., Chiarenzelli, J., and McLelland, J. M. (1994) Oxygen Isotope Geochemistry of Zircon. *Earth Planet. Sci. Lett.* 126, 187-206.
77. Eiler, J. M., Baumgartner, L. P., and Valley, J. W. (1994) Fast Grain Boundary: A Fortran-77 Program for Calculating the Effects of Retrograde Interdiffusion of Stable Isotopes. *Computers & Geosciences* 20, n. 10, 1415-1434.
76. Moecher, D. P., Valley, J. W., and Essene, E. J. (1994) Extraction and Carbon Isotope Analysis of CO<sub>2</sub> from Scapolite in Deep Crustal Granulites and Xenoliths. *Geochim. Cosmochim. Acta* 58, 2, 959-967.
75. Simo, J. A., Johnson, C. M., Vandrey, M. R., Brown, P. E., Castrogiovanni, E., Drzewiecki, P., Valley, J.W., and Boyer, J. (1994) Burial dolomitization of the middle Ordovician Glenwood Fm. by Evaporite brines, Michigan Basin. In: Purser, Tucker and Zenger (eds.) *Int. Assoc. of Sed. Sp. Pub.* 21, 169-186.
74. Gerdes, M. L. and Valley, J. W. (1994) Fluid Flow and Mass Transport at the Valentine Wollastonite Deposit, Adirondack Mountains, N.Y. *Jour. Meta. Geol.* 12, 589-608.
73. Yardley, B. W. D. and Valley, J. W. (1994) How wet is the Earth's crust? *Nature* 371, 205-206.

### 1993

72. Valley, J. W. (1993) Granulites: Melts and fluids in the deep crust. In: B.P. Radhakrishna (ed.), *Continental Crust of South India*. *Geol. Soc. India, Bangalore*, p. 301-302.
71. Elsenheimer, D. and Valley, J. W. (1993) Sub-millimeter Scale Zonation of  $\delta^{18}\text{O}$  in Quartz and Feldspar, Isle of Skye, Scotland. *Geochim. Cosmochim. Acta* 57, 3669-3676.
70. Kohn, M. J., Valley, J. W., Elsenheimer, D., and Spicuzza, M. (1993) Oxygen Isotope Zoning in Garnet and Staurolite: Evidence for Closed System Mineral Growth During Regional Metamorphism. *Amer. Mineral.* 78, 988-1001.
69. Vennemann, T. W., Muntean, J. L., Kesler, S. E., O'Neil, J. R., Valley, J. W., and Russell, N. (1993) Stable isotope evidence for magmatic fluids in the Pueblo Viejo epithermal acid-sulfate Au-Ag deposit, Dominican Republic. *Econ. Geol.* 88, 55-71.
68. Eiler, J. M., Valley, J. W., and Baumgartner, L. P. (1993) A new look at stable isotope thermometry. *Geochim. Cosmochim. Acta* 57, 2571-2583.
67. Valley, J. W. and Graham, C. M. (1993) Cryptic Grain-Scale Heterogeneity of Oxygen Isotope Ratios in Metamorphic Magnetite. *Science* 259, 1729-1733.
66. Cartwright, I., Valley, J. W., and Hazelwood, A. M. (1993) Resetting of oxy-barometers and oxygen isotope ratios in granulite facies orthogneisses during cooling and shearing, Adirondack Mts., N.Y. *Contrib. Mineral. Petrol.* 113, 208-225.

### 1992

65. Crowe, D. E., Nelson, S., Brown, P. E., Shanks, W. C., and Valley, J. W. (1992) Geology and geochemistry of volcanogenic massive sulfide deposits and related igneous rocks, Prince William Sound, S. Central Alaska. *Econ. Geol.* 87, 1722-1746.

## JOHN W. VALLEY

64. Srikantappa, C. and Valley, J. W. (1992) Oxygen and carbon isotopic composition of Pre Cambrian carbonates from Karnataka and Tamil Nadu, India. *J Geol Soc India* 40, 341-346.
  63. Moecher, D. P., Essene, E. J., and Valley, J. W. (1992) Stable Isotopic and Petrologic Constraints on Scapolitization on the Whitestone Anorthosite, Grenville Province, Ontario. *Jour. Meta. Geol.* 10, 745-762.
  62. Eiler, J. M., Baumgartner, L. P., and Valley, J. W. (1992) Intercrystalline stable isotope diffusion: A fast grain boundary model. *Contrib. Mineral. Petrol.* 112, 543-557.
  61. Cartwright, I. and Valley, J. W. (1992) Oxygen isotope geochemistry of the Scourian Complex, NW Scotland. *Journal of the Geological Society, London* 149, 115-126.
  60. Bohlen, S. R., McLelland, J., Valley, JW, and Chiarenzelli, J. (1992) Petrology and geochronology of the Adirondack Mountains, *Int. Geol. Correlation Proj.* 304, 125 pp.
  59. Valley, J. W. (1992) Granulite formation is driven by magmatic processes in the deep crust. *Earth Science Reviews* 32, 145-146.
  58. Schedl, A., McCabe, C., Montañez, Fullagar, P. D., and Valley, J. W. (1992) Alleghenian regional diagenesis: A response to the migration of modified metamorphic fluids derived from beneath the Blue Ridge-Piedmont thrust sheet. *Jour. Geol.* 100, 339-352.
  57. Graham, C. M. and Valley, J. W. (1992) Sulphur isotope analysis of pyrites. *Chemical Geology/ Isotope Geoscience* 101, 173-176.
  56. Valley, J. W. and Graham, C. M. (1992) Oxygen isotope measurement of magnetites. *Chemical Geology/Isotope Geoscience* 101, 173-176.
  55. Crowe, D. E. and Valley, J. W. (1992) Laser microprobe study of sulfur isotope variation in a seafloor hydrothermal spire, Axial Seamount, Juan de Fuca Ridge, E. Pacific. *Chemical Geology/Isotope Geoscience* 101, 63-70.
  54. Elsenheimer, D. and Valley, J. W. (1992) In situ oxygen isotope analysis of feldspar and quartz by Nd YAG laser microprobe. *Chemical Geology/Isotope Geoscience* 101, 21-42.
  53. Dunn, S. R. and Valley, J. W. (1992) Calcite-graphite isotope thermometry: A test for polymetamorphism in marble, Tudor Gabbro aureole, Ontario. *Jour. Meta. Geol.* 10, 487-501.
- 1991**
52. Cartwright, I. and Valley, J. W. (1991) Steep oxygen isotope gradients at marble-metagranite contacts in the NW Adirondack Mts., N.Y. *Earth. Planet. Sci. Letts.* 107, 148-163.
  51. Valley, J. W. and Graham, C. M. (1991) Ion microprobe analysis of oxygen isotope ratios in metamorphic magnetite- diffusive reequilibration and implications for thermal history. *Contr. Mineral. Petrol.* 109, 38-52.
  50. Morrison, J. and Valley, J. W. (1991) Retrograde fluids in granulites: stable isotope evidence of fluid migration. *Jour. Geol.* 99, 559-570.
  49. Cartwright, I. and Valley, J. W. (1991) Low-<sup>18</sup>O Scourie dike magmas from the Lewisian Complex, northwestern Scotland. *Geology* 19, 578-581.
  48. Mora, C. I. and Valley, J. W. (1991) Prograde and retrograde fluid-rock interaction in calc-silicates northwest of the Idaho Batholith: stable isotopic evidence. *Contr. Mineral. Petrol.* 108, 162-174.
  47. Lamb, W. M., Brown, P. E., and Valley, J. W. (1991) Fluid inclusions in Adirondack granulites: Implications for the retrograde P-T path. *Contr. Mineral. Petrol.* 107, 472-483.
- 1990**
46. Komor, S. and Valley, J. W. (1990) Oxygen isotope geochemistry of granite from the Siljan Ring Impact Structure, Sweden. *Contr. Mineral. Petrol.* 105, 516-532.
  45. Krabbenhoft, D. P., Bowser, C. J., Anderson, M. P., and Valley, J. W. (1990) Estimating groundwater exchange with lakes, 1, the stable isotope mass balance method. *Water Resources Res.* 26, 2445-2453.
  44. Cartwright, I. and Valley, J. W. (1990) Fluid-rock Interaction in the N.W. Adirondack Mountains, New York State. In: J.R. Ashworth and M. Brown (eds.) *High Temperature Metamorphism and Crustal Anatexis.*



## JOHN W. VALLEY

43. Crawford, W. A. and Valley, J. W. (1990) Origin of graphite in the Pickering gneiss and the Franklin Marble, Honey Brook Upland, Pennsylvania Piedmont. *Geol. Soc. Am. Bull.* 102, 807-811.
42. Valley, J. W., Bohlen, S. R., Essene, E. J., and Lamb, W. (1990) Metamorphism in the Adirondacks. II. The Role of Fluids. *Jour. Petrol.* 31, Part 3, 555-596.
41. Crowe, D. E., Valley, J. W., and Baker, K. L. (1990) Micro-analysis of sulfur isotope zonation by laser microprobe. *Geochim. Cosmochim. Acta* 54, 2075-2092.
40. Riciputi, L. R., Valley, J. W., and McGregor, V. R. (1990) Conditions of Archaean granulite metamorphism in the Godthab-Fiskenaesset region, SW Greenland. *Jour. Meta. Geol.* 8, 171-190.
39. Vry, J. K., Brown, P. E., and Valley, J. W. (1990) Cordierite volatile content and the role of CO<sub>2</sub> in high grade metamorphism. *Amer. Mineral.* 75, 71-88.
38. Mora, C. I. and Valley, J. W. (1989) Halogen-rich scapolite and biotite: Implications for metamorphic fluid-rock interaction. *Amer. Mineral.* 74, 721-73
37. Geary, D. H., Rich, J., Valley, J. W., Baker, K. (1989) Stable isotopic evidence of salinity change: Influence on the evolution of melanopsid gastropods in the Late Miocene Pannonian Basin. *Geology* 17, 981-985.
36. Whitney, P., Bohlen, S., Carl, J., de Lorraine, W., Isachsen, Y., McLelland, J., Olmsted, J., and Valley, J. W. (1989) The Adirondack Mts.: A Section of The Deep Proterozoic Crust. *Internal. Geol. Cong. Field Guide Book T164*, 63 p.
35. Lamb, W. M. and Valley, J. W. (1988) Granulite facies amphibole and biotite equilibria: The calculation of peak-metamorphic water activities in the Adirondack Mts., N.Y. *Contr. Mineral. Petrol.* 100, 349-360.
34. Komor, S. C., Valley, J. W., and Brown, P. E. (1988) Fluid-inclusion evidence for impact heating at the Siljan Ring, Sweden. *Geology* 16, 711-715.
33. Morrison, Jean and Valley, J. W. (1988) Post-granulite facies fluid infiltration in the Adirondack Mts. *Geology* 16, 513-516.
32. Valley, J. W., Komor, S. C., Baker, K., Jeffrey, A. W. A., Kaplan, I. R., and Raheim, A. (1988) Calcite crack cements in granite from the Siljan Ring, Sweden: Stable isotopic results. In: A. Boden and G. Eriksson (eds.) *Deep Drilling in Crystalline Bedrock*, Springer, 1, 156-179.
31. Komor, S., Valley, J. W., Brown, P. E., and Collini, B. (1988) Fluid inclusions in granite from the Siljan Ring Impact Structure and surrounding areas. In: A. Boden and G. Eriksson (eds.) *Deep Drilling In Crystalline Bedrock*, Springer, 1, 180-208.
30. Cotkin S J, Valley JW, and Essene EJ. (1988) Petrology of a margarite-bearing meta anorthosite from Seljeneset, Norway: Implications for the P-T history of the Western Gneiss Region during Caledonian uplift. *Lithos* 21, 117-128.
29. Vry J, Brown PE, Valley JW, and Morrison J. (1988) Carbon isotopic compositions of cordierite and graphite: constraints for granulite genesis. *Nature* 332, 66-68.
28. Morrison, Jean and Valley JW. (1988) Contamination of the Marcy Anorthosite Massif, Adirondack Mts., N.Y.: Petrologic and isotopic evidence. *Contr. Mineral. Petrol.* 98, 97-108.
27. Lamb WM, Valley JW, and Brown PE. (1987) Post metamorphic CO<sub>2</sub>-rich fluid inclusions in granulites. *Contr. Mineral. Petrol.* 96, 485-495.
26. Mora CI, Valley JW, and Ortega-Gutierrez F. (1986). The temperature and pressure conditions of Grenville-age granulite-facies metamorphism of the Oaxacan Complex, S. Mexico. *Univ. Nat. Auton. Mex. Inst. Rev.* 6, 222-242.
25. Valley JW. (1986) Stable Isotope Geochemistry of Metamorphic Rocks. In *Stable Isotope in High Temperature Geological Processes*. JW Valley, JR O'Neil, and HP Taylor (eds.), M.S.A. *Reviews in Mineralogy* 16, 445-489.
24. Valley JW and Lamb WM. (1986) The Deep Earth Gas Hypothesis: A Metamorphic Test. Final Report to the Gas Research Institute, 8600 W. Bryn Mawr Ave., Chicago, Ill., 221 p.
23. Sharp ZD, Essene EJ, Anovitz LM, Metz GW, Westrum EF, Hemingway BS. and Valley JW. (1986) The heat capacity of a natural monticellite and phase equilibria in the system CaO-MgO-SiO<sub>2</sub>-CO<sub>2</sub>. *Geochim. Cosmochim. Acta* 50, 1475-1484.

JOHN W. VALLEY

22. Valley JW. (1986) Fluid-absent metamorphism in the Adirondacks, Early Crustal Genesis: The World's Oldest Rocks (L. Ashwal, ed.), NASA/Lunar and L. P. I. Report 86-04, 107-111.
21. Valley JW. (1986) The stability of methane in the deep crust. Final report on the workshop on organic geochemistry and the continental scientific drilling program. University of Oklahoma, Norman, OK, January, 1986, 40-91.
20. Dunn PJ, Peacor DR, Valley JW, and Randall CA. (1985) Ganomalite from Franklin, N.J. and Jakobsberg, Sweden: new chemical and crystallographic data. *Min. Mag.* 49, 579-582
19. Bohlen SR, Valley JW, and Essene EJ. (1985) Metamorphism in the Adirondacks I. Pressure and Temperature. *Jour. Petrol.* 26, Part 4, 971-992.
18. Lamb WM and Valley JW. (1985) C-O-H Fluid Calculations and Granulite Genesis, The Deep Proterozoic Crust in the North Atlantic Provinces, A. Tobi and J. L. Touret (eds.), Reidel, 119-131.
17. Valley JW. (1985) Polymetamorphism in the Adirondacks: Wollastonite at Contacts of Shallowly Intruded Anorthosite, The Deep Proterozoic Crust in the North Atlantic Provinces, A. Tobi and J. L. Touret (eds.), Reidel, 217-236.
16. Mora CI and Valley JW. (1985) Ternary feldspar thermometry in granulites from the Oaxacan Complex, Mexico. *Contrib. Mineral. Petrol.* 89, 215-225.
15. Valley JW, Peacor DR, Bowman JR, Essene EJ, and Allard MJ. (1985) Crystal chemistry of a Mg-Vesuvianite and Implications of Phase Equilibria in the System CaO-MgO-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>-H<sub>2</sub>O-CO<sub>2</sub>. *J. Meta. Geol.* 3, 137-153.
14. Valley JW and Lamb WM. (1985) The Deep Earth Gas Hypothesis: A Metamorphic Test. Report to the Gas Research Institute, 8600 W. Bryn Mawr Ave., Chicago, Ill., 50 p.
13. Lamb WM and Valley JW. (1984) Metamorphism of reduced granulites in low-CO<sub>2</sub>, vapor free environment. *Nature* 312, 56-58.
12. Valley JW and O'Neil JR. (1984) Fluid heterogeneity during granulite facies metamorphism in the Adirondacks: Stable isotope evidence. *Contrib. Mineral. Petrol.* 85, 158-173.
11. Valley JW, McLelland J, Essene EJ, and Lamb WM. (1983) Metamorphic fluids in the deep crust: Evidence from the Adirondack Mountains, N.Y. *Nature* 301, 20, 226-228.
10. Valley JW, Peacor DR, Essene EJ. (1983) Fluorine-bearing garnets in Adirondack calc silicates. *Amer. Mineral.* 68, 444-448.
9. Valley JW and O'Neil JR. (1982) Oxygen isotopic evidence for shallow emplacement of Adirondack anorthosite. *Nature* 300, 9, 497-500.
8. Peterson EU, Essene EJ, Peacor DR, and Valley JW. (1982) Fluorine end-member micas and amphiboles. *Amer. Mineral.* 67, 538-544.
7. Valley JW, Peterson EU, Essene EJ, and Bowman JR. (1982) Fluorophlogopite and fluortremolite from Adirondack marbles and calculated C-O-H-F fluid compositions. *Amer. Mineral.* 67, 545-557.
6. Isaacs AM, Brown PE, Valley JW, Essene EJ, and Peacor DR. (1981) An analytical electron microscopic study of a pyroxene-amphibole intergrowth. *Contrib. Mineral. Petrol.* 77, 115-120
5. Valley JW and O'Neil James R. (1981) <sup>13</sup>C/<sup>12</sup>C exchange between calcite and graphite: A possible thermometer in Grenville marbles. *Geochim. Cosmochim. Acta* 45, 411-419.
4. Valley JW and Essene EJ. (1980) Akermanite in the Cascade Slide Xenolith and its significance for regional metamorphism in the Adirondacks. *Contrib. Mineral. Petrol.* 74, 143-152.
3. Valley JW and Essene EJ. (1980) Calc-silicate reactions in Adirondack marbles: The role of fluids and solid solutions. *Geol. Soc. Am. Bull.:* Part II, 720-815.
2. Valley JW and Essene EJ. (1980) Calc-silicate reactions in Adirondack marbles: The role of fluids and solid solutions. *Geol. Soc. Am. Bull.:* 91, Part I, 114-117.
1. Valley JW, Bohlen SR, and Essene EJ. (1978) Evaporites as precursors of massif anorthosite: *Comment. Geology* 6, 582-585.

## JOHN W. VALLEY

Scicchitano, M.R., Spicuzza, M.J., Ellison, E.T., Valley, J.W., Templeton, A.S., Tuschel, D. (2020) In situ oxygen isotope analysis of serpentinite minerals by SIMS: matrix effects and new insights on serpentinization at Hole BA1B, Semail ophiolite (Oman). Intl. Conf. on Ophiolites: Oman Drilling Project. Muscat, Oman Jan. 12-14, 2020.

### 2019

- Blum, T.B., Reinhard, D.A., Coble, M.A., Spicuzza, M.J., Chen, Y., Cavosie, A.J., Nasdala, L., Chanmuang N., C., Prosa, T.J., Larson, D.J., Valley, J.W. (2019). A Nanoscale Record of Impact-Induced Pb Mobility in Lunar Zircon. *Microscopy and Microanalysis*, 25(S2), 2448-2449. doi:10.1017/S1431927619012972
- Blum T, Reinhard D, Coble M, Spicuzza M, Chen Y, Cavosie A, Nasdala L, Chanmuang C, Prosa T, Larson D and Valley J (2019) A Record of Basin-Forming Impact from Pb Clusters in Lunar Zircon. Goldschmidt conference 2019, Barcelona, Spain, Abstract# 307.
- Cecil MR, Gehrels GE, Yokelson IN, Homan E, Rusmore ME, Stowell HH, Woodsworth GJ, Valley JW and Kitajima K (2019) Zircon HF and O Isotope Analysis of Jurassic-Eocene Plutons of the Southern Coast Mountains Batholith, British Columbia, Indicates Magmatic Events Dominated By Mantle Sources. GSA Cordilleran Section, Portland, Oregon, Abstract# 329505.
- Cui H, Orland IJ, Denny A, Kitajima K, Fournelle JH, Baele J-M, De Winter NJ, Goderis S, Claeys P And Valley JW (2019) Ice or Fire? Constraining the Origin of Isotopically Anomalous Cap Carbonate Cements by SIMS. GSA Annual Meeting, Abstract# 332456.
- Cui H, Orland IJ, Kitajima K, Xiao S, Kaufman AJ, Fournelle JH, Baele J-M, Goderis S, Claeys P And Valley JW (2019) Probing An Atypical Shuram Excursion By SIMS. GSA Annual Meeting, Abstract# 332454.
- Cui, H, Orland, I.J., Denny, A., Kitajima, K., Spicuzza, M.J., Fournelle, J.H., de Winter, N.J., Goderis S., Claeys Ph., Valley, J.W. (2019) Ice or fire? Constraining the origin of isotopically anomalous cap carbonate cements by integrated  $\mu$ XRF, SEM, and SIMS. GSA abstract.
- Cui, H, Orland, I.J., Kitajima, K., Xiao, S., Kaufman, A.J., Denny, A., Spicuzza, M.J., Fournelle, J.H., Goderis S., Claeys P., Valley, J.W. (2019) Probing an atypical Shuram Excursion by SIMS. GSA abstract
- Denny A, Kitajima K, Ishida A, Kita NT And Valley JW (2019) What Do Sedimentary Sulfide  $\Delta^{34}\text{S}$  Values Actually Record? In Situ SEM-SIMS Analysis of Framboids and Other Sulfide Phases In The Mississippian-Devonian Bakken Formation. GSA Annual Meeting, Abstract# 340266.
- Gu et al (2019) Volatiles from Earth's surface to lower mantle sampled by type IaB diamonds. AGU
- Husson J, Linzmeier B, Sliwinski M, Kitajima K, Ishida A, Maloof A, Schoene B, Peters S and Valley JW (2019) Large Isotopic Variability at the Micron-Scale in Shuram Excursion Carbonates from South Australia. Goldschmidt conference, Barcelona, Abstract# 1449.
- Jones C, Bowman JR Moore JN, Valley JW, Kitajima K and Walters M (2019) Fluid Evolution In The Geysers Geothermal System, California: Evidence From Fluid Inclusion And Secondary Ion Mass Spectrometry (SIMS) Oxygen Isotope Analyses of Vein Quartz. GSA Annual Meeting, Phoenix, Arizona, Abstract# 337561.
- Katzir Y, Morag N, Golan T, Coble M, Kitajima K and Valley J (2019) The Origin of Oceanic Granites: A View from Zircon of the Troodos Ophiolite, Cyprus. Goldschmidt conference, Barcelona, Abstract# 1625.
- Lackey JS, Mccarty KR Bindeman IN, Spicuzza MJ, Scicchitano MR, Kitajima K, Valley JW (2019) Regionally Extensive, Low-  $\delta^{18}\text{O}$  Silicic Volcanism In The Late Jurassic California Arc: Extension Leaves Its Mark. GSA Annual Meeting, Phoenix, Arizona, Abstract# 338128.
- Li Y, Panter KS, Smellie JL, Blusztajn J, Spicuzza MJ and Valley JW (2019) Petrologic Insights into Basaltic Magma Genesis beneath East Antarctica. AGU Fall meeting, San Francisco, California.
- Martin SG, Keith JD, Palke AC, Valley JW, Turnier RB, Shigley JE, Chadburn R, Martin AJ (2019) Refining Sapphire Genesis Models For Yogo Gulch, Montana, And Bingham Canyon, Utah: Evidence From Trace Elements, Melt Inclusions, And Oxygen Isotope Ratios. GSA Annual Meeting, Abstract# 338915.
- Turnier RB, Valley JW, Kitajima K And Palke AC (2019) Zircon Inclusions In Igneous-Related Gem-Corundum: A Survey Of Oxygen Isotope Fractionation And Geochronology. GSA Annual Meeting, Abstract# 335239.
- Valley JW, Blum TB And Cameron EM (2019) Arthur L. Day Medal: The Microanalysis Revolution In Isotope Geochemistry. GSA Annual Meeting, Abstract# 333167.
- Xiao S, Cui H, Kang J, McFadden KA, Kaufman AJ, Kitajima K, Fournelle JH, Valley JW (2019) Using SIMS Data to Understand the Role of Authigenic Carbonate in the Origin Of Chaotic Stratigraphic Variations of Carbon Isotopes in the Early Ediacaran Doushantuo Formation. GSA Annual Meeting, Abstract# 335046.

### 2018

862. Barcello JC, Daggett LH, Peck WH and Valley JW (2018) Low Oxygen Isotope Ratios In Garnet From The Lewis Deposit, Adirondack Highlands. NE-GSA, Burlington, Abst # 311021
861. Blum T, Peng Z, Stephenson L, Schweinar K, Chanmuang Nasdala C, Cavosie A, Gault B and Valley JW (2018) Trace Element Clustering in Jack Hills Zircons: New Results and Future Directions. Goldschmidt conf, Boston, MD, USA, Abst # 212

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860. Cavosie AJ, Spencer C, Evans NJ, McDonald B, Reddy SM, Wilde SA, Talavera C, Cameron EM, Valley JW, Fournelle J and Ushikubo T (2018) Zircon Evidence for Eclogite Facies Metamorphism at 3.9 Ga. Goldschmidt conf, Boston, USA, Abst # 353
859. Cerling TE, Huth T, Marchetti DW, Bowling DR, Ellwein A, Passey B, Fernandez DP, Valley JW and Orland IJ (2018) Dramatic Holocene ecologic change on the Colorado Plateau inferred from a laminated pedogenic carbonate record. AGU Fall Meeting, Washington, Abst # PP21B-04
858. Chapman JB, Dafov MN, Gehrels GE, Ducea MN, Valley JW and Ishida A (2018) Lithospheric Architecture And Tectonic Evolution Of The Southwestern U.S. Cordillera: Constraints From Zircon Hf And O Isotopic Data. Rocky Mtn/Cordilleran GSA, Flagstaff, Abst # 314180
857. Cox M, Cavosie A, Bland P, Reddy S and Valley JW (2018) Not-So-Shocking Results from the Jack Hills: An EBSD Survey of 10,000 Zircon Grains for Shock Deformation. Goldschmidt conf, Boston, Abst # 492
856. Cui H, Kitajima K, Spicuzza M, Fournelle J, Denny A, Ishida A, Zhang F and Valley JW (2018) Questioning the Biogenicity of Neoproterozoic Superheavy Pyrite. Goldschmidt conf, Boston, Abstr # 503
855. Denny A, Fall A, Orland IJ, Valley JW, Eichhubl P and Laubach SE (2018) Coupling Sims Analyses, Fluid Inclusions, And 1-D Burial Modeling To Constrain Porewater  $\Delta^{18}\text{O}$  Evolution In Sandstones Of The Cretaceous Travis Peak Formation In East Texas. GSA Ann. Meeting, Indianapolis, Abstr #323677
854. Denny A, Śliwiński M, Orland I and Valley J (2018) Large  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  Zonations in Diagenetic Dolomites of the Bakken Formation, Middle Member. Goldschmidt conf, Boston, USA, Abstr # 555
853. Denny AC, Fall A, Orland IJ and Valley JW (2018) Coupling Mineral Isotopic Records with 1-D Burial Modeling to Constrain  $\delta^{18}\text{O}$  Fluid Histories. Weeks Research Symposium, Madison, WI
852. Gu T, Valley J, Kitajima K, Spicuzza MJ, Fournelle JH, Stern R, Ohfuji H and Wang W (2018) Evidence Of Subducted Altered Oceanic Crust Into Deep Mantle From Inclusions Of IaB Diamonds. GSA Annual Meeting, Indianapolis, Abstr #320390
851. Gu T, Valley J, Kitajima K, Spicuzza M, Fournelle J, Stern R, Ohfuji J, Wang W (2018) Evidence of subducted altered oceanic crust into deep mantle from inclusions in type IaB diamonds. *Gems & Gemology* 54: 306-307.
850. Hoffmann R, Richter DK, Neuser RD, Jöns N, Linzmeier BJ, Nehrke G, Immenhauser A, Kitajima K, Valley JW (2018) What is recorded in your belemnite? EGU General Assembly 2018, Vienna, Austria, Abstr #13186
849. Hupp B, Kelly DC, Kozdon R, Orland IJ and Valley JW (2018) Constraining the magnitude of the PETM carbon isotope excursion in the Southern Indian Ocean using SIMS. Weeks Research Symposium 2018, Madison, WI
848. Husson JM, Linzmeier BJ, Sliwinski M, Kitajima K, Ishida A, Maloof AC, Schoene B, Peters SE and Valley JW (2018) Large carbon isotopic variability at the micron-scale in "Shuram" excursion carbonates from South Australia. AGU Fall Meeting Washington, Abstr #PP41D-1868
847. Ishida A, Kitajima K, Williford KH, Tuite ML, Kakegawa T and Valley JW (2018) Simultaneous in situ analysis of C and N Isotope Ratios in organic matter by SIMS: application for geological samples. Japan Geoscience Union meeting, Chiba, Japan, Abstr #MTT37-01
846. Linzmeier BJ, Ward PD, Landman NH, Peters SE, Sessa JA, Orland IJ, Kitajima K, Kozdon R, Tobin TS and Valley JW (2018) Preservation of daily depth migration behavior in  $\delta^{18}\text{O}$  of cephalopods. 10th International Symposium "Cephalopods – Present And Past", Fez, Morocco
845. Moser D, Bowman JR, Valley JW (2018) There and back again; fluid history during descent of the gold-bearing Borden Lake Belt, Kapuskasing Uplift. RFG-2018, Vancouver
844. Orland IJ, He F, Bar-Matthews M, Chen G, Ayalon A, Valley JW (2018) Resolving paleorainfall proxies in the Eastern Mediterranean with seasonal-resolution model and proxy analyses. AGU Fall Meeting Washington, Abstr #PP12B-04
843. Spetsius ZV, Taylor LA, Valley JW (2018) Geochemical Evidence of The Participation of The Subducted Crustal Rocks in The Composition of The SCLM of the Siberian Craton. International Conference dedicated to the 110th anniversary of V. S. Sobolev, Novosibirsk
842. Taylor AT, Peck WH and Valley JW (2018) Isotope and Geochemical Analysis of Adirondack Anorthosite And Implications For Massif Emplacement History. NE-GSA, Burlington, Abstr #311004
841. Turnier R and Valley JW (2018) Understanding Igneous-hosted Corundum Formation using Inclusions and Geochemistry. Weeks Research Symposium 2018, Madison, WI
840. Turnier RB, Valley JW and Palke A (2018) Raman Spectra Of Zircon Inclusions In Sapphire. GSA Ann Meeting, Indianapolis, Abstr #322879
839. Valley JW (2018) In situ Microanalysis of O & C Isotope Ratios in Carbonate Cements: Calcite Revisited. Gaithersburg, MD, DOE-BES Symposium
838. Valley J and Blum T (2018) Fast Pathways of Exchange. Invited Keynote Lecture, Goldschmidt conf 2018, Boston, Abstr #2609

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837. Zhou C, Orland IJ, Myagkaya E, Homkrajac A and Valley JW (2018) Seasonal Variation In Oxygen Isotope Ratios From Freshwater Pearls Cultured In Kentucky Lake, Tennessee. GSA Ann Meeting, Indianapolis, Abstr #319190  
2017
836. Aplin AC, Brodie M, Orland IJ, Valley JW (2017) Unravelling quartz, calcite and dolomite cementation histories in sandstones with in situ microanalysis of oxygen isotope ratios. Application of Analytical Techniques to Petroleum Systems Problems, Geol. Soc., 2/28/17.
835. Aplin AC, Brodie M, Valley JW, Orland IJ and Hart BS (2017) In situ SIMS oxygen Isotope analyses reveals a continuous 300 Ma history of carbonate cementation and dolomitization in the Middle Bakken. AAPG/SEG Intl. Conf., London.
834. Barnes BD, Husson JM, Sliwinski MG, Denny AC, Valley JW and Peters SE (2017) constraining the importance of authigenic carbonate in the global carbon cycle: A case study from the Bakken Fm. AAPG, Houston, Abstract # 90291
833. Beasley MM, Orland IJ, Valley JW and Schoeninger MJ (2017) Understanding enamel diagenesis of  $\delta^{18}\text{O}$  using high resolution SIMS data and CLFM imaging. Bone Diagenesis Conference, Oxford 2017.
832. Blum TB, Nasdala L, Spicuzza MJ, Coble MA, Chutimun C and Valley JW (2017) Resolving large magnitude and widespread annealing of lunar zircon through correlative SIMS, EBSD and Raman spectroscopy. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-304960
831. Blum TB, Reinhard DA, Chen Y, Prosa TJ, Larson DJ, Spicuzza MJ, and Valley JW (2017) Understanding the time, temperature and structural history of ancient zircon through correlative microanalysis. Facilities Day Open House Feb. 21, UW-Madison.
830. Brodie M, Aplin A, Gluyas J, Hart B, Orland I and Valley JW (2016) Effect of carbonate diagenesis on reservoir quality of the Middle Bakken Formation, USA. AAPG, Calgary. #90259
829. Cameron ED, Valley JW, Kitajima K, Blum TB, Cavosie AJ and Kita NT (2017) Assessing the reliability of oxygen isotope measurements of ancient zircons. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-303258
828. Cameron ED, Valley JW, Ortiz-Cordero D, Kitajima K, and Cavosie AJ (2017) Oxygen isotope ratios are preserved in water-poor Jack Hills zircons. Astrobiol. Sci. Conf., Abstract #3017
827. Carolin SA, Orland IJ, Cobb KM, Adkins JF, Valley JW, Webb S, Edwards N, Pyle DM, Mosselmans JFW and Geraki T (2017) Finding Toba: Traces in a Borneo stalagmite. Goldschmidt Conf. Paris. Abstract #562
826. Cavosie AJ, Timmons ME, Thomson OA, Montalvo SD, Montalvo P, Pincus MR, Cox MA, Bland PA, Timms N, Ready SM, Wilde S and Valley JW (2017) Shocked zircons seems to be forever, so where is the Hadean record. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-304992
825. Cox MA, Cavosie AJ, Bland P and Valley JW (2017) The hunt for shocked zircon in the Jack Hills: 21,000 and counting... 48<sup>th</sup> Lunar and Planetary Science Conference, Abstract# 1402.
824. Cui H, Kitajima K, Farquhar J, Sliwinski MG, Spicuzza MJ, Fournelle JH, Ishida A, Brown PE and Valley JW (2017) A younger Great Oxidation Event in the Huronian Supergroup of North America. America. Astrobiol. Sci. Conf., Abstract #3452.
823. Cui H, Kitajima K, Spicuzza MJ, Fournelle, JH, Ishida, A, Brown PE, Valley JW (2017) Searching For The Great Oxidation Event In North America: A reappraisal of the “MIF–MDF transition” in the Huronian Supergroup by SIMS sulfur four-isotope analysis. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-300054
822. Cui H, Kitajima K, Spicuzza MJ, Fournelle JH, Ishida A, Denny A, Zhang F and Valley JW (2017) Primary or secondary? testing the Neoproterozoic superheavy pyrite by SIMS Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-300028
821. Cui H, Kitajima K, Spicuzza MJ, Fournelle JH, Ishida A, Denny A, Zhang F and Valley JW (2017) Assessing the veracity of deep-time geological records by SIMS: A critical update on paleoclimatic conditions in the wake of the Sturtian Snowball-Earth glaciation. WiscSIMS workshop HiRes2017: High-Resolution Proxies of Paleoclimate, Madison, WI, June 18-21, 2017
820. Denny A, Valley J and Ishida A (2017)  $\square^{34}\text{S}$  study of multiple generations of sulfide in the Bakken system by SIMS. High-Resolution Proxies of Paleoclimate, Madison, WI, June 18-21, 2017
819. Flood CM, Cameron ED, Page FZ and Valley JW (2017) Metasomatism at the peak of metamorphism: using computational thermodynamic modeling to understand dramatic oxygen isotope zoning in Catalina garnet quartzites. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-299977
818. Goltz AE, Hoover WF, Page FZ Storey CD, Kitajima K and Valley JW (2017) Microanalyzing metasomatism: Correlative microanalysis of trace elements and oxygen isotopes in the Franciscan. AGU New Orleans, Abstract #PP41B-1293

## JOHN W. VALLEY

817. Haroldson E, Valley JW, Bodnar R, Ishida A, and Brown PE (2017) Fluid history of the Reef deposit using fluid inclusions and oxygen isotopes. 63<sup>rd</sup> Annual meeting Inst. Lake Superior Geol. Wawa, Ontario. p 40-41
816. Haroldson E, Brown P, Ishida A and Valley JW (2017) Phanerozoic fluids permeating a Precambrian gold deposit examined by SIMS: implications for remobilization of gold. Geological Society of America *Abstracts with Programs*, Vol. 49(6) doi: 10.1130/abs/2017AM-305949
815. Hartley ES, Pereira I, Cameron ED, Page FZ, Storey C and Valley JW (2017) Tracing mantle fluids: Trace element signals in metasomatic garnet in quartzites from the Catalina schist (California, USA). Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-302998
814. Homan E, Robinson C, Gehrels G, Rusmore M, Yokelson I, Stowell H, Valley JW and Kitajima K (2017) U-Pb geochronology and Zircon Hf and O isotope analysis of plutons of the southern Coast Mountains batholith, British Columbia: Insight into episodic magmatism in continental arcs. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-307175
813. Ishida A, Kitajima K, Williford KH, Kakegawa T and Valley JW (2017) Development of simultaneous in situ analysis of carbon and nitrogen isotope ratios in the organic matter by secondary ion mass spectrometry AGU Fall Meet. New Orleans, Abstract #219313
812. Ibanez-Meija M, DesOrmeau JW, Eddy MP, Kitajima K and Valley JW (2017) The oxygen isotope composition of baddeleyite and a test of crystal orientation effects during SIMS analysis. AGU Fall meeting, New Orleans Abstract #V43C-0451
811. Katzir Y, Morag N, Golan T, Coble M, Grimes C, Kitajima K and Valley JW (2017) The origin of oceanic plagiogranites: coupled SIMS O and U-Pb isotope study of zircon from the Troodos ophiolite, Cyprus. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-300470
810. Kita NT, Defouillo C, Kitajima K, Chaumard N, Hertwig A, Ishida A and Valley JW (2017) Analytical development for SIMS high precision oxygen and magnesium isotope analysis of meteoritic and cometary samples. 48<sup>th</sup> Lunar and Planetary Science Conference, Abstract# 1754.
809. Kozdon R, Kelly, DC, Spero HJ, Livsey C and Valley JW (2017) In situ analysis of foraminiferal shells by SIMS, LA-ICP MS and EPMA: What have we learned in the past decade? A résumé and outlook. High-Resolution Proxies of Paleoclimate, Madison, WI, June 18-21, 2017
808. Lepot K, Williford KH, Philippot P, Thomazo C, Ushikubo T, Kitajima K and Valley JW (2017) Isotope microanalysis of 2.72 Ga organic matter: metabolism vs. diagenesis vs. matrix effects. Goldschmidt Conf., Paris, Abstract # 2272
807. Linzmeier BJ, Landman NH, Sessa J, Peters SE, Orland I, Kitajima K, Kozdon R, and Valley JW (2017) Using *in situ* geochemistry to investigate the depth habitat of ammonites. High-Resolution Proxies of Paleoclimate, Madison, WI, June 18-21, 2017
806. Linzmeier BJ, Landman NH, Sessa JA, Peters SE, Orland IJ, Kitajima K, Kozdon R and Valley JW (2017) Using *in situ* geochemistry to investigate the depth habitat of ammonites. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-305790
805. Lozier E, Cruz-Uribe A, Kitajima K, Page FZ and Valley JW (2017) Getting in the zone: Oxygen isotope and cation zoning in multiple generations of Franciscan garnets. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-302002
804. McCarty KR, Jenkins M, Lackey JS, Spicuzza MJ and Valley JW (2017) The Badger Complex: Ages, geochemistry, and oxygen isotopes of tonalities in the Sequoia region foothills, Sierra Nevada, CA. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-299400
803. Orland IJ, Edwards RL, Bar-Matthews M, Kozdon R, Cheng H, Ayalon A and Valley JW (2017) Measuring seasonal hydroclimate dynamics in speleothems. Goldsch. Abst., Paris Abstract # 3002
802. Orland IJ, Cobb KM, Carolin S, Adkins JF, Valley JW, Jersild A, LeGrand AN and Colose C (2017) Borneo stalagmites reveal climatic excursions associated with Toba ash layers prior to Greenland Stadial 20. AGU Fall Meeting, New Orleans. Abstract #PP21A-1250
801. Orland IJ, Edwards RL, Cheng H, Kozdon R and Valley JW (2017) Measuring seasonal monsoon signals in Chinese speleothems. High-Resolution Proxies of Paleoclimate, Madison, WI, June 18-21, 2017
800. Oye OJ, Aplin AC, Jones SJ, Gluyas JG, Orland IJ and Valley JW (2017) Vertical effective stress influences quartz cementation in sandstones – Myth or reality? 37<sup>th</sup> Intl. Meet. Sedimentology, Toulouse
799. Panter KS, Castilo P, Krans S, Deering CD, McIntosh WC, Valley JW, Kitajima K, Kyle PR, Hart SR and Blusztajn J (2017) Melt origin across a rifted continental margin: A case for subduction-related metasomatic agents in the lithospheric source of alkaline basalt, Northwest Ross Sea, Antarctica. AGU Fall Meeting, New Orleans. Abstract # V54A-06.
798. Peck WH, Selleck B and Valley JW (2017) Emplacement and metamorphism of the Marcy anorthosite: New constraints from geochronology and oxygen isotopes. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-299676

## JOHN W. VALLEY

797. Pollington AD, Kozdon R, Anovitz LM, Georg RB, Spicuzza MJ and Valley JW (2017) Experimental calibration of fractionation of silicon isotopes between quartz and water. Geological Society of America *Abstracts with Programs*, Vol. 49(6), doi: 10.1130/abs/2017AM-307151
796. Schranz L, Goodwin L, Brown PE, Medaris LG and Valley JW (2017) Stable oxygen isotopes, fluid inclusions, and microstructures in quartz cements and veins in the Baraboo Quartzite Breccia, north Baraboo Range, central Wisconsin. 63<sup>rd</sup> Annual Meeting Institute on Lake Superior Geology. p83-84
795. Schulze DJ, Malik L, Valley JW, Davis DW, Yokoyama S and Helmstaedt HH (2017) Eclogite xenoliths from Chino Valley, Arizona: Jurassic oceanic crust of the Farallon Plate metamorphosed during Late-Cretaceous subduction. AGU Fall Meeting, New Orleans Abstract #V13D-0408.
794. Schwartz J, Tulloch AJ, Andico S, Stowell HH, Klepeis KA, Kitajima K, Valley JW (2017) Do mid-crustal Cordilleran batholiths record arc flare-up triggering processes? Geological Society of America *Abstracts with Programs*, Vol. 49(6) doi: 10.1130/abs/2017AM-305307
793. Sliwinski MG, Ishida A, Kitajima K, Schreiber BC, Denny AC, Barnes BD, Spicuzza MJ, Peters and Valley JW (2017) Beyond conventional: Gleaning deeper insights into dolomitization of the Bakken petroleum system through in-situ C- and O-isotope microanalysis. Geological Society of America *Abstracts with Programs*, Vol. 49(6) doi: 10.1130/abs/2017AM-303670
792. Sliwinski MG, Kitajima K, Spicuzza MJ, Orland IJ, Ishida A, Fournelle JH and Valley JW (2017) SIMS bias on isotope ratios in siderite-magnesite:  $\delta^{18}\text{O}$  &  $\delta^{13}\text{C}$  matrix effects. High-Resolution Proxies of Paleoclimate, Madison, WI, June 18-21, 2017
791. Spetsius ZV, Taylor LA, Valley JW, Spicuzza MJ, Griffin WL and Ivanov AS (2017) Oxygen isotopes of garnets in diamondiferous eclogites from the Udachnaya pipe, Yakutia: Evidence for their origin. 11<sup>th</sup> International Kimberlite conference Abstr. # 4516.
790. Turnier RB, Kazir Y, Kitajima K, Orland IJ, Spicuzza MJ and Valley JW (2017) Empirical calibration of oxygen isotope fractionation in corundum. Geological Society of America *Abstracts with Programs*, Vol. 49(6) doi: 10.1130/abs/2017AM-303621
789. Valley JW (2017) In Situ Isotope Geochemistry by SIMS: Accuracy vs. Precision. WiseSIMS workshop HiRes2017: High-Resolution Proxies of Paleoclimate, Madison, WI, June 18-21, 2017
788. Valley JW (2017) Geosciences Research Facilities. Facilities Day Open House Feb. 21, UW-Madison.

## 2016

787. Balestra B, Orland I, White S, Fessenden-Rahn J, Rahn T, Paytan A and Valley JW (2016) Comparison of different proxies using in situ measurements in the benthic foraminifera genus *Uvigerina*: an example from the Santa Monica Basin. AGU Fall meeting abstract PP51D-2338
786. Beasley MM, Orland IJ, Valley JW and Schoeninger MJ (2016) Seasonal variation in rainfall at Allia Bay, Kenya 3.97 MA. *Am J Phys Anthropol.* 159(S62):88.
785. Beno CJ, Bowman JR, Valley JW and Kitajima, K (2016) Elemental and isotopic indicators of infiltration-driven metamorphism in forsterite from the Alta, Utah contact aureole. 196-5, GSA Annual Meeting, Denver, Co, September 25-28
784. Blum TB, Reinhard DA, Chen Y, Prosa TJ, Larson DJ, Valley JW, (2016) Sensitivity and uncertainty in nanoscale geochronology by atom probe tomography. Goldschmidt 2016, Yokohama, Japan.
783. Bonamici CE and Valley JW (2016) Filling in thermal and structural details of the Ottawan phase of the Grenville orogeny. Geological Society of America *Abstracts with Programs*. Vol. 48, No. 2 doi: 10.1130/abs/2016NE-272276
782. Bowman JR, Hilber MD, Moser DE, Valley JW, Mazdab FK and Wooden JL (2016) Micron-scale oxygen isotope zoning in metabasalt zircon: a robust history of crustal fluid flow during crustal growth. Goldschmidt Conference, 289, Yokohama, Japan
781. Brodie M, Aplin A, Gluyas J, Hart B, Orland I, Valley JW (2016) Effect of Carbonate Diagenesis on Reservoir Quality of the Middle Bakken Formation, USA. AAPG ACE 2016, Calgary, AB, Canada, 19-22 June 2016.
780. Cameron E, Valley J, Ortiz-Cordero D, Kitajima K and Cavosie A (2016) Detrital Jack Hills zircon-quartz  $\delta^{18}\text{O}$  analysis tests alteration of zircon and zircon inclusions. Goldschmidt Conference, 349, Yokohama, Japan.
769. Denny AC, Kitajima K, Kozdon R, Sliwinski MG, Spicuzza MJ and Valley JW (2016) Integrating  $\mu\text{m}$ -scale  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  SIMS data into sediment burial histories: Diagenetic records of temperature and fluid composition in Illinois Basin sandstones. AAPG, Calgary, June 19-22.
768. Gevedon ML, Ryan-Davis J, Barnes JD, Lackey JS, Prior MG, Kitajima K and Valley JW (2016) Regional implications of low- $\delta^{18}\text{O}$  skarns of the Jurassic Mojave segment of the Sierra Nevada arc. Geological Society of America *Abstracts with Programs*. Vol. 48, No. 4 doi: 10.1130/abs/2016CD-274510
767. Heimann A, Spicuzza MJ and Valley JW (2016) A multifaceted approach to study Fe and O isotope fractionation during hydrothermal alteration at the Skaergaard Intrusion. *Abstracts, Penrose Conference on Layered Mafic Intrusions and Economic Deposits*, Red Lodge, MT, August 2016. p. 32.

## JOHN W. VALLEY

766. Kitajima K, Strickland A, Spicuzza MJ, Tenner TJ and Valley JW (2016) Improved matrix correction of  $\delta^{18}\text{O}$  analysis by SIMS for pyralisite and Cr-pyropite garnets. Goldschmidt Conference, 1542, Yokohama, Japan.
765. Kozdon R, Kelly DC and Valley JW (2016) Intensification of meridional moisture transport during the PETM deduced from paired *in situ*  $\delta^{18}\text{O}:\text{Mg}/\text{Ca}$  measurements in planktic foraminifera. ICP12 abstract
764. Leung MC, Page FZ, Penniston-Dorland S, Kitajima K and Valley JW (2016) Constraints on garnet-bearing metasomatic rind growth in subduction melange through SIMS analysis of oxygen isotopes. 258-1, GSA, Denver, Co, September 25-28.
763. Linzmeier BJ, Sessa JA, Orland IJ, Landman NH, Peters SE and Valley JW (2016) Stable isotope investigation of early ontogeny in Owl Creek formation ammonites. Geological Society of America *Abstracts with Programs*. Vol. 48, No. 7 doi: 10.1130/abs/2016AM-286961
762. Louyakis AS, Mobberley JM, Vitek B, Hagen P, Reid RP, Planavsky N, Kozdon R, Orland I, Valley JW, Visscher PT, Casaburi G, Bonjawa R and Foster JS (2016) Connecting microbial diversity to function in a thrombolite-forming microbial mat. ISME 16, Aug. 21-26, Montreal, Canada.
761. Orland IJ, Cobb KM, Carolin AS, Linzmeier B, Valley JW and Adkins JF (2016) Micro-scale  $\delta^{18}\text{O}$  analyses of a Borneo stalagmite across the Toba super-eruption. AGU abstract PP14A-05.
760. Quinn RJ, Kitajima K, Nakashima D, Spicuzza MJ and Valley JW (2016) Oxygen isotope speedometry using quartz inclusions in garnet and matrix quartz. Geological Society of America *Abstracts with Programs*. Vol. 48, No. 2 doi: 10.1130/abs/2016NE-272784
759. Ryan-Davis J, Lackey JS, D'Errico M, Kitajima K, Gevedon M, Barnes J, Lee C-t and Valley JW (2016) Skarn-garnet archives of metasomatic and hydrothermal conditions in the Mineral King roof pendant, South-Central Sierra Nevada. Geological Society of America *Abstracts with Programs*. Vol. 48, No. 4 doi: 10.1130/abs/2016CD-274256
758. Schoeninger MJ, Beasley MM, Orland IJ and Valley JW (2016) Variation in the  $\delta^{18}\text{O}$  record of Allia Bay, Kenya hippopotamidae (Invited poster). Am J Phys Anthropol. 159(S62):283.
757. Śliwiński MG, Kitajima K, Kozdon R, Denny A, Spicuzza MJ and Valley JW (2016) In-situ, micron-scale analyses of carbonate  $\delta^{13}\text{C}$  by SIMS: a method for identifying carbonate cements that form in response to  $\text{CO}_2$  injection at the Illinois Basin Decatur Project site. AAPG ACE 2016, Calgary, AB, Canada, 19-22 June 2016.
756. Suzuki K, Iizuka T, Kitajima K, Valley JW, Sawaki Y, Hattori K, Hirata T and Anma R (2016) Hf-O Isotope Signature for Zircons in the Taitao Granite: Geochemical Constraints on Slab-Melting. Goldschmidt Conference, 3002, Yokohama, Japan.
755. Turnier RB, Katzir Y, Kitajima K, Orland IJ, Spicuzza MJ and Valley JW (2016) In situ versus bulk analyses of oxygen isotope ratios: improved thermometry for corundum and calcite at Naxos, Greece. 35-8, GSA Abstracts with Programs. 48 (7), Denver, Co, September 25-28.
754. Ushikubo T, Iizuka T, Spicuzza MJ and Valley JW (2016) Evidence from the Acasta zircons for consistent occurrence of magmas with moderately elevated  $\delta^{18}\text{O}$  throughout the Eoarchean (in Japanese). Japan Geoscience Union Meeting 2016, Abstr. # BPT05-05.
753. Valley JW, Blum T, Reinhard D (2016) Size Matters: How Small is Too Small for Isotope Ratio Analysis? GSA Ann. Meet. Abst. 35-1 (invited)
751. Valley J, Blum T, Reinhard D, Larson D, Prosa T and Kelly T (2016). Keynote: Radiation Damage, APT and Pb Mobility in zircon: The good, the bad, and the ugly. Goldschmidt Conference, 3246, Yokohama, Japan.
750. Wycech J, Kelly DC, Kozdon R and Valley J (2016) On the fidelity of  $\delta^{18}\text{O}$  reconstructions: comparing paired foraminiferal  $\text{Mg}/\text{Ca}-\delta^{18}\text{O}$  values from conventional and in situ techniques. International Conference on Paleooceanography. P-287.
- 2015**
749. Alberts R, Grimes B, Koepke J, Kitajima K, Spicuzza M and Valley JW (2015) High- & Low- $\delta^{18}\text{O}$  magma: Comparative study of crustal and mantle plagiogranites from the Oman ophiolite, AGU Fall Meeting, Dec. 14-18, San Francisco, USA. Abstr. # V21A-3011
748. Amundson R, Oerter EJ, Sharp WD, Oster JL, Ebeling A, Valley JW, Kozdon R, Orland IJ, Ludwig KR, Hellstrom J, Woodhead JD, Hergt JM and Chadwick OA (2015) High resolution paleoclimate data from laminated carbonates in soils. Conf. on High Resolution Proxies of Paleoclimate abst., Madison, WI, p. 8-9
757. Beasley MM, Orland I, Valley JW and Schoeninger M (2015) Seasonal variation in rainfall at Allia Bay, Kenya 3.97 Ma. European Soc. Human Evolution. London, Sept. 2015.
746. Beasley MM, Orland IJ, Valley JW and Schoeninger MJ (2015) SIMS reveals diagenesis and seasonal paleoprecipitation at Allia Bay, Kenya 3.97 MA. Conf. on High Resolution Proxies of Paleoclimate abst., Madison, WI, p. 10-11
745. Beno C, Bowman JR, Valley JW and Kitajima K (2015) Oxygen isotope zonation and trace element activators of cathodoluminescence in forsterite from the Alta, Utah contact aureole. GSA Abst w Prog. Vol. 47, No. 7, p.771



## JOHN W. VALLEY

744. Brown JE, Grimes CB, John BE, Kitajima K and Valley JW (2015) Ion microprobe  $\delta^{18}\text{O}$ -constraints on fluid mobility and thermal structure during early slip on a low-angle normal fault, Chemehuevi Mountains, SE CA. *GSA Abst w Prog. Vol. 47, No. 7*, p.805
743. Cammack JN, Kitajima K, Denny AC and Linzmeier BJ (2015) Integrating microanalytical data with QGIS. 2015 HiRes Proxies of Paleoclimate Conference, abst. Madison, WI, p. 13-14
742. Cammack JN, M.J. Spicuzza, M.J. Van Kranendonk, A.H. Hickman, R. Kozdon, A.J. Cavosie, and J.W. Valley (2015) SIMS  $\delta^{18}\text{O}$  of Stromatolitic Cherts and Sandstones In the 3.4Ga Strelley Pool Formation: Implications For Paleoproterozoic  $\delta^{18}\text{O}$  Values. AbGradCon 2015, Madison, Wisconsin
741. Cammack JN, Spicuzza MJ, Van Kranendonk MJ, Hickman AH, Kozdon R, Cavosie AJ, Valley JW (2015) SIMS  $\delta^{18}\text{O}$  of stromatolitic cherts and sandstones in the 3.4 Ga Strelley Pool Fm: Implications for Paleoproterozoic  $\delta^{18}\text{O}$  values. *Astrobiol. Sci. Conf.*, June 18, 2015. Chicago
740. Decker MFO, Schwartz JJ, Stowell HH, Kleipeis K, Kitajima K, Valley JW, Kylander-Clark A, Tulloch A and Kimbrough DL (2015) Triggering Mechanisms for a Magmatic Flare-up in the Lower Crust of a Continental Arc, Fiordland, New Zealand. *GSA Abst w Prog. Vol. 47, No. 7*, p.495
739. Denny AC, Kozdon R, Kitajima K, Sliwinski MG, Spicuzza M and Valley JW (2015)  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$ -zoned carbonate cements as records of porewater temperature and composition in siliciclastics: In-situ SIMS analyses from Early Paleozoic sandstones in the Illinois Basin, USA. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 18-19
738. Denny AC, Kozdon R, Kitajima K, Sliwinski MG, Spicuzza MJ and Valley JW (2015)  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$ -Zoned Carbonate Cements as Records of Porewater temperature and composition in siliciclastics: In-situ SIMS analyses from Early Paleozoic sandstones in the Illinois Basin, U.S.A. *AAPG Annual Conv. Abstr. #90216*
737. Gevedon M, Seman S, Ryan-Davis J, Barnes J, Lackey JS, Stockli D, Kitajima K and Valley JW (2015) Variation of skarn metasomatic fluid sources within the Sierra Nevada arc. *GSA Abst w Prog. Vol. 47, No. 4*, p.47
736. Gopon P, Fournelle J, Spicuzza M and Valley JW (2015) Survey for Fe-Si in Apollo regolith sample 61591,22. *Microscopy and Microanalysis*, v. 21 (suppl. 3), pp. 2095-2096
735. Gottlieb E, Miller E, Valley JW and Kitajima K (2015) Light  $\delta^{18}\text{O}$  zircon xenocrysts from the deep crust of the Great Basin, North American Cordillera. *Goldschmidt Abstracts*, 2015 1083
734. Hertwig A, McClelland WC, Kitajima K, Schertl H-P, Maresch WV and Valley JW (2015) A comprehensive ion microprobe study on zircon from jadeitites and related rocks from the Rio San Juan Complex, Dominican Republic. 11th International Eclogite Conference, Abstract #389.
733. Katzir Y, Anenburg M, Kaminchik J, Segev A, Blichert-Toft J, Spicuzza MJ and Valley JW (2015) Garnet pyroxenites as markers of recurring extension and magmatism at the rifted margins of the Levant basin. *Israel Geologic Society Abstracts*, p. 80.
732. Kelly DC, Kozdon R, Wycech JB and Valley JW (2015) Forams forever: Use of SIMS  $\delta^{18}\text{O}$  and EPMA Mg/Ca analyses of planktic foraminiferal shells to reconstruct the hydrological cycle during past climate states. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 22-23
731. Keul N, deMonocal P, Orland I and Valley JW (2015) The smallest gilders in the ocean- temperature recordings from pteropods. (Poster) XIX INQUA Congress, 26 July-2 August, Nagoya, Japan.
730. Kita NT, McDougal D, Nakashima D, Tenner TJ, Valley JW, and Noguchi T (2015) Oxygen isotope systematics in equilibrated ordinary chondrites: Comparison to Itokawa particles. *HAYABUSA 2015: Symposium of Solar System Materials*, November 2015, Kanagawa, Japan
729. Kitajima K, Strickland A, Spicuzza MJ and Valley JW (2015) Improvement in matrix correction of  $\delta^{18}\text{O}$  analysis by SIMS for pyralpsite and Cr-pyrope garnets. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 24-25
728. Kozdon R., Kelly DC, Spero HJ and Valley JW (2015) Getting the big picture from a small spot: Multi-proxy, multi-instrument in situ measurements in foraminifera. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p 26-27
727. Linzmeier BJ, Kozdon R, Peters SE and Valley JW (2015) Variability of oxygen isotope ratios on the scale of tens of microns in Nautilus shell aragonite. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 28-29
726. McDougal D, Kita NT, Nakashima D, Tenner TJ, Valley JW and Noguchi T (2015) Intermineral oxygen three-isotope systematics of silicate minerals in equilibrated ordinary chondrites. 46th Lunar and Planetary Science Conference. p. 1598.
725. Morag N, Kenneth H. Williford, Kouki Kitajima, Pascal Philippot, Martin J. Van Kranendonk, Kevin Lepot, and John W. Valley, (2015) Microstructure-Specific Carbon Isotopic Signature Of Organic Matter Supports Biogenic Origin in 3.5 GA Cherts Of The Pilbara Craton. AbGradCon 2015, Madison, Wisconsin

## JOHN W. VALLEY

724. Morag, N, Kenneth H. Williford, Kouki Kitajima, Pascal Philippot, Martin J. Van Kranendonk, Kevin Lepot, John W. Valley (2015) Microstructure-Specific Carbon Isotopic Signature Of Organic Matter Supports Biologic Origin In ~3.5 Ga Cherts Of The Pilbara Craton. *Astrobiol. Sci. Conf.* June 17, 2015. Chicago
723. Muller W, Valley JW, Warter V, Kozdon R, Evans D and Orland I (2015) Natural highest-temperature calcite as compositionally homogenous microanalytical standard material? *Goldschmidt Abstracts*, 2015, #2213
722. Nasdala, L., Chanmuang, C., Häger, T., Hofmeister, W., Kennedy, A.K., Reiners, P.W., Vaczi, T., Valley, J.W., Wanthanachaisaeng, B., Wu, F., Zeug, M. & Zoysa, E.G. (2015): The scientific importance of gem zircon as analytical reference materials. 34<sup>th</sup> International Gemological Conference, Vilnius, Lithuania, August, 2015. *Proceedings*, pp. 128-131.
721. Orland IJ, Edwards RL, Cheng H, Kozdon R and Valley JW (2015) A spatial gradient of seasonal monsoon signals in East Asian speleothems. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 33-34
720. Orland IJ, Kozdon R, Linzmeier B, Wycech J, Sliwinski M, Kitajima K, Kita NT and Valley JW (2015) Enhancing the accuracy of carbonate  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  measurements by SIMS. *AGU Fall Meeting*, Dec. 14-18, San Francisco. *Abstr. #*: PP52B-03
719. Orland IJ, Kozdon R, Linzmeier B, Wycech JW, Sliwinski J, Kitajima K, Kita NT and Valley JW (2015) Enhancing the accuracy of carbonate  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  measurements at WiseSIMS. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 34-35
718. Oster, J. L., Maher, K., Kitajima, K., Valley, J., & Rogers, B. (2015). Holocene precipitation variability recorded in  $\delta^{18}\text{O}$  and U isotopes of opal speleothems from pinnacles National Monument, California. *Quaternary International*, 387, 142.
717. Sendek C, Lackey JS, Miller J, Davies G, Valley J and Kitajima K (2015) Zircon geochemical and isotopic constraints on the evolution of the Mount Givens Pluton, Central Sierra Nevada Batholith. *AGU Fall Meeting*, Dec. 14-18, San Francisco, USA. *Abstr. #*: V41D-04
716. Sliwinski MG, Kitajima K, Kozdon R, Spicuzza MJ, Fournelle JH, Denny A and Valley JW (2015) SIMS bias on isotope ratios in dolomite-ankerite:  $\delta^{18}\text{O}$  &  $\delta^{13}\text{C}$  matrix effects. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 41-42
715. Śliwiński MG, Kozdon R, Kitajima K, Denny A, Spicuzza M and Valley JW (2015) In-situ, micron-scale  $\delta^{13}\text{C}$  &  $\delta^{18}\text{O}$  analyses (by SIMS) of chemo-isotopically zoned carbonate cements of diagenetic origin – A case study on the implications for the thermal and burial history of the Eau Claire Fm., Illinois Basin (USA). *AAPG Annual Convention and Exhibition*, Denver, CO., May 31 - June 3, 2015 *Abstr. #*: 90216
714. Suzuki K, Iizuka T, Kitajima K, Valley JW, Sawaki Y, Hattori K, Hirata T and Maruyama S (2015) Hf-O isotope systematics of zircons from the Taitao Granite: Geochemical constraints on slab-melting components. *Annual meeting of the Geological Society of Japan 2015*, Abstract #R1-O-4
713. Suzuki K, Kitajima K, Valley JW, Sawaki Y, Hattori K, Hirata T and Maruyama S (2015) Oxygen isotope ratio of zircons from the Taitao Granite: Implications for slab-melting. *Goldschmidt Abstracts*, #3043
712. Ushikubo T, Iizuka T, Spicuzza MJ and Valley JW (2015) Consistent occurrence of moderately elevated  $\delta^{18}\text{O}$  magmas in Acasta gneiss complex from 4.0 to 3.5 Ga. *Goldschmidt Abst* #3214
711. Valley JW (2015) Early Earth. *AbGradCon 2015*, Madison, Wisconsin
710. Valley JW (2015) In Situ isotope geochemistry by SIMS: Accuracy vs. precision. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 45 -46
709. Valley JW, Cavosie AJ, Blum T, Ushikubo T, Reinhard DA, Lawrence DF, Larson DJ, Clifton PH, Kelly TF, Wilde SA and Spicuzza MJ (2014) Geological Applications of Atom Probe Tomography: New Information from Old Rocks. *Microsc. Micoranal.* 20 (Suppl 3) p. 1678
708. Valley JW, Spicuzza M, Cammack J, Kitajima K, Kita N and Van Kranendonk M (2015) Maturity of Archean sandstones & ancient detrital zircons. *Goldschmidt Abstracts*, 2015, #3220
707. Valley JW, T. B. Blum, D. A. Reinhard, A. J. Cavosie, T. Ushikubo, D. F. Lawrence, D. J. Larson, T. F. Kelly, M. J. Spicuzza, D. R. Snoeyenbos, A. Strickland (2015) Nano- And Micro-Geochronology In Hadean And Archean Zircons From Earth And The Moon: Atom-Probe Tomography And Sims. *Astrobiol. Sci. Conf.*, June 18, 2015. Chicago
706. Williford KH, Ushikubo T, Sugitani K, Lepot K, Kita NT, Van Kranendonk MJ (2015) A new isotopic biosignature of Paleoarchean sulfur metabolism, *Goldschmidt Conf.*, Prague
705. Williford KH, T. Ushikubo, K. Sugitani, K., Lepot, K. Kitajima, K. Mimura, J. W. Valley (2015) A sulfur four-isotope signature of Paleoarchean metabolism. *Astrobiol. Sci. Conf.*, June 18, 2015. Chicago
704. Wycech JB, Kelly DC, Kozdon R and Valley JW (2015) Calibration of in situ SIMS  $\delta^{18}\text{O}$  values to whole shell  $\delta^{18}\text{O}$  compositions using Holocene planktic foraminifera. *Conf. on High Resolution Proxies of Paleoclimate abst.*, Madison, WI, p. 48-49
703. Wycech, J.B.; Kelly, D.C.; Kozdon, R.; Kitajima, K.; Spero, H.; Orland, I.; Kita, N.; Valley, J.W., 2015 Comparative Study of  $\delta^{18}\text{O}$  Compositions Determined for Fossil Holocene Planktic Foraminifera by *In*

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*Situ* SIMS Measurements and Standard Gas-Source IRMS Bulk Shell Analyses. Poster, American Geophysics Union Annual Meeting, PP53B-2323.

### 2014

702. Befus KS, Kitajima K and Valley JW (2014). Natural spherulite crystallization kinetics in rhyolitic melts. Abstract V33A-4818. 2014 Fall Meeting, AGU, San Francisco, Calif.
701. Blum TB, Reinhard D, Spicuzza M, Olson D, Coble MA, Cavosie A, Ushikubo T, Larson D, Kelly T, Valley JW (2014) Nanoscale isotope mapping of terrestrial and lunar zircons by atom probe tomography. Trans. Amer. Geoph. Un. Fall Meeting, Abst. V34A-06
700. Cameron ED, Page FZ, Dobbins JW, Kitajima K and Valley JW (2014). Extreme oxygen isotope zoning in metasedimentary garnet from Catalina Island, California reveals progressive metasomatism during subduction. GSA Abstracts with Programs. 46, 494.
699. Dilles JH, Chambefort I, Valley JW, Kozdon R and Rye RO (2014) What is the source of sulfur in arc magmas? Ion microprobe sulfur isotopic data on anhydrite from Yanacocha and Pinatubo. Goldschmidt Conference Abstr. #556.
698. Dominguez-Villar D, Lojen S, Krklec K, Kozdon R and Valley JW (2014) Modern calibration of a speleothem oxygen isotope record analyzed by SIMS in Postojna Cave (Slovenia). KR7 Climate Change: The Karst Record. Sept. 29, 2014 University of Melbourne. Abstracts. P. 69
697. Friedrich AJ, Beard BL, Valley JW, Spicuzza MJ, Johnson CM and Scherer MM (2014) Probing the reactivity of iron oxide-water interfaces using oxygen and iron isotopic tracers. 247<sup>th</sup> ACS National Meeting and Expo. Dallas, Abstract
696. Gaschnig RM, Rudnick RL, McDonough WF, Kaufman AJ, Valley JW, Hu Z, and Gao S (2014) Using ancient glacial diamictites to track the compositional evolution of the upper continental crust: EOS, Transactions, American Geophysical Union, Fall Meeting.
695. Gevedon ML, Ryan-Davis J, Lackey JS, Barnes J, Kitajima K and Valley JW (2014). Oxygen Isotope Zoning in Skarn Garnets: Evidence for Spatial and Temporal Fluid Source Variability in the Sierra Nevada and Mojave. Abstract V33B-4851. 2014 Fall Meeting, AGU, San Francisco, Calif.
694. Gopon P, Fournelle J, Sobol P, Spicuzza M, Pinard P, Sobol P, Richter S, Llovet X and Valley JW (2014) Soft X-ray EPMA analyses of extremely reduced phases from Apollo 16 regolith: problems and solutions for sub-micron analysis. Microscopy and Microanalysis. Vol. 20, Supp. S3, 698-699.
693. Gopon P, Fournelle J, Spicuzza M, Pinard P, Richter S, Llovet X and Valley JW (2014) Quantitative EPMA of sub-micron ultra-reduced phases in Apollo 16 lunar regolith. European Microbeam Analysis Assoc.
692. Helsler, TE, Kastle, C, Valley, JW, Crowell, AL, Orland, I, Kozdon, R, Ushikubo, T (2014) A 200 year archeozoological analysis of Pacific cod life history as revealed through ion microprobe oxygen isotope ratios in otoliths. Intl. Council Explor. Sea, Ann. Sci. Conf., Coruna, Spain, p. 72.
691. Hertwig A, McClelland WC, Kitajima K, Schertl H-P, Maresch W and Valley JW (2015) A comprehensive ion microprobe study on zircon from jadeitite and related rocks from the Rio San Juan Complex, Dominican Republic. 11th International Eclogite Conference, Abstract #389
690. Hertwig A, McClelland WC, Kitajima K, Schertl H-P, Maresch WV and Valley JW (2014) Jadeitite and jadeite-bearing rocks from the Rio San Juan Complex (RSJC), Dominican Republic: the impact of zircon. 92<sup>nd</sup> Deutsche Mineralogische Gesellschaft. p. 175.
689. Hertwig A, McClelland WC, Kitajima K, Schertl HP, Maresch WV and Valley JW (2014). A comprehensive ion microprobe study on zircon from jadeitites and related rocks from the Dominican Republic. Int. Mineral. Assoc. 2014, South Africa, Sept. 1-5.
688. Hoover W, Page FZ, Schulze D, Kitajima K and Valley JW (2014). Are Colorado Plateau Eclogite Xenoliths Franciscan?: Oxygen Isotope Evidence From Zoned Garnet. Abstract T23A-4643. Fall Meeting, AGU, San Francisco
687. Horreard F, Reinhard D, Prosa TJ, Olson D, Lawrence D, Martin I, Larson DJ, Ulfing RM, Kelly TF and Valley J (2014) Applications of Atom Probe Tomography in geological science. 24<sup>th</sup> Reunion des Sciences de la Terre.
686. Ishikawa M, Reinhard D, Valley J, Larson D, Olson D, Lawrence D, Martin I, Prosa T, Ulfing R and Kelly T (2014) Nano and micro-scale geological metrology with atom probe tomography. Annual Meeting Geol. Soc. Japan, p 341.
685. Linzmeier BJ, Landman NH, Kozdon R, Peters SE and Valley JW (2014) Stable isotope evidence of habitat change during early ontogeny in Cretaceous Hoploscaphites. Cephalopods – Present and Past 9, Zurich, p. 64.
684. MacDonald C, Grimes CB, John B, Laforge, JS, Kilian R, Heilbronner, R, Stunitz H, Valley JW, and Spicuzza, MJ (2014) Oxygen isotope constraints on the early slip history of the Mohave Wash Fault, Chemehuevi Mountains, SE CA. GSA Abstracts with Programs. Vol. 46, No. 5, p.31
683. Mallis JD, Mahood GA and Valley JW (2014)  $\delta^{18}\text{O}$  of mid-Miocene rhyolites associated with Steens flood basalts. Goldschmidt Conference Abstract #2469

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682. Mallis JD, Mahood GA and Valley JW (2014)  $\delta^{18}\text{O}$  of rhyolites at High Rock Caldera Complex, NW Nevada: Implications for silicic magma genesis associated with mid-Miocene flood basalts. Geological Society of America Abstracts. Vol. 46, No. 5, p.88
681. Mendybaev RA, Spicuzza MJ, Richter FM and Valley JW (2014) Evaporation of CMS-1 FUN CAI Precursor: Oxygen isotope fractionation. 77th Ann Meeting of the Meteoritical Soc. No. 1800, #5410.
680. Miller N, Banner J, Feng W, Gonzales A, Kozdon R and Valley J (2014). Constraining the onset of a rapid deglacial climate change event in the SW US through high resolution speleothem imaging and isotopic analyses. GSA Abstracts with Programs. 46, 698.
679. Montalvo PE, Cavosie AJ and Valley JW (2014) A constraint on shocked mineral abundance in the Jack Hills Zircon Suite. Lunar Planet. Sci. Conf. 45, Abstr. #2338
678. Muller W, Warter V, Evans D, Brett M, Valley J, Kozdon R and Orland I (2014) Evaluation of trace elemental homogeneity of SIMS calcite standard UWC-3 using LA-ICPMS (193 nm ArF). 12th European Workshop on Laser Ablation, p. 84
677. Nasdala L, Hofmeister W, Hager T, Zeug M, Mattinson J, Corfu F, Wu F, Li Q-L, Valley JW, Frei D, Kronz A, Munker C, Fisher CM, Kennedy AK, Reiners PW, Guenther WR, Scheidl K and Kroner A (2014) Zircon M127—A future reference material for U-Pb combined with Hf- and O-isotope analysis. 92nd Ann Meeting German Mineralogical Society, Jena, Germany, Sept, 2014. Program, pp. 358–359.
676. Orland IJ, Edwards RL, Cheng H, Kozdon R and Valley JW (2014) Seasonal-resolution  $\delta^{18}\text{O}$  in speleothems by ion microprobe: Revealing Asian monsoon dynamics. EOS, Transactions, American Geophysical Union, PP31B-1132
675. Quinn R, Kitajima K, Nakashima D, Spicuzza M and Valley J (2014). Oxygen isotope thermometry of quartz inclusions in garnet. Goldschmidt Abstract, 2016.
674. Roig C, Cavosie AJ, Davidson C, Garver JI and Valley JW (2014) Oxygen and Hafnium isotope geochemistry of zircon, quartz, and garnet from the near-trench Crawfish Inlet and Krestof plutons, Baranof Island, Alaska, GSA Abstracts with Programs. Vol. 46, No. 6, p.446
673. Rudnick RL, Gaschnig RM, Li S, Tang M, Qiu L, Valley JW, Zurkowski C and McDonough WF (2014) Temporal evolution of the upper continental crust: implications for the mode of crustal growth and evolution of the hydrosphere. EOS, Transactions, American Geophysical Union, fall meeting.
672. Sliwinski M, Kitajima K, Kozdon R, Hyodo A and Valley J (2014). Burial temperatures and  $\delta^{18}\text{O}$ -zoning in diagenetic cements of the Eau Claire Fm., Illinois Basin (U.S.A.) Goldschmidt 2014 Abstract, 2325.
671. Suzuki K, Kitajima K, Valley JW, Sawaki Y, Hattori K, Hirata T and Maruyama S (2014). Ancient oceanic crust in island arc lower crust: evidence from oxygen isotopes in zircons from the Tanzawa tonalitic pluton. GSA Abstracts with Programs. 46, 284.
670. Suzuki, K, Y. Sawaki, K. Kitajima, John W. Valley, K. Hattori, T. Hirata, and S. Maruyama (2014) Ancient Oceanic Crust in Island Arc Lower Crust: Evidence from Oxygen Isotopes in Zircons from the Tanzawa Tonalitic Pluton. Abstract T1-O-2, Geological Society of Japan Annual Meeting 2014, Kagoshima, Japan, 13-15 Sep.
669. Valley J, Spicuzza M and Ushikubo T (2014). Lunar zircons. Goldschmidt 2014 Abstract, 2546.
668. Valley JW (2014) Early Earth. Goldschmidt Conference Abstracts, p. 2545.
667. Valley JW, Cavosie AJ, Ushikubo T, Reinhard DA, Lawrence DF, Larson DJ, Clifton PH, Kelly TF, Wilde SA, Moser DE and Spicuzza MJ (2014) Geological applications of atom probe tomography: New information from old rocks. Microsc. Microanal. 20 (suppl 3) 1678-1679.
666. Valley JW, Reinhard DA, Cavosie AJ, Ushikubo T, Spicuzza MJ, Strickland A, Lawrence DF, Larson DJ, and Kelly TF (2014) Elemental and isotopic tomography at single-atom-scale by atom probe and microanalysis by SIMS in 4.4 to 2.5 Ga zircons. DOE-BES Symposium, Gaithersburg MD, May 2014.

**1976-2013:** 665 Published Abstracts

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