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Peer-Reviewed Publications

In Review

76. Bekaert, D.V., **Barry, P.H.**, Krantz, J.A., Curtice, J., Blusztajn, J., Hudak, M. Seltzer, A., Broadley, M.W., Wanless, V.D., Jones, M.R., Soule, S.A., Mittelstaedt, E., Kurz, M.D. (2022) Carbon, Nitrogen, and multi-isotope study of upper mantle 2 geochemical heterogeneities near 14°N on the Mid-Atlantic Ridge. *GCA*. In Review.

75. Rogers, T.J., Buongiorno, J., Jessen, G.L., Schrenk, M.O., Fordyce, J.A., de Moor, J.M., Ramirez, C.J., **Barry, P.H.**, Yücel, M., Selci, M., Cordone, A., Giovannelli, D., Lloyd, K.G. (2022) Patterns in chemolithoautotroph distribution across a subsurface convergent margin landscape. *ISME Journal*. In Review.

74. **Barry, P.H.**, de Moor, J.M., Chiodi, A., Barraza F.A., Hudak, M.R., Bekaert, D.V., Turner, S.J., Curtice, J., Seltzer, A.M., Jessen, G.L., Osses, E., Blamey, J.M., Amenábar M.J., Selci M., Cascone M., Bastianoni A., Nakagawa M., Filipovich R., Bustos E., Schrenk M.O., Buongiorno J., Ramírez C.J., Rogers T.J., Lloyd K.G., Giovannelli D. (2022) The helium and carbon isotope characteristics of the Andean Convergent Margin. *Frontiers in Earth Science*. Special Issue: Volcanism in the Central Volcanic Zone of the Andes. In Review.

73. Tyne, R.L., **Barry, P.H.**, Cheng, A., Kim, J.H., McIntosh, J.C., Hillegonds, D.J., Ballentine, C.J., (2022) Noble gases reveal the role of basin architecture in controlling the evolution of fluids in the Paradox Basin. *EPSL*, In Review.

72. Bekaert, D.V., Curtice, J., Meie, M.M, Byrne, D.J., Broadley, M.W., Seltzer, A., **Barry, P.H.**, Kurz, M.D., Nielsen, S.D. (2022) Noble gas cosmic-ray exposure ages of 23 meteorites: ordinary and CV chondrites, ureilites, eucrites and a diogenite. *MAPS*. In Review.

Published

71. Halford, D., Karolytè, R., **Barry, P.H.**, Darrah, T., Cuzella, J., Ballentine, C.J., Sonnenberg, S. (2022) High Helium Reservoirs in the Four Corners Area of the Colorado Plateau, USA. *Chemical Geology*, 596, 120790. doi: <https://doi.org/10.1016/j.chemgeo.2022.120790>.

70. Halldórsson, S.A., Hilton, D.R., Marshall, E.W., Ranta, E., Ingvason, A., Chakraborty, S., Robin, J.G., Rasmussen, M.B., Gibson, S.A., Ono, S., Scarsi, P., Abebe, T., Hopp, J., **Barry, P.H.**, Castillo, P.R. (2022). Evidence from gas-rich ultramafic xenoliths for Superplume-derived recycled volatiles in the East African sub-continental mantle. *Chemical Geology*, 589, p.120682. doi: <https://doi.org/10.1016/j.chemgeo.2021.120682>.

69. Giovannelli, D. **Barry, P.H.**, Bekaert, D.V., Chiodi A., Cordone, A., Covone, G., Jessen, G.L., Lloyd, K.G., de Moor, J.M., Morrison, S.M., Schrenk, M.O., Vitale Brovarone, A. (2022). Subsurface life can modify volatile cycling on a planetary scale. *Astrobiology*. Vol. 92, 60.

68. Danabalan, D., Gluyas, J.G., Macpherson, C.M., Abraham-James, T.H., Bluett, J.J., **Barry, P.H.**, Ballentine, C.J. (2022) The Principles of Helium Exploration. *Petroleum Geoscience*. doi: <https://doi.org/10.1144/petgeo2021-029>.

67. Tyne, R.L., **Barry, P.H.**, Lawson, M., Byrne, D.J., Warr, O., Xie, H., Hillegonds, D.J., Formolo, M., Summers, Z., Eiler, J.M., Ballentine, C.J. (2021) Rapid methanogenesis of CO₂ in geological carbon storage analogues. *Nature*, 600 (7890), 670-674. doi: <https://doi.org/10.1038/s41586-021-04153-3>.
66. Bekaert, D.V., Krantz, J.A., Seltzer, A.M., Patel, B.S., de Moor, J.M., Nakagawa, M., Giovannelli, D., Ramírez, C.J., Schrenk, M., Gazel, E. Halldórsson, S.A., Kulongoski, J.T., Turner, S., Ballentine, C.J., Beaudry, P., Fischer, T.P., Lloyd, K.G., **Barry, P.H.** (2021) Volatile fluxes in the volcanically-dormant portion of the Central American Subduction Zone: Southern Costa Rica and western Panama. *PNAS*. 118 (47). doi: <https://doi.org/10.1073/pnas.2110997118>.
65. Kimani, C., Kasanzu, C., Tyne, R.L., Mtili, K.M., Byrne, D.J., Kazimoto, E.O., Hillegonds, D.J., Ballentine, C.J., **Barry, P.H.** (2021) He, Ne, Ar and CO₂ systematics of the Rungwe Volcanic Province, Tanzania: Implications for fluid source and dynamics. *Chemical Geology*. 120584. doi: <https://doi.org/10.1016/j.chemgeo.2021.120584>.
64. Mtili, K.M., Byrne, D.J., Tyne, R.L., Kazimoto, E.O., Kimani, C., Kasanzu, C., Hillegonds, D.J., Ballentine, C.J. and **Barry, P.H.**, 2021. The origin of high helium concentrations in the gas fields of southwestern Tanzania. *Chemical Geology*, 120542. doi: <https://doi.org/10.1016/j.chemgeo.2021.120542>.
63. Tyne, R.L., **Barry, P.H.**, Karolytè, R., Byrne, D.J., Kulongoski, J.T., Hillegonds, D.J., Ballentine, C.J., (2021) Investigating the effect of enhanced oil recovery on the noble gas signature of casing gases and produced waters from selected California oil fields. *Chemical Geology*, 120540. doi: <https://doi.org/10.1016/j.chemgeo.2021.120540>.
62. **Barry, P.H.**, Bekaert, D.V., Seltzer, A.M., Halldórsson, S.A., de Moor, J.M., Fischer, T.P., Werner, C.A., Kelly, P.J., Franz, B.P., Krantz, J.A., Kulongoski, J.T., (2021) Helium-Carbon Systematics of Groundwaters in the Lassen Peak Region. *Chemical Geology*, 120535. doi: <https://doi.org/10.1016/j.chemgeo.2021.120535>.
61. Cheng, A., Sherwood Lollar, B., Warr, O., Ferguson, G., Idiz, E., Mundle, S.O.C., **Barry, P.H.**, Byrne, D.J., Mabry, J., Ballentine, C.J., (2021) Determining the role of diffusion and sedimentary basin architecture in ⁴He groundwater distribution and fluid age determination: the Willison Basin, Canada. *EPSL*, 117175. doi: <https://doi.org/10.1016/j.epsl.2021.117175>.
60. Karolytè, R., **Barry, P.H.**, Hunt, A.G., Kulongoski, J.T., Tyne, R.L., Davis, T.A., Wright, M.T., McMahon, P.G., Ballentine, C.J. (2021) Noble gas signatures constrain oil-field water as the carrier phase of hydrocarbons occurring in shallow aquifers in the San Joaquin Basin, USA, *Chemical Geology*. p.120491. doi: <https://doi.org/10.1016/j.chemgeo.2021.120491>.
59. Seltzer, A.M., Krantz, J.A., Ng, J., Danskin, W.R., Bekaert, D.V., **Barry, P.H.**, Kimbrough, D.L., Kulongoski, J.T., Severinghaus, J.P., (2021) The Triple Argon Isotope Composition of Groundwater on Ten-Thousand-Year Timescales. *Chemical Geology*, p.120458. doi: <https://doi.org/10.1016/j.chemgeo.2021.120458>.
58. Labidi, J., Young, E.D., Fischer, T.P., **Barry, P.H.**, Ballentine, C.J., de Moor, J.M. (2021) Constraining the nitrogen and light noble gas cycles in a subduction zone with ¹⁵N/¹⁵N, *EPSL*, 571(2021)117112. doi: <https://doi.org/10.1016/j.epsl.2021.117112>.
57. Zhang, M., Guo, Z., Xu, S., Hilton, D.R., **Barry, P.H.**, Sano, Y., Halldórsson, S.A., Zhang, L., Cheng, Z., Liu, C., Li, S., Lng, Y., Li, Z. and Li, L. (2021) Mantle degassing responses to late Cenozoic southeastward growth of the Tibetan Plateau. *Nature Communications*, 12(1), pp.1-10. doi: <https://doi.org/10.1038/s41467-021-24415-y>

56. Fullerton, K.M., Schrenk, M.O, Yucel, M., Manini, E., Fattorini, D., di Carlo, M., Regoli, F., Nakagawa, M., Smedile, F., Vetriani, C., Miller, H., Morrison, S.M., Martínez, M., de Moor, J.M., **Barry, P.H.**, Giovannelli, D., Lloyd, K.G. (2021) Plate tectonics drive deep biosphere microbial community compositions, *Nature Geoscience*. pp1-6. doi: <https://doi.org/10.1038/s41561-021-00725-0>
55. Seltzer, A.M, Bekaert, D.V., **Barry, P.H.**, Durkin, K.E., Mace, E.K., Aeselth, C., Zappala, J.C., Mueller, P., Jurgens, B., Kulongoski, J.T. (2021) Groundwater residence times obscured by anthropogenic carbonate dissolution. *Science Advances*. 7(17), p.eabf3503. doi: 10.1126/sciadv.abf3503
54. Byrne, D.J., Broadley, M.W., Halldórsson, S.A. Ranta, E., Ricci, A., Tyne R.L., Stefánsson A., Ballentine C.J., **Barry, P.H.** (2021) The use of noble gas isotopes to trace subsurface boiling temperatures in Icelandic geothermal systems. *EPSL*, 560, p. 116805. doi: <https://doi.org/10.1016/j.epsl.2021.116805>
53. **Barry, P.H.** and Broadley M.W. (2021) Nitrogen and noble gases reveal a complex history of metasomatism in the Siberian lithospheric mantle. *EPSL*. 556, 116707. doi: <https://doi.org/10.1016/j.epsl.2020.116707>.
52. Bekaert, D.V., Turner, S.J., Broadley M.W., Barnes, J.D., Halldórsson, S.A. Labidi, J., Wade, J., Walowski, K.J., **Barry, P.H.** (2021) Terrestrial volatile recycling: a global mass-balance. Volume 49 of the *Annual Review of Earth and Planetary Sciences*, 49, p. 2021. doi: <https://doi.org/10.1146/annurev-earth-071620-055024>.
51. Marty, B., Almayrac, M. **Barry, P.H.**, Bekaert, D.V., Broadley, M.W., Byrne, D.J., Ballentine, C.J., Caracausi, A (2020) An evaluation of the C/N ratio of the mantle from natural CO₂-rich gas analysis: Geochemical and cosmochemical implications. *EPSL*. 551, 116574. doi: <https://doi.org/10.1016/j.epsl.2020.116574>.
50. **Barry, P.H.**, Negrete-Aranda, R., Spelz, R., Seltzer, A.M., D.V. Bekaert, Virrueta, C., Kulongoski, J.T. (2020) Volatile sources, sinks and pathways: a helium-carbon isotope study of Baja California fluids and gases. *Chemical Geology*, p. 119722. doi: <https://doi.org/10.1016/j.chemgeo.2020.119722>.
49. Broadley M.W., **Barry, P.H.**, Bekaert, D.V., Caracausi, A., Ballentine, C.J., Marty, B., (2020) Chondritic Krypton and Xenon in the Yellowstone Mantle Plume. *Proceedings of the National Academy of Sciences* Jun 2020, 202003907. doi: <https://doi.org/10.1073/pnas.2003907117>.
48. Labidi, J., **Barry, P.H.**, Bekaert, D.V., Broadley M.W., Marty, B., Giunta, T. Warr, O., Sherwood Lollar, B., Fischer T.P., Avicé, G., Caracausi, A., Ballentine, C.J., Halldórsson, S.A., Stefánsson, A., Kurz, M., Kohl, I., Young E.D., (2020) Hydrothermal ¹⁵N/¹⁵N abundances constrain the origins of mantle nitrogen. *Nature*. 580(7803), 367-371. doi: <https://doi.org/10.1038/s41586-020-2173-4>.
47. Giovannelli, D., **Barry, P.H.**, de Moor, J. M., Lloyd, K.G., Schrenk, M.O. (2020) The role of biology in volatile cycling across a subduction zone. *EOS*, 101. Doi: <https://doi.org/10.1029/2020EO140906>.
46. Byrne, D.J., **Barry, P.H.**, Lawson, M., Ballentine, C.J., (2020) Tracing subsurface fluid flow in the East Texas Basin using noble gas isotopes. *Geochim. Cosmochim. Acta*. 268, 186-208. doi: <https://doi.org/10.1016/j.gca.2019.10.001>.
45. Gannibal, M., Kolobov, V., **Barry, P.H.**, Tyne, R.L., Tarakanov, S., Tolstikhin I. (2020) Helium isotope abundances in 10 km deep ground waters. *Chemical Geology*. 119442.
44. **Barry, P.H.**, Nakagawa, M., Giovannelli, D., de Moor, J. M., Schrenk, M.O., Seltzer, A.M., Manini, E., Fattorini, D., di Carlo, M., Regoli, F., Fullerton, K., Lloyd, K.G. (2019) Helium, inorganic and organic carbon

isotopes of fluids and gases across the Costa Rica convergent margin. *Nature, Sci Data* 6, 284. doi:10.1038/s41597-019-0302-4.

43. Tyne, R.L., **Barry, P.H.**, Hillegonds, D.J., Hunt, A.G. Kulongoski, J.T., Landon, M.K., Stephens, M.J., Byrne, D.J., Ballentine C.J. (2019) A novel method for the extraction, purification and characterisation of noble gases in produced waters. *Geology, Geophysics, and Geosystems (G-Cubed)*, Technical Briefs. doi: <https://doi.org/10.1029/2019GC008552>.

42. Pernet-Fisher, J.F., **Barry, P.H.**, Day, J.M.D., Pearson, D.G., Woodland, S., Agashev, A.M., Pokhilenko, L.N. (2019) Heterogeneous kimberlite metasomatism revealed from a combined He-Os isotope study of Siberian dunite xenoliths. *Geochim. Cosmochim. Acta.* 226, 220-236. doi: <https://doi.org/10.1016/j.gca.2019.07.054>.

41. McMahon, P.B., Vengosh, A., Davis, T.A., Landon, M.K., Tyne, R.L., Wright, M.T., Kulongoski, J.T., Hunt, A.G., **Barry, P.H.**, Kondash, A.J., Wang, Z., Ballentine, C.J. (2019) Occurrence and Sources of Radium in Groundwater Associated with Oil Fields in the Southern San Joaquin Valley, California. *Environmental Science & Technology.* 53, 16, 9398-9406. doi: <https://doi.org/10.1021/acs.est.9b02395>

40. **Barry, P.H.**, de Moor, J. M., Giovannelli, D. Schrenk, M.O., Hummer, D.R., Lopez, T., Pratt, C.A., Alpizar Segura, Y., Battaglia, A., Beaudry, P., Bini, G., Cascante, M. d'Errico, G., di Carlo, M., Fattorini, D., Fullerton, K., Gazel, E., González, G., Halldórsson, S. A., Iacovino, K., Kulongoski, J.T., Manini, E., Martínez, M., Miller, H., Nakagawa, M., Ono, S., Patwardhan, S., Ramírez, C.J., Regoli, F., Smedile, F., Turner, S., Vetricani, C., Yücel, M., Ballentine, C.J., Fischer, T.P., Hilton, D.R., Lloyd, K.G., (2019) Forearc carbon sequestration reduces long-term volatile recycling into the mantle. *Nature*, 568, 487-492. doi: <https://doi.org/10.1038/s41586-019-1131-5>.

39. Le Voyer, M., Hauri, E.H., Cottrell, E., Kelley, K.A., Salters, V.J.M, Langmuir, C.H., Hilton, D.R., **Barry, P.H.**, Füre, E., (2019) Carbon fluxes and primary magma CO₂ contents along the global mid-ocean ridge system. *Geology, Geophysics, and Geosystems (G-Cubed).* 20(3), 1387-1424. doi: <https://doi.org/10.1029/2018GC007630>.

38. **Barry, P.H.**, Lawson, M., W.P. Meurer, Cheng, A., Ballentine, C.J., (2018) Noble gases in deep-water oils of the U.S. Gulf of Mexico. *Geology, Geophysics, and Geosystems (G-Cubed).* 19(11), 4218-4235. doi: <https://doi.org/10.1029/2018GC007654>.

37. Byrne, D.J., **Barry, P.H.**, Lawson, M., Ballentine, C.J., (2018) Determining gas expulsion vs retention during hydrocarbon generation in the Eagle Ford Shale using noble gases. *Geochim. Cosmochim. Acta,* 241, 240-254. doi: 10.1016/j.gca.2018.08.042.

36. Broadley, M.W., **Barry, P.H.**, Ballentine, C.J., Taylor, L.A., Burgess, R. (2018) Plume-induced liberation of recycled volatiles triggers global environmental change. *Nature Geoscience,* 11 (9), 682. doi: 10.1038/s41561-018-0215-4.

35. Gannon, R.S., Saraceno, J.F., Kulongoski, J.T., Teunis, J.A., **Barry, P.H.**, Tyne, R.L., Kraus, T.E.C., Hansen, A.M., and Qi, S.L., (2018) Produced water chemistry data for the Lost Hills, Fruitvale, and North and South Belridge study areas, Southern San Joaquin Valley, California: U.S. Geological Survey data release. doi: 10.5066/F7X929H9.

34. **Barry, P.H.**, Kulongoski, J.T., Landon, M.K., Tyne, R.L., Gillespie, J.M., M.J. Stephens, Hillegonds, D.J., Byrne, D.J., Ballentine, C.J. (2018) Tracing enhanced oil recovery signatures in casing gases using noble gases. *Earth and Planetary Science Letters,* 496, 57-67. doi: 10.1016/j.epsl.2018.05.028.

33. Hunt, J.A., Zafu, A., Mather, T.A., Pyle, D.M., **Barry, P.H.**, (2017) Spatially Variable CO₂ Degassing in the Main Ethiopian Rift: Implications for Magma Storage, Volatile Transport, and Rift-Related Emissions. *Geochemistry, Geophysics, Geosystems*, 18(10), 3714-3737. doi: 10.1002/2017GC006975.
32. Byrne, D.J., **Barry, P.H.**, Lawson, M., Ballentine, C.J., (2017) Noble gases in conventional and unconventional petroleum systems. Geological Society, London, Special Publications, 468, SP468-5. doi: 10.1144/SP468.5.
31. **Barry, P.H.**, (2017) Deep mantle: Enriched carbon source detected. *Nature Geoscience*, 10(9), 625. doi: 10.1038/ngeo3001.
30. **Barry, P.H.**, Lawson, M., Meurer, D. Danabalan, Mabry, J.C., and Ballentine, C.J., (2017) Determining fluid migration and isolation times in multiphase crustal domains using noble gases, *Geology* 45 (9), 775-778. doi: 10.1130/G38900.1.
29. Ballentine, C.J. and **Barry, P.H.**, (2017) Noble gases. Springer Earth Sciences Series. *Encyclopedia of Geochemistry*. doi: 10.1007/978-3-319-39193-9_195-1.
28. Mikhail, S., **Barry, P.H.**, and Sverjensky, D.A., (2017) The role of pH on the deep-Earth nitrogen cycle. *Geochim. Cosmochim. Acta*, 209, 149-160. doi: 10.1016/j.gca.2017.04.007
27. **Barry, P.H.**, Lawson, M., Meurer, W.P., Warr, O., Mabry, J.C., Byrne, D.J., and Ballentine, C.J. (2016) Noble gases solubility models of hydrocarbon charge mechanisms in the Sleipner Vest methane field. *Geochim. Cosmochim. Acta*, 194, 291-309. doi: 10.1016/j.gca.2016.08.021.
26. **Barry P.H.**, and Hilton, D.R. (2016) Release of subducted sedimentary nitrogen throughout Earth's mantle. *Geochemical Perspectives Letters*, 2, 138-147. doi: 10.7185/geochemlet.1614.
25. Correale, A., Rizzo, A.L., **Barry, P.H.**, Lu, J., Zheng, J. (2016) Refertilization of lithospheric mantle beneath the Yangtze Craton, South East China: evidence from the noble gas geochemistry. *Gondwana*, 38, 289-303. doi:10.1016/j.gca.2015.12.021.
24. Halldórsson, S.A., Hilton, D.R., **Barry, P.H.**, Füre, E., Grönvold, K. (2016) Recycling of Phanerozoic crustal material by the Iceland mantle plume: new evidence from nitrogen elemental and isotope systematics of subglacial basalts. *Geochim. Cosmochim. Acta*, 176, 206-226. doi:10.1016/j.gca.2015.12.021.
23. Füre, E., **Barry, P.H.**, Taylor, L.A., Marty, B. (2015) Indigenous nitrogen in the Moon: Constraints from coupled nitrogen-noble gas analyses of mare basalts. *Earth and Planetary Science Letters*, 431, 195-205. doi:10.1016/j.epsl.2015.09.022.
22. Fischer, T. P., Ramirez, C., Mora Amador, R. A., Hilton, D. R., Barnes, J. D., Sharp, Z. D., Le Brun, M., de Moor, J. M., **Barry, P. H.**, Füre, E., and Shaw, A. M. (2015) Temporal variations in fumarole gas chemistry at Poás volcano, Costa Rica. *Journal of Volcanology and Geothermal Research*, 294, 56-70. doi:10.1016/j.jvolgeores.2015.02.002.
21. Pernet-Fisher, J.F., Howarth, G.H., Pearson D.G., **Barry, P.H.**, Woodland S., Pokhilenko N.P., Pokhilenko L.N., Agashev A.M. and Taylor, L.A. (2015) Plume impingement on the Siberian SCLM: Evidence from Re-Os isotope systematics. *Lithos*, 218, 141-154. doi: 10.1016/j.lithos.2015.01.010.

20. Day, J. M. D., **Barry, P. H.**, Hilton, D.R., Burgess, R., Pearson D.G., and Taylor, L.A. (2015) The helium flux from the continents and ubiquity of low-³He/⁴He recycled crust and lithosphere. *Geochim. Cosmochim. Acta*, 153, 116-133. doi: 10.1016/j.gca.2015.01.008.
19. **Barry, P. H.**, Hilton, D. R., Day J.M.D., Pernet-Fisher, J.F., Howarth, G.H., Agashev A.M., Pokhilenko N.P., Pokhilenko L.N., and Taylor, L.A. (2015) Helium isotope evidence for modification of the cratonic lithosphere during the Permo-Triassic Siberian flood basalt event. *Lithos*, 216-217, 73-80. doi: 10.1016/j.lithos.2014.12.001.
18. Howarth, G. H., Pernet-Fisher, J. F., Balta, B. J., **Barry, P. H.**, Bondar, R. J. and Taylor, L. A. (2014) Two-stage polybaric formation of the new enriched, pyroxene-oikocrystic/lherzolitic shergottite, NWA 7397. *Meteoritics and Planetary Science*, 1-19. doi: 10.1111/maps.12357.
17. Howarth, G.H., Sobolev, N.V, Pernet-Fisher, J.F., **Barry, P.H.**, Penumadu, D., Puplampu, S., Ketcham, R.A., Maisano, J., Taylor, D., and Taylor, L.A. (2014) The secondary origin of diamonds: multi-modal radiation tomography of diamondiferous mantle xenoliths. *International Geology Review*, 56 (9), 1172-1180. doi: 10.1080/00206814.2014.926784.
16. **Barry, P.H.**, Hilton, D.R., Fűri, E., Halldórsson, S.A., Grönvold, K. (2014) Carbon isotope and abundance systematics, and CO₂ fluxes from Icelandic geothermal gases, fluids and subglacial basalts, *Geochim. Cosmochim. Acta*, 134, 74-99. doi: <http://dx.doi.org/10.1016/j.gca.2014.02.038>.
15. Pernet-Fisher, J.F., Howarth, G.H., Lui, Y. **Barry, P.H.**, Carmody, L., Valley, J.W., Bodnar, R.J., Spetsius, Z.V., Taylor, L.A. (2014) Komsomolskaya Diamondiferous Eclogites: Evidence for Oceanic Crustal Protoliths. *Contributions to Mineralogy and Petrology*, 167, 981. doi: 10.1007/s00410-014-0981-y.
14. Howarth, G.H., **Barry, P.H.**, Pernet-Fisher, J.F., Baziotis, I.P., Pokhilenko, N.P., Pokhilenko, L.N., Bodnar, R.J., Taylor, L.A. (2014) Superplume Metasomatism: Evidence from Siberian mantle xenoliths, *Lithos*, 184–187, 209–224. doi: 10.1016/j.lithos.2013.09.006
13. Carmody, L., **Barry, P.H.**, Shervais J.W., Kluesner, J.W. Taylor, L.A. (2013) Oxygen Isotopes in Subducted Oceanic Crust: A New Perspective from Siberian Diamondiferous Eclogites. *Geology, Geophysics, and Geosystems (G-Cubed)*, 14. doi: 10.1002/ggge.20220.
12. Mposkos, E., Baziotis, I., Leontakianakos, G., **Barry, P.H.** (2013) The metamorphic evolution of the high-pressure Kechros complex in East Rhodope (NE Greece): implications from Na-Al-rich leucocratic rocks within antigorite serpentinites. *Lithos* 177, 17-33. doi: <http://dx.doi.org/10.1016/j.lithos.2013.06.012>.
11. **Barry, P.H.** and Taylor, L.A. (2013) Age of the Earth. In: Rink W., Thompson J. (Ed.) *Encyclopedia of Scientific Dating Methods*. doi: 10.1007/978-94-007-6326-5_65-7.
10. de Moor, J.M., Fischer, T.P., King, P.L., Botcharnikov, R.E., Hervig, R., Hilton, D.R., **Barry, P.H.**, Mangasini, F., and Ramirez, C. (2013) Volatile-rich silicate melts from Oldoinyo Lengai volcano (Tanzania): Implications for carbonatite genesis and eruptive behavior. *Earth and Planetary Science Letters* 361, pp 379-390. doi: <http://dx.doi.org/10.1016/j.epsl.2012.11.006>.
9. **Barry, P.H.**, Hilton, D.R., Fischer, T.P., de Moor, J.M., Mangasini, F, Ramirez, C.J., (2013) Helium and carbon isotope systematics of cold “mazuku” CO₂ vents and hydrothermal gases and fluids from Rungwe Volcanic Province, southern Tanzania, *Chemical Geology* 339, pp 141-156. doi: 10.1016/j.chemgeo.2012.07.003.

8. Karlstrom, K.E., Crossey, L.J., Hilton, D.R., and **Barry, P.H.** (2013) Mantle ^3He and CO_2 degassing in carbonic and geothermal springs of Colorado and implications for neotectonics of the Rocky Mountains, *Geology* 41, pp 495-498. doi: 10.1130/G34007.1.
7. Kulongoski, J.T., Hilton, D.R., **Barry, P.H.**, Esser, B., Hillegonds, D., and Belitz, K. (2013) Mantle-volatile weakening of the Big Bend Section of the San Andreas Fault, California: helium and carbon-dioxide systematics, *Chemical Geology* 339 pp 92-102. doi: <http://dx.doi.org/10.1016/j.chemgeo.2012.09.007>.
6. de Moor, J.M., Fischer, T.P., Sharp, Z.D., Hilton, D.R., **Barry, P.H.**, Mangasini, F., and Ramirez, C. (2013) Gas chemistry and nitrogen isotope compositions of cold mantle gases from Rungwe Volcanic Province, southern Tanzania, *Chemical Geology* 339, pp 20-32. doi: <http://dx.doi.org/10.1016/j.chemgeo.2012.08.004>.
5. **Barry, P.H.**, Hilton, D.R., Halldórsson S. A., Hahm, D. and Marti, K. (2012) High precision nitrogen isotope measurements in oceanic basalts using a static triple collection noble gas mass spectrometry. *Geology, Geophysics, and Geosystems (G-Cubed), (Technical Briefs)* 13, Number 1. doi: 10.1029/2011GC003878, 2012.
4. Hilton, D.R., Halldórsson, S.A., **Barry, P.H.**, Fischer, T.P., de Moor, J.M., Ramirez, C.J., Mangasini, F. and Scarsi, P. (2011) Helium isotopes at Rungwe Volcanic Province, Tanzania, and the origin of East African plateaux. *Geophysical Research Letters*. 38, pp 21. doi: 10.1029/2011GL049589.
3. Füre, E., Hilton, D.R., Halldórsson, S.A., **Barry, P.H.**, Hahm, D., Fischer, T.P. and Grönvold, K. (2010) Apparent decoupling of the He and Ne isotope systematics of the Icelandic mantle: the role of He depletion, melt mixing, degassing fractionation and air interaction. *Geochim. Cosmochim. Acta*. 74, pp 3307-3332. doi: <http://dx.doi.org/10.1016/j.gca.2010.03.023>.
2. Hilton, D.R., Ramirez, C., Amador, R.A., Fischer, T.P., Füre, E, **Barry, P.H.**, and Shaw, A.M. (2010) Monitoring of temporal and spatial variations in fumarole helium and carbon dioxide characteristics at Poas and Turrialba volcanoes, Costa Rica (2001-2009). *Geochemical Journal* 44, pp 431-440. doi: <http://dx.doi.org/10.2343/geochemj.1.0085>.
1. **Barry, P.H.**, Hilton, D.R., Tryon, M.D., Brown, K.M., and Kulongoski, J.T. (2009) A New Syringe Pump Apparatus for the Retrieval and Temporal Analysis of Helium (SPARTAH) in groundwaters and geothermal fluids, *Geology, Geophysics, and Geosystems (G-Cubed), (Technical Briefs)* 10, Number 5, doi: 10.1029/2009GC002422, 2009.