

PUBLICATIONS

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Published

94. McCormick Kilbride, B.T., **Barry, P.H.**, Fischer, T.P., Nowicki, S., Hohn, M., Holland, G., Hudak, M., Itikarai, I, Liu, E., Mulina, K., (2024) Helium, carbon and nitrogen isotope evidence for slab influence on volcanic gas emissions at Rabaul caldera, Papua New Guinea. *Chemical Geology*, 670, p.122434. doi: <https://doi.org/10.1016/j.chemgeo.2024.122434>

**Collected samples, developed the models and co-wrote paper.*

93. Grambling, T.A., Newell, D.L., Lloyd, K.G., Hiett, C.D., Upin, H., **Barry, P.H.**, Giovannelli, D., de Moor, J.M., Chiodi, A., Jessen, G., Szykiewicz, A., (2024) Tracing the orogenic sulfur cycle in the Andes using stable isotope composition of dissolved sulfate in thermal springs. *Chemical Geology*. 122365. doi: <https://doi.org/10.1016/j.chemgeo.2024.122365>.

**Developed the models and co-wrote paper.*

92. Selci, M., Correggia, M., Cordone, A., Guida, M., Quero, G.M., Piredda, R., Vetrani, C., Ramirez, C., Lloyd, K.G., de Moor, J.M. and Barry, P.H., (2024) Recreational hot springs as environmental reservoir of potential multidrug-resistant pathogens. *Environmental Research*, p.119841. doi: <https://doi.org/10.1016/j.envres.2024.119841>.

**Collected samples, developed the models and co-wrote paper.*

91. Bekaert, D.V., Caracausi, A., Byrne, D.J., Broadley, M.W., **Barry, P.H.**, Marty, B., Seltzer A.M., (2024) Primordial and ²⁴⁴Pu-derived xenon missing from Earth's convecting mantle. *EPSL*. 642, 118886. doi: <https://doi.org/10.1016/j.epsl.2024.118886>.

**Supervised Bekaert, lead PI on grant that funded project, helped develop the method and models, co-wrote paper.*

90. Giovannelli, D., Selci, M., Cramm, M., Bradley, J.A., de Moor, J.M., **Barry, P.H.**, Morrison, S.M., Correggia, M., di Iorio, L., Cordone, A. and Caliro, S., (2024) Greenland 2022 GHOST project: Sampling Greenland geothermal springs-expedition report. *Open Research Europe*, 4(77), p.77.90. doi: <https://doi.org/10.12688/openreseurope.17002.1>.

**Analyzed the samples and co-wrote paper.*

89. Stefánsson, A., Ricci, A., Garnett, M., Gunnarsson-Robin, J., Kleine-Marshall, B.I., Scott, S.W., Lelli, M., Dantas Cardoso, C., Pik, R., Santinelli, C., Ono, S., **Barry, P.H.**, Broadley, M.W., Byrne, D.J., Halldórsson, S.A., Fiebig, J., (2024) Origins of methane in hydrothermal fluids unraveled by stable and radiogenic isotope data and kinetic constraints. *Geochim. Cosmochim. Acta*. 373, 84-97. doi: <https://doi.org/10.1016/j.gca.2024.03.015>.

**Helped develop models and co-wrote paper.*

88. 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., (2024) Carbon, Nitrogen, and multi-isotope study of the

upper mantle near 14°N on the Mid-Atlantic Ridge. Part B: Source effects. *Geochim. Cosmochim. Acta.* 369, 179-195. doi: <https://doi.org/10.1016/j.gca.2023.12.017>

* *Supervised Bekaert, helped develop the models, co-wrote paper.*

87. 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., (2024) Carbon, Nitrogen, and multi-isotope study of the upper mantle near 14°N on the Mid-Atlantic Ridge. Part A: Degassing effects. *Geochim. Cosmochim. Acta.* 369, 160-178. doi: <https://doi.org/10.1016/j.gca.2023.12.015>

* *Supervised Bekaert, helped develop the models, co-wrote paper.*

86. Li, K., **Barry, P.H.**, Jie Yu, A. and Li, L., (2023) Oceanic serpentinites: A potentially critical reservoir for deep nitrogen recycling. *Geology.* 51(12), pp.1096-1100. doi: <https://doi.org/10.1130/G51464.1>

* *Supervised Li, co-wrote paper.*

85. Adeniyi, E.O., Tyne, R.L., **Barry, P.H.**, Darrah, T.H., Hubbard, M.S., Myers, M.L., Bowen, D.H., Calavan, C.W., Shaw, C.A., (2023) Origin of CO₂ in Upper Devonian Duperow Formation and the Bakken Petroleum System at Kevin Dome, Northwest Montana. *Chemical Geology.* p.121733. doi: <https://doi.org/10.1016/j.chemgeo.2023.121733>.

* *Analyzed data, helped develop the models, co-wrote paper.*

84. Paul, R., Rogers, T.J., Fullerton, K.M., Selci, M., Cascone, M., Stokes, M.H., Steen, A.D., de Moor, J.M., Chiodi, A., Stefánsson, A., Halldórsson, S.A., Ramirez, C.J., Jessen, G.L., **Barry, P.H.**, Cordone, A., Giovannelli, D., Lloyd, K.G., (2023) Complex organic matter degradation by secondary consumers in chemolithoautotrophy based subsurface geothermal ecosystems. *PLOS One.* 18(8), e0281277. doi: <https://doi.org/10.1371/journal.pone.0281277>.

83. Tyne, R.L., **Barry, P.H.**, Lawson, M., Lloyd, K.G., Giovannelli, D., Summers, Z., Ballentine, C.J., (2023) Understanding the role of microbial methanogenesis in CO₂ storage. *Environmental Science & Technology.* 57, 9459-9473. doi: <https://doi.org/10.1021/acs.est.2c08652>

* *Supervised Tyne, co-wrote paper.*

82. Helper, J.P., Barnes, J.D., de Moor, J.M., Rodríguez, A., **Barry, P.H.**, Ramos, E.J. and Lassiter J.C., (2023) Li isotope ratios of spring fluids as an effective tracer of slab-derived subducted sources across the Costa Rica forearc. *Geology.* doi: <https://doi.org/10.1130/G51277.1>

* *Analyzed the samples in lab, co-wrote paper.*

81. Bekaert, D.V., **Barry, P.H.**, Broadley, M.W., Byrne, D.J., Marty, B., Ramírez, C.J., de Moor, J.M., Rodriguez, A., Hudak, M.R., Subhas, A.V. and Halldórsson, S.A., (2023) Ultrahigh-precision noble gas isotope analyses reveal pervasive subsurface fractionation in hydrothermal systems. *Science Advances.* 9(15), p.eadg2566. doi: [10.1126/sciadv.adg2566](https://doi.org/10.1126/sciadv.adg2566).

* *Supervised Bekaert, lead PI on grant that funded project, helped develop the method and models, co-wrote paper.*

80. Hutchison, W., Ogilvie, E.R.D., Gebrewold, Y., **Barry, P.H.**, Fischer, T.P., Biggs, J., Albino F., Guðbrandsson, S., (2023) Gas emissions and sub-surface architecture of fault-controlled geothermal systems: a case study of the North Abaya geothermal area. *Geology, Geophysics, and Geosystems (G-Cubed).* 24(4), e2022GC010822. doi: <https://doi.org/10.1029/2022GC010822>.

**Analyzed the samples in lab, co-wrote paper.*

79. Ranta, E., Halldórsson, S.A., **Barry, P.H.**, Ono, S., Gunnarsson-Robin, J., Kleine, B.I., Ricci, A., Fiebig, J., Sveinbjörnsdóttir, A.E., Stefánsson, A., (2023) Deep magma degassing and volatile fluxes through volcanic hydrothermal systems: Insights from the Askja and Kverkfjöll volcanoes, Iceland. *Journal of Volcanology and Geothermal Research*. 436. 107776. doi: <https://doi.org/10.1016/j.jvolgeores.2023.107776>.

**Analyzed some samples in lab, co-wrote paper.*

78. Seltzer, A.M., Nicholson, D.P., Smethie, W.M., Tyne, R.L., Le Roy, E., Stanley, R.H.R., Stute, M., **Barry, P.H.**, McPaul, K., Davidson, P.W., Chang, B.X., Rafter, P.A., Lethaby, P. Johnson, R.J., Khatiwala, S.P., Jenkins, W.J., (2023) Dissolved gases track deep ocean ventilation processes in the deep North Atlantic. *Proceedings of the National Academy of Sciences*. 120 (11) e2217946120. doi: <https://doi.org/10.1073/pnas.2217946120>.

**Supervised Seltzer, lead PI on grant that funded project, co-wrote paper.*

77. 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., (2023) Patterns in chemolithoautotroph distribution across a subsurface convergent margin landscape. *ISME Journal*. 17 (1), 140-150. doi: <https://doi.org/10.1038/s41396-022-01331-7>.

**Lead PI on grant that funded project, co-wrote paper.*

76. Giovannelli, D., **Barry, P.H.**, de Moor, J.M., Jessen, G.L., Schrenk, M.O., Lloyd, K.G., (2022) Sampling across large-scale geological gradients to study geosphere-biosphere interactions. *Frontiers in Microbiology*. 4212. doi: [10.3389/fmicb.2022.998133](https://doi.org/10.3389/fmicb.2022.998133).

**Lead PI on grant that funded project, co-wrote paper.*

75. Werner, C., Schipper, C.I., Cronin, S., **Barry, P.H.**, Stewart, M.K., (2022) Magmatic carbon and helium in springs reveals the vitality of a dormant volcano, Taranaki, New Zealand. *Geophysical Research Letters*. vol 49, issue 18. doi: [10.1029/2022GL099273](https://doi.org/10.1029/2022GL099273).

**Analyzed samples, Interpreted data, helped develop models, co-wrote paper.*

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*. 10, 897267. doi: [10.3389/feart.2022.897267](https://doi.org/10.3389/feart.2022.897267).

73. 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) Determining the noble gas cosmic ray exposure ages of 23 meteorites (8 chondrites and 15 achondrites) from modeling and empirical methods. *Meteoritics and Planetary Science*. doi: <https://doi.org/10.1111/maps.13887>.

**Supervised Bekaert, provided comments on manuscript.*

72. Tyne, R.L., **Barry, P.H.**, Cheng, A., Kim, J.H., McIntosh, J.C., Hillegonds, D.J., Ballentine, C.J., (2022) Basin architecture controls on the chemical evolution and 4He distribution of groundwater in the Paradox Basin. *Earth and Planetary Science Letters*. 589, 117580. doi: <https://doi.org/10.1016/j.epsl.2022.117580>.

**Supervised Tyne, helped interpret data and write manuscript.*

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>.

**Interpreted data, helped develop models, co-wrote paper.*

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>.

**Analyzed some samples in lab, co-wrote paper.*

69. 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>.

**Collected samples, analyzed samples, helped develop models and write paper.*

68. 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., (2021) Subsurface life can modify volatile cycling on a planetary scale. *Astrobiology*. Vol. 92, 60.

**Lead PI on grant that funded project, co-wrote paper.*

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>.

**Supervised Tyne, collected samples, helped interpret data, develop models and write manuscript.*

66. Bekaert, D. V, Gazel, E., Turner, S., Behn, M.D., de Moor, J.M., Zahirovic, S., Manea, V.C., Hoernle, K., Fischer, T.P., Hammerstrom, A., Seltzer, A.M., Kulongoski, J.T., Patel, B.S., Schrenk, M.O., Halldórsson, S.A., Nakagawa, M., Ramírez, C.J., Krantz, J.A., Yücel, M., Ballentine, C.J., Giovannelli, D., Lloyd, K.G., **Barry, P.H.**, (2021) High ³He/⁴He in central Panama reveals a distal connection to the Galapagos plume. *Proceedings of the National Academy of Sciences*. 118(47) e2110997118. doi: <https://doi.org/10.1073/pnas.2110997118>

**Supervised Bekaert, collected samples, analyzed samples, helped develop models and write paper.*

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>

**Supervised Kimani, collected samples, helped interpret data, develop models and write manuscript.*

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>.

**Supervised Mtili, collected samples, helped interpret data, develop models and write manuscript.*

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>.

**Supervised Tyne, collected samples, helped interpret data, develop models and write manuscript.*

62. **Barry, P.H.**, Bekaert, D.V., Krantz, J.A., Halldórsson, S.A., de Moor, J.M., Fischer, T.P., Werner, C.A., Kelly, P.J., Seltzer, A.M., Franz, B.P., 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. *Earth and Planetary Science Letters*. 117175. doi: <https://doi.org/10.1016/j.epsl.2021.117175>.

**Assisted in analyzing samples and co-wrote paper.*

60. Karolytė, 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>.

**Collected samples, analyzed samples, interpreted data, modelled data, wrote first draft of manuscript.*

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>.

**Supervised Seltzer, co-wrote manuscript.*

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, *Earth and Planetary Science Letters*. 571(2021)117112. doi: <https://doi.org/10.1016/j.epsl.2021.117112>.

**Collected samples, analyzed samples, interpreted data, co-wrote manuscript.*

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>

**Collected samples, co-wrote manuscript.*

56. Fullerton, K.M., Schrenk, M.O., Yucel, M., Manini, E., Fattorini, D., di Carlo, M., Regoli, F., Nakagawa, M., Smedile, F., Vetrani, 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>

**Lead PI on grant that funded project, collected samples, co-wrote paper.*

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

**Supervised Seltzer, helped develop models and co-wrote manuscript.*

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. *Earth and Planetary Science Letters*. 560, p. 116805. doi: <https://doi.org/10.1016/j.epsl.2021.116805>

**Supervised Byrne, collected samples, helped develop models and co-wrote paper.*

53. **Barry, P.H.** and Broadley M.W., (2021) Nitrogen and noble gases reveal a complex history of metasomatism in the Siberian lithospheric mantle. *Earth and Planetary Science Letters*. 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>.

**Supervised Bekaert, and I am co-first author on paper.*

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. *Earth and Planetary Science Letters*. 551, 116574. doi: <https://doi.org/10.1016/j.epsl.2020.116574>.

**Helped develop models and co-wrote paper.*

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*. 202003907. doi: <https://doi.org/10.1073/pnas.2003907117>.

**Collected samples, analyzed samples, helped develop models and write paper.*

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>.

**Collected samples, analyzed samples, helped develop models and write paper.*

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>.

**Lead PI on grant that funded project, co-wrote paper.*

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>.

**Supervised Byrne, collected samples, helped develop models and co-wrote paper.*

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. doi: <https://doi.org/10.1016/j.chemgeo.2019.119442>

**Helped write the manuscript.*

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>.

**Supervised Tyne, collected samples, helped develop lab methods and co-wrote paper.*

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**Helped model data and write the manuscript.*

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