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REPORTS AND PUBLICATIONS by David Banks.

Publications in refereed journals or conference proceedings since 2020

2020

Westaway, R., Burnside, N.M., Banks, D. (2020). Hydrochemistry of produced water from the Pohang EGS project site, Korea: implications for water-rock reactions and associated changes to the state of stress accompanying hydraulic fracturing of granite. *Proceedings World Geothermal Congress 2020*, Reykjavik, Iceland, April 26 – May 2, 2020, postponed to 21-26 May 2021. Paper 15037, 12 pp. Available online: <https://pangea.stanford.edu/ERE/db/WGC/papers/WGC/2020/15037.pdf>

Banks, D., Boyce, A.J., Burnside, N.M., Janson, E. & Roqueñi Gutierrez, N. (2020). On the common occurrence of sulphate with elevated $\delta^{34}\text{S}$ in European mine waters: Sulphides, evaporites or seawater? *International Journal of Coal Geology* 232, article 103619. doi: [10.1016/j.coal.2020.103619](https://doi.org/10.1016/j.coal.2020.103619)

2021

Banks, D., Boyce, A.J., Westaway, R., Burnside, N.M. (2021). Sulphur isotopes in deep groundwater reservoirs: Evidence from post-stimulation flowback at the Pohang geothermal facility, Korea. *Geothermics* 91, Article 102003. doi: [10.1016/j.geothermics.2020.102003](https://doi.org/10.1016/j.geothermics.2020.102003)

Walls, D.B., Banks, D., Boyce, A.J. & Burnside, N.M. (2021). A review of the performance of minewater heating and cooling systems. *Energies* 14(19), article 6215. doi: [10.3390/en14196215](https://doi.org/10.3390/en14196215)

Raper, E., Banks, D., Shipperbottom, J., Ham, P. (2021). Baseline surface- and groundwater monitoring prior to an onshore shale gas operation in the Vale of Pickering, UK. *Quarterly Journal of Engineering Geology and Hydrogeology*. doi: 10.1144/qjegh2021-104

Banks, D. (2021). 'Fessing up. Risks and obstacles to mine water geothermal energy. *Proc. Seminar: Mine Water Heating and Cooling: A 21st Century Resource for Decarbonisation. 10th-11th March 2021*. Virtual event organised by British Geological Survey, UK Department for Business, Enterprise and Industrial Strategy (BEIS) and IEA Geothermal. https://drive.google.com/file/d/1-ScdpWmW-2E9tgkISMRR2PImE_5HDJPZ/view

2022

Brown, C., Kolo, I., Falcone, G., Banks, D. & Westaway, R. (2022). Part II: Repurposing geothermal wells. Part II of Nibbs, W., Watson, S., Brown, C., Kolo, I., Falcone, G., Banks, D. & Westaway, R. "Repurposing deep boreholes for thermal energy production and storage". *SPE International, Aberdeen Division, Geothermal Seminar 2022, 25th January 2022 (virtual event)*. Society of Petroleum Engineers. https://www.spe-berdeen.org/wp-content/uploads/2021/12/Geothermal-Conference-Programme_0.8.pdf

Banks, D., Steven, J., Black, A. & Naismith, J. (2022) Conceptual modelling of two large-scale mine water geothermal energy schemes; Felling, Gateshead, UK. *International Journal for Environmental Science and Public Health* 19(3), Article ID 1643. doi: [10.3390/ijerph19031643](https://doi.org/10.3390/ijerph19031643)

Kolo, I., Brown, C.S., Falcone, G. & Banks D. (2022). Closed-loop deep borehole heat exchanger: Newcastle Science Central Deep geothermal borehole. *Proc. European Geothermal Congress EGC2022, 17-21 October 2022, Berlin, Germany, Paper 174*

Walls, D.B., Banks, D., Peshkur, T., Boyce, A.J. & Burnside, N.M. (2022) Heat recovery potential and hydrochemistry of mine water discharges from Scotland's coalfields. *Earth Science, Systems and Society* 2, Article 10056. doi: [10.3389/esss.2022.10056](https://doi.org/10.3389/esss.2022.10056).

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Brown, C.S., Kolo, I., Falcone, G. & Banks, D. (2023). Investigating scalability of deep borehole heat exchangers: Numerical modelling of arrays with varied modes of operation. **Renewable Energy** 202, 442-452. doi: [10.1016/j.renene.2022.11.100](https://doi.org/10.1016/j.renene.2022.11.100)

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