

## REPORTS AND PUBLICATIONS by David Banks.

### Publications in refereed journals or conference proceedings since 2010

#### 2010

- Gandy, C.J., Clarke, L., Banks, D. & Younger, P.L. (2010).** Predictive modelling of groundwater abstraction and artificial recharge of cooling water. **Quarterly Journal of Engineering Geology and Hydrogeology**, 43, 279-288. doi: [10.1144/1470-9236/08-093](https://doi.org/10.1144/1470-9236/08-093).
- Banks, D., Frolik, A., Gzyl, G. & Rogoż, M. (2010).** Modeling and monitoring of mine water rebound in an abandoned coal mine complex: Siersza Mine, Upper Silesian Coal Basin, Poland. **Hydrogeology Journal**, 18, 519-534. doi: [10.1007/s10040-009-0534-z](https://doi.org/10.1007/s10040-009-0534-z).
- Haldorsen, S., Heim, M., Dale, B., Landvik, J.Y., Van Der Ploeg, M., Leijnse, A., Salvigsen, O., Hagen, J.O. & Banks, D. (2010).** Sensitivity to long-term climate change of subpermafrost groundwater systems in Svalbard. **Quaternary Review**, 73, 393-402. doi: [10.1016/j.yqres.2009.11.002](https://doi.org/10.1016/j.yqres.2009.11.002).
- Banks, D., Gundersen, P., Gustafson, G., Mäkelä, J. & Morland, G. (2010).** [Regional similarities in the distributions of well yield from crystalline rocks in Fennoscandia](#). **Norges Geologiske Undersøkelse Bulletin**, 450, 33-47.
- Dodds, J. & Banks, D. (2010).** Adding energy value to restored mineral excavations - The use of wet restored mineral workings for energy recovery. **Quarry Management**, July 2010, 34-37.

#### 2011

- Fernandez Fuentes, I.M., Sanner, B., Allington, R., Dumas, P., Andersson, O., Hellström, G., Banks, D., Urchueguia, J., Jaudin, F., Huber, H., Cucueteanu, D. & Jones, G.L.I. (2011).** GEOTRAINET: Geo-Education for a sustainable geothermal heating and cooling market. European project results. **European Geologist**, 31, 5-10. <http://www.eurogeologists.eu/index.php?page=841>
- Banks, D. (2011).** Site investigation (ground conditions/licences and permits). *In*: McCorry, M. & Jones, G.L. (eds) [Geotrainet Training Manual for Designers of Shallow Geothermal Systems](#). GEOTRAINET/European Federation of Geologists, Brussels, 71-92.
- Banks, D. (2011).** The application of analytical solutions to the thermal plume from a well doublet ground source heating or cooling scheme. **Quarterly Journal of Engineering Geology and Hydrogeology**, 44, 191-197. doi: [10.1144/1470-9236/09-028](https://doi.org/10.1144/1470-9236/09-028).

#### 2012

- King W, Banks D, Findlay J (2012).** Field determination of shallow soil thermal conductivity using a short-duration needle probe test. **Quarterly Journal of Engineering Geology and Hydrogeology**, 45, 497-504. doi: [10.1144/qjegh2012-002](https://doi.org/10.1144/qjegh2012-002).
- Banks D (2012).** [From Fourier to Darcy, from Carslaw to Theis: the analogies between the subsurface behaviour of water and heat](#) [Da Fourier a Darcy, da Carslaw a Theis: le analogie del comportamento delle acque e del calore nel sottosuolo]. **Acque Sotterranee (Italian Journal of Groundwater)**, 1(3), 9-19. doi: [10.7343/AS-013-12-0025](https://doi.org/10.7343/AS-013-12-0025).
- Demetriades, A., Reimann, C., Birke, M. and the Eurogeosurveys Geochemistry EGG Team** (S. Albanese, M. Andersson, D. Banks, M. J. Batista, A. Bellan, L. Bityukova, D. Cicchella, M. Corral, B. De Vivo, W. De Vos, N. Devic, M E. Dinelli, Dimitris Dimitriou, Miloslav Duris, O. Eggen, P. Filzmoser, D. Flight, R. Flynn, B. Frengstad, U. Fugedi, A. Gilucis, M. Gosar, V. Gregorauskiene, A. Gulan, J. Halamic, E. Haslinger, A. Hatzikirou, P. Hayoz, G. Hobiger, H. Hrvatovic, S. Husnjak, C. Innocent, A. Ion, C. Ionesco, F. Jähne, J. Jarva, G. Jordan, L. Kaste, J. Kivisilla, V. Klos, F. Koler, L. Kuti, O. Karnachuk, K. Lax, A. Lima, J. Locutura, C. Lourenco, H. Lorenz, P. Malik, R. Maquil, I. Malyuk, N. Miosic, M. Nikas, E. Nicolaou, K. Onuzi, R. T. Ottesen, W. Petersell, T. Petrovic, N. Phillipov, E. Poyiadji, U. Rauch, S. Reeder, R. Salminen, I. Salpeteur, N. Samardzic, P. Sampatakakis, I. Schoeters, A. Schedl, F. Skopljak, P. Smedley, L. Smietanski, A. Šorša, N. Spanou, T. Staffilov, M. Stefouli, T. Tarvainen, M. Titovet, V. Trendavilov, P. Valera, M. Vavradou, P. Vekios, N. Veljkovic, D. Vidojevic, M. Vladymirovna, G. Vrachatis, M. Zlokolic-Mandic, B. J. Wigum) (2012). European ground water geochemistry: using bottled water as a sampling medium. Chapter 10 *in* Quercia, F.F. & Vidojevic, D. (eds.), "Clean Soil and

### 2013

- Pike, D., Banks, D., Waters, A. & Robinson, V.K. (2013). Regional distribution of temperature in the Chalk of the western London Basin syncline. *Quarterly Journal of Engineering Geology and Hydrogeology*, 46, 117-125. doi: [10.1144/qjegh2011-046](https://doi.org/10.1144/qjegh2011-046).
- Banks, D., Withers, J., Cashmore, G. & Dimelow, C. (2013). An overview of the results of 61 *in-situ* thermal response tests in the UK. *Quarterly Journal of Engineering Geology and Hydrogeology*, 46, 281-291. doi: [10.1144/qjegh2013-017](https://doi.org/10.1144/qjegh2013-017).

### 2014

- Frengstad, B.S. & Banks, D. (2014). Uranium distribution in groundwater from fractured crystalline aquifers in Norway. In: Sharp, J.M. (ed.) "Fractured Rock Hydrogeology", *International Association of Hydrogeologists Selected Papers*, 20, 257-276. CRC Press/ Taylor & Francis, London. ISBN 9781138001596. doi: [10.1201/b17016-17](https://doi.org/10.1201/b17016-17).
- Frank, Y., Lukina, A., Kadnikov, V., Banks, D., Bukhtiyarova, P., Ravin, N.V. & Karnachuk, O. (2014). Sampling of a deep hydrocarbon exploration well in Western Siberia reveals deeply branched bacterial phylotypes. *Proc. 10th International Congress on Extremophiles - "Extremophiles 2014", St. Petersburg, Russia, 7<sup>th</sup>-11<sup>th</sup> September 2014*, Paper O60.

### 2015

- Banks, D. (2015). A review of the importance of regional groundwater advection for ground heat exchange. *Environmental Earth Sciences*, 73(6), 2555-2565. doi: [10.1007/s12665-014-3377-4](https://doi.org/10.1007/s12665-014-3377-4). (First published online June 2014).
- Banks, D. (2015). William Thomson - father of thermogeology. Published online in *Scottish Journal of Geology* 51, 95-99. doi: [10.1144/sjg2013-017](https://doi.org/10.1144/sjg2013-017). (First published online 20th November 2014)
- Banks, D. (2015). Horatio Scott Carslaw and the origins of the well function and line source heat function. Published online in *Scottish Journal of Geology* 51, 100-104. doi: [10.1144/sjg2014-021](https://doi.org/10.1144/sjg2014-021). (First published online 20th November 2014)
- Banks, D., Birke, M., Flem, B. & Reimann, C. (2015). Inorganic chemical quality of European tap-water: 1. distribution of parameters and regulatory compliance. *Applied Geochemistry*, 59, 200-210. doi: [10.1016/j.apgeochem.2014.10.016](https://doi.org/10.1016/j.apgeochem.2014.10.016) (first published online 31 October 2014)
- Flem, B., Reimann, C., Birke, M., Banks, D., Filzmoser, P. & Frengstad, B. (2015). Inorganic chemical quality of European tap-water: 2. Geographical distribution. *Applied Geochemistry*, 59, 211-224. doi: [10.1016/j.apgeochem.2015.01.016](https://doi.org/10.1016/j.apgeochem.2015.01.016)
- Banks, D. (2015). Dr T.G.N. "Graeme" Haldane - Scottish heat pump pioneer. *The International Journal for the History of Engineering and Technology*, 85(2), 168-176. doi: [10.1179/1758120615Z.00000000061](https://doi.org/10.1179/1758120615Z.00000000061)

### 2016

- Frank, Y., Banks, D., Avakian, M., Antsiferov, D., Kadychagov, P. & Karnachuk, O. (2016). Firmicutes is an important component of microbial communities in water-injected and pristine oil reservoirs; Western Siberia, Russia. *Geomicrobiology Journal*, 33(5), 387-400. doi: [10.1080/01490451.2015.1045635](https://doi.org/10.1080/01490451.2015.1045635)
- Mardanov, A.V., Panova, I.A., Beletsky, A.V., Avakyan, M.R., Kadnikov, V.V., Antsiferov, D.V., Banks, D., Frank, Y.A., Pimenov, N.V., Ravin, N.V. & Karnachuk, O.V. (2016). Genomic insights into a new acidophilic, copper-resistant *Desulfosporosinus* isolate from the oxidized tailings area of an abandoned gold mine. *FEMS Microbiology Ecology*, 92(8), article fiw111. doi: [10.1093/femsec/fiw111](https://doi.org/10.1093/femsec/fiw111)
- Burnside, N.M., Banks, D. & Boyce, A.J. (2016). Sustainability of thermal energy production at the flooded mine workings of the former Caphouse Colliery, Yorkshire, United Kingdom. *International Journal of Coal Geology*, 164, 85-91. doi: [10.1016/j.coal.2016.03.006](https://doi.org/10.1016/j.coal.2016.03.006)
- Burnside, N.M., Banks, D., Boyce, A.J & Athresh, A. (2016). Hydrochemistry and stable isotopes as tools for understanding the sustainability of minewater geothermal energy production from a 'standing column' heat pump system: Markham Colliery, Bolsover, Derbyshire, UK. *International Journal of Coal Geology*, 165, 223-230. doi: [10.1016/j.coal.2016.08.021](https://doi.org/10.1016/j.coal.2016.08.021)
- Banks, D. (2016). [Making the red one green - renewable heat from abandoned flooded mines](#). *Proceedings 36th Annual Groundwater Conference, International Association of Hydrogeologists, Irish Group. "Sustaining Ireland's Water Future: The Role of Groundwater", 12th-13th April 2016, Tullamore, Co. Offaly, Ireland, Session VI, Pages 1-9.*
- Taylor, K., Banks, D. & Watson, I. (2016). Characterisation of hydraulic and hydrogeochemical processes in a reducing and alkalinity-producing system (RAPS) treating mine drainage, South Wales, UK. *International Journal of Coal Geology*, 164, 35-47. doi: [10.1016/j.coal.2016.05.007](https://doi.org/10.1016/j.coal.2016.05.007)
- Taylor, K., Banks, D. & Watson, I. (2016). Heat as a natural, low-cost tracer in mine water systems: The attenuation and retardation of thermal signals in a Reducing and Alkalinity Producing Treatment System (RAPS). *International Journal of Coal Geology*, 164, 48-57. doi: [10.1016/j.coal.2016.03.013](https://doi.org/10.1016/j.coal.2016.03.013)

Gzyl, G., Banks, D., Younger, P.L., Głodniok, M., Burnside, N., Garzon, B. & Skalny, A. (2016). Low Carbon After-Life – overview and first results of project LoCAL. In: Drebenstedt, C. & Paul, M. (eds.) **Proceedings IMWA Conference 2016 (Leipzig, Germany)**, “Mining Meets Water – Conflicts and Solutions”, 593-599. <http://www.imwa.info/imwacferencesandcongresses/proceedings/298-proceedings-2016.html>

Banks, D. (2016). Scottish pioneers of tools for low temperature geothermal applications: William Cullen, the Stirling brothers and William Rankine. **The International Journal for the History of Engineering and Technology**, 86(2), 147-160. doi: [10.1080/17581206.2016.1223936](https://doi.org/10.1080/17581206.2016.1223936)

Frank, Y.A., Kadnikov, V.V., Lukina, A.P., Banks, D., Beletsky, A.V., Mardanov, A.V., Sen'kina, E.I., Avakyan, M.R., Karnachuk, O.V. & Ravin, N.V. (2016). Characterization and genome analysis of the first facultatively alkaliphilic *Thermodesulfobrio* isolated from the deep terrestrial subsurface. **Frontiers in Microbiology**, 7, article 2000. doi: [10.3389/fmicb.2016.02000](https://doi.org/10.3389/fmicb.2016.02000)

Frank, Y.A., Kadnikov, V.V., Gavrillov, S.N., Banks, D., Gerasimchuk, A.L., Podosokorskaya, O.A., Merkel, A.Y., Chernyh, N.A., Mardanov, A.V., Ravin, N.V., Karnachuk, O.V. & Bonch-Osmolovskaya, E.A. (2016). Stable and variable parts of microbial community in Siberian deep subsurface thermal aquifer system revealed in a long-term monitoring study. **Frontiers in Microbiology**, 7, article 2101. doi: [10.3389/fmicb.2016.02101](https://doi.org/10.3389/fmicb.2016.02101)

## 2017

Harnmeijer, J., Schlicke, A., Barron, H., Banks, D., Townsend, D., Steen, P., Nikolakopoulou, V., Lu, H. and Zhengao, C. (2017). Fortissat minewater geothermal district heating project: case study. **Engineering Technology and Reference**. doi: [10.1049/etr.2016.0087](https://doi.org/10.1049/etr.2016.0087)

Banks, D., Athresh, A., Al-Habaibeh, A. & Burnside, N. (2017) Water from abandoned mines as a heat source: practical experiences of open- and closed-loop strategies, United Kingdom. **Sustainable Water Resources Management**. doi: [10.1007/s40899-017-0094-7](https://doi.org/10.1007/s40899-017-0094-7)

Banks, D., Steven, S., Berry, J., Burnside, N. & Boyce, A. (2017). A combined pumping test and heat extraction/recirculation trial in an abandoned haematite ore mine shaft, Egremont, Cumbria, UK. **Sustainable Water Resources Management**. doi: [10.1007/s40899-017-0165-9](https://doi.org/10.1007/s40899-017-0165-9)

Loredo, C., Banks, D. & Roqueñí, N. (2017). Evaluation of analytical models for heat transfer in mine tunnels. **Geothermics**, 69, 153-164. doi: [10.1016/j.geothermics.2017.06.001](https://doi.org/10.1016/j.geothermics.2017.06.001)

Antsiferov, D.V., Fyodorova, T.S., Kovalyova, A.A., Lukina, A., Frank, Y.A., Avakyan, M.R., Banks, D., Tuovinen, O.H. & Karnachuk, O.V. (2017). Selection for novel, acid-tolerant *Desulfobrio* spp. from a closed Transbaikalian mine site in a temporal pH- gradient bioreactor. **Antonie van Leeuwenhoek**. doi: [10.1007/s10482-017-0917-4](https://doi.org/10.1007/s10482-017-0917-4)

Dutova, E.M., Nikitenkov, A.N., Pokrovskiy, V.D., Banks, D., Frengstad, B.S. & Parnachev, V.P. (2017). Modelling of the dissolution and reprecipitation of uranium under oxidising conditions in the zone of shallow groundwater circulation. **Journal of Environmental Radioactivity**, 178-179, 63-76. doi: [10.1016/j.jenvrad.2017.07.016](https://doi.org/10.1016/j.jenvrad.2017.07.016)

Bottrell, S., Hipkins, E.V., Lane, J.M., Zegos, R., Banks, D. & Frengstad, B.S. (2017). Carbon-13 in groundwater from English and Norwegian crystalline rock aquifers: a tool for deducing the origin of alkalinity? **Sustainable Water Resources Management** (online first). doi: [10.1007/s40899-017-0203-7](https://doi.org/10.1007/s40899-017-0203-7)

## 2018

Flem, B., Reimann, C., Fabian, K., Birke, M., Filzmoser, P. & Banks, D. (2018). Graphical statistics to explore the natural and anthropogenic processes influencing the inorganic quality of drinking water, ground water and surface water. **Applied Geochemistry**, 88 (B), 133-148. doi: [10.1016/j.apgeochem.2017.09.006](https://doi.org/10.1016/j.apgeochem.2017.09.006)

Loredo, C., Banks, D. & Roqueñí, N. (2018). Corrigendum to “Evaluation of analytical models for heat transfer in mine tunnels” [Geothermics 69C (2017) 153–164]. **Geothermics**, 71, 69. doi: [10.1016/j.geothermics.2017.08.009](https://doi.org/10.1016/j.geothermics.2017.08.009)

Glukhova, L.B., Frank, Y.A., Danilova, E.V., Avakyan, M.R., Banks, D., Tuovinen, O.H. & Karnachuk, O.V. (2018). Isolation, characterization and metal response of novel, acid-tolerant *Penicillium* spp. from extremely metal-rich waters at a mining site in Transbaikalian (Siberia, Russia). **Microbial Ecology**. doi: [10.1007/s00248-018-1186-0](https://doi.org/10.1007/s00248-018-1186-0)

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