

List of publications

Refereed Journal Articles and refereed extended abstracts

1. Thorsteinsson T., Elefsen S.O., Gaidos E., Lanoil B., Johannesson T., Kjartansson V., Marteinsson V.P., **Stefánsson A.**, Thorsteinsson T. (2008) A hot water drill with built-in sterilization: design, testing and performance. *Jökull* 57, 71-82.
2. **Stefánsson, A.** and Seward T.M. (2008) The hydrolysis of iron(III) in hydrothermal solutions. *Chem. Geol.* 249, 227-245.
3. Di Figlia, M.G., Bellanca, A., Rodolfo, N. and **Stefánsson, A.**, (2007) Chemical weathering on volcanics of Pantelleria Island, Sicily. *Chemical Geology* 246, 1-18.
4. Johannesson T, Thorsteinsson T., **Stefánsson A.**, Gaidos E.J., Einarsson, B. (2007) Circulation and thermodynamics in a subglacial geothermal lake under the Western Skafta cauldron of the Vatnajökull ice cap, Iceland. *Geophys. Res. Lett.* 34, L19502.
5. Arnórsson, S., **Stefánsson, A.**, and Bjarnason, J.Ö. (2007) Fluid-fluid equilibria in geothermal systems. *Rev. Min. Geochem.* 65, 259-312.
6. **Stefánsson, A.** (2007) Iron(III) hydrolysis and solubility at 25°C. *Env. Sci. Technol.*, 41, 6117–6123
7. Gaidos E., Glazer B., Harris D., Heshiki Z., Jeppsson N., Miller M., Thorsteinsson T., Einarsson B., Kjartansson V., **Stefánsson A.**, Johannesson T., Roberts M., Skidmore M., Lanoil B. A simple sampler for subglacial water bodies. *J. Glaciol.* 53, 157-158.
8. **Stefánsson A.**, Gunnarsson I and Giroud N. (2007) New methods for the direct determination of dissolved inorganic, organic and total carbon in natural waters by Reagent-Free™ Ion Chromatography and Inductively Coupled Plasma Atomic Emission Spectrometry. *Anal. Chim. Acta* 582, 69-74.
9. Arnórsson S., Bjarnarson J.Ö., Giroud N., I. Gunnarsson, and **Stefánsson A.** (2006) Sampling and analysis of geothermal fluids. *Geofluids* 6, 203-216.
10. **Stefánsson, A.**, Arnórsson, S., and Sveinbjörnsdóttir, Á.E. (2005) Redox reactions and potentials in natural waters at disequilibrium. *Chemical Geology* 172, 225-250.
11. **Stefánsson, A.**, and Seward, T.M. (2004) Gold(I) complexing in aqueous sulphide solutions to 500°C at 500 bar. *Geochimica et Cosmochimica Acta* 68, 4121-4143.
12. Heinrich, C. A., Driesner, T., **Stefánsson, A.**, and Seward, T.M. (2004) Magmatic vapor contraction and the transport of gold from the porphyry environment to epithermal ore deposits. *Geology* 32, 761–764.
13. **Stefánsson, A.**, and Seward, T.M. (2003) The stability of chloridogold(I) complexes in hydrothermal solutions to 600°C and 1800 bar. *Geochimica et Cosmochimica Acta* 67, 4559-4576.
14. **Stefánsson, A.**, and Seward, T.M. (2003) The hydrolysis of gold(I) in aqueous solutions to 600°C and 1500 bar. *Geochimica et Cosmochimica Acta* 67, 1677-1688.
15. **Stefánsson, A.**, and Seward, T.M. (2003) Experimental determination of the stability and stoichiometry of sulphide complexes of silver(I) in hydrothermal solutions to 400°C at 500 bar. *Geochimica et Cosmochimica Acta* 67, 1395-1413.
16. Arnórsson, S., Gunnarsson, I., **Stefánsson, A.**, Andréðóttir, A., and Sveinbjörnsdóttir, Á.E. (2002) Major element chemistry of surface- and ground waters in basaltic terrain, N-Iceland. I. Primary mineral saturation. *Geochimica et Cosmochimica Acta* 66, 4015-4046.
17. **Stefánsson A.** and Arnórsson, S. (2002). Gas pressures and redox reactions in geothermal systems in Iceland. *Chemical Geology* 190, 251-271.
18. **Stefánsson, A.** (2001) Dissolution of primary minerals of basalt in natural waters I. Calculation of mineral solubilities from 0°C to 350°C. *Chemical Geology* 172, 225-250.

19. **Stefánsson, A.**, Gíslason, S.R., and Arnórsson, S. (2001) Dissolution of primary minerals of basalt in natural waters II. Mineral saturation state. *Chemical Geology* 172, 251-276.
20. **Stefánsson, A.** and Gíslason, S.R. (2001) Chemical weathering of basalts, SW Iceland. Effect of rock crystallinity, weathering minerals and vegetative cover on chemical fluxes to the ocean. *American Journal of Science* 301, 513-556.
21. **Stefánsson A.** and Arnórsson, S. (2000) Saturation state of feldspars in natural waters. *Geochimica et Cosmochimica Acta* 64, 2567-2584.
22. Arnórsson, S. and **Stefánsson, A.** (1999) Assessment of feldspar solubility constants in water in the range 0° to 350°C at vapor saturation pressure. *American Journal of Science* 299, 173-209.

Abstracts and reports

1. Markússon, S.H., **Stefánsson, A.**, Gunnarsson, I. (2007) Sulfur speciation and metal transport in surface geothermal waters. *Geochim. Cosmochim. Acta* 71, A624.
2. **Stefánsson A.**, Seward T.M., Gunnarsson I. (2007) The hydrolysis and chloro complexation of iron(III) in hydrothermal solutions. *Geochim. Cosmochim. Acta* 71, A969.
3. **Stefánsson, A.** (2006) Results of spectrophotometric measurements in the system $\text{Fe}(\text{ClO}_4)_3 + \text{HClO}_4 + \text{H}_2\text{O}$ to 200°C and Fe^{3+} hydrolysis. . Institute of Earth Sciences Report, RH-22-2006
4. **Stefánsson, A.** (2006) Iron(III) hydrolysis and solubility at 25°C. Results of potentiometric, spectrophotometric and solubility measurements. . Institute of Earth Sciences Report, RH-24-2006.
5. **Stefánsson, A.** (2006) Results of spectrophotometric measurements in the system $\text{Fe}(\text{III}) + \text{HCl} + \text{NaCl} + \text{HClO}_4 + \text{H}_2\text{O}$ to 200°C and stability of iron(III) chloride complexes. . Institute of Earth Sciences Report , RH-23-2006.
6. **Andri Stefánsson**, Ingvi Gunnarsson , Anton Carrasco, Axel B. Kleindienst, Elisabeth Neubauer, Felix W. Von Aulock, Ingi Þ. H. Kúld, Joseph O. Ajayi, Kizito M. Opondo, Kristinn L. Guðmundsson, Sonja Theissen, Steinþór Níelsson, Stephanie A. Hahnewald, Ursina Liebke (2006) Geothermal waters in Geysir area - Mixing, boiling, water-rock interaction and conceptual model. Spring meeting of the Icelandic Geological Soc.
7. Ingvi Gunnarsson, **Andri Stefánsson**, Níels Óskarsson, Anton Carrasco, Axel B. Kleindienst, Elisabeth Neubauer, Felix W. Von Aulock, Ingi Þ. H. Kúld, Joseph O. Ajayi, Kizito M. Opondo, Kristinn L. Guðmundsson, Sonja Theissen, Steinþór Níelsson, Stephanie A. Hahnewald, Ursina Liebke (2006) Acid geothermal waters and elemental mobility at Krísuvík. Spring meeting of the Icelandic Geological Soc.
8. **Stefánsson, A.** and Gunnarsson, I. (2005). Sulphur geochemistry of hydrothermal waters I. Report of preliminary study. Institute of Earth Sciences Report, RH-17-2005.
9. **Stefánsson, A.**, and Arnórsson, S. (2005) The geochemistry of As, Sb, Mo and W in natural geothermal waters, Iceland. World Geothermal Congress.
10. Arnórsson, S. and **Stefánsson, A.** (2005) Wet-steam well discharges. I. Sampling and calculation of total discharge compositions. World Geothermal Congress.
11. Arnórsson, S. and **Stefánsson, A.** (2005) Wet-steam well discharges. II. Assessment of aquifer fluid compositions. World Geothermal Congress.
12. **Stefánsson, A.** (2004) Iron(III) hydrolysis in hydrothermal solutions. Goldschmidt conference 2004. *Geochimica et Cosmochimica Acta* 66/11S, A292.
13. **Stefánsson, A.** (2004) The hydrolysis of iron(III) in hydrothermal solutions. EGU Meeting 2004. A-5442.
14. Arnórsson, S., **Stefánsson, A.**, Gunnarsson, I., Bjarnason, J.Ö., Giroud, N., and Sigurdsson S.Th. (2004) Geochemistry – geothermal water and steam, experiments and model calculations. Annual Meeting of the Icelandic Geoscience Society, Apr. 2004.

15. **Stefánsson, A.**, and Arnórsson, S. (2004) Redox potential in natural waters in Iceland. Annual Meeting of the Icelandic Geoscience Society, Apr. 2004.
16. Arnórsson, S., **Stefánsson, A.**, and Gunnarsson, I. (2002) Primary basalt mineral saturation in surface- and up to 90°C ground waters in Skagafjörður, N-Iceland. Annual Meeting of the Icelandic Geoscience Society, Oct. 2002.
17. Arnórsson, S., and **Stefánsson, A.** (2002) Assessment of scaling potential from supercritical geothermal fluids. IDDP/ICDP Workshop Oct. 2002.
18. **Stefánsson, A.** and Seward, T.M. (2002) The hydrolysis of gold(I) and the formation of chlorogold(I) complexes in hydrothermal solutions to 600°C and 2 kbar. Goldschmidt conference 2002. *Geochimica et Cosmochimica Acta* 64A, 737.
19. **Stefánsson, A.** and Seward, T.M. (2002) An experimental study on silver transport in hydrothermal solutions. EMPG IX, Journal of Conference Abstracts.
20. Gíslason, S.R., Oelkers E.H., and **Stefánsson, A.** (2001) Controls on chemical weathering of basalt. Goldschmidt 2001, Journal of Conference Abstracts.
21. **Stefánsson, A.** and Seward, T.M. (2000) New experimental data on gold transport in hydrothermal solutions. Séminaire de métallogénie du 24 janvier 2000 qui se tiendra à la Section des Sciences de la Terre de l'Université de Genève.
22. **Stefánsson, A.** and Seward, T.M. (2000) Gold(I) complexing by sulphide ligands in hydrothermal solutions to 450 °C at 500 bar. Goldschmidt 2000, Journal of Conference Abstracts 5, 953.
23. Arnórsson, S. and **Stefánsson, A.** (2000) Mineral-solution equilibria in groundwater systems. Goldschmidt 2000, Journal of Conference Abstracts 5, 155-156.
24. **Stefánsson, A.** and Seward, T.M. (2000) Gold(I) sulphide complexing in hydrothermal solutions. Geochemistry of crustal fluids. EURESCO conference, Granada, Spain, 2-7.12.2000, 95.
25. **Stefánsson, A.** and Arnórsson, S. (1999) Feldspar equilibria in geothermal waters. In Proceedings of the 5th international symposium on geochemistry of the Earth's surfaces, Balkema Press, 543-546.
26. Egilson, S., Ólafsdóttir, E.D., Yngvadóttir, E., Halldórsdóttir, H., Sigurdsson, F.H., Jónsson, G.S., Jensson, H., Gunnarsson, K., Thráinsson, S.A., **Stefánsson, A.**, Indridason, H.D., Hjartarson, H., Thorlacius, J., Ólafsdóttir, K., Gíslason S.R., and Svavarsson, J. (1999) Environmental monitoring in Iceland The Environmental and Food agency Iceland, 138 pp.
27. Gíslason, S.R., **Stefánsson, A.**, and Stefánsdóttir, M.B. (1998) The chemistry of surface- and soil water at Grundartangi, Iceland. Unpublished report April 1998, 60 pp.
28. Gíslason, S.R., **Stefánsson, A.**, and Stefánsdóttir, M.B. (1998) The chemistry of surface- and soil water at Grundartangi, Iceland. Unpublished final report July 1998, 84 pp.
29. **Stefánsson, A.**, and Gíslason, S.R. (1998) Chemical denudation rates of a basaltic catchment, SW Iceland. *Mineralogical Magazine* 62A, 451-452.
30. **Stefánsson, A.**, Arnórsson, S., and Gíslason, S.R. (1998) Saturation state of primary basaltic minerals in natural waters. In *Geochemistry of the Crustal Fluids, Characterisation of reactive transport in natural systems*, Aghia Pelaghia Greece, 22-27. May 1998, 62.
31. Gíslason, S.R., Stefánsdóttir M.B., and **Stefánsson, A.** (1997) The chemistry of surface- and soil water at Grundartangi, Iceland. Unpublished report Nov. 1997, 16 pp.
32. Arnórsson, S. and **Stefánsson, A.** (1997) Assessment of feldspar solubility in waters in the range 0-350 °C at P_{sat}. Science Institute Report, University of Iceland, RH-33-97, 50 pp.
33. Gíslason, S.R., Gunnarsson, I., **Stefánsson, A.**, Stefánsdóttir, M.B., Sveinbjörnsdóttir, Á.E., Kristmannsdóttir, H., Hauksdóttir, S., Snorrason, Á., Zophaníasson, S., Pálsson, S., and Benediktsson, S. (1997) The chemistry of the Grímsvötnum discharge. Meeting Icel. Geol. Sco. Feb. 1997, 38-40.
34. **Stefánsson, A.** (1997) The geochemistry of aluminium in surface and groundwaters in Laxa in Kjos catchment area, Iceland. The chemistry of aluminium in surface and ground waters in Iceland. Spring Meeting Icel. Geol. Sco. 1997, 1-3.

35. Arnórsson, S., Sveinbjörnsdóttir, Á.E., Andrésdóttir, A., Gunnarsson, I., and **Stefánsson, A.** (1997) Geothermal waters in Skagafirdi: origin and age. Spring Meeting Icel. Geol. Sco. 1997, 44-47.
36. Arnórsson, S., Andrésdóttir, A., Gunnarsson, I., and **Stefánsson, A.** (1997) New calibration of the NaK and quartz geothermometers. Spring Meeting Icel. Geol. Sco. 1997, 42-43.
37. Gíslason, S.R., Andrésdóttir, A., Steingrímsson, J.H., Jósavinsson, R.F., Ásbjörnsson, S., Rúnarsson, Th., **Stefánsson, A.**, Arnardóttir, G., Karlsdóttir, I., and Fridriksson, Th. (1995) Carbondioxide emission from Eyjafjallajökull, Iceland. Spring Meeting Icel. Geol. Sco. 1995, 24-25