

Gunnar Böðvarsson (1916- 1989) – skrá um birtar ritsmíðar



Gunnar Böðvarsson nam véla- og skipaverkfræði í Stokkhólmi, München og Berlín 1934-43 og starfaði síðan í Danmörku uns hann fluttist til Íslands 1945. Hér vann hann hjá Raforkumálaskrifstofunni og stýrði þar borunum eftir heitu og köldu vatni. Einnig byggði hann upp margháttaða rannsóknastarfsemi við jarðhitaleit og jarðhitanýtingu. Árin 1955-57 dvaldist Gunnar við California Institute of Technology og lauk þaðan doktorsprófi. Hann gerðist prófessor við ríkisháskóla Oregon í Corvallis 1964 og starfaði þar til eftirlaunaaldurs 1984. Hann hélt þar áfram umfangsmiklum rannsóknum á jarðhita og skyldum málefnum.

Í meðfylgjandi skrá eru væntanlega flestallar þær greinar sem birtust á prenti eftir Gunnar Böðvarsson. Upphafleg gerð hennar var tekin saman af undirrituðum og fleirum fyrir 13. tölublað Fréttabréfs Eðlisfræðifélags Íslands 1988, en hér hafa verið gerðar nokkrar viðbætur og lagfæringar. Auk þessara greina samdi Gunnar Böðvarsson mikinn fjölda af skýrslum um ýmis verkefni tengd jarðhita, bæði fyrir Raforkumálaskrifstofuna (síðar Orkustofnun), hitaveitur, Sameinuðu Þjóðirnar, ríkisstofnanir og einkafyrirtæki í Bandaríkjunum o.fl. Skrá um hluta þeirra er í fyrirnefndu fréttabréfs-hefti (með viðbót í 17. tbl.), og sömuleiðis æviágrip Gunnars. Sjá einnig Verkfræðingatal I (Þjóðsaga, Rvk. 1996), og minningargreinar í blöðum í maí 1989. Ýmis handrit Gunnars eru geymd í Lbs.-Hbs.

Gunnar Böðvarsson (1916-1989) – bibliography of published papers

Gunnar Böðvarsson studied Mechanical and Naval Engineering in Stockholm, Munich and Berlin in 1934-43 and was then employed for two years in Denmark before moving to Iceland. He was in charge of drilling for cold and hot groundwater at the State Electricity Authority, where he also introduced various new methods for the geophysical exploration of geothermal resources. He stayed at the California Institute of Technology in 1955-57, completing a doctoral degree. From 1964 until his retirement in 1984, Gunnar Böðvarsson was a professor at Oregon State University where he carried out research in geothermics and related subjects.

The list below is expected to contain most of the published scientific writings of Gunnar Böðvarsson, apart from conference abstracts etc. It was originally compiled for issue #13 of the Newsletter of the Physical Society of Iceland in 1988; the present version contains some corrections and additions. Gunnar also wrote a very large number of reports on individual geothermal projects in Iceland, as well as reports for U.N. agencies, U.S. Government institutions and private companies, and others. A partial list of these appeared in the Newsletter mentioned above. Abstracts of papers at U.S. conferences, etc. are not included here. Further details on the life and work of Gunnar Böðvarsson may be found e.g. in vol. I of “Verkfræðingatal”, a collection of short biographies of Icelandic engineers, Reykjavík 1996. A collection of his personal papers is at the National and University Library in Reykjavík.

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Note: TVFÍ = Tímarit Verkfræðingafélags Íslands (Journal of the Engineers' Association of Iceland). Jökull = Ársrit Jöklarannsóknafélags Íslands og Jarðfræðafélags Íslands (Annual of the Iceland Glaciological Society and the Geoscience Society of Iceland).

1945

G.B.: Um hagnýtingu jarðhitans (On the utilization of geothermal energy in Iceland). TVFÍ 30, 74-80.

1948

G.B., Steingrímur Jónsson & Jakob Gíslason: Íslands varme kilder og deres betydning for elektricitetsforsyningen. Electroteknikeren 44(13), 7 July, 434-458 (with discussion p. 459-462) = Jarðhiti á Íslandi og áhrif hans á vinnslu og notkun raforku í landinu (Geothermal energy in Iceland and its influence on the production and use of electrical energy). TVFÍ 33, 65-85.

1949

G.B.: Um hitasveiflur uppsprettuvatns (Abstract: Temperature fluctuations of spring water). TVFÍ 34, 9-11.

G.B.: Drilling for heat in Iceland. Oil and Gas Journal 47, 191-199.

G.B.: Um bergmyndanir undir basaltinu (Abstract: The formations below the flood basalts). TVFÍ 34, 11-14.

G.B.: Varmatap neðanjarðaræða (Abstract: Heat loss from subsurface pipes). TVFÍ 34, 29-33. Correction in 35, p. 72, 1950.

1950

G.B.: Beregning af elastiske svingninger ved hjælp af integralligninger (Computation of elastic vibrations by means of integral equations). TVFÍ 35, 61-64.

G.B.: Geofysiske metoder ved varmtvandsprospektering i Island (Geophysical methods in the prospecting for hot water in Iceland). TVFÍ 35, 49-59.

G.B.: Súrefni í laugavatni og tæring pípukerfa (Oxygen in thermal waters and the corrosion of piping). TVFÍ 35, 70-72.

1951

G.B.: Skýrsla um rannsóknir á jarðhita í Hengli, Hveragerði og nágrenni árin 1947-1949. Fyrri hluti. (Abstract: Report on the Hengill thermal area, Part I). TVFÍ 36, 1-49.

Trausti Einarsson, Þorbjörn Sigurgeirsson & G.B.: French-Icelandic gravity measurements in Southern Iceland in 1950. Societas Scientiarum Islandica, Greinar (Occasional Papers) III.1, 35-52, map.

1952

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1953

G.B.: Um jarðhita í Breiðafjarðareyjum o.fl. (Geothermal occurrences in some Breiðafjörður bay islands). TVFÍ 38, 125-126.

1954

G.B.: Terrestrial heat balance in Iceland. TVFÍ 39, 69-76.

G.B.: Laugarhitun og rafhitun (Abstract: Heating by geothermal energy and electricity). TVFÍ 39, 1-19.

G.B.: Fiskigöngur og torfur (Fish migration and schools of fish). TVFÍ 39, 23-24.

G.B.: Hámarksafli við rafhitun húsa (Maximum power consumption in electrical heating of buildings). Ársskýrsla Sambands ísl. rafveitna (Annual report of the Union of Electrical Utilities in Iceland 12, 96-101.

1955

G.B.: On the flow of ice-sheets and glaciers. Jökull 5, 1-8.

G.B.: Álitsgerð um jarðtengingu 132 kV Sogslínu (Report on the earthing of the 132 kV Sog power line). TVFÍ 40, 18-20.

1956

G.B.: Natural heat in Iceland. Conference report 197 K/8, 5th World Power Conference, Vienna 1956, 7 pp. (Translation by Steingrímur Jónsson: Jarðhiti á Íslandi, Ársskýrsla Sambands ísl. rafveitna 14, 220-227).

G.B.: Islands heisse Quellen (The hot springs of Iceland). Island, Jahresschrift 1956, 10-13.

1957

G.B.: Geothermal effects of the Pleistocene glaciation in Iceland. Jökull 7, 1-20.

G.B.: Thermal Activity and Related Phenomena in Iceland. Thesis in partial fulfillment of the requirements for the degree of Doctor of Philosophy, California Institute of Technology, 155 pp.

1958

G.B.: Jarðhiti á Íslandi og hagnýting hans (Popular article on geothermal energy in Iceland). Frjáls verzlun, 18. árg., des.-hefti, bls. 2-4, 28-29.

1960

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1961

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G.B. & Jóhannes Zoega: Production and distribution of natural heat for domestic and industrial heating in Iceland. Paper G/37, U.N. Conference on New Sources of Energy, Rome, 3, 449-455. Reprinted in Jökull 11, 48-55.

G.B.: Utilization of geothermal energy for heating purposes and combined schemes involving power generation and/or by-products. Paper 35/GR/5(G), U.N. Conference on New Sources of Energy, Rome, 3, 429-436. Reprinted in Jökull 11, 56-64.

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G.B.: Hagnýt stærðfræði. Í: Vísindin efla alla dád. Bandalag Háskólamanna, Reykjavík, 331-343. (On applied mathematics, a chapter on the optimization of fishing efforts, in a Festschrift published on the occasion of the 50th anniversary of the University of Iceland).

1962

G.B.: Geomagnetic micropulsations with period $\frac{1}{2}$ to 100 sec. observed in Southern California and Iceland. Jökull 12, 55-81.

G.B.: The use of isotopes of hydrogen and oxygen for hydrological purposes in Iceland. Jökull 12, 49-54.

G.B.: Veiðipól fiskstofna og stjórnun fiskveiða. Í: Stjórnun fyrirtækja. Stjórnunarfélag Íslands, Reykjavík, 119-126. (Conference paper: Maximum yield of fish stocks, and the management of fishing).

G.B.: Verðgrundvöllur orkuvinnslu á Íslandi. Orkunotkun og þjóðhagur. (Abstract: Energy balance in Icelandic society. Cost of energy, energy use and productivity). TVFÍ 47, 27-30 (Þetta var hluti erindis um Orkubúskap Íslendinga sem flutt var á Ráðstefnu ísl. verkfræðinga, eftir Jakob Gíslason, Glúm Björnsson, G.G. og Jakob Björnsson, bls. 23-37).

G.B. & Sveinn S. Einarsson: Jarðvarmi til húshitunar og iðnaðar (Abstract: Geothermal energy for heating and industry). TVFÍ 47, 18-23.

1963

G.B.: An appraisal of the potentialities of geothermal resources in Iceland. Paper 206 III. 6/3, Sixth World Power Conference, Melbourne 1962, 16 pp. Reprinted in TVFÍ 48, 65-71, see also discussion in TVFÍ 47, 82-83.

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G.B. & D.J. Ryley: The measurement of the weight discharge from geothermal steam wells. Jökull 16, 184-198.

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1967

G.B., J.W. Berg, jr. & R.S. Mesecar: Vertical temperature gradient and eddy diffusivity above the ocean floor in an area west of the coast of Oregon. J. Geophys. Res. 72, 2693-2694.

1969

G.B.: On the temperature of water flowing through fractures. J. Geophys. Res. 74, 1987-1992.

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R.S. Mesecar, G.B. & W.V. Burt: Time-dependent vertical measurements across the water-sediment interface on the continental shelf west of Oregon. *Nature* 224, 901-902.

1970

G.B.: Evaluation of geothermal prospects and the objectives of geothermal exploration. *Geoexploration* 8, 7-17.

G.B.: Confined fluids as strain meters. *J. Geophys. Res.* 75, 2711-2718.

G.B.: A surface integral in potential theory. *Geophysics* 35, 501-503.

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G.B. & R.P. Lowell: Ocean-floor heat flow and the circulation of interstitial waters. *J. Geophys. Res.* 77, 4472-4475.

G.B.: Thermal problems in the siting of geothermal wells. *Geothermics* 1, 63-66.

G.B. & D.E. Eggers: The exergy of thermal water. *Geothermics* 1, 93-95.

1973

R.P. Lowell & G.B.: A one-dimensional convection model: application to an internally heated two-phase mantle. *Jökull* 23, 19-36.

G.B.: Downward continuation of constrained potential fields. *J. Geophys. Res.* 78, 1288-1292.

G.B.: Temperature inversions in geothermal systems. *Geoexploration* 11, 141-149.

G.B.: Remarks on generalized solutions of improperly posed problems in the exploration sciences. *Jökull* 23, 37-44.

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G.B., R. Shih-Ming Lu & R.P. Lowell: Temperature transients in flowing boreholes. *Geothermics* 3, 21-24.

G.B., R.W. Couch, W.T. MacFarlane, R.W. Tang & R.M. Whitsett: Telluric current exploration for geothermal anomalies in Oregon. *Ore Bin* 36, 93-106.

G.B.: Geothermal resource energetics. *Geothermics* 3, 83-92.

G.B.: Dikes as fluid conductors in the extraction of geothermal energy. *Geothermal Energy* 2, 42-50.

1976

G.B. & Axel Björnsson: Hydroelastic cavity resonators. *Jökull* 26, 20-24.

G.B. & G.M. Reistad: Econometric analysis of forced geohot recovery for low-temperature uses in the Pacific Northwest. *Second U.N. Symposium on the Development and Use of Geothermal Resources, San Francisco. VII: 1559-1564.*

G.B.: Estimates of the geothermal resources of Iceland. *Second U.N. Symposium on the Development and Use of Geothermal Resources, San Francisco. I. 33-35.*

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1977

G.B.: An equation for gravity waves on deep water. Jökull 27, 79-83.

G.B.: Unconfined aquifer flow with a linearized free surface condition. Jökull 27, 84-87.

1981

G.B.: Geothermal reservoir testing based on signals of tidal origin (Paper given at the 4th Workshop on Geothermal Reservoir Engineering, Stanford, 1978). TVFÍ 66, 28-29.

G.B.: Capacitative perturbations in well interference testing (Paper given at the 5th Workshop on Geothermal Reservoir Engineering, Stanford, 1979). TVFÍ 66, 60-62.

G.B.: Reservoir exploration/testing by elastomechanical methods (Paper given at the 6th Workshop on Geothermal Reservoir Engineering, Stanford, 1980). TVFÍ 66, 65-67.

G.B. & E. Zais: A field example of free surface testing (Paper SGP-TR-30 given at the 6th Workshop on Geothermal Reservoir Engineering, Stanford, 1980). TVFÍ 66, 92-95.

1982

G.B.: Glaciation and geothermal processes in Iceland. Jökull 32, 21-28.

G.B.: Terrestrial energy currents and transfer in Iceland. In: Continental and Oceanic Rifts (ed. G. Palmason). Geodynamics Series 8, 271-282. American Geophysical Union, Washington D.C.

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G.B.: Improper continuation of geophysical potential fields (Paper given at the International Symposium on Ill-Posed Problems, University of Delaware, 1979). TVFÍ 68, 14-15.

G.B.: Analogy between the uptake of heat and solutes by low-temperature thermal waters in Iceland. J. Volcanol. Geothermal Res. 19, 99-111.

G.B.: Lava flows and forms. Jökull 33, 57-60.

G.B.: Temperature/flow statistics and thermomechanics of low-temperature geothermal systems in Iceland. J. Volcanol. Geothermal Res. 19, 255-280.

G.B.: Hydroelastic oscillations in borehole-cavity systems. TVFÍ 68, 22-32.

G.B.: Resource exploration of solid earth tidal strain. TVFÍ 68, 88-97.

1984

G.B.: Linearization techniques and surface operators in the theory of unconfined aquifer flow. Water Resources Research 20, 1271-1276.

G.B.: Elastomechanical phenomena and the fluid conductivity of deep geothermal reservoirs and source regions (Paper given at the 5th Workshop on Geothermal Reservoir Engineering, Stanford, 1979). TVFÍ 69, 11-14.

1985

G.B.: Fyrsta líkan af jarðhitakerfi Kröflu (First model of the Krafla geothermal system). TVFÍ 70, 1-4.

1986

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1987

G.B.: Dýptarkönnun með segulsviðum. Í: Í Hlutarins Eðli (ritstj. Þorsteinn I. Sigfússon), Menningarsjóður, Reykjavík, 227-238. (Depth estimation from geomagnetic surveys, chapter in a Festschrift on the occasion of Prof. Th. Sigurgeirsson's 70th birthday).

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1988

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