

THE HISTORY AND HYDROGEOLOGY OF THE WEYMOUTH SPAS

J.D. MATHER¹ AND H.C. PRUDDEN²



Mather, J.D. and Prudden, H.C. 2007. The history and hydrogeology of the Weymouth spas. *Geoscience in south-west England*, **11**, 342-347.

The existence of a sulphur spring at Nottingham, near Weymouth, was first recorded in the Journal Book of the Royal Society in 1720. Later in the 18th Century it was enclosed and a series of medical practitioners sang its praises. 1831 saw the opening of an octagonal spa house at Nottingham and the development of another source at Radipole about 1.5 km to the south. A decade of prosperity was followed by gradual decline and spa bathing probably ended about 1870. Modern geological mapping and chemical analyses of the waters suggest that they probably originate from limestones of the Cornbrash Formation. The presence of hydrogen sulphide and the mature chemistry indicate either a long flowpath and/or that the waters are confined beneath overlying clays of the Kellaways Formation.

¹*Department of Geology, Royal Holloway, University of London, Egham, Surrey, TW20 0EX, U.K.*

²*Yeovil Road, Montacute, Somerset, TA15 6XG, U.K.*

(E-mail: mather@jggeology.demon.co.uk, hugh@hughprudden.wanadoo.co.uk).

INTRODUCTION

Until the mid-18th Century most Englishmen regarded the sea as something which yielded fish and kept out foreigners. However, in 1750 Richard Russell, a Lewes physician, published a dissertation, in Latin, on the use of seawater in diseases of the glands (Russell, 1750). A pirated English version was published two years later (Russell, 1752) and proved highly influential, recommending the drinking of seawater and sea bathing as treatments for a wide spectrum of ailments. Weymouth was one of a number of coastal resorts which developed. It benefited from royal patronage; the Duke of Gloucester, spent the winter there in 1780, and his brother, George III, first entered the sea there in 1789 and visited regularly until 1805. In 1795, Weymouth was said to have everything to make it a fashionable resort except mineral waters (Hembry, 1990). This was inaccurate; there was a mineral spring close by at Nottingham, which was to acquire some fame early in the following century. This paper briefly examines the development of Nottingham, and an adjacent source at Radipole, and the hydrogeological conditions which gave rise to them. A more complete review of the history and ownership of the spas is provided by Reeby (1995).

Early in 1720, Samuel Cruwys, a Devonian who had been elected to the Royal Society in December 1718, sent to the Society two flasks of a mineral water from a spring near Weymouth (Anon, 1720). The spring was reported as rising in a small island in the middle of a river and was used by local people to cure their cattle and dogs of scab and mange. The officers of the society sent the flasks to Ambrose Godfrey-Hanckwitz (known in the Royal Society Journal Book as 'Mr Godfrey') who regularly performed analyses for the Royal Society at his laboratory in Southampton Street. He reported back three weeks later that, amongst other constituents, it contained about 6 to 8 grains in a quart of common salt (340 to 460 mg/l of NaCl) but no iron. The water had a 'strong foetid smell and unsavoury taste' but there is no mention of the presence of hydrogen sulphide.

In 1749 a sample from a spring at Nottingham, some 4 km to the north of Weymouth and 400 m west of the main Dorchester/Weymouth road (A354) was analysed by Dr John Rutty, the English born, Irish based, Quaker physician. It reached him some two years after it had been collected via a Dr Fothergill who was based in London (perhaps John Fothergill the Quaker physician and naturalist). Despite the long period of storage the water had a 'strong fetid sulphurous smell and a flavour resembling that of boiled eggs and in one bottle like rotten eggs' (Rutty, 1757 p.519). It also had a marked blue colour when viewed from above in a tin vessel. Evaporation to dryness yielded a dissolved solids concentration of 42 grains per gallon (around 600 mg/l) of which 17% was insoluble earth and 83% an alkaline salt. This information was repeated by other mid-18th Century commentators on mineral waters (e.g. Russell, 1760 p.308; Monro, 1770 volume 1 p.183).

Hutchins, in his history of Dorset dated 1774, describes a medicinal spring in the village of Nottingham as follows: 'The mud and earth about it is blue. In frosty weather it is thick and blackish, and the surface covered with a thick oily film, and never freezes. It has a strong fetid sulphurous smell, not much unlike gunpowder newly enflamed, and a flavour resembling boiled eggs, sometimes rotten eggs: its colour, when viewed from above in a tin vessel, is blueish.' (Hutchins, 1774 volume 1 p.420). The description of the water equates with that analysed by Rutty but not with that analysed by Godfrey some years before. Hutchins assumes that both waters are from the same source and this assumption has been made by subsequent commentators (e.g. Groves, 1896; Osborn, 1982; Reeby, 1995). However, the location of the spring sampled by Cruwys on a small island, the high salt concentration and the lack of any reference to hydrogen sulphide suggest that there may have been two entirely separate sources. If this was the case it was the sulphurous spring analysed by Rutty which was to develop into Nottingham Spa.