SURVEY OF GOLDEN WELL

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INTRODUCTION

Golden Well reportedly (Galliford, 1954; Fursdon, pers comm.) holds unidentified numbers and species of leeches (*Hirudinea*) so an arrangement was made between Jennifer George and Roger Fursdon (Lundy engineer) to coincide a visit with routine cleaning to evaluate the fresh water biology of the site. Such a visit was arranged for a planned stay on the Island in November 2009.

Origin and Description of Golden Well

Golden Well had been referred to as early as 1776 when Grose stated “In the middle division there is a spring called Golden Well” (Grose, 1776). From the 1886 edition it appears on this and subsequent OS maps where the legend identifies it above St John’s valley, as “site of antiquity”. By 1967 Ordnance Survey maps show the spring enclosed at SS1385 4384.

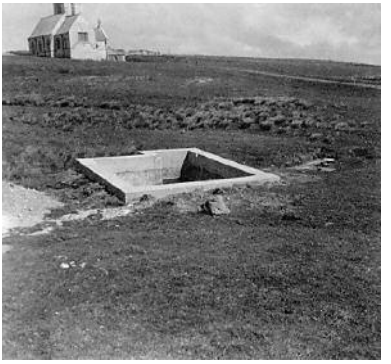
Surveys were commissioned by A.W. Lewis, Consulting Engineers to A.L. Christie during his ownership of the Island and refer to potential hydrological work on the well: “There is also another spring marked 'Golden Well' on the Ordnance Sheet (as well as St John’s Well) and I suggest that this spring also be enclosed and led by a pipe to the same point” (a point alongside the road near the Manor House) (NTAR, 1918). This was followed up with a proposal “… to supplement the (water) supply by pumping into the Reservoir from a small tank adjoining St John’s Well into which tank water from the Pit, Golden Well and St John’s Well would be fed by gravity” (NTAR, 1920).

The work was completed early in MC Harman’s ownership, in 1927, to produce the covered well we recognise today: “… Golden Well was concreted, cleaned out, and a filter-bed added so that Bramble Villa would have a better supply and quality of water” (Gade, 1978). Galliford (1954) also described it as, “Golden Well. Tank with cement sides near Castle Hill, containing many leeches”. Langham (1969) included it in his overview of Lundy waters, describing it as “(a) fairly large fenced pool near reputed site of Golden well at the source of (St John's) stream E12”.

Galliford's description is the structure that we see today (Figure 1). Golden Well is a poured concrete structure in an ‘L’ shape with concrete roof and adjacent pumping house. It is accessed through a removable roof section by ladder. Overall it is approximately 4m x 5.3m at its longest and widest parts, and 2m in depth. Access is through the smallest part of the ‘L’ shape, adjacent to the separately added pump house, built of breeze blocks and which itself is 1.5m x 1.45m and 1m in height. The walls of the well are 0.3m thick and are at ground level in the south and west, protruding up to 0.65m above the falling ground at the northeast corner. Depth of water in February 2010 was 1.2m, leaving a headroom of 0.7m inside. At the time of recording it contained 19,200 litres of water, with a potential capacity of 32,000 litres.

The well is fed by French drains (after Henry French of Concord who designed sections of tile with 1/8" gaps between sections to admit water) from springs and other water sources, such as

Rocket Pole Pond, and outflows through similar drains into St John's stream (Fursdon, pers. comm.). Surface water also follows this course from the fields above the well, along its northern edge and towards and over the path by St John's valley wall.



Golden Well, 1963.
(Myrtle Ternstrom Archive)

The Well was inventoried in the National Trust's Archaeological Survey, "Golden Well is thought to have derived its name from the colour of the sediment found there. There are no visible remains of a well, but the spring still rises at this point where the well is thought to have been". (Thackray, 1989). It takes overflow and surface drainage water from the Rocket Pole and Tent Field area.

The earliest reference to Golden Well is by Grose who names and locates it "in the middle division" which is where Pondsbury is located. The earliest naming of Golden Well is on the 1905 OS map where also Pondsbury is named for the first time as is St John's Well, but not in the location normally ascribed to it. I conjecture that Golden Well was actually Pondsbury, shown but not named on maps dating back to at least 1832 (Denham 1832) and that what we now know as Golden Well is in fact St John's Well.

Golden Well, May 2010.
(Alan Rowlland)

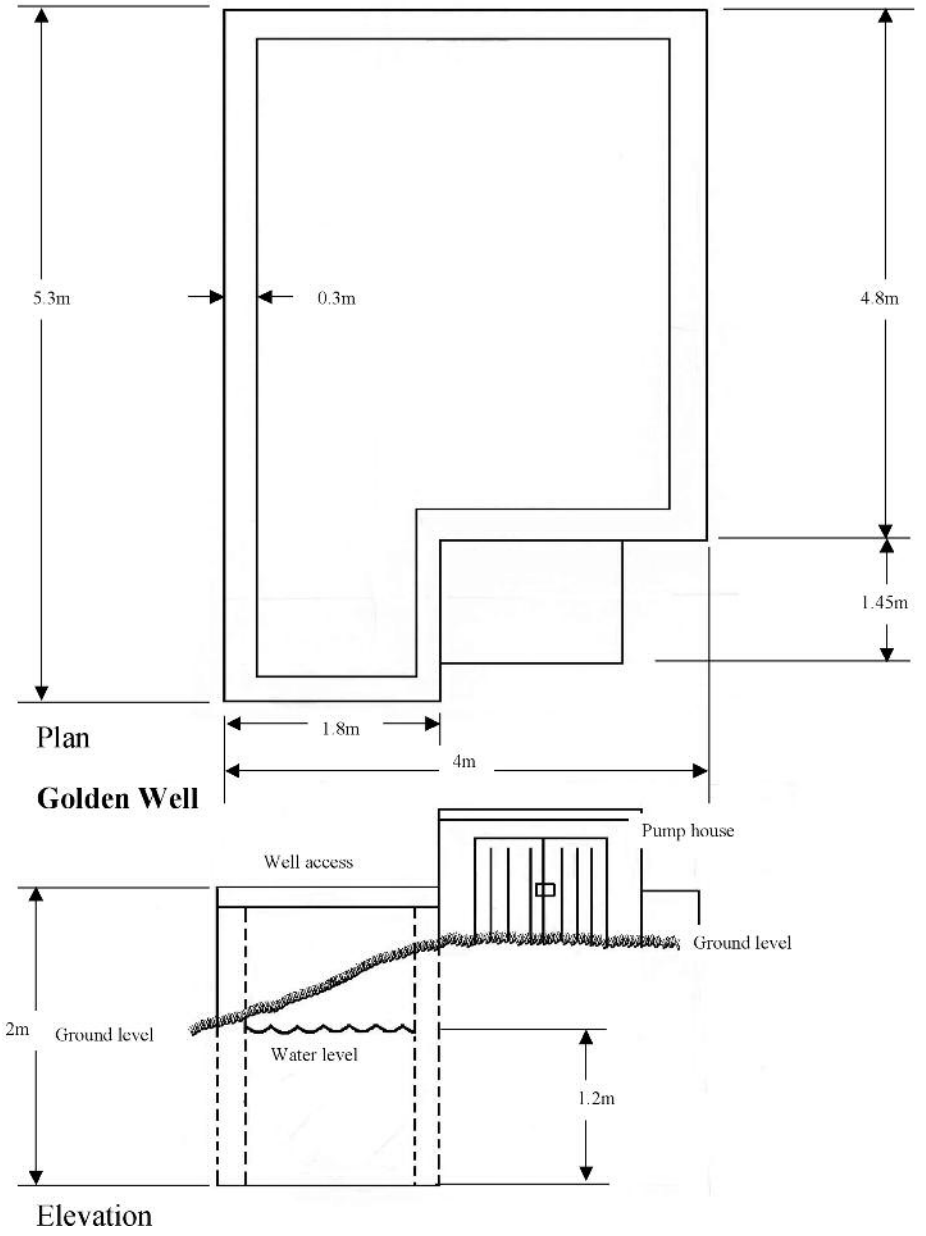


Figure 1. Diagram of Golden Well.

Previous survey

Galliford (1954) surveyed a number of ponds and streams on Lundy. As a respected rotifer scientist, he concentrated on plankton; Rotifera, Copepoda and Cladocera but he did identify Arachnida (mites, spiders) and Insecta when he found them. His survey of Golden Well identified "many leeches" *Hirudinea* sp. and also *Asellus meridanus* (water slater), *Chydorus sphaericus* (cladoceran), *Testudinella caeca* (rotifer), *Bdelloid* sp. (rotifer) and *Tardigrades* (water bears). All of the above species occur in other freshwater habitats on the island and this indicates that the species found by Galliford had been washed in from external sources rather than being endemic in the well. His three identified species for Golden Well compares unfavourably with the other waters he investigated which had up to 32 species (Pondsbury) and on average, nine species from the other habitats. He recorded a pH of 6.5.

METHODS

On 11 November 2009 Roger Fursdon, his wife Patrizia, Jenny George and I met to drain the well and undertake a macro-invertebrate survey of the contents. On arrival the well was about 1m deep due to recent rainfall. Roger had commenced the pumping out but water was still draining into it via the inlet from the surrounding fields.

The well is not currently used for drinking water although Roger confirmed that it could be brought into use if required. Once the water level had been lowered, silt was loaded by the handful into a 100µ net and the outflow from the still running pump used to wash through the silt to leave a residue that could be examined in a tray.

RESULTS

Buckets of silt were processed in this way with disappointing results. The silt proved to be so fine and dense that nothing was apparently living in it. All that was revealed was granite gravel, pieces of organic vegetative matter and asphalt gravel from the roof covering.

Preliminary observations from the top of the ladder showed clear water overlying brown silt. Tantalisingly, a light object, potentially a dead leech, could be seen lying on the surface of the silt.

With two pumps in use, it took around an hour to reduce the water level sufficiently for Roger to descend into the well. Once this was achieved, he took a net to recover, for investigation, the light object. One step into the silt clouded the water with such a fine residue that it did not settle during the time we were there. Consequently, the silt was shovelled into buckets for examination outside the well. The white object proved to be a drowned common slug *Arion ater*.

One bucket of silt was neglected and had been standing for some time settling. Patrizia Fursdon was positioned close to it and as the silt settled, a shallow clear water layer formed on the surface and she alerted us to movement on the surface of the silt.

Five living *Asellus meridanus* were identified along with the exuvia (cast-off skin) of a *Colymbetid* – beetle larva. The air temperature was 12ºC, the Well water temperature was 10ºC and a pH of 6.5 (acidic) was recorded. No leeches were found.

The water appeared to be of good quality and contained only species that had been washed in with the runoff from the surrounding land.

ACKNOWLEDGEMENTS

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