

WMS SPRING MEETING 2017

This year's Spring Meeting was held on 22 April in the Village Hall at Pontrobert, an attractive village set on the River Vyrnwy some eight miles northwest of Welshpool. Despite some having difficulty navigating the myriad narrow lanes on the way to the village, such is the enthusiasm of our members that by 10:15 nearly everyone was in the hall, 45 minutes before the meeting was due to start! In the absence of the Chairman Gerallt Nash, through illness, the Secretary Hilary Malaws welcomed 33 members and friends.

The principal talk was by Ted Stowell of Allied Hydropower, who were responsible for the hydroelectric generating scheme at Mathrafal Farm nearby. He covered a wide range of topics: abstraction licences and planning approval, maximising the return on investment, re-using existing infrastructure where possible, and connecting to the national grid. He explained also the advantages of modular design, especially of weirs and turbine houses, which enabled whole schemes to be designed and built 'in the factory' and then transported to the site and installed in a much reduced time, compared to constructing everything on site. Explaining some of the more technical aspects of electricity generation (for example, the use of alternators versus induction generators) had some of the audience wishing they had paid more attention during physics lessons at school!

Dave Wadley then introduced the mills we would be visiting later with an illustrated talk and Andrew Findon gave a short account of the recent and very successful Mill Experience weekend held at Andrew and Anne Parry's mill, Felin Ganol.

Following an excellent buffet lunch, we set off in cars to visit the first site a short distance away, the new weir across the Vyrnwy for water supply to Mathrafal Farm. The weir incorporated an ingenious 'backwash screen' for the benign removal of fish and debris from the turbine supply. Helpfully, here and on the road at each site was



a WMS sign pointing the way and also Jane Wadley, using some sort of time travel facility, always first at each site to direct cars to the parking area.

Mathrafal Farm, with modernised buildings in use as a business centre, was next to be visited. The former corn mill

New weir on the river Vyrnwy supplying water to the turbine at Mathrafal Farm

was in one of the farm's outbuildings and originally had what was probably an undershot wheel – there is less than 6 feet head of water from the weir. A Francis turbine, installed in the 1920s to replace the waterwheel, had itself



been replaced with a Kaplan turbine and generator in 2012, now producing electricity which is fed into to the national grid.

Remnants of the mill machinery include one pair of millstones, the driving shaft and pulley, somewhat incongruously standing in the rather plush, carpeted rooms of the business centre!

Surviving millstones at Mathrafal Farm

On to Melin-y-grug, a small two-storey building of stone rubble with major repairs to the south front in red brick, under a slate roof and listed Grade II. Two pairs of stones, one gritstone, the other French burr, sit on a wooden platform at the east end of the mill; one pair has been shifted over a couple of feet from its original position, presumably to accommodate the later belt drive. The enclosed overshot waterwheel had been replaced by a 5-foot diameter Pelton wheel which was apparently still working the mill in 1968, but was impossible to see. At one time it also generated electricity: various belts, a Watt-type governor and a 13 amp dynamo made by the Electric Construction Company of Wolverhampton remain in the building. There is an inscription on the hurst frame 'Robert Owens 1783'. The millpond, still in water, is set behind the mill and is indeed very pretty.



Melin-y-grug showing the extensive brick repairs to the front wall

Finally to Melin y Ddôl, where the mill and attached house sit on the west bank of the River Banwy. We were welcomed by member and enthusiastic owner Roy Short, (but then aren't all mill owners enthusiastic?) who has a fairly major restoration job ahead of him. The mill is three storeys and clearly had two waterwheels at one time,



Melin-y-ddol: remains of the waterwheel axle and the three-gang turbine

running in tandem and driving four pairs of stones. The wheel nearer the river has gone, leaving only the remains of the wooden axle, but the machinery it drove and the two pairs of stones are all still inside, although the vertical shaft and great spur wheel (thought to date from around 1780-90) has become detached and is leaning at an alarming angle. Lighterstaff tentering was used to adjust the stones and it was possible to

see how it operated. The other waterwheel had been replaced by a three-gang Pelton wheel which is still in place; just to the west of the mill was a large concrete trough which also contained a Pelton wheel, once

driving a 20amp generator in an adjacent long brick building. This building, erected in 1914, was the home of The Llanfair Electric Light & Power Company but is now ignominiously used as toilets for the nearby caravan park!

The cavalcade of cars then wound its way back to Pontrobert, with some taking 'short-cuts' down other lanes; however we all made it back to the Village Hall where we enjoyed a much appreciated tea and cake. Our sincere thanks to Dave and Jane Wadley and friends for all their efforts in ensuring the day ran so smoothly, for organising visits to such an interesting and varied selection of mills – and for arranging such lovely sunny weather!



Melin-y-ddôl stone floor showing the displaced main shaft and spur wheel

Brian Malaws