

GOULBURN HISTORIC WATERWORKS MUSEUM

A few months ago Helen and I were in Canberra and took the opportunity to visit the Goulburn Historic Waterworks Museum which was having a steaming day, now wasn't that a co-incidence! (see Figure 1)

Figure 1 Goulburn Waterworks Museum as seen from the approach road.



The waterworks were built in 1886 along with three others at Bathurst, Albury and Wagga Wagga and each was equipped with an Appleby Bros Beam Engine. The engines provided water to the towns but by the 1930s all were scrapped except for Goulburn.

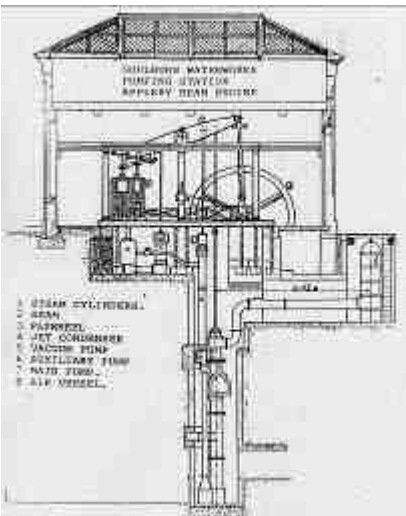


Figure 2 Schematic section through Goulburn Waterworks Pumping Station.

As shown in Figures 2-4 the pump house is fitted with an Appleby Beam engine coupled to a lift pump. The engine is compound with a high pressure and low pressure cylinder and there is provision to add a third. The engine has a jet condenser and at 18 rpm delivers 130,000 litres per hour. Apparently the engine supervisor would ring the weir attendant (by telephone!) every day to work out how much water was needed and set the engine strokes to meet that demand.



Figure 3 Appleby Beam Engine 1883



Figure 4 Valve chests for high and low pressure cylinders. Note counter to record number of strokes.

The engine was steamed from 2 Galloway boilers fuelled by coal or wood (Figure 5). Modern steaming is achieved with a vertical boiler using wood (see Figure 6).



Figure 5 Galloway boiler to provide steam to 1883 Appleby Beam Engine



Figure 6 Modern (wood fired!) boiler to service museum engines.

We arrived a little after 10AM to see the engine slowly and majestically turning over. It was pumping water but not against a head so it just quietly ticked over. Quite a sight! The museum also features a significant Hick, Hargreaves & Co horizontal steam engine built in 1866. It is the oldest of only 3 Corliss rotary valve engines (of its type) left in the world (see Figure 7 and 8).



Figure 7 Horizontal steam engine on display (and operating) at Goulburn Waterworks Museum.

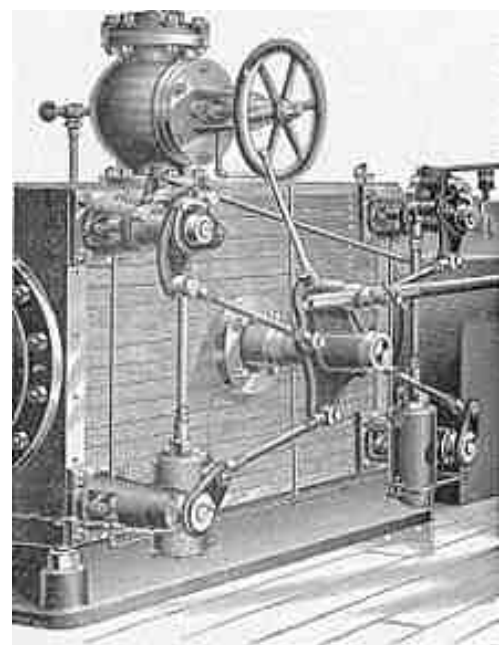


Figure 8 Corliss rotary valve mechanism for a horizontal steam engine.

One of our members (Malcolm Gill) is an expert on these engines as he has built a scale model. He said that setting the valve timing was an absolute nightmare!

If you are planning a NSW trip, be sure to look at steaming times at Goulburn as the experience of seeing an operational beam engine in Australia is a bit restricted.

Mark Randell