

Birmingham October 1888

To The Chairman & Directors of the
South Staffordshire Water Works Co

Gentlemen

With your permission I wish
to direct your attention to the present
position of the Company with reference
to the yield of water from the wells and
streams as compared, with the quantity
necessary to meet the present and steadily
increasing demand - The exceptional
season of 1887 followed by the unusually
dry spring of the present year, has brought
this question very prominently forward.
and after consideration of the figures
which I now beg to submit to you, it
appears to me advisable that steps
should be taken towards increasing
the resources of the Company, for the
margin between the supply and
demand is unpleasantly small, more
especially when it is remembered that
the quantity given per head per day,
to those taking the water, works out at
the present time to the small figure
of 12.5 Gallons, which bears comparison
with the distribution of any Water
Works in the Kingdom notwithstanding
the great disadvantages this Company
labors under through having the

works scattered over mining districts and consequently subject to great waste from hidden leakages and fractures of the pipes.

It will I think be found — sufficient for the purpose of shewing the relative conditions between the supply and demand, to give the figures shewing the result of the draw off as compared with the yield together with the loss from stock, during a period of dry weather in May last, when an opportunity was afforded for testing for four days and nights. the water then to be obtained from all our sources, viz:- the Bourne Brook Stream, the Lemonsley Stream, the springs in the Tunnel between Hanch and Leifield, together with the water from the Wells at Huntington and Hednesford, - In that time we pumped from these sources a quantity equal to 6077083 per day : the demand or draw off during the same period equalled 5877800 gallons, leaving an excess of supply over demand of 199283 gallons daily, - this quantity represented the whole that could be placed in stock each day as the supply and demand then existed, with the advantage of the continuous pumping and mains being not shut off. that is to say without having to stop for repairs of any kind, and without interruption to the flow of water from the sources

to the districts in which the draw off takes place.-

The question then is as to whether this margin of 199 283 gallons daily is a sufficient one to meet the steadily increasing demand, as well as to provide for contingencies, and in dealing with the question it should not be forgotten that whilst the yield of water obtained at the time referred to, would certainly have been somewhat reduced had a dry season continued, the demand also would have considerably increased, and therefore have left a much smaller margin, if not altogether left us losing from stock.- Taking this together with the many conditions rendering it impossible to constantly keep drawing from the Springs the full yield, and remembering that upon all occasions of ceasing to draw from the Wells means water lost, inasmuch as it can only be obtained at a fixed rate, I beg to submit that it becomes advisable to consider whether some measures should not be adopted by way of increasing the water resources of the Company.- In dealing with this matter I have not taken so far any account of the stock of water in the Reservoirs which would be available to supplement the waters from the streams and wells on occasions when there is not sufficient for the demand, as I consider the water so stored

as not more than enough to meet the fluctuating conditions of streams, and interruptions in pumping from the wells as an instance of this I would give the time referred to already viz.- May of this year when the water to be obtained from the sources at Lichfield was not sufficient by 731508 gallons daily, to meet the demand in those places supplied from Lichfield; we were then pumping from Lichfield an average of 3766996 gallons daily. - Whilst losing this 731508 gallons from stock in those places in connection with Lichfield pumping, we gained to the extent of 930791 in the Hednesford and Rowley Reservoirs, giving for the period referred to, a surplus of 199283 gallons daily over the demand. -

This was the result following an exceptional summer and an unusually dry spring, fortunately towards the latter part of May the rains replenished our stock at Hanch Reservoir which was then nearly empty, and we had commenced using largely from that in the Stowe Reservoir, this fortunate change in the weather could not however have been anticipated for most of the forecasts were for a second dry and fine summer, and I think it well to consider the position of the Company had the Prophets for once been correct, commencing early in May with 32 Millions or thereabouts of our stock

gone leaving only about 50 Millions at Lichfield and with a deduction taking place at the rate then demanded of £31508 daily, which had it been a fine summer would have been increased in all probability to a million or even more - This demand on the resources with the small surplus of 19928³ daily assuming of course we could have secured that much, would have left the Company in July or August without more than the daily yield from the Wells and streams and the small stock in the service Reservoirs which would fall far short of the daily demand at such a season - In considering this matter although apparently not for the time pressing, I would ask whether it would not be advisable to take some measures towards ascertaining what would be the best course to adopt towards increasing the water sources, and I would suggest one or both of the following -

We have now powers to drive drifts a thousand yards in every direction from the Wells at Huntington and Hednesford, but it is a question whether within this area we can expect any very large addition ^{having regard to} seeing the quantity we now daily pump from these Wells, but by driving adits the yield would be greatly increased in a given time

which would be of great advantage.

Instead of driving from near the site of the existing wells I should advise if it can be arranged to put down boreholes at or near the limit of the 1000 yards and where considered advisable drive towards the wells, by this means we should cover a much larger area of drainage and in all probability get water that will not and does not reach us at present, - we cannot again use the existing Wells for this work. as the water now being pumped cannot be dispensed with, and which we should have to run to waste whilst carrying out any further extensions, therefore small temporary shafts will have to be sunk and a small area of land obtained upon which to erect the necessary plant. -

Seeing then that the additional shaft &c will be necessary. It may be considered as a second proposal. (if under existing powers we could by agreement purchase and enter upon other sites for the purpose of seeking for additional waters) whether a larger and more profitable district than one so close to our present drainage area might not be found, and at but a comparatively small additional cost a larger quantity of water secured -

This question as to the Company's

power to sink and draw water from
other districts not referred to ~~under either~~
~~any~~
of the ~~present~~ Parliamentary ^{powers} Authority is a matter
upon which I would ask to be advised,

Report to Directors

October 1888
