

Good morning, Neighbors...

I am writing in regards to the current state of our water system here in Trumbauersville and the issues that some of us are experiencing with the quality of our water. Let's jump right in...

- The Trumbauersville Municipal Waterworks is very old having been first put into service in the 1930's. Even our water tower has been in service since 1938 and the borough bought that one used. Sure, we've had pipes replaced, repairs made, maintenance done to keep things in good condition (like our water tower which is still in great condition considering its age.)
- State and federal regulations continue to get stricter every year, some by leaps and bounds. Not necessarily a bad thing. After all, we do want safe water without harmful substances such as bacteria, chemicals, and everyone's favorite, Arsenic, which is a naturally occurring element in the soil nearly everywhere, including here. In the past several years, permissible Arsenic levels went from 50 parts per million to 10 parts per million. Why? Because technology had improved enough to be able to measure elements in our water to such a tiny degree.

Here's a good illustration to understand how small 10 parts per million really is. A standard sized bathtub holds about 1,000,000,000 (1 billion) grains of table salt. Of those, only about 0.00001% (1/100,000<sup>th</sup> of a percent) would represent the allowable amount of arsenic.

But we don't need to worry only about Arsenic. There are other substances that over the years have found their way into underground aquifers, such as 'forever chemicals'. Things that in the past haven't received much attention, both in disposal methods and as a potential health concern in water. Proposed allowable levels of these chemicals (PFAS, aka Per- and Polyfluoroalkyl Substances) starting in 2029 are 10 parts per TRILLION collectively for a list of several named chemicals. Using the bathtub analogy above in relation to these chemicals, you would need 1,000 bathtubs filled with table salt with just one single grain of salt in each of those tubs representing a PFAS).

- The population of Trumbauersville in 1940 is reported to have been 746. In 2020, our population was 935 (according to the Census) which is only a 20% increase in 80 years. That's why we've been able to keep using our 'good ol' 1930's era water system with notable increases in capacity (an additional well) and, of course, added technology such as chlorine treatment to kill potentially harmful bacteria as well as the relatively recent addition of technology to reduce the amount of arsenic present in the water that makes it through our distribution system to your home or business. Speaking of businesses, we do have quite a few more of those using water than we did 80 years ago.
- Municipal water systems do not provide 'pure' water composed only of Hydrogen and Oxygen. Municipal water systems provide 'safe' water. This means the removal or reduction of substances in the water at potentially harmful levels as decided by Federal and State agencies.

This includes things like bacteria, Arsenic, PFAS, etc. This does not include calcium, magnesium, and some other naturally occurring elements which are not unhealthful but make water 'hard' with that annoying white scaly build up in your washing machine, dishwasher, water heater, showerhead, etc. It also does not include the removal of iron oxide. An increased amount of Iron oxide is what many of us, myself included, are currently finding in our water, making it cloudy or having a brownish tint.

- Municipal water systems, especially those with high levels of iron and other similar compounds, will experience occasional instances of tinted water. In short, tiny amounts of iron oxide, etc. present in the ground water are attracted to the insides of pipes, including water mains, lateral lines from the mains to your house, and even the pipes inside your home. Over time, these substances will build up on the inside of those pipes. Some spots get 'heavy' and fall from the pipe's surface allowing a more concentrated amount of iron to be present for a short period. Some homes might see some, some will see none, depending on who's using water while that 'rusty patch' of water is moving through the line. That is a normal occurrence, though an inconvenient one. Sediment can also be knocked off a pipe's walls when a drastic change in water pressure is experienced, or when the normal directional flow of water is reversed, or even by slight seismic activity. In fact, the untreated water straight out of the well runs clear.

- Now we're getting to why we're having a prolonged experience with brownish water. Nope, we're not aware of any earthquakes, but we have experienced brief but significant changes in water pressure and also a change in the direction of water flow into our water distribution system.

The borough is served by two wells and wellhouses bringing water into our water system. Well 3 is located on Creamery Road next to the Barrel Run Trail. Well 2 is located behind and to the right of Trumbauersville Elementary. Well 1, located in the same area, was decommissioned years ago and replaced by Well 2.

Well 3 is a deeper and more robust source of water with a greater aquifer that is also less prone to unnatural contaminants. It is our workhorse well that has been out of commission for many months while it is completely rebuilt to replace aging infrastructure, increase reliability, and also, most notably, to be better able to comply with increasingly stringent quality standards.

Well 2 is a nice well. It does what it can. It even has a brand-new pump to replace its predecessor whose age isn't certain. Well 2 was never meant to handle the volume of water used by today's Trumbauersville. That's why Well 3 was built and brought online... but being under construction, it's not online right now. Well 2 is also older infrastructure... older than Well 3. With Well 2 being our sole source of water in the borough with no backup, the borough

built an interconnect system between our water system and Milford Township's water system allowing us to supplement our water needs and also serving as an emergency backup should our own water source(s) become unavailable. Milford Township has been an awesome neighbor and supporter to Trumbauersville Borough. This interconnect provides us with peace of mind in case of emergency. Well, we had an emergency... more than one, where Well 2 did fail and we were left without our own source of water to serve the borough.

- The interconnect is not without its limitations. It is not a high flow system. And when we open that valve to let Milford's water into our system, guess which way the water moves. The complete opposite direction that our own wells direct their flow, which as I mentioned earlier, is a good way to knock sediment off our water pipes. And it did – a few times – as when repairs were made and Well 2 was brought back online, again reversing the flow of water through our distribution. A couple more instances of having to shut down Well 2 for one problem or another caused the need to reopen the connection to Milford's water, each time reversing the flow of water and likely knocking more debris into the water supply.

Milford is in the midst of upgrades, repairs, and maintenance of its own water system. As a result, the interconnect is not available, at least for a while. We are officially down to one source of water, which has had some issues keeping up and running reliably. It appears we had a big issue in the past two weeks at the well... a surge of high pressure when an obstruction prevented water flow through our arsenic remediation system. And there's the other reason sediment that is stuck to the pipes can be knocked loose... a significant change in pressure.

- While it appears we have the issue addressed (and unlikely to repeat) that caused the pressure spike at Well 2, we are erring on the side of caution by reducing the flow rate of water. So, we have less water available. We have enough water to serve the community's needs, but less than we would if our wells were both online and working as intended.

- So now what? What about this ugly water? How do we get rid of it? And when can we do it? Well, let me first say that the water, as ugly as it is, is not a health hazard, but that doesn't mean you want to drink it or bathe your kids in it. In my book, it is **not OK** that our water is like this and it frustrates me to no end.

The way to get rid of this rusty water problem is to flush the lines from one end to the other with a LOT of water moving fast. Simple enough, except that we don't have 'a lot' of water. We have one well operating at reduced flow and no other source of water at present.

- OK, so then WHEN can we do this? A good question with not a good answer... We don't know. The Well 3 project which was expected to be complete and in service in mid-Summer is still incomplete and I've not gotten very informative answers as to why except that there are "supply chain" issues. It isn't a good enough reason to me, especially without the most important piece

of information we need, WHEN can we have this well online? According to our water engineer who is managing the project, not our water operator who maintains and operates the systems currently in place, the contractor now has until September 26 to have the construction project complete and operational before fines are imposed. Unfortunately, at least a few weeks of mandatory testing of the water produced by the water system at Well 3 must be done before it can be put into distribution. So, the answer to the WHEN question appears to be mid-October at the earliest.

- What do we do in the meantime? We're working on that. While we have done several bouts of spot flushing the system via hydrants around the borough releasing an awful lot of ugly water out of our distribution system, the results have been short lived for some and unnoticeable for others. Flushing water through a hydrant disrupts the connection the sediment has to a pipe's interior dropping the stuff it into the flow of water exiting the hydrant. Unfortunately, it also causes a change in water pressure which as I've said, is a big cause of sediment falling off the inside of the pipes. And if that sediment doesn't make it out of the hydrant that's open, well then it just remains in the water to cause more problems. So, there will be no more spot flushing and we must wait until we can vigorously flush the entire system from one end to the other, and we must wait until Well 3 is back online and approved for use by the DEP.

- So, in short, we're in a real pickle. Painted into a corner, if you will. Was it avoidable? Maybe. Was it foreseeable? It doesn't seem so. Should we still be waiting for a project that should have had a 6 week start to finish completion and it has been several months? No. But these are the cards we're holding and we can't fold. We're not out of the woods yet and won't be for a little while longer.

I offer my sincere apologies on behalf of Borough Council for your frustration and problems associated with our water system issues. As the saying goes, "Even if it isn't your fault, it is your responsibility." We're doing everything we know we can to deal with this very annoying problem. We've consulted with other area water system operators and the consensus seems to be same... It's a problem with one solution, and we cannot implement that solution yet.

A short-term solution is actually to do nothing so we don't make matters worse by loosening the iron. The 'fallen' sediment will work its way through the system just as it would with one of those 'occasional' instances I mentioned earlier and the rest will hopefully stay stuck to the pipes until we can aggressively blow it all out from end to end.

We have secured a supply of a product known as "Iron Out". In my own testing on a jug of ugly water drawn straight from a hydrant, a tiny amount of Iron Out added to the water completely cleared the water almost immediately. The good news is the sediment looks to be completely

iron oxide. No mud, no sludge, no man-made contaminants... just iron. Again, water drawn straight from the well runs clear.

Iron Out is a product to remove iron oxide from your fixtures and appliances, inside and out. It will remove rusty stains from tubs and sinks, etc. It will also remove the iron oxide from inside your water softener, water heater, etc. It will remove iron stains from clothing as well, without harm. The product is not a water purifier. It's a rust neutralizer. Don't pour it in a glass of cloudy water and drink it.

Please give Dani a call at the borough office at 215-536-1761 or email her at [info@trumbauersvilleboro.org](mailto:info@trumbauersvilleboro.org) to see about getting some Iron Out to help remedy rusty stains and iron oxide sediment that has found its way into your appliances. Also, we'd like to hear from you about how the water is at your home or business. Reports have varied from no problems whatsoever to having very dark water, and everything in between. Some of the reports of very badly colored water are right next to a home that has had no issues whatsoever.

If you'd like to contact me, email is your best bet. I can be reached at [cjbetz18970@gmail.com](mailto:cjbetz18970@gmail.com)

Thank you for your patience, waning though it may be. I'm right there with you!

Sincerely,

Christopher J. Betz  
Trumbauersville Borough Council President