

Why and how to do a startup audit





The time your instruments take to be ready after plasma ignition is potentially time those instruments could be working for you. They could be generating revenue and reducing the sample backlog instead of just sitting there.

Startup times vary enormously according to the instrument type, manufacturer, and model. While you may have a feel for which instruments in your lab take longer than others, having solid numbers can help you plan to get more out of your instruments.

Let's look at an example:

If one ICP-OES takes an hour to warm up and another takes 30 minutes, that's 30 minutes of analysis time per day you are missing.

If you are measuring water samples using the EPA 200.7 method, it probably takes about one minute to measure each sample.

That 30-minute saving in startup time translates to moving 30 more samples per day through your lab.

If you run your lab 24/7, that's 10,950 extra samples you could run in a year.

Which instruments are not working as hard as they could for you?



Use the worksheet below to measure and record the startup time of each instrument in your lab. Then quantify what this time represents in terms of sample analysis and potential revenue.

Once you have the data, think about:

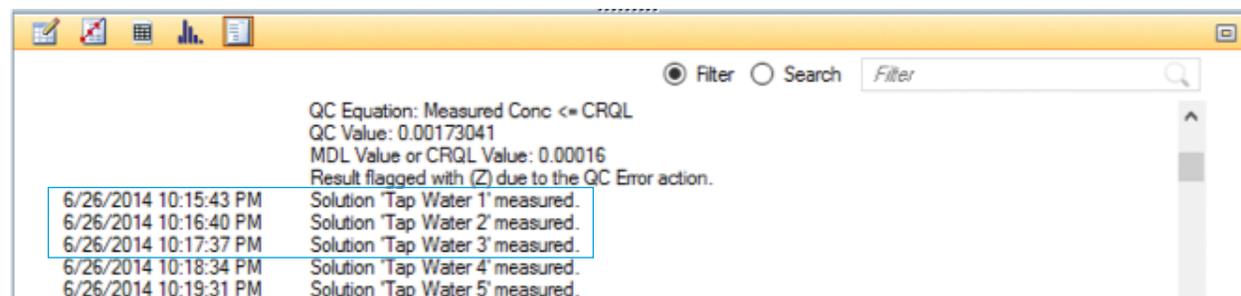
- Switching methods that have higher sample numbers to the instruments with shorter startup times. You might gain over half an hour of analysis time that could be used to get more samples done.
- Earmark instruments with slower startup times for replacement.

Start Up Audit Worksheet

Parameter		Details	Enter values here	
A	Startup time	Time how long it takes for the instrument to be ready after you ignite the plasma.	» <input type="text"/>	min
B	Analysis time	Time how long it takes for a sample to be measured using the most commonly used method for this instrument (see the Tip, below).	» <input type="text"/>	min
C	Sample throughput	How many samples could be measured during the startup time? A/B	<input type="text"/>	samples
D	Price per sample	How much does your lab charge per sample (for the method you timed in C)?	» <input type="text"/>	\$
E	\$ Impact	How much revenue do those extra samples represent per year*? (C x D) x 220	<input type="text"/>	\$ per year

*Assuming the instrument goes through Startup once per day and your lab operates for 220 work days per year.

Tip: The software log file includes time stamps for each sample analysis, so you can use this data instead of timing it yourself. The examples highlighted below show the first sample starting at 10:15:43 p.m. and the next at 10:16:40 p.m. and the next at 10:17:37 p.m. Sample analysis thus takes 57 seconds.



Learn more

About the Agilent 5110 ICP-OES:

www.agilent.com/chem/5110icpoes

About ICP-OES supplies:

www.agilent.com/chem/icp-oes-supplies

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