device, the second optical computing device having a second integrated computational element configured to optically interact with the fluid and thereby convey optically interacted light to a second detector which generates the second output signal;

receiving the first and second output signals with a signal processor communicably coupled to the first and second detectors; and

determining a difference between the first and second output signals with the signal processor.

13. The method of claim ~~15~~12, wherein determining the difference between the first and second output signals further comprises determining how the characteristic of the fluid changed between the first and second monitoring locations.

14. The method of claim ~~15~~12, further comprising adding a treatment substance to the flow path, wherein the characteristic of the fluid corresponds to a concentration of the treatment substance.

15. The method of claim ~~15~~14, wherein determining the difference between the first and second output signals further comprises determining how the concentration of the treatment substance changed between the first and second monitoring locations.

16. The method of claim 15, further comprising:

generating a resulting output signal indicative of a difference between the first and second output signals with the signal processor; and

conveying the resulting output signal to a user for consideration.

17. The method of claim 15, wherein generating the first output signal further comprises:

emitting electromagnetic radiation from a first electromagnetic radiation source;

optically interacting the electromagnetic radiation from the first electromagnetic radiation source with the fluid; and

generating optically interacted electromagnetic radiation to be detected by the first detector.

18. The method of claim 17, wherein generating the second output signal further comprises:

emitting electromagnetic radiation from a second electromagnetic radiation source;